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IN ASSOCIATION WITH
SRI PADMAVATHI MEDICAL COLLEGE FOR WOMEN HOSPITAL (SPMCWH)-SVIMS, Tirupati, AP, INDIA.

Fibrodysplasia Ossificans Progressiva

Dr. B. Sivagami

Fibrodysplasia ossificans progressiva (FOP) is a rare genetic disorder where bone slowly replaces muscles and connective tissues, often triggered by injury or illness. This can cause pain and lead to a shortened lifespan.

The body's normal skeleton, muscle and connective tissue differ from a skeleton of a person diagnosed with fibrodysplasia ossificans progressiva, which causes your muscle and connective tissue to turn to bone.

Symptoms of Fibrodysplasia ossificans progressiva (FOP)

Fibrodysplasia ossificans progressiva (FOP) is a genetic condition where muscle and connective tissues turn into bone, restricting movement. Symptoms typically begin in childhood, starting at the neck and shoulders, and progress to other areas of the body.

Who does fibrodysplasia ossificans progressiva affect?

Fibrodysplasia ossificans progressiva is usually caused by a new genetic mutation, not inherited from a parent. These mutations occur during fertilization and can be influenced by factors like smoking or chemical exposure. If you're planning to become pregnant, consult your healthcare provider about genetic testing to assess risks.

How common is fibrodysplasia ossificans progressiva?

Fibrodysplasia ossificans progressiva is a very rare condition that occurs in an estimated 1 out of every 2 million people worldwide.

How does fibrodysplasia ossificans progressiva affect my body?

FOP causes a restricted range of motion as muscles and connective tissues turn into bone. Symptoms start in the neck and shoulders in childhood, spreading to other areas. Trauma, such as surgery, falls, or illness, can trigger flare-ups, causing inflammation and swelling. Children may struggle with eating, speaking, and breathing due to bone growth affecting the mouth and rib cage.

Fibrodysplasia ossificans progressiva?

Fibrodysplasia ossificans progressiva (FOP) was first documented in the 17th and 18th centuries. Initially named "myositis ossificans progressiva" in the early 1900s, it reflects muscle turning to bone. In the 1960s, Dr. Victor McKusick renamed it to better represent both muscle and soft tissue ossification. In 2006, researchers at the University of Pennsylvania identified the genetic mutation responsible for the condition.

Vision

To emerge as one of the premier pharmacy colleges in the country and produce pharmacy professionals of global standards.

Mission

1. To deliver quality academic programs in Pharmacy and empower the students to meet Industrial Standards.

2. To build student community with high ethical standards to undertake R&D in thrust areas of national and international needs.

3. To extend viable outreach programs for the health care needs of the society

4. To develop industry institute interaction and foster entrepreneurial spirit among graduates.

Standard Practice

Drug Information Center Drug Formulary Management ADR Reporting Patient Counseling Drug Information Resources Prescription Audit Medication Error Reporting Antimicrobial Stewardship Journal Club Activities

Symptoms and Causes

What causes fibrodysplasia ossificans progressiva?

Fibrodysplasia ossificans progressiva (FOP) is caused by a mutation in the ACVR1 gene, which controls the production of receptors for bone morphogenic protein (BMP). This mutation keeps the receptor "on," causing abnormal bone growth in muscles and cartilage. FOP is an autosomal dominant condition, meaning one affected parent has a 50% chance of passing it on. Most cases are due to a new (de novo) mutation, with no family history involved.

What are the symptoms of fibrodysplasia ossificans progressiva?

The main symptom of fibrodysplasia ossificans progressiva (FOP) is the gradual conversion of muscles, tendons, and ligaments into bone, starting at the neck and shoulders in childhood. Symptoms arise during flare-ups triggered by trauma, injury, surgery, or viral illness, causing painful swelling. These flare-ups result in excessive bone growth due to overactive bone morphogenic protein receptors. After new bone forms, swelling decreases within days to a month. A key diagnostic feature is a malformed, short big toe, often growing inward, visible at birth. About 50% of FOP cases also involve similar thumb malformations.

