Publications

Academic Year 2023-2024

Author & Title of paper	Name of journal	ISSN number	Link
Puneem, U.S., Nagasubramanian, V.R., Sindgi, V.M. et al. Health-related quality of life and its determinants among South Indian type 2 diabetes patients with and without non-alcoholic fatty liver disease.	Egypt Liver Journal	2090-6226	https://doi.org/10.1186/s43066-023-00288-2
J Varshitha', D Rakshitha, Syeda Nishat Fathima. A Comprehensive Review on Mechanism of Action of Commonly Used Antidotes in Clinical	Journal of Research and Development	2230-9578	-
T Vishwani, Syeda Nishat Fathima. An Up-to-Date Review on Link Between Polycystic ovary Syndrome and Insulin Resistence	International Journal of Scientific Research and Engineering Development	2581-7175	https://www.ijsred.com/volume6/issue5/IJSRED-V6I5P44.pdf
G Poojasri, Syeda Nishat Fathima. Preliminary Phytochemical Screening And In Vitro Antioxidant Activities Of Indigofera Mysorensis	International Journal of Scientific Development and Research	2455-2631	https://ijsdr.org/papers/IJSDR2403088.pdf
U.Swathi, M. Rakesh. Phyto Chemical Evaluation And Anti- Ulcer Activities Of Terminalia Elliptica	International Journal of Scientific Development and Research	2455-2631	https://ijsdr.org/papers/2403086.pdf
Majjiga Anvesh, Dr. S Vasudeva murthy. Phytochemical Evaluation And Anticancer Activity Of Various Extracts Of Fruit Of Sechium Edule Using Cervical Cancer Cell Line	International Journal Of Research And Analytical Reviews (IJRAR)	2349-5138	
Sravan Kumar Kasoju, Syeda Nishat Fathima. Preliminary Phytochemical Screening And Invitro Anticancer Activities Of Hylocereus Undatus Extracts Against Human Cancer Cell Lines	International Journal of Scientific Development and Research	2455-2631	https://www.ijsdr.org/papers/IJSDR2403126.pdf

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M.Manasa, M. Rakesh. Phytochemical Evaluation And Amylase A Glucosidase Inhibitory And Antioxidant Activities Of Urtica Dioica Seeds	International Journal of Scientific Development and Research	2455-2631	https://www.ijsdr.org/papers/IJSDR2403085.pdf
Putta Arun, Syeda Nishat Fathima. Preliminary Phytochemical Analysis, In Vitro Anti-Arthritic And Anti- Inflammatory Activity Of Ammannia Baccifeara	International Journal of Scientific Development and Research	2455-2631	https://ijsdr.org/papers/IJSDR2403084.pdf
B Ganesh, Syeda Nishat Fathima. Aquatic And Methanolic Extracts Of Phaseolus Vulgaris Linn Evaluated For In Vitro Anti-Tumor Activities	International Journal Of Research And Analytical Reviews (IJRAR)	2349-5138	https://www.ijrar.org/papers/IJRAR24A3221.pdf
Roopa J, Syeda Nishat Fathima. Balancing act: Understanding nutrient interactions	World Journal of Biology Pharmacy and Health Sciences	2582-5542	DOI: https://doi.org/10.30574/wjbphs.2024.18.3.0346
B Siri Chandana, Syeda Nishat Fathima. Effect Of Thyroid Disorders On Bone Function	International Journal of Research Publication and Reviews	2582-7421	https://ijrpr.com/uploads/V4ISSUE10/IJRPR18060.pdf
Chapala Ruchira, Syeda Nishat Fathima. A Systematic Overview Of Paediatric Schizophrenia	International Journal of Scientific Research and Engineering Development	2581-7175	https://ijsred.com/volume6/issue5/IJSRED-V6I5P121.pdf
Rachana B, Syeda Nishat Fathima. An Overview on Cancer Chronotherapy	EPRA International Journal of Research and Development	2455-7838	DOI: https//dog/10.26713/pr172
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D Bhargavi, Syeda Nishat Fathima. Novel Therapeutic Strategies For Cystic Fibrosis	International Research Journal of Modernization in Engineering Technology and Science	2582-5208	DOI: https://www.doi.org/10.56726/IRIMETS44747
K Manisha, Syeda Nishat Fathima. An Exploration of Culture-Specific Psychiatric Syndrome in India	International Journal of Advance and Applied Research	2347-7075	DOI-10.5281/zenodo.12232459
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D Akshitha, Syeda Nishat Fathima. Novel Therapeutic Options For Alzheimers Disease	International Journal of Advance and Applied Research	2347-7075	https://ijaar.co.in/wp-content/uploads/2021/02/Volume-4-Issue-32.pdf
B Mahathi, Syeda Nishat Fathima. An Update on Zollinger-Ellison Syndrome	International Journal of Advance and Applied Research	2347-7075	https://ijaar.co.in/wp-content/uploads/2021/02/Volume-4-Issue-32.pdf
B Meghana, Syeda Nishat Fathima. An Overview on Hormonal therapy in Premenstrual Syndrome	International Journal of Scientific Research and Engineering Development	2581-7175	https://ijsred.com/volume6/issue5/IJSRED-V6I5P121.pdf

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PRELIMINARY PHYTOCHEMICAL SCREENING AND IN VITRO ANTIOXIDANT ACTIVITIES OF INDIGOFERA MYSORENSIS

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Abstract- **Multiple free radical scavenging assays show that Indigofera mysorensis leaf extracts in different solvents are very effective antioxidants. Across all assays, the extracts exhibited varying degrees of antioxidant activity. Results showing IC50 values similar to those of ascorbic acid and rutin, the standards utilized, were obtained. To demonstrate the extracts' antioxidant activity, it is necessary to test them against a wide variety of free radicals, since these molecules might have varying structures. As a result, the screening process made extensive use of in vitro methodologies. Nonetheless, the fact that the free radicals and the extracts themselves are chemically distinct could account for the observed variation in their activities. The results showed a strong correlation between total phenol and flavonoid concentration and antioxidant activity, suggesting that these chemicals may play a key role in this process. Our team is currently doing more investigations to identify and isolate phytochemical components, as well as to determine which therapeutic qualities of the plant correlate with its antioxidant activity in vitro.**

Key words: **Antioxidant activity, Free Radical Scavenging Activites, Various solvents extract, Indigofera mysorensis.**

INTRODUCTION

Oxidative stress is the major driving factor responsible for the initiation and progression of cancer, diabetes mellitus, cardiovascular diseases, neurodegenerative diseases, and inflammatory diseases among other syndromes [1]. The condition is brought by excessive generation of free oxygen and nitrogen species or their inefficient quenching in the cell. Free oxygen and nitrogen species are unstable molecules that are present in the environment (exogenous) and are also generated in the body (endogenous) during the normal aerobic metabolic processes in the body [2]. Exogenous sources of free radicals include cigarette smoke, exposure to ozone, ionizing radiation such as X-rays, and drugs among others. On the other hand, endogenous sources of free radicals include the electron transfer chain reactions in the mitochondria, xanthine oxidase pathway, during disease states such as inflammation, ischemia, and reperfusion injury [3].

The body possesses a complex antioxidant defense system, comprising of enzymatic and nonenzymatic pathways, which in the normal physiologic state, maintain a steady equilibrium between prooxidants and antioxidants, thereby ensuring well-being [1]. The enzymatic antioxidants comprise the catalase, glutathione peroxidase, and superoxide dismutase. Conversely, nonenzymatic antioxidants employed by the body include the bilirubin, uric acid, and lactoferrin among others. However, during disease states, the endogenous antioxidant systems are overwhelmed, leading to accumulation of excessive free radicals, which in turn cause oxidative stress-associated damage to cellular machinery, as implicated in various diseases [4].

