



Review: Honey in Medicine

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❖ ABSTRACT

The most likely natural product is honey. Honey serves as a nutritional supplement as well as a component of pharmaceuticals and cancer patients. Asthma, Throat infections and eye problems are among conditions it is used to treat. According to artwork from the stone period women's have been using honey for over 8000 years. Around 60 types of bacteria, some species of fungus and some species of viruses have been shown to be inhibited by honey according to reports. Due to our it of components including phenolic, peptides, organic acid and enzymes, honey's antioxidants play a significant role in the treatment of many disease and ailments. Honey has been consumed in a variety of ways, including as a sweetener and flavoring agent.

❖ **KEYWORDS:-** Honey, Antioxidant, Flavonoids, Modern medicine, Therapeutic values.

❖ INTRODUCTION

Humans have had a very long-standing conception of honey. As a sweetening and flavoring additive, it has been employed in a variety of new marble foods and beverages. Honey has a long history of being valued for its nutritional and medicinal properties [1]. Everywhere in the world, honey is produced. Carbohydrates in the form of monosaccharides, fructose, glucose, and disaccharides are the most crucial component of honey, and their presence is what gives honey its sweetness [2].

Honey is a natural substance made by honey bees from floral material. Both nutritional and medicinal purposes are served with honey [3-5].

Honey is the only naturally occurring insect-derived substance with nutritional, aesthetic, medicinal, and industrial benefits. Honey is regarded as a healthy food with equal appeal for males and females of all floral. Honey doesn't require refrigeration because it never degrades and can even be kept unopened at room temperature in a dry location [6-10].

❖ HONEY'S PHENOLIC ACIDS AND KEY FLAVONOID'S ORGANIC ACID STRUCTURES

With a 15carbon structure and two benzene rings connected by a heterocyclic pyrane ring, flavonoids are a class of biologically active natural compounds. They are categorized as flavonols, flavones, flavanones, and anthocyanidins. It has been reported that some flavonoids, such as genistein, chrysin, luteolin, and naringenin, exhibit estrogenic activity. These compounds are frequently referred to as phytoestrogens. The flavonoids and phenolic acids found in honey are depicted in Figure 2 by their chemical structures [11-13].



A Review: Toxic Waste (Types & Treatment)

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❖ Abstract -

The issue of toxic waste has grown to be one of great concern because it is harmful to both the environment and human health. In biomedical laboratories, handling dangerous and pathogenic agents is routine. The environment is constantly being affected more and more by their effects. Waste that is deemed toxic comprises solid, liquid, sharp, and pathological waste. Workers in the medical, agricultural, and fishing industries are particularly at risk of being exposed to dangerous biological agents the capability of contaminating rivers and lakes. The terms "toxic waste and "this term" are frequently used interchangeable to refer to abandoned materials that could pose long-term threats to human health and the environment. Nowadays, almost all manufacturing processes depend on chemicals, making the proper management and treatment of chemical waste a top priority. This is especially true given the national trend to expand the petrochemical industry and capitalise on natural resources. In this paper types, impact and treatment of toxic wastes have been discussed.

❖ Keywords- Waste, Environmental, Hazardous, industries etc.

❖ Introduction-

In emerging nations, improper management of toxic waste has become a significant problem. Most of those cities in those countries are industrialising quickly, which is increasing the production of toxic waste. Regulations governing the final disposal of hazardous materials and the treatment of toxic waste have not been implemented properly, which has put the environment, ecology, and public health at danger. Depending on the scope, source, and qualities of the dumped garbage, different effects may result. The burning of sewage sludge, chemical, medical, and municipal waste generates a significant amount of contaminants as well, which can be classified as particles and gases, metals, and organic compound. The impact of toxic waste on our environment. Toxic waste is dangerous for people, animals, and plants in another way than only contaminating the environment. Toxic waste can be categorised according to its physical, chemical, and infectious characteristics as well as the potential of injury during handling and disposal

❖ Types of toxic waste

[1] Cancerous toxic waste -

Those who are exposed to such leaking materials are more likely to develop cancer since toxic waste contains compounds that are carcinogenic and can be contracted through exposure. People must contend with such dangerous compounds in groundwater and waterways, and some toxins, like mercury, persist in the environment without degrading or building up. Whereas organic carcinogens found in toxic waste can be removed by burning at high temperatures, the process is unfortunately expensive and humans and animals frequently consume poisons when eating fish. [1-3]

[2] Pharmaceutical waste -

Pharmaceutical waste is made up of unwanted, contaminated, and out-of-date pharmaceutical products such as medicines and vaccines. Additionally, it comprises waste products from the handling and manipulation of medications, such as gloves, masks, gowns, vials, bottles, and bags containing residue. Medical, nursing, dental, veterinary, laboratory, pharmaceutical, podiatry, tattooing, body piercing, brothels, emergency services, blood banks, and other fields produce clinical. [4]



Effect of Different Doses of Sodium Azide on Cytogenetical and Biochemical changes in Fenugreek (*Trigonella foenum graecum*)

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(Received: 02 January 2023; Revised: 14 February 2023; Accepted: 18 February 2023; Published: 23 February 2023)

(Published by Research Trend)

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Keywords: Chromosomal abnormalities, fenugreek, stickiness, biochemical variations, chemical mutagen.

INTRODUCTION

Fenugreek (*Trigonella foenum graecum*) also known as methi is an economic value herb. It is an important, short duration; multipurpose cash crop of India belongs to Family Fabaceae, subfamily Papilionoideae. The cultivation of the herb is carried out around the world for seed, vegetable and fodder production. The seeds of plant are grown as pot herbs and used as a spice or as herbal medicine in most of the parts of Asia (Bashir *et al.*, 2013 and Lust, 1986). *Trigonella* have potential properties as antiulcer; wound healing, CNS stimulant, antioxidant, antidiabetic, antineoplastic and antipyretic drugs (Zargar, 2014 and Srivastava and Srivastava 2018).

Genes are the building blocks and basis of growth and development of plant. To study the nature and function of genes, mutations are being used as important tool. By this genetic improvement of economic important crops takes place (Adamu *et al.*, 2007, Bashir *et al.*, 2013). In the present scenario mutational breeding helps in a bigger manner of genetic variability. This genetic variability induced by chemical and physical mutagens. These can be used for getting the desired characters. Mutational breeding helps in improving one or more character and the rest of the genotype does not change (Rajoriya *et al.*, 2016). Higher mutation rates are found in chemical mutagens treated plants as compared to physical mutagens. Chemically induced mutagenesis gives higher efficiency, more efficient for morphological and genetical variability and greater specificity of mutation (Dixit *et al.*, 2013, Bhosle and Kothekar 2010, Goyal and Khan 2010, Prabha *et al.*, 2010a and b, Avijeet *et al.*, 2011, Bhat *et al.*, 2005 and Srivastava *et al.*, 2019). The present study was undertaken to

investigate the effects of sodium azide at different concentrations in *Trigonella foenum graecum* for mutagenic exploitation of the crop.

MATERIALS AND METHODS

Healthy *Trigonella* seeds of uniform size were selected. Seeds were surface sterilized with teepol. The seeds were then soaked separately in solutions of 0.1%, 0.2%, 0.3% and 0.4% of Sodium azide for 3 hours. Control groups were soaked in double distilled water. Seeds of various treatment groups were placed in petri dishes on moistened cotton.

The root tips after cutting were fixed in Carnoy's fixative and transferred in 70% alcohol after 24 hours and stored at room temperature. The squash technique as described by Savaskan and Toker (1991) was used to make the chromosome spreads.

Lowry's (1950) method was used to determine the protein content. The results are expressed in unit mg⁻¹ protein. Carbohydrate content was estimated by Anthron's method. Proline activity measured as explained by Bates *et al.* (1973). The supernatant was read at 520nm by spectrophotometer.

RESULT AND DISCUSSION

A. Cytological analysis

The application of plant mutagen is of significant importance in improving the field, quality and economic value of the plant. Sodium azide is one of the most commonly used and most efficient plant mutagen. Mitotic investigations in the control root tips exhibited no irregularities in the structure and behavior of chromosomes and revealed normal chromosomes at metaphase and anaphase stage (Fig. 1).

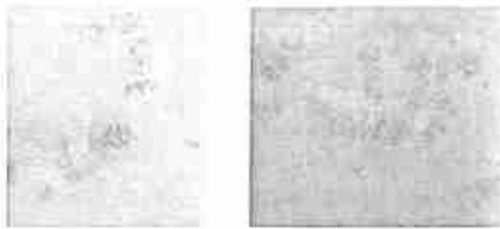


Fig. 1. Normal Metaphase and anaphase.

However, sodium azide treated plants projected various chromosomal abnormalities during mitosis. The chromosomal abnormalities included the formation of laggards, bridges, stickiness and unequal separation of chromosomes (Fig 2[a-d]). The sodium azide treated populations showed dose dependent increase in the percentage of root tip cells with abnormal metaphase.

Maximum incidence of abnormal behavior was reported in 0.3% and 0.4% SA. Increased incidence of stickiness and laggards was increase in dose. Stickiness may be due to nucleic acid de-polymerization caused as a result of mutagenic treatments or due to nucleo-proteins partial dissociation and alterations in their pattern of organization (Evans, 1962). Patil and Bhat (1992) suggested that stickiness is basically a type of physical adhesion which involves mainly the proteinaceous matrix of chromatin material. Jayabalan and Rao (1987) suggested that stickiness may result due to disturbances in cytochemically balanced reactions. Different types of chromosomal aberrations followed by treatment of chemical has also been reported by Bashir *et al.*, 2013, Dhulgande *et al.*, 2015, Siddiqui *et al.*, 2007, Kapoor and Srivastava 2010a and b, Dixit *et al.*, 2013 and Rajoriya *et al.*, 2016.

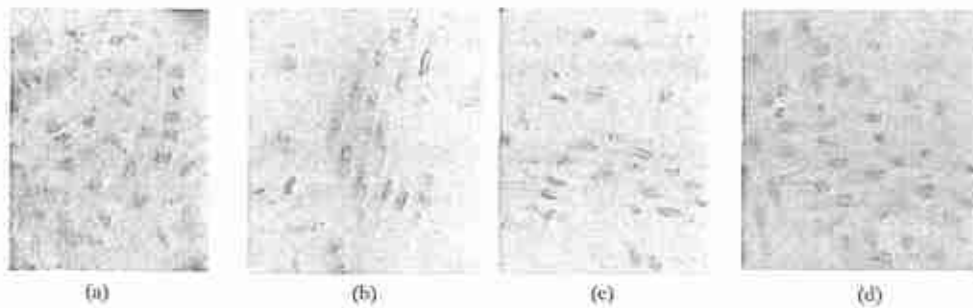


Fig. 2. (a) Unequal distribution (b-d) stickiness at 0.3% and 0.4%.

B. Protein content

In the present investigation, the highest protein content was recorded in seeds treated with 0.3% of sodium azide concentration and lowest protein content was reported in seeds treated with 0.4% of sodium azide concentration (Fig. 3). Our results so obtained were in correlation with the similar findings of work done by Dahot *et al.* (2011) on sorghum; Gnanamurthy *et al.* (2013) on *Zea mays*;

Saad-Allah *et al.*, 2014, on *Pisum sativum* and *Vicia faba*; Animasath *et al.*, 2014 on *Arachis hypogea* L.; Hussain *et al.*, 2017 on *Brassica napus* L.; and Bansod *et al.*, 2019 on the effect of various sodium azide concentration on protein percentage of *Trigonella foenum-graecum* L. Their findings were similar to our results showing that the protein was lowest in the seeds treated with 0.4% sodium azide concentration.

