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TRADITIONAL HERBAL MEDICINES FROM SHEKHAWATI REGION OF RAJASTHAN

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Abstract
Shekhawati region of Rajasthan specially the hilly tracts of Lohargal, Mansadevi, Khetri, Babai, Sakambari, Singhana and Harshnath areas are endowed with rich vegetation and the local people nicely learnt to use the area's vegetation resources including health care. These people successfully treat many difficult diseases using plant-based medicines. Recent survey for ethnomedicinal plants among the people of these localities recorded the use of 48 species of dicotyledonous and 2 species of monocotyledonous plants. Different types of uses of the recorded plants are presented and discussed in the article.

Keywords: Ethnobotany, Folk Medicine, Medicinal plants, Shekhawati region, Traditional Knowledge

Traditional medicines especially the folk herbal medicines have recently been receiving heightened interest the world over. Such age-old healthcare systems have been developed in different corners of the world where they were living in close interaction with the nature. Information from ethnic groups on indigenous traditional herbal medicines had always played a vital role in the discovery of novel chemotherapeutic agents from plants.

Modern healthcare in the tribal and rural area of Rajasthan is characterized by the deficiency of infrastructure, qualified personnel and of medicine. Access to and within the region is extremely difficult during certain periods of the year making it difficult to move to a distant place to avail the benefits of modern medicinal treatments. Given these extreme conditions the rural population has recourse almost solely to traditional herbal medicines.

Medicinal uses of different plants have been recorded in numerous literatures standing from the age of Vedas1-3. In Rajasthan also a lot of work has been done on ethnomedicinal plants used for various ailments by different tribal communities4-13. However, no such work has been done in the Shekhawati region of Rajasthan. The present paper records the plants of ethnomedicinal significance occurring in the Shekhawati region of Rajasthan which may be used in future as plant resources for modern system of medicine.

Study Area

Shekhawati region of Rajasthan is spread over the Jhunjhunu and Sikar districts surrounded by Haryana towards the East and the Jaipur, Nagour and Churu districts of Rajasthan on other sides and lies between 28.06° North latitude and 75.20° East longitude (Fig.1). Leaving a few hilly spot like Lohagal, Harshnath, Khetri, Babai, Manasamata and Shakambari, the region is largely semi-arid or arid. Nearly two-third of the region come under Rajasthan Bagar and rest (towards the North-East) under the Aravalli hills.

The traditional healers of Shekhawati region of Rajasthan are having a commendable knowledge of the medicinal values of plants those grow around them. This knowledge of Shekhawati rural people is now fast disappearing due to modernization and the tendency among younger generation to discard their traditional life style. There is an urgent need to study and document this precious knowledge for the posterity of human society. It is also losing its popularity due to the scarcity or non-availability of such

plants, which is caused by multifarious human activities coupled with natural calamities like droughts and over grazing. Thus, conservation and scientific verification of such rare lesser-known medicinal plants assume greater significance.

Methodology

The traditional knowledge of plant based remedies rests with the medicine men and they maintain it as closely guarded secret within the family. Generally, they do not keep any written document and pass it to the next generation through practice and discussion. The medicine men collect the plants needed for a particular application either directly from the vegetation or from the local shops. In view of such secretiveness of traditional medicine men and women it was decided to interview a number of elderly people who have a great deal of practical know how of this subject.

Before actually launching into the field work, a rapport was established with the chief of a community and his guidance was sought to establish contact with the medicine men of the locality. Then, the field sites were visited accompanying the local medicine men. Generally, the herbalists do not want to give all information about a plant. Cross check of collected information from different people has been done to understand the utility of a plant in its totality. Experienced people including elders, healers, medicine men, birth attendants, woodcutters, shepherds and headmen provide important information on useful plants. Also, personal observation was made for verification of the data provided by the informants at different places. And, only the verified and reliable information have been incorporated.

During the ethnomedicinal survey of study area, some interesting herbal medicines have come to light which are not mentioned in ethnomedicinal herbal literature. The collected plants were identified up to species level at the Herbarium of Forest Research Institute, Dehradun. All the collected specimens were deposited in the Herbarium of Laboratory of Ethnobotany and Agrostology, Department of Botany, College of Science, M L Sukhadia University, Udaipur, Rajasthan for authentication of information and further reference. All the recorded plants have been presented in the paper along with their scientific and local names, locality, useful parts, use and mode of administration.

Enumeration

After careful screening 10 species of angiospermic plants have been recognized as important ethnomedicinal plants from the Shekhawati region of Rajasthan. These plants are enumerated below along with relevant necessary information.

1. **Calligonum polygonoides Linn. (Polygonaceae)**

Local name: Phog

Flowering and fruiting: March to June

Uses: Plant extract is used in typhoid. Plant decoction is given to the animals in urinary problems.

2. **Cassia tora Linn. (Caesalpinaceae)**

Local name: Phunwad

Flowering and fruiting: August to November

Uses: Leaf decoction is given to the children having fever while teething. Poultice of leaves is tied on boils, gut, sciatica and area of joint pain.

3. **Chenopodium album Linn. (Chenopodiaceae)**

Local name: Chilva

Flowering and fruiting: December to May

Uses: Leaves cooked as vegetable is given in urinary troubles and colic. Leaf extract is administered

orally for treating piles, cough and worms.

4. Citrullus colocynthis (L.) Schard. (Cucurbitaceae)

Local name: Gar-tumba

Flowering and fruiting: August to November

Uses: Fruits are cut into two pieces and dried in sun. Dried fruit powder mixed with salt is administered orally for treating constipation. Roasted fruits are given to the animals to correct the digestive disorders.

5. Impatiens balsamina Linn. (Balsaminaceae)

Local name: Timadia

Flowering and fruiting: August to November

Uses: Leaf extract is applied on boils, wound and swelling.

6. Lawsonia inermis Linn. (Lythraceae)

Local name: Mehdi

Flowering and fruiting: March to June

Uses: Leaf extract mixed with sugar is given in jaundice. Seeds are used in the treatment of fever and burning micturition.

7. Leucas urticaefolia (Vahl) R. Br. (Lamiaceae)

Local name: Darkan

Flowering and fruiting: July to September and February to March

Uses: Infusion of flowers is given in cold and cough. Leaf decoction is used to cure fever. Roasted leaves are bandaged on swelling part.

8. Martynia annua Linn. (Martyniaceae)

Local name: Bichhu kanto

Flowering and fruiting: August to September

Uses: Leaf paste is applied on swelling, boils and for treating rheumatism.

9. Mimosa hamata Willd. (Mimosaceae)

Local name: Alai

Flowering and fruiting: December to March

Uses: 5 gm seed powder boiled in buffalo milk is given as a tonic in general weakness and also sexual weakness in males. Fresh leaf extract is applied to check bleeding from the wound and ulcer.

10. Mollugo cerviana (L.) Seringe (Molluginaceae)

Local name: Chirio ghas

Flowering and fruiting: August to October

Uses: The plant is cooked as vegetable and given to the ladies after childbirth to clean the uterus

Results and Discussion

In the present report, emphasis was laid only on less known medicinal uses of plants with different mode of application. Of many plants were recorded only 10 plant species have been selected. Proper scientific

evaluation of these plants might lead to the discovery of some interesting and fruitful information.

Out of the reported 10 species of ethnomedicinal plants, 2 species have the property of curing skin diseases and related ailments followed by 3 plants for sexual diseases and related problems. Other plants of ethnomedicinal importance occurring in the Shekhawati region have the property for curing wide range of diseases and disorders related to respiratory system, digestive system, diabetes, liver ailments, urinary troubles, animal bites, parasite related problems, rheumatism, diseases of eye, ear and teeth etc. Some plants are of common use for different kind of ailments. The survey indicates that the flora of Shekhawati region is rich in medicinal plants and covers a wide spectrum of human ailments. The area is an important area of plant wealth for healthcare in Rajasthan.

There are many areas in the Shekhawati region, which have many commercially exploitable medicinal plant species and if managed properly those can be a sustainable source of income for the local people. However, uncontrolled, illegal and over exploitation of commercially important species like Asparagus racemosus Willd, Adhatoda zeylanica Medic., Citrullus colocynthis (L.) Schard., Pedalium murex Linn., Sida ovata Forssk., Solanum surattense Burm. f., Withania somnifera (L.) Dunal, etc. have been reported by the inhabitants.

During the survey occurrence of some rare plants like Calligonum polygonoides, Linn. Sarcostema viminale (L.) R. Br., Tecomella undulata (Sm.) Seem. etc. at a few spots was also recorded. However, the local people reported their wide occurrence in the area at several locations quite sometimes ago. The existence of these species is now under threat due to over exploitation. Immediate steps are to be taken for their conservation and sustainable utilization.

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A REVIEW ON OLEOGEL AS BIOACTIVE DELIVERY IN FOOD

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Abstract
Oleogels are gaining popularity due to their appealing benefits such as ease of manufacture, superior fatty acid composition, and safe application in food products to meet consumers' desires for healthy products. Edible oleogels can be used to substitute unhealthy trans and saturated fats. They are porous materials having a three-dimensional gel network that self-assembles. This gel structure may physically entrap and hold a large volume of a continuous edible liquid-oil phase.This review contains the most recent information on the various oleogel systems and discuss oleogels properties characteristics that might be useful for delivery. It is demonstrated that oleogel and oleogel-based systems can be used as bioactive delivery in food. Oleogels are introduced as a delivery method, and emphasis is placed on the utilisation of lipid-based delivery systems to improve the bio-accessibility of molecules that are weakly water-soluble.
Keywords: Oleogel, Hydrogels, Bigel

Introduction

Oleogels can be used in the food sector to manage phase separation, limit oil phase mobility and migration, provide solid-like qualities without utilising large quantities of saturated fatty acids, and function as a carrier of bioactive substances. The world's current concerns include improving the nutritional characteristics of meals and reducing components that may be linked to health concerns. More and more nations are enacting legislation to limit the content of trans fats and saturated fats in food goods.

Due to the high intake of trans and saturated fats, these have emerged as the main health concerns, including cardiovascular disease, colon cancer, diabetes, obesity, stroke, breast cancer, shortened pregnancy periods, preeclampsia risks, disorders of the infant nervous system and vision, and allergies. Trans-fatty acids (TFAs) have been associated with adverse metabolic consequences, and there is significant evidence linking higher consumption of TFAs and saturated fat with coronary heart disease (Mozaffarian et al. 2006, 2009; Nishida and Uauy 2009, Nettleton et al. 2017). The FDA removed trans fats off the GRAS (generally recognised as safe) list in 2015 and banned the use of partly hydrogenated oils in food beginning in January 2020(Adili et al. 2020). The World Health Organization (WHO) recommends limiting saturated fat consumption to less than 10% of total caloric intake. The WHO also suggests substituting liquid oils rich in polyunsaturated fatty acids for solid fats such as butter. The availability, cost, and ability to modify the physical properties while maintaining desirable functional characteristics like appearance and

texture of the final food products are the major challenges for the food industry to find desirable oil structuring methods and decrease the trans and saturated fats in the food product.

2. Hydrogels, Oleogels, Bigels, and Emulgels

Gels represent a type of colloid that consists of a solid-like three-dimensional network, in which a liquid phase is entrapped. A gel can be defined as a coherent system of at least two components, which exhibits mechanical properties of a solid, where both the dispersed component and the dispersion medium extend themselves continuously throughout the whole system (Contreras-Ramírez et al. 2022). The first attempts for convenient applications of organogels in drug delivery started in the last years of the 20th century(Bhushette et al. 2022). There is current interest in their application in pharmaceutical, cosmetic, food and petrochemical industries. To distinguish the gels including vegetable oils from the traditional "organogels", applied in chemical engineering, these edibleoil gels have been named oleogels (O'Sullivan, Barbut, and Marangoni 2016). Several food grade materials can be used as oleogelators such as proteins, polysaccharide, fatty acids, phytosterols etc., depending upon desired physical characteristics and applications in particular food systems. Gelation mechanisms entrapping oil help in retaining chemical characteristics of oil unlike inter-esterification and hydrogenation (A. R. Patel et al., 2014). Most important oleogelators used in food sector include waxes, ethylcellulose, alcohols or esters of fatty acids, phospholipids and phytosterols etc. (J. Lim, Hwang & Lee, 2017).

Gel formulations can be divided into two major classes according to the solvent used for their production; hydrogels refer to the case where the liquid phase is water, and organogels (or oleogels) when the dispersed liquid is an organic solvent and is structured by an organogelator.

The type of oleogelator used and type of method followed for oleogelation (direct or indirect) has a direct impact on the properties of oleogels formed. Some important criteria which make the oleogel suitable for use in food industry include: (i) possession of lipophilic and interactive entities, (ii) surface activity, (iii) thermoreversible characteristics, (iv) natural origin, and (v) GRAS status (Pérez-Monterroza, Márquez-Cardozo & CiroVelásquez, 2014).

One of the main advantages of oleogels is the possibility of carrying lipophilic bioactive compounds, which is of great utility in both pharmaceutical and food applications [11]. The combined action between structure and health benefits supports the important role that oleogels can have in novel food products, as they can be tailored to meet the ideal properties for a food product, acting as a healthy substitute for solid fats. Great attention from the scientific and industrial communities towards oleogels has risen since they were first suggested as a possible substitute for fats.

Oleogelator plays an important role to produce oleogel. To create an oleogel, small quantities of certain structuring agent are added to edible oils. These structuring agent are known as organogelators (Botega et al., 2013), impart specific qualities to the oil and they generally form a network that provides structure to the gel. Some organogelators have already been approved for

use in foods in specific applications or concentrations, while others await GRAS status. For the organogelators that currently have GRAS status, the small concentrations should be within the guidelines that would be allowed for those products. Research into the actual health effects of oleogels is in progress. Waxes have been the most effecticient of the crystalline oleogelators out of the studied crystalline oleogelators so far, because they may develop a well-formed network with significant oil-binding characteristics even at low concentrations (as low as 0.5 percent) (Doan et al., 2017; Patel et al., 2013). Many researches have been done on wax based oleogel systems such as "candelilla wax in safflower oil (Toro-Vazquez et al., 2007), sunflower wax in milk fat (Kanya et al., 2007), rice bran wax in olive oil (Dassanayake et al., 2009), beeswax and sunflower wax in olive oil (Yilmaz & Öğütcü, 2014), plant and animal based waxes in soybean oil (Mukti et al., 2013), and beeswax in hazelnut oil (Yilmaz & Öıütcü, 2014)".

According to (Dassanayake et al., 2011), "oleogelators are categorized into selfassembly system and crystal particles system". Examples of oleogelators for selfassembly, network forming and wax based are shown in Table 2. Self-assembly system happens when oleogelators produced by molecular-self organization in liquid phase whereas crystal particles system happen when crystal particles formed by nucleation and continous increase in size of crystals in the liquid phase.

Oleogel as delivery vehicle

To overcome the challenges of delivery of lipid soluble molecules, various structured systems have been designed. These have been reviewed extensively in other publications. These systems can be classified as lipid-based, surfactant-based, or biopolymer-based, where all three address the effective delivery of hydrophobic molecules using differing strategies (O'Sullivan, Barbut, and Marangoni 2016). Since they function as fat replacements and have a considerably richer composition than standard solid fats, the structuring of liquid oils rich in PUFAs can have a substantial positive impact on human health. Moreover, the design of oleogels makes them effective delivery vehicles for bioactive molecules since it allows for both release control and preservation of bioactive compounds' functioning against oxidation (Pinto et al. 2021). However, this field is currently understudied, with most studies relying on the incorporation of liposoluble molecules rather than hydrosoluble compounds in the oleogel structure. Because of the lipophilic nature of oleogels, this appears to be the easiest way (Okuro et al. 2020).

(Yu et al. 2012) oleogel-based nanoemulsion is an excellent choice for encapsulating lipophilic bioactive chemicals and is relatively new in the realm of oral nutraceuticals delivery. In a related study, oleogel-based nanoemulsion was created to improve BC's solubility, loading capacity, and bioavailability. The findings supported earlier work by (Lu et al. 2016) and showed that the bioaccessibility of nutrient (BC) increased when loaded in oleogels and further enhanced following manufacture of oleogel-based nanoemulsion.

These formulations all significantly increase the loading content, bioavailability, and biological activity of wrapped nutraceuticals, proving the effectiveness of oleogel-based emulsions for delivering hydrophobic and indigestible bioactives (Zhao, Wei, and Xue 2022).

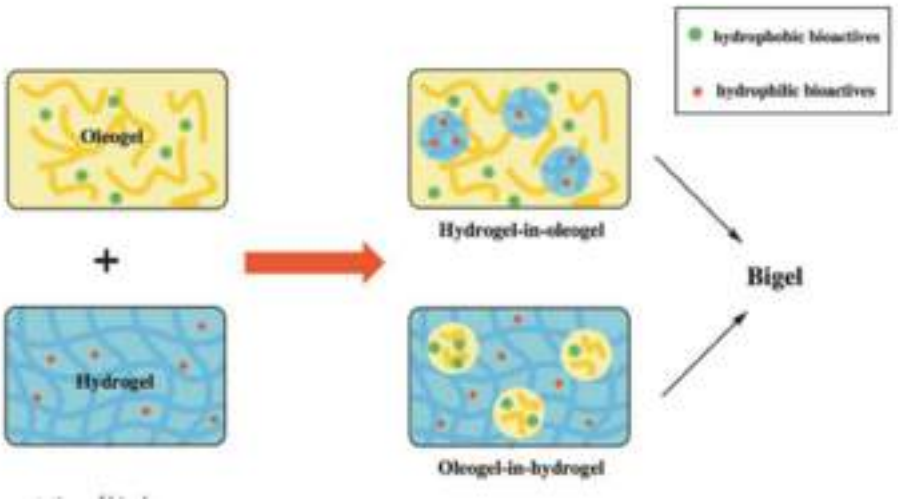

Fig.1. Schematic representation of bigel

The combination of oleogels with hydrogels produces hybridgels (or bigels), which have both hydrophilic and lipophilic properties (Figure 1). The properties of hybridgel are closely connected to the hydrogel and oleogel structures, as well as the hydrogel/oleogel ratios. Hybridgels have long been regarded as good drug transporters, whether hydrophilic or lipophilic (Zhao, Wei, and Xue 2022).

Further evidence that oleogel-based methods may be utilised to deliver poorly water-soluble nutraceuticals comes from the utilisation of these oleogels to create rapid-digestion emulsions (Yu et al. 2012). Since then, new formulations for the administration of curcuminoids have been created, with writers taking use of the variety of edible gelators suited for oil structuring. Li et al. 2019 created a new curcumin-loaded oleogel formulation by using sitosterol and lecithin's capacity to form self-assembled fibres, and they investigated its oxidative stability and release behaviour.

In a recent study, the efficacy of an oleogel emulsion based on soy lecithin to improve probiotic viability was examined. The results showed that in an oleogel emulsion based on soy lecithin, oxidation was obviously delayed. Instead of the oleogel emulsion's physical barrier, soy lecithin's presence boosted probiotic vitality (Zhuang et al. 2021). There have been no studies that directly demonstrate the beneficial effects of oleogels on probiotic protection and delivery . Although it appears promising in theory, additional study into probiotic delivery via oleogels is needed to confirm its practicality and benefits. Probiotic distribution via oleogels is theoretically promising, but further study is needed to confirm its viability and benefits (Zhao, Wei, and Xue 2022).

CONCLUSIONS

Oleogels for the delivery of bioactive compounds have been developed often throughout the past five years. The usage of oil-soluble chemicals was the main focus of the majority of the studies. However, there are examples of emulgels and bigels being used to transport water-soluble substances as well as to deliver oil- and water-soluble substances simultaneously in the same

system. A few research assess their digestion-related degradation mechanisms in addition to the large number of studies on their creation, manufacture, and characterisation. This method enables the use of oleogel-based devices for the release of bioactive chemicals in the human stomach. The future will be to create tailor-made oleogel systems that allow us to manage oleogel structure breakdown, lipolysis rate control, and bioaccessibility of bioactive substances all at the same time. Co-delivery systems require more research, which should be done to show how effective they are in delivering both lipophilic and hydrophilic chemicals. More in vivo research is also required. It is crucial to fully comprehend how these bioactive molecules are absorbed, and this issue has to be dealt with in the next years.

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SEVERAL FIXED POINT THEOREMS IN COMPLEX INVOLUTION BANACH SPACES

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INTRODUCTION :

This paper is committed to the find out of several fixed point theorems in Banach spaces. In section 1.1, we have proved various fixed point theorems on concurrence points of certain complex involutions in Banach spaces employing Lipschitzian involution [16], S. Sessa [17] and Khan & Imdad [13] contractive conditions which seem to be a contribution to the existing results and which in turn generalize and unify several other results.

Preliminaries :

Let R_+ be the set of all non-negative reals and H_i be the family of all functions from R_+^i to R_+ for each positive integer i, which are upper semi continuous and non decreasing in each coordinate variable.

Now, the subsequent definitions are borrowed by numerous authors the weak-commutativity condition introduced by Sessa [17] in metric space, which can be described in normed linear space stated as

Key words:- complex involution.concurrence points,weak commutativity

Fixed point theorems of composite involutions in banach spaces :

In this Section, we have obtained some fixed point theorems on coincidence points of certain composite involutions with some new contractive type conditions, which are extension and generalizations of Goebal and Zlotkiewicz [4], Khan-Imdad [13], Iseki [11].

Motivated from the contractive conditions given by Pachpatte [15]. We prove the following result by using this lemma.

Let x be an arbitarary point in K and $A=\frac{1}{2}(T+I)$, Define $y=Ax,\ z=Ty\ and\ \text{«}=2y-z$, we shall make repeated use of the following equivalent values. Where K stands for closed and convex subset of a Banach space X and $T:K\to K$. Therefore we state the lemma.

Lemma :

$$\|y-Tx\|=\|x-y\|=1/2\|x-Tx\|$$

and $$\|x-Tx\|=2\|Ax-x\|,\|y-Ty\|=2\|A^2x-Ax\|$$

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Now we prove the following result.

Theorem :

Let F,G,S and T be self mappings of a Banach space X satisfying

(i) The pair (ST, FG) commute

(ii) The pair (S,T) and (F,G) are composite involution

(iii) $$\|STx - STy\|^3 \le h\left(\|FGx - FGy\|.\|FGx - STx\|.\|FGy - STy\|\right)$$

....(1.1)

for every $x,y \in X$, where $0 \le h < 2$, then FG and ST have a coincidence point x_0, i.e., $FGx_0 = STx_0$. Moreover, if $h < 1$ and the pairs (S,T), (ST,F), (ST,G), (F,G), (FG,S) and (FG,T) commute at the foregoing fixed point x_0, then x_0 also remains the unique common fixed point of S,T,F and G.

Proof : From (i) and (ii) it follows that $(STFG)^2 = I$. Now using (1.1), we have,

$$\|STFG\,Fx - STFG\,Fy\| \le h^{1/3}\left(\left\|(FG)^2 Fx - (FG)^2 Fy\right\| .\left\|(FG)^2 Fx - (STFG)Fx\right\|.\right.$$

$$\left.\left\|(FG)^2 Fy - (STFG)Fy\right\|\right)^{1/3}$$

if we set $Fx = z$ and $Fy = w$, then we get

$$\|STFG\,z - STFG\,w\| \le h^{1/3}\left(\|z - w\|\ \|z - (STFG)z\|\|w - (STFG)w\|\right)^{1/3}$$

Since the map $STFG$ is an involution, therefore, we define $w = Az$, ¢ $=(STFG)w$ and $\mu = 2w$-¢ and note the values given in Lemma1.1.1.

Now consider

$$\|¢ - z\| = \|(STFG)w - (STFG)^2 z\|$$

$$\le h^{1/3}\left(\|w - (STFG)z\| .\|w - (STFG)w\|.\|(STFG)z - (STFG)^2 z\|\right)^{1/3}$$

$$\le h^{1/3}\left(\|w - (STFG)z\|.\|w - (STFG)w\|.\|(STFG)z - z\|\right)^{1/3}$$

$$\le h^{1/3}\left(\frac{1}{2}\|z - (STFG)z\|.\|w - (STFG)w\|.\|z - (STFG)z\|\right)^{1/3}$$

....(1.2)

Similarly, by Lemma 1.1.1,

$$\|« - z\| = \|2w - ¢ - z\| = \|(STFG)z - (STFG)w\|$$

$$\le h^{1/3}\left(\|z - w\|.\|z - (STFG)z\|.\|w - (STFG)w\|\right)^{1/3}$$

$$\le h^{1/3}\left(1/2\|z - (STFG)z\|.\|z - (STFG)z\|.\|w - (STFG)w\|\right)^{1/3}$$

....(1.3)

Thus, by using inequality (1.9) and (1.10), we get

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

$$\|¢ - « \| = \|¢ - z\| + \|z - « \|$$

$$\leq 2h^{1/3}\left(\frac{1}{2}\|z - (STFG)z\|.\|z - (STFG)z\|.\|w - (STFG)w\|\right)^{1/3}$$

But

$$\|¢ - «\| = 2\|w - (STFG)w\|,$$

so that above inequality yields

$$\|w - (STFG)w\| \leq h^{1/3}\left(\frac{1}{2}\|z - (STFG)z\|.\|z - (STFG)z\|.\|w - (STFG)w\|\right)^{1/3}$$

This implies that

$$\|w - (STFG)w\| \leq (h/2)^{1/2}\|z - (STFG)z\|$$

Making use of Lemma 1.4.1, gives

$$\|A^2z - Az\| \leq (h/2)^{1/2}\|Az - z\|$$

Consequently, proceeding inductively, we obtain

$$\|A^{n+1}z - A^nz\| \leq (h/2)^{n/2}\|Az - z\|$$

Since $h < 2$, it follows that $\|A^{n+1}z - A^nz\| \to 0$ as $n \to \infty$. Thus $\{A^nx\}$ is a Cauchy sequence and converges, to some point x_0 is X. We obtains, therefore $Ax_0 = x_0$ and so $(STFG)\, x_0 = x_0$.

So $(STFG)$ has at least one fixed point say x_0 in X i.e., $(STFG)\, x_0 = x_0$. Now using $(ST)^2 = I$, we get $FGx_0 = STx_0$ i.e. is a coincidence point of ST and FG.
Now

$$\|STx_0 - x_0\| = \|STx_0 - ST(FGx_0)\|$$

$$\leq h^{1/3}\left(\|FGx_0 - FG(STx_0)\|.\|FGx_0 - STx_0\|.\|FG(STx_0) - ST(STx_0)\|\right)^{1/3}$$

$$\leq h^{1/3}\left(\|STx_0 - x_0\|.0.0\right)^{1/3}$$

$$= 0$$

yielding thereby $STx_0 - x_0 = 0$, or $STx_0 = x_0$ i.e., x_0 is a fixed point of ST and hence of FG.

To prove the uniqueness of common fixed point x_0, let y_0 be another fixed point of ST and FG, then

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

$$\|x_0 - y_0\| = \|STx_0 - STy_0\|$$

$$\leq h^{1/3}\left(\|FGx_0 - FGy_0\|.\|FGx_0 - STx_0\|.\|FGy_0 - STy_0\|\right)^{1/3}$$

$$\leq h^{1/3}\left(\|x_0 - y_0\|.0.0\right)^{1/3}$$

$$= 0$$

which implies that $x_0 = y_0$. i.e., x_0 is a unique common fixed point ST and FG.

Now using the commutativity of the pairs (F,G), (S,T), (FG,S), (FG,T), (ST,F), (ST,F) and (ST,G) at x_0 one can write.

$Sx_0 = S(TSx_0) = ST(Sx_0)$, $Fx_0 = F(GFx_0) = FG(Fx_0)$,
$Tx_0 = T(TSx_0) = ST^2x_0 = ST(Tx_0)$, $Gx_0 = G(GFx_0) = FG(Gx_0)$,
$Sx_0 = S(FGx_0) = FG(Sx_0)$, $Fx_0 = F(STx_0) = ST(Fx_0)$,
$Tx_0 = T(FGx_0) = FG(Tx_0)$, $Gx_0 = G(STx_0) = ST(Gx_0)$,

which show that Fx_0, Gx_0, Sx_0 and Tx_0 is a common fixed point of the pair (ST,FG) which due to uniqueness of the common fixed point of the pair (ST,FG) get us.

$x_0 = Sx_0 = Tx_0 = Fx_0 = Gx_0$

This completes the proof.

As the consequences of our Theorem 1.1.2, we get the following result by putting $FG=I$ and $S=I$.

Corallary :

Let T be self mappings of a Banach space X satisfying

(i) $T^2 = I$

(ii) $\|Tx - Ty\|^3 \leq h\left(\|x - y\|.\|x - Tx\|.\|y - Ty\|\right)$

for every $x,y \in X$, where $0 \leq h < 2$, then T has at least one fixed point.

By unifying several well known contractive conditions in fixed point theory, Delbosco [2] defined a **g – contraction** as follows

$$d(Tx,Ty) \leq g(d(x,y),d(x,Tx),d(y,Ty))$$

where g: $R_+^3 \to R_+$ is a continuous function having the properties.

(i) $g(1,1,1) = h < 1$ and

(ii) for $u,v \geq 0$ such that $u \leq g(u,v,v)$ *or* $u \leq g(v,u,v)$ or $u \leq g(v,v,u)$

then $u \leq hv$.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

However, we shall assume function g to have somewhat different properties from that defined by Delbosco [2]

Let ¢ be the set all real valued contributions function of

g : $R_+^3 \to R_+$ satisfies the condition

(i) $g(1,1,1) = h < 2$

(ii) if $u, v \geq 0$ are such that either $u \leq g(v,2v,u)$ or $u \leq g(v,u,2v)$or $u \leq g(u,2v,v)$, them $u \leq hv$

Now, we prove the following theorem,

Theorem:

Let *F, G, S* and *T* be self mappings of a Banach space *X* satisfying.

(i) The pair (*ST*,*FG*) commute,

(ii) The pairs (*S, T*) and (*F, G*) are composite involutions,

(iii) $\|STx - STy\| \leq g\left(\|FGx - FGy\|, \|FGx - STx\|, \|FGy - STy\|\right)$

....(1.4)

for all $x, y \in X, g \in ¢,$ then *FG* and *ST* have a coincidence point x_0, i.e. $FGx_0 = STx_0$, Moreover if the pairs (*S,T*), (*ST, F*), (*ST, G*), (*F, G*), (*FG, S*) and (*FG, T*) commute at the foregoing fixed point x_0, then x_0 also remains the unique common fixed point of *S, T, F* and *G*.

Proof : From (i) and (ii) it follows that $(STFG)^2 = I$. Now using (1.11), we have

$$\|STFG\ Fx - STFG\ Fy\| \leq g\left(\|(FG)^2 Fx - (FG)^2 Fy\|, \|(FG)^2 Fx - (STFG)Fx\|, \|(FG)^2 Fy - (STFG)Fy\|\right)$$

If we set $Fx = z$ and $Fy = w$, then we get

$$\|STFG\ z - STFG\ w\| \leq g\left(\|(z - w\|, \|(z - STFG\ z\|, \|(w - STFG\ w\|\right) \ldots.(1.5)$$

Since the map *STFG* is an involution, therefore, we define $w = Az$, $¢ = (STFG)w$ and $« = 2w - ¢$ and note the values given in Lemma 1.4.1.

Now consider

$$\begin{aligned}\|¢ - z\| &= \|(STFG)w - (STFG)^2 z\| \\ &\leq g\left(\|w - (STFG)z\|, \|w - (STFG)w\|, \|(STFG)z - (STFG)^2 z\|\right) \\ &\leq g\left(\|w - (STFG)z\|, \|w - (STFG)w\|, \|(STFG)z - z\|\right) \\ &\leq g\left(\frac{1}{2}\|z - (STFG)z\|, \|w - (STFG)w\|, \|z - (STFG)z\|\right) \qquad \ldots.(1.6)\end{aligned}$$

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

by Lemma1.4.1

Again

$$\|« - z\| = \|2w - ¢ - z\| = \|(STFG)z - (STFG)w\|$$

$$\leq g\left(\|z - w\|, \|z - (STFG)z\|, \|w - (STFG)w\|\right)$$

$$\leq g\left(\frac{1}{2}\|z - (STFG)z\| \|z - (STFG)z\|, \|w - (STFG)w\|\right) \quad \text{....(1.7)}$$

But

$$\|¢ - «\| \leq \|¢ - z\| + \|z - «\|$$

And so, using inequalities (1.6) and (1.7) we get

$$\|¢ - «\| \leq 2g\left(\frac{1}{2}\|z - (STFG)z\|, \|z - (STFG)z\|, \|w - (STFG)w\|\right)$$

Since $\|¢ - «\| = 2\|w - (STFG)w\|$, so that above inequality gives

$$\|w - (STFG)w\| \leq g\left(\frac{1}{2}\|z - (STFG)z\|, \|z - (STFG)z\|, \|w - (STFG)w\|\right)$$

so that

$$\|w - (STFG)w\| \leq h/2\|z - (STFG)z\|$$

Thus from Lemma (1.4.1), we obtain

$$\|A^2z - Az\| \leq h/2\|Az - z\|$$

Thus, Inductively we obtain

$$\|A^{n+1}z - A^nz\| \leq (h/2)^n\|Az - z\|$$

Since $h < 2$, it follows that $\|A^{n+1}z - A^nz\| \to 0$ as $n \to \infty$. Thus $\{A^nx\}$ is a Cauchy sequence and converges, to some point x_0 is X. We obtains, therefore $Ax_0 = x_0$ and so $(STFG)\,x_0 = x_0$.

So $(STFG)$ has at least one fixed point say x_0 in X i.e., $(STFG)\,x_0 = x_0$. Now using $(ST)^2 = I$, we get $FGx_0 = STx_0$ i.e. is a coincidence point of ST and FG. Now

$$\|STx_0 - x_0\| = \|STx_0 - ST(FGx_0)\|$$

$$\leq g\left(\|FGx_0 - FG(STx_0)\|, \|FGx_0 - STx_0\|, \|FG(STx_0) - ST(STx_0)\|\right)$$

$$< g\left(\|STx_0 - x_0\|, 0, 0\right)$$

$$< h\left(\|STx_0 - x_0\|\right)$$

yielding thereby $ST\,x_0 - x_0 = 0$, or $ST\,x_0 = x_0$ i.e., x_0 is a fixed point of ST and hence of FG.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

To prove the uniqueness of common fixed point x_0, let y_0 be another fixed point of *ST* and *FG*, then

$$\|x_0 - y_0\| = \|STx_0 - STy_0\|$$
$$\leq g\left(\|FGx_0 - FGy_0\|, \|FGx_0 - STx_0\|, \|FGy_0 - STy_0\|\right)$$
$$< g\left(\|x_0 - y_0\|, 0, 0\right)$$
$$< h\left(\|x_0 - y_0\|\right)$$

giving thereby $x_0 - y_0 = 0$ i.e. x_0 is a unique common fixed point of *ST* and *FG*.

Now using the commutativity of the pairs (*F*,*G*), (*S*,*T*), (*FG*,*S*), (*FG*,*T*), (*ST*,*F*), (*ST*,*F*) and (*ST*,*G*) at x_0 one can write.

$Sx_0 = S(TSx_0) = ST(Sx_0)$, $Fx_0 = F(GFx_0) = FG(Fx_0)$,
$Tx_0 = T(TSx_0) = ST^2x_0 = ST(Tx_0)$, $Gx_0 = G(GFx_0) = FG(Gx_0)$,
$Sx_0 = S(FGx_0) = FG(Sx_0)$, $Fx_0 = F(STx_0) = ST(Fx_0)$,
$Tx_0 = T(FGx_0) = FG(Tx_0)$, $Gx_0 = G(STx_0) = ST(Gx_0)$,

which show that Fx_0, Gx_0, Sx_0 and Tx_0 is a common fixed point of the pair (*ST*,*FG*) which due to uniqueness of the common fixed point of the pair (*ST*,*FG*) get us.

$x_0 = Sx_0 = Tx_0 = Fx_0 = Gx_0$

This completes the proof.

After putting $FG = I$ and $S = I$, in Theorem 1.1.4, we get the following result.

Corallary :

Let *T* be self mappings of a Banach space *X* satisfying

(i) $T^2 = I$,

(ii) $\|Tx - Ty\| \leq g\left(\|x - y\|, \|x - Tx\|, \|y - Ty\|\right)$

for every $x, y \in X$ where $g \in ¢$, then *T* has at least one fixed point

Remark :

The foregoing Theorem 1.1.4 can be conveniently used to corollarize the theorem of Iseki (see[*]) if we choose $g(a,b,c) = (\sim/2 + \quad)\max\{2a, b, c\}$ for all $a, b, c \geq 0$.

Now, in our next theorem we generlized the contractive condition given by Imdad and Khan [13].

Theorem :

Let *F*,*G*,*S* and *T* be self mappings of *a* Banach space *X* satisfying

(i) The pair (*ST*,*FG*) commute,
(ii) The pairs (*S*,*T*) and (*F*,*G*) are composite involutions,

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

(iii) $\|STx - STy\| \le \frac{h}{2}\max\left(\|FGx - FGy\|, \frac{1}{2}\|FGx - STx\|, \frac{1}{2}\|FGy - STy\|, \right.$

$\left. \frac{1}{2}\|FGx - STy\|, \frac{1}{2}\|FGy - STx\|\right)$ ....(1.8)

for every $x, y \in X$ where $0 \le h < 4,$ then FG and ST have a coincidence point x_0 i.e., $FGx_0 = STx_0$. Moreover if the pairs (S,T), (ST,G) (ST,F), $(F,G),(FG,S)$ and (FG,T) commute at the foregoing fixed point x_0, then x_0 also remains the unique common fixed point of *S,T, F* and *G*.

Proof : From (i) and (ii) it follows that $(STFG)^2 = I$. Now using (1.8), we have

$$\|STFGFx - STFGFy\| \le \frac{h}{2}\max\left(\|(FG)^2Fx - (FG)^2Fy\|, \frac{1}{2}\|(FG)^2Fx - (STFG)Fx\|, \right.$$

$$\frac{1}{2}\|(FG)^2Fy - (STFG)Fy\|, \frac{1}{2}\|(FG)^2Fx - (STFG)y\|,$$

$$\left.\frac{1}{2}\|(FG)^2Fy - (STFG)Fy\|\right)$$

If we set $Fx = z$ and $Fy = w$, then we get

$$\|STFGz - STFGw\| \le \frac{h}{2}\max\left(\|z - w\|, \frac{1}{2}\|z - (STFG)z\|, \frac{1}{2}\|w - (STFG)w\|, \right.$$

$$\left.\frac{1}{2}\|z - (STFG)w\|, \frac{1}{2}\|w - (STFG)z\|\right).$$

Since the map *STFG* is an involution and $0 \le h < 4,$ therefore by Theorem 2.1 (due to Khand and Imdad [13]), *STFG* has at least one fixed point say x_0 in *X* i.e., *STFG* $x_0 = x_0$. Now using $(ST)^2 = I$, we get $FGx_0 = STx_0$ i.e. x_0 is a coincidence point of *ST* and *FG*. Now

$$\|STx_0 - x_0\| = \|STx_0 - ST(FGx_0)\|$$

$$\le \frac{h}{2}\max\left(\|FGx_0 - FG(STx_0)\|, \frac{1}{2}\|FGx_0 - STx_0\|, \frac{1}{2}\|FG(STx_0) - ST(STx_0)\|, \right.$$

$$\left.\frac{1}{2}\|FGx_0 - ST(STx_0)\|, \frac{1}{2}\|FG(STx_0) - STx_0\|\right)$$

$$\le \frac{h}{2}\|STx_0 - x_0\|$$

yielding thereby $STx_0 - x_0 = 0,$ *or* $STx_0 = x_0$ *i.e.* x_0 is a fixed point of *ST* and hence of *FG*.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

To prove the uniqueness of common fixed point x_0. Let y_0 be another fixed point of *ST* and *FG*, Then

$$\|x_0 - y_0\| = \|STx_0 - STy_0\|$$

$$\leq \frac{h}{2}\max\left(\|FGx_0 - FGy_0)\|, \frac{1}{2}\|FGx_0 - STx_0\|, \frac{1}{2}\|FGy_0 - STy_0)\|, \right.$$

$$\left. \frac{1}{2}\|FGx_0 - STy_0\|, \frac{1}{2}\|FGy_0 - STx_0\| \right)$$

$$\leq \frac{h}{2}\|x_0 - y_0\|$$

giving thereby $x_0 - y_0 = 0$ *or* $x_0 = y_0$ *i.e,* x_0 is a unique common fixed point of *ST* and *FG*.

Now using the commutativity of the pairs (*F*,*G*), (*S*,*T*), (*FG*,*S*), (*FG*,*T*), (*ST*,*F*) and (*ST*,*G*) at x_0 one can write.

$Sx_0 = S(TSx_0) = ST(Sx_0)$, $Fx_0 = F(GFx_0) = FG(Fx_0)$,
$Tx_0 = T(TSx_0) = ST^2x_0 = ST(Tx_0)$, $Gx_0 = G(GFx_0) = FG(Gx_0)$,
$Sx_0 = S(FGx_0) = FG(Sx_0)$, $Fx_0 = F(STx_0) = ST(Fx_0)$,
$Tx_0 = T(FGx_0) = FG(Tx_0)$, $Gx_0 = G(STx_0) = ST(Gx_0)$,

which show that Fx_0, Gx_0, Sx_0 and Tx_0 is a common fixed point of the pair (*ST*,*FG*) which due to uniqueness of the common fixed point of the pair (*ST*,*FG*) get us.