Conventionally, oxidative stress is managed using various synthetic antioxidant compounds such as butylated hydroxyanisole (BHA), butylated hydroxytoluene (BHT), and propyl gallate (PG). Despite their usage, these synthetic antioxidant compounds have been associated with undesirable effects [5]. For instance, BHT and BHA cause hepatotoxicity and have been demonstrated to be carcinogenic. Additionally, synthetic antioxidants are inaccessible, unaffordable, and labile, thus limiting their utilization [3]. Therefore, due to the profound consequences of oxidative stress and the drawbacks of synthetic antioxidants, the need for alternative antioxidants, which are safer, easily accessible, and potent, are warranted [6], hence the current study.

Considering the available alternative and complementary strategies, medicinal plants stand a better chance of providing potent, safer, affordable, and easily accessible therapies for oxidative stress-related maladies [7]. Medicinal

ISSN: 2455-2031 March 2024 IJSDR | Volume 9 Issue 3

PHYTO CHEMICAL EVALUATION AND ANTI-ULCER ACTIVITIES OF TERMINALIA ELLIPTICA

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Abstract- This research looked at how well AETE worked as an antioxidant and an antiulcer agent. Evidence from this study suggests that AETE can protect against aspirin-induced ulcers and act as an antioxidant. The presence of alkaloids, carbohydrates, glycosides, tannins, proteins, and amino acids was detected in the early phytochemical screening of whole plant extracts. An NSAID-induced anti-ulcer study was conducted to screen the antiulcer impact of Terminalia elliptica's ethanol extract. According to the findings of these studies, Terminalia elliptica ethanol extract has an antiulcer effect.When compared to the control group, the aspirin-induced model showed improvements in the following areas: ulcer index, total acidity, total volume of stomach contents, total protein concentration, pH of gastric secretion, and glutathione content. The standard comparison agent was famotidine.

Keywords: Evaluvation, Anti-Oxidant, Anti-Ulcer, EthanolicExtract, Terminalia elliptica, *Invitro* Methods.

INTRODUCTION

An imbalance between aggressive and protective elements causes gastric hyperacidity, a chronic global condition that affects millions of people.[1] Acid, pepsin, bile acids, medicines, and bacterial products (Helicobacter pylori) are among the potentially harmful agents that the stomach mucosa is constantly exposed to. Antimuscarinics, proton pump inhibitors, and H2 receptor antagonists are the mainstays of peptic ulcer treatment today. Nevertheless, the majority of these treatments come with side effects like hypersensitivity, irregular heartbeat, inability to erection, gynecomastia, and disorders affecting the blood cells.[2]

In Cancer, heart disease, and diabetes are characterized by oxidative assaults; antioxidants seem to protect the biological system from these.[3] ROS such superoxide, hydrogen peroxide, hydroxyl, and nitric oxide (NO) radical are responsible for this oxidative damage.[4] In a biological organism, these ROS accumulations directly promote mast cell histamine production and destroy important macromolecules as DNA, lipids, proteins, polyunsaturated fatty acids, carbohydrates, and nucleic acids.[5] Vitamins C and E, carotenoids, flavonoids, and tannins are among the most abundant antioxidants found in vascular plants.There has been a lot of research on the powerful antioxidant capabilities of naturally occurring polyphenolic chemicals, particularly flavonoids [6-7].

Our phytochemical analysis of Terminalia elliptica plant extracts will help in the plant's authentication and identification for both commercial and academic uses, particularly in areas pertaining to its antioxidant activity. Pharmacological systems rely on antioxidants for their ability to scavenge free radicals. Antioxidants are gaining traction as potential medicinal and preventative agents. Therefore, the powerful extract was also tested for its antioxidant properties. Now I'm employing invitro methods to evaluate the anti-oxidant and antiulcer properties of plant extracts from Terminalia elliptica.

MATERIALS & METHODS

Collection and Authentication of Plant

The whole plant of Terminalia elliptica collected in the month of June, 2023 from chittur dist. The plant materials were identified and authenticated.

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IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

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PHYTOCHEMICAL EVALUATION AND ANTICANCER ACTIVITY OF VARIOUS EXTRACTS OF FRUIT OF SECHIUM EDULE USING CERVICAL CANCER CELL LINE

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Abstract:
The present study was undertaken to investigate invitro anticancer activity of various extracts of *Sechium edule* using HeLA cell line. Phytochemical analysis of acetone, ethanol and aqueous extracts of *Sechium edule revealed* the presence of proteins, terpenoids, tannins, steroids, phenols and flavonoids. In this study, ethanolic extract of *Sechium edule showed* cytotoxic activity in cervical cancer cell line HeLa by MTT assay. The Apoptotic effect was confirmed by loss of membrane integrity, chromatin condensation, leakage of cytoplasmic contents and fragmentation of DNA by microscopic methods. Its apoptotic and anti-cancer effect may be due to up regulation of genes like p53 and down regulation of gene Bcl-2, which was confirmed by RT-PCR. The ethanolic extract of *Sechium edule possess* anti-cancer effect and for future perspective, it can be further confirmed by isolating the compounds responsible for the activity and studying the exact mechanism by which the plant possess thisactivity and confirm the results using *in vivo* animal models.

Keywords: Anticancer Activity, Sechium edule, Cervical Cancer, Invitro Methods

INTRODUCTION

Humans develop both knowledge and technologies. They produce a wide variety of substances to improve their quality of life. Some of these substances, such as drugs or pesticides, harm both consumers and the environment. To address issues related to health and the environment, researchers have focused on using natural alternatives, such as plant extracts and medicinal plants [1]. Plant extracts have the advantage of being biologically derived, biodegradable, and having a positive impact on both the environment and human health [2]. People have been known to treat illnesses with plant extracts since ancient times. The earliest apothecaries were used by the Egyptians, Chinese, and Indians, but they first appeared in Mesopotamian civilizations, particularly the Babylonian (4000- 5000 BC) [3]. Antimicrobial, anticancer, or antioxidant activities are considered among the benefits of medicinal plants, vegetables, and fruits [4,5]. Although the human body has an antioxidant defense system, it frequently is not enough to stop all of the daily attacks that the body faces. In order to maintain a balance between oxidants and antioxidants in the body, typically, substances acting on reactive oxygen species are used in the form of food supplements. However, due to

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ISSN: 2455-2631 March 2024 IJSDR | Volume 9 Issue 3

PRELIMINARY PHYTOCHEMICAL SCREENING AND INVITRO ANTICANCER ACTIVITIES OF HYLOCEREUS UNDATUS EXTRACTS AGAINST HUMAN CANCER CELL LINES

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Abstract- There is evidence of herbs having been used in the treatment of various diseases. Hence *Hylocereus undatus* selected for the present investigation on *in vitro* anticancer activity. Hence these plant extracts may have clinical and therapeutic proposition in the most life threaten disease like cancer and further studies are required to investigate these plant samples as antineoplastic agents. Therefore, it is anticipated that plants can provide potential bioactive compounds for the development of new 'leads' to combat cancer diseases.

Key words: Invitro, Anticancer Activities, Hylocereus undatus Extracts, Human Cancer Cell Lines.

INTRODUCTION

Cancer is a disease characterized by abnormal cell division and proliferation that result from disruption of molecular signals that control these processes [1]. In the year 2000, lung (12.3%), breast (10.4%) and colorectum (9.4%) were the most prevalent forms of cancer worldwide [2]. By the year 2015, cancer was the second leading cause of death globally resulting to 8.8 million deaths [3]. One in six deaths globally is caused by cancer with 70% prevalence in low and middle income countries [3]. Incidences in these countries account for more than half of all new cancer cases globally and will represent more than 80% of global cancer burden by 2030 [4,5]. 80% of the human population depends on plants for their primary health care [6]. As many as 35000 plant species have been screened for anti-cancer activities previously, leading to the discovery of clinically important anti-cancer drugs such as Vincristine, Vinblastine, Taxol, Indicine–N-oxide, Etoposides and Camptothecin, with ability to inhibit growth of cancer cells by controlling apoptosis and autophagic pathways [7]. However, due to multidrug resistance and toxic effects of current chemotherapeutic drugs to other non-target tissues, development of new bioactive molecules with fewer side effects and greater efficacy is essential [8].