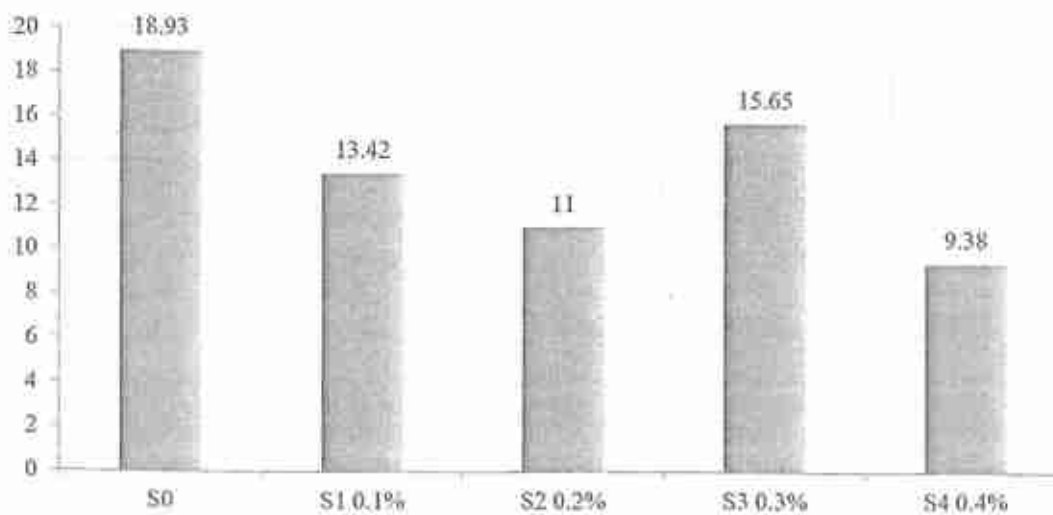


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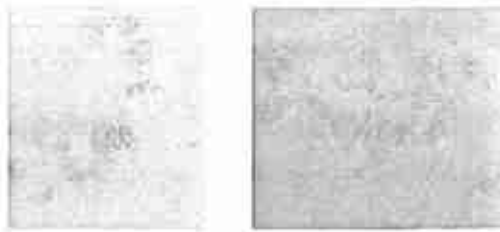


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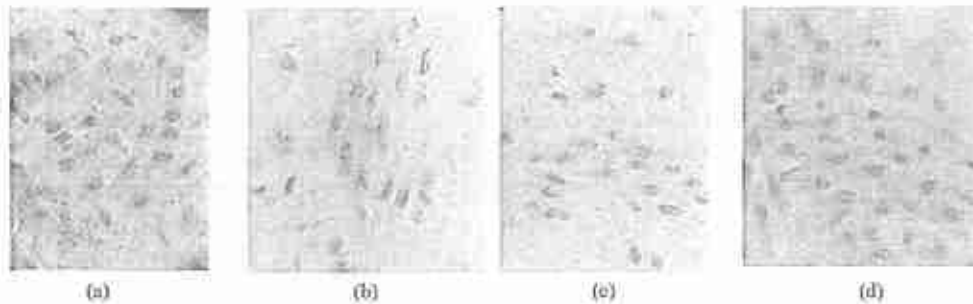


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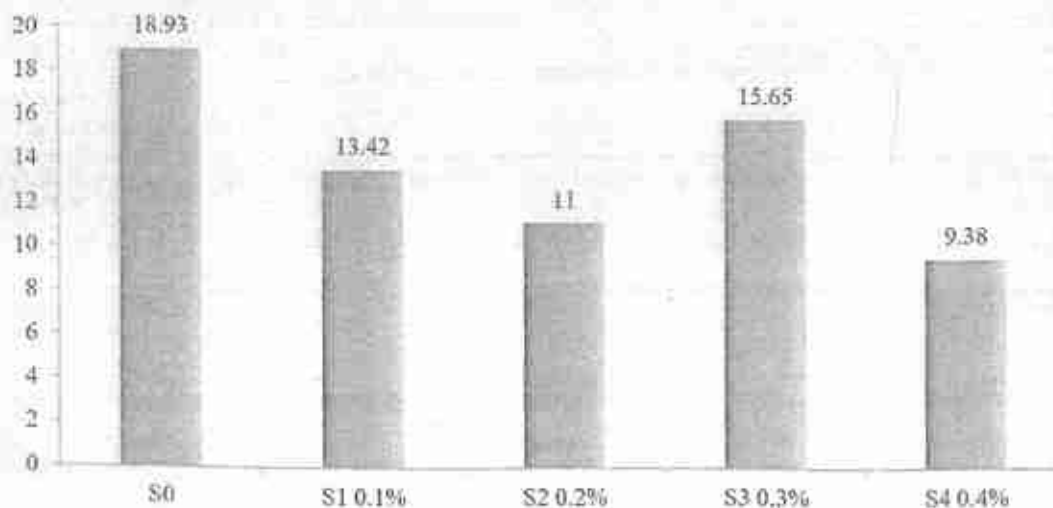


Fig. 3. Protein content (Percentage).

Emotion Detection by Image: A Historical Review

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Abstract: The mental states of feelings are represented by a person's emotions. At the moment, emotion recognition is an explosive topic. Various tools that are offered by some languages, algorithms, and systems can be used to detect emotion. For emotion detection, almost all detection systems employ baby faces. The accuracy of any emotion detection system at this moment is about 90%, which is due to the fact that emotion identification techniques are still far from being flawless. This study analyses emotion detection by image from the late 2000s to the present. The history, an overview, and a few stages of emotion detection by the image are presented in this study. The system could currently only identify six emotions: joy, sadness, fear, surprise, disgust, and anger.

Keywords: Introduction, History, phases, Emotion detection, Analysis

I. INTRODUCTION

We express what we feel in our emotions. Emotions depend on the situations where we are. The emotions of a human represent the mental states or feelings. Emotions are happiness, sadness, fear, surprise, disgust, anger, etc. Many systems can detect emotions. The technology of getting emotion is a very trending topic in various fields. The demand for emotion by voice or image is increasing daily. Many algorithms were invented and the work of modification of previous algorithms is going on. Many researchers had proposed an algorithm for an emotion detection system for better accuracy and accurate result. Only six emotions can be detected by the system. Mostly frontal faces are used for emotion detection. Facial images are most repeatedly used to detect emotions. The process of Emotion detection is not so simple because of the proper result. We need to follow complex steps for better results. For appropriate features from frontal images, we have to write a complex algorithm [1].

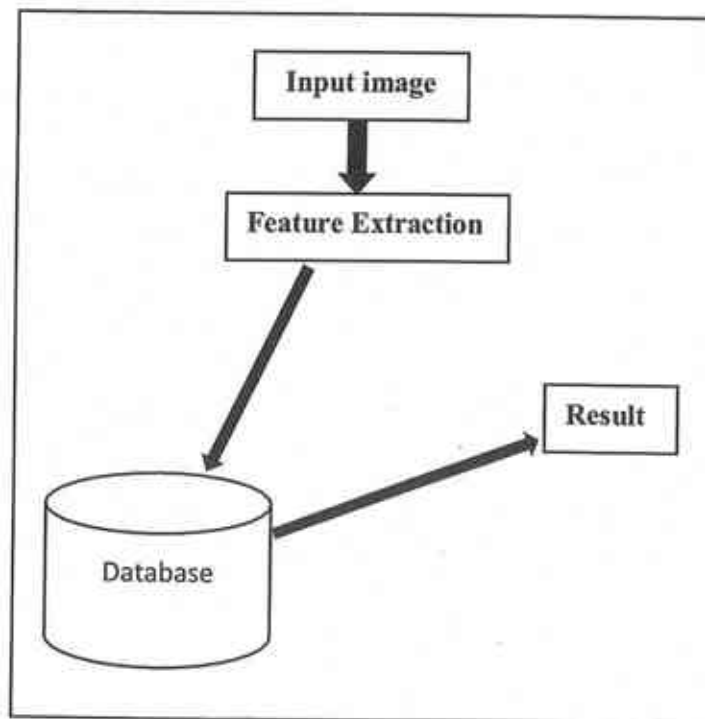


Figure 1:-Emotion detection system



EXPLORING THE DICHOTOMY OF EMOTION: UNVEILING THE CONTRASTS AND PARALLELS BETWEEN SIMPLE AND COMPLEX EMOTIONAL EXPERIENCES

Shabanam Bano^{1*}, Pawan Bhambu²

Abstract

Human experience is fundamentally shaped by emotions, which have an impact on our perceptions, behaviours, and interactions. Emotions have typically been divided into two major categories: basic emotions and complex emotions. Simple emotions, which include core affective states like happiness, anger, fear, sadness, and disgust, are thought of as fundamental and universal. Complex emotions, on the other hand, cover a broad spectrum of nuanced and merged emotional experiences that result from the fusion of simple emotions or appear in reaction to sophisticated thought processes. In order to shed insight on their specific qualities and underlying mechanisms, this research article explores the differences and parallels between simple and complicated emotions. We can better comprehend the emotional environment and how it affects human behaviour and wellbeing by examining this duality.

Keywords: Emotion, simple emotion, complex emotion, dissimilarities and similarities.

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DOI: 10.48047/ecb/2023.12.si10.00484

Hacker, Hacking and Ethical Hacking: A Historical Review

Shabanam bano¹, Dr.Pawan bhambu²

ABSTRACT

Hacking is the practice of exploiting a system's weakness for one's own gain or delight. In the internet age, enterprises and the government are extremely concerned about computer security. These companies use the Internet for a huge range of activities, such as marketing, database access, and electronic commerce. However, data and network security is a crucial issue that has to be acknowledged. The purpose of this paper is to give readers a general grasp of hacking, hackers, ethical hacking, and security compromises caused by ethical hacking.

Keywords: Hacking, Ethical Hacking, Hackers, Hacking Phases, Duties.

INTRODUCTION

Unauthorized usage of a system is known as hacking. A person who uses a computer to see or change data on another computer without that person's permission. It can be challenging to determine the true intentions of the general public in today's world, and it can be much harder to determine the motivations of each ethical hacker who tries to get access to weak systems or networks. [1].

I. ABOUT HACKING AND HACKERS

The first step in hacking is curiosity. The hacker is always curious and eager to learn more about information, depending on his interests. An individual who enjoys learning about and honing his talents in computer architecture is referred to as a hacker. He has extensive knowledge of networks, computer architecture, and programming languages. He also likes computers.

The term "hackers" is frequently used to refer to people who circumvent computer network security measures. [2]. The general public refers to them as "Criminals of the Cyber World" because they have a wicked desire to harm and destroy the networks and data of others. Malicious hackers are also referred to as "crackers". Hackers are well aware of their skills, whether they are good or bad; the only thing that sets them apart is their motivations.