$x_0 = Sx_0 = Tx_0 = Fx_0 = Gx_0$

This completes the proof.

If we take $FG = I$ and $S = I$ in Theorem 1.1.7, we get the following result of Khan and Imdad [13].

Corollary :

Let *T* be self mappings of a Banach space *X* satisfying

(i) $T^2 = I$

(ii) $\|Tx - Ty\| \leq \frac{h}{2}\max\left(\|x - y\|, \frac{1}{2}\|x - Tx\|, \frac{1}{2}\|y - Ty\|, \frac{1}{2}\|x - Ty\|, \frac{1}{2}\|y - Tx\| \right)$

for every $x, y \in X$ where $0 \leq h < 4$, then *T* has at least one fixed point.

Remark :

Theorem 1.1.7, remains true if we replace condition 1.8) as follows

$\|STx - STy\| \leq h\|FGx - FGy\|$ for every $x, y \in X$, where $0 \leq h < 2$

We furnish an example to demonstrate the validity of the Remark 1.1.9

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

Example :

Let R be the set of reals equipped with usual norm. Define $S,T,F,G:R \to R$ as

$$Sx = \begin{cases} -x \ \ if \ \ x \geq 0 \\ -x/3 \ if \ x < 0 \end{cases}, \quad Tx = \begin{cases} 3x \ \ if \ \ x \geq 0 \\ x \quad if \ \ x < 0 \end{cases}$$

$$Fx = \begin{cases} -x \ \ if \ \ x \geq 0 \\ -x/4 \ if \ x < 0 \end{cases}, \quad Gx = \begin{cases} 4x \ \ if \ \ x \geq 0 \\ x \quad if \ \ x < 0 \end{cases}$$

So that

$$STx = \begin{cases} -3x \ \ if \ \ x \geq 0 \\ -x/3 \ if \ x < 0 \end{cases} \quad \text{and} \quad FGx = \begin{cases} -4x \ \ if \ \ x \geq 0 \\ -x/4 \ if \ x < 0 \end{cases}$$

Note that $(ST)^2 = (FG)^2 = I$

Now we distinguish following cases:

(a) For $x \geq 0, y \geq 0$ we have

$$\|STx - STy\| = 3|x - y| \leq \frac{7}{8}\left(8|x - y|\right) = \frac{14}{8}\left(4|x - y|\right) = \frac{14}{8}\|FGx - FGy\|$$

(b) For $x < 0, y < 0$ we can write

$$\|STx - STy\| = \frac{1}{3}|x - y| \leq \frac{7}{16}|x - y| = \frac{14}{8}\|FGx - FGy\|$$

(c) Next, for $x \geq 0 \ and \ y < 0$ we write a sequence of implications in the following way:

$$y < 0 \leq x \Rightarrow y < \left(\frac{192}{5}\right)x \Rightarrow y < \left(\frac{48}{5}\right)4x \Rightarrow \left(\frac{5}{48}\right)y < 4x$$

$$\Rightarrow \frac{7}{6}y - \frac{1}{3}y < 7x - 3x \Rightarrow 3x - \frac{1}{3}y < 7x - \frac{7}{16}y = \frac{14}{8}\left|4x - \frac{y}{4}\right|$$

Which implies that

$\|STx - STy\| = \left|3x - \frac{y}{3}\right| \leq \frac{14}{8}\left|4x - \frac{y}{4}\right| = \frac{14}{8}\|FGx - FGy\|$ Thus all the conditions of Remark 1.1.9 are satisfied if we choose $h = \frac{14}{8}$. Here $x = 0$ is the only coincidence point of ST and FG.

However 0 also remains the unique common fixed point of F,G,S and T.

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THE IMPACT OF LANGUAGE ON GENDER AND POWER

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ABSTRACT

The social roles of men and women who speak a language are closely related to the language's structures, vocabulary, and usage patterns. the reason why there are different types for men and women. Does language use differ between men and women? Why do these variations exist? Is it as a result of the language's structures? Or it could be because of social conventions that dictate how language should be used by both men and women.

Is it possible to label a certain language as "sexist"? is the first query that leads to the second. The second query raises a further query: "Is it feasible to describe the users of that language and the norms governing language use as "sexist"?" These questions are actually the ones that are discussed when it comes to gender and language. Another topic of discussion is how to prevent sexism in language. In light of the biological and social construction theories of gender, we look at how language is used differently by men and women.

Keywords: Gender, Power, Language, Linguistic Disparities, Social Status

INTRODUCTION

Women and men use language differently due to styles, registers, and ways of speaking as well as differences in interaction, thought, culture, and linguistic attitudes related to gender, politeness, and stereotypes. Women's speech is undoubtedly different from men's speech. In actuality, gender and language have a number of interrelated interactions. To put it another way, men and women use language in very different ways. It is due to the way the language is structured, societal norms, or the people who use the language in that society. Gender (male and female) is also socially constructed. We observe variations or differences between men and women as a result of the social institution or taboo. In addition, there are significant differences between how men and women speak that are founded in the hierarchy of power. I will provide some justifications for my remarks in the passages that follow.

Studies of language and gender:

The 1975 book Language and Woman's Place by Robin Lakoff, as well as other of Lakoff's earlier research, are frequently cited as the foundation for the sociolinguistic study of gender and language. Since the 1970s, the study of language and gender has advanced significantly. Leading academics include Penelope Eckert, Janet Holmes, Deborah Tannen, Deborah Cameron, and others.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

Pronunciation

In terms of pronunciation and morphology, social dialect research mostly examines the differences between men's and women's speech, with some concentration on syntactic structures (such as multiple negations). Men and women have different intonation patterns, according to Brend (1975). Syntax, semantics, and style are now the primary areas of study for gender differences, according to Robin Lakoff. She contends that language spoken about women in American society reflects their inferior socioeconomicrank. She lists certain linguistic elements that, in her opinion, are more frequentlyutilised by women than by males and that convey hesitation and lack of confidence. Robin Lakoff contends that women's use of hedging and boosting techniques reveals a lack of confidence.

Interruptions

Women and men converse differently for a variety of reasons in terms of interpersonal dynamics. Women are more likely than men to listen attentively during conversations, interrupt less frequently, and be concerned that others have an opportunity to contribute (Holmes 1995). Despite the popular belief that women are the talkative sex and the proverbs that depict women as chatty. The majority of the scientific evidence indicates out the opposite; women's tongues are like lambs' tails; they never stay still. Men predominate when speaking in a variety of settings, especially public ones like conference talks, staff meetings, and television interviews where talking can boost your prestige. Interruptions between speakers of the same gender tend to be spread rather evenly. Male to male conflict is more common among same-sex couples, while femaleto female drama is more prevalent.

According to a number of studies, males interrupt women during cross-sex interactions far more frequently than women interrupt men. In cross-sex discussion, women usemore you and we and less resistance than males when someone interrupts them. They also ask more questions, encourage others to talk, and use more signs like "mm hmm" to encourage people to continue speaking. Men tend to try to dominate the conversation by interrupting more, challenging more, disputing more, ignoring more, and making generalisations. In other words, men and women appear to reflect the power dynamic that prevails through society, where males are dominant and women are subservient, in cross-sex interactional patterns in discussion. Without a question, men continue to interrupt most frequently.

Men interrupt others more frequently than women do in other situations; it has been discovered. The pattern is present, for example, in contacts between doctors and patients and departmental meetings. Whether they are doctors or patients, women are more likelythan males to be interrupted. The majority of interruptions in conversations between patients and children are made by fathers, and females are most frequently interrupted by both their moms and fathers. However, compared to most women, most men speak more frequently and for a longer period of time. More often than not, men interrupt than women. Although both men and women are guilty of interrupting, there are a few key distinctions:

- In general, men interrupt more frequently than women.
- Women are more likely than males to interrupt one another.
- When it comes to taking and keeping the floor, men are more successful.
- Women typically interrupt by asking questions or making encouraging remarks(yeah, right, I see, is

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

that so, etc.).

On the other hand, Holmes (1992) discovered that female doctors were interrupted more frequently than male doctors during patient-doctor talks. Men tended to dominate interactions in professional settings, but not women. In her investigation on the interactions between doctors and patients, West (1998) reached comparable conclusions.

Competitive vs. Cooperative

It has been discovered that men are more competitive conventionalists and women are more supportive and cooperative conversationalists. According to a study of the Malagasy society, women speak more bluntly than males do. Women are the ones that handle the essential haggling in the marketplace as well as handling conflicts and debates within the home. Men in this society speak in a circumlocutory and oblique manner. Women are often cooperative conversationalists, according to research on conversational interaction, whereas men are more likely to be competitive and less tolerant of others.

Discussion topics between men and women

Men speak more than women when both sexes are present in a conversation. The dialogues also cover a range of subjects. Men-men: rivalry and teasing, athleticism, aggression, commerce, politics, legal issues, and taxes. Women are concerned with their sense of self, relationships with others, families and friends, reading, eating and drinking, problems in life, and lifestyle. More often than males, women use adjectives like adorable, charming, magnificent, lovely, and sweet. They frequently add tag inquiries as a result of the same feelings of uncertainty and uneasiness.

Many people think that women talk more than males. Men have been found to talk more than women in a variety of contexts, including staff meetings, television panel discussions, and husband-and-wife pairs engaging in casual chat (Eakins and Eakins 1978; Bernard 1972). (Soskin and John 1963). According to evidence, men and women typically discuss different topics (Aries and Johnson 1983; Seidler 1989). Men, for instance, frequently discuss sports, politics, and cars, whereas women typically discuss parenting and interpersonal connections.

Questions in Conversations

In interactions, inquiries are used differently by men and women. For men, a question is usually a genuine request for information whereas with women it can often be a rhetorical means of engaging the other's conversational contribution or of acquiring attention from others conversationally involved, techniques associated with a collaborative approach to language use. Therefore, women use questions more frequently. In writing, however, both genders use rhetorical questions as literary devices. For example, Mark Twain used them in "A War Prayer" to provoke the reader to question his actions and beliefs. Tag questions are frequently used to verify or confirm information; though in women's language they may also be used to avoid making strong statements.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

Changing the topic of conversation

In his research on the interactions of same-sex friends, Bruce Dorval found that men tend to switch topics more frequently than women. The idea that women chatter and talk excessively may have its roots in this distinction. Goodwin (1990) notes that rather than offering fresh subjects, girls and women relate their statements to those of earlier speakers and develop one another's topics. However, a study of young American couples and their interactions reveals that while women raise twice as many topics as men, it is the men's topics that are usually taken up and subsequently elaborated in the conversation.

Listening and Attentiveness

Given the value that hearing in conversation carries for the listener as the speaker's confidant, it appears that women place more weight on listening than do males. Women typically interrupt conversations less frequently than men do, which suggests that listening is important to them. They also utilise minimal responses more frequently than men do, which suggests that women place greater importance on listening. However, as Victoria DeFrancisco's work reveals, men interrupt significantly more frequently with unrelated issues, especially in mixed-sex settings, and are more likely to respond silently to a female speaker's conversational focus than they are to minimise their own comments.

Women listen and concur when guys speak. However, despite the fact that this agreement was meant to be a sign of connection, males frequently interpret it as a sign of status and authority. A woman's listening and attempts at recognition may lead a man to believe that she is unsure or insecure. When in fact, a woman's motivations for acting in this way are a direct outcome of her views toward her relationships rather than her attitudes toward her knowledge. Giving information elevates the speaker in the listener's eyes while lowering them in the speaker's eyes. But when women listen to men, they often consider connection and support rather than necessarily position.

Reasons of Gender Differences in Language Use

Language use by men and women differs for a variety of reasons. On this, three claims can be made: First, that there are significant biological differences between men and women that have an impact on how they speak. Psychologically, women are more likely to be romantically attached, supportive of one another, and non-competitive. Men have an intrinsic tendency toward independence and power over solidarity.

Second, social structures are constructed via a series of hierarchical power relations. In such a system, men typically hold the power while women typically do not. Language usage is a reflection of men's social dominance. They make an effort to take charge, introduce ideas, interrupt, and so forth. They act in this way toward women as well as toward one another. Women who feel helpless should be allowed to get away with it. Third, both men and women are social creatures who have mastered certain behaviours. The majority of language behaviour is taught activity.

Women learn how to be women, while men learn how to be men. The majority of studies suggest that distinct gender-specific activities and various socialisation and acculturation patterns may be to blame for the disparities between men and women's modes of interaction. To categorise men's and women's styles as "competitive" and "cooperative," respectively, would be stereotyped. The majority of

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

the data points to a difference between men and women's language use as a result of their various social roles. The discrepancies will be bigger the more distinct the roles. The reflection canalso be seen in language in countries where gender roles are less clearly delineated and social stratification is less rigid. alterations in society also reflect alterations in language.

Dominance versus subjection, Status and Power

Most studies show that men are typically more domineering than women in mixed- gender conversations. Variability based on power serves as the main argument in favour of the dominance strategy. On the other hand, social, economic, and sociohistoricalstatus are the sources of power. Using the example of male experts speaking more verbosely than their female counterparts, Helena Leet-Pellegrini proposes a dichotomy between a male desire for conversational dominance and a female aspiration for group conversational participation. Males are given more attention in the classroom, and this can result in them receiving more attention in the scientific and technical fields. This canthen result in their success in those fields, which can then result in their having greater power in a technocratic society, claims Jennifer Coates.

Power plays a significant role in the male/female interaction in a variety of contexts, not just conversation. From the topic of the communication to the methods used to convey it, power is evident in every facet of communication. Men are more focused on their position than women are, who are often more concerned with building and keeping relationships. The goal of a woman's communication is often to establish and preserve connections. On the other hand, men will prioritise power more, and their communication patterns will reflect their desire to uphold their position in the partnership.

Tannen's research indicates that men frequently use storytelling as a means of upholding their social status. Men tend to make jokes or tell stories that are primarily aboutthemselves. Women, on the other hand, are less preoccupied with their own power, and as a result, the focus of their storytelling is on others rather than on themselves. Women strive to minimise their role in their own tales by equating themselves with those around them, which deepens their bonds with those people.

Construction of Gender

Sex is biologically determined. Sex differences are the differences based on biological/physical organs. Gender is a social construct that encompasses all of the psychological, social, and cultural distinctions that exist between men and women.There are well-known differences between the sexes: Compared to men, women have more fat, less muscle, are weaker, and weigh less. They are mature more rapidly and livelonger. They have different voice quality and different vocal skill. But the majority of the variations, such as longevity and voice quality, can be the product of various socialisation processes. Phonological differences between men and women in almost all languages of the world, for example, Hindi language-differences in word choice in various languages. Japanese women show they are women when they speak, with the use of the morphological inflections ne or wa. According to Sapir (1929), the Yana language of California contains special forms for use in speech either by or to women.

Some other sex-based distinctions such as actor-actress, waiter-waitress, and master- mistress are found in language. Some of these distinctions are reinforced by entrenched patterns of usage and semantic

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

development. Master-mistress have quite different ranges of use and meaning Another pair of differentiation: boy-girl, man- woman, gentleman- lady, bachelor-spinster, widower-widow. Widower-widow has different use and meaning from the others. Lakoff cites that there are 'equivalent' words referring to men and women do have quite different associations in English language. "He's a professional" and "She's a professional".

Gender as a Social Construct

A variety of social institutions contributed to the development of the gender construct. Some of these include family, educational institutions, judiciary, religion, etc In recent years, gender-related thoughts and notions have been increasingly prevalent in the media. Gender, unlike sex, which is based on biological division and is specific in character, is more amorphous in nature and is subject to change with reference to contextand time.

Sexist Language

Who is 'sexist'? Which comes first, the speakers or the language itself? According to Lakoff, the English language is sexist. Because of this, women seem to employ languagemore submissively toward men. For example, women are also often named, titled, and addressed differently from men. Women are more likely than men to be addressed by their first names when everything else is equal, or, if not by first names, by such terms as lady, miss, or dear and even baby, or babe. Males are considered to be more accustomed to using different address phrases to refer to women than to other men, and vice versa. Languages vary in terms of whether or not they assign gender to words referring tothings without biological sex (Vigliocco 2005).

Any sexist statement or speech can be turned sex-neutral in language by making the appropriate changes, such as changing chairman to chairperson, salesperson to salary clerk, actor to actor, etc. The extreme power structure of dominance in the structure and use of language can also be avoided by initiating some changes in language. So language itself is not sexist. It is the people who use languages may be sexist or not. Feminist movement demands the elimination of all kinds of discriminations – social, economic, linguistic, and so on done against women. There are many suggestions for avoiding sexist language.

Gender and Sex

Sex is a biological phrase that describes the anatomical differences between a male and female, whereas gender is a social construct. The binary split of male and female forms the basis of the political perspective on sex known as gender. This binary division seems to be a natural process. However, the issue with this separation arises when one object is ranked below another that is thought to be superior. According to Chanter (2006), "that is, biologically or chronologically, biology, anatomy, physiology, nature, DNA structure, genetics, materiality, or "the body," comes first. Social structures, gendered roles, historically held stereotypes and expectations about gender, cultural mores, sexual norms and taboos, etc. Chanter (2006), p. Therefore, we can say that a biologically given sex—namely, boy, girl, man, and woman—serves as the foundation for creating a social category known as gender (attributes of masculinity and femininity).

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

The language of conversation between women is first and foremost a language ofrapport, claims Tannen (1991). (Tannen 1991). Its objective is to forge connections and negotiate alliances. Women often exhibit commonalities and shared experiences, and when they disagree in meetings, they frequently use examples from their own lives as support.

On the other hand, language serves as a means of negotiating and maintaining rank inthe hierarchy for the majority of men. Men accomplish this, in Tannen's opinion (1991), by demonstrating their knowledge and expertise. Men also accomplish this by "holding centre stage," as in the case of delivering jokes, telling stories, or providing information. Men, for instance, often dispute in meetings by stating categorically what is right and wrong.

Women, power and taboo language

Gender identity is a set of attitudes, habits, and standards that pervade all aspects ofdaily life. Each culture aims to make new borns into adult males and females. Gender identity is a set of cultural norms and expectations that outline how gay men and lesbian women, as well as transgender people, should behave. Another term for gender identityis a person's individual perception of and subjective experience with their own gender. This is typically referred to as one's internal sense of who they are in terms of being a man or a woman, primarily consisting of their acceptance of falling into one of two gender categories. Every society has a set of gender categories that can be used to form social identities in relation to other society members.

Male and female gender features are assigned differently in the majority of societies. However, not everyone identifies with all (or even some) of the aspects of gender that are in every nation assigned to a person's biological sex. Historically, the traits most closely associated with masculinity have been aggressive behaviour and obscenity. The language we use to discuss sexuality is limited by our cultural contexts. Words that suggest sexual activity are avoided in the United States because discussing sexuality is frowned upon. Sexual activity is forbidden, not because it isn't, but because it is. In America, women have long been encouraged to suppress their sexual desires while men have enjoyed greater sexual freedom.

Research on gender and cursing reveals three recurrent findings, men curse more than women; men use a larger vocabulary of curse words than women; and men use more offensive curse words than women (Jay, 1992, 2000, cited in Jule 2005).

Gender-Culture-Power

An array of institutional and cultural activities preserve gender power relations. It has historically been the case that men dominate women. Whilst in recent decades, the feminist movement has sought to equalise the gender bias, there are still factors, both institutional and cultural, that serve to maintain this long-standing imbalance. Cultural practises breed institutional barriers and vice-versa. Sex and gender must be distinguished from one another.

Feminism, according to Dahlerup (1986), is a set of philosophies, practises, and lawsthat aim to end gender inequality and the dominance of men in society. It has issues since those who fall within this description of feminism, both women and men, actively reject the title. This might be the case since

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

feminism has been successfully satirised in the media as an extreme type of men-hatred practised by unlovable, unattractive, and humourless women. It's vital to note this media-related topic. As stated in the title, it raises concerns about cultural traditions.

To preserve female power relations, cultural practises are crucial. These habits frequently start when kids are still very small. This can be found in a variety of contexts, including language, toys, and general preconceptions. Before they can express it verbally, children acquire preverbal cues about their gender identification. Childrenlearn to distinguish between things from an early age thanks to differences in hair, clothing, and aroma. These variations prepare kids to mature into their particular gender.

CONCLUSION

Language and gender are closely related in a number of ways. To put it another way,men and women use language in very different ways. It is due to the way the language isstructured, societal norms, or the people who use the language in that society. Gender (male and female) is also socially constructed. We observe variations or differences between men and women as a result of the social institution or taboo. In addition, there are significant differences between how men and women speak that are founded in the hierarchy of power.

The individual's personality and the vitality of the group are also factors in the explanation of language use variability. The social roles of men and women who speak alanguage are therefore closely related to the language's structures, vocabularies, andways of use.

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NATURE'S SILENT HEALER: *MOMORDICA CHARANTIA* L.

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ABSTRACT

Momordica charantia, a member of the Cucurbitaceae family, is a plant that is frequently cultivated in tropical and subtropical climates. *M. charantia*, which has been used for a long time to treat several diseases. Asian herbal treatments employ curcumin to treat a variety of diseases and conditions. *Momordica charantia* is a plant that is used to cure diabetes, tumours, parasites, viruses, and stomach ulcers. It includes a number of physiologically and pharmacologically active components, including triterpene, collagen, antibiotics, alkaloids, inorganic, lipid, and phenolic compounds. As a result of the addition of Ayurvedic goods like Gunna, Rasa, and Virya, GunnaRasa becomes GunnaRasa, which is, in turn, drier, more pungent, less bitter, and hotter. The current study looks to examine if *M. Charantia* has antioxidant and antibacterial characteristics to emphasise more about its biology.

Keyword: *Momordica charantia* L, traditional medicinal plant

INTRODUCTION

Momordica charantia L. (MC), often known as bitter melon or bitter gourd, is a tropical and subtropical plant that is a member of the Cucurbitaceae family. It is thought that the numerous phytochemicals found in Momordica species offer a variety of positive health effects. The plant has been used for both traditional and alternative medicine for a very long time; it has also been the subject of extensive research [1], and studies have shown that it is effective for a wide range of illnesses, including AIDS, diabetes, obesity, asthma, tuberculosis, and viral and bacterial infections.

Karela, commonly known as bitter melon, has long been utilised in Ayurvedic treatment. The seeds, roots, leaves, and, in especially, the unripe fruits of the plant, each have unique pharmacological properties [2]. Juices of all kinds are used in medicine for a variety of health advantages, including the relief of joint pain, the treatment of jaundice, liver and digestive tract illnesses, and the treatment of persons who have a persistent fever. Juice also has diuretic, laxative, and anti-helminthic properties.

It works well when used locally to treat chronic skin conditions and to cure open wounds, boils, and rashes. To cure type 2 diabetes, it is advised to ingest the entire plant [2]. In order to heal and relieve stomach ulcers, an oil infusion made from bitter melon and warm olive oil from the sun is given topically to the digestive system [3]. Among other things, bitter melon is used in African folk medicine to treat rheumatism, skin conditions, dysentery, fever, and parasitic infections (roots).

T2DM practitioners treat liver illness, ulcers, boils, and burns with a decoction of leaves, fruits, and herbs. On top of that, gonorrhoea, scabies, measles, chicken pox, and malaria are all treated using

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

momordica remedies. In the Caribbean, it's usual practise to treat diabetes with fruit juice or leaf decoction.

The leaf decoction is occasionally used to prevent excessive blood pressure, diarrhoea, malaria, and other illnesses. Rheumatoid arthritis is treated with it [1].

Figure 1 Momordica plant with fruits and flowers

Botanical features

Hindi name: Karela, kareli

English name: Bitter gourd

Sanskrit: Karavelli

Growth habit: This tropical, subtropical, tendril-bearing climber (*Momordica charantia* Linn.) is a family of plant native to tropical and subtropical regions.

Root: Tap root.

Stem: Stem is slender, pubescent

Distribution: Along with other regions, it can be found in Asia, some nations in Europe, Africa, and the Caribbean. Since Momordica is a warm-season crop, it is grown there all year long. Every year, between April and July, this crop is grown.

Leaf: Simple palmately 5-7 lobed, typically glabrous or with little pubescence, and tendrils solitary or forked into two branches with alternate leaves having 3-7 deeply separated lobes The lobes have a few small peripheral tips, but the majority of them are blunt. The fashion has no rules.

Flower: Actinomorphic flowers with staminate plants often have a single, calyx-toothed flower with five lobes, five petals, three stamens, and several ovules that develop horizontally with a stigmatic stigma with three lobes. On short peduncles (female) or long peduncles (male), the perianth bears a brief to lengthy epigynous zone that transforms from yellow to yellowish green (male).

Fruit: Pepo, a fish approximately 5-25 cm long with a pendant, fusiform, beaked, scaly body; has several tubercles, a rosette-like exterior, and an oblong shape. The young fruit is a vivid emerald green as it is but can change to a brilliant orange as it is mature. It is noticeably bitter across all foods.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

Seed:Common and widely distributed, with diameters of 13-16 mm, ellipsoid, compressed, embedded in red pulp, wrinkled around the margins, and sculptured on both sides.

Taxonomic Classification [4]
Kingdom: Plantae
Division: Magnoliophyta
Class: Magnoliopsida
Order: Cucurbitales
Family: Cucurbitaceae
Genus: Momordica
Species: charantia Linn.

Phytoconstituents of the Momordica charantia Linn.
Ten metres long, *M. Charantia* is a medicinal plant. The plant has 4-5 cm wide leaves that have 3-7 evenly spaced lobes. The plant bears fruit that is oblong and has a waxy coating. The fruit's hollow interior contains seeds and a white centre [5]. Monoecious climbing weed M. Charantia develops from an annual to a perennial stage. It might not have any hair or have some. The stems extend from the cardinal taproot's tip to climb over every support that is present [6].
The nutritional value is decreased due to low levels of carbohydrates and proteins compared to other Cucurbitaceae members, which have great nutritional value attributed to contents of iron, phosphorus, and ascorbic acid [7]. Many *M. Charantia* species found in Thailand can be divided into two groups: Satun-thottam, or Thai bitter melon, which has smaller, spindle-shaped fruit, and Mara-chin, or Chinese bitter melon, which has bigger, cylindrical fruit.
Thai bitter melon, also known as Mara-Khee-Nok, is a smaller, pear-shaped variety of bitter melon [8]. The M. Charantia species, a member of the Cucurbitaceae family, features vivid red blooms. The most popular fruit varieties are ellipsoid or spherical in shape, warty, pockmarked, or ridged. Some frequently possess fleshy, seed-containing capsules that split irregularly into three valves [9]. The 14th-century discovery of M. Charantia in India was transported to China. Both subtropical and tropical nations are familiar with acetyl [10].
The ingredient list for the product includes carantine, cycloartenols, cucurbitanes, cryptoxanthin, elaeostearic acids, diosgenin, ergythrodiol, galacturonic acids, goyaglycosides, hydroxytrytryptamines, momordenol, gypsogenin, gentisic acid, linosterol and guanylatecyclassi.

Traditional uses
Karela has been used for a long time in numerous conventional forms of Asian medicine for the prevention and treatment of diverse diseases**.**
Fruits used in Momordica charantia, burning sensation, hypertension, colic, constipation, cough, diarrhoea, measles, gout, helminthiasis, inflammation, leprosy, skin conditions, ulcer, and bite. It has also been demonstrated that there are hypoglycaemic (antidiabetic) properties in both animal and human

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

research. Karela juice leaves used for fully treating stacks. Because of its bitter tonic qualities, karela is used as a blood purifier. It may cure boils and other blood disorders that appear on the skin. Karela juice is also useful to cure and avoid liver injury[11-12].

Leaves are used for menstrual diseases, sense of burning, constipation, fever (malaria), colic, infection, larvae, and parasites as emmenogogogue, measles, hepatitis, and helminthiasis [13]. Leaf tea is used in traditional medicine in Guyana for asthma, for the expulsion of intestinal gas, to facilitate menstruation and antiviral treatments for measles, hepatitis, and feverish disease. Topically, it is used in worms, wounds, pathogens and internally and externally for worms and parasites [14]. Seeds are used for ulcers, liver and spleen complications, diabetes, intestinal infections, elevated cholesterol, intestinal gas, healing, gastrointestinal damage etc.

Roots for the prevention of syphilis, rheumatism, boils, ulcer, septic swelling, ophthelmia and for Prolapsus vagenae are included [15]. Karela juice helps alleviate the Pyorrhea issue (bleeding from the gums). The United States commonly offers karela capsules and tinctures for prevention of asthma, viruses, cold influenza, disease, tumours, elevated cholesterol and psoriasis [16].

Ethnopathic use of tribals for abortions, birth control, increased milk flow, vaginal disorders, constipation, hyperglycemia, foodstuffs, diabetes, stones, kidney, fat loss, liver, fever (malaria), jaundice, gout, eczema, haemorrhoids, hydrophobia, parasitic bowels, skin, lily leprosy, pneumonia, psoriasis and rheumatism, scabies, bacterium, etc [17].

Medicinal Uses of Momordica charantia

- Momordica is rich in minerals including potassium, calcium, manganese, magnesium, zinc oxide, phosphorus, and dietary fibre as well as nutrients like beta-carotene, foliate, thiamine, riboflavin, and vitamin A. Momordica's potent antioxidant capabilities are all related to the phenols, anthroquinones, flavonoids, terpenes, isoflavones, and glucosinolates that give it its bitter flavour [18]. Bitter gourd juice reduces eye problems and improves eyesight when regularly drank, and it increases physical endurance to prevent chronic weariness.
- Bitter melon stimulates acid secretion and treats dyspepsia by the stimulation of the digestive tract.
- Bitter melon juice helps to keep insulin levels under control and reduces blood sugar levels. The phytochemical charantine, alkaloids, and insulin-like peptides all reduce glucose resistance without raising blood sugar levels and share the hypoglycaemic function of bitter guardians. These bioactive substances aid in the absorption of glucose and every other diabetic action, activate the AMPK protein, and regulate fuel metabolism. The amount of Beta cells in the pancreas that makes insulin increases as a result of bitter melon. The bitter gourd's anti-cancer, anti-inflammatory, and anti-diabetic properties have been noted in numerous studies, and many pharmaceutical companies have utilised them in their formulations [19].Bitter gourd juice to enhance the liver and avoid yolk. Bitter melon juice can detox and nourish the liver and be effective in the treatment of hips.
- An immune modulator, hypothetically bitter melon, will improve the immune cell role of patients with cancer. It is frequently used for malaria, cold and flu, fever, tumours, elevated cholesterol, psoriasis, and cancer treatments.

ISSN No. 0975-5217
(UGC-CARE Listed Group-I)

A hypothetical bitter melon immune modulator would enhance the immune cell function of cancer patients. It is also used for malaria, cold and influenza, fever, tumours, high cholesterol, psoriasis, and cancer therapies[20].

Antidiabetic Activity

Phytochemicals found in Momordica charantia include vicine, carantine, polypeptides-p, insulin plants, and caravilosides and glycosides. This increases the amount of glucose consumed and the amount of glycogen produced in the liver, muscles, and fat cells, which helps to lower blood sugar levels. Fruits and nuts include the polypeptide TP-insulin, which lowers blood sugar levels in treated rats and returns them to normal. Bitter melon contains a bioactive substance called insulin-like lectin. It serves as insulin and connects the two insulin receptors. Lectin has similar effects to cortisol in that it lowers blood glucose levels and damages peripheral tissues.

The hypoglycaemic action of bitter gil is greatly influenced by lectin. Alcoholic extract from charantin, which contains a combination of steroids, is a potent hypoglycaemic medication used to lower blood and diabetic patient sugar levels. By encouraging the release of insulin to promote insulin action, the bitter melon fruit improves cell glucose absorption. Fresh and dried fruit extracts also lowered blood sugar levels in diabetic mice. In rats with alloxane-induced diabetes, bitter gourd extracts have hypoglycaemic, antidiabetic, hypolipidemic, and hepatocrinal antioxidant properties. Bitter melon reduces arterial and capillary permeability to regulate microvascular dysfunction, a common diabetic consequence.

One of the hypoglycaemic medications is charantine, which combines steroidal saponins, stigmasteryl glucoside, and sitosteryl glucoside in a 1:1 ratio. When given intravenously or orally, charantin causes hypoglycemic symptoms in rabbits[21]. A polypeptide of 166 molecularly weighted amino acids makes up p-insulin. Da is yet another hypoglycemic with a cruel guard. Clinical studies have demonstrated that polypeptide-pZnCl2 lowers blood sugar levels. In rats, the pyrimidine nucleoside found in seeds and fruits can cause intraperitonic hypoglycemia. Charantine-rich momordica extracts enhance insulin sensitivity in type-2 diabetics [22].

Anti-Microbial Activity

Biologically, fresh leaf extracts are made of numerous secondary metabolites in M. Charantia with various therapeutic applications. Secondary metabolites include flavonoids, tannins, which have antiviral, antibacterial, tumor- and moluscicidal properties (anticarcinogenic, antioxidant antiviral, and antihemorrhagic). Salmonella, Pseudomonas aeruginosa, Escherichia coli, Streptococcus, and Bacillus are left with antibacterial effect by BM. Different fresh leaf extractions proved effective against strains of Escherichia coli, S. aureus, and B. cereus. The fresh and dried fever extracts contain a variety of secondary metabolites, such as tannins, alkaloids, and flavonoids, with a variety of pharmacological effects, including antimicrobials. Shigella, Staphylococcus, Pseudomonas, Salmonella, H. pylori, Escherichia coli, Streptococcus, Streptobacillus, parasitic species Plasmodium falciparum & Entamoeba histolitica, as well as gram-positive and gram-negative bacteria, can all be controlled in growth and infection by bitter melon seed extracts. Potential options for leishmaniasis chemotherapeutics include the bioactive compounds found in bitter melon[23].

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Anti-Malarial Activity

A naturally occurring medicinal herb called momordica charantia is used to prevent and treat malaria. In general, the Bitter Guard is regarded as anti-malarial by Asians, Colombians, and Panamanians. To combat malaria, tea is created by boiling leaves in the bath. Additionally, scientific tests have confirmed the anti-malarial effectiveness of certain Momordica species.

Antioxidant Activity

Antioxidants are molecules that may mitigate or eliminate free radicals harm to cells. The bitter melon ethanol extracts possess strong antioxidant activity like phenolic substances [24]. Bitter protection improves catalase production and reduces glutathione, which prevents the stress-induced peroxidation of lipids. Bitter melon phenolic compounds have antioxidant function. The compromised antioxidant status of Momordica charantia seeds in diabetic rats induced with streptozotocin is effectively normalised[25].

Anti-Tumor Properties

Bitter gourds prevent the growth of tumour cells and have anti-carcinogenic properties. Anti-carcinogenic or protective chemical substances are present in BM. In the rat model sample, a bitter watch water extract will prevent the development of prostate cancer. In mice, a hot water extract of the entire plant inhibited the development of tumour cells in the mammary glands. Human leucemia, liver or hepatic carcinoma, strong sarcomas, and melanoma have all been found in various in vitro testing of anti-leucemic and anti-cancer active blood plasma in several cell lines [26–27]. In cancer patients, bitter gourd is a key immunomodulator that increases the activation of immune cells. The fruit and seed extracts of bitter melon MDAMB 23140-41 tested in vitro inhibit the growth of numerous cancer cell lines, including human colon cancer, prostate adenocarcinoma, and metastatic cell lines.

Hypo-cholesterolemic activity

Momordica charantia's hypocholesterolemic effects were investigated in both normal and diabetic mice. Rats fed sunflower for four weeks were given seeds from Momordica charantia isolated as octadecatrienoic fatty acids. After 4 weeks, there was a reduction in nonenzymatic liver tissue peroxidation, erythrocytal membrane lipid peroxidation, and plasma lipid peroxidation. After receiving bitter gourd fruit and/or seeds for about 21 days, diabetic rats' triglyceride and cholesterol levels were stabilised. Blood and liver lipids are impacted by bitter gourd oil (BGO)[28].

Anti-Viral Properties

In-vitro Bitter Gourd anti-viral behaviour tests have identified various viruses, including Epstein-Barr, herpes, and HIV [29]. Bitter melon leaf extract has an immunostimulant impact in livestock, improves interferon synthesis of natural killer cells and increases tolerance to viral infection. The bitter gourd's anti-viral components are protein or glycoprotein of nature. Due to slow absorption through oral administration, bitter gourd does not decrease virus replication in people infected with HIV. However,

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oral treatment of Momordica compensates for the harmful consequences of anti-HIV medicines. Different Bitter Guards leaf extracts have antibacterial activities against Pseudomonas, Escherichia coli, Staphylococcus, Streptobacillus, Streptococcus and Salmonella. Entamoeba histolytica can be used in the whole plant extract in antiprotozoal operation [30]. The berries and fruit juice have antibacterial effects and contact with the stomach ulcer-causing infection Helicobacter pylori.

Larvicidal Activity

The phytochemicals in bitter custody have larvicidal capacity. Many experiments have been carried out against two mosquito vectors including C. quinquefasciatus and Anopheles stephens [31].

Anti-genotoxic activity

The antigenotoxic effects of Momordica carantia reduce the breakage of chromosomes by reducing the genotoxic effects of tetracycline methane sulphonate and methylnitrosamine[32].

Anti-helmintic activity

Leaf, fruit, and seed extracts find to be pharmacologically active against helminths. Extracts from M. Ascaridia galli is more successful than piperazine with aqueous extracts from Momordica. Saponins are anthelmintic substances that block the enzyme action of acetylcholinesterase, hence the paralysis of the worm and contribute to death.

Wound healing activity

More successful than the control group, momordica charantia fruit powder on goldenness has wound closing time, epithelial period, tensile strength of the wound, and tissue regeneration comparable to rat's povidone reference medicine iodine ointment[33].

Bitter melon has a strong ability to heal wounds. The bitter melon's charnatin and other phytochemicals stimulate growth factors, causing fibroblast proliferation and speeding capillary and wound oxygenation. The antioxidant and antibacterial properties of phytochemicals like flavonoids and glycosides enhance the healing process. Momordica has beneficial effects on wound healing rates, wound contraction, time to closure, speed of epithelization phase, and pain of the wound.

CONCLUSION

All civilizations have historically used medicinal plants known as herbal remedies to treat sickness. It implied that *M. Charantia* was a potential herbal plant that was used all over the world to produce vegetables and medicines. The fact that nearly every part of the plant is used medicinally and ethnobotanically suggests that the plant has a long history of being associated with Indians. Threrpenes, proteins, steroids, alkaloids, and phenolics, which are responsible for their biological and pharmacological activity as antidiabetic, antioxidant, anti-carcinogenic, anti-tumor, anti-fertility, anti-virus, anti-malarial, anti-ulcerative, and immunomodulatory agents, are abundant in M. charantia. It will take more research to pinpoint a number of additional actions.

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ANGELMAN SYNDROME & HOMOEOPATHY

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Abstract:
Angelman syndrome is a genetic disease condition that causes developmental delays, speech and balance problems, intellectual disability and seizures[1]. The diagnosis is based on history, unusual movements and characteristic facial appearance. There is no current treatment available. Symptomatic treatment according to the symptoms like anticonvulsants for seizures.

Introduction

Angelman syndrome (AS) is characterized by severe developmental delay or intellectual disability, severe speech impairment, gait ataxia and/or tremulousness of the limbs, and unique behavior with an apparent happy demeanor that includes frequent laughing, smiling, and excitability. Microcephaly and seizures are also common. Developmental delays are first noted at around age six months; however, the unique clinical features of AS do not become manifest until after age one year[2].

Angelman syndrome is due to a lack of function of part of chromosome 15, typically due to a new mutation rather than one inherited from a person's parents. It is due to a deletion or mutation of the UBE3A gene on that chromosome. It affects 1 in 12,000 to 20,000 people.Males and females are affected with equal frequency[3].

It is named after British pediatricianHarry Angelman, who first described the syndrome in 1965[4].

Clinical Features[5]

The Symptoms occur at relative frequency and vary from person to person. Common symptoms includes

Developmental delay,

- Speech impairment,
- Movement or balance disorder,
- Behavioraldisorders

- Delayed, disproportionate growth in head circumference,
- Seizures, onset usually less than 3 years of age
- Abnormal EEG, characteristic pattern with large amplitude slow-spike waves
- Strabismus
- Hypopigmented skin and eyes
- Tongue thrusting; suck/swallowing disorders
- Hyperactive tendon reflexes

- Feeding problems during infancy
- Uplifted, flexed arms during walking
- Prominent mandible
- Increased sensitivity to heat
- Wide mouth, wide-spaced teeth
- Sleep disturbance
- Frequent drooling, protruding tongue
- Attraction to/fascination with water
- Excessive chewing/mouthing behaviors
- Flat back of head
- Smooth palms

Diagnosis[5]

The diagnosis of Angelman syndrome is based on

- A history of delayed motor milestones and then later a delay in generaldevelopment, especially of speech
- Unusual movements including fine tremors, jerky limb movements, hand flapping and a wide-based, stiff-legged gait.
- Characteristic facial appearance (but not in all cases).
- A history of epilepsy and an abnormal EEG tracing.
- A happy disposition with frequent laughter
- A deletion or inactivity on chromosome 15 by array comparative genomichybridization (aCGH) or by BACs-on-Beads technology.

Diagnostic criteria for the disorder were initially established in 1995 in collaboration with the Angelman syndrome Foundation (US);[6] these criteria underwent revision in 2005.[7]

Seizures are a consequence, but so is excessive laughter[8], which is a major hindrance to early diagnosis.