Hylocereus undatus plant having a place with family cactaceae. Dragonfruit stems are scandent (climbing habit), creeping, sprawling or clambering, and branch profusely. There can be 4-7 of them, between 5 and 10 m or longer, with joints from 30-120 cm or longer, and 10-12 cm thick; with generally three ribs; margins are corneous (horn-like) with age, and undulate. Stems are triangular, 3-sided, although sometimes 4- or 5-sided, green, fleshy, jointed, many branched. Flowers are typically white in colour and bell shaped, stamens and lobed stigmas are cream coloured. Fruit is a fleshy berry, oblong to ovoid, up to 6-12 cm long, 4-9 cm thick, red with large bracteoles, pulp white, edible, embedded with many small black seeds. Average fruit weight is 350-400 g. It is a fast growing, vine-like, tropical cactus grown for its fleshy. Optimum temperatures for growth are 18-25 C, with good relative humidity levels. it may be injured by extreme sunlight and can tolerate some shade; however, it is considered to be a full sunlight crop in Central and South American countries. They do best in a loose soil, rich in organic matter, with a pH of 5.5-6.5 and not more than 50% slope. It fruit has a low water demand

Spices are favored on the grounds that they produce no unfavorable outcome concerning their prevalence and remedial utility. There is proof of spices having been utilized in the treatment of different illnesses. Subsequently Hylocereus undatus chose for the current examination on in vitro anticancer movement.

METHODOLOGY

Preparation of extracts of *Hylocereus undatus*

The powdered Material (1kg) was sequentially extracted using chloroform, ethanol and aqueous solution in Soxhlet apparatus. After about forty siphons of each solvent extraction step, the materials were concentrated by evaporation.

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ISSN: 2455-2631

March 2024 IJSDR | Volume 9 Issue 3

PHYTOCHEMICAL EVALUATION AND AMYLASE A GLUCOSIDASE INHIBITORY AND ANTIOXIDANT ACTIVITIES OF URTICA DIOICA SEEDS

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Abstract- **Using different in vitro models such as α-amylase and α-glucosidase inhibitory effects and antioxidant activity, the primary goal of this study is to assess the hypoglycemic activity of Urtica dioica. seeds. The antidiabetic and antioxidant activities were explained by the presence of flavonoids and phenolics, which were discovered through phytochemical screening of fruit and seed extracts. Among the many biological benefits shown by flavonoids—a class of polyphenolic compounds—are anti-inflammatory, antihepatotoxic, antiulcer, antidiabetic, antithrombotic, and more. Additionally, they impede the activity of enzymes like xanthine oxidase and aldose reductase. By comparing UDSP with the standard medicine acarbose, which is a particular inhibitor of α glucosidase, and assessing its α amylase and α glucosidase inhibitory activities, the in vitro antidiabetic efficacy of UDSP was assessed. Additionally, acarbose has an inhibiting effect on α amylase. The quantity of glucose that is generated by the activity of α glucosidase can be approximated by utilizing the enzymes glucosidase and peroxidase in an experimental setting. In contrast to acarbose's inhibitory activity, the extract exhibited significantly less α glucosidase inhibition.**

Keywords: **Glucosidase Inhibitory, Antioxidant Activities, Urtica dioica, Seed Extracts.**

INTRODUCTION:

Diabetes or diabetes mellitus has become a burden for the global economy in recent decades. According to the World Health Organization's report, this disease and its complications cause substantial economic loss through direct medical costs and loss of work and wages [1]. Among diabetes cases, type 2 diabetes is much more common and chiefly occurs in adults; however, it is being increasingly noted in adolescents [2]. The pathogenesis of type 2 diabetes is currently attributed to endogenous factors such as genetics and metabolic abnormalities and exogenous factors such as behavior and environment [3]. The type 2 diabetes increases blood sugar level which is considered as a typical symptom in diabetic patients. Monitoring and control of hyperglycemia are the most prevalent methods in the treatment of type 2 diabetes nowadays.

As an endogenous toxin, oxidative stress is considered to be an important determinant of type 2 diabetes complications [4]. The causal relation between oxidative stress and type 2 diabetes has been elucidated through molecular mechanisms [5], whereby the overproduction of reactive oxygen species related to hyperglycemia likely leads to an imbalance of the quantity of antioxidants inside the body and eventually, to oxidative stress. On the other hand, the blood sugar level is crucially determined by the act of digestive enzymes such as α-amylase and α-glucosidase. While α-amylase is responsible for breaking down long-chain carbohydrates, α-glucosidase directly converts carbohydrate to glucose in the small intestine. The inhibition of α-glucosidase has been acknowledged as a therapeutic target for the control of postprandial hyperglycemia, as well as type 2 diabetes [6,7]. Therefore, simultaneously providing antioxidants and α-amylase and α-glucosidase inhibitors through nutriments is a potential and feasible method for the management of type 2 diabetes. However, the origin and dose of ingredients should be scrupulously studied before application and production. Additionally, natural products are recommended owing to their long history of medicinal and beneficial effects on human health [8].

Among natural sources, plants have been the most thoroughly scrutinized thanks to their vast diversity and wide distribution across the Earth. It is easy to derive antioxidant and nutrient components from every part of plants as fruits, leaves, stems, and roots which exhibit a wide range of biological effects such as anti-inflammatory, antibacterial,

ISSN: 2455-2631

March 2024 IJSDR | Volume 9 Issue 3

PRELIMINARY PHYTOCHEMICAL ANALYSIS, IN VITRO ANTI-ARTHRITIC AND ANTI-INFLAMMATORY ACTIVITY OF AMMANNIA BACCIFEARA

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Abstract- The phytochemical screening of the hydroalcoholic extract of Ammannia baccifera. (Leaf) powder revealed the presence of alkaloids, carbohydrates, sterols, saponins, tannins and phenolic compound. flavonoids, protein and free aminoacid, terpenoids, mucilage, betacyanin, quinone, phlobatannins, carotenoids. It shows the absence of anthraquinone glycosides, cardiac glycoside, fixed oil, anthocyanin, lecoanthocyanin, emodin, gum, resins, volatile oil. A study has reported that the flavonoids exert membrane stabilizing effect on lysosomes both invitro and invivo in experimental animals. Another report has suggested that tannins and saponins have the ability to bind cations and other biomolecules and are able to stabilize the erythrocyte membrane. HAEAB extract is highly potent on human erythrocyte and thus adequately protecting it against heat and hypotonicity induced lysis. The inhibitory concentration (IC50) of Ammannia baccifera. (Leaf) in HRBC membrane stabilization study is found to be 69µg/ml in comparison with diclofenac sodium 57µg/ml. It showed mild anti-inflammatory activity. The phytochemical analysis showed that the HRBC has flavonoids and tannins. Hence the HRBC membrane stabilizing capacity may be due to the presence of the above mentioned constituents which will prevent the oxidation of haemoglobin and also due to its antioxidant property. The principle involved is the inhibition of protein denaturation. Denaturation of protein was found to be one of the causes of rheumatoid arthritis. In rheumatoid arthritis, the production of autoantigen may be due to protein denaturation which involves the alteration of electrostatic hydrogen, hydrophobic and disulphide bonding. The protein used in this study is bovine serum albumin. Denaturation of protein is carried out by heating. The aim of this activity is to inhibit denaturation and to exhibit protective effect against rheumatoid arthritis. The inhibitory concentration (IC50) of Ammannia baccifera. (Leaf) in Protein denaturation is found to be 17µg/ml in comparison with diclofenac sodium 14µg/ml. It showed moderate anti-arthritic activity. The inhibition of protein denaturation by HAEAB may be due to the presence of phenolic compounds, flavonoids and tannins.