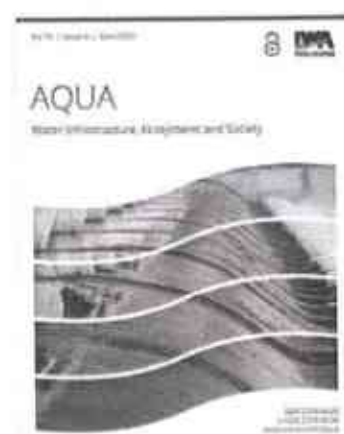
They are the experts who guard a company's networks, as opposed to illegally breaking into systems. They attack the organisations' systems to discover any security holes, if any, while abiding by the law.

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Volume 72, Issue 4

1 April 2023



RESEARCH ARTICLE | MARCH 24 2023

Assessing the deteriorating water quality in wards of Jaipur city through GIS interpolation

Rukshar Anil Dutt Vyas; Nitu Bhatnagar

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Abstract

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Poor management of water sources is one of the major challenge for developing nations to provide safe water to increasing population. The Central Ground Water Board, India 2019 reports that all 13

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Potential Applications of Nanotechnology in Agriculture: Conceptions, Characteristics, Prospects, and Limitations - A Review

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Received: August 23, 2022

Accepted: November 02, 2022

Published: November 04, 2022

Citation: Saini N, Ledwani L. 2022. Potential Applications of Nanotechnology in Agriculture: Conceptions, Characteristics, Prospects, and Limitations - A Review. *NanoWorld J* 8(S1): S147-S161.

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Published by United Scientific Group

Abstract

Nanotechnology is a trending area of multidisciplinary research. It provides many opportunities in diverse field of science like chemical engineering, medicine, pharmaceuticals, environment, and agriculture. The prospective uses and advantages of nano science in agriculture are enormous. Nanomaterials have small size and distinctive physical and chemical features. Due to this, they play significant role in the different agricultural applications like seed germination, seedling growth, plant development, and plant protection. Various studies show that technology based on nanomaterials will have large and deep-rooted impact on agricultural area and crop production. Nanomaterials improve seed germination percentage rate and increase length of root and shoot with their ratio and biomass. Nanomaterials enhance biological parameters such as photosynthetic process and nitrogen metabolism in several crop plants. In the recent agricultural scenario, nanotechnology is playing a major role in crop disease management because of its environment friendly nature and potentiality. To reduce the side effects of nanotechnology on health of living organism and environment, the world is moving towards green nanotechnology. Green synthesis of metallic nanoparticles, characterization of synthesized nanoparticles, and their potential application were discussed in this review.

Keywords

Agriculture, Environment, Nanomaterials, Nanotechnology

Introduction

Agriculture plays a vital character in the economy of a nation [1]. The increase in agricultural production is important for the development of a country [2]. Gross Domestic Product growth of a nation depends on growing food production rates [3]. Several factors such as climate change, soil nutrients, temperature, moisture content of air, and water holding capacity of soil directly affect food production and agricultural growth [4]. Thus, it is essential for a country to control the adversarial factors of agriculture [5]. Government needs to provide sustainable agriculture management as constantly growing population is raising the demand for higher agricultural yields and better strategies for optimization of agricultural practice [6]. The main purpose of sustainable agriculture for society is to provide best facilities for agriculture output and textile production [7]. There has been increased in crop production, soil nutrient, nitrogen efficiency, and water absorption with the use of sustainable agriculture practices [8]. Sustainable agriculture has promoted judicious use of fertilizers, herbicides, pesticides [9], and agrochemicals in some livestock production practices [10]. Nanotechnology is a modern technology which has shown its abilities in numerous arenas like environment, solar, medicine, engineering, agriculture, and pharmaceuticals [11-13]. It has been drawing attention for the last two decades and is currently



TO PREDICT THE EFFECTIVE THERMAL CONDUCTIVITY OF NANOFLUIDS FILLED WITH METALLIC NANOPARTICLES CONSIDERING NONLINEAR EFFECT OF VOLUME FRACTION IN SERIES-RESISTOR MODEL

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ABSTRACT

Nanofluids, a mixture of nanoparticles in base fluids, have drawn keen attention in heat transfer applications due to their high thermal conductivity. Pertinent parameters, like fluid and the nanoparticle thermal conductivity, particle size and volume fraction and many others have shown significant but complex and remarkable effects on thermal performance of nanofluids, which is commonly characterized by the thermal conductivity enhancement. We have here, developed a series-resistor model considering various parameters majorly the impact of nanolayer thickness, size, nanoparticle volume fraction and ratio of particle to fluid thermal conductivity. Artificial neural network (ANN) technique has also been used to evaluate the ETC of nanofluids and then the results have been compared with experimental results present in literature and the results evaluated using ANN technique

Keywords-Effective thermal conductivity, nanolayer thickness, interfacial resistance, effective volume fraction, artificial neural network technique.

[1] INTRODUCTION

Nanofluid is the new, next exciting frontier in technology. The nanofluid technology is still in its early phase and various scientists are working now to use nanofluids as a tool to solve the technological riddles of the modern society. Nanofluids are prepared by dispersing nano-meter sized particles in heat transfer fluid. They have distinctive properties like larger surface to volume ratio, properties that depend on dimension, lower kinetic energy and greater stability. Nanofluids are more stable than micro-milli fluids. Base fluids behave more or less like pure fluids in the presence of nanoparticles thereby incurring very little pressure drop and eliminate the need for surfactants. The most curious property of nanofluid is that they show remarkable enhancement in thermal conductivity even by the



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SYNTHESIS AND CHARACTERIZATION OF SILVERNANOPARTICLES (AgNPs)

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ABSTRACT

A curiosity has been created as we are progressing towards the deep study of species in nano-metric size. Their scale of size and metallic character makes them more and more interesting and useful in various applications like petroleum refining, automotive catalytic converters, etc. They are being used increasingly as catalyst to boost the chemical reactions. The area of silver (Ag) nanoparticles research has also been witnessed tremendous growth due to their unusual chemical and physical properties. Production of Ag nanoparticles can be achieved through different methods like biological method, ion implantation method, and wet chemical method or chemical reduction method. Chemical approaches are one of the most popular methods for the production of nanoparticles. In the present paper, silver nanoparticles have been prepared by reducing the silver nitrate in polyvinylpyrrolidone (PVP) aqueous solution. Glucose was used as reducer and sodium hydroxide to accelerate the reaction. Characterization has also been done and discussed using techniques like X-ray Diffraction (XRD), Scanning Electron Microscopy (SEM) and Transmission Electron Microscope (TEM)

Keywords- Silver nanoparticles, chemical reduction method, particle size, X-ray Diffraction (XRD), Transmission Electron Microscope (TEM) and scanning electron microscopy (SEM)

[1] INTRODUCTION

Silver nanoparticles (AgNPs) are used increasingly in various fields like medical, health care, food, industrial purpose and consumer due to some unique chemical, physical, optical and biological properties like high electrical and thermal conductivity [1-6]. AgNPs have also been used in various applications like optical sensors, household products, antibacterial products, industrial products, healthcare related products, medical device coating, cosmetics, food industry, drug delivery, anticancer agents, in diagnostic, optical sensors and pharmaceutical industry [7-9]. Surface to volume ratio of nanoparticles is an important parameter on which physical, biological and chemical properties depend and used for various applications.



COPPER NANOPARTICLES (CuNPs): SYNTHESIS AND CHARACTERIZATION

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ABSTRACT

Nanotechnology is one of the most important and emerging technology these days which deals with understanding and control of matter at nano-scale. As, in the recent years, metal nanoparticles were highly used in diverse areas like in the fields of biology, chemistry and medicine, due to their unique physical, biological and chemical properties. So, now days a number of metal nanoparticles have been synthesized and characterized. There are several methods to make metal nanoparticles, the major techniques being used were chemical methods like chemical reduction, micro-emulsion, electrochemical and biological synthesis. In this context, the present paper, here, discuss, in detail the synthesis of copper nanoparticles by chemical reduction of copper sulphate with sodium hypophosphite in ethylene glycol, in the presence of a polymer surfactant polyvinylpyrrolidone (PVP). PVP was being included to prevent congregation and give dispersion stability to the resulting colloidal nanoparticles. The characterization then has been performed by using X-ray Diffraction (XRD) and Scanning Electron Microscopy (SEM) techniques.

Keywords- Copper Nanoparticles (CuNPs), Synthesis, Characterization, Scanning Electron Microscopy Technique, X-ray Diffraction

[1] INTRODUCTION

A keen interest has been developed in the past few years on the synthesis of metal nanoparticles due to their wide applications in diverse fields like biology, chemistry and medicine, as they have unique physical, biological and chemical properties [1-7]. Various methods are now known and available which enable one to prepare these nanoparticles with specific size and shape, are thermal decomposition, mechanical attrition, metal vapour deposition, electrochemical reduction, radiolytic reduction, and chemical reduction methods. Among these methods, the chemical reduction method is one of most used and simple method for the preparation of metal nanoparticles [8].

Copper is now days, one of the most widely used materials all over the world. It has a great importance in industries, majorly in the electrical sector due to its cheap cost. Copper nanoparticles have been synthesized and characterized using various methods. Stability and



CUP SHAPED DUAL BAND MICROSTRIP ANTENNA WITH DGS FOR BIO-TELEMETRY

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ABSTRACT

Advancement of technology in the field of communication has made it possible to send biological information of human body to external intensive care systems and Biotelemetry is one such advance area of research. Being planar patch antennas are finding attention for RF biotelemetry due to their specific properties. In this paper we have proposed a compact cup shaped planar microstrip antenna with dual band performance. The proposed antenna is fabricated and measured. It operates efficiently in ISM, LTE and WLAN band and offers impedance bandwidth of 81.59 % (1.72-4.1 GHz) in S-band and 17.12% (4.7-5.58 GH) in C-band. The fabricated antenna is also analyzed on body phantom gel and hence performance is optimized to get best possible matching between them. When antenna is measured on phantom gel its bandwidth degraded from 81.58% to 33.47% in S band and in C-band impedance bandwidth decreases from 17.12% to 7.5% but still antenna is covering ISM, LTE and 5.2 GHz Wi-Fi bands used in biotelemetry application.

Keywords - Biotelemetry, Planar antenna, ISM (Industrial, Scientific Medical) Band, Body phantom

[1] INTRODUCTION

Today is the era of advance technology and is extending in all fields including medical devices. Loads of people are suffering from serious diseases because of today's unhealthy smart living and needs regular check-ups for early detection of problems. Biotelemetry made it possible as it transmits biological signals from body to long distances. Movassaghi et.al[1] illustrated that antennas plays vital role in wireless biotelemetry. When used for health care monitoring antenna should communicate in dual mode i.e. with devices located on the body and also establishes the communication link with the off body monitoring devices.

Designing antennas for human body is not an easy task as the biological environment drastically changes the performance of antenna. Many researcher all around the world worked on the effect of performance of antenna when operated in close proximity [2]-[4]. Due to exposure of Electromagnetic radiations towards human body energy is absorbed with in the body which gives rise to SAR (Specific Absorption Rate) [5]-[7]. S. Obayashi .et.al [8] & K.