Differential diagnosis

Other conditions that can appear similar include:[9,10]

- Autism spectrum
- Cerebral palsy
- Rett syndrome
- Mowat Wilson syndrome
- Adenylosuccinate lyase deficiency

- Pitt Hopkins syndrome
- Phelan McDermid syndrome
- Prader Willi syndrome

Treatment

There is currently no cure available. The epilepsy can be controlled by the use of one or more types of anticonvulsant medications.

Occupational therapies like such as finger isolation, motor planning, hand-eye coordination, spatial awareness, and refining gestures[11].

Homoeopathic Management[12]

Homoeopathy provides a promising result in such patients. Medicines given on individualistic approach based on totality of the symptoms produces wonderful effect in the treatment of symptoms of Angelman Syndrome. Common Medicines indicated in such cases includes:

- Calcareacarbonica
- Bufo rana
- Cuprum Metallicum
- OEnanthecrocata
- Artemisia vulgaris
- Kali bromatum
- Silicea
- Nux vomica
- Plumbum
- Cicutavirosa
- Sulphur
- Hyoscyamus
- Belladonna
- Causticum

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ROLE OF HOMOEOPATHIC MEDICINES IN GALL BLADDER STONES

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ABSRACT-
Gall stone formation is the most common disorder of the biliary tract and it is unusual for the gall bladder to be diseased in the absence of gall stones. Cholelithiasis or gallstone disease is a very common problem worldwide. The prevalence is more in females than males. Although cholecystectomy is considered the gold standard treatment for symptomatic cholelithiasis, it has its own limitations, risks and post-operative complications. Here, an alternative system of medicine, especially Homoeopathy, plays an important role in treating cholelithiasis.

KEYWORDS – Cholecystitis, Cholelithiasis, Gall bladder stone, Homoeopathy.

INTRODUCTION –

Gallstone unwellness refers to the presence of stones within the gall bladder (GB) (cholelithiasis) or common common bile duct (choledocholithiasis) and also the symptoms and complications they cause. lithiasis and its associated complications like inflammation, redness and inflammation ar one in all the main health issues worldwide. Chronic inflammation is nearly invariably related to gallstones. The imbalance of the chemical constituents of gall leads to precipitation of 1 or additional of the parts and ultimately forms gall stones. Nearly 37%–86% of gallstones are cholesterol-rich stones, 2%–27% are pigment stones and 4%–16% are mixed stones. totally different| completely different} medicine studies have prompted a good variation within the overall prevalence between different populations. The prevalence of gallstones will increase with age, rising markedly when the age of forty years. Older individuals are 4–10 times additional seemingly to possess gall stones than younger individuals. Gallstones are often found in individuals of high socioeconomic standing and in multiparous females. additionally, patients with lithiasis have considerably higher BMI compared to the common population. feminine gender is one in all the main risk factors of lithiasis. compared to men, ladies have 2 to a few times higher prevalence of gallstones. gestation is additionally a significant risk issue for lithiasis. Sex hormones are largely liable for the magnified risk as sex hormone will increase biliary cholesteric secretion, inflicting cholesteric supersaturation within the gall. Chronic calculus inflammation normally presents with perennial attacks of higher abdominal pain. [1,2,3,4,5,6]

Liver perform tests and abdominal ultrasound are the prompt investigational procedures in suspected bile stone unwellness. extirpation is that the main selection of treatment in symptomatic bile stone cases,

and cholecystectomy (LC) is that the wide accepted operative management of bile stone unwellness worldwide. However, there ar patients WHO are either reluctant to bear surgery or are at high surgical risk. additionally, LC has some disadvantages because it could result in common common bile duct and intestine injury (2.6%), post-operative gall leak (2.3%), stone spillage (2%), post-operative colonic fistula (0.3%), post-operative biliary fistula (0.3%) or post-operative hemorrhage (0.3%) in some cases. Here, medical aid plays a crucial role in combating the sufferings because of bile stone unwellness. There are many medicines within the homoeopathic pharmacological medicine which might be thought of for gall stone disease; some distinguished medicines are common barberry, Calcareacarbonica, asterid dicot genus marianus, China, Chamomilla, genus Chionanthus, Lycopodium, genus Veratrum album, etc. However, there are only a few studies found in literature, that show positive results of well-selected personal homoeopathic medicines in these conditions. [13,14,15] during this context, the most objective of this case report is to point out the effectiveness of personal homoeopathic medication within the treatment of this often-dreaded condition, sometimes or thought of surgical, with any stress on the need of additional analysis during this field. [1,2,3,4,5,6]

REVIEW OF LITRETURE –

Gallstones square measure laborious, pebble-like items of fabric, sometimes manufactured from sterol or hematoidin, that kind in your bladder. Gallstones will zero in size from a grain of sand to a golf equipment. The bladder will build one giant concretion, many small stones, or each little and enormous stones.

When gallstones block the digestive juice ducts of your biliary tract, the gallstones will cause unforeseen pain in your higher right abdomen. This pain is named a bladder attack, or biliary hurting. If your symptoms continue and they're left untreated, gallstones will cause serious complications. However, most gallstones don't cause blockages and square measure painless, conjointly referred to as "silent" gallstones. Silent gallstones sometimes don't want medical treatment.

Types of gallstones

The two main kinds of gallstones square measure

a) cholesterol stones
b) pigment stones

Cholesterol stones square measure sometimes chromatic in color and square measure manufactured from principally hardened sterol. In some countries, sterol stones form up concerning seventy-five % of gallstones. Pigment stones square measure dark in color and square measure manufactured from hematoidin. Some folks have a mixture of each sorts of stones. [19,20,21]

Pathogenesis[1]

Gallstones square measure composed primarily of sterol, bilirubin, and Ca salts, with smaller amounts of macromolecule and different materials. There square measure 3 kinds of gallstones

(i) Pure sterol stones, that contain a minimum of ninetieth sterol,

(ii) pigment stones either brown or black, that contain a minimum of ninetieth hematoidin and

(iii) mixed composition stones, that contain variable proportions of sterol, hematoidin and different substances like carbonate, inorganic phosphate and Ca palmitate.

Brown pigment stones square measure primarily composed of Ca hematoidinate whereas black pigment stones contain bilirubin, Ca and/or tribasic phosphate. In Western societies and in Asian country over seventieth of gallstones square measure composed primarily of sterol, either pure or mixed with pigment, muco compound protein, and carbonate. Pure sterol crystals square measure quite soft, and

macromolecule contributes significantly to the strength of sterol stones.
In the simplest sense, sterol gallstones kind once the sterol concentration in digestive juice exceeds the power of digestive juice to carry it in resolution, so crystals kind and grow as stones. sterol is just about insoluble in solution, however in digestive juice it's created soluble by association with digestive juice salts and phospholipids within the style of mixed micelles and vesicles.
Three kinds of abnormalities are thought-about to be accountable for sterol concretion formation. sterol supersaturation, the essential demand for sterol concretion formation, would possibly occur via excessive sterol synthesis, that is that the main lithogenic mechanism in weighty persons. within the non-obese, defective conversion of sterol to digestive juice acids, thanks to an occasional or comparatively low activity of sterol sterol hydroxylase, the speed limiting protein for steroid synthesis and sterol elimination may end in excessive sterol secretion. Finally, interruption of the enterohepatic circulation of digestive juice acids may increase digestive juice saturation. Temporary interruption of the enterohepatic steroid circulation throughout nightlong fast ends up in a better cholesterol/phospholipid quantitative relation within the vesicles secreted by the liver. steroid hormone treatment conjointly reduces the synthesis of steroid in ladies.
High biliary macromolecule and lipide concentrations square measure risk factors for the formation of gallstones. bladder sludge, i.e., thickened bladder mucoprotein with small entrapped sterol crystals is assumed to be the same old precursor of gallstones. Sludge will generally cause biliary pain, rubor, or acute inflammation, [33] however sludge may resolve while not treatment. The sources of sludge square measure physiological condition, prolonged total duct nutrition, starvation, or speedy weight loss. The antibiotic cephalosporin may precipitate within the bladder as sludge and infrequently, as gallstones.
The biliary Ca concentration plays a vicinity in hematoidin precipitation and concretion calcification. several patients with gallstones have magnified biliary Ca, with supersaturation of carbonate.
Impaired motility of the bladder as seen in patient with high medulla spinalis injury or with the employment of the somatostatin analogue octreotide, has been cited as another contributory consider the event of gallstones. In theory, microscopic sterol crystals would often be washed out of the bladder if its contractions were effective enough. viscus hypomotility has been recently recognized as a primary consider sterol lithogenesis. Fiber could shield against concretion formation by dashing viscus transit and reducing the generation of secondary digestive juice acids like deoxycholate that has been related to magnified sterol saturation of the digestive juice.

Epidemiology

In westerners, seven-membered of males and 15 August 1945 of female's square measure affected within the age-group eighteen – sixty-five years. In >40 years, age-group, there's a 3:1 feminine preponderance and in old, the quantitative relation is equal. Gallstones square measure additional common in North America, Europe and Australia, and square measure less frequent in Asian country, the Far East and Africa. In developed countries, the incidence of symptomatic gallstones seems to be increasing and that they occur at associate early stage. There has been a lot of discussion over the role of diet in sterol concretion disease; a rise in dietary sterol, fat, total calories and refined saccharide or lack of dietary fiber are all involved.

Aetiology

Bile stone formation is complex, and therefore the factors concerned are associated with the sort of gallstones.
Cholesterol gallstones: cholesterin is control in resolution in digestive juice by its association with digestive juice acids and phospholipids within the type of micelles and vesicles. Biliary lipoproteins may additionally have a job in solubilizing cholesterin. In bile stone illness, the liver produces digestive

juice that contains associate way over cholesterin either as a result of there's a relative deficiency of digestive juice salts or a relative way over cholesterin. Such bile, that is concentrated with cholesterin, is termed “lithogenic”.

Disorders with the potential to induce the assembly of lithogenic digestive juice are:

a) Defective salt synthesis
b) Excessive enteric loss of digestive juice salts
c) Over-sensitive salt feedback
d) Excessive cholesterin secretion
e) Abnormal vesica operate.

Factors initiating crystallization of cholesterin in lithogenic digestive juice (nucleation factors) also are important; patient with cholesterin gall stones have gall bladder digestive juice kinds cholesterin crystals quicker than equally saturated digestive juice from patients WHO don't form gallstones.

Pigment stones: Brown breakable pigment stones ar nearly always the consequence of microorganism or parasitic infection within the biliary tree. they're found unremarkably within the Far East, wherever infection within the biliary tree permits microorganism beta-glucuronidase to hydrolyse conjugated animal pigment to its morpheme, that then precipitates as metal bilirubinate. haematolysis is very important as these stones occur in chronic haemolytic illness.

Biliary slug: The term ‘biliary sludge’ describes digestive juice that is in an exceedingly gel kind that contains various crystals of microspheroliths of metal bilirubinate granules and cholesterin crystals moreover as glyco-proteins. it's a vital precursor to the formation of gallstones within the majority of patients. Biliary sludge is often shaped underneath traditional conditions, then again either dissolves or is cleared by the gallbladder; solely in regarding 15 August 1945 of patients will it persists to create cholesterin stones. Fasting, duct nutrition and maternity also are related to sludge formation.

Clinical features

The bulk of gallstones are well, and stay thus, solely regarding 100% of these with bilestones develop clinical proof of gallstone illness.

Symptomatic gallstones manifest either as biliary pain [biliary colic] or as a consequence of rubor. If a bile stone becomes acutely wedged within the cystic duct, the patient can expertise pain. The term ‘biliary intestinal colic’ could be a name as a result of the pain will nor rhythmically increase or decrease in intensity as in colic intimate in enteric and urinary organ illness. Instead, the pain is often of abrupt onset and is sustained for regarding a pair of hours. Its continuation for over half-dozen hours suggests that a complication like rubor or rubor has developed. Pain is felt within the region (70% of patients) or right higher quadrant (20% of patients) and radiates to the inter-scapular region or to the tip of right shoulder bone, however different sites embrace the left higher quadrant, the region and therefore the lower chest; the pain will be confused with intra-thoracic illness, rubor, infarct or dissecting cardiovascular disease.

Combinations of fatty food intolerance, upset stomach and flatulence not attributably to different causes are observed as ‘gall stones dyspepsia’. These symptoms don't seem to be currently recognized as being caused by gall stones and are best thought to be non-ulcer upset stomach.

Diagnosis

Blood tests showing high levels of exocrine gland enzymes (amylase and lipase) typically indicate an identification of rubor. Elevated levels of the liver accelerator amino acid aminopherase (ALT) are terribly specific in characteristic bile stonerubor.

Imaging techniques are helpful in confirming an identification – Ultrasound, X-radiation (CT) scan, alongside laboratory tests, will verify the severity of the condition.

Laboratory Tests

Bilirubin and therefore the accelerator alkalescent enzyme are typically elevated in acute rubor, and particularly choledocholithiasis (common bile duct stones)

Levels of liver enzymes called aspartate aminopherase (AST) and amino acid aminopherase (ALT) are elevated once common common bile duct stones are gift. A threefold or additional increase in altitude powerfully suggests rubor.

A high white blood corpuscle count could be a common finding in several (but not all) patients with rubor.

A number of techniques – scrutiny retrograde cholangiopancreatography (ERCP), scrutiny ultrasound (EUS) and resonance roentgenography (MRC) – effective for police investigation common common bile duct stones. Only ERCP, however, permits removal of the stones.

Imaging Techniques

Ultrasound. Ultrasound could be a straightforward, rapid, and noninvasive and diagnostic methodology to discover gallstones, acute rubor. Air within the vesica wall could indicate gangrene. X-Rays. commonplace x-rays of the abdomen could discover calcified gallstones.

Complications

In the gallbladder:

a) Silent stones
b) Chronic rubor
c) Acute rubor
d) Gangrene
e) Perforation
f) Empyema
g) Mucocele
h) Carcinoma

In the digestive juice ducts:

a) Obstructive jaundice
b) Cholangitis
c) Acute rubor

In the gut

a) Acute obstruction (‘gallstone ileus’)

Occlusions of the cystic duct for any prolonged amount of your time ends up in acute rubor. different complications embrace chronic rubor, and a mucocele of the gall-bladder, within which there's slow distension of the gall bladder from continuous secretion of mucous secretion. If this material becomes infected, associate inflammatory disease develops. metal could also be secreted into the lumen of the hydropic vesica, inflicting limy digestive juice and if metal salts ar precipitated within the gall bladder wall, the tomography looks of ‘porcelain’ vesica results.

Gall stones within the vesica (cholecystolithiasis) migrate to the vesica (choledocholithiasis) in or so 15 August 1945 of patients and cause biliary intestinal colic, however they will be well. Rarely, fistulae develop between the gall bladder and small intestine, colon or abdomen. Air is going to be seen within the biliary tree on plain abdominal radiographs. If a stone larger than a pair of.5 cm in diameter has migrated into the gut it should impact either at the terminal small intestine or often within the small intestine or sigmoid flexure. The resultant obstruction could also be followed by ‘gallstone ileus’.

Rarely, gallstones wedged within the cystic duct cause stricting within the common duct (Mirizzi's syndrome), leading to clogging jaundice.
Carcinoma of vesica is rare, though it's recognized additional oftentimes in an exceedingly ageing population and in a 'porcelain' vesica. Cancer is sometimes diagnosed as associate incidental microscopic anatomy finding following extirpation for bile stone illness.

Prevention
Diet may play a role in gallstones.
Fats. Although fats (particularly saturated fats found in meats, butter, and other animal products) have been associated with gallstone attacks, Fiber. High intake of fiber has been associated with a lower risk for gallstones. Nuts. Studies suggest that people may be able to reduce their risk of gallstones by eating more nuts (peanuts and tree nuts, such as walnuts and almonds).
Fruits and Vegetables. had the lowest risk of developing symptomatic gallstones that required removal of the gallbladder.
Lecithin. Lecithin is a key component of bile. It contains choline and inositol, two compounds that are important for the breakdown of fat and cholesterol. Low levels of lecithin may precipitate the formation of cholesterol gallstones. Dietary lecithin is available in health food stores and is found in eggs, soybeans, liver, wheat germ, and peanuts. There is no evidence, however, that lecithin supplements or foods containing it can prevent gallstones in humans.
Sugar. High-intake of sugar has been associated with an increased risk for gallstones.
Alcohol. A few studies have reported a lower risk for gallstones with alcohol consumption. Preventing Gallstones during Weight LossMaintaining a normal weight and avoiding rapid weight loss are the keys to reducing the risk of gallstones.

Management
Asymptomatic gallstones found incidentally are not usually treated because the majority will never give symptoms. Symptomatic gallstones are best treated surgically, and minimal access techniques have largely replaced non-surgical treatment. Gallstones can be dissolved and fragmented in the gallbladder or removed mechanically from the common bile duct.
Medical dissolution of gallstones can be achieved by oral administration of the bile acid, ursodeoxycholic acid. Radio-lucent gallstones, a gallbladder that opacifies on oral cholecystography. Stones not larger than 15 mm in diameter, moderate obesity and no or almostmild symptoms are the features which suggest that drug therapy may be feasible. Success can be expected in approximately 75% of patients who fulfill their criteria. Occasionally, direct contact dissolution therapy is attempted via percutaneous catheters or catheters placed at ERCP. ESWL is expensive and not widely available. Bile salt therapy is necessary following lithotripsy to dissolve the gallstone fragments within the gallbladder. As in the case of oral bile salt therapy, only 30% of all patients with gallbladder disease are suitable for lithotripsy. All the therapeutic regimens which retain the gall bladder have a 5% reoccurrence of stones after 5 years.
Some rubrics related to it in different repertories:
In synthesis, ver 10.2:
Abdomen, gallstones: (Pain – liver – colic) ARS, aur, bapt, bell, berb, bold, Bry, calc, calc-f, card-m, Cham, chel, chin, chion, chlf, chol, coloc, cupr, dig, dios, eberth, euon, euon-a, euonin, fab, fel, ferr-s, fuma-ac, gels, guat, hed, Hydr, jug-c, lach, Lept, lith-c, lob, lyc, mag-p, mag-s, mand, mang, MERC, merc-d, myric, morg-g, morg-p, nat-s, nat-sal, nit-s-d, nux-v, Phos,podo, ptel, sang,sulph, tarax, thlas,

verat, vichy-g.
Abdomen, gallstone colic: (see pain – liver –colic) ars, atro, atro-s, Bapt, BELL, BERB, Bry, cal-bil, Calc, CARD-M, Cham, Chel, CHIN, Chion, Chlf, Chlol, colch, Coloc, cupr, dig, Dios, Fab, gels, hep, hydr,Ip, Iris, kali-ar, Kali-bi, Kali-c, Lach, laur, Lept, Lith-c, LYC, mag-bcit, Mag-m,Mag-s, mand, mang, menth, merc, Merc-d,morph-act, NAT-S, Nux-v, op, podo, puls, rhus-t,ric, Sep, sil, staph, sulph, tab, ter, trios,VERAT.

In Boericke's repertory:
Abdomen, gall-bladder – biliary calculi (cholelithiasis) – Aur.; Bapt.; Berb.v.; Bolod.; Bry.; Cal.c.; Card.m.; Chel.; Chionanth.; Cholest.; Cinch.; Diosc.; Feltauri; Ferr.s.; Gels.; Hydr.; Jug.c.; Lach.; Lept.; Myr.; Nux-v.; Pichi.; Pod.; Ptel.; Tarax.
Abdomen, gall-bladder, Biliary colic – Ars.; Atrop. sul.; Bell.; Berb.v.; Calc.c.; Card. m.; Chionanth.; Cinch.; Col.; Dig.; Diosc.; Gels.; Hydr.; Ipec.; Lyc.; Morph. acet.; Nux v.; Op.; Tereb.

In complete repertory:
Abdomen, pain, general, liver, colic, gall-stones – Aml-n, Arge, Ars, Atro, Aur, Bamb-a, Bapt, BELL, BERB, Bold, Bry, Calc, Calc-f, CARD-M, Cham, Chel, CHIN, Chion, Chlf, Chlol, Chol, Coloc, Cupr, Dig, Dios, Erig, Euon, Fab, Fel, Ferr-s, Gels, Hep, Hydr, Ip, Iris, Jug-c, Kali-ar, Kali-bi, Kali-c, Kreos, Lach, Laur, Lept, Lith-be, Lith-c, Lob, LYC, Mag-c, Mag-m, Mag-p, Mag-s, Mang, Menth, Merc, Merc-d, MORG, Morph, Myric, NAT-S, Nux-v, Op, Ozone, Phos, Podo, Ptel, Puls, Rhus-t, Ric, Sang, Sep, Sil, Sulph, Tab, Tarax, Ter, Trio, VERAT.

In Clarke's clinical repertory:
Clinical, gall-stones: berb, calc, card-b, chel, chlf, chol, euonin, euon-a, fel, lach, lith-c, lob, mang, nit-s-d, nux-v, fab, podo, ptel, tarax, thlaspi, vichy-g.

In Murphy's repertory:
Liver, gallstone, colic pain from – am-m, alum, ars, aur, bapt, BELL, BERB, bry, CALC, CARD-M, cham, chel, CHIN, chion, CHOL, COLOC, cupr, dig, DIOS, euon, fel, ferr-s, gels, hep, hydr, ip, iris, jug-c, kali-ar, kali-bi, kali-c, lach, laur, lept, lith, LYC, mag-p, mang, merc, merc-d, MORG, myric, NAT-S, nux-v, op, osm, phos, podo, puls, rhus-t, sang, sep, sulph, tab, tarax, ter, thuj, VERAT.

In Boger's repertory:
Hypochondria, gallstones and colic: Ars, bell, Calc-c, card-m, chel, Chin, colo, hep, lach, lyco, Mag-m, Merc-d, Nat-s, nux-v, Pod, sil, Sul, terb, ver-a.
Some indication of frequently prescribed medicines for gall-stones: [13,14,18,25,27,24,23,22]
CARDUS MARINUS:
One of the great medicines for gallbladder stones. There is increased acidity in the stomach. Empty eructation's, heartburn and nausea; vomiting of bile, followed by burning, stitching, sore pains in the stomach. Much distension and sharp wandering colic pains and stitching in the abdomen. Terrible attacks of gall-stone colic. Pain on the right, bellow the last ribs in the region of the liver, the taste in mouth is bad and the skin is yellow-colored. The gall-bladder is enlarged and tender, the region of the liver is uncomfortable and there is sensation of fullness and constipation alternates with diarrhea with clay color stools. The complaints are aggravated by lying on the right side, and on stooping causes stitches on the right bellow ribs, worse from motion and pressure on the affected part. Better from sitting

up in bed and from lying on the unaffected side.

CALCAREA CARBONICA:

The abdomen may feel swollen on the right and be very sensitive to pressure, with cutting pains that extend to the chest and are worse from stooping, the person feels worse from standing, exertion, and better from lying on the painful side. Calcareacarbonica is often indicated for people who tired easily, feel cold and sluggish with clammy hands and feet, crave sweets, and tend to feel anxious and overwhelmed when ill.

CHELIDONIUM MAJUS:

This remedy is indicated when pain upper abdomen extends to the back, right shoulder, and shoulder-blade. The abdomen is distended, with a constricting feeling as if a string were pulled across it. Pain is worse from motion, and lying on the left with the legs drawn up may help. The person may feel nauseous, especially after eating fat or drinking something cold. The person may feel tired, worse from being cold, and worse in the early morning.

BELLADONNA:

Extreme sensitiveness: specially to jarring. Face red: hot. Hyperesthesia: extreme irritability of whole economy or nerve centers. Extreme irritability.

CHINA:

FARRINGTON says: 'Bell. Is useful in cholelithiasis, but the remedy to cure the condition permanently is Cinchona. Unless some symptom or symptoms call specifically for another drug, put your patient on a course of Cinchona.Pain in the hepatic region, worse from touch. Shooting in region of liver, tenderness and pain on touching the part. Liver region sensitive to least pressure. Obstruction in gallbladder with colic; periodic reoccurrence; yellow skin and conjunctivae; constipation with dark greenish scytale. Biliary calculi. Intensely sensitive to touch, to motion, to cold air. Periodicity: pains come on regularly at a given time each day; or every night at 12 o' clock. Drenching night sweats.

NUX-VOMICA:

Gall-stone colic with sudden severe pains on right side; spasms of abdominal muscles with stitching pains in liver. Jaundice, aversion to food, fainting turns; gall-stones. Constipation nearly always. Liver swollen, indurated, sensitive, with pressure and stinging. Cannot bear tight clothing. Oversensitive, irritable, touchy. Ineffectual urging to stool, irregular peristalsis. Chilly, if he uncovers or moves.

BERBERIS:

"An excellent remedy for renal calculi; also, for gall-stones associated with renal disease. Pain shooting. The patient cannot make the slightest motion, sits bent over to painful side with relief. Symptom peculiar to Berberis is a bubbling feeling as if water coming up through the skin. Stitching pains under border of false ribs in right side, shoot from hepatic region down through abdomen." FARRINGTON.

Radiating pains from a particular point puts Berberis almost alone for radiating pains. Has cured renal colic many times, because of its well-known ability to shoot out in every direction. It cures gall-stone colic when little twinges go in every direction from that locality. The liver is full of suffering. Sudden stabbing like a knife puncturing the liver. Dreadful suffering. Berberis, when indicated, will let the little gall-sone loos, and it will pass through, and the patient will take a long breath…… Anything that is spasmodic can be relieved instantly." KENT.

DIOSCOREA:

Hard, dull pain, gall-bladder, at 7 p.m. Neuralgia and spasmodic affections of liver and gall-ducts. Cutting, squeezing, twisting pain. Colic begins at umbilicus and radiates to all parts of body, even

extremities. A constant pain, aggravated at regular intervals by paroxysms of intense suffering. Unbearably sharp, cutting, twisting, griping or grinding pains; dart about and radiates to distant parts. Worse doubling up. Better stretching out, or bending back. Better hard pressure.

LITHIUM CARB:

Gall-stones. Violent pain in hepatic region between ilium and ribs. Soreness and pain in bladder: sharp, sticking. Red nose is characteristic

CHIONANTHES:

A great liver and gall-stone-colic medicine. Better lying on abdomen. Heat with aversion to cover. Very bitter eructation's. Hot, bitter, sour, sets teeth on edge. Hypertrophy of liver: obstruction: jaundice. Soreness. Nausea and retching with desire for stool. Sensation of double action in stomach, while vomiting, one tying to force something up, the other sucked it back. Colic and cold sweat on forehead.

LYCOPODIUM:

Pain in liver; recurrent bilious attacks with vomiting of bile. Subject to gall-stone colic. After Lyc. The attacks come on less frequently, the bilious secretion becomes normal and the gall-stones have a spongy appearance, as though being dissolved. Lyc. patients are always belching: sour eructation's like strong acid burning in pharynx. Bloating: obliged to loosen clothes. Worse cold drinks, often > warm drinks. Worse afternoons: 4-8 p.m. aggravation. Generally, craving for sweets.

HYDRASTIS:

Skin yellow; stools white and frequent: fullness and tenderness over hepatic region. Catarrhal inflammation of mucous lining of gall-bladder and biliary ducts. Cutting from liver to right scapula. < lying on back on right side.

HEPAR:

LILIENTHAL gives Hepar as one of the remedies of gall-stone colic. It has stitches in region of liver. Hepatitis, stools white or green. Is extremely sensitive mentally and physically. Cannot bear the slightest touch: or pain. Cannot stand draughts: craves vinegar.

VERAT. ALB:

Is in Kent's repertory for gall-stone colic. It has, Hyperaemia of liver, gastric catarrh, putrid taste, disgust for warm food, great pressure on hepatic region with vomiting and diarrhea. In verat cases, there will be profuse sweating; cold sweat on forehead; Hippocratic face. Pain maddening, driving patient to delirium. Typically, cold skin, cold face, cold back, cold hands, feet and legs, cold sweat.

MERC.SOL:

Pressing pains; stitching in liver. Cannot lie on right side. Jaundice: violent rush of blood to head: bad taste: tongue moist and furred: soreness hepatic region: from gall-stones. Violent stitches in hepatic region, could not breathe or eructate. Worse night: worse warm in bed: worse for the profuse sweat. Foulness of mouth and sweat. Merc loves bread and butter.

PHOSPHORUS:

Probably more important for the treatment of liver, leading to gall-stones, then for the acute attack? Great tenderness liver region. Craving for ice-cold drinks, vomited when warm, vomiting followed by great thirst. Worse lying on left side. Anxious and restless in the dark.

ETHER:

FARRINGTON: "In the passage of gall-stones, when remedies fail to relieve, I find that ether, externally and internally, is very good. Acting better than chloroform."

CHLOROFORMUM:

Cholesteric gall-stones and biliary colic. CLARKE says: "Chloroform will dissolve gall stones, and cases have been treated by injection of chloroform into gall-bladder." Hot wet flannels: Squeeze a

flannel out in hot water, and apply. Have a hot bottle over this, to keep up the moist relaxing heat.

CARLSBAD WATERS:

Almost specific, RUDDOCK says, for gall-stone colic.

CONCLUSION-

In conclusion, gall bladder stones are common, morbid, and highly recurrent. The pathophysiology of gall bladder stone formation is diverse, and includes a combination of genetic and environmental factors. Several endocrinological disorders increase the risk of stone formation. Metabolic evaluation of patients with gall bladder stones helps to identify the underlying etiological factors and provides an opportunity to institute preventive lifestyle and/or pharmacologic measures to reduce stone recurrence risk. It is affecting daily routine and decreasing the Quality of Life. Homoeopathy has wonderful role in treatment of it in compare to other conventional treatment. Homeopathy treats the patient as a whole, taking note of causative factors, sign and symptoms and framing a totality of symptoms for the individualization purpose, which in turn helps in selection of similimum. Homoeopathy offers a complete, gentle and permanent cure in case of gall bladder stone.

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SEXUAL HARASSMENT AT WORK PLACE IN INDIA

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As enshrined within the Preamble to the Constitution of Asian nation, "equality of standing and opportunity" should be secured for all its citizens; equality of each person beneath the law is bonded by Article fourteen of the Constitution. a secure geographical point is so a woman's right. Harassment constitutes a gross violation of women's proper to equality and dignity. it's its roots in social system and its attendant perception that men area unit superior to ladies which some varieties of violence against women area unit acceptable. one in all these is geographical point harassment, that views numerous varieties of such harassment, as harmless and trivial. This paper analyses the event of harassment law right from Vishakha pointers to the introduction of a replacement legislation in 2013. The paper highlights the key options of the Act.

Key Words: Sexual Harassment, Legal Framework

Introduction

The elimination of gender-based discrimination has been one among the basics of the Constitutional construction of Bharat. The principle of gender equality is enshrined within the Constitution, in its Preamble, elementary rights, elementary duties and Directive Principles. However, workplace sexual harassment in Bharat, was for the terribly 1st time recognized by the Supreme Court of Bharat in its landmark judgment of Vishaka v. State of Rajasthan one . In

1992, Bhanwari Devi, a dalit lady employed with the agricultural development programme of the

govt. of Rajasthan, was savagely gang raped on account of her efforts to curb the then prevailing follow of kid wedding. This incident disclosed the hazards that operating ladies were exposed to on every day to day basis and highlighted the urgency for safeguards to be enforced during this regard. The Supreme Court framed certain pointers associated issued directions to the Union of Bharat to enact an applicable law for combating geographical point harassment.

Development of Harassment Law

Later, in attire Export Promotion Council v. A.K Chopra two the Supreme Court reiterated the law set down within the Vishaka Judgment and upheld the dismissal of a superior officer of the Delhi based mostly Apparel Export Promotion Council WHO was found guilty of sexually harassing a subordinate feminine employee at the geographical point. during this judgment, the Supreme Court enlarged the definition of sexual harassment by ruling that physical contact wasn't essential for it to quantity to associate act of sexual harassment. The Supreme Court explained that "sexual harassment may be a sort of sex discrimination projected through unwelcome sexual advances, request for sexual favors and alternative verbal or physical conduct with sexual overtones, whether or not directly or by implication, significantly once submission to or rejection of such conduct by the feminine worker was capable of getting used for affecting the use of the feminine worker and immoderately meddling together with her work performance associated had the impact of making an discouraging or hostile work surroundings for her." The Supreme Court undertook watching of implementation of the Vishaka pointers across the country by leading State Governments to file affidavits accenting on the steps taken by them to implement the Vishaka pointers within the case of B. Medha Kotwal Lele & Ors. V. Union of Bharat & Ors. three In its judgment, the Supreme Court

discovered that "the implementation of the Vishaka Guidelines must be not solely in kind however conjointly in substance and spirit thus on create accessible safe and secure surroundings for girls at geographical point in each side and thereby sanctioning operating women to figure with dignity, decency and due respect.' Not being happy with the implementation of the Vishaka pointers, it directed States to place in situ comfortable mechanisms to make sure effective implementation of the Vishaka pointers. Finally, the Supreme Court declared that just in case of a non- compliance or non-adherence of the Vishaka pointers, it might be hospitable the aggrieved persons to approach the several High Courts.

Amendment in Nirbhaya Case In 2013(IPC Post)

Section 354A. molestation is: unwelcome physical contact and advances, including unwanted and specific sexual overtures, a requirement or request for sexual favours, showing somebody sexual pictures (pornography) while not their consent, and making unwelcome sexual remarks. Punishment: Up to a few years in jail, and a fine.

Section 354B. Forcing a girl to undress. Punishment: From 3 to seven years in jail, and a fine.

Section 354C. observance or capturing pictures of a girl while not her consent (voyeurism).

Punishment: 1st conviction – one to a few years in jail and a fine. quite one conviction – 3 to 7 years in jail and a fine.

Section 354D. Following a girl and contacting her or making an attempt to contact her despite her saying she doesn't wish contact. Observation a girl victimisation the net or the other form of transmission (stalking).

Punishment: 1st conviction – up to 3 years in jail and a fine. More one conviction – up to 5 years in jail and a fine.

Sexual Harassment of ladies at geographic point (Prevention, Prohibition and Redressal) Act, 2013 :

An Insight

The Act defines harassment on the work place and creates a mechanism for redressal of complaints. It additionally provides safeguards against false or malicious charges. The definition of "aggrieved woman", World Health Organization can get protection below the Act is very wide to cover all ladies, regardless of her age or employment standing, whether or not within the union or unorganised sectors, public or non-public and covers shoppers, customers and domestic workers additionally. each leader is needed to represent an inside Complaints Committee at every workplace or branch with ten or a lot of staff.

The District Officer is needed to represent an area Complaints Committee at every district, and if needed at the block level The Complaints Committees are **had to** produce for omplaints Committees have the powers of civil courts for **accumulating** proof... The Complaints Committees are needed to produce for conciliation before initiating An inquiry, if requested by the litigant.

The inquiry method below the Act ought to be confidential and therefore the Act lays down a penalty of Rs 5000 on the one who has broken confidentiality. The Act needs employers to conduct education and sensitization Programmes and develop policies against harassment, among alternative obligations Penalties are prescribed for employers. Non-compliance with the provisions of the Act will be punishable with a fine as much as Rs 50,000. recurrent violations might cause higher penalties and cancellation of license or registration to conduct business. Government will order a politician to look at geographic point and records associated with sexual harassment at any organization.

CONCLUSION

Sexual harassment causes serious damage and is additionally a robust manifestation of sex discrimination at the geographic point. Not solely is it An infringement of the basic rights of a lady,

below Article 19(1) (g) of the Constitution of Republic of India "to follow any profession or To keep out any occupation, exchange or business"; it erodes equality and places the distinction and consequently the bodily and mental health of people in danger. This consequences in terrible productiveness and a bad effect on lives and livelihoods.. To further compound the matter, constituted socio-cultural behavioral patterns, that produce a gender hierarchy; tend to put responsibility on the victim, thereby increasing difference within the workplace and within the society at giant. Today, with the appearance of harassment law, all workplaces in Republic of India are mandated by law to produce a secure and secure operating setting free from harassment for all ladies.

- http://www.lawyerscollective.org/wp-content/uploads/2014/04/Dos-and-Donts.pdf
- https://www.google.com/search?q=development+of+harassment++law&ie=utf-8&oe=utf- 8&client=firefox

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ROLE OF HOMOEOPATHY IN IRRITABLE BOWEL SYNDROME

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ABSTRACT
Irritable Bowel Syndrome (IBS) is characterized by recurrent abdominal pain and discomfort with altered bowel habits. It affects approx. 20% population across the world, among which only around 10% takes medical consultation for it. Its pathology is not clear but many factors seem to play role in this pathology. Its diagnosis is based on clinical findings and ROME criteria is widely used for the diagnosis. IBS has multiple complications and affects quality of life. Its treatment includes change in dietary habits, psychological counselling, exercise etc. Homoeopathy is widely accepted mode of treatment based on totality of symptoms and individualization and is able to cure IBS.
KEYWORDS- Irritable Bowel Syndrome, Diarrhoea, Constipation, GIT Disorder, Homoeopathy.

INTRODUCTION
Irritable bowel syndrome (IBS) is characterised by recurrent abdominal pain in association with abnormal defecation in the absence of a structural abnormality of the gut. [1] Irritable bowel syndrome (IBS) is a chronic and debilitating functional gastrointestinal disorder that affects 9%-23% of the population across the world. [2] About 10–15% of the population are affected at some time but only 10% of these consult their doctors because of symptoms. [1]Among this population most studies show a female predominance. The main cause of disease is not entirely apparent as various factors play key roles in its aetiology. [3] Although gains have been made in understanding the patho-physiology of IBS, exact mechanisms leading to symptom development are not completely understood. [4] No clear diagnostic markers exist for IBS; thus the diagnosis of the disorder is based on clinical presentation. [5] Its diagnosis is made according to a symptom-based classification system, the Rome Criteria, with the latest version, Rome IV. [4] IBS is not a fatal disease but it does greatly reduce quality of life. [6] Across the IBS subtypes, the presentation of symptoms may vary among patients and change over time. Patients report the most distressing symptoms to be abdominal pain, straining, myalgia, urgency, bloating and feelings of serious illness. The complexity and diversity of IBS presentation makes treatment difficult. [2] IBS has high comorbidity rates, reduces the quality of life, and causes negative impact on the monetary resources of both patients and society. In modern medicine despite the substantial cost of IBS to both patients and society, curative, medical interventions have yet to be discovered. The development and

persistence of IBS symptoms have been acknowledged as multi-factorial in nature, making treatment of the disorder a complicated, clinical endeavour. Approaches are based on the reduction of patient symptomatology, and current pharmacological management often provides suboptimal relief [4] IBS has high comorbidity rates, reduces the quality of life, and causes negative impact on the monetary resources of both patients and society.

Homoeopathy is a therapeutic system of medicine based on the principle, *"Similia Similibus Curentur"* or 'likes cured by likes'. It is a method of treatment for treating the patient by medicines that possess the power of producing similar symptoms in a healthy human being simulating the natural disease, which it can cure in the diseased person. In homoeopathy, individualization is done and for this purpose physical symptoms as well as psyche symptoms. Homoeopathy is a system which does not treat the disease but treats the patient and has been proved effective in treatment of IBS and is able to not just relieve but to cure the patient.