Key words: Preliminary Phytochemical Analysis, In Vitro Anti-Arthritic, Anti-Inflammatory Activity, Ammannia Baccifeara.

INTRODUCTION:

In ancient times, traditional systems of medicine were the fundamental source of herbal medications [1]. A majority of the population is dependent the on use of various species of herbal remedies to treat health problems [2] because of the insufficient availability of modern medicine, particularly in rural areas [3].

Rheumatoid arthritis (RA) is an autoimmune disorder, which can result in chronic inflammation in the synovial membrane and also cause pain in small and large joints, as well as the destruction of cartilage and bone [4]. The characteristic features of RA are joint pain, immobility and malformation [5]. The management of RA is mainly achieved through the use of nonsteroidal anti-inflammatory drugs (NSAIDS) such as indomethacin, ibuprofen, aspirin, and naproxen, but these only manage it for a short time duration [6]. The arthritic and anti-inflammatory action of NSAID is attributed to it cyclooxygenase (COX-1 and 2) inhibition, as well as its inhibition of the pro cytokinins (IL1, IL-6 TNF-alpha, etc.), curing arthritic disease [7]. Some NSAID has a short duration of action and can also produce some negative side effects in the epigastric region [7]. When inflammation occurs, macrophage cells are released into the injured tissue area, which can cause life-threatening diseases like Alzheimer's, arthritis, cancer, allergies, and atherosclerosis, as well as autoimmune diseases [1]. Inflammation causes the vasodilation of capillaries

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IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

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AQUATIC AND METHANOLIC EXTRACTS OF PHASEOLUS VULGARIS LINN EVALUATED FOR IN VITRO ANTI-TUMOR ACTIVITIES

Bairaboina Ganesh, Syeda Nishat Fathima

Abstract: In this study, we examine the in vitro anticancer efficacy of Phaseolus vulgaris. The initial phytochemical analysis of Phaseolus vulgaris extracts revealed the presence of many volatile oil components, including sterols, carbohydrates, proteins, flavonoids, glycosides, mucilage, tannins, and saponins. While both the methanolic and aqueous extracts showed anti-tumor effects, the study found that the methanolic extract was much more effective. A total of six cell lines were tested with the extract (100 mg/ml): A549 (lung), NCI-H23 (colon), SW-620 (swisswartz), Ovary-OVCAR—5, Breast-mcf-7, and Prostate-DU-145. The methanolic extract showed 95% of the anti-tumor capability against the origins of human cancer cells when compared to the aqueous extract. In the case of extracts, a growth inhibition of 70% was deemed active; however, when evaluating active components at various molar concentrations, a growth inhibition of 50% or above was deemed active.

Keywords: In Vitro, Anti Tumour Activities, Aqueous And Methanolic Extracts, Phaseolus Vulgaris Linn.

INTRODUCTION

New growths produced by the expansion of local tissue cells in response to many tumorigenic triggers are referred to as "tumors". It is primarily a mass protrusion that occupies space, also known as a neoplasm [1,2]. In terms of morbidity and mortality, cancer continues to be a major global public health issue, coming in second place only behind cardiovascular disease [3,4]. A report on worldwide cancer statistics published in 2020 by the International Agency for Research on Cancer indicated that, in this century, cancer might surpass cardiovascular disease as the major cause of premature death in the majority of countries. By 2040, there are projected to be 28.4 million new cases of cancer worldwide, an increase of 47% from 2020 [5,6]. The pathogenic mechanisms of cancer include maintaining proliferative signals, eluding growth inhibitors, avoiding cell death, establishing replicative immortality, initiating angiogenesis, and triggering invasion and metastasis [7]. Over the last 50 years, a lot of strategies have been employed to slow the spread of cancer, namely surgery, radiotherapy, and systemic therapy [8,9]. These treatments, however, have numerous limitations and side effects, such as a high incidence of drug resistance and multidrug resistance, low efficacy of some targeted therapies, and severe adverse responses, whether administered alone or in combination [10,11]. Thus, developing novel anti-tumor medications and minimizing side effects have consistently been major areas of research in the anti-tumor field.

Due to their multi-channel and multi-target characteristics, anti-tumor compounds derived from natural products are typically used to treat advanced cancer and relieve early cancer symptoms. Herbs used in traditional medicine are the source of most natural products [12,13,14]. Over the past few decades, natural products have been a significant source for the development of new anti-tumor drugs [11]. Currently, more than 100 natural compounds are clinically used to treat cancers [15,16]. For example, studies have demonstrated that the active ingredient in Curcuma longa, curcumin, exerts anti-tumor effects by boosting apoptosis, inhibiting cell proliferation, obstructing tumor angiogenesis and metastasis, and inducing autophagy [17,18]. For example, paclitaxel exerts its anti-breast cancer effects by blocking mitosis (affecting B-cell lymphoma 2 (Bcl-2) phosphorylation), controlling microtubule polymerization, affecting calcium signaling, and regulating microRNA expression profiles [19]. Furthermore, significant anti-cancer efficacy is exhibited by artemisinin, which can generate reactive oxygen species in cancer cells, induce cell cycle

International Journal of Scientific Research and Engineering Development-– Volume 6 Issue 5, Sept-Oct 2023
Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

An Up-to-Date Review on Link Between Polycystic ovary Syndrome and Insulin Resistence

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ABSTRACT:
Polycystic ovarian syndrome (PCOS) is a highly inherited complex polygenic, multifactorial disorder commonly exhibits hyperandrogenism, ovulatory dysfunction and is associated with obesity, insulin resistance, and subfertility. Overall, insulin resistance and the compensatory hyperinsulinemia affects some 65–70% of women with PCOS.Conventional treatment recommendations for the insulin resistance aspect of PCOS include weight loss, aerobic exercise, and the diabetic drug metformin, which improves insulin sensitivity. The Present article highlights how PCOS increases the risk of Diabetes.

Keywords: Polycystic ovary syndrome, Hyperinsulinemia,Insulin resistance

INTRODUCTION:

Polycystic ovary syndrome, or polycystic ovarian syndrome (PCOS), is a highly prevalent disorder, representing the single most common endocrine–metabolic disorder in women of reproductive age, affecting 6%-15% of the of the global population. [1]Women with PCOS may experience irregular menstrual periods, heavy periods, excess hair, acne, pelvic pain, difficulty getting pregnant, and patches of thick, darker, velvety skin. PCOS affects women of premenopausal age and is characterized by hyperandrogenic features (e.g., hirsutism, acne and alopecia) that result from hyperandrogenemia, and menstrual disturbance including subfertility.