Symptoms of fibrodysplasia ossificans progressiva include:

- Bone forming on muscles, ligaments and connective tissue.
- Decreased mobility (scooting instead of crawling, joint stiffness, locked joints).
- Difficulty eating or speaking.
- Hearing impairment.
- Malformed big toe.
- Permanent immobility.
- Red to purple, painful and hot to the touch areas of the body that look like tumors.
- Scoliosis or kyphosis.
- Swelling of soft tissue on the neck, shoulders and back.

As FOP progresses, individuals may lose mobility, experience pain and stiffness from bone growths pinching nerves, and become more vulnerable to respiratory infections or heart failure. In severe cases, cognitive function and learning abilities may also be affected.

Diagnosis and Tests

How is fibrodysplasia ossificans progressiva diagnosed?

Diagnosing fibrodysplasia ossificans progressiva (FOP) starts with a physical exam, medical history review, genetic testing for the ACVR1 mutation, and imaging (like X-rays) to examine bone growth. FOP is rare and can be misdiagnosed as cancer, juvenile fibromatosis, or fibrous dysplasia. A biopsy, which can trigger flare-ups, is avoided. Key diagnostic signs include malformed big toes and soft tissue swelling.

Management and Treatment

How is fibrodysplasia ossificans progressiva treated?

Treatment for fibrodysplasia ossificans progressiva (FOP) focuses on managing symptoms, especially flare-ups that trigger bone growth. While there is no cure, research and clinical trials are advancing. Treatment is personalized based on individual symptoms.

Treatment for FOP could include:

- Getting genetic counseling for social, emotional and health-related support.
- Participating in occupational therapy to improve physical needs.
- Preventative antibiotic therapy to avoid respiratory infections.
- Taking medication to reduce swelling and pain associated with flare-ups (corticosteroids, nonsteroidal anti-inflammatory medication, muscle relaxants).
- Using mobility equipment like a wheelchair.
- Wearing a brace.

Prevention

How can I reduce my risk of having symptoms of fibrodysplasia ossificans progressiva?

To prevent flare-ups of fibrodysplasia ossificans progressiva (FOP), avoid physical trauma, injuries, and stress to the body. Strategies include:

- Preventing falls and injuries.
- Opting for subcutaneous vaccine injections instead of intramuscular ones.
- Choosing alternative diagnostic tests over biopsies.
- Avoiding dental procedures that stretch the jaw or require local anesthetics.
- Taking steps to avoid viral illnesses like the flu.

How can I prevent fibrodysplasia ossificans progressiva?

You can't prevent fibrodysplasia ossificans progressiva from occurring because it's the result of a genetic mutation. To understand the risks of having a child with a genetic condition, talk with your healthcare provider about genetic testing.

Outlook / Prognosis

What can I expect if I have fibrodysplasia ossificans progressiva?

Fibrodysplasia ossificans progressiva (FOP) is a lifelong condition with no cure, leading to poor prognosis due to severe symptoms like respiratory infections and worsening mobility. Life expectancy is often reduced to early adulthood, with most individuals becoming immobile by age 30. Respiratory infections are the leading cause of death. Ongoing research and clinical trials aim to reduce symptoms and extend life.

Adverse Reactions

The most common adverse reactions (≥ 10%) in clinical trials include dry skin, lip dry, arthralgia, pruritus, pain in extremity, rash, alopecia, erythema, headache, back pain, skin exfoliation [skin peeling] , nausea, musculoskeletal pain, myalgia, dry eye, hypersensitivity, peripheral edema, and fatigue.

Contraindications

SOHONOS is contraindicated in patients during pregnancy, or with a history of allergy or hypersensitivity to retinoids, or to any component of SOHONOS.

Drug Interactions

- CYP3A4 inhibitors may increase SOHONOS exposure. Avoid concomitant use of strong or moderate CYP3A4 inhibitors, as well as grapefruit, pomelo or juices containing these fruits.
- CYP3A4 inducers may decrease SOHONOS exposure. Avoid concomitant use of strong or moderate CYP3A3 inducers.
- The use of both vitamin A and SOHONOS at the same time may lead to additive effects. Concomitant administration of vitamin A in doses higher than the recommended daily allowance and/or other oral retinoids must be avoided due to risk of hypervitaminosis A.
- Systemic retinoid use has been associated with cases of benign intracranial hypertension (pseudotumor cerebri), some of which involved the concomitant use of tetracyclines. Avoid coadministration of SOHONOS with tetracycline derivatives.