EPIDEMIOLOGY

Population-based studies estimate the prevalence of irritable bowel syndrome (IBS) at 10%-20% and the incidence of irritable bowel syndrome at 1%-2% per year. [7] A meta-analysis shows a pooled estimate of international IBS prevalence of 11.2% with variation by geographic region; the lowest occurring in South Asia and the highest in South America. The prevalence is known to be higher in Western countries as compared to Asian counties. The prevalence of IBS within the community is between 10% and 25%. the ratio of females to males in India reversed, i.e. 1:3 to that of the Western countries. The disorder is usually found in the age group of 15–50 years and may also occur in children and elderly. [8]

In a study, prevalence of IBS in India was seen in 12.27% of the study population with male-to-female ratio of 1.44:1. The prevalence rates of IBS was maximum in 45–50 years age group. The prevalence rates of IBS was in lower economic class (Kuppuswamy's scale). There was no significant association of IBS with socioeconomic status, educational status, marital status, or religion. [8]

IBS is classified into four subtypes according to predominant stool consistency: [6]

1. IBS with constipation (IBS-C);
2. IBS with Diarrhoea (IBS-D);
3. Mixed IBS (IBS-M); and
4. Unsubtyped IBS (IBS-U).

AETIOLOGY

- Genetic factors
- Infection and trauma
- Colonic motility
- Increased sensitivity to food

RISK FACTORS OF IBS

- Physical and psychological stress
- Smoking
- Frequent alcohol consumption

PATHOPHYSIOLOGY

IBS is recognized as a multi-factorial disorder, with the following among the proposed mechanisms contributing to symptomatology: gastrointestinal dysmotility, inflammation, visceral hypersensitivity,

and altered intestinal microbiota. [4] IBS has been conceptualized as a condition of visceral hypersensitivity (leading to abdominal discomfort or pain) and gastrointestinal motor disturbances (leading to Diarrhoea or constipation). Some have suggested that these abnormalities are secondary to psychological disturbances rather than being of primary relevance. [3]

1. Gastrointestinal Motor Abnormalities- Studies of colonic myoelectrical and motor activity under unstimulated conditions have not shown consistent abnormalities in IBS. In contrast, colonic motor abnormalities are more prominent under stimulated conditions in IBS. IBS patients may exhibit increased recto-sigmoid motor activity for up to 3 h after eating. [5]

2. Central Neural Dysregulation And Brain-Gut Interaction- Psychosocial factors appear to be important in IBS, although whether these factors directly alter gastrointestinal function remains uncertain. It is also possible that gastrointestinal dysfunction modulates central processes too. [2]

3. Visceral Hypersensitivity: IBS patients frequently exhibit exaggerated sensory responses to visceral stimulation. The frequency of perceptions of food intolerance is at least twofold more common than in the general population. [5]

4. Abnormal Psychological Features- The amygdala located in the CNS is known as an important structure active in the response to anxiety. This center activates the hypothalamic-pituitary-adrenal (HPA) axis and the autonomic system when patients find themselves in anxious situations. Chronic anxiety increases the activity of the amygladala leading to the formation of an HPA axis which will ultimately cause induced visceral hyperalgesia. [3] Most of the patients demonstrates exaggerated symptoms in response to visceral distension, and this abnormality persists even after exclusion of psychological factors. Psychological factors influence pain thresholds in IBS patients, as stress alters sensory thresholds. An association between prior sexual or physical abuse and development of IBS has been reported. [5]

5. Post-Infectious IBS- IBS may be induced by GI infection. Approximately 1 in ten patients with IBS believe their IBS began with an infectious illness. [2] Between 3 and 35% of patients assessed progress on to develop IBS symptoms three to twelve months after suffering from GI infections. [3]

6. Immune Activation and Mucosal Inflammation- Some patients with IBS display persistent signs of low-grade mucosal inflammation with activated lymphocytes, mast cells, and enhanced expression of pro-inflammatory cytokines. These abnormalities may contribute to abnormal epithelial secretion and visceral hypersensitivity. [5] Exposure to intestinal infection induces persistent low-grade systemic and mucosal inflammation, which is characterized by an altered population of circulating cells, mucosal infiltration of immune cells and increased production of various cytokines in IBS patients. [2]

Bio psychosocial factors are thought to play an important role along with luminal factors such as diet and micro biota. [5]

7. Altered Gut Flora- A high prevalence of small intestinal bacterial overgrowth in IBS patients has been noted based on positive lactulose hydrogen breath test. [5] Changes in the quantity and quality of bacteria present can convey selective effects on sensory-motor dysfunctions which can be influenced through bile acid malabsorption, mucosal irritation and inflammation, increased food fermentation and gas production. Increased faecal numbers of *Lactobacilli*, *coliform* and *Bifidobacteria* have been reported in patients affected by IBS. [3]

CLINICAL MANIFESTATIONS

Both GI and extra-intestinal complaints are included with the primary symptoms of chronic abdominal pain and altered bowel habits.

Chronic Abdominal Pain:

According to the current IBS diagnostic criteria, abdominal pain or discomfort is a prerequisite clinical feature of IBS. [5] Abdominal pain is usually described as a sensation of cramps of varying intensity along with periodic exacerbations. The pain is usually located in the lower abdomen, often felt in the lower left quadrant. [3]

Altered Bowel Habits:

Patients suffering with IBS often complain of altered bowel habits; this can be observed in the volume, frequency and consistency of the patient's stools. [3] Alteration in bowel habits is the most consistent clinical feature in IBS. The most common pattern is constipation alternating with Diarrhoea, usually with one of these symptoms predominating. At first, constipation may be episodic, but eventually it becomes continuous and increasingly intractable to treatment with laxatives. [5]

Diarrhoea:

Diarrhoea is usually characterized as frequent loose stools of small to moderate volume. Stools generally occur during the hours in which patients are awake; frequently in the morning or after mealtimes. Most bowel movements are preceded by lower abdominal cramps (tenesmus), urgency to defecate and often fecal incontinence is perceived which may be followed by a feeling of incomplete defecation. Approximately half of all patients suffering with IBS complain of a mucosal discharge occurring along with their stools. [3] Bleeding is not a feature of IBS unless haemorrhoids are present, and malabsorption or weight loss does not occur. [5]

Constipation:

Stools are usually hard with narrowed calibre, possibly reflecting excessive dehydration caused by prolonged colonic retention and spasm. [5] Patients may experience a sense of incomplete evacuation occurring even when the rectum is completely empty. This can lead to long periods of time spent in the bathroom. [3]

Gas and Flatulence:

Patients with IBS frequently complaints of abdominal distension and increased belching or flatulence, all of which they attribute to increased gas. [5]

Upper GI Symptoms: Between 25 and 50% of patients with IBS complaints of dyspepsia, heartburn, nausea, and vomiting. Prolonged ambulant recordings of small-bowel motility in patients with IBS show a high incidence of abnormalities in the small bowel during the diurnal (waking) period.

Extra-Intestinal Symptoms:

These include impaired sexual function, dysmenorrhea, dyspareunia and an increase in the frequency and urgency to urinate. Patients are more likely to suffer from hypertension, asthma or fibromyalgia.

DIAGNOSIS

Diagnosis is clinical in nature and investigations are performed to rule out other pathological conditions. Its diagnosis can be made confidently in most patients using Rome criteria combined with absence of alarm symptoms without complicated test. Full blood count and sigmoidoscopy should be undertaken in older patients (over 40 years). Endoscopic examination is required in patients with bleeding per

rectum. Diagnostic procedures are performed to rule out coeliac disease, microscopic colitis, lactose intolerance, bile acid malabsorption etc.

Different diagnostic criteria have been evolved starting from Manning's criteria to Kruis criteria to Rome IV criteria. Rome criteria is most accepted method for diagnosis of IBS. In 1980, The Rome I criteria was proposed by a working team as a new diagnostic guideline and upon use was found to be more valuable than previously established criteria followed by Rome II in 1999, then Rome III in 2006 and the recent one Rome IV in 2016.

	Manning	Rome I	Rome II	Rome III	Rome IV
Diagnostic Timeframe	Symptoms given below with no duration of symptoms with no number of symptoms described but a threshold of three positive is the most commonly used.	Abdominal pain or discomfort relieved with defecation, or associated with a change in stool frequency or consistency, with two or more of the following on at least 25% of occasions or days for 3 months	Abdominal discomfort or pain that has two of three features for 12 wk (need not be consecutive) in the last one year.	Abdominal pain or discomfort three days per month in the last 3 mo associated with two or more symptoms.	Abdominal pain on average at least 1 day per week during the previous 3 months that is associated with two or more of the following symptoms.
Chief Symptom	Abdominal pain relieved by defecation	Abdominal pain or discomfort	Abdominal pain or discomfort	Abdominal pain or discomfort	Abdominal pain
Associated Symptoms	• More frequent stools with onset of pain • Looser stools with onset of pain • Mucus per rectum • Feeling of incomplete emptying • Patient-reported visible abdominal distension	• Altered stool frequency • Altered stool form • Altered stool passage • Passage of mucus • Bloating or distension	• Relieved with defecation • Onset associated with a change in frequency of stool • Onset associated with a change in form of stool	• Improvement with defecation. • Onset associated with change in the form of stool. • Onset associated with a change in the frequency of stool.	• Related to defecation. • Associated with a change in the form of stool. • Associated with a change in the frequency of stool.

Table-1 Different Criteria Developed for Diagnosis of IBS [2] [4]

Additional Diagnostic Features and Alarming Features in IBS [1] **-** Features supporting diagnosis of IBD

- Symptoms > six months.
- Frequent consultation unexplained symptoms.
- Stress worsens symptoms.

Alarming Features-

- Age > 50 years male, gender.
- Weight loss
- Nocturnal symptoms
- Rectal bleeding
- Anaemia

MANAGEMENT

Most important steps are to make a diagnosis and reassure the diagnosed patients. Many patients are concerned about their disease that causes a cycle of anxiety leading to colonic symptoms which further heighten anxiety.

GENERAL MANAGEMENT

The goal of treatment interventions is to provide IBS patients with symptomatic relief; often this is attempted through the use of non-pharmacological interventions such as mind-body therapies, diet modification, exercise, and other complementary and alternative approaches. cognitive behavioural therapy, multi-component psychological therapy, dynamic psychotherapy, and hypnotherapy have been found beneficial. [4] Relaxation training may be beneficial for symptom improvement and appears to be at least as effective as standard pharmacological treatment. Acupuncture can cause physiological changes that affect various endogenous neurotransmitter systems and can help in IBS. [2]

Changes in dietary habits can be recommended. A reduction in inflammation in GI tract can be achieved by avoiding the consumption of inflammatory stimulants such as allergens or chemicals, namely benzoates, alcohol, methylxanthines and caffeine consumption that cause the release of inflammatory mediators. Patients should be educated on how best to consume their three daily meals, by partaking of non-processed and fresh foods that consist of whole grains, fibers and vitamins two or three times a day. People having both IBS and lactase deficiency should avoid dairy products. People with bloating and increased gas (flatulence) should try to avoid foods such as beans, onions, celery, carrots, raisins, bananas, apricots and plums. It is recommended that foods containing vinegar, mustard, ketchup and pickled foodstuffs not be consumed either They should avoid foods that trigger an onset of their symptoms, consume a minimum of high fat foods and take part in regular physical activity. [3]

ROLE OF HOMOEOPATHY IN IRRITABLE BOWEL SYNDROME

A homoeopathic physician considers the man as a whole. He considers the life as a trinity of body, mind and soul. Homeopathy is a system of therapeutics based on law of similars. “Like cures like” ‘Similia Similibus Curentur’. It is an universal law, where patient is prescribed a similimum on the basis of ‘Totality of Symptoms’. The disease is a reaction of the patient to unfavorable environment factors and that this reaction manifests through signs and symptoms the patterns of this reaction and the essence of these sign and symptoms gives totality of symptoms. [Anxiety] This totality of symptoms guides in selection of remedy for individual patient.

Some commonly indicated homoeopathic medicines in IBS are:

1. **Nux vomica** - Nausea in morning, after eating. Weight and pain in stomach with flatulence and pyrosis. Epigastrium is bloated with difficult belching of gas. Feeling of bruised soreness in abdomen wall. Spasmodic colic with desire for stool. Constipation with frequent ineffective

urging. [9] Alternate constipation and Diarrhoea, scanty stool with mucus. [10] Frequent but ineffectual and anxious effort to evacuate (in infants) or sensation as if anus were contracted or closed. A constipated feeling, whatever the state of the bowels. [11]

2. **Podophyllum** - Distended abdomen and emptiness, with sensation of weakness and sinking Gurgling in abdomen. Feels better by rubbing abdomen, heartburn, gagging or empty retching. [9] Abdomen swelled almost to bursting. Bloated feeling with soreness, uneasiness which aggravates after stool. Rumbling in abdomen with colic. Awakened by violent pains in stomach and bowels. [11]
3. **Sulphur-** Sensation of burning in stomach. Weak, empty or faint feeling in stomach about 11.am. Diarrhoea after midnight which is painless. Driving out of bed early in morning, aa if bowel are too weak to retain their contents. Constipation with hard ,dry painful , large stool. [10] Constipation with hard, knotty stool with insufficient evacuations. Frequent and often ineffectual want to evacuate, chiefly at night, and sometimes with pressure on rectum and bladder and pain in anus. Urgent want to evacuate. Looseness of bowels; redness about anus; obstructed evacuation, particularly if hard stools are retained. [11]
4. **Lycopodium-** Great weakness of digestion, bulimia with mucus bloating with rolling of flatulence. Wakes at night feels hungry, incomplete burning eructation. Eating ever so little created fullness. [9] Excessive accumulation of flatulence, few mouthfuls upto throat and he feel bloated with gurgling and cracking. [10] Constipation of long standing with hard stools with ineffectual desire to evacuate. Desire for stool followed by painful constriction of rectum or anus. Small stool, with the sensation as if much remained behind, followed by excessive and painful accumulations of flatulence. Haemorrhage from rectum, even after a soft stool. Feeling of fullness in rectum continues after a copious stool. [11]
5. **Naturm carbonicum –** Waterbrash, very weak digestion caused by slightest errror of diet, feels swollen and sensitive averse to milk. [9] Urgent want to evacuate, without result, or followed by a scanty and insufficient evacuation. Hard and difficult evacuation. Soft or liquid faeces, with strong and very urgent want to go to stool, and tenesmus ani. Loose, yellow evacuations. Diarrhoea which is marked by a sudden and obligatory call to stool, which escapes with great haste, noise, and rushing, often producing considerable commotion in abdomen. [11]
6. **Argentum nitricum –** Digestive upsets accompanied by nervousness and anxiety, Bloating, rumbling flatulence, nausea, and greenish Diarrhoea can be sudden and intense, Diarrhoea may come on immediately after drinking water, Eating too much sweet or salty food, expressive, impulsive, and claustrophobic, and may have blood sugar problems. [9] Green, slimy, shreddy stools, with severe bearing-down in hypogastrium. Membranous stool like unsegmented tapeworm, blood, slime, and epithelium with much flatus, after eating sugar, after drinking "as soon as the least drink is taken it goes through". [11]
7. **Asafoetida-** Flatulence and regurgitation, hysterical flatulence, great distension, sensation of weakness and emptiness, forcible eructation of gas. Cutting and burning in stomach, gurgling and rolling of wind, violent gastralgia, pulsations in pit of stomach. [9] Pain in perineum, as from something dull pressing out. Stool profuse, watery, or thick, brown, and exceedingly offensive. Diarrhoea, very offensive, with pain in the abdomen and discharge of fetid flatus. Stool stinking; slow; difficult; hard. [11]
8. **Colocynthis-** Agonizing cutting pain in abdomen causing patients to end over double and pressing on abdomen, intestine feels as if burst, colic with cramps in calves , pain in small spot below navel. [9] Warm feeling followed by copious discharge of flatus. Colic with inflation in

umbilical region; colic below umbilicus. Irresistible inclination to stool; scanty brownish-red evacuation with painful tenesmus lasting ten minutes. [11]

9. **Pulsatilla-** Painful, distended; loud rumbling. Pressure as from a stone. Colic, with chilliness in evening. Rumbling in abdomen with watery; worse, night. No two stools alike. Two or three normal stools daily. [9] Thirstlessness with nearly all complaints; gastric difficulties from eating rich food, cake, pastry, especially after pork or sausage; the sight or even the thought of pork causes disgust. [10]
10. **Silicea-** Pain or painful cold feeling in abdomen, better external heat. Hard, bloated. Colic; cutting pain, with constipation; yellow hands and blue nails. Much rumbling in bowels. Great straining; rectum stings; closes upon stool. Faeces remain a long time in rectum. Constipation always before and during menses; with irritable sphincter ani. Diarrhoea of cadaverous odour. [9]

CONCLUSION

IBS is a functional disorder that has affected a large population and has caused a burden on patient as well as state. It causes recurrent abdominal pain and discomfort with altered bowel habit. It not only affects patient physically but also affects Quality of Life. Homoeopathy is a system which not only treats the disease but treats the patient as a whole and also helps in improvement of Quality of Life.

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EVALUATION OF ANTIOXIDANTS (CAT AND SOD) ROLE IN *CYAMOPSIS TETRAGONOLOBA* (L.) AND *VIGNA RADIATA* (L.) UNDER FLUORIDE INDUCED OXIDATIVE STRESS

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Abstract
Fluoride affects plants in negative mode by escalating the ROS (Reactive oxygen species) level and reducing the plant growth. In this study Guar (*Cyamopsis Tetragonoloba Taub.*L.) and Moong (*Vigna radiata* L.) was exposed to fluoride (NaF) treatment in a half-strength Hoagland solution. In this study, a concentration- dependent analysis (*Cyamopsis Tetragonoloba L*. 0, 10, 20, 30, 40, 50, and 60 mM NaF) and (*Vigna radiata L.* 0, 2.5, 5, 7.5, 10, 12.5, and 15 mM NaF). Biochemical expression CAT and SOD activity was highly elevated in Guar (*Cyamopsis Tetragonoloba L. Taub.*) at 30 mM NaF and in Moong (*Vigna radiata* L.) at 7.5 mM NaF. The current study reveals, as a consequence of the high stress produced by fluoride, SOD and CAT gene showed significant changes in both Plant Root's treated samples. However the only up-regulation changes observed in treated root sample is more evident for CAT at 30 mM NaF for Guar (*Cyamopsis Tetragonoloba L. Taub.*) and for 7.5 mM NaF for Moong (*Vigna radiata* L.). However, molecular analysis of SOD showed the down regulation in both plants. In the fluoride concentration based analysis, the highest expression of CAT was observed in the roots compared to the control. This study would help to understand the role of antioxidants for endurance of plants under fluoride stress condition.

Key words: Antioxidant enzymes, Abiotic stress, (*Cyamopsis Tetragonoloba L.*), *Vigna radiata (L.).* Fluoride stress (NaF), Catalase (CAT) Glutathione reductase (GR)

Introduction

Fluoride is a common environmental pollutant and Fluoride rich soil is a potential source of its contamination in the groundwater, in the food chain and ultimately in the human body. Many regions of India are heavily affected by Fluoride pollution (Meenakshi and Maheshwari 2006).

Fluoride toxicity affects the most morphological, physiological and biochemical parameters in the plant due to germination and early seedling growth. Changes in enzyme activity and intermediate metabolism caused by chronic fluoride exposure may cause the organism to grow, develop and multiply (McCune and Weinstein, 1971). Fluoride occurs mainly in plants of two forms. First, the deposition of gaseous Fluoride in the air occurs through stomata diffusion. Through the stomach of the leaves, the iron flesh penetrates the cell walls and migrates to the edges and tips, which are the places with the highest evaporation (Kamaluddin and Zwiazek, 2003). Fluoride is transferred to the crotch via the apoplastic and symplastic pathways in unidirectional distal move men (Pant et al., 2008). Fluoride is toxic due to changes in metabolic chains (Miller, 1993). Fluoride is taken up from the soil through the roots and then transported via the xylem to the leaves, where it accumulates and visible effects become visible (Klumpp et al., 1996).

Typical symptoms that can be attributed to fluoride contamination are marginal necrosis (maximum burns), which is characterized by a red-brown line in both monocotyledons and dicotyledons (Ruthsatz and Wey, 1991). The phytotoxicity of fluoride impaired germination and decreased in different ways

Physiological parameters such as dry weight, fresh weight, root weight and rice plant length (Gupta et al.,2009). Different tolerance mechanisms have been proposed based on the biochemical and physiological changes associated with dryness. A lack of water can increase the formation of free oxygen radicals. These reactive oxygen species (ROS) include superoxide O2-, hydroxyl radical (•OH), hydrogen peroxide (H2O2) and single oxygen (O2). To protect cell membranes and organelles from the harmful effects of ROS, plants are equipped with an antioxidant system. This system consists of antioxidants such as Superoxide Dismutase (SOD, EC 1.15.1.1) and Catalase (CAT, CE1.11.1.6). SOD is an enzyme that catalyzes the dismuation of $O_2^{\cdot}$ to H_2O_2. CAT is responsible for the removal of H_2O_2 by reducing H_2O_2 to 2 H_2O. Most but not all, of CATs are found in Peroxisome (Foyer et al., 1994).
This study's aim to investigate the expression pattern of SOD and CAT at biochemical and molecular level for *Cyamopsis Tetragonoloba* L. and *Vigna radiata* L. under fluoride stress.

Materials & Methods

Collection of plants

Guar (*Cyamopsis tetragonoloba L*. Taub.) seeds Var. RGC-1038 was collected from the Agricultural Research Station (Swami Keshwanand Agricultural University of Rajasthan SKRAU Bikaner), Rajasthan, India. Moong (*Vigna. Radiata L*.) Var. RMG-492 was obtained from Agricultural Research Institute (Sri Karan Narendra Jobner University of Agriculture), Rajasthan.

Seed Germination and plant growth

Guar (*Cyamopsis tetragonoloba L*. Taub.) and Mung beans (*Vigna radiata L*.) seeds sterilization was performed with 0.5% sodium hypochlorite and Triton X 100. Sterilized seeds were germinated in a petridish (10 cm) containing autoclaved filter paper soaked in distilled water under dark conditions. Germinated seeds (10 in one pot) were transferred to Half Strength Hoagland Solution (Hoagland and Arnon, 1950) with a 16-hour photoperiod under thermostatically controlled culture room, maintained at 25 ± 2 ° C and 50% relative humidity.

"EFFICACY OF HOMEOPATHY IN TREATMENT OF NUMMULAR ECZEMA – A CASE STUDY"

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ABSTRACT- The case study of a subject having nummular eczema was done of which the aetio-pathogenesis was not fully known but apprehension and stress was quite prominent which made us repertorize the case from Kent based repertory i.e. Synthesis from RADAR 9.0, and King of Antipsorics i.e. Sulphur was selected as Similimum on reportorial analysis. Result was brilliant,it cured the case after initial aggravation. Result of this research can give indications for making policy for treatment of such irritating and financially depraving skin conditions by Govt. and Corporates, for efficacious management of it and securing quality of life of our employees and citizens by using medicine which is authenticated deeply regarding its principles- in Ancient Indian Literature.

KEYWORDS: Nummular eczema; IgE Antibodies, Psora, Repertorization, Similimum, Homoeopathic aggravation, Cure.

REVIEW OF LITERATURE

Definition

Eczema is an inflammatory condition of the skin characterized by itching or burning, redness, scaling and small ulcers. It can also be accompanied by watery discharge which later on leaves by thick crusts. Eczema is more the description of a symptom rather than a disease. Eczema is the result of so many internal and external factors acting singly or in combination with each other.

The term eczema means 'to boil out' (ec = out; zema = boil), because it seems that the skin is 'boiling out' or 'oozing out'.

Etiology

The exact cause of eczema is not known. People with eczema do have the IgE antibodies (Immunoglobulin E) produced by the immune system as part of allergic reactions.

Common triggers of eczema include the following - Allergies to, Pollen, Molds. Dust, Animal dander, Food and tobacco, Dry air - particularly winter air, with little moisture, Harsh soaps and detergents, Coarse fabrics, Skin care products that contain alcohol; Emotional stress and excessive heat and sweating. People with eczema do have IgE antibodies (immunoglobulin E) produced by the immune system as part of allergic reactions. Weather (hot, cold, humid or dry); Environmental allergens; Jewellery, creams, cosmetics, Rubbing, Bacterial infections etc.

Nummular Eczema

Nummular eczema also known as discoid eczema is a long-term skin condition that cause skin to become itchy, swollen and cracked in circular or oval patches.
It can occur at any age but is seen more frequently in adults. It is slightly more common in adult men than women.
Signs and symptoms-

- Small spots or bumps on the skin
- Or lighter skin these patches will be pink or red
- Initially these patches are often swollen blister eel
- The patches oozing a lot of fluid.
- A yellow crust developing over the patches
- Feeling sick
- Feeling hot or shivery
- Feeling unwell

Ancient Indian literature:

Bhagvad Puran (3500 BC) which recognizes law of Similia as described in a dialogue between Narad and Maharishi Vyas which says, "The curative drug would be the one having the capacity to produce a similar disease….";

Ayur-veda recognizes "Vishasya Visham Aushadham" which means - Poison is neutralized by poison; about 5000 years back; and

Shushrut Samhita in 600 BC recognizes as "Samah Samam Shamayti – means similar will be estinguished by use of similars.

Ancient Indian poet Kavi – Kalidasa in Ist Century BC said "Shruyate hi pura loke, Vishasya Visham Aushadham" means Whole world knows since old times – Poison is the Medicine for Poison".

METHODOLOGY

Source of data and Inclusion Criteria

This study was conducted on, the patients who attended the out patient department of the Medicine unit of JVWU's Suryansh Aarogyashala – in our Homoeopathic Medical College and Hospital.

The patient with round coin like erythematous patches on the limbs quite itchy and irritating, who belong to age group 20-60 years was considered for the study. Both the sexes were included belonging to various socioeconomic group, not having any serious associating disorder and not having allopathic medications for any disease condition.

Diagnostic Criteria

The diagnosis was based on strong clinical history, clinical presentation and local examination findings.

Methods of study

The data was collected by purposive sampling technique as per the inclusion criteria and processed in a Standardized Case Record (SCR). Processing includes analysis and synthesis of the case which were done as per the guidelines and principles of Homoeopathy.

The potency selection and repetition of the dose were done according to the demand of the case, such as Acute or Chronic, Susceptibility, Vitality and Suppression (if any), Changes in structural and functional level, and the degree of correspondence to the remedies.

Follow up in the case was planned for a minimum of 1-2 months as it's related to acute skin condition. During the follow up each case was evaluated according to the scoring criteria, which includes the intensity of the symptoms before and after treatment, using Patient's Visual Analogue Scale.

Case Study

A 40 years of female presented with the complaint of the skin around the Patches becoming hot. Swollen and tender or pain full since 5 days.

Presenting complaints – Itchy eruptions on upper and lower limbs in round spots like coins, itching worse at night and by warmth.

Mental generals-

- Apprehension of having some serious disease.
- Very sensitive.
- Suffers from poor short term memory.

Physical Generals-

- Constitution - lean thin person
- Appetite - 2 chappatis, I bowl daal, 1 bowl rice at a time
- Thirst - 6-7 glasses/day
- Aversion - Sweets
- Stool - Satisfactory once in a day
- Urine - Frequent urination
- Menses - Cycle 28 days, flow 3 days,spotting2 days, no clots

- Sleep - 7-8 Hours, not sound
- Dreams - Not specific

Physical examination-

BP- 110/70
Pulse- 70/min
RR- 17/min
CNS examination- All reflexes were working properly.
CVS examination- All sounds were clearly heard.
Locomotor examination- All movements ok, Nothing abnormal found.
Abdominal examination- Abdomen is soft at touch and nothing was abnormal.

Totality of symptoms:

- Mental generals-
  - Apprehension about some serious disease.
  - Very sensitive.
  - Suffers from poor short term memory.
- Physical Generals-
  - Aversion – Sweets
  - Frequent urination
- Particulars -
  - Cracks fingers tips of
  - Itching < warmth
  - Aggravation – Night

Repertorization –

From Synthesis Repertory RADAR 9.0 (Attached below)

1. Clipboard 1

1. MIND - ANXIETY - health; about - own health; one's
2. MIND - SENSITIVE
3. MIND - MEMORY - weakness of memory - facts, for - recent facts, for
4. GENERALS - FOOD and DRINKS - sweets - aversion
5. BLADDER - URINATION - frequent
6. EXTREMITIES - CRACKED skin - Fingers - Tips of
7. EXTREMITIES - ITCHING - Upper limbs - night
8. EXTREMITIES - ITCHING - Lower limbs - night

	sulph.	nat-m.	phos.	merc	bar-c	graph.	ars.	calc	ign.	nux-v.	bell.	canth.	hyos.	med.	sil.	arg-n.	lyc	nit-ac	puls.	kali-c	petr.	carb-v.	cocc.	ph-ac	zinc.
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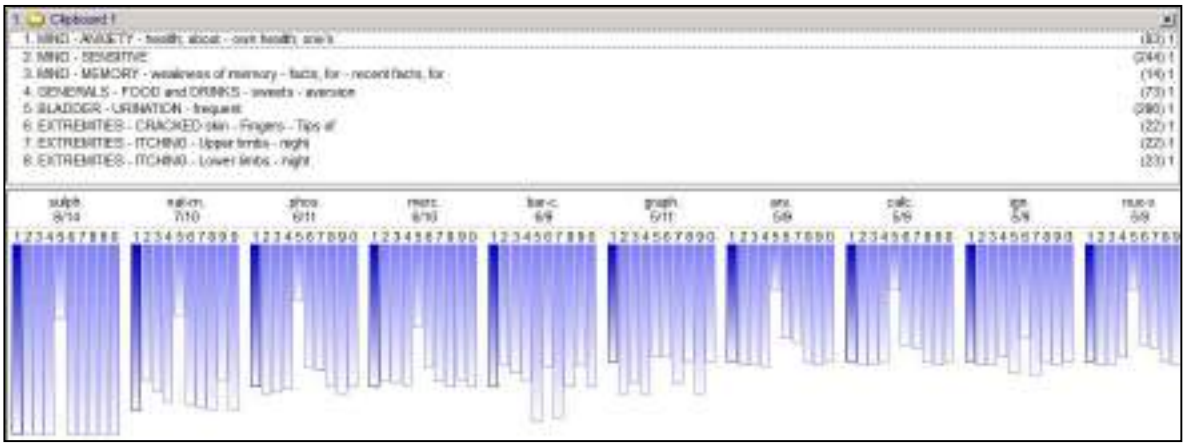
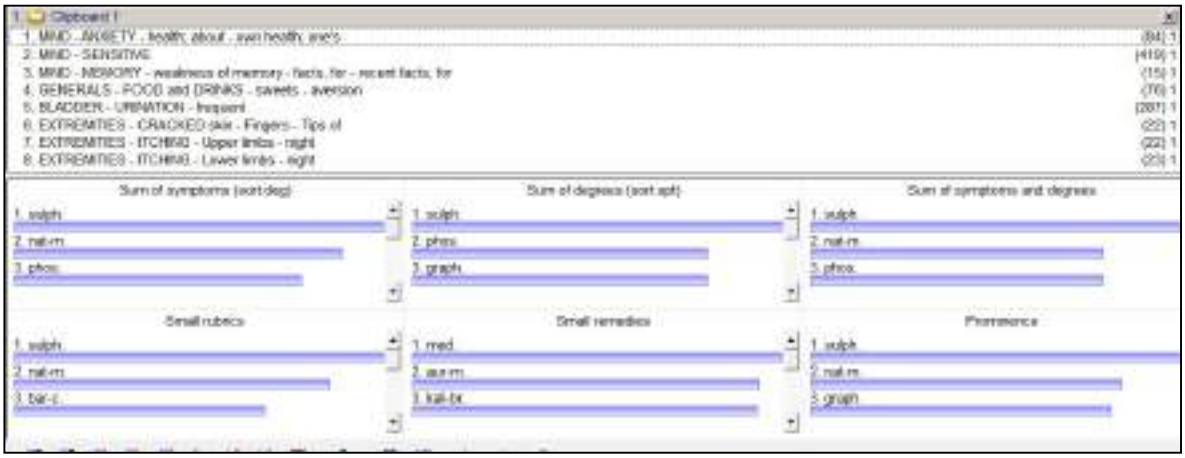
1.	1	1	3	1	1	-	3	2	1	1	1	1	1	2	1	3	2	4	2	2	-	-	2	2	-
2.	3	3	3	2	2	1	2	2	3	3	3	2	2	2	3	3	3	3	3	2	1	2	2	1	2
3.	1	1	-	-	-	1	-	1	-	1	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-
4.	2	1	2	2	1	3	2	1	1	1	-	-	1	1	1	2	2	1	1	2	1	-	-	1	2
5.	3	2	1	3	3	3	1	3	3	3	2	3	2	1	1	3	3	1	3	2	2	2	1	2	1
6.	1	1	-	1	1	3	-	-	1	-	1	-	-	1	1	-	-	-	-	-	3	-	-	-	-
7.	1	-	1	1	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-
8.	2	1	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1





➢ Selection of remedy – Sulphur Hahnemanni

➢ Selection of Potency -200

➢ Prescriptions and follow ups: Sulph. 200 1 Dose, Early morning empty stomach, followed by Placebo × TDS x 7 Days (All 3 globules doses), Homoeopathic aggravation noted in first follow up, kept on Placebo TDS with weekly follow ups – the patient got better in every follow up to be cleared totally in 5 weeks.

Result – complete "Cure", no relapsing even after 6 weeks and feeling no more apprehensions

Before Treatment

After Treatment

DISCUSSIONS

We conducted following research study "Efficacy of homeopathy in treatment of Nummular eczema – A case study" in the homeopathic OPD of JVWU's Suryansh Aarogyashala – in our Homoeopathic Medical College and Hospital.

The patient was selected as per the inclusion criteria, having round coin like patches on the limbs with itching, between age group 20-60, having no fatal accompanying disorder and not on any allopathic medication.

Psychological history was quite important in this case as stress seemed to be major factor in its origin than any other cause. Thus Kent repertory was used for repertorization, analyzing the case and find the similimum (the most similar remedy to the case).

As per the review of ancient Indian literature, homeopathy is deep rooted science by its principles and it's dynamic, single, simple, soothing homeopathic remedies are known for long having the curative power without side effects therefore was tested in this study.

Result of this research can give indications for making policy for treatment of such irritating and financially depraving skin conditions by Govt. and Corporates, for efficacious management of it and securing quality of life of our employees and citizens by using medicine which is authenticated deeply regarding its principles- in Ancient Indian Literature. More scope of future research is for each type of acute skin condition to be carried out individually, to know there aetiological factors for practicing preventive aspect.

CONCLUSIONS

The following conclusions were drawn from the study:

- The cause of it is grossly unknown but episodes of stress is the major factor.
- Psora was found to be the Dominant Miasm.
- Constitutional medicine was found to be effective in the treatment.
- The Homoepathic medicine is effective in the treatment of Nummular eczema as per case study.

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महिला उत्थान में शिक्षा का योगदान

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सार
शोध पत्र में **''महिला उत्थान में शिक्षा का योगदान''** देश व समाज में जब भी महिलाओं के उत्थान व शिक्षा के बारे में बात की जाती है। वर्तमान अध्ययन से संकेत मिलता है कि महिलाओं को अपनी विभिन्न शिक्षा समस्याओं के समाधान खोजने और अच्छी तरह से समायोजित नारी बनने के लिए प्रोत्साहित और निर्देशित किया जाना चाहिए। महिलाओं को तार्किक रूप से और गंभीर रूप से सोचने के लिए उचित ज्ञान व समझ होनी चाहिए की उनके उत्थान के लिए शिक्षा ही एकमात्र तरीका है क्योंकि शिक्षा से ही पारिवारिक, आर्थिक व सामाजिक विकास किया जा सकता है और महिलाओं का सशक्तिकरण हर क्षेत्र में किया जा सकता है। महिलाओं को घर, समाज और उनके समुदाय में अच्छी तरह से समायोजित करने के लिए अध्ययन उपयोगी आवश्यक सुविधाओं को उपलब्ध करवाना होगा। यह अध्ययन महिलाओं व बालिकाओं के परिवारों व समाज के लिए मददगार होगा, वे अपनी घर व समाज की महिलाओं के उत्थान और समायोजन समस्याओं को समझेंगे और उच्च शिक्षा को प्राप्त करने में उनकी मदद करेगें।

मुख्य शब्दावली: शिक्षा, उत्थान, सशक्तिकरण, समायोजन, व्यवसाय, पारिवारिक, आर्थिक, सामाजिक कार्य।

प्रस्तावना

शिक्षा वस्तुतः हमारे जीवन में बहुत ही महत्वपूर्ण है। शिक्षा व्यक्ति द्वारा समाज के बारे में उस सोचे समझे प्रयत्न का नाम है जिसे वह इसलिए ग्रहण करता है ताकि मनुष्य का अस्तित्व शेष रहे तथा व्यक्तियों में यह सामर्थ्य उत्पन्न हो कि वे बदले हुए वातावरण के साथ सामाजिक जीवन में भी उचित एवं आवश्यक परिवर्तन कर सके। राष्ट्रीय–जीवन में शिक्षा मनुष्य के बिते हुए समय व वर्तमान को जोड़ती है जो 'समाज शिक्षा' का प्रबन्ध ठीक नहीं रख पाता है, वह अपने अस्तित्व को संकट में डालता है। जिस प्रकार स्मरण शक्ति के समाप्त हो जाने पर जीवन का गणित बिगड़ जाता है, उसी प्रकार शिक्षा के बिगड़ जाने पर राष्ट्रीय जीवन का क्रम बिगड़ जाता है। शिक्षा व्यक्ति के मानसिक विकास एवं सामाजिक विकास का नाम है। जिस प्रकार मनुष्य का शरीर छोटे से अंकुर से प्रारम्भ होता है और उचित भोजन एवं वातावरण प्राप्त कर मनुष्य का निर्माण करता है।

शिक्षा का अर्थः– शिक्षा, मनुष्य को सभ्य एवं विवेकशील बनाने का एक माध्यम है। यह उचित व अनुचित में भेद करना सिखाती है इसलिए शिक्षा के बिना मनुष्य का जीवन का विकास अधुरा है।

शिक्षा बालक की सर्वांगीण उन्नति का साधन है, उसके व्यक्तित्व के पूर्ण विकास का सोपान है। शिक्षा वह ज्ञान है, जो बालक रूपी हीरे की जन्मजात शक्तियों का विकास करके उसके आन्तरिक गुणों को जगमगा देती हैं। जिसके प्रकाश से व्यक्ति स्वयं अपने व्यक्तित्व का निर्माण करता है और समाज को लाभ पहुँचता है। शिक्षा प्रकाश और शक्तियों का ऐसा स्रोत माना जाता है कि हमारे शारीरिक, मानसिक, बौद्धिक तथा आध्यात्मिक शक्तियों के प्रगतिशील और सुसंगत विकास द्वारा हमारी प्रकृति को ही बदल देती है तथा उदात्त बनाती है। शिक्षा के द्वारा ही मनुष्य को सभ्य, सुसंस्कृत एवं योग्य नागरिक बनाया जाता है। इस तरह शिक्षा मानव विकास का मूल साधन है। इसके द्वारा व्यक्ति, समाज एवं राष्ट्र सभी का विकास होता है। सम्पूर्ण शिक्षा व्यवस्था का केन्द्र बिन्दु शिक्षक होता है। शिक्षा हम सभी के उज्ज्वल भविष्य के लिए आवश्यक साधन है। हम जीवन में शिक्षा के इस साधन का प्रयोग करके अपने जीवन में अच्छे से अच्छा स्थान प्राप्त कर सकते हैं। शिक्षा का उच्च स्तर, लोगों को सामाजिक और पारिवारिक आदर और एक अलग पहचान बनाने में मदद करता है। शिक्षा सभी के लिए सामाजिक और व्यक्तिगत रुप से बहुत महत्वपूर्ण होती है। यह एक व्यक्ति को जीवन में एक अलग स्तर और अच्छाई की भावना को विकसित करती है। शिक्षा किसी भी बड़ी पारिवारिक, सामाजिक और यहाँ तक कि राष्ट्रीय और अन्तर्राष्ट्रीय समस्याओं को भी हल करने की क्षमता प्रदान करती है।यह लोगों की सोच में सकारात्मक सोच का विकास करके विचारों में बदलाव लाती है और नकारात्मक विचारों को हटाती है। बचपन में ही हमारे माता–पिता हमारे मस्तिष्क को शिक्षा की ओर ले जाने में बहुत महत्वपूर्ण भूमिका निभाते हैं। अपने कौशल और ज्ञान को उपयोगी बनाने में ये विचार भी हमारी सहायता करते हैं।

शिक्षा के उद्देश्य :–

इस अध्ययन से कई मौलिक उद्देश्यों की पूर्ति की संभावनाएँ बनती है। एक तो समाज व देश में महिलाओं की स्थिति को बदला जा सकता है और यह बदलाव शिक्षा के माध्यम से ही हो सकता है। महिलाओं व बालिकाओं की शिक्षा व उत्थान के लिए समाज में चेतना के वैचारिक व सांस्कृतिक अस्त्रों की खोज हो सकती है। समाज में महिलाएँ शिक्षित होकर अपना व परिवार का भविष्य संवार सकती है और अपना अस्तित्व बना सकती है। शिक्षा के उद्देश्य का व्यक्ति के जीवन तथा समाज के आदर्शो व उद्देश्यों से घनिष्ठ संबंध होता है। इसलिए शिक्षा के उद्देश्यों का निर्माण करना भी ठीक ऐसे ही है जैसे जीवन के उद्देश्यों को निर्धारित करना। यदि हम व्यक्ति तथा समाज दोनों के लिए अलग–अलग शिक्षा के उद्देश्य का निर्माण करना चाहें, तो हम दोनों की आवश्यकताओं तथा आदर्शो को ध्यान रखना होगा। परिस्थिति के अनुसार लोगों की जैसी आवश्यकता तथा अकाक्षाएँ होती है। शिक्षा के उद्देश्य में उसी के अनुसार परिवर्तन होता है।

वर्त्तमान में शिक्षा के प्रमुख उद्देश्य निम्नलिखित हैः–

1.जीविकोपार्जन हेतु व्यवसायिक शिक्षा देना
2.बौद्धिक विकास
3.पूर्णजीवन की तैयारी
4.संतुलित विकास
5.धार्मिकता, सामाजिक व नैतिकता चारित्रिकता का स्त्रोत बनाना

4.स्त्रियों का सर्वांगीण व्यक्तित्व का विकास
5.सांस्कृतिक प्रसार रखने हेतु दीक्षा
6.शिक्षा और वातावरण की व्यवस्था उत्तरदायित्व की भावना का विकास
7.लोकतांत्रिक भारत में नागरिकता की शिक्षा इत्यादि उद्देश्य है।

हिटलर के अनुसार–''उस समय जर्मनी की शिक्षा का उद्देश्य वहाँ की जनता में अपने देश के प्रति श्रद्धा, अपारभक्ति तथा त्याग की भावना को ही विकसित करना था।''

प्रयोजनवादी विचारधारा के अनुसार–''सत्य सदैव बदलता रहता है, इसलिए शिक्षा के उद्देश्य भी सदैव देश, काल तथा परिस्थितियों के अनुसार बदलते रहते है।''

यर्थाथवादी के अनुसार– ''वह भी प्रयोजनवादीयों की भांति समाज की निमनलिखित भौतिक परिस्थितियों को आधार मानते हुए शिक्षा के लचीले, अनुकूलन योग्य तथा परिर्वतनशील विशिष्ट उद्देश्य का निर्माण करते है।''