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Dopant-driven recombination delay and ROS enhancement in nanoporous Cd_{1-x}Cu_xS heterogeneous photocatalyst for the degradation of DR-23 dye under visible light irradiation

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ARTICLE INFO

Handling Editor: Aijie Wang

Keywords:

CdS and Cu-Doped CdS nanoparticles
Wastewater treatment
Direct red 23
Heterogeneous photocatalyst

ABSTRACT

Developing an efficient heterogeneous photocatalyst for environmental remediation and treatment strategies using visible light harvesting processes is promising but challenging. Herein, Cd_{1-x}Cu_xS materials have been synthesized and characterized by precise analytical tools. Cd_{1-x}Cu_xS materials exhibited excellent photocatalytic activity for direct Red 23 (DR-23) dye degradation in visible light irradiation. The operational parameters, like dopant concentration, photocatalyst dose, pH, and initial concentration of dye were investigated during the process. The photocatalytic degradation process follows pseudo-first-order kinetics. As compared to other tested materials, 5% Cu doped CdS material revealed superior photocatalytic performance for the degradation of DR-23 ($k = 13.96 \times 10^{-3} \text{ min}^{-1}$). Transient absorption spectroscopy, EIS, PL, and transient photocurrent indicated that adding copper to the CdS matrix improved the separation of photo-generated charge carriers by lowering the recombination rate. Spin-trapping experiments recognized the photodegradation primarily based on secondary redox products, i.e., hydroxyl and superoxide radicals. According to Mott-Schottky curves, photocatalytic mechanism and photo-generated charge carrier density were elucidated regarding dopant-induced valence and conduction bands shifting. Thermodynamic probability of radical formation in line with the altered redox potentials by Cu doping has been discussed in the mechanism. The identification of intermediates by mass spectrometry study also showed a plausible breakdown mechanism for DR-23. Moreover, samples treated with nanophotocatalyst displayed excellent results when tested for water quality metrics such as DO, TDS, BOD, and COD. Developed nanophotocatalyst shows high recyclability with superior heterogeneous nature. 5% Cu-doped CdS also exhibit strong photocatalytic activity for the degradation of colourless pollutant bisphenol A (BPA) under visible light ($k = 8.45 \times 10^{-3} \text{ min}^{-1}$). The results of this study offer exciting opportunities to alter semiconductors' electronic band structures for visible-light-induced photocatalytic activity for wastewater treatment.

1. Introduction

Water is a universal requirement for all forms of life. In the past few decades, rapid industrialization and modern lifestyle have taken a toll on this perennial resource and contaminated water bodies like lakes, rivers, oceans, reservoirs, and groundwater (Largo et al., 2020).

Untreated industrial effluent from paper, pharmaceuticals, textile, food, and cosmetic industries is a major cause of water pollution, negatively affecting its users, especially aquatic life (Yang et al., 2020). In particular, the textile industry contributes heavily to water pollution, using a high volume of water during the dyeing and finishing stages. Chemical compounds like azo dyes are the major pollutant in industrial effluents

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Analyze the Performance of Software by Machine Learning Methods for Fault Prediction Techniques

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Abstract—Trend of using the software in daily life is increasing day by day. Software system development is growing more difficult as these technologies are integrated into daily life. Therefore, creating highly effective software is a significant difficulty. The quality of any software system continues to be the most important element among all the required characteristics. Nearly one-third of the total cost of software development goes toward testing. Therefore, it is always advantageous to find a software bug early in the software development process because if it is not found early, it will drive up the cost of the software development. This type of issue is intended to be resolved via software fault prediction. There is always a need for a better and enhanced prediction model in order to forecast the fault before the real testing and so reduce the flaws in the time and expense of software projects. The various machine learning techniques for classifying software bugs are discussed in this paper.

Keywords- Fault, Machine Learning, Decision Tree, SVM, KNN, Ensemble Techniques, Software, Fault detection model.

I. INTRODUCTION

An error state that does not adhere to the software specifications or user expectations is referred to as a software defect in a software system. Unexpected and frequently inaccurate results produced by the programme are the result of a logic or coding error. During the programming the programmer or the software designer may make mistake, most of the errors are due to the such type of mistakes. The following are examples of flaws in software systems in reality: Arithmetic errors that arise from mistakes in certain arithmetic expressions; syntax errors brought on by the way the code was written. Logical errors are errors in the code's implementation, Performance flaws result in undesirable outcomes, Interaction between users and the software results in interface defects [1].

The availability and dependability of software systems are gravely threatened by software defects. Finding and fixing the system's flaws is very expensive once the flawed system has been put into place. By gaining crucial knowledge about the kind and location of defects, developers and programmers can profit from the prediction of unknown defects and increase the necessary level of confidence in the system. Prediction of software system flaws is currently one of the most researched topics by researchers [2].

Defect predictions, which assist programmers in locating bugs in malfunctioning code regions, allow programmers to prioritise

their testing techniques according to the severity of the problematic code regions. Defect Prediction enables software testers and developers to evaluate the product's quality, determine whether or not quality standards are met, and determine whether the finished product satisfies users' needs and expectations. Additionally, it makes it easier to distribute resources for the system's formal verification as it is being developed [3].

Software has evolved into a crucial part of many systems as a result of the use of computer technology. The creation of these systems is becoming more difficult as software systems are integrated into daily life. Therefore, creating highly effective software is very difficult. The quality is still the most important feature of any software system out of all the desired attributes. By using out-dated methods, it is expensive to maintain product quality This could require a significant investment of time, money, and effort [4].

Prior to system testing, identifying fault-prone modules can help the software manager allocate resources to the right modules in order to cut costs and produce software that is almost error-free. The ultimate objective of these fault identification systems' design is to identify fault-prone modules as accurately as possible. In these approaches for prediction, software fault prediction is by far the most frequently researched topic, and numerous research centres have started brand-new initiatives in



Impact of Walton's Dimensions on Studies of Quality of Work Life

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Received: 30 Apr 2022

Revised: 01 Aug 2022

Accepted: 07 Sep 2022

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ABSTRACT

The paper presents literature on quality of work life (QWL) & seeks to relate it with Walton (1974) dimensions. The 8 dimensions as given by Walton (1974) are taken and various literature are reviewed, and a congruence is established between them. The paper poses questions to future researchers as to find new associations with Walton (1974) and other studies conducted on Quality of work life to take full usage of QWL by future businesses.

Keywords: Quality of Work life, Walton, dimensions, congruence, relationship, business

INTRODUCTION

The term quality of work life (QWL) poses different connotations. Sometimes it's considered as industrial democracy along with enhanced employee's say in decisions. In case of managers, it entails improvements in psychological aspects to advance outcome. Employees stress on equal sharing of profits, safe, secured, healthy and humane working atmosphere. Others propose improved social relationships by forming autonomous workgroups. Broadly it refers changing organizational climate through humanization of work, individualized organizations, and transitions in managerial and structural systems. Quality of work life relates with perception of favourableness or unfavourableness of job climate by employees. It denotes process of participative decision making & forming building mutual trust and respect between managers and employees. It concerns increased labour - management cooperation to resolve performance and worker satisfaction. Employees participate keenly and shape organizational atmosphere, methodology & results. This ensures goals of enhanced effectiveness for enterprise as well as perception of quality of work life by workers. Main aspects of Quality of Work Life as per Walton (1974) are - Adequate and Fair Compensation relate with balance between efforts and reward for employees. Safe and Healthy working conditions entail working hours, hygienic workplace and risk free environment Opportunity to use and develop human capacities include autonomy, control, performance feedback, skill exploitation and enhancement. Opportunity for career growth involve continual growth in career. Social Integration in the work force incorporate





CHANGING NEW NORMAL IN EDUCATION: YOUTH PERSPECTIVE

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Abstract:

During the year 2019, Coronavirus disease known as COVID-19 PANDEMIC has left the world with no choices but to stay at one place, with no social contact and required social distancing was the only solution that seem to work. The development of the countries came to a halt. People from Education, Medical, Science and Research were the savior who brought back the life to normal. There was a paradigm shift in all the fields of life and higher education has been no exception. The education becomes a real challenge where students didn't have smartphone, laptop/ desktop, data network and how to study online was the major issue for both – the students and the teachers. The survey aims at analyzing and evaluating present time challenges in teaching – learning and how adapting to new teaching strategies through online platform has helped in making education possible to access for the students. The survey was conducted through google form based on the student's approach towards learning online. The survey focused on their regularity, understanding of the subject, norms of Covid-19, role of Teachers in Higher Education, parents view on sending children to college and school, National Education Policy 2020 and students approach and acceptance of the changes being made to keep pace with the changing norms in the field of Education.

Keywords: coronavirus, national education policy, higher education.

Introduction:

Corona induced the world's unprecedented lockdown that kept 1.4 billion students out of their pre -primary and secondary schools in more than 190 countries in Education sector. Schools were closed and children were confined to the houses the education of around 3 16 million students was hampered in India alone we shifted to an alternative education mode but that



alternative was not accessible to all children belonging to the poor or even the middle class who were not able to arrange the required smartphones or computers or get internet as for the online learning they were forced to drop out from schools. This made the realization that the one single area where reform is needed is education. However the shift from the traditional education system to online education mode was so sudden and unplanned that teachers did not get time for preparation or training. But this transformation despite the difficulties and limitations has paved the way for a change in the education system. The fundamental objective of our education system is to inculcate life skills among students. It became evident that the education system should be made flexible and accessible for all. We have options like Open Book exam is attitude-based assessment and linking content knowledge to values of life. New Education Policy 2020 is a step towards student centric learning. The online system of education was a step towards new teaching learning framework and laid the foundations of modernization of education. It can play an important role for teachers to assess each student with the help of technology.

Meaning: THE NEW NORMAL

In other words, current situation, social custom, etc., that is different from what has been experienced or done before but is expected to become usual or typical. The term new normal in education - refers to an online teaching- learning framework during Covid-19. To cater the needs of the students and initiate learning, online system of education was adopted globally.

The new normal education could be described as “mostly blended learning” in which the teaching and learning process are mediated with technology and done in various modalities. The Department of Education has pushed for a modular approach, which has become the norm during the pandemic. Faced with several difficulties, many schools thought of using technology such as the internet, handheld radio, radio broadcast, videos, limited face-to-face, and other means.

Various platforms like Google Classes, Google Meet and Zoom became handy. Nevertheless, many of these tools were new to teachers and students. Most have no training a priori to usage, though online webinars have flooded educators for them to be capacitated with the blended learning modalities. Below are some other important factors to consider -

Cooperation among the key players

To continuously survive the challenges of the new normal education, what I observed is that there is a pressing need for equal cooperation and teamwork of teachers, parents, and learners, not only on focusing how to use technology. Without the cooperation of teachers, learners, and parents, quality education may not be guaranteed.

Time management

Since students are not required to be online 24/7, a time schedule of classes is provided for students which will serve as their guide. Time management skills is then paramount and should be taught, encouraged and instilled. Usage of technology and lesson preparation.

For technology, the Learning Management System (LMS) platform could be taken advantage of. This platform allows teachers to create virtual classes where they can assign activities that

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Review Anticancer Agents Med Chem. 2022;22(19):3269-3279.
doi: 10.2174/1871520622666220412133112.

Design and Development of Triazole Derivatives as Prospective Anticancer Agents: A Review

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PMID: 35418291 DOI: 10.2174/1871520622666220412133112

Abstract

Background: In recent years, there has been a crucial need for the design and development of novel anticancer drugs that can lessen the serious health problems and unwanted side effects associated with currently used anticancer drugs. The triazole nucleus is well-recognized to possess numerous pharmacological activities, including anticancer, as revealed by various investigations on anticancer drugs and the latest research findings.