Use in Specific Populations :

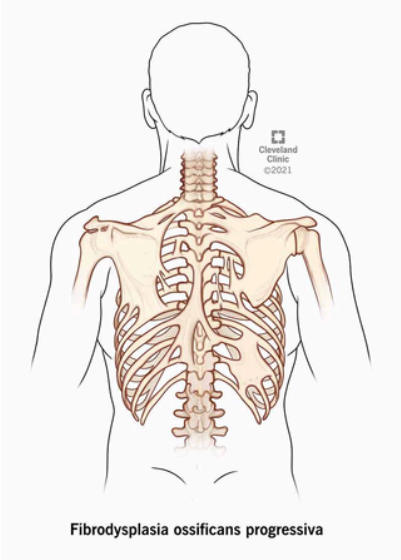
- **Pregnancy:** SOHONOS is contraindicated during pregnancy. Obtain a negative serum pregnancy test within 1 week prior to SOHONOS therapy and periodically, as needed, over the course of treatment with SOHONOS and 1 month after treatment discontinuation unless patient is not at risk of pregnancy. If pregnancy occurs during treatment with SOHONOS, stop treatment immediately and refer the patient to an obstetrician/gynecologist or other specialist experienced in reproductive toxicity for evaluation and advice.

Lactation: Advise females that breastfeeding is not recommended during treatment with SOHONOS, and for at least 1 month after the last dose.

Females and Males of Reproductive Potential: Advise females of reproductive potential to use effective contraception at least 1 month prior to and during treatment, and for 1 month after the last dose unless continuous abstinence is chosen.

Pediatric Use: All growing pediatric patients should undergo baseline assessment of growth and skeletal maturity before starting treatment and continued clinical and radiographic monitoring every 6-12 months until patients reach skeletal maturity or final adult height

Renal or Hepatic Impairment: Use of SOHONOS in patients with severe renal impairment, or with moderate or severe hepatic impairment is not recommended.



Fibrodysplasia ossificans progressiva

WARNING: EMBRYO-FETAL TOXICITY and PREMATURE PHYSEAL CLOSURE IN GROWING PEDIATRIC PATIENTS

Embryo-Fetal Toxicity

SOHONOS is contraindicated in pregnancy. SOHONOS can cause fetal harm.

Because of the risk of teratogenicity and to minimize fetal exposure, SOHONOS is to be administered only if conditions for pregnancy prevention are met.

Premature Epiphyseal Closure

Premature epiphyseal closure occurs in growing pediatric patients treated with SOHONOS, close monitoring is recommended.

National Workshop on "Nature's Pharmacy: The Healing Power of Natural Herbs & Opportunities for Entrepreneurs"

The Department of Pharmacognosy & IIC, SHCP, in association with Prakruthivanam, Madanapalle, and Bharat Vikas Parishad, Tirupati, organized a one-day national workshop on **July 31, 2024, at the Prof. K. Chinnaswamy Auditorium, SHCP Campus.**

Shri M.C.V. Prasad, agriculturist & founder of Prakruthivanam, was the resource person, sharing insights on natural herbs and millets for health and entrepreneurship. Mr. G. Prasad and Mr. Avilala Sreedhar from Bharat Vikas Parishad graced the event as Guests of Honor.

Principal Dr. M. Niranjan Babu and Correspondent Smt. Sumalatha honored the guests. The workshop saw active participation from faculty and students, highlighting nature's role in sustainable healthcare.

Best Regards,
Dr. M. Niranjan Babu
Principal, SHCP (Autonomous), Tirupati

International Workshop on Research Funding & Digital Transformation at SHCP

The Research & Development Cell and IIC, SHCP, in association with the Indo-German Science & Technology Centre, New Delhi (Project Office: Germany) and Sri Padmavathi Women's Polytechnic College, Tirupati, organized a One-Day International Workshop on August 7, 2024, at the Prof. K. Chinnaswamy Auditorium, SHCP Campus.

The event focused on pharmaceutical research funding, partnerships, and digital transformation.