सर पर्सी नून– (1870–1942) जैसे शैक्षिक विचारक इस बात की वकालत करते हैं कि शिक्षा का मुख्य उद्देश्य व्यक्तिगत व्यक्तित्व का विकास है। महान राष्ट्रों की प्रगति व्यक्तियों के कारण होती है। इसलिए व्यक्तित्व को पूर्णता के लिए पूर्ण अवसर दिया जाना चाहिए।

एडम्स यह भी कहते हैं– ''कि शिक्षा आत्म–साक्षात्कार के लिए एक की मदद करने का प्रयास है। शिक्षा व्यक्तियों के लिए दिया जाने वाला प्रशिक्षण है ताकि उनमें से प्रत्येक में निहित चारित्रिक क्षमता का विकास हो सके। सभी को एक ही सांचे में नहीं ढाला जा सकता है और सभी के लिए इस तरह की समान शिक्षा बेकार और निरर्थक है।''

शिक्षा बच्चों को तेजी से बढ़ते ज्ञान के साथ तालमेल रखने और उन्हे ज्ञान की खोज करने में मदद करने में सक्षम बनाती है। शिक्षा मनुष्य के सर्वांगीण विकास की प्रक्रिया है। प्राचीन शिक्षा ने मानसिक विकास पर जोर दिया। अधिक से अधिक ज्ञान प्राप्त करना मुख्य उद्देश्य के रूप में माना जाता था। इसके विपरीत, आधुनिक शिक्षाविदों ने शारीरिक, मानसिक, भावनात्मक और सामाजिक जैसे विकास के अन्य पहलुओं पर समान रूप से जोर दिया। इस प्रकार आधुनिक शिक्षा का उद्देश्य व्यक्तित्व को पूर्ण विकसित करना और सामाजिक दक्षता और गतिशीलता प्राप्त करना है। शिक्षा के उद्देश्यों में व्यक्तिगत के साथ–साथ सामाजिक भी शामिल हैं। सामाजिक पुनर्निर्माण, सामाजिक परिवर्तन पर जोर देना, समाज को आधुनिक बनाने के लिए उत्पादक सहभागी, मूल्य उन्मुखता और राष्ट्र के संवैधानिक दायित्वों के लिए प्रतिबद्धता है।

भारत में महिला शिक्षा–

भारत में महिलाओं ने सभ्यता की स्थापना के बाद से अच्छी स्थिति का अनुभव किया है। महिलाओं उत्थान व शिक्षा के क्षेत्र में शिक्षित हुए बिना देश और समाज का विकास नहीं कर सकती। यह तथ्य सत्य है की महिला और पुरुष दोनों मिलकर ही देश को हर क्षेत्र में पूर्ण रूप से विकसित कर सकते है। महिलाओं की शिक्षा समाज में उनकी स्थिति के परिवर्तन का सबसे शक्तिशाली साधन है। शिक्षा भी परिवार के भीतर महिलाओं की स्थिति में सुधार के साधन के रूप में, असमानताओं और कार्य में कमी लाती है। भारत में प्राचीन दिनों में महिलाओं को कुछ अधिकार दिए गए थे। प्राचीन भारत में

महिला शिक्षा में वृद्धि हुई। प्राचीन भारत में महिलाओं की स्थिति महत्वपूर्ण थी। वे महत्वपूर्ण निर्णय लेती थी और उन्हे ''स्वयंवर'' के माध्यम से वर चुनने का अधिकार प्राप्त था। महिला का सम्मान किया जाता था और उसे समाज में उचित महत्त्व दिया जाता था। वैदिक काल में प्राचीन भारत में नारी शिक्षा प्रचलित थी। प्राचीन काल में भारतीय महिलाओं को महत्त्व दिया जाता था। प्राचीन भारत में बड़े पैमाने पर महिला शिक्षा के माध्यम से गार्गी और मैत्रेयी जैसे प्राचीन काल में कई महिला द्रष्टाओं और विचारकों की उत्पत्ति हुई। वाल्मीकि की रामायण में सीता के प्रभाव को दर्शाया गया है। वेद व्यास द्वारा महाभारत में कौरवों को उखाड़ फेंकने के लिए पतियों पर द्रौपदी के अनुनय का चित्रण करता है। प्राचीन भारत में महिला शिक्षा ने महिलाओं को महत्त्वपूर्ण अधिकार दिया। प्राचीन भारतीय ग्रंथ समाज में महिलाओं के प्रभाव का वर्णन करते है।

महिला शिक्षा की महत्ता

''एक पुरुष के शिक्षित और सुसंस्कृत होने का अर्थ है अकेले उसी का उपयोगी बनना किन्तु एक महिला यदि शिक्षित, समझदार और सुयोग्य है तो समझना चाहिये कि पुरे परिवार के संसंस्कृत बनने का सदृण आधार बन गया''

स्वामी दयानन्द सरस्वती

महिलाओं को आगे बढ़ाने के लिए आवश्यकता है शिक्षित बनने की है, शिक्षा ही महिलाओं में आत्मविश्वास पैदा कर सकती है। शिक्षित होने पर ही उनमें किसी क्षेत्र में सफलतापूर्वक काम करने व आगे बढ़ने की क्षमता विकसित हो सकती है। यद्यपि महिलाएँ प्रशासन, शिक्षण, चिकित्सा, विज्ञान, राजनीति आदि क्षेत्रों में आगे आई हैं और अच्छा काम कर रही है। वे पुलिस और सेना में भी काम कर रही है किन्तु उनकी संख्या अभी बहुत कम है शिक्षा में अवसरों के विस्तार से विभिन्न क्षेत्रों में उनकी उपस्थिति निःसंदेह बढ़ेगी। शिक्षा से ही महिलाएँ शक्ति अर्जित करेगी। शिक्षित और सशक्त महिलाएँ देश व समाज को भी शक्तिशाली बनाएँगी।

<u>महिला शिक्षा से उत्थान</u>

''जिद है एक सूर्य उगाना है
अम्बर से ऊँचे जाना।''

''शिक्षा के बिना नारी उत्थान संभव नहीं। शिक्षा ही इनकी मुक्ति का द्वार है।''

सावित्री बाई फुले

महिलाओं के उत्थान व सशक्तीकरण की राष्ट्रीय नीति 2001 में पारित की गयी थी। भारत सरकार ने 2001 को महिलाओं के सशक्तीकरण (स्वशक्ति) वर्ष के रूपमें घोषित किया था। ग्रामीण महिलाओं के उत्थान के उद्देश्य के लिए लागू की गई शुरुआती आर्थिक नीतियां काफी हद तक असफल रही। एकीकृत ग्रामीण विकास कार्य{म की उप–योजना ग्रामीण क्षेत्रों में महिला व बालिकाओं के विकास (ॅब्।) का कार्य 1982–83 में 50 ग्रामीण जिलों में शुरू किया गया। भारत में महिलाएँ अब सभी तरह की गतिविधियाँ जैसे–शिक्षा, राजनीति, मीडिया, कला और संस्कृति, सेवा का क्षेत्र, चिकित्सा व विज्ञान, , अभियन्ता, विधि विभाग, विज्ञान एवं प्रौधोगिकी आदि में हिस्सा ले रही है। महिलाओं के उत्थान में क्रांति–ज्योति को ओर आगे प्रज्ज्वलित करने में संस्थापक पंकज गर्ग जी की भूमिका भी महत्त्वपूर्ण रही है। 21वीं सदी में महिलाओं को शिक्षित करने का जो अलख जगाया, आज उसी का परिणाम है

कि भारत की महिलाएँ हर क्षेत्र में पुरूषों से कंधे से कंधा मिलाकर चल रही है।

मावन समाज के दो पक्ष है–स्त्री और पुरुष प्राचीन काल से ही पुरुषों को स्त्री से अधिक अधिकार प्राप्त रहें है। स्त्री को पुरुषों के नियंत्रण में रहना पड़ता है। नारी स्वतंत्रता के योग्य नहीं', कहकर स्मृतिकार मनु ने स्त्री को बन्धन में रखने का मार्ग खोल दिया है। किन्तु वर्तमान शताब्दी प्राचीन रूढ़ियों को तोड़कर आगे बढ़ने का समय है। स्त्री भी पुराने बन्धनों से मुक्त होकर आगे बढ़ रही है। समाज के उत्थान एवं राष्ट्र निर्माण में नारी की अहं भूमिका है। यह कहना अतिश्योक्ति न होगी कि नारी के बिना समाज का अस्तित्व, विकास, उत्थान तथा कल्याण असंभव है। वेदों में नारी गृह साम्राज्ञी है (ऋग्वेद), राष्ट्र के लिए ध्वजा है, समाज की मूर्धा है, शत्रु का संहार करने वाली वीरांगना है। इन सभी गुणों के लिए नारी का शिक्षित होना जरूरी है। शिक्षा ही वह कवच है जिसके माध्यम से स्त्री समाज में अपनी प्रतिष्ठा कायम रख सकती है।

निष्कर्षः–महिलाओं के उत्थान व शिक्षा के द्वारा महिलाओं को समाज और देश–दुनिया में अपनी बेहतर जगह बनाने में मदद मिलती है और साथ ही उनकी समावेशी भागीदारी के रास्ते पर चलने में सहायता करता है। शिक्षा द्वारा महिलाओं का परिवार व समाज में प्रभाव व स्थान निर्धारित होता है। शिक्षा ही जीवन है इस विचार के माध्यम से शहरी व ग्रामीण समाज में महिलाओं के उत्थान व शिक्षा के स्तर में काफी बदलाव होता है। लेकिन ग्रामीण समाज की महिलाओं के लिए अलग से विशेष योजनाएँ चलाई गयी है। ग्रामीण क्षेत्र में महिलाओं को शिक्षित करने के साथ–साथ उनके लिए रोजगार संबंधी अवसर भी बढ़ाये जाने चाहिए जिससे वे अच्छी अपना व अपने परिवार का पालन–पोषण में अपने साथी का सहयोग कर सके। सभी क्षेत्रों महिलाओं के उत्थान में राष्ट्र की प्राथमिकता में होना चाहिए। महिला व पुरुषों के बीच जो असमानता की खाई है वह शिक्षा के द्वारा ही दूर हो सकती है।

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A REVIEW ON ONYCHOPHAGIA & ITS MANAGEMENT BY HOMOEOPATHY

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Introduction:

Onychophagia is Body Focused Repetitive behaviours also called Nail biting. It is a non destructive behaviour of person.

It is considered a pathological oral habit and grooming disorder, it's an uncontrollable mania that is destructive to fingernails and surrounding tissue.

Nail biting is a common and frustrating habit for many children, teenager especially girls, and patients those are suffering from any mental disorder like depression. Children are the main victim those who start growth age 2-8 year .Nail biting occurs most often during puberty in female because of hormonal misbalance. Even though some young adults, ages 1 to 22 years, bite their nails. Most people stop biting their nails on their own by age 30. Boys bite their nails more often than girls after age 10.


CAUSES OF NAIL BITING

- Genetic link to nail biting behaviour.
- Anxiety, depression, over thinking etc, because this act relieves stress, tension, or boredom.

- It can be a habit usually in children and girls.
- Some people do not use nail cutter because of laziness and cut the nail by biting.
- Babies have also addiction of nail biting during growth period.
- Over thinking is another cause of nail biting.

HOW WE OBSERVE:

- Visually see the damages of nails with frizyness
- Patient mouth damage, abscess or ulceration found in inside the lips.
- The unattractive appearance of physical damage to skin and nails may cause feeling of shame, embarrassment, and guilt, leading to complicated family and social relationships.
- It can be associated with deficit hyperactivity disorder or ADHD, oppositional defiant disorder, separation anxiety, enuresis, tic disorder and other mental issues.
- Skin of fingers looking weak thin and sometimes bleeds easily.

Some of the risks of nail biting include:

- ✓ Soreness or infection in and on the skin around the nails.
- ✓ Damage to the tissue that makes the nails grow.
- ✓ Changes in how your nails look.
- ✓ Abnormal growth.
- ✓ More frequent colds and other illness from placing dirty fingers in mouth.
- ✓ Damage to teeth from chewing hard nails.

Prevention:

Some tips for preventing the habit of nail biting behaviour.

· Cut nails short—If there's not enough nail to grab with your teeth, it won't feel as satisfying when you give biting a try.

· Coat nails with a bad taste---There are special nail polishes available in market with a bitter flavour you can paint on your nails. The terrible taste will make you think twice before chewing

· Splurge on manicures—Spending money and time at a nail salon will give you both good looking nails and a reason to keep them that way.

· Wear gloves—wear gloves regularly for ignore the habit of nail biting.

· find out the reasons when your mood starts to cut the nail by bite so you can overcome on this problem.

· Keep your hands or mouth busy.—Find something to fiddle with – a stress ball, a worry stone, or even a pen to click. Chew gum so your mouth has a job. Give your nail-biting energy another place to go.

Management by Homoeopathic Remedies:

Homeopathy is a system of alternative medicine; it is totally based on the law of similia similibus qurenter. On the basis of this first totality of symptoms is compulsory to take before selection of medicine. Traditional homeopathy is based on these philosophical foundations which is first Hahnemann established and have become refined over the two centuries that have passed since. Homeopaths believe treatment that obeys the laws of natural healing must lead to heal the disease in one way. Same as in onychophagia in this condition first we can see the root cause and then apply the rule of homeopathy on the basis of totality of symptoms. Homeopathy is a holistic science and considers the individuality of the person while treating in every disease such as his mental state, disposition, physical generals and his constitution.

Homeopathic medicines:

Argentum Nitricum: Great Anxiety, Fear and Persistent Impulsive Thoughts. Fears and Anxieties, Hidden Irrational Motives For Actions. Dreads Ordeals. Fear of Impending Evil of Crowds, Passing a Certain Point of High Buildings of Dark. Fear of high buildings, Heights, Flying In Air-planes.

Calcarea Carb: They Are Easily Frightened Or Offended. Child Afraid Of Everything He Sees. Desire For Chalk, Pencil Etc.

Medorrhinum: Common Fears Are The Dark, Being Alone At Night Large Bodies Of Water, Closed In Spaces, Animals, Dogs, Slimy Animals Like Toads A Snakes, Of Being Observed, That Someone Is Behind Him, Cancer, Heart Disease, Death, Insanity. They Bite Their Nails

Natrum Muriaticum: Nail Biting In Children, With Nervousness. They Are Depressed And Introverted. They Are Irritable And Cannot Cry In Front Of Others. Children Learn To Talk Slowly. Awkward In Talking, Hasty, Drops Things. They Prefer For Salt And Salty Foods.

Ammonium Bromate: Irritability under the Nails Causing Nail Bite. Due to Nervous Irritation. Irritable Feeling in Fingernails, Better By Biting It

Sanicula: Nail Biting and Enuresis In Children.

Dr. Boger In His Little Synoptic Key, Gives 3 Remedies For Nail Biting; Arsenicum, Sanicula, Hyocyamus.

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ROLE & CHALLENGES – HEALTH INFORMATION TECHNOLOGY

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Abstract:
In the healthcare industry, mysterious acronyms and ambiguous job titles are not uncommon. You've lately come across a term that's unfamiliar to you and are keen to learn more about it: information technology in the field of health (HIT).
What exactly is health information technology, and how does it affect the medical community today? In a healthcare facility, technology can be found everywhere, from electronically checking in patients and updating their medical records to providing them the results of a blood draw in their online chart. Health information technology is the field that works behind the scenes to ensure that all of these systems are working smoothly.
This health science specialty may be unfamiliar to you if you have never heard the phrase before, but you may be surprised by the impact that these tech professionals have on the healthcare business. Join us as we delve into the field of health information technology to gain a better understanding of this tech-driven healthcare profession.
Patient safety is a subset of healthcare and is defined as the avoidance, prevention, and amelioration of adverse outcomes or injuries stemming from the processes of health care. In 1999 the Institute of Medicine's (IOM) report "To err is human" called for developing and testing new technologies to reduce medical error,[1] and the subsequent 2001 report "crossing the quality chiasm" called for using information technology as a key first step in transforming and changing the healthcare environment to achieve better and safer care.[2]
Keywords*:* Health, Information, Technology, Care, Community.

INTRODUCTION

Healthcare information technology (HIT)

Healthcare information technology (HIT) has been defined as "the application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of health care information, data, and knowledge for communication and decision making".[3]
Health information technology encompasses a wide range of technologies that range from simple charting to more advanced decision support and connection with medical devices. Among the numerous opportunities for improving and transforming healthcare offered by health information technology are the reduction of human error and the improvement of clinical outcomes, the facilitation of care coordination, the improvement of practice efficiencies, and the tracking of data over time. Since the publication of the initial IOM study, there has been a significant acceleration in the development and implementation of health information technology, with varied degrees of evidence regarding the influence of health information technology on patient safety becoming available.
EHRs and e-prescriptions are examples of health information technology (HIT), as are technology solutions that assist individuals in meeting health goals such as quitting smoking or controlling diabetes. This integration of technology and healthcare has resulted in more accurate electronic health records (EHRs) that accompany a patient to different healthcare institutions, as

well as greater control over one's own health through applications and better access to information for patients.

Despite the fact that health information technology (HIT) comprises a wide range of systems and types of technology, its primary focus is on protecting patient privacy while simultaneously improving patient care. Advances in secure health information technology networks have enabled physicians and other members of a patient's care team to communicate more effectively than ever before.

What is the importance of HIT?

In today's digital age, health information technology is critical for many reasons. According to Patrick Gauthier, director of healthcare solutions at Advocates for Human Potential, Inc., "in 2019, healthcare customers will continue to demand greater openness, accessibility, and customization." All of the aforementioned factors, as well as others, are supported by HIT.

For some patients, the capacity to promptly communicate patient information between hospitals and clinics—a feature known as "interoperability"—can mean the difference between life and death. According to the ONC, electronic health records (EHRs) and other health information technology (HIT) tools assist patient care teams coordinate with one another, resulting in higher-quality patient care and more inexpensive healthcare expenses.Gauthier believes that, despite the fact that the health information technology field was struggling to keep up just a few years ago as clinics and hospitals made the transition to new technology in order to comply with government mandates such as meaningful use, the field has now found its stride and will only continue to grow in importance as technology transforms the healthcare industry. “The majority of consumers today have greater confidence in health information technology than they have ever had.”

The following are the components of health information technology:

Electronic health records (EHRs). EHRs help doctors to keep better track of your health information and may even allow them to examine your medical records. Even if their office is closed, you can still contact them if you have an issue. EHRs are also used. Facilitate the sharing of information between your doctor and specialists; in order for specialists who want your information to have it available when they need it, It’s absolutely necessary.

Personal health records (PHRs)

A personal health record (PHR) is similar to an electronic health record (EHR). Save for the fact that you have complete control over the information that enters into it. You can use a personal health record (PHR) to keep track of information from your doctor visits, however, your personal health record (PHR) can also reflect your life outside of the doctor's office. Your health priorities, such as keeping note of what you eat and how much exercise you get .Exercise is good for your heart and your blood pressure. Your personal health record (PHR) may occasionally link with your doctor's electronic health record.

Electronic prescribing (E-prescribing)

A printed prescription can be useful, get disoriented or misunderstood. E-prescribing enables you and your doctor to communicate electronically. In direct communication with your pharmacy this implies that you can visit the drugstore. It is possible to pick up drugs without needing to bring a formal prescription.

Confidentiality and security

All of these electronic systems have the potential to boost the safeguards in place to secure your health information as an illustration, electronic it is possible to encrypt information so that only authorized persons can access it. Take a look at it, Health information technology can also make it easier to document and track who is receiving care. Has gained access to your personal information.

Benefits of health information technology

While some opponents claim that electronic health records (EHRs) have resulted in physicians spending more time inputting data than interacting with patients and that government rules have become burdensome, there is widespread agreement on the benefits of health information technology. These advantages are as follows:

- The ability to use data analytics and big data to effectively manage population health management programs and reduce the incidence of expensive chronic health conditions;
- The use of cognitive computing and analytics to perform precision medicine (PM) tailored to individual patients;
- The ability to share health data among academic researchers to develop new medical therapies and drugs; and
- The rights of patients to obtain and use their own health data and collaborate in their own care with clinicians.

Challenges and Issues

The implementation of policies regarding HIT adoption has always been on the government's radar and serious exploratory initiatives are underway to explore coordination of a national health IT infrastructure and network.

However, the challenges faced for adopting HIT are:

• **Government Funding:**

Further development in government funding for health information technology (HIT) is essential in order to avoid the restricted use of HIT in government health facilities. Aside from that, it is necessary to ensure that the number of medical informatics specialists who have received training continues to grow.

• **Computer literacy**:

It should be one of the primary goals of the government that an extremely high percentage of government employees, as well as a significant number of the private sector, have a working knowledge of computers.

• **Infrastructure and Coordination**:

Improved support infrastructure and collaboration between the public and commercial sectors are needed to achieve this.

• **Legacy Systems:**

With the exception of a small number of privately held large hospitals, the vast majority of patient records are kept on paper and are extremely difficult to convert to an electronic format.

• **Standards and Guidelines**:
Local information technology systems that do not adhere to internationally recognized standards for information representation and interchange. HL7 and DICOM standards, on the other hand, have been under discussion in a number of nations, including India.

• **Interoperability**:
Concerning interoperability, discussions center on the development of standards for content and messages, as well as on the establishment of suitable security and privacy safeguards. Interoperability must be realized in the fast developing applications in areas such as home telehealth and remote monitoring for patients and customers, among other areas of interest.

• **Privacy**:
It is an outstanding question whether patient confidentiality should be protected, and the Supreme Court of India has not addressed the specific right to privacy problem relating to health information.

• **Information Overload**:
Health information technology (HIT) or telemedicine is not a panacea for the flaws in the health-care delivery system, and it is not intended to be one. It is possible that too much information transmitted via wireless media and information transmitted from a big number of patients to a single doctor or a small group of doctors will result in either an excess of information or insufficient corrective action.

The Indian government's 'Make in India' initiative (2014)
The Indian health care system, despite its flaws, has a lot going for it on a number of fronts. Because of a government-led campaign to encourage health-care providers to use electronic medical records, artificial intelligence (AI) is now able to draw insights from patient data and use them to give better treatment to more people. Telemedicine and tele consulting programs, delivered over mobile phones, are becoming more accessible to underserved rural regions as a result of the availability of broadband internet access and telecom bandwidth.
Make in India is a major national program of the Government of India designed to facilitate investment, foster innovation, enhance skill development, protect intellectual property and build best in class manufacturing infrastructure in the country. The primary objective of this initiative is to attract investments from across the globe and strengthen India's manufacturing sector. It is being led by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India. The Make in India program is very important for the economic growth of India as it aims at utilizing the existing Indian talent base, creating additional employment opportunities and empowering secondary and tertiary sector. The program also aims at improving India's rank on the Ease of Doing Business index by eliminating the unnecessary laws and regulations, making bureaucratic processes easier, making the government more transparent, responsive and accountable.
Make in India is an initiative by the Government of India to make and encourage companies to manufacture in India and incentivize dedicated investments into manufacturing.[4] The policy approach was to create a conducive environment for investments, develop a modern and efficient infrastructure, and open up new sectors for foreign capital. The initiative targeted 25 economic

sectors for job creation and skill enhancement,[5] and aimed "to transform India into a global design and manufacturing hub."

"Make in India" had three stated objectives:

- to increase the manufacturing sector's growth rate to 12-14% per annum;
- to create 100 million additional manufacturing jobs in the economy by 2022;
- to ensure that the manufacturing sector's contribution to GDP is increased to 25% by 2022 (later revised to 2025).[6]

The Indian government's **"Make in India"** effort is supporting the domestic production of medical devices, which is helping to cut the prices that patients pay for products such as stents and implants, which were previously imported from other countries. According to the panelists, the regulatory environment and regulators in India must be flexible enough to embrace technological interventions such as the expansion of online pharmacies while still putting in place the necessary restrictions. Because of the large number of disadvantaged communities in India, health care innovation there could serve as a global paradigm for a shift away from treating the sick and toward preventative care and wellness, according to the authors.

The focus of Make in India program is on 25 sectors. These include: automobiles, automobile components, aviation, biotechnology, chemicals, construction, defence manufacturing electrical machinery, electronic systems, food processing, IT & BPM, leather, media and entertainment, mining, oil and gas, pharmaceuticals, ports and shipping, railways, renewable energy, roads and highways, space, textile and garments, thermal power, tourism and hospitality and wellness.

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REVIEW ARTICLE

Smart food for better health and nutrition – a promising concept

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ABSTRACT

Smart food can be defined as foods that benefit us by providing sustainability in three ways by being good for our health, good for environment and favoring farmers' livelihood. An initiative started by ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) with an aim of increasing the staples from just big three crops and including millets and legumes in place due to the immense health benefits offered by them. Following 16 crops are included under the criteria: Pearl millet, Sorghum, Finger millet, Proso millet, Barnyard millet, Browntop millet, Foxtail millet, Little millet, Kodo millet, Teff, Fonio, Job's Tear, Chickpea, Pigeon pea, Ground nuts and Green gram. Each of the mentioned crops is nutritionally rich and leads to improvement of overall health and nutritional status of people. Out of which pearl millet is one of most promising millet cultivated in Rajasthan, India that offers high nutritional and health benefits in addition of being staple growing crop of the region. These crops can be easily included in the daily meals due to their easy incorporation into daily recipes.

Keywords: ICRISAT, Pearl Millet, Smart Food and Sorghum

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INTRODUCTION

Food is an indispensable part of life. This is a basic and utmost important need of any living organism, making it essential for a quality life. Availability of proper and healthy food that too all the time round the year is vital for sustaining life and becomes an elementary outline of food security. Thus the definition agreed upon at the World Food Summit in 1996 is that food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life (Pinstrup-Andersen, 2009).Hence, having proper food to eat has always been important.

Historically, elevating starvation among the mass was the major focus, leading to over focus over few crops during green revaluation. Wheat, rice and maize became the dominant and most consumed crops. That has resultant in cyclic production of same crops which can have negative impact on farmers and natural resources and consumption of similar type food leading to emergence of a new threat of 'hidden hunger' (Kane-Potaka et al., 2021). Recently, UN and organizations talk about 'sustainable diets' that are explained as a diet that have less impact over the environment and even have a contribution in food and nutritional

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security. Combining all these points of focus together, ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) came with new foci called as 'SMART FOOD' (Kane-Potaka, 2018). 'Smart Food is food that fulfill all criteria of being good for you (nutritious and healthy); good for the planet (environmentally sustainable); and good for the farmer (climate smart, potential to increase yields, multiple uses)' (Smart Food, 2020).Millets and sorghum were the first one to be added into the list of smart foods (Diama et al., 2020) and then pulses were included under the criteria.

Millets are small-seeded, highly nutritious staple crops grown in many parts of the world. Many types of millets are known pearl millet being one of them. (Saini et al., 2021). Pearl millet is a hardy crop with a relatively short growth period compared to maize (*Zea mays* L.), wheat (*Triticum aestivum*) and rice (*Oryza sativa* L.) that are widely grown in Africa. They are highly nutritious and palatable when consumed (Dube et al., 2021). The aim of the paper is to understand what smart foods are and to study the crops which have been identified as smart food along-with their nutritional potential and health benefits.

SMART FOODS

With the development process a shift have been observed in the need of a food system from just being able to fulfill hunger i.e. food security to nutritional security and from it to sustainable diets, that cover more recent issue by being more sustainable to environment. To cover all this in an inclusion, ICRISAT came with a new term 'Smart Food', it is an initiative that tries find a solution in unison by being able to promote the health, being less harmful to the earth and being good to the farmers as well (OBE and Kane-Potaka, 2020). The main objective of 'smart food initiative' is to focus on diversifying staples and not just restricting the choice to the Big 3 commonly consumed crops. For this millets and sorghum were the first selected staples to be focused on. The high nutritional values, great health benefits and ability to grow with minimal resources made them the first choice (Kane-Potaka et al., 2021). Considering the benefits offered by the pulses, they were the next to be the part of smart food initiative. Analysis of the combination of millets and pulses in a ratio of 3:1 showed to have a complete protein content that to being highly digestible and full of various essential micronutrients (Anitha et al., 2019; ICRISAT, 2019).

These crops were used traditionally to form many dishes and were consumed locally, making them important staple food in the local culture. But recently, usage of these wonderful crops has been decreasing over years majorly due to policies that focus over production and consumption of few selected cereals (Kane-Potaka et al., 2021). Staples make the most of our diet; most of the calories consumed are obtained from the staples in our plates. Smart food initiative tends to focuses on diversifying these staples from just being the 'Big 3' crops to 'Big 5' and eventually 'Big 7'. Hence, a change in the peoples' habit, by including the traditional staple crops is required for bringing desired changes required for nutritional, environmental and farmer's sakes (Kane-Potaka, 2018). Following are the crops included under the criteria of smart food.

Pearl Millet

Pearl millet (*Pennisetum glaucum*) also known as Bajra, belongs to the section *Paniceae* of *Poaceae* family is a crop that can adapt in extreme conditions where other crops such as wheat and maize can't survive (Nambiar et al., 2011). It is rich in quality protein, minerals like phosphorous, iron as well as zinc and contains good amount of antioxidants making it beneficial for human health and wellbeing (Rani et al., 2018) and additional qualities such as low glycemic index, being gluten free, high fibre content makes it a great possible alternative for food diversification (Nambiar et al., 2011).

Sorghum

Sorghum (*Sorghum bicolor* L.) also known as Jowar is the fifth most cultivated cereal in the world after wheat, rice, maize and barley whose cultivation for human consumption began from 3700 to 4000 yr ago. It is a cereal crop of the *Poaceae* family and is native to Africa (de Morais Cardoso et al., 2017). It is an important crop not just because it is climate smart but also because of its high nutritional and health values. Dietary values and chemical composition of whole sorghum are mostly similar to rice, maize and wheat but it is gluten free, rich in resistant starch and posses nearly all classes of diverse phenolic compounds in abundance that make sorghum full of numerous health benefits such as reducing oxidative stress and benefiting people with diabetes (Xiong et al., 2019).

Finger Millet

Eleusine coracana (Finger Millet) is a cereal crop that is a part of subfamily *Chloridideae* within family *Poaceae*, commonly grown in Africa, Southern Asia, Nepal and many states of India such as Uttar Pradesh, Bihar, Tamil Nadu, Karnataka and Andhra Pradesh (Dida and Devos, 2006). Commonly known as *Ragi* and *Mundua* in India is the sixth most cultivated cereal after wheat, rice, maize, sorghum and bajra. Offering multiple health benefits, these minor cereals have calcium content that is highest of all other cereals, rich in dietary fibre and phenolic compounds. Regular consumption of them aids by providing protection against diabetes, cardiovascular diseases by being anti-diabetic, antitumerogenic, anti-diarrheal, antiulcer, anti-inflammatory, atherosclerogenic and possessing antioxidant and antimicrobial properties (Chandra et al., 2016; Devi et al., 2014).

Proso Millet

Proso millet (*Panicum miliaceum*) commonly known as *Chenna, Barri, Baragu, Vari, Panivaragu* and *Swahili* in India, is a warm season grass commonly used to feed birds, human consumption and production of ethanol (Habiyaremye et al., 2017; ICRISAT, 2020). Being one of the underutilized crop Proso millets fulfill the nutritional needs when consumed by being rich in minerals (such as phosphorus, calcium, zinc and iron), dietary fibre, vitamins (such as niacin, vitamin B-complex, and folic acid), polyphenolsand essential amino acids (methionine and cysteine) (Das et al., 2019).

Barnyard Millet

Barnyard millet (*Echinochloa frumentacaea*) generally known as *Sanwa, Shyama*, *oodalu, Kavadapullu , Kuthiravali, Udalu* and *Kira* in India is another nutritionally rich yet underutilized millet (ICRISAT, 2020). They have high nutritional values that offer great health benefits on consumption. They contain decent amount of protein that are easily digestible, low amount of carbohydrate that is slowly digested, contain linoleic acid and oleic acid making them a naturally prepared gift for diabetic and CVD patients (Kaur and Sharma, 2020).

Browntop Millet

Browntop millet (*Urochloa ramosa*) an annual warm-season grass is minor millet commonly known with names as *Korale*, *Karlakki* and *Andukorralu* in different regions of India (Sravan et al., 2020). It is one of the rarest crop able to survive in adverse climatic condition, which becomes an excellent choice for people dealing with lifestyle diseases as it is gluten-free, full of essential nutrients, good source of zinc, iron, fibre and a rich source of natural fibre (Mohapatra et al., 2021).

Foxtail Millet

Foxtail millet (*Setaria italica*) of *Poaceae* family is one of the oldest cultivated crop generally known as *Italian Millet, Kangni, Kankum, Rala, Navane, Thinai, Kang, Rala, Kangu, Kora* across India (ICRISAT, 2020). This millet is known to have a suitable nutritional constituents especially protein (contain essential amino acids such as methionine), high fibre content, needed minerals and photochemical (Verma et al., 2015). It have been seen that consuming foxtail millet regularly provides several health benefits such as lowering blood glucose levels, prevention against cancer, aid in weight loss and may lower blood pressure (Hou et al., 2018).

Little Millet

Little millet (*Panicum miliare*) is known by many names such as *Kutki, Saame, Saave, Chama, Saamai, Samalu, Sava, Halvi* and *Suan* (ICRISAT, 2020). These millets might be called little but that does not make them any less in the nutritive content. They are good source of B-vitamins, needed minerals like calcium, iron, zinc, potassium, essential fats which aids inn weight loss, high fibre content and nutraceutical components such as pheols, tannins and phytates (Ambati and Sucharitha, 2019; Mannuramath et al., 2015) which imparts numerous health benefits.

Kodo Millet

Kodo millet (*Paspalum scrobiculatum L*) is known by many common names such as *Koden, Kodra, Harka, Koovaragu, Varagu, Arikelu, Kodua* (ICRISAT, 2020). Rich in nutrition kodo millet offer higher protein, fibre and minerals then major cereals and can be used as a good substitute for wheat and rice (Deshpande et al., 2015). Rich in phytochemicals and antioxidants it is very easily digested which makes it helpful in combating various lifestyle disorders. It even aids in decreasing joints pain and normalizing the menstruation cycle in women (Ambati and Sucharitha, 2019).

Teff

Teff (*Eragrostis tef* (Zucc.) Trotter) is a small highly nutritional nutty flavored seed originated from horn of Africa. It is tolerant to stress, storage pests and grows in variety of environment making it a low risk crop. Its small size barely gives any idea about the nutritional benefits offered; Teff is a gluten free seed, rich in essential amino acids levels, have impressive contents of required minerals and crude fibre which makes it a beneficial cereal for celiac, diabetic and anemic patients (Gebru et al., 2020; Hackett, 2021).

Fonio

Fonio is a small sized underutilized traditional cereal that belongs to genus *Digitaria* grown in Western Africa. There are generally two types of Fonio grains, white Fonio and black Fonio commonly known as fundi/hungry rice and iburu respectively. It usually grows on marginal lands and requires minimal input as it is adaptable drought and less fertile soil. Nutritionally Fonio seeds provide all macronutrients such as starch, dietary fibre, proteins especially methionine and fats; micronutrients that include polyphenols, minerals like iron and B vitamin (Salahudeen and Orhevba, 2021; Zhu, 2020).

Job's Tears

Job's tear (*Coix lacryma-Jobi L.*) a pear shaped seed with shiny dark brown to gray black hull is a member of *Graminae* family. These seeds provide phenols, flavonoids, polysaccharides, proteins, fibres, vitamins and oil on consumption all this made them well known in Chinese medications. Chemical composition of the seeds inhibits enzyme COX, synthesis of fatty acids, synthesis of liver cholesterol and offers high antioxidant, anti-inflammatory, anti-obesity activity, maintain levels of reproductive hormones, uterine contractions and maintain gut microflora (Devaraj et al., 2020).

Chickpea

Chickpea (*Cicer arietinum L*) one of the oldest vegetarian protein sources is also known as Garbanzo beans, an important crop grown and consumed all over the world. Due to the presence of numerous health promoting components, that includes vegetable protein (all essential amino-acids except sulphur containing amino-acids), complex carbohydrate, dietary fibres, nutritionally important unsaturated fatty acids (linoleic and oleic acids), important vitamins and minerals, oligosaccharides, isoflavones, phospholipids and antioxidants, they have several potential health benefits and are considered an important part of healthy diet (Jukanti et al., 2012; Gupta et al., 2017).

Pigeonpea

Pigeon pea or red gram (*Cajanus cajan (L.) Millspaugh*) is known by different names such as Cajan pea, no-eyed pea, and tropical green pea around the world, whereas in India it is known as red gram, tur or arhar. They are full of carbohydrates, dietary fibre, proteins (essential amino acids), vitamins and minerals (both micr and macro), which impact health in numerous ways by aiding in management of blood pressure, weight, hearth health, gives energy boast and helps in growth and development (Abebe, 2022; Saxena et al., 2010; ICRISAT, 2020).

Table 1: Health Benefits Offered by the Crops Included Under the Criteria of Smart Food

Name	Nutrients/ Characteristics	Health Benefits
Peal Millet	Iron and Folic Acid	Reduces chances of neural tube defects in pregnant women and helps in preventing anemia
Sorghum	Resistant Starch, Low Glycemic Index	Slows down the absorption of carbohydrates that prevent from sudden fluctuations in glucose levels
Finger Millet	Calcium	Bone strengthening, relieves joint pains and reduces the risk of bone fractures
Proso Millet	Niacin Lecithin	Pellagra, Intensify metabolism of brain cells and helps in regeneration and repairing of myelin fibre
Barnyard Millet	Low carbohydrates, High Fibre and Resistant Starch	Nature gift for diabetic and cardiovascular disease patients
Browntop Millet	Dietary Fibre	Good for people with lifestyle disease
Foxtail Millet	Magnesium	Makes it a healthy heart food
Little Millet	Rich in fiber, slow digesting carbohydrates and antioxidants	Low glycemic index that's helps in maintaining blood glucose levels and helps in body detoxification
Kodo Millet	Photochemical and antioxidant	Reduce joint and knee pain and regularize menstrual cycle
Teff	Resistant starch and high dietary fibre	Aids in blood glucose management, beneficial in diarrhea and constipation
Job's Tear	Various Phytoconstituent,	Antioxidant, anti-inflammatory, weight reduction, simulative reproductive hormones, uterine contractions and gut health

	Polysaccharides, Phenols, Flavonoids	
Fonio	Iron and folic acid	Helps against anemia and detoxify liver and the body
	isoflavones and phytosterols,	Limits the absorption of cholesterol
Chickpea		Support functions of liver enzymes and detoxify cancer causing substances
	selenium and manganese	Prevent from cardiovascular diseases
Pigeopea	Potassium	Helps in lowering blood pressure
Green Gram	Protein	Vegetarian source of lean protein that aids in weight loss by keeping you filled
Ground Nuts	Biotin and Vitamin E	Helps in releasing energy from the carbohydrates and strengthens the immune system

Green Gram

Green gram (Vigna radiata (L.) Wilczek) is commonly called by names as mung bean, Chickasono pea, moong, chiroko, Oregon pea, Chickasaw pea, and golden gram. Green pearl is the name give to the pulse because of its high nutrient content (Nair et al., 2013). Being is rich in nutrients like proteins, carbohydrate, dietary fiber, vitamins, and minerals and low in fat content, makes them a lean protein source for vegetarians, helps in weight management and lowering blood pressure (Mekkara et al., 2021; ICRISAT, 2020).

Groundnut

Groundnut also known as peanut (*Arachis hypogaea*) is an edible seed from legume family. These nutri seeds are an important food crop by being easily available, affordable when compared to other nuts and nutritionally rich. They offer desirable profile of lipids that is high in unsaturated and not in saturated fatty acids, rich source of protein, good amount of fiber, vitamins (biotin, niacin, thiamine), minerals (manganese, phosphorous, magnesium), carbohydrates and consumed around the world (Bonku and Yu, 2020; Suchoszek-Łukaniuk et al., 2011; ICRISAT,2020).

MILLETS

Millets are tiny, round seeds of small seeded grass family (*Poaceae*) with different varieties, which are widely cultivated all around the world as cereal crops for fodder and human consumption (Dayakar Rao et al., 2017). Around 27.83 million tones of millets are produced around the world (Malathi et al., 2016) and Indian millets cultivation covers an area of 12.09 hectares which produces 13.71 million tones yielding 1134kg millets per hector. Rajasthan covers the highest area for millet cultivation (31.3%) after that Maharashtra (18.9%), Karnataka (13.3%), Uttar Pradesh (8.9%), Tamil Nadu (4.2%) and Madhya Pradesh (3.9%). Yet highest production was observed in Tamil Nadu (Rao et al., 2021).

Millets show remarkable abilities by being drought-resistant, able to grow in less fertile soil, resistant to attack of pests and diseases, harvested in less time and able to be cultivated round the year. They are among the most ancient cereals cultivated from the starting of human civilization under rainfed conditions (Sarita and Singh, 2016). Millets are nutri-cereals, as they are highly nutritious and are full of health promoting nutrients. They are full of protein, essential fatty acids, crude fibre, and excellent source of B-vitamin, minerals and polyphenols. They provide numerous health benefits by lowering blood sugar levels in diabetes, regulating blood pressure, thyroid, CVD and gluten allergies (Dayakar Rao et al., 2017).