Objective: The aim of this review article is to summarise the anticancer potential of 1, 2, 3-triazole; 1, 2, 4-triazole and heterocycle-fused triazole derivatives against several human cancer cell lines, compiling research articles published between 2010 and 2021.

Methods: Data were collected from PubMed, Google scholar and Research Gate using keywords "anticancer activity of 1, 2, 3-triazole derivatives", "anticancer activity of 1, 2, 4-triazole derivatives" and "anticancer activity of heterocycle-fused triazole derivatives" and reviewed comprehensively.

Results: This review examines the anticancer potential of 1,2,3-triazole coupledoleanolic acid/dithiocarbamate/ pyrido[2,3-d] pyrimidine derivatives, 1,2,3-triazole linked pyrimidine/1,4-naphthoquinone hybrids, and 1,2,4-triazole substituted methanone derivatives, acridine-based 1,2,4-triazole derivatives, 1,2,4-thiadiazol coupled with 1,2,4- triazole and 5-ene-thiazolo[3,2-b] [1,2,4]triazole-6(SH)-one derivatives against several human cancer cell lines.

Conclusion: This review highlights the key findings in the area of cancer therapy. Triazole derivatives possess anticancer activity against various human cancer cell lines, and hence the triazole core may act as a lead molecule for the synthesis of novel anticancer drugs.

Keywords: 1, 2, 3-triazole; 4-triazole; anticancer; anticancer agents; heterocycle-fused triazoles; novel-drugs.

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Review on Physicochemical Characteristics of Ground Water and Their Health Effects

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DOI:

<https://doi.org/10.54060/jmcev3i1.30>

Keywords: physicochemical characteristics, contamination, industrialization, human health

ABSTRACT

Ground water is well described through some physical and chemical characteristics viz temperature, pH, turbidity, electric conductivity, total dissolved solid, total hardness, total alkalinity, nitrates, chlorides, fluorides and metal ions like calcium, magnesium, iron etc. Ground water is



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PUBLISHED

2023-04-25

HOW TO CITE

P. Vohra, A. Kumar Kakodia, S. Lal, and K. Tanwar, "Review on Physicochemical Characteristics of Ground Water and Their Health Effects", *J. Mex. Chem. Eng.*, vol. 3, no. 1, pp. 1-8, Apr. 2023.

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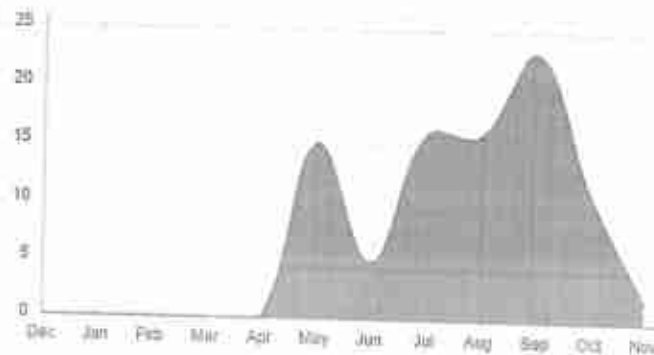
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human worldwide, because it is quite economic, easy to use and less vulnerable to contamination than surface water. Nowadays, industrialization, urbanization, fast growth of civilization and increase in population have led to deterioration of the groundwater quality rapidly. Domestic and industrial discharge, landfills, improper drainage system, seepage through sewer lines, agricultural practices such as intense use of pesticides and fertilizers, uneven rainfall and mismanagement are some of major causes for its pollution. Therefore, it is necessary that the quality of ground water should be checked regularly for some physical and chemical parameters as their presence in water above the permissible limit has a serious effect on human health. Hence assessment of physicochemical characteristics of ground water is very important for human health studies and therefore an important research topic in recent years. In the present work, physicochemical characteristics associated with ground water are reviewed along with their health effects.

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Statistical Analysis of Groundwater sample of Sirohi village of Neemkathana block of Sikar (Rajasthan) India

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<https://doi.org/10.54060/jase.v2i2.18>



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2022-11-25

HOW TO CITE

S. Kumar Verma, A. Kumar Kakodia, K. T. Tanwar, and Shiv Lal. "Statistical Analysis of Groundwater sample of Sirohi village of Neemkathana block of Sikar (Rajasthan) India". *J. Appl. Sci. Educ.*, vol. 2, no. 2, pp. 1-11, Nov 2022.

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DOI:

<https://doi.org/10.54060/jase.v2i2.18>

Keywords: Water, physio-chemical parameters, Water Quality Index, correlation diagram, Water Quality Index

ABSTRACT

In this study, the statistical analysis of groundwater of Sirohi village of Neemkathana block, Sikar (India) has been presented. Groundwater samples were taken from the se-lected sites strictly as per BIS norms. The TDS level of Sirohi village was found to be more than the acceptable limit of 500 mg/L. The higher TDS will affect human

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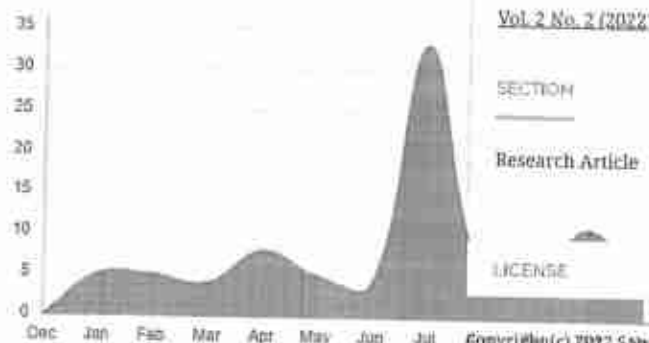
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semi-arid zone, due to a continuous decrease in the value of rainfall, the rate of recharge of the water aquifer is imbalanced by yield. The average discharge from wells in alluvial ranges from 40m³/day to 90m³/day. Such kind of situation makes contamination to be at the extreme.



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Groundwater Quality Assessment of Vadlipada Village of Kushalgarh Block in Banswara District (Rajasthan) India and its Suitability for Potable Purposes

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Accepted on 12th May, 2023

ABSTRACT

The Vadlipada village faces acute water shortage in summer due to the drying of open wells, rivers and is depended mainly on the groundwater for their daily requirements. The groundwater pollution sources in this area are open defecation, domestic effluents, discharge of sewage, septic tanks, soak pits, dumping of solid waste and use of pesticides and fertilizers in agriculture. Hence, regular monitoring and assessment of the quality of the groundwater resources of this region is quite necessary. Following physicochemical parameters were analyzed in the present investigation to determine the quality of groundwater samples collected during assessment year from April 2022 to March 2023 from the selected hand pump of the village: temperature, pH, turbidity, total dissolved solid, total alkalinity, total hardness, chloride, fluoride and nitrate. The present study is carried out the groundwater quality assessment of village Vadlipada of Kushalgarh block in Banswara district, Rajasthan, India.

Graphical Abstract:



Assessment of Fluoride in groundwater of Vadlipada village.

Keywords: Groundwater, Quality assessment, Fluoride, Physicochemical Parameters.

INTRODUCTION

Groundwater is the most commonly utilized natural resource which fulfills the demand of public water supplies worldwide as it is more convenient, cheaper, easily available and less vulnerable to contamination than surface water. It is necessary to save and recover the available water sources from pollution and the water treatment processes may help in the improvement of the groundwater quality to make it suitable and appropriate for its utilization specifically [1]. India is the largest country of the world in terms of population. Fast growing population demands high quantity of resources including clean drinking water. Due to the scarcity and unavailability of clean surface water in most part of the year, groundwater is mainly used for drinking, household and agricultural purposes in many rural areas of India. Contamination of groundwater also depends on the geology of the region. The changes in excellence of groundwater reply to difference in physical, chemical and biological environments throughout which it passes [2]. In 14 states of India, viz. Andhra Pradesh, Bihar, Gujarat, Maharashtra, Rajasthan, Haryana, Kerala, Orrisa, Madhya Pradesh, Punjab, Karnataka, Uttar Pradesh, West Bengal and Tamil Nadu, the concentration of fluoride found beyond the permissible limit of 1.5 mg L^{-1} . According to some other studies, 65% towns in India are suffered from fluoride issues [3]. Defluoridation of such fluoride containing water is most correct way to overcome this issue [4]. Not only fluoride, but other physicochemical parameters in higher concentration can be hazardous to human health and arises many health-related problem. To root out this problem, time to time inspection of quality status of groundwater is mandatory especially in villages because people of villages are mainly dependent on groundwater for their daily needs [5]. There is no research work done in Kushalgarh block regarding the groundwater quality assessment and its suitability for human consumption. Hence, the present work will help to determine the quality status of groundwater in rural areas of Kushalgarh block.

MATERIALS AND METHODS

Study Area: Rajasthan is awarded with pride, the largest state of India, but it has very limited and minimum water resources due to its anomalous geographical conditions. The major source of recharge to groundwater in the state is rainfall, but it is much lower as compared to the other parts of the country. Because of the arid conditions of Rajasthan, a considerable amount of total rainfall is consumed for making the soil moisture and also lost due to evaporation. Thus, groundwater plays a significant role in rural areas of Rajasthan as important drinking water source. Banswara district is situated in the southernmost part of Rajasthan. Kushalgarh is situated at the southern part of Banswara district. The only means of irrigation in this block is groundwater. In rural areas of the block the groundwater is the primary natural resource for drinking and irrigation purposes. The present study was carried out in the Vadlipada village of Kushalgarh block.

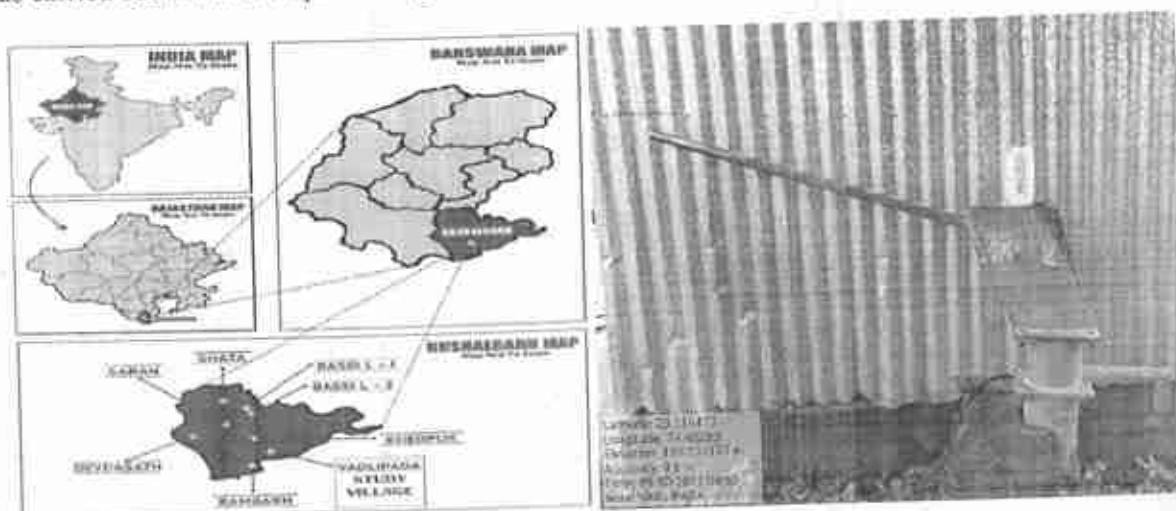


Figure 1. Sample Station Photo and Location map of Study village Vadlipada.