Distinguished Guests:

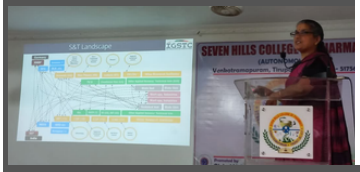
Chief Guest: Dr. M. Padmavatham, HoD, Department of Pharmacy, Sri Padmavathi Women's Polytechnic College, TTD, Tirupati.

Guest of Honour: Prof. M. Ravi Sankar, HoD, Mechanical Engineering, IIT Tirupati.

Resource Person: Dr. P.V. Lalitha, Chief Scientific Officer, Indo-German Science & Technology Centre, New Delhi.

The workshop provided insights into global funding opportunities and technological advancements in pharmacy research. Principal Dr. M. Niranjan Babu and the SHCP team thanked all dignitaries and participants for making the event a success.

Best Regards,
Dr. M. Niranjan Babu
Principal, SHCP (Autonomous), Tirupati



PRECISION MEDICINE IN CANCER THERAPEUTICS

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Cancer is a highly diverse disease, which accounts for variations in cancer cells within a single patient as well as between cancer cells from other people. To battle the long-standing foe known as cancer, more potent tactics are desperately needed. The same treatment is given to patients with the same kind and stage of cancer. However, it has been demonstrated that different people with the same illness react differently to the same treatment. Additionally, every tumor experience genetic alteration that led to the growth and metastasis of cancer. Others with the same form of cancer might not experience the same alterations as one person. Different reactions to treatment are also caused by these variations. The goal of precision oncology, also known as precision medicine for cancer, is to match each patient with the most appropriate and successful treatment based on their unique genetic profile and that of their illness. Since each cancer patient has a unique genetic profile that may alter over time, more people will benefit from personalized therapeutic options, avoiding the notion that there is a "one-size-fits-all" approach to cancer treatment. When compared to traditional cytotoxic medicines, target-based therapies have already significantly improved the lives of some patients. The identification of the Bcr-Abl gene fusion in chronic myeloid leukemia (CML) is among the most prominent cases. Because the Bcr-Abl gene fusion occurs in nearly all CML patients, unlike other gene alterations, the discovery of this genetic driver of CML led to the creation of imatinib, a selective inhibitor of BCR-ABL that demonstrated broader therapy coverage. The overall survival rates of CML patients increased to 90% after five years and 88% after eight years because to this drug.

A novel idea of "molecularly-defined cancers" serves as the foundation for the precision medicine approach based on nanoscience, with an emphasis on cancer treatment. The technique known as "next-generation sequencing" is used to pinpoint the oncogene causing a particular class of malignancies. The recently developed "microRNA replacement therapy," which uses nanocarriers to regulate the driving oncogene—the central component of cancer precision therapeutics—is used to treat tumors at the molecular level. Furthermore, the genetically defined, patient-derived xenograft models must appropriately evaluate the outcome of the nano mediated oncogenic regulation.

1. STRATEGIES FOR TARGET BASED THERAPY INCLUDES:

a. ENZYME/SMAL MOLECULES – BASED STRATEGIES:

PROTAC:

A new method called proteolysis targeting chimeras (PROTAC) uses a targeted molecule to cause protein degradation. A new field for innovative drug discovery is PROTAC.Two ligands joined by a linker form hetero-bifunctional PROTACs, which are used in the technique. One ligand attaches itself to the protein that needs to be broken down, while the second ligand attracts an E3 ligase.

The purpose of PROTAC is to break down the disease-causing proteins by taking over the ubiquitin proteasome system (UPS).

ANTIBODY-DRUG CONJUGATAE (ADC):

Antibody-drug conjugates (ADCs) are a rapidly evolving strategy that seeks to minimize harm to healthy tissue while delivering a deadly payload to malignant cells. There are three parts to the ADC: a monoclonal antibody that uses a unique, ideally biodegradable linker to deliver a cytotoxic payload. Prodrug/enzyme

This strategy's initial goal was to use an enzyme that was unique to cancer cells to change a prodrug with low toxicity into one that was cytotoxic. Since no such enzyme could be located, ADEPT was created. There are two steps involved in this method. First, an antibody directed against a tumor antigen is used to accumulate a specific enzyme at the tumor location. Second, the enzyme precisely transforms the innocuous prodrug into a cytotoxic drug at the tumor location.