PCOS is a heterogeneous disorder of uncertain cause. There is some evidence that it is a genetic disease. Such evidence includes the familial clustering of cases, greater concordance in monozygotic compared with dizygotic twins and heritability of endocrine and metabolic features of PCOS. There is some evidence that exposure to higher than typical levels of androgens and the anti-Müllerian hormone (AMH) in utero increases the risk of developing PCOS in later life. It may be caused by a combination of environmental pollutants, diet and lifestyle choices, genetic factors, obesity, and gut dysbiosis. [2]

RISK FACTORS:

Risk factors include obesity, a lack of physical exercise, and a family history of someone with the condition. Familial and genetic factors cause predisposition to PCOS. Risk factors for PCOS in adults includes type 1 diabetes, type 2 diabetes, and gestational diabetes. Insulin resistance and adiposity affects 50%–70% of women with PCOS leading to a number of comorbidities including metabolic syndrome, hypertension, dyslipidemia, glucose intolerance, diabetes and cardiovascular diseases. Women with PCOS are at increased risk hepatic steatosis and metabolic syndrome; hypertension, dyslipidemia, vascular thrombosis, cerebrovascular accidents, and possibly cardiovascular events; subfertility and obstetric complications; endometrial atypia or carcinoma, and possibly ovarian malignancy; and mood and psychosexual disorders. [3]

DIAGNOSIS:

The diagnosis of polycystic ovary syndrome (PCOS) is primarily achieved through clinical history and physical findings. The principle features are hirsutism or biochemical evidence of excess androgen production and irregular menstrual bleeding caused by the chronic anovulation. Associated findings

ISSN : 2581-7175

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'Journal of Research & Development'
A Multidisciplinary International Level Refereed and Peer Reviewed Journal,
Impact Factor-7.365, ISSN: 2230-9578, May-2024, Volume-16 Issue-7

A Comprehensive Review on Mechanism of Action of Commonly Used Antidotes in Clinical Toxicology

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Abstract:
Clinical toxicology encompasses the diagnosis, management, and prevention of poisonings caused by exposure to various toxic substances. Antidotes play a crucial role in the treatment of poisoning emergencies, as they counteract the effects of specific toxins and mitigate their harmful effects on the body. Understanding the mechanisms of action of commonly used antidotes is essential for healthcare providers to administer timely and effective treatment. This review provides an overview of the mechanisms of action of several widely utilized antidotes in clinical toxicology such as Naloxone, Atropine, N-acetylcysteine, flumazenil, calcium gluconate, and Digoxin immune FAB. This review highlights on how antidotes are targeting specific toxins or physiological pathways involved in poisoning. The use of antidotes must be guided by a thorough understanding of the toxicokinetics and toxicodynamics of the ingested substance, as well as consideration of individual patient factors such as age, comorbidities, and concurrent medications.
Keywords: Antidote, Naloxone, Calcium gluconate

Introduction:

The International Programme of Chemical Safety broadly defines an antidote as a therapeutic agent that counteracts the toxic actions of a drug/toxin. Broadly, antidotes have been looked at as agents that "modify the kinetics of the toxic substance or interfere with its effect at receptor sites." This may be as a result of prevention of absorption, binding, and neutralizing the poison directly, antagonizing its end-organ effect, or inhibition of conversion to more toxic metabolites.[1] Here are some common antidotes commonly used in toxicology and their uses.

Digoxin immune FAB:

Digoxin immune fab, also known as digoxin-specific antibody fragments, is a medication used to treat severe digoxin toxicity. Digoxin immune fab (DIF) are mixed anti-digoxin immunoglobulin fragments obtained from healthy sheep immunized with digoxin dicarboxymethoxylamine (DDMA). When administered to the intoxicated patient, DIF binds to digoxin molecules and reduces free digoxin levels. The reduction results in an equilibrium shift away from receptor binding and thereby decreases cardio-toxic effects. The kidney and the reticuloendothelial system eventually clear fab-digoxin complexes. [2]

Octreotide:

Sulfonylurea agents are widely used as therapy for hyperglycaemia in type 2 diabetes mellitus. In overdose, these agents can produce sustained and profound hypoglycemia that is refractory to treatment with dextrose alone. In some cases, management of sulfonylurea overdose with intravenous dextrose leads to hyperglycaemia which promotes insulin release from the pancreas and recurrent hypoglycaemia. Octreotide is a synthetic somatostatin analogue that resembles the native polypeptide in its activity in suppressing levels and activity of growth hormone, insulin, glucagon and many other gastrointestinal peptides. Mechanism of action of Octreotide in the treatment of in overdose management of sulfonylurea type antidiabetic medications, when recurrent or refractory to parenteral dextrose is through the suppression of insulin secretion. [3]

Dextrose:

Parenteral dextrose is oxidized to carbon dioxide and water, and provides 3.4 cal/g of d-glucose. As an antidote dextrose (antidote) is used for acute alcohol intoxication, sulfonylurea overdose, insulin overdose, hyperkalaemia, and insulin induced hypoglycaemia in paediatric patients. The mechanism of action by which dextrose acts as antidote is that dextrose is source of calories and fluid for patients unable to obtain adequate oral intake, dextrose is the substrate for ATP production for aerobic metabolism and promotes glycogen deposition in the liver. In hyperkalaemia dextrose in combination with insulin stimulates the uptake of potassium by cells (especially in muscle tissue), which in turn lowers serum potassium. [4]

Sodium Bicarbonate:

Sodium bicarbonate ($NaHCO_3$) is one of the few pharmacological agents aiming to mimic the endogenous effects of HCO_3-. Sodium bicarbonate is widely used in many clinical situations including cardiac arrest and prevention of contrast-induced renal failure and in patients with different types of metabolic acidosis (such as lactic acidosis and diabetic ketoacidosis). Sodium Bicarbonate is a prescription antidote used for reversing Class Ia antiarrhythmics (Quinidine, Procainamide), Class Ib antiarrhythmics (Lidocaine, Phenytoin), Class Ic antiarrhythmics (Propafenone, Flecainide), Class III antiarrhythmics (Amiodarone, Sotalol), Tricyclic antidepressants (Amitriptyline, Doxepin), Antiepileptic medications (Carbamazepine, Lamotrigine, Zonisamide, Lacosamide), Selective

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World Journal of Biology Pharmacy and Health Sciences
eISSN: 2582-5542
Cross Ref DOI: 10.30574/wjbphs
Journal homepage: https://wjbphs.com/
WJBPHS

(REVIEW ARTICLE)

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Balancing act: Understanding nutrient interactions

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World Journal of Biology Pharmacy and Health Sciences, 2024, 18(03), 243–247

Publication history: Received on 30 April 2024; revised on 14 June 2024; accepted on 17 June 2024

Article DOI: https://doi.org/10.30574/wjbphs.2024.18.3.0346

Abstract

Nutrient interactions refer to the dynamic relationship between various nutrients, including minerals, vitamins, amino acids, and fatty acids, for proper functioning. An excess or deficiency of one nutrient can affect the requirements for many others, and increasing or decreasing a deficient nutrient may require an increase in other nutrients. Many nutrients require other nutrients to convert into other forms, and chemical combinations or reactions between nutrients can change their biological availability. Direct metabolic requirements of one nutrient can change the biological activity of another. Structurally similar nutrients can compete for absorption and utilization, and one nutrient can replace another with a different action. This review deals with different types of interaction observed in between dietary carbohydrates, dietary proteins and dietary fats.

Keywords: Dietary carbohydrates; Dietary proteins; Dietary fats; Dietary interactions; Nutrient interactions;

1. Introduction

A nutrient is a substance used by an organism to survive, grow, and reproduce. These are chemical materials required by the body to sustain basic functions and are optimally attained by eating a balanced diet. There are six major classes of nutrients essential for human health: carbohydrates, lipids, proteins, vitamins, minerals, and water. Carbohydrates, lipids, and proteins are considered macronutrients and serve as a source of energy. Water is required in large amounts but does not yield energy. Vitamins and minerals are considered micronutrients and play essential roles in metabolism. Vitamins are organic micronutrients classified as either water-soluble or fat-soluble. The essential water-soluble vitamins include vitamins B1, B2, B3, B5, B6, B7, B9, B12, and C. The essential fat-soluble vitamins include vitamins A, E, D, and K. Minerals are inorganic micronutrients. Minerals can classify as macrominerals or microminerals. Macrominerals are required in amounts greater than 100 mg per day and include calcium, phosphorous, magnesium, sodium, potassium, and chloride. Sodium, potassium, and chloride are also electrolytes. Microminerals are those nutrients required in amounts less than 100 mg per day and include iron, copper, zinc, selenium, and iodine [1].