FLUORIDE IN GROUNDWATER OF NEEMKATHANA BLOCK SIKAR, (RAJASTHAN) INDIA

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Abstract: This paper observes, comparative analyses and describes the groundwater fluoride level of Neemkathana Block. Seven villages (Ganeshwar, Khadra, Mandoli, Sirohi, Chala, Heeranagar, and Bhudoli) have been selected for sampling for groundwater testing and monitoring. The sampling method is selected as per BIS and WHO. The variation of fluoride in water of all seven sampling villages is shown in table and figure. Fluorides average value varying between 0.4 to 2.5 mg/L, BIS (IS10500:2012) have a relaxation limit up to 1.5 mg/L. Groundwater samples of Chala and Heeranagar have average exceeds the permissible limit of 1.5 mg/L. The higher fluoride in water affects the human health.

Keywords: Groundwater, physio-chemical parameters, Fluoride, BIS, permissible limit, WHO

1. Introduction

The main source of fluoride in rock is Quartzites, basalts, hornblende, biotite, fluorapatite, fluromica, cryolite delorites, etc (McGown,1977). The inorganic chemicals holds the greater portion of contaminants of drinking water in comparison to the organic chemicals (Rahmanian et al., 2015). To show the effect of groundwater fluoride on dental fluorosis selected duration of 2007-2017 from web sources and stated by their review that below 11 year age are more affected, Meta-regression analysis indicates temperature and groundwater fluoride both have influence on dental fluorosis and also stated that impact on health is more in less developed countries (Akuno,2019). The thyroid gland in the body seems to be more sensitive to F⁻ (Shashi, 1988). Fluoride increases the amount of thyroid-stimulating hormone (TSH) and decreases the amount of T3 and T4 hormones resulting in producing hypothyroidism (McLaren, 1976). Insulin resistance in humans is caused by chronic fluoride exposure from drinking water (Trivedi, et. al, 1993). Dental fluorosis is hypomineralization of tooth enamel caused by intake of too much fluoride during enamel formation (Wong, et.al, 2010). Children more than ten year are more affected by dental fluorosis and permanent teeth have impact rather than primary (Shitumbanuma, 2007). Millions of people exposing excessive fluoride due to which facing the problem of milder dental conditions and crippling skeletal (United Nations, 2006). To protect teeth from decay for children fluoride supplements are required if drinking water have less than the optimum level of fluoride (ASTDD,2013). The enamel breakdown is caused by acid produced by bacteria and fluoride protects teeth from decay (Anzilotti, 2021). 0.7 mg/L an optimum level for fluoride recommended by The U.S. Public Health Service (USPHS) for protecting teeth from decay. The American Dental Association (ADA) says that the fluoride in water is beneficial to the communities because it: reduces dental decay up to 20 to 40 percent. The most common problem occurred due to high fluoride in water is tooth decay, however fluoride is origin of problems of bones, and neurological development in human being. Due to high fluoride the bones may become hardened and less elastic which increases the risk of fractures. The Fluoride is the important cause of damage the parathyroid gland, this called the thyroid problem. The other problem which are generated due to high fluoride are : acne and other skin problem, cardio vascular

problem, reproductive tissues like lower fertility, osteoarthritis, bone cancer, temporomandibular joint disorder and neurological problems possibility leading to ADHD [78]. According to the International Association of Oral Medicine and Toxicology (IAOMT), an organization that campaigns against the use of added fluoride, it may also contribute to the following health problems: Excess exposure of fluoride may result into a bone disease termed as skeletal fluorosis. Skeletal fluorosis leads the bones to be hardened so increasing the risk of fractures. For the preventing tooth decay Department of Health and Human Services (DHHS) sets the optimal level of fluoride for at 0.7 milligrams (mg) in every litre of water. The Environmental Protection Agency (EPA) sets the maximum level at 4 ppm. Data from 2000-2008 of the New Zealand Cancer Registry shows no evidence of association of osteosarcoma and fluoride. No evidence regarding water fluoridation in New Zealand affects neurological development, for prevention tooth from decay – 1 mg/L and lead to increased bone strength, while decrease bone strength when present upto 4 mg/L.

II. Material and Methods

Estimation of parameter is done with the help of UV Spectrophotometric method by the use of water samples as material from the sources which are hand pumps, and bore wells. A 1 litre water bottle are used for the sampling, the sample test started from august 2020 to July 2021.

III. Study Area



Figure 1: Neemkathana block (source: election commission)

3.1 Geographic Location

The latitude of Neemkathana, Rajasthan, India is 27.738001, and the longitude is 75.782997. Neemkathana, Rajasthan, India is located at India country in the Towns place category with the gps coordinates of 27° 44' 16.8036" N and 75° 46' 58.7892" E. Total area of tehsil is 1,178 km² including 1,153.79 km² rural area and 24.56 km² urban area and total population of 82198 peoples with household 69,151 (census2011). The mean annual rainfall is highest (536.6 mm) at block and hydrological Older formation alluvium and quartzite. The principal aquifer in the area is Quaternary sediments. Due to unavailability of surface water peoples are dependent on groundwater.

IV. Result and Data Analysis

Assessment of Fluoride in groundwater of Neemkathana block

The results of fluoride in groundwater of Neemkathana Block is shown in the Table



ORIGINAL ARTICLE

Nitrate in Groundwater of Neemkathana Block Sikar, (Rajasthan) India

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ABSTRACT

This paper observes comparative analyses and describes the groundwater nitrate level of Neemkathana Block. Seven villages (Ganeshwar, Khadra, Mandoli, Sirohi, Chala, Heeranagar, and Bhudoli) have been selected for sampling for groundwater testing and monitoring. The sampling method is selected as per BIS and WHO. Nitrate is within the BIS (IS10500:2012) acceptable limit of 45 mg/L in Groundwater Mandoli, Sirohi, and Chala villages, while the limit is exceeded in four villages Ganeshwar, Khadra, Heeranagar, and Bhudoli. The groundwater of Khadra village has highly deteriorated. Anthropogenic and geogenic activities are continuously affecting to quality of groundwater.

Key words: Groundwater, physio-chemical parameters, Nitrate, BIS, permissible limit, WHO

Received: 18th Oct. 2022, Revised: 6th Nov. 2022, Accepted: 15th Nov. 2022

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How to cite this article:

Kakodia A.K., Verma S.K., Lal S. and Tanwar K. (2022): Nitrate in Groundwater of Neemkathana Block Sikar, (Rajasthan) India. *Annals of Natural Sciences*, Vol. 8[4]: Dec., 2022: 1-4.

INTRODUCTION

According to a Ministry of Consumer Affairs, Food & Public Distribution 2016 Parliament committee report on water resources, nine states - in south, west and central India-groundwater levels are now described as "critical". Aiming to ensure that clean and safe drinking water is provided to all, the Department of Consumer Affairs decided to undertake a study through the Bureau of India Standards (BIS). Freshwaters are required for domestic, agricultural, industrial, and commercial purposes, and for human existence, adequate quality and quantity are required (Kumar, 1997). According to Sargaonkar and Deshpande (2003) work of assessment of water quality and pollution control is conducted by different National and International Agencies for various uses of water, for this purpose they are considering different indicator parameters. These classification schemes differ in terminologies used like Action level/ Guide level for the determination of water quality standards. High concentrations of nitrate in groundwater in arid, and semi-arid areas are due to agricultural activities, natural vegetation by leguminous species, like acacias, and leaking effluent due to site sanitation (WHO, 2007). World Health Organization (2007) stated that "High nitrate concentrations can cause Methemoglobinemia (blue-baby syndrome) in bottle-fed infants. This condition is also associated with the simultaneous presence of bacterial contamination. Agarwal (2015) assessed nitrate contaminations in the groundwater of Jaipur district, Rajasthan, and its impact on human health and said about the sources of nitrate in groundwater which are geological or man-made. Parvizishad *et al.* (2017) give to review the adverse effects and benefits of nitrate and nitrite in drinking water and food on human health. Low

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Statistical Analysis of Groundwater sample of Heeranagar village of Neemkathana block of Sikar India

January 2023 · *IOSR Journal of Environmental Science, Toxicology and Food Technology* 17(1(1)):23-29DOI: [10.9790/2402-1701012329](https://doi.org/10.9790/2402-1701012329)

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Tanwar**[Download full-text PDF](#)[Download citation](#)[Copy link](#)

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Abstract

The present study was done to assess the suitability of groundwater for portability and other consumption purposes. Seven different Physico-chemical parameters were taken into account to calculate the Water Quality Index (WQI) based on a recommended agency like the Bureau of Indian Standards (BIS) and the World Health Organization (WHO). The total alkalinity of groundwater in the Heeranagar village was observed higher. The mean value for parameter nitrate is 68 mg/L, and the standard deviation calculated is 15.13 which is higher than the BIS (IS 10500: 2012) acceptable limit of 45 mg/L. The mean value of the parameter fluoride for the assessment period is 1.64mg/L, and the standard deviation calculated is 0.49 which is also higher than the acceptable limit. Due to higher concentrations of nitrate, fluoride, and higher the values of TDS, WQI is not excellent for the selected village sample source.

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Statistical Analysis of Groundwater sample of Heeranagar village of Neemkathana block of Sikar India

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ABSTRACT

The present study was done to assess the suitability of groundwater for portability and other consumption purposes. Seven different Physico-chemical parameters were taken into account to calculate the Water Quality Index (WQI) based on a recommended agency like the Bureau of Indian Standards (BIS) and the World Health Organization (WHO). The total alkalinity of groundwater in the Heeranagar village was observed higher. The mean value for parameter nitrate is 68 mg/L, and the standard deviation calculated is 15.13 which is higher than the BIS (IS 10500: 2012) acceptable limit of 45 mg/L. The mean value of the parameter fluoride for the assessment period is 1.64 mg/L, and the standard deviation calculated is 0.49 which is also higher than the acceptable limit. Due to higher concentrations of nitrate, fluoride, and higher the values of TDS, WQI is not excellent for the selected village sample source.

Date of Submission: 27-12-2022

Date of Acceptance: 07-01-2023

I. INTRODUCTION

Groundwater is an essential and vital component of our life support system. 85 % of the rural population of the country uses groundwater for drinking and domestic purposes. Nitrate is a very common constituent in groundwater, especially in shallow aquifers. The Bureau of Indian Standards (BIS) has specified drinking water quality standards in India to provide safe drinking water to the people. Water is an essential natural resource for sustaining life. Water quality is an essential parameter to be studied when the overall focus is sustainable development keeping mankind at the focal point. (Saxena 2015). The correlation provides an excellent tool for the prediction of parametric values within a reasonable degree of accuracy (Venkatachalam

GROWING DIGITAL DOMINIONS: A COMPARISON OF THE MERGERS AND ACQUISITIONS AND STRATEGIC ALLIANCES IN THE SECTOR OF E-COMMERCE

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Abstract: This study looks at the results and effects of M&A and strategic partnerships in the online retail industry. The research compares and contrasts the financial performance, changes in market share, and variables impacting the success of these deals via a regression analysis. The results show that mergers and acquisitions in the e-commerce industry often lead to greater revenue growth and ROI than strategic partnerships. Increases in market share tend to be bigger after an M&A deal has taken place. The size of the deal, the kind of business it's in, and the company's financial health before to the merger are all shown to be statistically significant predictors of future revenue and profit growth in a regression study. Incorporating key ideas and models, such as the resource-based approach and the theory of the network effect, the study adds to the understanding of mergers, acquisitions, and strategic alliances in the e-commerce business. Future research directions include investigating the long-term effects, the function of digital platforms and emerging technologies, regulatory frameworks, and qualitative research methods, while the research's practical implications inform strategic decision-making in e-commerce firms. Understanding the dynamics of expanding digital dominions in the e-commerce sector is made easier with the insights acquired from this study, which in turn helps professionals and policymakers make better decisions.