Prodrug Therapy with Antibody-Directed Enzymes (ADEPT)Over the past 20 years, various groups have examined this approach, which has the potential to be an effective treatment for the majority of solid tumors. It is a two-step procedure designed to produce a cytotoxic medication from a prodrug in the tumor's extracellular space. Injecting the antibody-enzyme combination is the first step. After this conjugate has been cleared, the prodrug is injected as the second step.

Additional prodrug-using technologies include virus-directed enzyme prodrug therapy and gene-directed enzyme prodrug therapy (GDEPT).

a. IMMUNOTHERAPY

Use of Immune Check Point inhibitors (ICIs)

·aPD-1 and PDL-1 inhibitors

·bCTLA4 inhibitors

- ICIs are Immunotherapeutics with great promise that have demonstrated impressive anti-tumor effects thus far.
- ICIs inhibit tumors by altering the interactions between immune cells and malignant cells.

Use of immune cytokines

· antibody–cytokine fusion conjugates, IL-2 and IFN-α

· production of cytokines using tumor-targeted superantigens (TTS) or ligand-targeted therapeutics (LTTs)

Stimulates the patient's immune system

This method creates a locally elevated level of the cytokine to kill or control the tumor by using a cancer-specific antibody or ligand connected to a superantigen.

CANCER COMBINATION THERAPY:

A combination of two or More therapeutic approaches, such as any of the aforementioned. Combining anti-cancer medications with several modes of action should increase the treatment's effectiveness.

2. IMMUNOTHERAPY BASED STRATEGIES:

a)Immune check point inhibitors

Cancer cells employ a number of strategies to avoid being identified and eliminated by the patient's immune system. One of their primary strategies is immunoediting [5], in which they suppress characteristics that allow the immune system to identify them, such as tumor antigens and MHC I.

However, tumor cells can use the body's natural negative feedback loop to avoid immunopathology and dodge the patient's immune system. This evasion can be accomplished in a number of ways, such as by activating inhibitory components like cytotoxic T-lymphocyte-associated protein 4 (CTLA4) and programmed cell death protein 1 (PD-1).

Anti-cancer immunotherapy medications are known as immune checkpoint inhibitors (ICIs). As a result, therapies focus on blocking CTLA4 and PD-1 receptors in order to trigger an immune response that the tumor would have otherwise inhibited.

b)Immune cytokine-based strategies

Numerous clinical trials have been conducted to investigate the possible anti-tumor actions of different cytokines, taking advantage of their capacity to boost immune responses against cancer, since it was discovered that IFN-α possesses anti-tumor activity against multiple cancer cell lines. However, as monotherapies, cytokines have several drawbacks, such as their brief half-lives and lacklustre tumor-fighting ability. Notwithstanding these limitations, the FDA approved IL2 and IFN-α for the treatment of several cancers due to their (moderate) anti-tumor properties. For instance, IL2 is authorized to treat metastatic melanoma and advanced renal cell carcinoma (RCC). In a similar vein, IFN-α has been authorized to treat AIDS-related Kaposi's sarcoma, follicular non-Hodgkin lymphoma, melanoma, and hairy cell leukemia.

The low response rate and significant toxicity of these cytokines, which need high doses of IL-2 and IFN-α, are further drawbacks for many cancer therapy modalities. Due to these drawbacks, we suggested four methods to improve cytokine effectiveness in cancer treatment:

c)Utilizing the cytokines in conjunction with additional treatments (explained at the conclusion of this article)

fusion with human serum albumin or attachment of life-extending compounds like polyethylene glycol (PEG) to lengthen the body's cytokine half-life;

d)Utilizing cytokines as a tailored cancer treatment approach by attaching them to an antibody specific to cancer

Tumor-targeted superantigens (TTS) consist of unique superantigen variations that are used to boost the patient's immune system and the synthesis of various cytokine molecules around the malignancy (more on this tactic is covered below)

e)Superantigens that are ligand- or tumor-targeted

The more than 20 distinct toxins that Staphylococcus aureus makes are known as staphylococcal enterotoxins (SEs), and they are strong protein antigens called superantigens. The major histocompatibility complex class II molecules on antigen-presenting cells and certain V sections of T-cell receptors are non-specifically cross-linked by superantigens (SAgs). This kind of cross-linking causes T lymphocytes and monocytes/macrophages to become hyperactive, which leads to the release of a large number of cytokines and chemokines, including macrophage chemoattractant protein 1 (or CCL2), interleukin 1 (IL-1), IL-2, interferon γ (IFN-γ), and tumor necrosis factor α (TNF-α).