Millets are classified into two groups, namely, major and minor / small millets. Pearl millet (Pennisetum typhoides L.) and Sorghum (Sorghum bicolor L.) are part of major millet group, whereas millets like finger millet/ragi (Eleusine coracana L. Gaertn),

barnyard millet (Echinochloa frumentacea L.), foxtail or Italian millet (Setariaitalica L.), kodo millet (Paspalum scrobiculatum L.), little millet (Panicum sumatrens L.), proso millet (Panicum miliaceum L.) and brown-top millet (Brachiaria ramosa L. Stapf; Panicum ramosum L.) comes under the category of minor or small millets (Maitra, 2020).

Pearl Millet

Pearl millet or Bajra is a fast growing vertical grass crop with a summer annual cycle of 75 to 120 days depending on the environment that can reach an average height of 1.5 to 3 m. It is a coarse grain crop with oval seeds that resembles a pearl hence got its name 'pearl millet' (Dias-Martins et al., 2018). The plant can easily adapt to cultivation system characterized by less rainfall (nearly 200-600 mm), soil with low fertility, extreme high temperatures and with stand drought much better than any other cereals and millets, which makes it a crop that can survive where other cereal crops can't (Nambiar et al., 2011). Pearl millet is primarily considered a fodder crop during summers in western regions of Rajasthan and Gujarat when there is a lack of green fodder. Rajasthan state covers highest producing area for pearl millet, followed by Uttar Pradesh, Maharashtra, Haryana, Gujarat and Madhya Pradesh. (Rao et al., 2021).

Pearl millet are even known as 'nutri-cereals' due to the excellent nutritional profile that they offer, which is comparable and even superior to most of the commonly consumed cereals (Florence et al., 2014). Pearl millet offers 360 kcal per 100 gm being consumed, making it a rich source of energy. Macronutrients content of the millet per 100 gm are 67 gm carbohydrates of which 1 gm is the dietary fibre, nearly 12 gm of protein with a good amino-acid balance and 5 gm of total fat majority of which are unsaturated fatty acids (Malik, 2015). Overall content of minerals offered is 2.3 gm/100 gm being rich source of potassium, phosphorous, magnesium, iron, zinc, copper and manganese. It is a very rich source of phytochemicals and micronutrients, which impart pearl millet with many health benefits (Nambiar et al., 2011).

Table 2: Nutritional Content of Pearl Millet per 100 gm.

Nutrients	Amount
Energy	350 Kcal
Protein	11.09 gm
Carbohydrates	62.2 gm
Total Fibre	11.8 gm
Total Free Sugar	0.81 gm
Total Fat	5.75 gm
Total Saturated Fatty Acids	892.25 mg
Total Monounsaturated Fatty Acids	1067 mg
Total Polyunsaturated Fatty Acids	2012 mg
Ash content	1.45 gm
Iron	6.94 mg
Magnesium	133.75 mg
Phosphorous	301.65 mg
Zinc	2.94 mg

Source (IFCT, 2017) / (Longvah et al., 2017)

The possible health benefits offered by pearl millets comprises of an aid that may help in rising Hb levels due to high iron (8 mg/100 gm) and zinc (3.1 mg/100 gm) content, may give relief in constipation, help in lowering blood glucose levels (low glycemic index), an alternative for people suffering from celiac disease (gluten free), diarrhea as contain lactic acid bacteria that provide

a probiotic treatment, helps in growth of bones and their development as it have a good amount of phosphorous and calcium, presence of flavonoids, phenolic omega 3 fatty acids may provide protection against non-communicable diseases, the ability of bajra to maintain its alkaline property helps it in providing protection against stomach ulcers (Patni and Agrawal, 2017).

Pearl millet has every quality that makes it an intelligent choice among available major cereals in the market. Offering high nutritional qualities and health benefits efforts should be made for changing the attitude of people towards the underutilized crop and increasing its consumption among all the groups of people. It can be easily included in the daily lifestyle and meal pattern of any individual. Pearl millet can be easily incorporated in the chapatti flour, porridge formation, baking of breads and cookies, making of malted drinks and many more. Hence diversifying our daily meals with it would enhance the nutritional profile of the meals and benefit our health.

CONCLUSION

Smart food is an initiative started by ICRISAT with an aim to diversify the staples to enhance the nutritional quality of the meal consumed. Diversifying the diet with underutilized neglected crops of the areas can bring a great impact by benefiting health, being good to planet and farmers as well. Millets are comparably same or more nutritional dense to majorly consumed cereals offering better macro and micro nutrient composition. Consuming millets with the combination of legumes complements with the deficient amino acids providing all the required essential amino acids by the body. Pearl millet is one of the many crops included under smart food criterion, which is full of nutrients and health benefits. Its consumption and incorporation is easy and palatable and can be incorporated in our daily diets. There is an urgent need to enhance the awareness and knowledge among the people regarding the utilization of these wonderful nutritional crops. Sufficient efforts should be made in order to bring these neglected crops among the staple and enhance the area of their utilization. In future such ways should be focused on that can enhance their consumption as well as their inclusion in the industrial manufacturing of ready to use food products.

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KISSING DISEASE & HOMOEOPATHY

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Abstract: Kissing disease or Infectious mononucleosis or glandular fever is an infective disease caused by Epstein Barr Virus. It is characterized by pharyngitis, cervical lymphadenopathy, & Lymphocytosis. It is more common among young adults between 15-19 Years of age. Incidence is around 500 cases per 100000 population[1]. Diagnosis is done by immunofluorescence test. Treatment consists of supportive measures and analgesia.

Keywords: Mono, Lymphadenopathy, immunofluorescence, antiviral

Introduction

Infectious mononucleosis or mono is a viral disease caused by Epstein barr virus affecting glands of the body. It is also known as glandular fever. The disease is characterized by pharyngitis, cervical lymphadenopathy, & lymphocytosis. The disease is common in young adults of age group 15-19 Years of age and upper socio economic group. It is spread by oropharyngeal secretions of asymptomatic sero positive carriers.

After entering the body of the affected individual the virus infects the epithelium of the oropharynx and salivary glands & B cells in tonsillar crypts.

The B cells undergo polyclonal activation. The reactive T cells proliferate and direct against Epstein Barr Virus antigen during acute infection.

For controlling the infection Cellular immunity is more important then humoral immunity.

The severity of the disease can be assessed by presence of CD8 + T lymphocytes & presence of Epstein barr virus DNA in the blood. The incubation period of the disease varies from 4 to 6 weeks.

Clinical Features

Most of the children and young adults affected with EBV are asymptomatic. Some patients present with mild pharyngitis with or without Tonsillitis. The clinical features depends upon the age of the patient and the immune status. The prodromal symptoms includes fatigue, malaise and myalgia for 1 to 2 weeks

before fever begins. The fever is of mild character low grade and present for 1 to 2 weeks of illness but may persist for more than 1 month. Splenic enlargement is more prominent in 2nd or 3rd week.
During first 2 weeks the disease is characterized by presence of exudative pharyngitis with painful and movable symmetric enlargement of posterior cervical lymph nodes.
The exudates in pharyngitis resembles streptococcal infection. Morbilliform and popular rash develops in around 5% of the cases.
Immunocompromised patients can develop lymphoproliferative disease.
The clinical features can be summarized among signs and symptoms as:

Symptoms:

Sore Throat
Malaise
Headache
Abdominal Pain
Nausea & Vomiting
Chills

Signs:

Lymphadenopathy
Fever
Pharyngitis
Tonsillitis
Splenomegaly
Hepatomegaly
Rash
Periorbital Oedema
Palatal Enanthem
Jaundice

Investigations

WBC count is raised with peaks at 10000-20000/Micro litre.
Lymphocytosis with >10% atypical lymphocytes.
Low grade neutropenia and thrombocytopenia during first months of illness.
Abnormal liver function in around 90% of individuals.
Increased concentration of serum bilirubin in around 40% of the cases.

Diagnosis

Diagnosis is done by serological testing for the presence of Epstein barr virus done by immunofluorescence testing.
Acute infection is characterized by presence of IgM antibodies against viral antigen.
PCR analysis is helpful in many cases.

Complications

Although mononucleosis is a self limiting disease but deaths can occur due to certain complications like splenic rupture, central nervous system complications, upper airway obstruction, or bacterial superinfection.

Treatment

The disease is treated by supportive measures which includes adequate rest and administration of

analgesics.
Administration of glucocorticoids to prevent airway obstruction and other complications.
Aspirin gargles to relieve sore throat.

Homoeopathic Management

Homoeopathic treatment is based on symptom similarity where the medicines are prescribed after complete case taking, Analysis & evaluation and after repertorization of the case keeping in mind the miasmatic background. A single simple and minimum dose of the medicine is prescribed to the patient. Although medicines are also prescribed on the basis of similarity of peculiar, queer, rare and strange symptoms which not only saves the time of the physician but also helps in providing quick and effective relief to the patient.

Common medicines prescribed in the case of infectious mononucleosis includes:

Aconite Napellus: Throat is dry, red, constricted with prickling, burning and stinging pain. Tonsills are dry and swollen.

Apis Mellifica: Constricted stinging pain. Throat swollen inside & out. Tonsils swollen, puffy and fiery red. Ulcers on tonsils. Sensation of fishbone in throat.

Arsenicum album: Throat swollen, oedematous, constricted and burning. Unable to swallow. Diphtheric membrane in throat.Fever with great periodicity and adynamia. Paroxysms incomplete with marked exhaustion.

Baryta Carb: Takes cold easily. Stitching and smarting pain in throat. Tonsills inflamed with swollen veins. Stinging pain in pharynx or tonsils.

Belladonna: Throat is dry as if glazed, angry looking, congested. Tonsils enlarged. Throat feels constricted, difficult deglutition. Fever with swollen glands. No thirst with fever.

Hepar Sulph: Plug like sensation in throat. Quinsy with impending suppuration. Stiching pain in throat extending to ears on swallowing.

Kalium Iodatum: Glandular swelling. Remitting fever going off in nightly perspiration.

Lachesis Mutus: Throat is dry, intensely swollen. Pain aggravated by hot drinks. Chronic sore throat with hawking of mucus. Tonsils purplish.

Lycopodium Clavatum: Dryness of throat without thirst. Inflammation of throat with stitches on swallowing. Ulceration of tonsils.

Merurius Solubilis: Sore throat with raw smarting, burning pain. Stitching into ear on swallowing.

Phosphorus: Hoarseness worse evening. Larynx very painful. Clergyman's sore throat. Violet tickling in larynx while speaking. Can not talk on account of pain in larynx.

Phytolacca Decandra: Throat is dark, red, bluish. Sensation of lump in throat. Throat feels rough, narrow, hot. Pain in root of tongue extending to ears.

Rhus toxicodendron: Soreness of throat with swollen glands. Sticking pain on swallowing. Fever with adynamia. Restless and trembling.

Silicea Terra: Periodical quinsy. Cold settles in the throat. Stinging pain on swallowing. Hard, cold swelling of cervical gland.

Sulphur: Burning redness and dryness of throat.Ball seems to rise and close pharynx. Remittent type of fever.

Conclusion: Infectious mononucleosis or kissing disease is an infectious disease affecting young adults these days. Due to the affects of social media and western movies the disease is prevalent among the young generation. The disease is characterized by variety of glandular affections and carry a lot of complications which can even lead to the death of the patient. With awareness about the disease and early management the complications of the disease can be prevented. Homoeopathy offers a great relief

in such viral diseases preventing complications at a very early stage leading to early recovery of the case and reducing a load of carrier individuals among the general population.

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SCHIZOPHRENIA, A PSYCHOTIC DISORDER – HAHNEMANIAN PERSPECTIVE

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Abstract: The term schizophrenia is Greek in origin, and in the Greek meant "***split mind***". Schizophrenia affects around 1% of the world's population and it's really an alarming figure. Curability is limited in allopathic system of medicine and so it's time to demonstrate homoeopathy in psychotic disorders like schizophrenia and to help the humanity with its benefits.
Keywords: schizophrenia, homoeopathy, mental diseases

Introduction

Schizophrenia is a group of heterogeneous symptoms characterized by disturbance in language, perception, thinking, social activity, affect, and volition. The syndrome commonly begins in late adolescence and has an insidious onset. Schizophrenia is associated with suicide, with up to 1 in 10 patients taking their own lives.[1]

Many studies have been done on schizophrenia and found that the curability is limited in allopathic system but as far as homoeopathy is concerned it treats the person as a whole, which means it deals with the person's body, mind, emotions and his diseased condition. It works on the person's own vital force towards equilibrium and healing. It also influences the brain chemistry and assists the patient in resuming psychological strength. The homoeopathic understanding of health considers that body and mind are dynamically interconnected and that both directly influence each other.

History of schizophrenia: This disorder was first time named "Dementia Precox (premature dementia)" by Emil Kraepelin in 1896. Later Eugen Bleuler in 1911 renamed dementia precox as "Schizophrenia" (meaning mental splitting).In 1959 Kurt Schneider described symptoms which were of great significance in making a clinical diagnosis of schizophrenia.[2]

Epidemiology: The spread of schizophrenia is universal. About 1% of the population world-wide is

affected. This disorder is more common in males compared to that of females. The incidence of schizophrenia is noticeably genetic. The children of one of the affected parent have approximately 10% risk of having schizophrenia, but approximately 50% of the monozygotic (identical) twins get affected with it.[3]

Aetiology: [3]

- Genetic contribution, probably involving many susceptibility genes
- Environmental risk factors include obstetric complications and urban birth
- Abnormalities in brain development
- Social stress
- Drugs which increases dopamine turnover and sensitivity

Signs and Symptoms: a gradual change in the person's personality is an indication of the onset of schizophrenia

- **Hallucinations**- The person has sensory perceptions without a stimulus. This may be visual, auditory, gustatory, tactile or olfactory.
- **Delusions**- These are false beliefs that conflict with the reality. These may be in the form of suspiciousness, directed against one or many people.
- **Other essential symptoms** to make a diagnosis of schizophrenia include disorganised speech or behaviour and negative symptoms like affective flattening, amotivation, alogia and apathy
- **Cognitive impairment** is characterised by deficits in attention, learning, memory and executive functions.[4]

International Classification of Diseases WHO (ICD-10) has given diagnostic guidelines

- Duration of symptoms should be at least one month or more
- One very clear-cut symptom or two or more symptoms if symptoms are not very clear
  (a) Thought echo, thought insertion or thought withdrawal and thought broadcasting
  (b) Delusions of control, influence, or passivity; or specific thoughts, actions or sensation, delusional perception
  (c) Hallucination voices
  (d) Persistent delusions
  (e) Persistent hallucinations
  (f) Breaks in interpolations in train of thoughts, resulting in incoherence or irrelevant speech or neologism
  (g) Catatonic behaviour such as excitement, posturing, or waxy-flexibility, negativism, stupor
  (h) Negative symptoms such as marked apathy, paucity of speech, blunting or incongruity of emotional responses, usually resulting into social withdrawal [4]

Subtypes of Schizophrenia: Several subtypes of schizophrenia, based on the clinical picture are-

- **Paranoid type:** Delusions and auditory hallucinations are present.
- **Catatonic type:** The subjects are mostly immobile or exhibit purposeless movements.
- **Simple schizophrenia:** Insidious or progressive development of prominent negative symptoms
- **Undifferentiated schizophrenia:** Psychotic symptoms are present but are without sufficient symptoms to meet the criteria for any of subtypes
- **Hebephrenic schizophrenia:** Where thought disorder and flat affect both are present

- **Residual schizophrenia:** Prominent negative symptoms and positive symptoms are present at low intensity [4]

Treatment: The goals of care are to identify the illness early, treat the symptoms, prevent relapses and reintegrate the ill person in the community. The treatment of schizophrenia has three major components. First, there are medications to relieve symptoms and prevent relapse. Second, education and psychosocial interventions assist patients and families cope with the illness. Third, rehabilitation helps patients reintegrate into the community and regain occupational functioning.

- **Medical Treatment:** Anti-psychotic drugs help control acute symptoms and some symptoms of the chronic state too. Occasionally, electroconvulsive therapy or shock treatment (ECT) is given during an acute phase of schizophrenia.
- **Psychosocial Rehabilitation:** Psychosocial rehabilitation is an important component in the management of schizophrenia. It is a set of techniques aimed at reducing symptoms and decrease impact of illness, improve skills and capability of the person.[4]

Prognosis:

- Good prognosis –acute or abrupt onset
    - more than 35 years of age
    - Presence of stressor
    - predominant positive symptoms[2]
- Poor prognosis – insidious or gradual onset
    - less than 20 years of age
    - predominant negative symptoms
    - family history of schizophrenia[2]

Dr Hahnemann as a psychiatrist

In 1792, the Duke Ernst Von Sachsen-Gotha have heard about the good reputation of Samuel Hahnemann as a physician, and about his intention to devote himself to this kind of work, placed a wing of his hunting cottage. Being now provided with a chance of treating the insane under ideal conditions, Hahnemann acknowledged that for several years previously he had made a special study of "diseases of the most lingering and hopeless nature generally, and of hypochondria and insanity in particular."

The patient was the one who had been suggested for treatment by the Duke, Klockenbring by name. This man was the author of highly susceptible disposition, having become insane through a malevolent attack made on him, apparently without any justification by a poet. His family physician in Hanover had done all in his potential to cure the patient. Alas in vain! Despite there was a clear interval at times, the fury of the illness was soon redoubled. In June 1792 Klockenbring was brought with an appropriate escort to Georgenthal. He kept on rambling and was excited for a quarter of an hour at a time. At one minute he spoke as a judge and at another he would recite as Agamemnon. He used to destroy anything that came to hand at that period. For the first week Hahnemann just observed the patient without giving any medical treatment till February of the following year he then treated him both psychically and by medicine finally he was restored. There was, further, no relapse, though Klockenbring's death two years after his discharge was preceded by marked apathy.[5]

Homoeopathic Approach: As stated by Dr. Hahnemann, the mental diseases fall under chronic disease as *one sided disease (aphorism 210).* To treat such conditions, the symptoms of the altered state of mind and disposition (aphorism 210), are to be observed carefully by the physician and to be taken from the patient's attendants beside that the other symptoms like physical generals, past and family history of patient, any drug abuse, his domestic position, social relations, occupational stress, symptoms of altered behavior in his childhood, parental disharmony, any birth trauma or any maternal stress during her pregnancy are to be taken into consideration.

The medicine prescribed must be capable of producing strikingly similar symptoms and especially an analogous disorder of mind and disposition (aphorism 220). Whatever the name of illness, the symptoms plays an important role in homoeopathic prescribing.[6]

Aphorism 215 : "Almost all so called mental and emotional diseases are nothing more than corporeal diseases in which the symptoms of derangement of mind and disposition peculiar to each of them is increased, while the corporeal symptoms decline" [7]

Miasmatic analysis: As stated by Dr. Hahnemann the mental diseases falls under the psora miasm. In aphorism 210, 222, 228 mental diseases are said to be psoric in origin and to be treated with antipsoric medicines.

Treatment: Dr. Hahnemann since ages described the treatment of mental diseases in aphorisms 210-230 which includes supportive psychotherapy and constitutional antipsoric medicine.

- Treatment of chronic mental diseases

  In aphorism 220 he states that "thus constructed the complete picture of the disease, for which, in order to effect the homeopathic cure of the disease, a medicine capable of producing strikingly similar symptoms, and especially an analogous disorder of the mind, must be sought for among the antipsoric remedies, if the psychical disease have already lasted sometime."[7]

- Treatment of acute mental diseases

In aphorism 221 he states that "If, however, insanity or mania have suddenly broken out as an acute disease in the patient's ordinary calm state, although it almost always arises from internal psora, like a flame bursting forth from it, yet when it occurs in this acute manner it should not be immediately treated with antipsorics, but in the first place with remedies indicated for it out of the other class of proved medicaments in highly potentized, minute, homeopathic doses, in order to subdue it so far that the psora shall for the time revert to its former latent state, wherein the patient appears as if quite well."[7]

In aphorism 222 he states "such a patient, who has recovered from an acute mental or emotional disease by the use of these non-antipsoric medicines, should never be regarded as cured; on the contrary, no time should be lost in attempting to free him completely, by means of a prolonged anti-psoric treatment"[7]

In aphorism 223 he states that "if the antipsoric treatment be omitted, then we may almost assuredly expect, from a much slighter cause than brought on the first attack of the insanity, the speedy occurrence of a new and more lasting and severe fit"[7]

Attribute of physician while taking psychotic case: Dr. Hahnemann told us how a physician should act or conduct himself while taking a psychotic case in aphorisms 228 and 229.

(a) To furious mania – we must oppose calm intrepidity and cool, firm resolution
(b) To doleful (expressing sorrow), querulous (complaining in whining manner) lamentation – a mute display of commiseration (the feeling of expression of pity and sorrow) in looks and gestures.

(c) To senseless chattering – a silence not wholly inattentive
(d) To disgusting and abominable conduct (causing disgust or hatred) – and to conversation of a similar character – total inattention.
(e) We must merely endeavor to prevent the destruction and injury of surrounding objects, without reproaching the patient for his acts
(f) Everything must be arranged in such a way that the necessity for any corporeal punishments and tortures whatever may be avoided.
(g) Contradiction, eager explanations, rude corrections and invectives, as also weak, timorous yielding, are quite out of place with such patients; they are equally pernicious modes of treating mental and emotional maladies.
(h) The physician and keeper must always pretend to believe them to be possessed of reason.
(i) All kinds of external disturbing influences on their senses and disposition should, if possible, be removed; there are no amusements for their clouded spirit, no salutary distractions.[7]

Homoeopathic Medicines for Schizophrenia

The treatment of a case of Schizophrenia should be done on the basis of individuality of the person after complete case taking administering the dose based on Homoeopathic principles of single, simple minimum dose sufficient enough to produce effective change in the nature of the individual curatively. Some common medicines indicated in Schizophrenia with their indications includes:

1. **Absinthium:** Sudden and severe giddiness, delirium with hallucinations and loss of consciousness. Nervous excitement and sleeplessness. Hallucinations. Frightful visions. Loss of memory. Forgets what has recently happened. Wants nothing to do with anybody. Brutal.
2. **Anacardium Orientale:** impaired memory, depression, and irritability; diminution of senses - smell, sight, hearing. Fear of examination in students. Aversion to work; lacks self-confidence; irresistible desire to swear and curse. Fixed ideas. Hallucinations; thinks he is possessed of two persons or wills. Anxiety when walking, as if pursued. Profound melancholy and hypochondriasis, with tendency to use violent language. Brain-fag. Absent mindedness. Very easily offended. Malicious; seems bent on wickedness. Lack of confidence in himself or others. Suspicious. Clairaudient, hears voices far away or of the dead. Senile dementia. Absence of all moral restraint.
3. **Baryta Carbonica:** Child backward mentally and physically dwarfish. Diseases of old men when degenerative changes begin. Loss of memory, mental weakness. Irresolute. Lost confidence in himself. Senile dementia. Confusion. Bashful. Aversion to strangers. Childish; grief over trifles.
4. **Belladonna: -**Patient lives in a world of his own, engrossed by specters and visions and oblivious to surrounding realities. Visual hallucinations. He is acutely alive and crazed by a flood of subjective visual impressions and fantastic illusions. Hallucinations; sees monsters, hideous faces. Delirium; frightful images; furious; rages, bites, strikes; desire to escape. Loss of consciousness. Disinclined to talk. Perversity, with tears. Acuteness of all senses. Changeableness.
5. **Hyoscyamus Niger:** Disturbs the nervous system profoundly. mania of a quarrelsome and obscene character. Inclined to be unseemly and immodest in acts, gestures and expressions. Very talkative, and persists in stripping herself, or uncovering genitals. Is jealous, afraid of being poisoned. Its symptoms also point to weakness and nervous agitation. very suspicious. Talkative, obscene, lascivious mania, uncovers body; jealous, foolish. Great hilarity; inclined to laugh at

everything. Delirium, with attempt to run away. Low, muttering speech; constant carphologia, deep stupor.

6. **Nux Moschata:** Strange feeling, with irresistible drowsiness. General inclination to become unconscious during acute attacks. Changeable; laughing and crying. Confused, impaired memory. Bewildered sense, as in a dream. Thinks she has two heads.
7. **Nux Vomica: -** Very irritable: sensitive to all impressions. Ugly, malicious. Cannot bear noises, odors, light, etc. Does not want to be touched. Time passes too slowly. Even the least ailment affects her greatly. Disposed to reproach others. Sullen, fault-finding. Irritable, nervous system, hypersensitive and over-impressionable.
8. **Pulsatilla Pratensis:** Mild, gentle yielding disposition. Sad cries readily. Weeps when talking, changeable, contradictory. Timid, irresolute. Fear in the evening of being alone, ghosts. Likes sympathy. Easily discouraged. Religious melancholy. Highly emotional.
9. **Staphysagria:** Nervous affection with marked irritability. Impetous, violent outbursts of passion, hypochondriacal, sad. Very sensitive to what others say about her. Dwells on sexual matters. Perfers solitude. Peevish. Child cries for m any things and refuses them when offered.
10. **Veratrum album:** Behavior disorder- schizophrenia. Melancholy, with stupor and mania. Sits in a stupid manner, notices nothing. Sullen indifference. Frenzy of excitement; shrieks, curses. Aimless wandering from home. Delusions of impending misfortunes. Mania, with a desire to cut and tear things.

Conclusion: Homoeopathic treatment is based on individualistic and holistic approach so, it does not treat the particular diseases but treats interior of man. Homoeopathy is based on the fact that the person emotional and mental life experience cannot be isolated and that prolonged, unresolved emotions lead to physical reaction. Therefore, Homoeopathic treatment has a better chance to relieve the symptoms of Schizophrenia giving the patient an improved awareness of the disease and a deeper self-consciousness, thus contributing to enable the patient a healthier life quality.

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A MICROWAVE IRRADIATED FACILE AND CONVENIENT SYNTHESIS OF 6-PHENYLINDOLO[2,1-A]ISOQUINOLINE DERIVATIVES

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Abstract
Diversity-oriented, uncomplicated, proficient, microwave irradiated novel green procedure is developed for the quantitative synthesis of medicinally significant 6-phenylindolo[2,1-a]isoquinoline libraries. The present process is more convenient and competent as compared to other conventional processes.

Introduction:

Over the years, scientists have started investigate environmentally benign synthetic organic conversion. The green chemistry has concerned the concentration of the academia as well as industry. Research for finding other alternating reaction media, which can replacement, the harmful, toxic, and inflammable organic solvents, which pose a serious threat to the environment, is gaining much progress. In view with this perspective, the development of newer synthetic strategies with greener perspectives is indisputably appealing to accomplish more sustainable chemistry. In addition, if the new reaction media, catalysts and alternative energy resource can independently or in a synergistic approach can provide some additional merits on the reaction performance such as on the reactivity, catalyst efficiency, and catalyst reuse when applied, then this can certainly be very interesting.

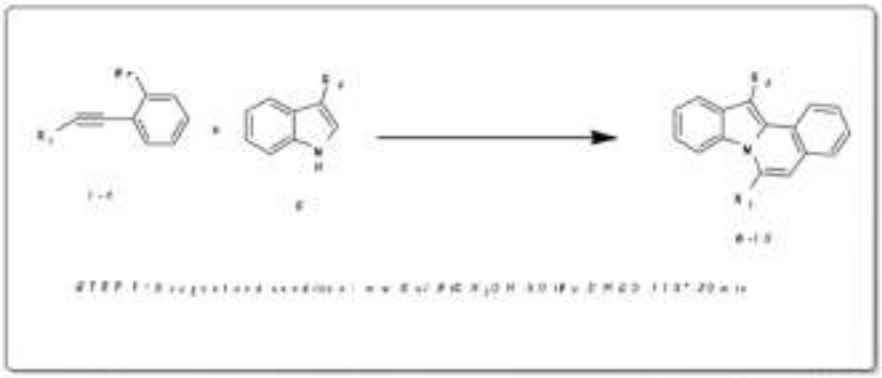
Microwave assisted chemical synthesis expansion is at the present time a well successful technique for synthesis of a variety of organic compounds. It has emerged as a powerful synthetic tool to speed up a wide range of chemical reactions. The remarkable results are obtained including remarkably cutting the required time, improving the yields, experimental simplicity, selectivity, purity of the desired products and easy work up etc. were obtained giving clear suggestion on the potentialities of this technique than reactions under conventional heating.

Extensive studies have demonstrated that isoquinoline and there analogues exhibit various pharmacological activity including Anticancer, Antibacterial and Antiinflamatory. The unique structure together with a potential therapeutic function of isoquinoline has sparked much interest among synthetic chemist. We have synthesized tetracyclic isoquinoline derivatives to optimize their biological activities.

RESULTS AND DISCUSSION:

In the first step commercially available 4-iodoanisole was reacted with 2-methyl-3-butyne-2-ol, palladium catalyst, copper iodide, triethylamine as base and solvent under nitrogen atmosphere at room temperature. 2-iodobromobenzene reacts with different phenylacetylene derivative under Sonogashira coupling condition to form the 1-bromo-2-(phenylethynyl)benzene derivatives under N2 atmosphere. The 1-bromo-2-(phenylethynyl)benzene derivatives reacts with 3-methyl indole, through C-2 arylation in the presence of benzotriazole methanol as ligand to form 6-phenylindolo[2, 1- a]isoquinoline derivatives.

Final synthesized compounds



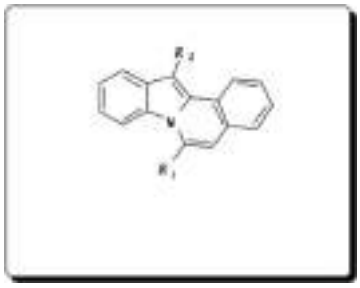


Table-I

Compound	R1	R2	Yield%
6	4-methoxyphenyl	-methyl	44
7	4-methylphenyl	- methyl	46
8	4-fluorophenyl	- methyl	45
9	2-pyridyl	- methyl	45
10	Phenyl	-hydrogen	54

CONCLUSION: In summary, we have reported an exceptionally efficient green approach for the synthesis of of 6-phenylindolo[2,1-a]isoquinoline via microwave-assisted synthesis. This synthetic approach has a variety of excellent characteristics such as excellent yields, less reaction time, recyclability of catalyst and operational simplicity, ultimately foremost to a diverse array of medicinally-relevant of 6-phenylindolo[2,1-a]isoquinoline ring systems.

EXPERIMENTAL

Commercially available reagent grade chemicals were purchased from Sigma-Aldrich or Spectrochem Pvt Ltd and were used as received. Melting points were taken in open capillaries on an electrically heated melting point apparatus complab and are uncorrected. IR spectra were recorded on perkin- elmer RX-1 spectrophometer using KBr pallets. The FAB spectra were recorded using a beam of argon (2-8eV) on joel SX 102/ DA-6000 mass spectrometer, 1H NMR and 13C NMR spectra were

recorded on bruker DPX-200 (200 MHz for 1H and at 50 MHz for 13C) or DRX-300 (300 MHz for 1H and at 75 MHz for 13C) spectrometers using CDCl3, DMSO-d6 and CD3OH as solvent. Tetramethylsilane served as an internal standard in 1H NMR and CDCl3 in 13C spectra. Silica gel (60-120 mesh) was used for column chromatography while silica gel (230-400 mesh) was used for flash chromatography. TLC was run either on precoated silica gel 60F 254 and RP-18 F 254 (merck) or handmade plates. Detection of spots was done either by iodine vapors or spraying with 1% ceric sulfate in 1M H2SO4 followed by heating at 110ºC.

General experimental procedure for the Synthesis of 6-phenylindolo[2, 1-a]isoquinoline derivatives:

To the stirring mixture of copper iodide (5mol%), Benzotriazole methanol(10 mol%) the N-heterocycle(1mmol) and 1.1 equivalent of 2-haloarylalkyne was added and followed by addition of base potassium tertiary butoxide (1.4 eq), degassing with N2 atmosphere for 10 min. Then add Dimethyl sulphoxide (2 ml) by syringe, reaction mixture was heated to 110ºC in microwave until 2-haloarylalkyne had been completely consumed. The reaction mixture was extracted using ethyl acetate and water. Ethyl acetate layer was concentrated under reduced pressure. Crude obtained was purified by flash chromatography Hexane as eluent to give compounds (6-10).

6-(4-methoxyphenyl)-12-methylindolo [2,1-a] isoquinoline(6): Chemical formula: C24H19NO MW: 337, State: Yellow solid, MP: 145ºC, Yield: 44% , MS (ESI) m/z (M+H): 338.19 1H NMR(300 MHz, CDCl3): : 8.47-8.44(d, J=7.56Hz, 1Hz), 7.83-7.80(d, J=7.98Hz, 1H), 7.56-7.44(m, 5H), 7.10-7.07(d, J=8.46Hz, 3H), 6.97-6.95(d, J=7.8Hz, 1H), 6.53-6.50(d, J=8.7Hz, 1H), 6.45(s, 1H), 3.96(s, 3H), 2.91(s, 3H). 13C(CDCl3, 50MHz): : 160.28, 138.28, 131.52, 130.24, 129.33, 128.44, 12.25, 126.69, 126.19, 124.43, 121.04, 120.32, 118.06, 114.44, 114.28, 110.89, 105.45, 55.46, 11.89.

12-methyl-6-p-tolylindolo [2, 1-a] isoquinoline(7): Chemical formula: C24H19N, MW: 321, State: Sticky oily, Yield: 46%, MS (ESI) m/z (M+H): 322.13 1H NMR(300 MHz, CDCl3): : 8.48-8.45(d, J=7.98Hz, 1H), 7.83-7.81(d, J=7.92Hz, 1H), 7.54-7.36(m, 8H), 6.97-6.92(t,J=8.31Hz, 1H), 6.52-6.46(t, J=8.61Hz, 2H), 2.92(s, 3H), 2.54(s, 3H).

6-(4-fluorophenyl)-12-methylindolo [2, 1-a] isoquinoline(8): Chemical formula: C23H16FN, MW: 325, State: Oily, Yield: 45%, MS (ESI) m/z (M+H): 326.07, 1H NMR(300 MHz, CDCl3): : 7.71-7.51(m,8H), 7.36-7.18(m, 5H), 2.42(s, 3H). 13C(CDCl3, 50MHz): :14.10, 135.70, 133.11, 132.99, 132.50, 129.45, 127.07, 125.66, 125.03, 123.42, 122.68, 120.16, 119.34, 113.66, 110.42, 9.59.

12-methyl-6-(pyridin-2-yl)indolo[2,1-a]isoquinoline(9): Chemical formula: C22H16N2, MW: 308, State: Oily, Yield: 45%, MS (ESI) m/z (M+H): 309.15, 1H NMR(300 MHz, CDCl3): : 8.65- 8.64(d, J=4.02Hz, 1H), 7.70-7.58(m, 7H), 7.34-7.22(m, 5H), 2.17(s, 3H)

6-phenylindolo[2,1-a]isoquinoline(10): Chemical formula: C22H15N, MW: 293, State: Oily Yield: 54% MS (ESI) m/z (M+H): 294.4 1H NMR(300 MHz, CDCl3):: 8.26-8.24(d, J=7.35Hz, 1H), 7.83-7.80(d, J=7.80Hz, 1H), 7.60-7.47(m, 8H), 7.39(s, 1H), 7.25-7.20(t, J=7.26Hz, 1H), 6.94-6.89(t, J=7.38Hz, 1H), 6.56(s, 1), 6.48-6.45(d, J=8.16Hz,1H).

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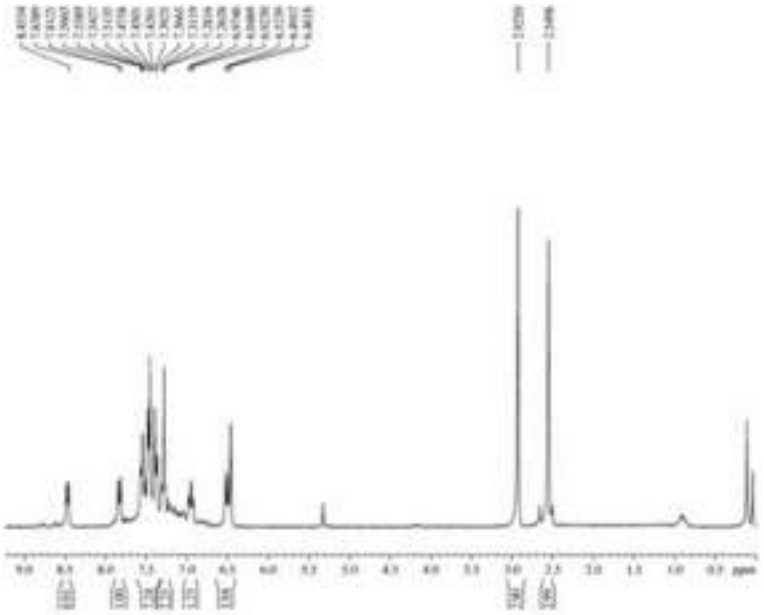
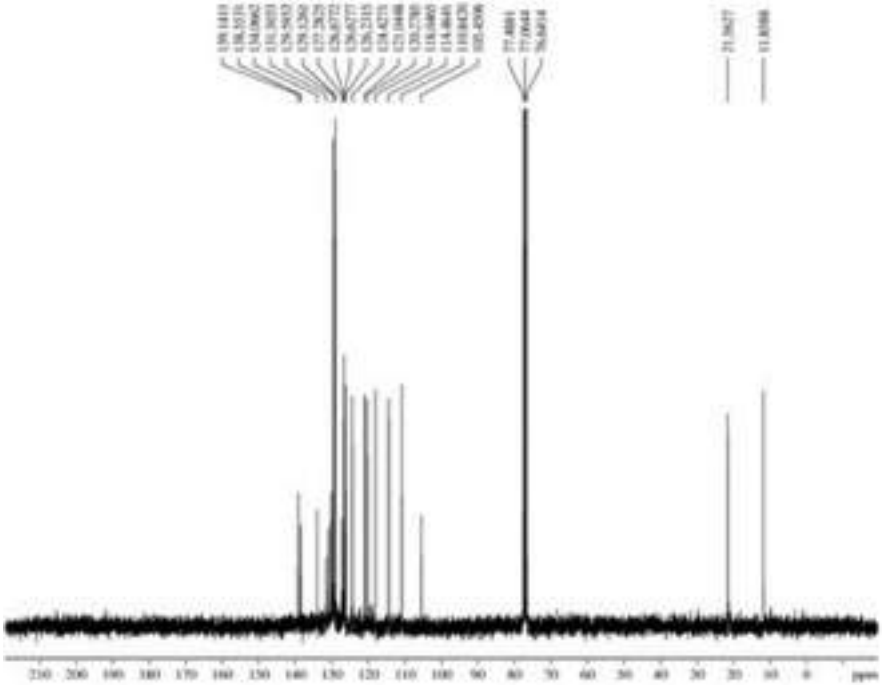


1H NMR of compound 7



13C NMR of compound 7

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TECHNOLOGICAL REFORMAND ITS IMPLICATIONS FOR INTERNATIONAL BUSINESS DEVELOPMENT

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Abstract
The significant use of technology for production is the reality of today's developed world because financial development, trade openness, and technological innovation have a causal relationship that affected trade performance those consequences for the growth and development of countries. Generally, everybody identifiesthe nature of international business and international trade is the same but international trade may be part of international business. The term international business summation of international trade and a wide variety of other ways in which firms operated globally. It may start with lower trade barriers that possess theoretical and practical possibilities of globalization. Technology is a prosperous tool that makes possible effective global marketing. However without technology, international business would be slow. The author adopts a multidisciplinary approach based on secondary data. The paper makes to attempt the implicationsof modern technologies for sustainable development and prospects of International Business
Keywords: Trade Openness, Growth, and Development, Globalization, International Business

Introduction

Deals occurring inside geological limits are alluded to as inward business or home exchange. Manufacturing and trade beyond the boundaries of one own country are known as international business. The basis of international trade theory highlights the importance of technological innovation in explaining a country's international competitiveness except for the classical theory because classical economists believe that labour is the only factor of production and capital is taken as constant during the production process However,trading relationships heavily influence patterns of production and consumption, and the use of technology. The Heckhscher-Ohlin model, enriched to account for endogenous factor accumulation, predicts that trade amplifies initial differences in factor endowments and comparative advantage. In the absence of capital mobility endogenous growth models carry even more discouraging implications for laggard economies. In this case trade between parametrically distinct economies reinforces the position of the technological leader, intensifies the initial pattern of comparative advantage, and increases the disparities in factor endowments to further uneven growth. The significant use of technology for production is the reality of today's developed world because financial development, trade openness, and technological innovation havea causal relationship that affected trade performance that consequences for the growth and development of countries.

Objective of the Study

1. To examine the application of modern technologies for the sustainable development of international Business
2. To evaluate the implications of modern technologies for sustainable development andprospects of International Business

Source of Data and Methodology

The present study is based on the collection of data from secondary sources. However, useful data has been applied to authenticate the study to make it more useful and practicable. Secondary data is obtained from various published and unpublished records, books, magazines, and journals. The paper makes to attempt to investigate the role of technological improvement inthe sustainable business environment and also adopts a multidisciplinary approach to examine the implications of technologies for international business.

The Goal of International Business

The key sense behind the worldwide business is that the nations can't deliver similarly well or economically all that they require. This is a result of the inconsistent conveyance of regular assets among them or contrasts in their efficiency levels. The accessibility of different variables of creation like work, capital, and natural substances that are expected for delivering various labor and products contrasts among countries. Besides, work efficiency and creation costs contrast among countries due to different financial, geological, and political reasons. Because of these distinctions, it is entirely expected to find one specific country in a superior situation to deliver better quality items at lower costs than different countries can.