Keywords: Mergers and acquisitions, e-commerce sector, strategic alliances, comparative analysis, financial performance, pre-transaction financial performance, return on investment, revenue growth, network effect theory, practical implications, strategic decision-making, digital platforms, regulatory frameworks, emerging technologies.

1. Introduction

E-commerce has emerged as a disruptive force in today's period of fast technology growth, changing the manner in which companies function and customers make purchases. The significant expansion of the industry over the last ten years can be ascribed to several factors, including the proliferation of internet

DIGITAL KNOWLEDGE REVOLUTION IN THE 21ST CENTURY: PROGRESS AND PROSPECTS

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Abstract

The Digital Knowledge Revolution refers to the ongoing transformation of society and the economy driven by the widespread adoption and integration of digital technologies. This revolution has led to the rapid advancement and globalization of information, communication, and commerce, and has dramatically changed the way people live, work, and interact with each other. Key features of this revolution include the proliferation of the internet and mobile devices, the increasing availability of big data, and the growth of the gig economy and remote work. The Digital Knowledge Revolution has also created new challenges and opportunities, including the need for digital literacy, the rise of automation and artificial intelligence and the need for privacy and security in the digital age. The 21st century has been marked by the rapid expansion of digital technologies, leading to what is referred to as the "Digital Knowledge Revolution." This revolution has brought about both progress and challenges, transforming communication, commerce, education, and entertainment. The progress made in these areas has been significant, providing unprecedented access to information and new opportunities for growth and innovation. However, it has also created new challenges related to privacy, security and inequality.

This research paper aims to examine both the progress and prospects of the digital knowledge revolution in the 21st century. It will provide an overview of the positive impacts of digital technologies, as well as the challenges posed by their widespread use. It will also consider the prospects for future growth and development, including advancements in artificial intelligence and the Internet of Things. The paper concludes with a reflection on the need for responsible management of digital technologies to maximize the benefits for all people.

Keywords: Digital Knowledge, Digital Technologies, Revolution, Communication, Progress, Prospects

INTRODUCTION

The Digital Knowledge Revolution has been a defining characteristic of the 21st century. The widespread adoption and integration of digital technologies has transformed virtually every aspect of modern life, from how people communicate and work to how they access information and entertainment. This revolution has had profound effects on the economy, society, and the individual, creating new opportunities and challenges that have both expanded and disrupted traditional models of business, education and culture.

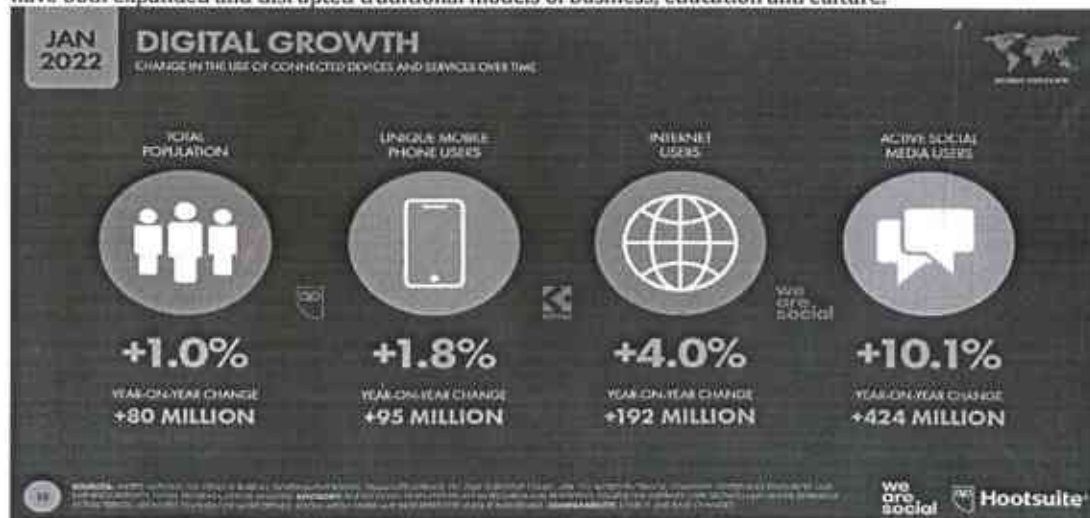


Fig. 1: The spread of digital technologies worldwide
Source: <https://datareportal.com/reports/digital-2022-global-overview-report>

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CORRELATIONAL STUDY ON PARENTING STYLES AND PARENTAL ATTITUDE TOWARDS SEX EDUCATION

¹Aayushi Sorai & ²Priya Verma

Abstract

The UNESCO campaign on Comprehensive Sexuality Education talks about all young people's relationships, gender, and sexual and reproductive health. Sex education as a concept still finds it challenging to make its space among the significant youth population of the nation. Rising cases of child pornography and trafficking make their way into the lives of young adults. Parents of teenagers find it difficult to discuss the topics leading to the misconception about the concept. The present study explores how various parenting styles and parental attitudes toward sex education are related. The correlation method uses to assess the relationship between the study's variables. The study sample consisted of parents (both mother and father) of adolescents (aged 10-19 years) in an urban setting. The results indicated that parenting styles share weak correlations with attitudes toward sexuality, which reveals that the topic of sexuality and sex education is still taboo among the population, irrespective of parenting style. The parents may be open to other aspects of life but still hesitant about discussing these topics, which calls for more discussions and talks with parents and their children. Future research suggested the present inferences that could build upon the narratives of the parents and caregivers in authority.

Keywords: Parenting Styles, Sex Education, UNESCO, Correlation

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INTRODUCTION:

Parents play a unique role in providing and facilitating their children in acquiring sexual and reproductive health knowledge. The parenting styles influence how sensitive topics got discussed.

Carole and Carlo (2002) believed that oldsters are the most substantial influence on their children's personalities, actions, moral behaviors, and emotional problems. Parents are known to be the primary source of socialization.

That is, parents are influencing the fundamental development of the individual. There are many ideas about the way to rear children. Some parents adopt their own parent's style; some read books about parenting, and others get advice from friends. Parenting style may be a psychological construct representing standard strategies oldsters use in their child-rearing.

According to Moore & Pelter (1998), the most common method used by parents to enforce moral standards is power assertion, which includes threat, physical punishment, depriving the child of privileges, and usually taking advantage of being bigger, stronger, and more powerful. Okorodudu (2003) listed environmental, social, physical, psychological, and peer influence, substance abuse, and family as factors for anti-social

behavior, which can likely lead them to sexual experimentation.

Parenting styles got classified into three primary forms; the authoritative, the authoritarian, and therefore the permissive parenting styles (Baumrind, 1991). Ang & Groh (2006) stated that authoritarian parenting constitutes parents who are often strict, harsh, and high in parent-child communication but low in child-parent communication.

Children from most Caucasian authoritarian families exhibit poor social skills, low self-esteem, and high levels of depression. Therefore, there could also be a high tendency for children from this parenting style to interact in sexual activities with someone who shows emotion and comfort them.

According to Ang & Groh (2006), authoritative parenting is flexible and responsive to the child's needs but still enforces a reasonable standard of conduct. The parents in this category are high in warmth, moderate in discipline, high in communication, and moderate in expectation. Permissive parenting styles do not impose fear, restriction, rules, or limit on their children; those parents are high on warmth, very low on discipline, and low in parent-to-child communication, but high in child-to-parent communication.

Most of the human population has their first sexual encounters during their adolescence. The specific characteristics of adolescents (need for independence, impulsiveness, and emotional lability) and the lack of maturity at the time of initiating sexual relations facilitate the acquisition of risk behaviors in these relationships, among which the following stand out as the most prevalent. (Folch et al., 2015)

- Sexual relations are usually sporadic and in unsuitable spaces such as cars and parks;
- Quickly changing sexual partners;
- The idea of invulnerability with a false perception that the probability of contracting an asexually transmitted infection (STI) is minimal;
- Relaxation in the use of barrier contraceptives to avoid rejection by not accepting an asexual relationship if there is no condom or if the sexual partner does not want to use it;
- The use of toxic substances, alcohol, or drugs, decreases the attention to the use of protective measures, control, and voluntariness of the relationships

Freudian theory of psychosexual development brings about the conceptual evolution of sexuality across ages. It is a natural instinctual tendency of human beings to explore sexuality from an early age.

According to (Kar et al., 2017), among diverse geographies, certain cultures offer more challenges and limit the opportunities to explore and learn. Probably, India, too, is facing a similar kind of challenge. Education about sexuality has often been taboo in Indian culture. Indian culture seldom encourages discussing sex and sexuality openly.

Imparting sex education is both a science and an art. The educator has trained before being tasked to educate others. Currently, the scope of sex education is limited to the basic anatomy and physiology of the reproductive system in most educational curriculums. A few more issues related to sexually transmitted infections, especially AIDS, were also covered to some extent, which falls short of the actual needs.

Sex education today is clearly at a crossroads. There raises an endless debate on the issue of the incorporation of sex education in formal school and college curricula. Criticisms and protests continue unabated on this controversial issue and might intensify in the coming days. Considering the indispensability of sex education in building a healthy and progressive society, is pertinent to ask, "What needs should be included in sex education?"

Unfortunately, sex education in India has not received as much attention from the research and policy perspective as it should have, given the current Indian scenario of the unmet need for sex education for the average adolescent population is as high as 50%.

Several research types have shown that adolescents with permissive parents are more susceptible to delinquent behavior and health problems. However, suppose teenagers from permissive parenting styles were allowed to try to do whatever they like and obtain whatever they have at their own convenient time. In that case, there could also be a high possibility of engaging more in sex experimentation than other teenagers from other parenting styles.

From the ideas cited above and the kinds of literature collected, this current study can build a relationship between parenting styles and sex education because Parenting style theory explores how parents differ regarding parental roles, attitudes, and perceptions of how to provide sex education which could become a facilitating or impeding aspect. As India has a growing population of adolescents, the opportunity to convey sex-related information may exist. Different parenting styles contribute differently to the crucial information so that children learn about the risk of sexual exploitation and abuse, the changes they will experience, and how to elicit important information so that they can protect themselves and identify and access available sources of support. Therefore, adolescents are confronted with confusing, conflicting, and negative messages about sexuality when approaching adulthood. Approachable parenting styles could make this process easy.