Two-Day National Seminar on Rainwater Harvesting at SHCP, Tirupati

The Seven Hills College of Pharmacy (Autonomous), Tirupati, in association with Synergy Remedies Private Limited, Tirupati, IIC & NSS Unit, SHCP, is organizing a Two-Day National Seminar on "Rejuvenation of Rainwater Harvesting Structures: Challenges and Opportunities" on 22nd & 23rd August 2024 at the Prof. K. Chinnaswamy Auditorium, SHCP Campus.

This seminar aims to address the importance of rainwater harvesting, the challenges in its implementation, and innovative opportunities for sustainable water management. Experts from various fields will share insights on modern techniques, policies, and community engagement strategies.

Dr. M. Niranjan Babu, Principal, SHCP, invites researchers, academicians, industry professionals, and students to actively participate in this knowledge-sharing event to promote sustainable water conservation practices.

Best Regards,
Dr. M. Niranjan Babu
Convenor & Principal, SHCP (Autonomous), Tirupati

World Suicide Prevention Day

World Suicide Prevention Day (WSPD) on September 10 is a day to raise awareness about suicide and mental health. It is a day led by the World Health Organization (WHO) and the International Association for Suicide Prevention (IASP), focusing on decreasing stigma and encouraging support. Open conversations, resources for mental health, and intervention in crisis situations are all being highlighted on the day. It tells close to 700,000 suicides each year and educates people to get or give help. WSPD stresses the fact that suicide is preventable and gives a light to the importance of robust support systems to save those lives.

Best Regards,
Dr. M. Niranjan Babu
Convenor & Principal, SHCP (Autonomous), Tirupati

Teachers' Day Celebration

Teachers' Day at the Prof. K. Chinnaswamy Auditorium, SHCP Campus, is a special occasion to celebrate and honor the contributions of educators. Held annually on September 5th, the event commemorates the birthday of Dr. Sarvepalli Radhakrishnan, a respected teacher and philosopher. The celebration typically includes speeches, cultural

3. ENZYMES/SMALL MOLECULES STRATEGIES:

a) Proteolysis targeting chimera (PROTAC)

One way by which the cell breaks down undesirable proteins serves as the inspiration for the proteolysis targeting chimera strategy (PROTAC), which is a learning and borrowing from nature. Two separate moieties make up the molecule; one binds to the target protein, while the other binds to E3 ubiquitin ligase. The goal is to put the ubiquitinylation machinery and the target protein closer together.

b) Antibody-drug conjugates

The "magic bullet's" therapeutic legacy is antibody-drug conjugates, or ADCs. idea that Paul Ehrlich promoted almost a century ago. ADCs are intricately designed substances made up of a potent cytotoxic medication linked to a tumor-specific antibody. By combining the high cytotoxicity of the medicine in question (the payload) with the accuracy of the antibody towards the tumor, this approach increases the local concentration of the latter by a factor of many. In fact, the cytotoxic medication that is affixed to the antibody is frequently too toxic to be given by itself. Utilizing the cancer - ·specific antibody in an ADC also lessens the payload's off-target toxicity and the amount of time that the drug is exposed to healthy tissue.

c) Antibody-directed enzyme prodrug therapy

Over thirty years ago, the idea of antibody-directed enzyme prodrug treatment (ADEPT) was first presented. Its goal is to create a cytotoxic medication and limit its effects in the tumour's immediate area. There would be two processes involved in this process. First, an enzyme, usually glucarpidase (also called carboxypeptidase G2), is covalently attached to a tumor-specific antibody. The enzyme is delivered to the tumor site by the antibody, and a nontoxic enzyme substrate called a prodrug is injected once the antibody conjugate has been removed from the body. In the proximity of the tumor, the enzyme will transform the prodrug into a potent cytotoxic drug.