Scope of the International Business

Worldwide business is a lot more extensive than global exchange. It incorporates global exchange as well as a wide assortment of alternate manners by which the organizations work universally. Significant structures of business activity in global business are as per the following.

Merchandise exports and imports: Merchandise exports and imports, also known as trade in goods, include only tangible goods and exclude trade in services,

Exports and imports of service:export and imports of services comprise trade in an invisible item.It is a result of the elusive part of administrations. A wide assortment of administrations are exchanged universally and these include: the travel industry and travel, boarding and housing, diversion and entertainment, transportation, proficient administrations such as training, recruitment, consultancy, and research, and communication like postal, telephone, fax, courier and other audio-visual services, construction and engineering, marketing like wholesaling, retailing, advertising, marketing research, and warehousing, educational and financial services

Licensing and franchising: Allowing one more party in a far-off country to deliver and sell products under your brand names, patents, or copyrights instead of some fee is another way of entering into international business. It is under the authorizing framework that Pepsi and Coca-Cola are delivered and sold all around the world by neighborhood bottlers in outside nations. Diversifying is like permitting, yet it is a term utilized regarding the arrangement of administrations. McDonald’s, for example, works with drive-through eateries the world over through its diversifying framework.

Foreign direct and portfolio investment: Foreign investment is one more significant type of worldwide business. Foreign investments include ventures of assets abroad in exchange for monetary return. Direct investment takes place when a company directly invests in properties such as plants and machinery in foreign countries intending to undertakethe production and marketing of goods and services in those countries. Direct investment provides the investor with a controlling interest in a

foreign company, known as Foreign Direct InvestmentAn organization, if it so wants, can likewise set up an entirely claimed auxiliary abroad by making 100 percent interest for investment in foreign ventures, and thus acquiring full control over the subsidiary's operations in the foreign market. Portfolio investment of foreign institutional investment that acquires shares and provides loans giving credits to the last option, and procures pay via profits or interest on credits. Unlike foreign direct investments, the investor under portfolio investment does not get directly involved in production and marketing operations. It essentially procures pay by putting resources into shares, bonds, bills, or notes in an outside country or giving credits to unfamiliar business firms.

Significant Advantages of International Business:

Despite more noteworthy intricacies and dangers, worldwide business is critical to the two countries and business firms. It offers them several benefits. The growing realization of these benefits over time has been a contributory factor to the expansion of trade and investment amongst nations, resulting in the phenomenon of globalization. Some of the advantages of global business to the countries and business firms are discussed below.

- Earning foreign exchange
- More efficient use of resources
- Improving prospective growth and employment opportunities
- Way out to intense competition in the domestic market
- Improved business vision

Modern Technology and the Evolution of International Business

The history of international business began with the development of Human Civilization.International trade has a rich history beginning with the deal framework under this the trading of factors of production and goods and services at least two gatherings without the usage of money. It is the principal type of trade. People and organizations bargain goods and services with one another in light of identical appraisals of the price of merchandise goods. The barter systemwas replaced in the 16th and 17th Centuries by the theory of Mercantilism which was created by some group of mercantilists. The 18th Century saw a shift toward liberalization. It was in this period that Adam Smith and David Ricardo which stands true even today. The liberalized international business was based on free trade. Adam Smith developed the absolute cost advantage principle, under this he directly criticize the theory of Mercantilism that was based on restricted trade. He argued that the growth and development of the nation does not depend upon the accumulation of gold, it also depends upon arability of goods and services for the future generation. The absolute advantage principle givesan idea about bilateral trade. Adam Smith believed trade between two countries will be possible when one country has specialization in the production of one good and other countries have specialization in the production of other goods. Another hand David Ricardo developed the comparative cost advantage principle that was also based on free trade but he argued that trade between two countries does not depend upon absolute advantage because it is possible one country may have absolute specialization in the production of both the goods, in this case trade depends upon comparative cost difference of two countries. The invention of money led to the end of the barter system and international businesses adopted a cash base system but these days business was done without the help of technical support. It was tremendously complex to conduct smooth business as compared technology base system. Today the comprehension of open trade and its factors are vastly improved perceived. The context of global markets has been guided by the understanding and theories developed by economists based on Natural

resources available with different nations which give them the relative benefit, Economies of Size of huge scope creation, innovation regarding web-based business as well as product life cycle changes in tune with the advancement of technology as well as the financial market structures.Nowadays the amount of information that is transferred through smartphones and the Internet is very huge. Latest innovations in innovation have opened doors for global trade for small and medium-sized companies.Communicating through Mobile Phones and Smart Phones is essential for owners of small and medium-sized companies. For keeping the correspondence channel just getting started interchanges and client relations cellphones have turned into a need. Inventions in technology have helped small and medium-sized businesses in marketing through different kinds of media where the restrictions of print ads are minimum. Marketing through the Internet now involves setting up websites and selling products and services online. Promoting through Email has additionally helped in getting more openness to the items and administrations the organization is giving. Versatile showcasing and Application advertising are additionally acquiring notoriety for business-related promoting purposes. Efficiency has likewise expanded with the most recent advancements in innovation. Keeping the employees more focused on work and tracking the manufacturing operations has become easy with various developments in technological inventions. Providing the right amount of tools that are having a technological advantage helps increase productivity factors.The use of technology has made businesses and customers closer in many areas. Email and Social Media are being used for answering queries related to products and services with customers. Giving customers all possible ways to contact the company is easy with the latest technologies and applications over the Internet.

Implications of Modern Technology for International Business

Technology isuseful to worldwide business. It may be stated that lowering trade barriers has made globalization of markets and production a theoretical possibility, technology has made it a practical reality. Technology is facilitating international business in at least six ways telecommunications, Transportation, Globalization of Production, Globalization of Markets, E-Commerce, and Technology Transfer.In the past decade,innovation has developed dramatically and has impacted our ordinary lifestyle and influenced pretty much every industry, including worldwide business. Innovation eventually makes flourishing global exchanges and organizations conceivable, and without innovation, worldwide business would be sluggish, drawn out, and time-consuming. Technology is not generally saved for explicit nations or certain gatherings. Nowadays, even the normal individual approaches some type of innovation, which has supported the mechanical and global business revolution. Technology plays had a significant impact on the creative processes we know today and related cycles, for example, creation arranging, monetary preparation, and showcasing. On account of innovation, organizations might have created and assembled plants in a few distinct nations and you can pick where to make your assembling plant in light of where materials are effortlessly obtained and where talented work is reasonable.The globalized market began growing its roots when it became more affordable and workable forthe transportation and marketing of goods and services in different countries. The Internet is viewed as a minimal-expense market globalization network in an electronic structure. Due to online entertainment, TV, and the low costs associated with moving items all over globalization, there has become a sort of convergence in consumer preferences and tastes that createda global culture in which different countries begin having similar lists of wants and demands.Technology has also played a significant role in online banking, regardless of where you're situated on the planet has genuinely become more straightforward than at any time in recent memory, and there are countless choices accessible to you! You can utilize your charge card, installment

arrangements, for example, the famous PayPal, as well as computerized monetary standards like Bitcoin in certain cases. Moreover, trade rates and installment expenses have become lower, making shopping globally simple and reasonable.

Technological Improvement and Prospects of International Business

Technology is always developing and things in the worldwide business scene couldn't at any point remain something similar for extremely lengthy. While it is consistently difficult to foresee the future precisely as a business expert. We expect to see trends in international business learning more towards service than products, the inclusion of digital currencies as forms of payments, and as on eco-friendliness and transparency. If you are interested in getting involved in international business, remember that technology is your friend. The more you understandtechnology; the better can use it to your business advantage.

Conclusion

The significant use of technology for production is the reality of today's developed world because financial development, trade openness, and technological innovation have a causal relationship that affected trade performance those consequences for the growth and development of countries. Technology is useful to worldwide business. It may be stated that lowering trade barriers has made globalization of markets and production a theoretical possibility, technology has made it a practical reality. Technology is facilitating international business in at least six ways telecommunications, Transportation, Globalization of Production, Globalization of Markets, E-Commerce, and Technology Transfer. Worldwide business is a lot more extensive than global exchange. It incorporates global exchange as well as a wide assortment of alternate manners by which the organizations work universally. Technology is always developing and things in the worldwide business scene couldn't at any point remain something similar for extremely lengthy. While it is consistently difficult to foresee the future precisely as a business expert. The trends of international business learning more towards service than products, the inclusion of digital currencies as forms of payments, and as on eco-friendliness and transparency.

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DATA ANALYTICS IN HIGHER EDUCATION IN KASHMIR VALLEY-AN OVERVIEW

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Abstract:

Big Data provides platform to the higher institutions to use Information Technology as resources to improve quality of education and help students in achieving the high degree of completion, and to improve student the outcome. This paper highlights the big data attributes which are relevant to educational institutions and establish the factors to limit adoption and use of big data by for higher learning in institutions. This paper is to highlight challenges faced for implementation of Data analytics. The study has been done through a desk search and sources of literature including scientific research journals and reports have been thoroughly reviewed. Various Online journals found over internet were also viewed and examined using searching by Google Scholar. The paper concludes Big Data Analytics and its relevance in Educational systems with a view of helping instructional establishments in Kashmir valley to undertake Big Data Analytics.The paper recommends that academic establishments in Kashmir valley, to make investments in analytics programs and in developing expertise with a purpose to get price of large facts.

Keywords: Big Data, Real-Time decision making tools, Analytics, Higher Education, analytics program.

Introduction:

In higher education, Big Data Analytics can be the forerunner of transformation as against the earlier approach of using analytics to just determining individual and class performance.

The Information Systems (IS) in education is under tremendous pressure to address the growing social demands and global changes. For example, IS education must be adapted in all workplaces in order to embrace IT related skills and ability to innovate. Students' concerns about job availability impact their intentions to choose Information Systems as a major (Zhang, 2007). It is challenging for IS educators and researchers to respond effectively and in time to the social demands and global changes (Lasi et al., 2014; Daniel, 2015). Fortunately, the advancement of data analytics has brought unique opportunities for dealing with these rapid changes (Daniel, 2015; Nguyen, Gardner, & Sheridan, 2017).

The data analytics help to choose right information at a right time .The higher education is a vast area for the utilization of the analysis of data as it comprises of learner data,faculty data and administrative data Educational structures, together with learning control structures and path authoring systems, generate enormous datasets all through every day operation .Massive data generated by educational systems are becoming more and more available for collecting and mining. This immense amount of data has heightened the need for well-established data management and analytics in the learning and teaching environment (Siemens and Long,

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2011; Greller and Drachsler, 2012; Nguyen, Gardner, and Sheridan, 2017). The educational datasets, specifically, contribute to the evolution of getting to know theories, learning help, getting to know layout, learner feedback, and the development of learning support systems.Pistilli, Arnold, and Bethune (2012) show the use of data analytics for improving student success by producing real-time feedback to students.

From the attempts to apply data analytics in education, new disciplines have emerged called learning analytics, academic analytics, and educational data mining. While all of these concepts are related to the use of data analytics in education, they are completely overlapping. Learning analytics focuses on the application of data analytic techniques and tools for purposes of understanding and enhancing learning and teaching, whereas academic learning aims for the purposes of supporting institutional operations and decision making. Besides, educational data mining focuses on the development and evaluation of data analytics methods for exploring educational data. As a newly emerged area of research and practice, a variety of terms have been raised and adopted t describes similar concepts and processes (Nguyen, Gardner, and Sheridan, 2018b). However, the clarification and consensus of these terms are not yet understood fully (Barneveld, Arnold, and Campbell, 2012; Nguyen, Gardner, and Sheridan, 2017, 2018b). Various disciplines have emerged as a result for the data analysis over education .The terms like Learning Analysis ,Academic Analysis (Barneveld, Arnold, and Campbell, 2012; Cooper, 2012 and education data mining (Zouaq, Joksimovic, and Gasevic, 2013; Baker and Inventado, 2014; Sin and Muthu, 2015)are well known. However their linkage has been researched several times by the researchers.

Objective:

Following are the specific objectives which guide the paper:

1. To highlight the attributes of data which are relevant to educational institutions.
2. To establish the factors to limit adoption and use of big data by for higher learning in institutions.
3. To highlight challenges faced for implementation of Data analytics.

Methodology:

This paper is based on a desk research .The articles, papers and journals accessed through internet using Google scholar ,Research gate and other online articles have been taken has the source of the information.

Need for Data analysis in Higher education in Kashmir valley

Many academic institutions are moving to cloud architectures and with the increased use of digital devices by users in these ecosystems is leading to a situation more data is being collected in these institutions than ever before, creating considerable opportunities for using Big Data to analyze and correlate information that enhance decision making(Marsh,O., Maurovich-Horvat, L., & Stevenson, 2014). Big Data presents to Institutions a good framework for efficiently utilizing the vast array of data in shaping the future of higher

The Seybold Report
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education(Görnerup, O., Gillblad, D., Holst, A., &Bjurling, B. ,2013).For higher education, access to the data and the analytics allows for peer and internal evaluation**.** The higher education using data analytics can collect information about learners,educators to evolve the system of learning and give higher education a new edge.The educational system is increasingly coming under pressure to respond to economic, political and social changes such as the need to increase the number of students in certain disciplines, and training graduates with skills and attributes required by industry (Görnerup, O., Gillblad, D., Holst, A., &Bjurling, B. 2013).For these establishments to be responsive to those changes, it is vital that they use Information Technologies inclusive of Big Data which has sizable opportunities in better schooling. Educational information has in the beyond been accumulated through conventional tests mainly but is now an increasing number of being accrued through online academic structures, instructional games and simulations main to lots of data, which might be in turn growing possibilities for big data analytics...By using data analysis an institute can

1. Improve its branding by improving the ranking of the institution as the data collected can be used in policy and decision making.
2. In order to minimize the drop out ,the data analysis can be used for student retention.
3. Data collected can be used to save resources and time for institutional operations.

Kashmir valley consists of many government and non-government institutions under higher education which impart knowledge to the learners. The traditional way of teaching learning and process had earlier been whiteboard .But as per the growing needs of society and pressure by the Government department of higher education run by the government strictly puts higher institutions mandatory to have National Assessment and accreditation from the council for the ensuring quality education.

Factors and Implementation of data Analytics

Since the cost of Big Data and Analytic tools is coming down drastically, they are becoming easier to use. Therefore it opens the opportunities to use these tools by educational institutions to achieve better outcomes and efficient use of the resources. Expectations of accurate practices of duty via stakeholders and growing demands for proof based totally guidelines to aid selection-making are among the factors which are contributing to the emergence of Big Data in higher education. Therefore, we can say that finding technology that will help in big data analytics and the relevant technological skills for example data scientists is the initial step. This is because data can no longer be viewed as a back office accounts settling tool but rather a real time decision making tool that can be used by data scientists to derive useful information that would otherwise remain hidden in the terabytes of data (Drigas, A. S., &Leliopoulos, P. 2014).

The decreasing costs of big data storage, open source software such as Apache Hadoop, NoSQL databases ,network bandwidth and on-demand access to resources through cloud computing are bringing these complex technologies close to nearly everyone(Ohri, A. 2015). In addition with the growing pressure of society, economy the need for data analysis has increased .It has also being an important factor to its implementation.

The Seybold Report
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The big data analysis is implemented on the following levels:

1. Administrators: it helps them to check Academic performance, provide efficient resource allocation and help and support ongoing efforts of the institutional up gradation.

2. Students: It helps students to provide feedback about their classes, studies, teachers and other administrative works and helps them in grasping learning platforms and likewise plan learning activities

3. Teachers/Lecturers: It helps them to helps students which face problems, improve their teaching methodology, and provide instance to student feedback.

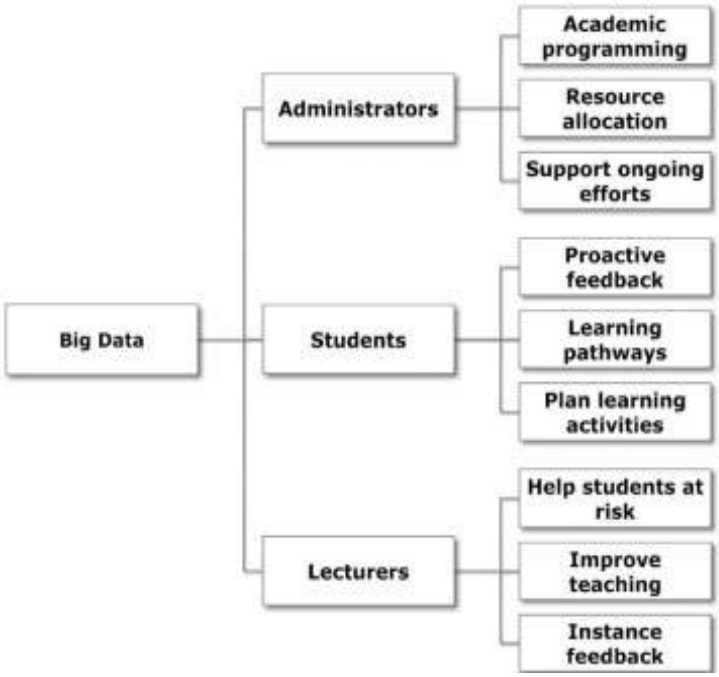

Fig1. Implementation of big data analysis at higher education Adapted from (Ben Daniel, 2014)

Challenges in The implementation:

There are various challenges for the use of big data analysis in higher institutions of kashmir valley .The biggest challenge is the knowledge of big data which is very less confined to the stakeholders of IT(Information technology) and the people in such field are less yet emerging. The second challenge is the collaboration and co-operation between different departments as it is an institutional work. Furthermore, most of institutional data systems are not interoperable, so aggregating administrative data, classroom and online data can pose additional challenges (Daniel &Butson, 2013). However, there is still a divide among folks that understand how to extract facts and what facts are available, and people who realize what facts are required and how it'd nice be used, all which make collaboration difficult.

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Furthermore, as Romero and Ventura (2010) note, analytics has traditionally been difficult for non-specialists to generate (and generate in meaningful context), to visualize in compelling ways, or to understand, limiting their observability and decreasing their impact (Macfadyen& Dawson, 2012).

Conclusion:

This paper has explored Big Data Analytics and its relevance in Educational systems with a view of helping instructional establishments undertake Big Data Analytics. The paper has explored the attributes of large statistics which are applicable to educational institutions, the elements influencing adoption of big facts and analytics in educational institutions and checked out the elements hindering use of big information in those Institutions. Big Data is a ways greater than surely gathering information and generating reports.

It is a strategic useful resource that can be used to enhance academic high-quality. This paper recommends that academic establishments in Kashmir valley, to make investments in analytics programs and in developing expertise with a purpose to get price of large facts. Big Data allows reducing charges and enhancing education by using permitting administrators make decisions which might be more unique and presents instructors valuable gear to select from for an expansion of learning. The Big Data approach to statistics control will assist lessen problems associated with traditional facts evaluation; and this has the potential of enriching the schooling machine with new getting to know methods, and making choice making through policy makers more efficient and focused.

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MOBILE PHONE: FRIEND OR FOE DURING THE ACADEMIC JOURNEY

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ABSTRACT: In this examination, we inspected the effect of cell phone utilization, during class address, on understudy learning. The selection of the cell phone by youngsters has been a worldwide marvel as of late. It is presently a basic piece of youths' everyday lives and is for the lion's share, the most well known type of electronic correspondence. Truth be told, the cell phone has abandoned a mechanical device to a social device. This paper investigates the effect of the cell phone on youth peer connections, on family connections and on the institution. Young individuals utilize the cell phone in positive manners to sort out and keep up their interpersonal organizations. Notwithstanding, there are additionally contrary effects on youthful people groups' friend connections. These can incorporate exclusion what's more, digital bullying. Demographic instruments are utilized to pick up bits of knowledge into how understudies esteem different cell phone applications and devices.

Keywords: Technology, radiation, Hybrid mode, students, Addiction,

Scope of future Research

This research, with its blended technique for examination, has discovered that the accessibility of such registering gadgets to understudies resembles a twofold edged blade and accompanies the two positives and negatives. In the previous scarcely any years, inferable from uncommon accomplishments in mechanical progression, countless processing gadgets have gotten versatile. In this way, they can be handily gotten to even outside conventional study hall settings. Henceforth, it is normal that the versatile idea of these gadgets and their high openness will considerably affect how understudies use them.

While these gadgets can be utilized for scholarly work along these lines influencing their scholastic execution, at long last they likewise offer various interruptions, which can meddle with understudy scholastic learning. Among the indicated benefits offered by the gadgets to the scholarly learning and its results, the rundown is a long-extending one and has been summed up in this closing segment.

The future scope of this research paper was to see better the effect that the utilization of cell phones in the homeroom/address theater has on the scholastic execution of first-year college understudies. The essential research was done through the assortment of data by means of an online study. In any case, this methodology considered a to be level of constraint as not all the understudies, who were conveyed the overviews, reacted, and among the respondents, some decided to miss a couple of inquiries. The self-determination of inquiries among respondents lines up with the way that couple of understudies referenced they couldn't see all the inquiries completely shows that the

examination confronted some degree of constraint. This segment diagrams five potential expansions to this exploration that could help further comprehension of the issue.

To utilize a contextual investigation way to deal with examine

A contextual investigation approach investigating the encounters and convictions of the principal year understudies would additionally help recognize the effect of such gadgets on their scholastic learning. Such an intensive and top to bottom investigate the exploration would give a progressively comprehensive appreciation of the principal year understudies' getting, convictions and encounters. Such an information assortment technique could furthermore incorporate perceptions drawn from and bits of knowledge into the meetings with the principal year understudies, extended years, covering various groups of first-year understudies.

Inside and out, a future heading of study and examination into the theme, as referenced above, would help recognize the potential advantages that cell phones offer to the scholarly learning of understudies. Such information would help the field of instruction by helping offer understudies better scholarly assets, by coordinating the utilization of cell phones in their learning procedure in the study halls and talk stages.

Research Outcomes

Result shows that most of the youth is suffering from mental and physical health issue like anxiety, weakness of eye-side, dissatisfaction and many more. Students are getting more dependent on technology and finding less interest in human interaction. They are just lost into their gadgets and avoid to take proper rest. Students get distracted by various functions of the technology like Social sites, gaming etc. These things in limit is good but over the limit can be a cause of depression. Oscitation of mobile security can be a big issue in students life as their is many hacking software's available to access the personal information. The research state that the amount of time for using mobile should to be limited for students to alter their performance and health.

INTRODUCTION

An expanded utilization of figuring gadgets has been supported in the homeroom with the expectation of improving understudy learning and upgrading instructing rehearses. The current research writing recommends positive results for understudy commitment and understudy inspiration when 1:1 access for registering gadgets is given in study hall settings . In any case, there is conflicting outcome detailing for understudy accomplishment through the usage of registering gadgets. Consequently, there is a need to comprehend the potential effects of these gadgets for understudy results. In the previous hardly any years, many processing gadgets have become versatile in this way permitting them to be available outside conventional study hall settings. Thusly, it is characteristic, that the portable idea of these gadgets and their availability ought to substantially affect how understudies use them and how they influence the scholarly presentation of understudies.

The effect of the cell phone on learning is sweeping and extensive. Regardless, at the start, it is the naturalization of trend setting innovation inside the homeroom setting for understudies. This implies understudies who may as of now be grasping innovation will become accustomed to

utilizing it for learning and advancement purposes, rather than just games. Upgraded learning materials, for example, the utilization of dynamic visual mediums like pictures and recordings and gifts are had conceivable through the effect of the cell phone in the homeroom.

The impact of utilizing the cell phone in understudy adapting likewise has results past the school – understudies are utilizing apparatuses they will use in their work, in this way preparing the future during their tutoring itself.

Be that as it may, what considers realizing on a cell phone? Whenever a cell phone, for example, a tablet, portable or PDA, PC or Chromebook is utilized to help in instructing or learning of the homeroom educational plan, it very well may be considered learning on a cell phone. This may include everything from perusing course materials on the cell phone to playing instructive games on the cell phone, to noting assessments on the cell phone.

The utilization of the cell phone in the study hall can without much of a stretch be coordinated into the most customary and antiquated homeroom effectively, with the venture of an underlying beginning up cost and some preparation for the two instructors and understudies.

The effect of the cell phone on understudy learning is in this way as far reaching and broad as its utilization inside the study hall or instructive establishment.

The impact of the cell phone on understudy's and understudy learning is very expansive. With the development of training innovation and its inescapability inside the instructive environment, the effect of the cell phone on understudy learning is significant. Broad research has in this way been led about the effect of the cell phone on understudy learning.

The performance of students in their studies has been poor. Execution of an understudy regularly relies upon how genuine he is with his investigations. What's more, this may not be detached with the understudy's ownership of cell phones, among other diverting components.

Scholastic accomplishment is the result of instruction — the degree to which an understudy, instructor or foundation has accomplished their instructive objectives, scholarly execution is the capacity to contemplate and recollect realities and having the option to convey your insight verbally or on paper or its how understudies manage their investigations and how they duplicate with or achieve various assignments given to them by their educators.

A cell phone (likewise called versatile cell phone, or cell) is an electronic gadget utilized for two-way radio media transmission over a phone system of base stations known as cell locales. The root of cell phones can be followed back to the late forties (1940s). The idea of the cell phone was created from the development of a radio utilized in a cab, police-taxis, ambulances and different vehicles that pre-owned two-route radio to speak with each other or a principle central station. In 1960's cell phone innovation was accessible, yet the 'get' was that the versatile client needed to remain inside a specific communicate zone.

We are currently in the third era, cell phone which we can utilize our telephones to do numerous things, for instance: content informing, web and making calls any wherein the world. Cell phones

have changed the manner in which we live our lives and to numerous the possibility of a world without voice calling, content informing and versatile web get to is an unsetting one.

As indicated by Shreiner (2012) mobile phones present new chances and difficulties for understudies. Alongside their books and school supplies, numerous understudies make their excursion to class with their cell phone. The nearness of wireless gives a large group of alternatives and difficulties for the present understudies.

Cell phones can be a useful scholarly apparatus, or a pernicious scholastic disturbance relying on the demeanor and use example of the understudy proprietor.

In the ongoing past, it has been seen that there has been a genuine decrease in scholastic execution of understudies in the scholastics outer assessments. The pattern influences the instructors just as guardians who bear the monetary obligations of the understudies. Some portion of the fault (for horrible showing) has been laid on the entryway of cell phone use. There are various negative and unfortunate effects and impacts of cell phone on understudies' exhibition. As indicated by Ansari (2004), these incorporate the wastage of time and cash, its vibration and utilize might be hurtful to wellbeing.

With phones, cheating has turned high. Understudies can content responses to tests, step through pictures of examinations or quest the web for answers. Regardless of rules about mobile phones, understudies despite everything use them during school hour . A few instructors offer zero to any understudy got with a telephone during an assessment. As indicated by (Watson 2006), many accept that the understudies are cheating in the event that they have mobile phone during a test.

Taking into account this, partners in training are stressed by the threat that the terrible showing of understudies presents. To be sure, they are worried that the fate of this incredible country is in question. This examination will, along these lines; research the impacts of cell phone use on scholastic execution of understudies.

REVIEW OF LITERATURE

There are numerous investigations which propose that cell phones are affecting our childhood's training and their evaluations gravely. Mobiles are not in any event, affecting the adolescent's training it additionally influencing the school's condition. In an article on web sakazaki4693 (2009) [HYPERLINK "" \l "sakazaki4693" 1] proposes that cell phone ought to be restricted in schools as understudies consistently appears to glance occupied in short message administration (SMS) mixed media message administration (MMS) taking photos of companions and personnel even without knowing them and some more. It burns through such an extensive amount their time. In an exploration paper Olofinniyi OE et al. (2012) [HYPERLINK "" \l "OEO12" 1] prpposed that mobiles telephones are affecting auxiliary schools' Academic execution and they inferred that mobiles are not affecting their exhibition yet additionally presenting some negative propensities in studs like utilize versatile during address or in library which coming up short on their presentation, so guardians and organization ought to debilitate thm to utilize cell phone.

Materials and Methodology

This research was led with an intend to discover the parts of cell phone use among Pakistani clients. The motivation behind this examination was to find that how cell phones are affecting the evaluations and instruction of understudies. The system of poll was utilized to gather the reactions. The understudies of colleges and universities were taken as populace with the method of straightforward arbitrary inspecting. From the chose populace 100 understudies were chosen as test out of which 80 understudies reacted back hence the reaction pace of this examination is 80%. And afterward SPSS 20 was utilized to examine the gathered information.

SOME AREAS WHERE MOBILE IS NOT GOOD FOR HUMANS

A. Health issue due to Mobile Phones

There are sure hurtful wellbeing impacts, which may be brought about by the unbalanced utilization of phones. As per present day inquires about, the most threatening issue is association between mobile phones and malignant growth. Despite the fact that the information stays questionable, most researchers concur that there is a sure danger from utilizing Phones to an extreme. It is accounted for, that individuals who chat on the telephone for a few hours daily are half bound to create mind malignant growth. The explanation behind this is the radio waves created by cell phones. It is determined, that the radio waves are not that much harmful for humans but daily using mobiles and being in aura of radio waves certainly influence the mind in instances of delayed effect. Late examinations report two sorts of mind malignancy may happen – glioma and acoustic neuroma. Aside from malignancy chance, cell phones impact our sensory system.

They may cause cerebral pains, diminished consideration, brevity of temper, rest issue and discouragement, for the most part among young people. Radio waves are by all account not the only explanation behind such side effects. It is the fact that the peoples, mostly youth like to communicate via phones and they like to make themselves more attractive towards their cellphones rather than interaction with persons. Today's youth is replacing human contact in an attempt to repay it by the technology and phones, this behavior of them surely makes them social influence but keep them apart from realistic fun and culture. Immaturity isn't a simple time of life, and around then a youngster is particularly powerless. In instances of inordinate cell phone use there is a chance of getting dependent on the telephone; this present reality appears to blur in correlation with hours-long visits and many messages.These perspectives cause mental issues, as individuals begin to feel awkward in vis-à-vis correspondence.

There are additionally different impacts that ought to be referenced. There is sure hazard for pregnant ladies and their youngsters, so they are firmly prescribed to decrease utilization of mobile phones. A few examinations give data about unsafe impacts of mobile phones on the male conceptive framework, so men ought not convey telephones in the pockets of their pants.

B. Impact of Radio frequency

Kids use mobile phones to sit in front of the TV, mess around, make calls, and send instant messages. Numerous more seasoned children and youngsters have their own phones, which they

are appended to every minute of every day. Their is some different risk for children as well as for adults.

Cell phones produce a kind of radiation that is known as Radio Frequency-Electromagnetic Radiation (RF-EMR), likewise alluded to as microwave radiation. There have been worries from established researchers about whether phones are sheltered. Malignant growth is a specific concern, yet since tumors take 10-20 years to create and kids' regular PDA use is a moderately late turn of events, there are a larger number of inquiries than answers. To peruse progressively about whether we ought to be stressed over mobile phone radiation by and large, read our article here.

Some studies that shows impact of radiation on students:

- In an investigation of wireless radiation noticed that the children suffer more than adults. The radiation's effect the child brain more as compared to any adult or teen. This is on the grounds that kids have relatively littler heads and cerebrums, yet get similar degrees of PDA radiation as adults. The American Academy of Pediatrics concurs, saying that "when utilized by kids, the normal RF vitality affidavit is multiple times higher in the mind and multiple times higher in the bone marrow of the skull, contrasted and cell phone use by adults."
- Another investigation found that individuals who start utilizing mobile phones (and cordless landline telephones) before the age of 20 are at a significantly higher danger of creating mind tumors than individuals who start utilizing these remote telephones as adults. This is a direct result of the closer vicinity of the wellspring of radiation to the cerebrum of children (they have more slender tissues and bones than grown-ups).
- Research likewise recommends that mobile phone presentation could influence youngsters' behavior. The kids in the examination who were hyperactive or had enthusiastic or conduct issues, incorporating inconvenience coexisting with different children, were significantly more liable to have moms who utilized PDAs during pregnancy. Subsequent to representing different variables that could influence conduct, the offspring of these moms were 80% bound to have social issues than kids whose moms once in a while or didn't utilize PDAs. In any case, this is hard to consider in light of the fact that moms who use mobile phones much of the time during pregnancy or after the infant is conceived, may give less consideration to their kids, bringing about the youngsters' terrible conduct. More research is expected to comprehend the connection between mother's mobile phone use and youngsters' conduct.

C. Phones an Addiction:

In a study found that the rate of students using phones and spending most of the time on their phones is increasing. While smartphones are used for many good things like for learning and communication, they are also can be used for many evil things. Understudies are discovering it ever-simpler to cheat and are turning out to be increasingly diverted.

An investigation distributed in the Journal of Media Education found around 97 percent of undergrads normally utilize their telephones in class for non-instructive purposes.Texting was

hailed as the fundamental wrongdoer, with roughly 90 percent of respondents guaranteeing it was their primary interruption in class.

The Education Advisory Board (EAB) even case telephones are "something other than an interruption" yet really "a dependence".

Their is also a word for one who use their phone additionally are ‘nomophobic’, and number of students using phones are being analyzed. As indicated by the Baylor study, 60 percent of undergrads confess to being nomophobic.

Being nomphobic is also a cause of anxiety.It was discovered that for some nomophobic understudies, removing themselves from their telephones caused significant levels of uneasiness. This nervousness could affect their learning considerably more seriously than utilizing their telephone.

RESULTS AND DISCUSSION:

Positive And Negative Effects Of Mobile Phones On Students

1. Accommodation

Decades back, brilliant cell phones were not as convenient as they are these days, so understudies relied upon PCs in the library to continue ahead with things. This hindered quick and significant homeroom look into. Cell phones today are easy to move around with, fusing a wide range of current innovation.

2. Simple entry To Info And Tech

Learning despite everything proceeds after the study hall. These telephones help understudies to have live information and updates as they approach their scholastic lives. Understudy commitment is better when innovation driven devices are banded together with to help learning and not the old fashioned strategies. Most present day specialists are imaginative to stay aware of the present innovation time.

3. Improved Security and crisis correspondence

Understudies can utilize their cell phones to advise their folks and gatekeepers regarding their present area. Guardians would now be able to screen the whereabouts of their children and it helps the decrease of the remaining tasks at hand of managerial staff who would've been called to move messages from guardians to their wards.

4. Social-tainment

These cell phones engage understudies. They use it to take a break from all their scholarly work while they unwind with great motion pictures or music. Games can likewise be played on it or in any event, surfing of the web.

5. Memory

During class work, these cell phones are valuable for taking pictures of troublesome outlines, live record clarifications from instructors e.t.c.

Must Read: Top 4 Amazing Tech Gadgets To Help You Study
This guides the understudies to return to the put away data at the ideal time. It wouldn't have been conceivable without a cell phone.

6. Correspondence
Clear as crystal. It very well may be utilized to hand-off data between at least two people at some random time.

7. Adjustment To A Modern World
Understudies that utilize this gadget help themselves to be comfortable with present day aptitudes. Since cell phones are key in a few professions, understudies with telephones are conceded an edge in the activity advertise.

8. Causes You Organize Yourself
Apparatuses like cautions, word reference, schedule, reference book, notes, watch are critical to making this a chance. It makes life simple for understudies.

9. Route
Guide applications on cell phones let you get to any area at whatever point you need.

10. A Delighted Student
These understudies are more joyful when their cell phones are close by. What's more, a graduate understudy will in all likelihood exceed expectations in school.

Negative Effects Of Mobile Phones On Students:
1. Interruption
While the telephones are valuable, they can accompany their own interruptions. A few understudies utilize these handsets during class or study hours, consequently no an ideal opportunity to peruse. The web, music, motion pictures, Snapchat, Instagram e.t.c. help this interruption.

2. Presentation To Wrong Contents
I'm talking understudies that wind up sexting, sharing naked pictures, or accessing a pornography site all for the sake of playing around with their telephones.

3. Wellbeing Risk
Studies have been discharged to discuss the association between radiation transmitted from the gadget and interminable wellbeing sicknesses like malignant growth and mind tumor. Lack of sleep from telephone utilization is likewise a reason for pressure, which in the long run influences your wellbeing.

4. Cyberbullying

Verbally abusing, Threats, Body disgracing still go on the web. Understudies are presented to this and it can wind up negatively affecting whoever is included.

5. Assessment Malpractice

Answers that should come directly from the understudy's mind can emerge out of their telephone. Each school doesn't approve misbehavior, so such an understudy can be removed, henceforth, the youngster's training is influenced.

6. Cost Of Purchase

Most telephones are sold at a significant expense and most understudies do everything conceivable to have the option to manage the cost of them. Regardless of whether it requires including themselves in taking to get that going. Information membership is in some cases exorbitant also, which is a weight on these children.

7. Decrease In Social Skills

It hoses socialization. Understudies that live the me-and-my-telephone life once in a while possess energy for companions. They like to stay confined with their mobile phones and be separated from everything else. This makes them against social, which isn't the best.

8. Security Issues

Programmers of this world present this hazard understudy are presented to.

9. Wrong Educational Resources

The web is free for all, it is difficult to guarantee every single instructive asset seen online are correct and genuine. Understudies are presented to a ton of these off-base and bogus data.

10. Mishap

This is the awful debacle understudies can meet with when they content, call and drive simultaneously. Or then again in any event, when they content, call and talk when a crazy driver is close by.

CONCLUSION:

Mobile phones have welcomed on an entirely different period of innovation and they do make life progressively advantageous regarding correspondence. In any case, the reactions of mobile phones and the interruptions that they are cause numerous hazardous and unfortunate circumstances to happen. Mobile phones cause cerebrum harm, fender benders, and are interruptions at school. What's more, they are likewise enormous dangers to the earth. When looking at the soundness of ourselves and our reality to comfort, our reality is progressively significant. Therefore, we have demonstrated our point that Cell telephones accomplish more damage than anything else.

As indicated by conversation above, it is currently simple to reach inference on the effect of cell phone on the scholarly execution of higher learning understudies, in which the outcomes has uncovered that the cell phone welcome negative outcomes or movement on understudies' execution scholastically. So there is a need to assess and see better the utilization of cell phones for higher learning understudies because students settle on their own decision and inclination on which versatile application to use, as it is talked about above practically 48% of the respondents concurred that they will in general use cell phone for around 5 – 7 hours for every day on social correspondence locales (65%) like Facebook, twitter, Instagram, WhatsApp and such without thinking about that those time spent on social system could have been utilized on scholarly related works and thus yield great outcomes toward the finish of semester assessments. Likewise among the cell phone dependent gathering, female are more dependent than male since 57% of the respondents were female and among those female the greater part of them 75% are underneath 25 a long time old of the age which demonstrates that adolescents are progressively dependent on cell phone use, and most remarkable outcomes are that they are taking single guy degree (65%), recognition (12%) or declaration (8%) so they are not self-controlled.
Moreover, there is sure connection between's sexual orientations, age gathering, conjugal status, dependence on cell phone use, program taken at University and the use of cell phone as in there is a certain gathering influenced by those components referenced. In any case there is additionally a negative relationship between's high scholastic execution and the elements referenced prior on the grounds that the larger part GPAs of the overviewed respondents were seen as underneath 3. In this way to close, there is negative effect of cell phone use on higher learning understudies .

Correlation with Ancient Indian Literature:

In today's life of full of technology and gadgets it's hard to imagine our life without technology specially cellphones. Now technology is an essential part of our day to day life form morning to night. Although technology help us in growing, being smart and make our work easier, but if we look back in past, before 50 years life weren't same as compared to today's life. People were not count on technology, they were not leaned on gadgets. They were more self dependent, they were optimist rather than being socialist. Now if we talk about the education sector, people before were not have phones and internet to learn from the online tutorials and YouTube videos. They used to learn from books and persons. They were doing more practical aspect than the virtual one. Now a question arises , is the education without technology were more effective than nowday's digital study?, The sprouting of technology is a cause of distraction or is supportive in human growth?

The more we find out about learning, the further we appear to escape from the essential showing exercises of the past. Talks, albeit vital, are not, at this point the focal point of instructing approach. Learning from gadgets like phone, tablets and computers is good, it do help students learning new things and growing but it is also a major cause of distraction. Apart from study students get attracted with social sites, whenever a pop-up appear their concentration is flushed and students get fascinated toward it. At this point learning from books and without any technology were far

better then seeking for a digital device. In 90's people were more effective as they don't have to depend on technology. They used to read books and novels to gain knowledge. We took example of Kiran Bedi, Savitribai Phule and Kadambini Ganguly. These are proud of our nation who made a number of sacrifices so that they could further their education and be successful. They are from various field like Kiran Bedi an Indian social activist and retired Indian Police Service (IPS) officer, Saraswatibai Phule from the field of singing and Kadambini Ganguly from medical field. At that time technology wasn't developed that much they all completed their study by learning from the books and gained that much knowledge by practicing practically. It defines that the knowledge isn't depend on technology and books are more effective then any learning device.

We can also took an example of Gurukul which is a ancient way of education Gurukul instruction framework gives students the information about Hindu religion, carries near nature, yogasanas, information about useful circumstances of life and so on. Present day instruction gives information about innovation, electronic frameworks, most recent contraptions and so forth. The modern education make us more dependent on technology. As in gurukul students were close to nature in today's generation students are close to gadgets, they are deprived from human interaction and it also affect their health. In Gurukul yoga and meditation were in daily routine of students but today's technology make students stuck on a place and make them more laggard. Gurukul education were more practical in contrast modern education is moving toward more virtual aspect.