Macro and micronutrients can interact via a number of pharmaceutical, pharmacokinetic, or pharmacodynamic mechanisms showing complementary, antagonist, synergistic effects. Nutrient synergy refers to the concept that the combined effects of two or more nutrients working together have a greater physiological impact on the body than when each nutrient is consumed individually whereas nutrient antagonism refers to decrease in the efficacy of nutrients when combined together [2].

2. Dietary Carbohydrates interaction

Carbohydrates are the primary macronutrients that humans consume in large quantities in their daily diet to provide the energy needed in order to support various metabolic processes in the human body. Dietary carbohydrates, namely sugars, starch, and non-starch polysaccharides, are major energy sources in the human diet that support body

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International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Effect of Thyroid Disorders on Bone Function

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ABSTRACT:

The thyroid gland plays an important role in tissue metabolism and development through the synthesis of thyroid hormones known as thyroxine (T4) and triiodothyronine (T3). Both have systemic effects. Thyroid hormones are necessary to normal development and function of human skeleton. Thyroid hormones are necessary to normal development and function of human skeleton. Abnormal thyroid hormone levels lead to hypothyroid and hyperthyroid states. Thyroid hormones are necessary to normal development and function of human skeleton. Thyroid diseases have widespread systemic manifestations including their effect on bone metabolism. The present review focuses on the effect of thyroid dysfunction on bones.

Keywords: Thyroid hormone; Bones; hypothyroidism; hyperthyroidism

INTRODUCTION:

The thyroid is an endocrine gland. Its location is in the inferior, anterior neck, and it is responsible for the formation and secretion of the thyroid hormones as well as iodine homeostasis within the human body. The thyroid produces approximately 90% inactive thyroid hormone, or thyroxine (T4), and 10% active thyroid hormone, or triiodothyronine (T3). Inactive thyroid hormone is converted peripherally to either activated thyroid hormone or an alternative inactive thyroid hormone. [1]

Thyroid diseases are common worldwide. In India too, there is a significant burden of thyroid diseases. According to a projection from various studies on thyroid disease, it has been estimated that about 42 million people in India suffer from thyroid diseases. The prevalence of spontaneous hypothyroidism is between 1 and 2%, and it is more common in older women and ten times more common in women than in men. The prevalence of hyperthyroidism in women is between 0.5 and 2% and is ten times more common in women than in men. Epidemiological studies suggest that 1% of men and 5% of women have thyroid nodules detected clinically and that the frequency increases with age and in iodine-deficient populations. In iodine-replete areas, congenital hypothyroidism affects about one newborn in 3500–4000 births, and the value of screening for congenital hypothyroidism in heel-prick blood specimens is unquestioned. [2]

THYROID FUNCTION TEST:

Hypothalamus releases thyrotropin-releasing hormone (TRH) that stimulates the secretion of TSH in the pituitary gland. Increased free T4 and T3 inhibit the release of TRH and TSH through a negative feedback loop. As a result, T3 and T4 secretion and iodine uptake are reduced. Other hormones, such as somatostatin, glucocorticoids, and dopamine, also inhibit TSH production. Cold, stress, and exercise increase TRH release. Thyroid function tests include a battery of blood tests, including the measurement of the thyroid hormones, as well as the measurement of thyroid stimulating hormone (TSH). The normal range of T_4 is suggested to be 77–155 nmol/l, T_3 to be 1.2–2.8 nmol/L and TSH to be 0.3–4 mU/l. They may reveal hyperthyroidism (high T3 and T4), hypothyroidism (low T3, T4), or subclinical hyperthyroidism (normal T3 and T4 with a low TSH).

Other lab tests such as TSH receptor antibodies or antibodies to thyroid peroxidase can help aid in diagnosing Graves disease or Hashimoto thyroiditis, respectively. In pregnant women, thyroid-binding globulin production is increased because of estrogen and beta-human chorionic gonadotropin (beta-HCG). More free T4 will be bound to TGB, leading to increased production of T4. TSH levels and free T4 levels will normalize, and total T4 will increase. Therefore, laboratory values will show normal TSH, normal free T4, and elevated total T4. [3]

PATHOPHYSIOLOGY:

Hypothyroidism is an endocrine disorder with resultant under-production of thyroid hormone. Common symptoms of hypothyroidism include cold intolerance and weight gain due to decreased basal metabolic rate and thermogenesis, depression, fatigue, decreased peripheral reflexes, and constipation, due to decreased stimulation of the central and peripheral nervous system. Many other consequences of hypothyroidism can manifest secondary to the lack of activated thyroid hormone on various tissues and organs of the body.

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Universe International Journal of Interdisciplinary Research
(International Peer Reviewed Refereed Journal)
DOI No. – 08.2020-25662434

© UIJIR | ISSN (O) – 2582-6417
SEP 2023 | Vol. 4 Issue 04
www.uijir.com

AN OVERVIEW ON GERIATRIC NEUROCOGNITIVE DISORDERS

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ABSTRACT

The normal aging process is associated with declines in certain cognitive abilities, such as processing speed and certain memory, language, visuospatial, and executive function abilities. While these declines are not yet well understood, promising developments in neurology research have identified declines in grey and white matter volume, changes in white matter, and declines in neurotransmitter levels that all may contribute to observed cognitive changes with aging. Different neurocognitive disorders commonly encounter in geriatric patients include Alzheimer's disease, Vascular dementia, Lewy bodies dementia, Frontotemporal disorders and Mild cognitive impairment. It's essential to note that early diagnosis, proper evaluation, and individualized care plans are critical for managing neurocognitive disorders in geriatric patients. Treatment and support strategies may include medications, cognitive rehabilitation, occupational therapy, and caregiver education and assistance. Additionally, lifestyle modifications and addressing underlying medical conditions can play a role in managing these disorders in older adults.

Keywords: Alzheimer's disease; Frontotemporal disorders; Mild cognitive impairment

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International Journal of Scientific Research and Engineering Development-– Volume 6 Issue 5, Sep- Oct 2023

Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

A SYSTEMATIC OVERVIEW OF PAEDIATRIC SCHIZOPHRENIA

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ABSTRACT:

Childhood-onset schizophrenia or Paediatric Schizophreniausually represents a more severe form of the disorder, with more prominent pre-psychotic developmental disorders, structural brain abnormalities, and genetic risk factors. Contemporary practices of schizophrenia treatment are multidisciplinary, recuperation oriented, and consist of medications, with psychosocial interventions. The present paper provides an overview on signs and symptoms, epidemiology, pathogenesis, treatment, comorbidities associated with Childhood-onset schizophrenia

Keywords:Childhood-onset schizophrenia, Diagnosis, Treatment

INTRODUCTION:

Childhood schizophrenia (also known as childhood-onset schizophrenia, and very early-onset schizophrenia) or Paediatric Schizophrenia is quite rare serious psychiatric illness similar in characteristics of schizophrenia that develops at a later age, but has an onset before the age of 13 years, and is more difficult to diagnose. Schizophrenia is a mental disorder categorized by continuous or relapsing episodes of psychosis characterized by positive symptoms that can include hallucinations, delusions, and disorganized speech; negative symptoms, such as blunted affect and avolition and apathy, and a number of cognitive impairments. [1]

EPIDEMIOLOGY:

Childhood-onset schizophrenia, characterized by onset before age 13 years, has a prevalence of approximately 1 in 40,000. This is a severe form of the illness with gradual onset and poor outcome. The psychotic symptoms that are the hallmark of schizophrenia are present in many alternative diagnoses. The incidence of schizophrenia rises dramatically in adolescence, and its prevalence is estimated at 0.23% in the age between 13 and 18 years.