REVIEW OF LITERATURE:

The authors conducted a cross-sectional study on the variables to determine whether there is a relationship between parent-youth sexual risk communication and premarital sex debut and whether parenting styles moderate it. The results revealed that parenting style (authoritarianism) did not moderate the said relationship, indicating the need for additional research to test the applicability of the contextual parenting style model in African settings. (Shongwe et al., 2021)

In a study on Comprehensive Sex Education, writers discovered a Review of the Literature from the Previous Three Decades, which shows strong support for comprehensive sex education across various topics and grade levels. The findings support the efficacy of treatments that address a broad definition of sexual health and take positive, affirming, and inclusive approaches to human sexuality. The findings bolster the widespread implementation of the National Sex Education Standards. (Goldfarb & Lieberman, 2021)

A Technique for Detecting Wormhole and Jellyfish Attack in MANET

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Article Info

Page Number: 1529-1539

Publication Issue:

Vol. 71 No. 4 (2022)

Article History

Article Received: 25 March 2022

Revised: 30 April 2022

Accepted: 15 June 2022

Publication: 19 August 2022

Abstract

Ad hoc networks are conniving or leaned to interrupt by remote connection methodology. In this manner the information from these associations can be taken successfully by presenting the aggressor place focuses in the construction. The straight course still up in the air with the help of node count metric. Due to this, it wants to defeat conventions. From various assaults, the wormhole assault is viewed as the unsafe one. This interference is begun with the assistance of couple aggressor focus focuses. These middle focuses make a channel by setting two or three sensor habitats among transmitter and collector. The open structure regards the wormhole interferences without center individual sensor center points amidst target. This part is enormous for the area where the course distance in the midst of transmitter and finder is two stages fundamentally. This part isn't reasonable for those conditions where multi hubs are introduced in the midst of transmitter and beneficiary. In the projected review, another strategy is finished for the confirmation and division of attacker sensor focus focuses from the affiliation. The wormhole obstructions are set off by these assailant communities in the climate. The projected game plan is used in NS2 and it is portrayed by the duplication results that the projected course of action shows better execution regarding existing systems.

Keywords: MANET, AODV, Wormhole, Direct Trust Based Detection Technique.

1. Introduction

In this day and age of digitalization, innovation is essentially worried on effective controlling and overseeing force of the framework. For this appropriate directing conventions and secure correspondence climate are must to support some remote detecting applications like Military region, Commercial Sector, Personal use, Bluetooth and neighborhood level etc[4][9][25][13]. MANET has shown huge development in arising remote detecting networks in light of the exceptionally expanding requests and various assumptions in the space [5]. It includes absence of foundation, channel sharing for remote correspondence,

Empirical Economics Letters

A Monthly International Journal of Economics

ISSN 1681-8997

*Indexed in EconLit and included in Cabell's Directory
Further, ERA accredited and included in ABDC journal quality list
Moreover, endorsed in Publons which is a part of Web of Science Group*

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Volume 21
2022

Special Issue 4

June

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The Study of Machine Learning Classification Algorithm for Student Placement Prediction

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Abstract

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- II. Classification Algorithms
- III. Related Work On Placement Prediction System
- IV. Proposed Methodology and Results
- V. Conclusion and Future Work



Abstract:Students are the primary contributors to the educational system. Every student anticipates finding employment prior to graduation. Numerous factors affect a student's aca... [View more](#)

Metadata

Abstract:

Students are the primary contributors to the educational system. Every student anticipates finding employment prior to graduation. Numerous factors affect a student's academic performance and employment prospects. Students can better comprehend the fundamental qualities required to be put in this position with the use of an effective placement predictor system. The proposed system works on past placement history to examine the chances of student placement on the basis of various attributes. In this study, different classification algorithms were used to generate the perfect trained model. The accuracy of the classification algorithms is 0.88, 0.87, 0.72, 0.78, and 0.87 for decision tree, random forest, logistic regression, gaussian naive bayes, and KNN, respectively. Additionally, a user interface web portal is developed and connected with a trained model. This web portal collects the user's input parameters and determines the likelihood of placement. The entire process of the proposed work is represented in the form of a model using the big data modelling software KNIME. The prediction system is highly correlated to the student's CGPA, internships, and backlogs.

Published in: 2023 11th International Conference on Internet of Everything, Microwave Engineering, Communication and Networks (IEMECON)

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IEEE Accession Number: 22933300

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ISSN 2063-5346

Open Access E-Journal

MEANS CLUSTERING

PDF (<https://eurchembull.com/uploads/paper/e556996b3132911659dd5f1a809dcaa8.pdf>)**Keywords:**

NLP,K means Clustering Algorithm,AI Writing Assistants,Neural Networks

Shilpa Pareek, Kavita Sweta Pareek, Sparsh Bhardwaj

» doi: 10.48047/ecb/2022.11.12.39

(<https://eurchembull.com/uploads/paper/e556996b3132911659dd5f1a809dcaa8.pdf>)**Abstract**

These days, we're attempting to use robots to automate a lot of our regular tasks. These systems reduce human effort and facilitate our work; they are especially useful for those of us who have certain physical impairments. We repeatedly came to the conclusion that those without arms or with hearing problems find writing in class to be quite difficult. They encounter numerous difficulties as a result, such as the inability to write in tests or prepare for classes without assistance, while occasionally people without disabilities also experience writing difficulties due to time constraints or other circumstances. The purpose of this study is to provide a tool that will facilitate writing for us and organized generated data. The proposed model will reduce the necessity for stenographers because they are more prone to error. The model focuses on accurately transcribing speech into text and write it down on the paper. The combination of an NLP-based writing machine and the K-means clustering algorithm can be utilized to enhance the capabilities of text generation and organization. These machines have found applications in multiple domains, including content creation, customer support, translation, and creative writing. In content creation, NLP-based writing machines can automate the generation of articles, blog posts, and product descriptions, saving time and effort for content creators. They can also provide personalized responses and support in customer service interactions, enhancing user experiences and improving efficiency. Moreover, these machines are instrumental in translation tasks, facilitating cross-lingual communication by swiftly translating text between languages. As the field of NLP continues to advance, future research could focus on improving the models' abilities to understand and generate context-specific content, enhance multi-modal capabilities by integrating text with other forms of media, and address the challenges of bias and fairness in automated text generation. By combining NLP-based text generation with K-means clustering, it is possible to organize and generate text in a more structured and contextually meaningful manner. This integration can facilitate applications such as content generation for specific domains, personalized text generation, or organizing large text corpora into coherent clusters for analysis and exploration

Issue

Volume -11, issue-12 (2022)

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ATISHAY KALIT

*A U.G.C. Care Listed Referred International Bilingual Research
Journal of Humanities, Social Science & Fine Arts*

LOTUS (July-December) Vol. 9, Pt. B Sr. 16 Year 2022

ISSN 2277-419X
RNI-RAJBIL01578/2011-TC

Hindi Volume

Self Addressed
Vignish
21/11/2023

Chief Editor

Dr. Ritu Pratap (M.A., Ph.D.)

Co-Editors

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सहायक प्रोफेसर

कानोडिया पी.जी. महिला महाविद्यालय

जयपुर

ATISHAY KALIT

Vol. 9, Pt. B

Sr. 16, 2022

ISSN : 2277-419X

पहाड़ी चित्रशैली में अश्वांकन परम्परा

सारांश

भारत में लघु चित्रकला की एक-शाखा को 20वीं शताब्दी के आरम्भ में उत्तर में हिमालय की मनोरम घाटियों में पल्लवित होती एक उन्नतिशील कला शैली के रूप में पाते हैं। जिसने कला जगत की विचारधारा और अलंकरण की विधि पर परिवर्तनकारी प्रभाव डाला जिसे पहाड़ी चित्रशैली के नाम से पुकारा गया। पहाड़ी चित्रशैली राजपूत कला एवं मुगल कला से सर्वथा भिन्न व भावपूर्ण थी। इस शैली के चित्रों में पहाड़ी आत्मा का सौंदर्य, सौकुमार्य, वैभव और यौवन मुखरित होता है। पहाड़ी शैली के कलाकारों ने अपने चित्रों में हिमालय की सुरम्य प्राकृतिक पृष्ठभूमि में उन्मुक्त क्रीड़ा करती हुई अपनी आत्मा को चित्रित किया है।

मुख्य शब्द : पहाड़ी चित्रकला, कांगड़ा चित्र, गढ़वाल चित्र, अश्व, घोड़ा, अश्वांकन, अश्व आकृति, अश्वाकृति, अश्व अलंकृतियां, पशु-पक्षियों का शृंगारिक आलेखन।

प्रस्तावना

पहाड़ी चित्रकला भारत के प्राचीन कश्मीर, उत्तराखण्ड, तथा पंजाब के पहाड़ी क्षेत्रों में पल्लवित हुई, जिनमें कांगड़ा, गढ़वाल, चम्बा, बसोहली, नूरपुर, सुखेन, विलासपुर, मंडी, कुल्लु आदि अनेक छोटे-छोटे प्रान्त आते हैं। इन क्षेत्रों की सामूहिक कलाओं को पहाड़ी चित्रकला का नाम प्रदान किया गया है। पर्याप्त समय तक पहाड़ी कला के अलग अस्तित्व पर प्रकाश नहीं पड़ा था। 'मेटकोफ' सबसे पहले व्यक्ति थे जिन्होंने 19वीं शताब्दी के आरंभ में कांगड़ा में पहाड़ी चित्रकला की खोजबीन की। बाद में डॉ. आनंद कुमार स्वामी इस ओर आकृष्ट हुए। सन् 1608-10 के दौरान उन्होंने पहाड़ी चित्रकला पर अनेक भाषण दिए एवं लेख प्रकाशित किए। 1910 ई. में इलाहाबाद में उन्होंने कांगड़ा शैली के कुछ चित्र प्रदर्शित भी किए एवं "हिन्दू पेंटिंग ऑफ पंजाब हिमालयाज" नामक पुस्तक प्रकाशित की जहाँ से इस चित्रशैली के विशिष्टता का ज्ञान संसार को होता है।

पहाड़ी चित्रकला के मूल में कृष्ण भक्ति एवं कृष्णलीलाओं का जीवन चित्रण रहा है परन्तु इसके साथ-साथ ही कलाकारों ने यहाँ अपने चित्र विषयों हेतु 'रामायण', 'महाभारत', 'भागवत', 'देवी महामात्य', 'सिकंदरिया', गीत-गोविन्द, भागवत एवं शिवपुराण के कथाओं पर आधारित चित्र, कृष्ण की विभिन्न लीलाओं में माखनचोर चित्र आदि ग्रंथों का आश्रय लिया। जिनमें उन्होंने कृष्ण भक्ति एवं कृष्णलीलाओं के साथ-साथ भारतीय पौराणिक ग्रन्थों, कथाओं, रीतिकालीन साहित्य, बारहमासा, राग-रागिनी का शृंगारिक अंकन, प्रभावी व्यक्तियों, राजा-महाराजाओं एवं उनके परिवारजनों के व्यक्ति चित्रों के अतिरिक्त प्रकृति, पशु-पक्षी एवं आलेखनों का भी श्रेष्ठ अंकन किया है। प्राकृतिक अंकन में चित्रकारों द्वारा वृक्षों, लताओं, कमल सरोवरों, वक्राकार बादल, मोर, हंस, ब्रतख, हाथी, अश्व, आदि विभिन्न प्राणियों का सुंदर चित्रांकन किया है।

अश्व चित्रांकन यहाँ दरबारियों एवं महाराजाओं के अश्वारोही व्यक्ति चित्रों के अतिरिक्त अन्य अनेकों अवसरों पर होता दिखाई देता है जो इस क्षेत्र की प्राकृतिक परिवेश के अनुरूप किया गया है। क्योंकि यहाँ भागवत, रामायण तथा अन्य साहित्यिक