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A COMPARATIVE ANALYSIS OF SOLUTIONS FOR TWO SIGNIFICANT NUMERICAL METHODS

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Abstract:

In the present study, the numerical solutions of ordinary differential equations with initial value problems have been found using the Runge Kutta method and the Modified Euler's method. The accuracy of the numerical approximate solutions was then verified by comparing them to the precise solutions. When the step size (h) is very small, we discovered that the solution becomes more precise. We discovered that the relative error for the Runge Kutta fourth order technique is nominal among the two methods.

Keywords: Numerical solution, Modified Euler's method, Runge Kutta method, Initial value problem.

INTRODUCTION:

Almost all the areas of science, mathematics, engineering and medical, benefit greatly from the use of differential equations to solve challenging mathematical problems. Differential equations are a common occurrence in mathematics to represent a variety of actual and practical problems. Either ordinary differential equations or partial differential equations are used to represent these differential equations. Most of the time, because the solutions to such problems are used to model are so complex, one of two mentioned methods should be used to approximate the solution and obtaining the results. The first method we'll employ is lowering the differential equations into a form that can be precisely solved, from which we may utilize the obtained results to approximate the original problems. The approximation method, which yields a more accurate answer and less relative error, is another way that will be employed here. Numerical approaches are employed to solve those mathematical conundrums for which it is extremely challenging or almost impossible to identify the precise solution. Differential equations can only be solved analytically for only few one. The well-known analytical techniques cannot be used to find the solutions of many differential equations. Therefore, in these situations, we must use numerical methods to solve a differential equation under one or more initial limitations. There are several numerical methods for solving the initial value problem of ordinary differential equations.

In this research study, we will show two numerical techniques for solving initial value problems for ordinary differential equations, including the Runge Kutta method and the Modified Euler's approach. Several investigators [1-8] have studied various numerical methods and obtained the numerical solutions to different initial value problems for ordinary differential equations. Kaw and Kalu [9] investigated the numerical methods and gave its various applications. The study of different numerical methods using computational languages were done by many researchers and obtained the numerical solutions of some very complicated problems [10-12]. A number of authors tried to solve the

initial value problems using the Runge Kutta method and the Modified Euler's approach in order to assess high precision.. The Runge Kutta technique is the most widely used numerical approach because it consistently produces initial values and is excellent for complex higher derivative calculations. The numerical results are quite encouraging [13-14].

Finally, an example is taken for the comparative study of these two methods. The results to the problem show that the approach performance in terms of convergence is convincing. Since the Modified Euler approach needs 'h' to be very small for determining logical accuracy, it is less convenient to find the numerical solution of differential equation. The Runge Kutta approach has the advantage of just requiring the functional values at a few selected points on the sub interval, improving precision, and not requiring the high order derivatives. We discovered that the Euler modified approach requires more approximations since its very small step size converges to an analytical solution. The Runge Kutta approach, on the other hand, yields findings that converge more closely to analytical answers and requires less iterations to produce precise solutions.

Runge-Kutta method:

The Runge-Kutta method is a reliable and very popular technique to get the solution of initial value problems of differential equations. Without the necessity for high order derivatives of functions, the Runge-Kutta method can be utilised to build high order accurate numerical methods by functions alone.

If the equation be $\frac{dy}{dx} = f(x, y)$, $x \in [x_0, x_n]$ and $y(at\, x = x_0) = y_0$

The solution is $y = y_n + K$, where $K = (K_1 + 2K_2 + 2K_3 + K_4)$

$$K_1 = hf(x_n, y_n)$$
$$K_2 = hf\left(x_n + h/2, y_n + K_1/2\right)$$
$$K_3 = hf\left(x_n + h/2, y_n + K_2/2\right)$$
$$K_4 = hf(x_n + h, y_n + K_3)$$

Modified Euler's Method:

If the equation be $\frac{dy}{dx} = f(x, y)$, $x \in [x_0, x_n]$ and $y(at\, x = x_0) = y_0$

In this method following two equations will be used in each step and the second equation will give the modified result.

$$y_{n+1} = y_n + hf(x_n, y_n)$$
$$y_{n+1} = y_n + \frac{h}{2}[f(x_n, y_n) + f(x_{n+1}, y_{n+1})]$$

Problem: Let the problem of initial value be

$\frac{dz}{dt} = t^2 - tz$, z(t = 0) = 1, $t \in [0,1]$.

Solution: The analytic (exact) solution for the problem is given by

$$z = \frac{2e^{t^2/2}}{\sqrt{2\pi}erf(t/\sqrt{2}) + 2}$$

The numerical solutions by the above two mentioned methods can be shown as:

(i) For h = 0.1

Exact Solution	**Runge-Kutta Method**	**Modified Euler's Method**
Value of z	**Value of z**	**Value of z**
0.91350912789	0.91350893202	0.9145000 0000
0.84921851870	0.84921817106	0.85070087260
0.80182339795	0.80182294486	0.80353972229
0.76778358615	0.76778306212	0.76959823666
0.74468970047	0.74468912824	0.74653085282
0.73088840277	0.73088779615	0.73271856936
0.72525129927	0.72525066587	0.72705174941
0.72702708621	0.72702642958	0.72878935089
0.73574358854	0.73574290958	0.73746472131
0.75114035195	0.75113964993	0.75282025566

(ii) For h = 0.05

Exact Solution	**Runge-Kutta Method**	**Modified Euler's Method**
Value of z	**Value of z**	**Value of z**
0.91350912789	0.91350912131	0.9137386 3169
0.84921851870	0.84921850484	0.84956297653
0.80182339795	0.80182337822	0.80222338856
0.76778358615	0.76778356203	0.76820759057
0.74468970047	0.74468967309	0.74512088740
0.73088840277	0.73088837289	0.73131788780
0.72525129927	0.72525126733	0.72567456581
0.72702708621	0.72702705246	0.72744202414

(iii)For h = 0.025

Exact Solution	Runge-Kutta Method	Modified Euler's Method
Value of z	**Value of z**	**Value of z**
0.91350912789	0.91350912763	0.9137386 3169
0.84921851870	0.84921851805	0.84956297653
0.80182339795	0.80182339695	0.80222338856
0.76778358615	0.76778358488	0.76820759057
0.74468970047	0.74468969899	0.74512088740
0.73088840277	0.73088840113	0.73131788780
0.72525129927	0.72525129748	0.72567456581
0.72702708621	0.72702708431	0.72744202414
0.73574358854	0.73574358652	0.73614939455
0.75114035195	0.75114034981	0.75153690660

(iv) For h = 0.0125

Exact Solution	Runge-Kutta Method	Modified Euler's Method
Value of z	**Value of z**	**Value of z**
0.91350912789	0.91350912788	0.91352264673
0.84921851870	0.84921851866	0.84923887245
0.80182339795	0.80182339790	0.80184709604
0.76778358615	0.76778358608	0.76780876429
0.74468970047	0.74468970039	0.74471535545
0.73088840277	0.73088840268	0.73091399993
0.72525129927	0.72525129916	0.72527656295
0.72702708621	0.72702708610	0.72705188435
0.73574358854	0.73574358842	0.73576786764
0.75114035195	0.75114035182	0.75116410010

RESULTS:

In the present study, we have acquired the knowledge of numerical methods to solve initial value problems. We have used two methods, namely Euler Modified method and Runge Kutta method. We have discussed these two methods with an example. The outcomes of the example are displayed in Tables [1-4]. According to the tables for each technique, a numerical solution converges to an accurate answer if the step size decreases. We have also observed that the convergence to the results for Runge Kutta technique is more fast as the Euler modified method.

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TO STUDY THE QUADRATURE FORMULA FOR NUMERICAL INTEGRATION

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ABSTRACT
Based on moment fitting equations, we provide effective quadrature's for the integration of polynomials over irregular convex polygons and polyhedrons. The quadrature construction strategy requires the solution of a small linear system of equations and the integration of monomial basis functions using homogeneous quadrature's with a limited number of integration points. In this study, we show that the numerical integration of polynomial functions may be performed with the same precision and efficiency as the Gauss quadrature, provided that the same points and nods are used for the determination of the polynomial's form. The locations of the chosen points are random, and the resulting deduced formulae are therefore distinct, as will be shown below and executed in order to benefit from the values of the polynomials at those sites and nods and also from their first derivatives.
Keywords:Numerical integration, Polynomials, Derivatives, Matrix, Degree

INTRODUCTION
Approximating definite integrals numerically is the goal of numerical integration. Numerical integration is useful in a wide variety of contexts. As an illustration, there are a number of well-defined functions whose anti-derivatives cannot be written in terms of fundamental functions. This operation appears in many contexts, particularly those dealing with probability and statistical testing. In addition, integro-differential equations, which are used to describe many applications in science and engineering, need a particular treatment for the integral terms (e.g. expansion, lineralization, closure ...). Therefore, not only may integrals be evaluated numerically, but special functions specified in terms of integrals can also be approximated using numerical integration.
There are two types of issues where numerical integration is necessary without sacrificing generality. The first kind involves determining the value of an integral for a known function. Because of this, the integrand may be assessed at a number of places, and numerical integration techniques can be used to determine both the best locations and the optimal number of these sites.
Secondly, differential equations, the most popular of which embody conservation principles, provide a class of problems amenable to numerical integration. Example: the well-known partial differential equation seen in process modeling and biological systems, the population balance equation, has source terms that are integrals of the solution variable (e.g. the number density function).
Quadrature is by far the most typical method for doing numerical integration. Following these three measures will result in a quadrature:
Approximate the integrand by an interpolating polynomial using a specified number of points or nodes
Substitute the interpolating polynomial into the integral
Integration

THE INTEGRAL EXPRESSIONS OF THE POLYNOMIAL FUNCTIONS
For the polynomials of first degree (Number of integral point - One):
For the polynomial functions in first degree, their integral expression is obtained as

$$I = \int_{-1}^{+1} P(\xi)d\xi = \left[\Phi_0\xi + \frac{\Phi'_0}{2}\xi^2\right]_{-1}^{+1}$$

On simplification,

$I = 2 \times \Phi_0$

In Cartesian coordinate system

$\frac{L}{2} \times 2 \times \Phi_0 = L \times \Phi_0 = (x_2 - x_1) \times \Phi\left(x = \frac{x_2 + x_1}{2}\right)$

Where, Φ_0 is the value of $\Phi(x)$ at

$x = \frac{x_2 + x_1}{2}$ (i.e. at $x = \frac{x_2 - x_1}{2}\xi + \frac{x_2 + x_1}{2}$, and $\xi = 0$)

For the polynomials of third degree (Number of integral point - Two):

On the basis of determination of a_i on the values of $\Phi(\xi)$ and$\Phi'(\xi)$ at −1.and +1. (i.e. at x_1 and x_2), the polynomials of third degree are defined by the expression, and their integral in the parametric formulation.

$$I = \int_{-1}^{+1} P(\xi)\, d\xi = 2a_0 + \frac{2}{3}a_2 = 2\frac{2(\Phi_1 + \Phi_{-1}) - (\Phi'_1 - \Phi'_{-1})}{4} + \frac{2}{3}\frac{(\Phi'_1 - \Phi'_{-1})}{4}$$

Thus,

$$I = 1.\times (\Phi_1 + \Phi_{-1}) - \frac{1}{3} \times (\Phi'_1 - \Phi'_{-1})$$

In Cartesian coordinate system

$$I = \int_{x_1}^{x_2} P(x)\, dx = \frac{(x_2 - x_1)}{2} \times \left[(\Phi(x_2) + \Phi(x_1)) - \frac{1}{3} \times \frac{(x_2 - x_1)}{2} \times (\Phi'(x_2) - \Phi'(x_1))\right]$$

Where 'Φ' is the first derivative of the function Φ with respect to ξ and,

$$\frac{d\Phi(x)}{d\xi} = \frac{dx}{d\xi}\frac{d\Phi(x)}{dx} = \frac{L}{2}\frac{d\Phi(x)}{dx}$$

Also, the multiplication factor (x2 – x1)/ 2 appear before, represent the Jacobean of the transformation, and appears also before the derivatives with respect to ξ according to above equation.

For the polynomial functions of fifth degree (Number of integral point - Three):

In the present method, the locations of the integral points are chosen, and the derivatives are eliminated by using Gaussian fixed points. As an added bonus, if the interval's beginning and endpoints as well as its midpoint are all set to the same distance from one another, the constants a0, a2 and a4 are thus given by

$$a_0 = \Phi_0$$

$$a_2 = \frac{4(\Phi_1 + \Phi_{-1}) - 8\Phi_0 - (\Phi'_1 - \Phi'_{-1})}{4}$$

$$a_4 = \frac{-2(\Phi_1 + \Phi_{-1}) + 4\Phi_0 + (\Phi'_1 - \Phi'_{-1})}{4}$$

So, the integral of the polynomials of fifth degree (related to a0, a2 and a4) is given by,

$$I = \int_{-1}^{+1} P(\xi)\, d\xi = 2a_0 + \frac{2}{3}a_2 + \frac{2}{5}a_4$$

On simplification:

$$I = \frac{7}{15} \times (\Phi_1 + \Phi_{-1}) + \frac{16}{15} \times \Phi_0 - \frac{1}{15} \times (\Phi'_1 - \Phi'_{-1})$$

In parametric coordinate system, it is given by,

$$I = \int_{x_1}^{x_2} P(x)\, dx = \frac{(x_2 - x_1)}{2} \times \left[\frac{7}{15} \times (\Phi(x_2) + \Phi(x_1)) + \frac{16}{15} \times \frac{x_2 + x_1}{2} - \frac{1}{15} \times \frac{(x_2 - x_1)}{2} \times (\Phi'(x_2) - \Phi'(x_1))\right]$$

For the polynomial functions of seventh degree (Number of integral point - Four):

If P(ξ) is a polynomial function of seventh degree, then its exact integral in the parametric coordinates (related to a0, a2, a4 and a6) is given by,

$$I = \int_{-1}^{+1} P(\xi)\, d\xi = 2a_0 + \frac{2}{3}a_2 + \frac{2}{5}a_4 + \frac{2}{7}a_6$$

Otherwise, can be shown as,

$$I = W_1 \times (\Phi_1 + \Phi_{-1}) + W_2 \times (\Phi_{1/6} + \Phi_{-1/6}) + \overline{W_1} \times (\Phi'_1 - \Phi'_{-1}) + \overline{W_2} \times (\Phi'_{1/6} - \Phi'_{-1/6})$$

On replacement of Φ_i and Φ'_i , we get

$$I = W_1(2a_0 + 2a_2 + 2a_4 + 2a_6) + W_2\left(2a_0 + \frac{2}{6^2}a_2 + \frac{2}{6^4}a_4 + \frac{2}{6^6}a_6\right) \cdot \overline{W_1}(4a_2 + 28 + 16a_6) + \overline{W_2}\left(\frac{14}{6^2}a_2 + \frac{2}{6^4}a_4 + \frac{2}{6^6}a_6\right)$$

Here, above two representations will be same. The following system of equations becomes

$$\begin{cases} W_1 + W_2 = 1 \\ W_1 + \frac{1}{6^2}W_2 + 2\overline{W_1} + \frac{2}{6}\overline{W_2} = \frac{1}{3} \\ W_1 + \frac{1}{6^4}W_2 + 4\overline{W_1} + \frac{4}{6^3}\overline{W_2} = \frac{1}{5} \\ W_1 + \frac{1}{6^6}W_2 + 6\overline{W_1} + \frac{6}{6^5}\overline{W_2} = \frac{1}{7} \end{cases}$$

For the polynomial functions of ninth degree (Number of integral point - Five):

Using the above similar process, we obtain the polynomial functions of ninth degree (five integral points).

$$\begin{cases} W_1 + 2W_2 + 2W_3 = 2 \\ W_2 + \frac{1}{4}W_3 + 2\overline{W_1} + \overline{W_2} = \frac{1}{3} \\ W_2 + \frac{1}{4^2}W_3 + 4\overline{W_1} + \frac{1}{2}\overline{W_2} = \frac{1}{5} \\ W_2 + \frac{1}{4^3}W_3 + 6\overline{W_1} + \frac{3}{16}\overline{W_2} = \frac{1}{7} \\ W_2 + \frac{1}{4^4}W_3 + 8\overline{W_1} + \frac{3}{16}\overline{W_2} = \frac{1}{9} \end{cases}$$

With the use of above one to five integral points, we can determine the weights Wi and W¯_i of functions Φ(ξ_i) and Φ'(ξ_i) for various points and their selected positions ξ_i.

Similarly for two dimensions, the quadrature formulas for P=P(ξ,η) can be obtained (from integrating with respect to ξ and hence with respect to η). The limit integral of the polynomial function in the parametric formulation (square area), can be formulated by

$$I = \int_{-1}^{+1}\int_{-1}^{+1} P(\xi,\eta)\, d\xi d\eta = \int_{-1}^{+1}\left[\sum_i W_i P(\xi_i,\eta) + \overline{W_i}P'_{,\xi}(\xi_i,\eta)\right] d\eta$$

$$= \sum_j \left[W_j\left[\sum_i W_i P(\xi_i,\eta_j) + \overline{W_i}P'(\xi_i,\eta_j)\right] + \overline{W_j}\left[\sum_i W_i P'_{,\eta}(\xi_i,\eta_j) + \overline{W_i}P'_{,\xi\eta}(\xi_i,\eta_j)\right]\right]$$

Or can be written as

$$I = \sum_i \sum_j \left[W_i W_j P_{ij} + \overline{W_i} W_j P'_{ij,\xi} + W_i \overline{W_j} P'_{ij,\eta} + \overline{W_i W_j} P'_{ij,\xi\eta}\right]$$

Furthermore, in three dimensions

$$I = \int_{-1}^{+1}\int_{-1}^{+1}\int_{-1}^{+1} P(\xi,\eta,\zeta)\, d\xi d\eta d\zeta$$

can be given by

$$I = \sum_i \sum_j \sum_k \left[W_i W_j W_k P_{ijk} + \overline{W_i} W_j W_k P'_{ijk,\xi} + W_i \overline{W_j} W_k P'_{ijk,\eta} + W_i W_j \overline{W_k} P'_{ijk,\zeta} + \overline{W_i W_j} W_k P'_{ij,\xi\eta} + W_i \overline{W_j W_k} P'_{ijk,\eta\zeta} + \overline{W_i} W_j \overline{W_k} P'_{ijk,\xi\zeta} + \overline{W_i W_j W_k} P'_{ij,\xi\eta\zeta}\right]$$

where, $\Phi_{ij} and\ \Phi'_{ij,\xi}$ are respectively shows the ordinates of functionΦat the point(ξ_i, η_j) and the first derivative with respect to variable ξ, and similarly for the second derivatives of the remaining ordinates.

RESULTS AND DISCUSSION

The deformation-displacement vector ⌊B⌋ (For the element beam, with the inertia moment I, length L and elasticity modulus E) is defined as

$$\lfloor B \rfloor = \left\lfloor -\frac{6}{L^2}+\frac{12}{L^3}x \quad -\frac{4}{L}+\frac{6}{L^2}x \quad \frac{6}{L^2}-\frac{12}{L^3}x \quad -\frac{2}{L}+\frac{6}{L^2}x \right\rfloor$$

while the value of stiffness matrix [k] can be determined as

$$[k] = \int_0^L \lfloor B \rfloor^T EI \lfloor B \rfloor dx = EI \int_0^L \lfloor B \rfloor^T \lfloor B \rfloor dx$$

Now, we can calculate the stiffness element k11 by the use of two integral points, we obtain

$$k_{11} = EI\frac{L}{2}\left[1.\times(\Phi_1+\Phi_{-1}) - \frac{1}{3}\times\frac{L}{2}(\Phi'_1-\Phi'_{-1})\right]$$

The stiffness element k11, using the following expressions,

$$\Phi(x) = \left(-\tfrac{6}{L^2}+\tfrac{12}{L^3}x\right)^2, \text{and } \Phi'(x) = \tfrac{24}{L^3}\left(-\tfrac{6}{L^2}+\tfrac{12}{L^3}x\right)$$

which give

$$\Phi_1 = \tfrac{36}{L^4}, \Phi_{-1} = \tfrac{36}{L^4}, \Phi'_1 = \tfrac{144}{L^5} \text{ and } \varnothing'_{-1} = \tfrac{-144}{L^5}$$

reduces to

$$k_{11} = 12\frac{EI}{L^3} = exact\ solution$$

In the similar way, the rest of the matrix's components may be verified with little effort and conclude that all that's left are the constitution elements of the stiffness matrix for the two-nod beam element, can be derived from integration.

$$[k] = \begin{bmatrix} 12 & 6L & -12 & 6L \\ & 4L^2 & -6L & 2L^2 \\ & & 12 & -6L \\ Sym & & & 4L^2 \end{bmatrix}$$

Exact results would be obtained for all the stiffnesselements, and using also the Gauss quadrature, putting$x = \frac{L}{2}(\xi+1)$and $\xi = \pm\sqrt{3}$, and the between difference that the vector⌊B⌋is actually computed at$\xi = \pm 1$instead of$\xi = \pm\sqrt{3}$, the fact which conducting to compute the stresses and strains at the same points which represents an inconvenience with Gauss quadrature and in this contributed quadrature is actually modified.

For the polynomial function (in cubic form)

$$\Phi(x) = A_0 + A_1x + A_2x^2 + A_3x^3$$

and the direct integral from 0 to L is given by

$$\int_0^L \Phi(x)\,dx = A_0L + \frac{1}{2}A_1L^2 + \frac{1}{3}A_2L^3 + \frac{1}{4}A_3L^4$$

Therefore, we get (By the above numerical formula)

$$I = \frac{L}{2}\left[(\Phi(L)+\Phi(0)) - \frac{1L}{32}(\Phi'(L)-\Phi'(0))\right]$$

Thus, we have

$$\Phi(L)+\Phi(0) = 2A_0 + A_1L + A_2L^2 + A_3L^3$$

$$\Phi'^{(L)} - \Phi'(0) = 2A_2L + 3A_3L^2$$

On replacement this in the formula above, we obtain

$$I = A_0L + \frac{1}{2}A_1L^2 + \frac{1}{3}A_2L^3 + \frac{1}{4}A_3L^4$$

It should be noted that the idea of quadrature would also be applicable to this proposition with respect to the ordinates of the polynomial functions themselves, in which the derivatives terms, only represent contributions to meet the integration exact results. With this method, the exact results would be obtained thus for polynomial functions with degrees less than the odd degree of and approximately for every other mathematical function.

CONCLUSION

For the stresses and strains, as well as the components of the deformation-displacement matrices in solid mechanics, the analysts must generally actually obtain the results at the nodal levels of the elements because extrapolation functions, particularly at the edge nods, make it impossible to provide accurate results. Additionally, the suggested integration formulae for polynomials, which were intended specifically for the developers of finite elements, might be more advantageous for analysts who work with finite elements as well as for the integration of polynomials in general. The intervention of the first derivatives ordinates here simply means that the complete freedom of the choosing points positions, and their contributions in this effect to get exact numerical integration of polynomial functions and avoid actually the required points' positions in the class, are implied by the same numerical results obtained using the developed formulas and would otherwise be obtained using Gauss quadrature and exact direct integration ones.

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EFFECT OF LEAD ACETATE TOXICITY ON MORPHOLOGICAL PARAMETER OF SEED GERMINATION OF RED HOT PEPPER (*CAPSICUM ANNUUM L.)*

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ABSTRACT
A wide variety of contaminations enter into our environment due to extensive of industrial production, energy and fuel production and intensive agriculture. Among the heavy metals, lead is an element that easily accumulates in soils and sediments. Lead levels in the environment are currently a matter of great concern. Although lead is not an essential element for plants, it is absorbed and accumulates. In the present study the experiments were conducted to find out the effect of Lead acetate on the morphological parameter of germination of Red Hot Pepper (*Capsicum annuum L.)*(ie) germination (%), Seed vigour index, seedling tolerance index, percentage of phytotoxicity. In germination parameters, germination (%) and Seed vigour index has showed significant growth in 10 mg/l of lead acetate than control and then it decreased gradually with increase in concentration of lead acetate. The Percentage of phytotoxicity was minimum in 10 mg/l of lead acetate as compare to 200 mg/l of lead acetate.
The percent phytotoxicity and seedling length was affected by the lead acetate concentration in seedling.

Keywords: Germination (%), Seed vigour index, seedling tolerance index, percentage of phytotoxicity, *Capsicum annuum L.*

INTRODUCTION
Heavy metals are a group of non-biodegradable elements with a tendency to bioaccumulate in living systems. They are industrially and biologically important and include metals such as lead (Pb), cadmium (Cd), nickel (Ni), cobalt (Co), iron (Fe), zinc (Zn), chromium (Cr), iron (Fe), arsenic (As), silver (Ag) and the platinum group elements. Lead is known to cause a wide range of toxic effects in living organisms, including those of morphological, physiological and biochemical origin. Plants are the target of a wide range of pollutants that vary in concentration, specification and toxicity. Lead is known to induce a broad range of toxic effects to living organism which include the morphological, physiological, and biochemical. This metal impairs plant growth, root elongation, seed germination, seeding development, transpiration, chlorophyll production, lamellar organization in the chloroplast, and cell division. The extend of the intensity of plant stress, the stage of plant development, and the particular organs. The level of lead found in plants often correlates with the level present in the environment. Several studies shows the pesticides residues frequently occur on surface water and soil in agricultural areas (Y.Chandrakala and P.K. Mohapatra, 2012).

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MATERIAL AND METHODS

The present investigation entitled "Effect of lead acetate toxicity on the morphological parameter of seed germination of Red Hot Pepper (*Capsicum annuum L.)*" was carried out in the Department of Science and Technology, FEM, Jayoti Vidyapeeth Women's University,Jaipur.

An experiment was conducted with Red Hot Pepper (*Capsicum annuum L.)* using a completely randomized design of five replications. The Red Hot Pepper (*Capsicum annuum L.)* seeds were superficially sterilized with 0.1% mercury chloride solution to prevent surface contamination, and then the seeds were rinse with distilled water. The seeds were tested for standard germination test in a seed germinator at at 30±2°C. Using paper towel. Each set was uniformly treated with different treatments 10, 25, 50, 75,100 and 200 mg/l of lead acetate. Control seeds were treated with distilled water. Each treatment, including the control, was repeated five times. Germination was recorded every 24 hours and on day 8th of each treatment, five seedlings were randomly selected to record seedling growth. Seed quality parameters viz; germination (%), Seedling length (cm), Seed vigour index- I (Abdul Baki and Anderson .,1973), seedling tolerance index (Turner and Marshall (1972)), percentage of phytotoxicity of the effluent (Chou et al., (1978). And the data were subjected to analysis of variance (Gomez and Gomez , 1984).

RESULTS AND DISCUSSION

The effect of different concentration of lead acetate on germination parameters are summarized in Table1.

Table 1: The results regarding the effect of morphological parameter of seed germination of Red Hot Pepper (*Capsicum annuum L* at 8th DAS.

Treatment lead acetate (mg/l)	Germination Percentage (%)	Total Seedling Length (cm)	Seed Vigour Index - 1	Tolerance index	Percentage of phytotoxicity
0	92	5.5	368	0	0
10	98	6.8	392	1.03	3.44
25	76	5.7	304	0.93	6.89
50	66	5.3	264	0.86	13.79
75	54	4.5	216	0.69	31.03
100	42	3.5	168	0.52	48.27
200	36	2.5	144	0.34	65.51

The effect of lead in the polluted soil has an effect on germination. In germination parameters all above said values table 1 were showed higher except in 10 mg/l of lead acetate than control and then it decreased gradually. The similar trends was observed by Al-Yemini and Al-Hetal, (2001) in *Vigna ambacensis*. The lead treatment up to 10 mg/l of lead acetate was found to increase the germination percentage over control. Root and shoot length of Red Hot Pepper seedling increased 10 mg/l and then it decreased with an increase in lead acetate concentration. Root and shoot length were found to be higher at 10 mg/l of lead acetate at high levels may inhibit the root growth directly by inhibition of cell division or cell elongation or

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combination of both, resulting in the limited exploration of the soil volume for uptake and translocation of nutrients and water and induced mineral deficiency (Foy *et al.,* 1978). Pb moves predominantly into root apoplast and thereby in the radial manner across the cortex and accumulates near the endodermis. The endodermis act as a barrier to the movement of Pb in the roots compared to shoots (Jones *et al*., 1973; Verma and Dubey, 2003). It alters the mineral nutrition and water balance, modifies hormonal levels and affects the structure and permeability of the plasma membrane (Romerio *et al.*, 2006).

Seedling length of Red Hot Pepper seedling increased at 10 mg/l, increase in seedling length might be the result of higher embryo-cell wall extensibility. Increased seedling length and its growth may be due to increase in cell division within the apical meristem of seedling shoots and roots which was responsible for increase in overall seedling growth. But then it decreased with an increase gradually with concentration of lead acetate 200mg/l. These results showed that lead contamination has negatively affected root and shoot development. Seedling length is an important character as it decides the vigour of seed which is an important component in seed studies. By overproducing ROS, lead poisoning results in the suppression of ATP synthesis, lipid peroxidation, and DNA damage. Lead significantly reduces water and protein content, transpiration, chlorophyll production, seed germination, seedling development, and seedling growth.

A glance of the data showed that maximum vigour index-1 (392) was recorded in 10mg/l lead acetate. Seedling Vigour Index is a qualitative term about the sum of those properties of the seed which determine the potential level of activity and performance of the seed or lot during germination and seedling emergence.

Tolerance index was observed to show a decreasing trend from 10 mg to 200 mg/l lead acetate. Tolerance to lead acetate decreased when treatment reached to 200 mg amounting to 0.34.

CONCLUSION Lead acetate in soil certainly improve germination % and seedling vigour, establishment up to 10 mg/l beyond which it has adverse effect on the seed germination of Red Hot Pepper (*Capsicum annuum L*.. Hence it might be suggested that higher concentration of lead in the soil may not be suitable for crops growth. Proper care should be taken in disposal of lead contaminated effluent to avoid soil pollution.

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OPTIMISATION OF MOBILE APPS FOR USER ENGAGEMENT AND CONVERSION

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Abstract
As the number of mobile phone users exceeds that of PC users in many countries, how to optimize PC-based web sites for mobile phone users becomes an important issue. This article reviews several popular ways and introduces some methods that has been developedto helps in conversion rate. Major advantages of this methods are that firms can use the mobile phone-based Web sites that can get the layout and content that best fit their devices. The paper presents examples to illustrate the features of the optimization process.
Keywords: Mobile optimisation , User interaction, Conversion

Introduction

Mobile optimisation for business firms are adjusting their app and online sites according to visitors convenience for better experience in their mobile devices. Day by day mobile commerce s increasing , and customer wants hustle free and user friendly shopping experience . As Generation Z and millennials are capturing major part of Mobile commerce it very necessary for business firms to design their site and marketing campaigns accordingly.

The role mobile plays in today's digital marketing world will likely keep growing as mobile usage continues to skyrocket. By implementing key mobile optimisation tactics and strategies, marketers can deliver exceptional experiences through every channel and every device.

Optimising for mobile includes the entire customer experience, and when done properly, it compliments every interaction a customer has with your brand. Mobile optimisation enhance user experience and they tend spend more time on website. It will also helps in conversion.

There is high usage of social media on mobile, requires continuous improvement, which makes it simple for users to access social media apps on daily basis , irrespective of time and place.

Mobile optimisation is need of time if business firm are looking for reach out global audience. Business firms should optimise their e-commerce sites.

Sometimes mobile apps have bugs and glitches that can cause lower engagement on apps.It it to be designed to keeping user engaged for longer duration.

Review of literature

ReetikaSwaroop Srivastava, Arjun Manohar, 2020
The paper attempts to explore the need to optimize the web interface on the mobile platform. There has been previous research on the need for optimizing the websites to be user-friendly, however, there has not been adequate research on the need for optimization on mobile devices. With attention spans

narrowing it is important that websites are able to convey their value in few seconds else the user will bounce off to another website that represents information better. The problem goes deeper, most of the businesses

MeriKoponen, 2020
The objective of this study was to identify the best practices of how to create engaging mobile-optimised video ads for social media. Nowadays, an increasing number of people access their social media from mobile devices. Hence, it is valuable for brands to understand how they can leverage mobile-optimised video advertising on social media.

IntaKotane, DainaZnotina, SerhiiHushko, 2019
In recent years, the environment in which we live and work has changed radically. If the emergence of the Internet was revolutionary in the way we communicate and obtain information, currently the availability and mobility of technologies affects consumers' habits and promotes the transformation of classic business models. Aim of the study: to explore and learn about the development trends of digital marketing.

Satwinderjit Singh, IzzalAsniraZolkepli, Cheah Wen Kit, 2018
There is minimal study that investigates the importance of attitudes towards mobile commerce as antecedents mobile commerce adoption using Technology Acceptance Model (TAM), especially in the Malaysian market. These factors are crucial since the population of online users are massive and their influence is forming the untapped potential for marketers. By knowing the factors that drive the use of mobile commerce, this study seeks to facilitate marketers on how to use the findings and intensify the growth of online business in Malaysia.

JieRen, Ling Gao, Hai Wang, Zheng Wang , 2017
This paper has presented an automatic approach to optimise mobile web browsing on heterogeneous mobile platforms, providing a significant performance improvement over state- of-the-art. At the heart of our approach is a machine learning based model that provides an accurate prediction of the optimal processor configuration to use to run the web browser rendering process, taking into account the web workload char- acteristics and the optimisation goal.

Victoria Magrath, Helen McCormick, 2013
Whilst some may argue that e-commerce design literature can be applied to the designing of mobile commerce channels, it is an assumption that may come at the expense of the retailer. The purpose of this paper is to identify which marketing design elements could be integrated within a retailer's mobile strategy and suggest the importance of empirical testing. An academic or practitioner must primarily understand the abundance of marketing tools that can be integrated into a mobile strategy before they can begin to investigate the consumer effects.

Cindy Krum, 2010
Mobile Marketing Finding Your Customers No Matter Where They Are Use Mobile Marketing to Supercharge Brands, Sales, and Profits! Using brand-new mobile marketing techniques, you can craft campaigns that are more personal, targeted, immediate, measurable, actionable–and fun! Now, one of the field’s leading pioneers shows exactly how to make mobile marketing work for your business.

Objective of the study :

- To study the concept of mobile phone optimisation
- To study the impact of mobile optimisation in conversion rate customers

Concept of Mobile Optimisation

Mobile optimisation means adjusting apps according to mobile devices for user friendly experience. Mobile optimisation is the process of adjusting and updating website content to ensure visitors are accessing up to date information from their mobile devices.

Mobile websites are users first interaction with business firm. If it is not optimally designed then user left it quickly without showing any interest in their site. User will be annoyed and stressed if sites take too much time to load and buffer .Even if your marketing strategies are strong but website is not mobile optimised then it will not convert visitor to buyer.

A mobile optimised site looks different from desktop sites . For example text are short and simple , images are lighter, content loads easily , minimum scrolling time, videos should be easily played on mobile devices. Mobile optimisation refers to theupdating your website to deliver an ideal and engaging experience to users who are visiting the site from their mobile device. Truly optimised content offers amazing experiences across channels including both desktop and mobile devices.

Significance of the Mobile optimisation

It should beconsidered that mobile user behaviours are different from desktop. That means the strategies you will use for mobile should also be different than desktop.

The main benefit of a custom mobile app is that it serves to enhance the customer relationship in a great way. Each update on the products and services will reach the customer fast and directly. With the app, the business can receive feedback on the products and services from the customer through the app and take appropriate steps to improve customer satisfaction.
Image source :the next scoop.com

Methodology of the study:

In order to accomplish above objective, secondary sources, available literature, reports and data have been used. The data has been obtained from various journals, reports, magazines and websites.

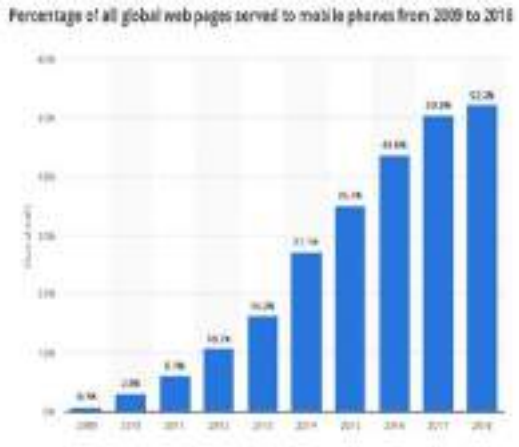
Factors affecting conversion rate

- **The impact of page load speed on mobile conversion rates**

  Page load speed is a critical factor that can have a significant impact on mobile conversion rates. In today's fast-paced world, users have little patience for slow-loading websites, and they are likely to abandon a site if it takes too long to load. This can result in decreased engagement and lower conversion rates.

  In contrast, a fast-loading website provides a smooth and enjoyable user experience, which can help to improve engagement, increase customer satisfaction, and boost conversion rates. In addition, fast-loading websites are more likely to be ranked higher in search engines, which can help to drive more traffic to the site.

- **Integrate On-Page Product Recommendations**



One of the best ways to go about on-page product recommendations is suggesting products similar to what a customer is viewing or has recently viewed.

- **Provide E-wallet Payment Method**

Due to payment method distrust, customer abandon their carts. With the abundance of financial information stored on smartphones, buyers want to be sure their financial details are secure.

The best way to address such concerns is to offer e-wallet payment methods such as Android Pay, Apple Pay, and PayPal.

- **Poor product data**

For international websites, it's especially vital that translations be accurate and tailored to the respective country. But that's not all: language-independent factors such as the thoroughness of technical information also play a role.

- **Understand When Did Someone Use an App/Mobile Site**

When considering mobile eCommerce conversion rate, it's also helpful to know when users interact with your site or app. For example, if you notice that customers who visit after 5 pm convert at higher rates than others, you can tailor your strategy to when it matters most.

Some smartphone features that decrease conversions

- **Screen size isn't optimal for shopping**

This is the obvious difference. Desktop displays generally have much more screen real estate for displaying information, and that extra space benefits ecommerce. It's much easier for desktop users to view side-by-side comparisons of products.

They can more easily see information that supports a purchase decision, such as background information, reviews, and multiple images of products. Tools that help users navigate choices, such as filter buttons, are usually easy to find.

- **Network speed makes for (uncomfortably) slow shopping experiences**

  This is the other characteristic of mobile devices that limits conversion. Most desktop computers are connected through cables or WiFi to high-speed network connections. In contrast, most smartphones connect through the cellular data network.

  Although cellular network speeds have increased substantially in recent years, they're still not as fast as most wired connections. And, as we've noted before, speed matters a great deal to conversion rate optimization.

Tools for Mobile Optimisation

A mobile optimised site helps in the conversion process easier and less stressful on the user. Some of the hallmark features include the following:

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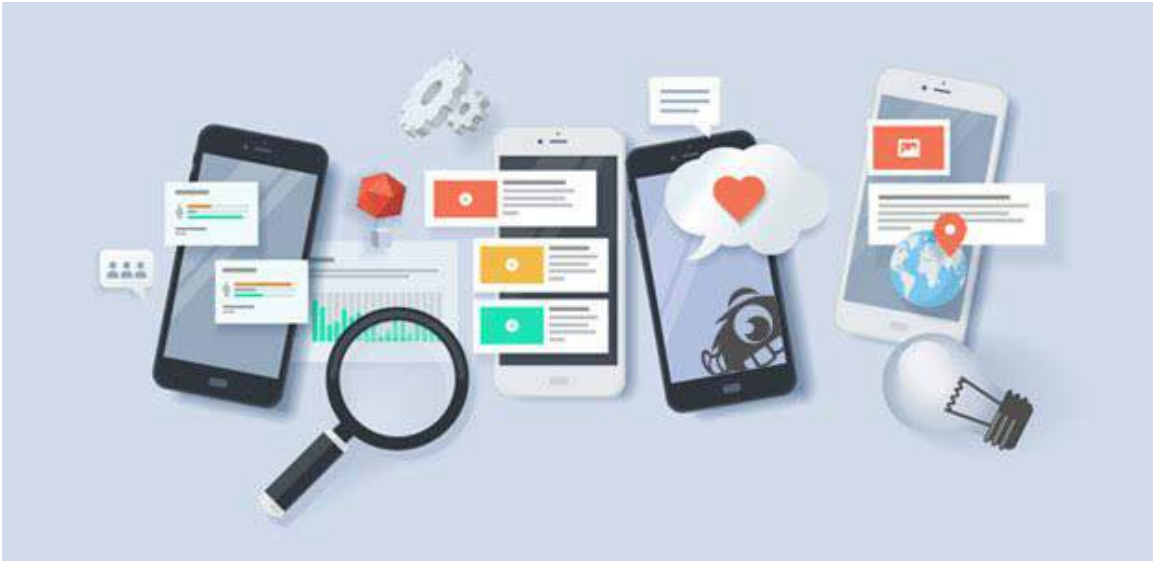

- Larger buttons
- Compressed images
- Auto-fill form fields
- Auto-detect location settings
- Guest checkout option
- Multiple screens instead of scrolling
- Reduce the number of pop ups
- Turn off auto correct on form filling

Conclusion-

As you can observe, the impact of the mobile app is huge and as a business owner, you can find visible profits in no time. If you wish to optimize your conversion rate, you'll need more than just attractive prices and enticing pictures. On the one hand, you'll have to put yourself in your customer's shoes, and make the user experience as smooth and dependable as possible**.** On the other hand, while doing the above, you'll want to keep an eye on how these same criteria are evaluated by the main search engines**,** and avoid corresponding SEO and conversion killers.

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