Boys are twice as likely to be diagnosed with childhood schizophrenia. There is often a disproportionately large number of males with childhood schizophrenia, because the age of onset of the

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SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7038(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

AN OVERVIEW ON CANCER CHRONOTHERAPY

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Article DOI: https://doi.org/10.36713/epra17244
DOI No: 10.36713/epra17244

ABSTRACT

The circadian clock is a complex biological circuitry that controls the daily rhythm of functions such as sleep, body temperature, and digestion. The master "clock" is an area in the brain that senses environmental cues (such as light) and communicates information to secondary clocks in other organs. The breaking of circadian tolerance or disbalance in the circadian clock results in the outbreak of several diseases. The prime factors that play in a disbalance circadian clock are artificial light during day or night, unbalanced diet, work-life balance, and unbalanced lifestyle. Defects or disruption in normal circadian functioning and altered levels of clock gene expressions can increase the risk of prostate cancers, breast cancers, ovarian cancers, colorectal cancers, endometrial cancers, non-Hodgkin's lymphoma, pancreatic cancers, osteosarcomas, head and neck squamous cell carcinomas, acute myeloid leukemia, and hepatocellular carcinomas. Chronotherapy for cancer involves optimal timing of drug delivery based on individual circadian times, which can improve treatment tolerability and efficacy of anti-cancer medications.

KEYWORDS: *Chronotherapy; Cancer; Biological clock*

INTRODUCTION

Circadian rhythm is the 24-hour internal clock in our brain that regulates cycles of alertness and sleepiness by responding to light changes in our environment. The daily light-dark cycle governs rhythmic changes in the behavior and/or physiology of most species. Studies have found that these changes are governed by a biological clock, which in mammals is located in two brain areas called the suprachiasmatic nuclei. The circadian cycles established by this clock occur throughout nature and have a period of approximately 24 hours. [1] At cellular level Disruptions in age, environment, or genetic mutation can have adverse effects on the cellular function and health of an organism. The circadian rhythm uses positive and negative molecular feedback loops as a mechanism to regulate their expression. There are several identified clock genes, BMAL1/BMAL2, CLOCK, CRY1/CRY2, and PER1/PER2/PER3, that regulate and control transcription and translation. Expression of these core clock genes inside the cell influence many signaling pathways which allows the cells to identify the time of day and perform appropriate function. Furthermore, phosphorylation of core clock proteins leads to degradation to keep the 24-hour cycle in sync. The presence of circadian rhythms in cells with and without nuclei indicate that the molecular clock is autonomous and external cues can be utilized for regulation. [2] Cancer is the second leading cause of death in the world today, killing millions of people every year [3]. According to reports, it is generally associated with disrupted circadian rhythms caused by various factors, including genetic, environmental, and internal factors. Defects or disruption in normal circadian functioning and altered levels of clock gene expressions can increase the risk of prostate cancers, breast cancers, ovarian cancers, colorectal cancers, endometrial cancers, non-Hodgkin's lymphoma, pancreatic cancers, osteosarcomas, head and neck squamous cell carcinomas, acute myeloid leukemia, and hepatocellular carcinomas. Chronotherapy against cancers are dependent on the effect that the circadian rhythm exerts on multiple cellular processes, such as cell cycle, DNA repair, proliferation and apoptosis, and drug metabolism, which are crucial molecular determinants of cellular pharmacokinetics and pharmacodynamics of cytotoxia/cytostatic drugs. Chronotherapy is a treatment strategy that searches for the optimal time for drug administration in accordance with the body biological clock, in order to promote the therapeutic effect of anti-cancer drugs.

Mechanism of Circadian Rhythm

The circadian pacemaker is the suprachiasmatic nucleus (SCN) of the hypothalamus. As the body transitions from light to dark, the body sends inputs to the retinohypothalamic pineal pathway. During the light cycle, axons from the retinal ganglionic cells deliver signals that activate the suprachiasmatic nucleus via cranial nerve II, the optic nerve. The SCN then delivers a signal via the inhibitory neurotransmitter GABA (gamma-amino-butyric acid) that inhibits the paraventricular nucleus. Axons subsequently send impulses through the intermediate lateral column to inhibit the superior cervical ganglion thus inhibiting the sympathetic nervous system. As a result, melatonin does not get released from the pineal gland into circulation. As night approaches, the departure of light signals the retinal ganglion cells to inhibit the suprachiasmatic nucleus activating the paraventricular nucleus which then sends

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International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

A Review of Kleine-Levin Syndrome

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ABSTRACT:

Kleine-Levin syndrome, also known as recurrent hypersomnia or periodic hypersomnolence, is a rare sleep disorder marked by recurrent episodes of severe hypersomnia coupled with behavioural and cognitive disturbances like compulsive eating, hypersexuality, derealization, apathy, and confusion. There are weeks or months of regular sleep and behaviour in between episodes, which can last anywhere from a few days to many weeks. This article will examine the epidemiology, pathophysiology, clinical characteristics, diagnosis, and management of Kleine-Levin syndrome.

Keywords: Kleine-Levin syndrome, Hypersomnia

INTRODUCTION:

Recurrent episodes of hypersomnia accompanied by behavioural, cognitive, and psychological alterations and a sense of derealization are the hallmarks of Kleine-Levin syndrome, an episodic condition. Adolescent boys are primarily affected by the illness. Kleine-Levin syndrome is typically regarded as an incredibly rare disease, despite the fact that there are no population-based studies reporting on its prevalence. [1]

SIGNS AND SYMPTOMS:

Kleine-Levin syndrome symptoms typically appear after a specific trigger, such as an infection, lack of sleep, drinking alcohol, exposure to anaesthesia, or head trauma. Initial signs of sleepiness include a few hours of exhaustion and headache, and then evolve to bouts of excessive sleep lasting between 14 and 21 hours. These extended naps might last for several hours and have no discernible circadian regularity. Patients generally have behavioural and cognitive problems in the intervals between these sleep episodes. The patient may experience insomnia once the symptomatic phase ends. This condition might linger for one-to-many days.

Confusion, hallucinations, trouble speaking or concentrating, memory problems, and sensations of unreality are just a few of the cognitive anomalies these people encounter. Additionally, there is a sense of apathy that might outweigh the other cognitive deficiencies. Patients occasionally say they don't necessarily find it difficult to accomplish things, but that they aren't interested in completing them. Another symptom of Kleine-Levin syndrome that is frequently reported is the sensation of unreality. Patients who experience this feeling frequently say they are unsure of whether what they are feeling is real or just a dream. Every single one of the 108 patients in the series experienced derealization.

Patients with Kleine-Levin syndrome exhibit a variety of behavioural disorders, with hypersexuality, irritability, aggression, and hyperphagia being the most prevalent. Contrary to extreme drowsiness and cognitive problems, not all individuals have behavioural abnormalities. Upon waking after extended durations of sleep, more than half of patients frequently engage in binge eating. When patients are awakened from a sleep episode in the midst, they may become agitated and hostile. Male patients are more likely to experience hypersexuality, which shows itself as frequent masturbation and improper sexual practises. There may be a variety of other symptoms, such as depression, anxiety, regressive habits, headaches, photophobia, and phonophobia. [2]

AETIOLOGY:

The crucial function of the hypothalamus in controlling sleep, hunger, and sexual behaviour raises the possibility of an underlying illness; yet, no persistent abnormalities of the hypothalamus have been found. Cerebrospinal fluid analysis, structural brain imaging, and serological inflammatory marker examination are unremarkable. In the majority of instances, electroencephalographic slowing during episodes is noticeable without epileptic activity. There have been reports of diffuse cerebral hypoperfusion, primarily affecting the thalamus and frontotemporal regions. On the basis of the numerous reports of flu-like symptoms at the outset and the most common precipitating event (70%) viral and autoimmune causal factors have been proposed. Inflammatory lesions in the thalamus, diencephalon, and midbrain in postmortem neuropathology have been reported in a small number of case reports, which suggests a viral infection. It was found that in rare cases there is increased frequency of the human leukocyte antigen DQB1 * 0201 allele. In few cases, abnormalities in serotonin and dopamine metabolism have been reported, suggesting a neurotransmitter imbalance in the serotonergic or

e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
Volume:05/Issue:09/September-2023 Impact Factor- 7.868 www.irjmets.com

NOVEL THERAPEUTIC STRATEGIES FOR CYSTIC FIBROSIS

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DOI : https://www.doi.org/10.56726/IRJMETS44747

ABSTRACT

Cystic fibrosis is an autosomal recessive disease in which mutations in the gene encoding for the Cystic fibrosis transmembrane conductance regulator protein result in a multisystem disease dominated by digestive and respiratory manifestations. Management requires drug therapy, extensive physiotherapy and nutritional support. Previously, the focus was on symptomatic improvement and complication prevention but recently the protein rectifiers are being studied which are claimed to correct underlying structural and functional abnormalities. Some improvement is observed by the corrector drugs. Other promising approaches are gene therapy, targeting of cellular interactomes, and newer drugs for symptomatic improvement. The present article describes the diagnostic testing for cystic fibrosis, existing and emerging therapies, and how these treatments are changing the trajectory of disease.

Keywords: Cystic Fibrosis, CFTR Gene, Gene Therapy.

I. INTRODUCTION

Cystic fibrosis is the genetic disorder that affects mostly the lungs, but also the pancreas, liver, kidneys, and intestine. It is a disease of exocrine gland function that involves multiple organ systems but chiefly results in chronic respiratory infections, pancreatic enzyme insufficiency, and associated complications in untreated patients leading to death in 90% of patients. A mutation in Cystic fibrosis trans-membrane conductance regulator (henceforth CFTR) gene changes a protein (a regulated chloride channel), which regulate the activity of other chloride and sodium channels at the cell surface epithelium. [1] There are about 70,000 worldwide cases and approximately 1000 new cases are added each year. CF is most common in white people of north European ancestry having 1 in 2000–3000 births and least in Asian-Americans having 1:30,000 newborns. [2]

Pathophysiology:

Cystic fibrosis is caused by having no functional copies (alleles) of the gene cystic fibrosis transmembrane conductance regulator (CFTR). The most common mutant allele, ΔF508, is a deletion (Δ signifying deletion) of three nucleotides that results in a loss of the amino-acid residue phenylalanine (F) at the 508th position of the protein. Cystic fibrosis is instigated by defects in the cystic fibrosis gene, which codes for a protein transmembrane conductance regulator (CFTR) function as a chloride channel and is regulated by cyclic adenosine monophosphate (cAMP). Mutations in the CFTR gene result in abnormalities of cAMP-regulated chloride transport across epithelial cells on mucosal surfaces. Defective CFTR results in decreased secretion of chloride and increased reabsorption of sodium and water across epithelial cells. The resultant reduced height of epithelial lining fluid and decreased hydration of mucus results in mucus that is stickier to bacteria, which promotes infection and inflammation. Secretions in the respiratory tract, pancreas, GI tract, sweat glands, and other exocrine tissues have increased viscosity, which makes them difficult to clear. Most patients with cystic fibrosis have severe chronic lung disease and exocrine pancreatic insufficiency. [3]

Signs and Symptoms:

Cystic fibrosis typically manifests early in life. Newborns and infants with cystic fibrosis tend to have frequent, large, greasy stools (a result of malabsorption) and are underweight for their age. Gastrointestinal symptoms include meconium ileus, abdominal distention, intestinal obstruction, increased frequency of stools, failure to thrive (despite adequate appetite), flatulence or foul-smelling flatus, steatorrhea, recurrent abdominal pain, jaundice and Gastrointestinal bleeding. Cough, Recurrent wheezing, Recurrent pneumonia, Atypical asthma, Dyspnea on exertion and chest pain are seen as respiratory symptoms. Genitourinary symptoms may include Undescended testicles or hydrocele, Delayed secondary sexual development and Amenorrhea. The primary cause of morbidity and death in people with cystic fibrosis is progressive lung disease, which eventually leads to

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International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 7.328
Peer Reviewed Bi-Monthly
Vol. 11 No. 5 May-June 2024

An Exploration of Culture-Specific Psychiatric Syndrome in India

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DOI- 10.5281/zenodo.12232459

Abstract:

Culture-specific syndromes are clinical manifestations of culturally different ailments. These syndromes provide insight into illnesses that are heavily influenced by the individual's social background. A culture-specific syndrome is a collection of signs and symptoms that are restricted to a small number of cultures due to psychological characteristics. Culture-specific disorders are frequently limited to a single environment and have a distinctive association with that environment. Clinical manifestations may differ because culture-specific syndromes are defined based on a shared aetiology (e.g., magic, evil spells, angry ancestors). This report outlines four psychiatric syndromes that are unique to India.

Keywords: Culture-specific syndromes; India

Introduction:

The Indian culture, often labelled as an amalgamation of several various cultures, spans across the Indian subcontinent and has been influenced and shaped by a history that is several thousand years old. Throughout the history of India, Indian culture has been heavily influenced by Dharmic religions. a culture-specific syndrome, culture-specific syndrome, or folk illness is a combination of psychiatric and somatic symptoms that are considered to be a recognizable disease only within a specific society or culture. There are no objective biochemical or structural alterations of body organs or functions, and the disease is not recognized in other cultures.

A culture-specific syndrome is characterized by categorization as a disease in the culture (i.e., not a voluntary behaviour or false claim), widespread familiarity in the culture, complete lack of familiarity or misunderstanding of the condition to people in other cultures, no objectively demonstrable biochemical or tissue abnormalities (signs) and recognition and treatment by the folk medicine of the culture. The term *culture-specific syndrome* denotes recurrent, locality-specific patterns of aberrant behavior and troubling experience that may or may not be linked to a particular DSM-IV diagnostic category. Many of these patterns are indigenously considered to be "illnesses," or at least afflictions, and most have local names. Although presentations conforming to the major DSM-IV categories can be found throughout the world, the particular symptoms, course, and social response are very often influenced by local cultural factors. In contrast, culture-specific syndromes are generally limited to specific societies or culture areas and are localized, folk, diagnostic categories that frame coherent meanings for certain repetitive, patterned, and troubling sets of experiences and observations. [1,2]

Rooted in the cultural, social, and spiritual fabrics of the society, these syndromes offer a unique glimpse into the intersection of health and culture. In India, common culture specific syndromes are Dhat Syndrome, Koro, Bhanmati, Compulsive spitting, Amok, Suddu, ascetic syndrome etc.

Dhat syndrome:

It is a condition found in the cultures of South Asia (including Pakistan, India, Bangladesh, Nepal, and Sri Lanka) in which male patients report that they suffer from premature ejaculation or impotence, and believe that they are passing semen in their urine. Young males are most often affected, though similar symptoms have been reported in females with excessive vaginal discharge or leucorrhea, which is also considered a "vital fluid". In addition, there are symptoms of fatigue and weakness. Patients with Dhat condition most normally ascribe their semen misfortune (secretion of semen in urine) to reasons like inordinate masturbation, sensual dreams, and unreasonable sexual longing. Nocturnal emission and secretion of semen in urine are considered to be the most widely recognized symptoms of semen misfortune. Patients with Dhat condition frequently dread the result of semen misfortune and regularly have the conviction that it will lead to decrease in sexual performance. The most widely recognized side effects in patients with Dhat condition are shortcoming of the body, sluggishness, low energy, and low temperament. Premature ejaculation and impotence are commonly seen. Other somatic symptoms like weakness, easy fatiguability, palpitations, insomnia, low mood, guilt