4. COMBINATION CANCER THERAPIES AND PRECISION MEDICINE:

The necessary treatment regimen should preferably be tailored to each patient because tumors are complex and diverse. One approach might not be sufficient to treat all types of cancer. On the other hand, some treatments could be more successful in one area of the body than in another. Combining conventional and contemporary targeted medicines can help patients live longer, overcome medication resistance, and have fewer symptoms.

CONCLUSION:

Precision medicine is expanding at a rapid pace, necessitating committed future leaders with a solid background in advanced genomic medicine, including molecular diagnostic methods like whole genome/exome sequencing interpretation and next generation sequencing. In addition to integrating personalized medicine into healthcare, these leaders need to develop a wide range of other management and instructional abilities [6]. Precision and individualized treatment are being advanced by genomic research and electronic medical records (EMRs).

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Spiritualty

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III Pharm D

Can we add spiritual wellbeing in the definition of health like as physical , mental and social well being ;

Abstract;

Nowadays, the arc of holistic or integrative medicine frequently incorporates spirituality. The interplay of spirituality in health will be discussed in this article along with integrative medicine. Combination of conventional and complementary therapies can give more outcomes , where we are more focusing on the spirituality which will comes under the complementary therapy . In the complementary therapies it includes yoga ,meditation, herbal therapy, aroma therapy, dietary supplements etc.

Spirituality is a broad concept that often involves a sense of connection to something greater than oneself. It can encompass various beliefs, practices, and experiences that relate to the search for meaning, purpose, and inner peace. Unlike organized religion, which typically has specific doctrines and rituals, spirituality is more personal and subjective, allowing individuals to explore their own beliefs and experiences . Here we discussed about spiritualty with the integrative medicine.

Complementary and integrative health care approaches are being used more often and are quickly gaining popularity for treating a wide range of illnesses. But little is known about the representation of integrative and complementary health approaches. In this we discussed how spiritualty will play a role in ones own life for the quality of life.

Introduction

Does spirituality fall under integrative medicine, Can we think of spirituality as a component of health.

1[spiritualty is a holistic assessment A key component of delivering high-quality care that is centered on addressing each patient's unique needs . When conducting a comprehensive evaluation, the patient's physical, mental, social, and spiritual health should all be taken into account. A concise synopsis of the relational components of person-centered care (PCC) is given, and it is recommended that the four main PCC dimensions—connection, caring attitude, communication, and control—be taken into account as significant elements in a comprehensive evaluation]1

Integrative medicine, is a combination of conventional and complementary medicine , offers a collection of methods and ideas meant to improve health and well-being. Numerous modalities such as acupuncture, massage , tai chi, yoga , herbal therapy , homeopathy, meditation , Rei ki, aromatherapy , dietary supplements .Spiritualty is included in integrative medicine . Integrative medicine getting popular now days.]2

Spirituality can exert a tremendous impact on ones health and promote recovery from trauma and illness, An increasing body of scientific literature supports the concept that spirituality can significantly improve healing, We believe that spirituality is an important component of the healing process and should be integrated with conventional medicine to treat this complex disease.]19

At its core, spirituality often involves an exploration of the self and a quest for understanding one's place in the universe. This can manifest through practices such as meditation, mindfulness, prayer, or spending time in nature. Many people find that spirituality helps them cope with life's challenges, enhances their emotional well-being, and fosters a sense of community with others who share similar values.

Spiritualty;

The fourth dimension of health is spiritual well-being, which is just as significant as mental, social, and physical well-being.]6

In the definition of health we are having physical, mental, social, wellbeing but we can consider one more term that is spiritualty . because above three can be achieved by the spiritualty. So spiritualty is very important aspect in health .

Spiritualty consists of 5 Cs which brings wisdom and will nurture your presence of essence. They are Centre , Circle, Character , Communication, and Contribution .]5

Spiritualty is a broad concept that can be expressed in many ways and is different from religion: A sense of connection - good connectivity with themselves and with surrounding ones, A search for meaning - to understand their significance of life , A connection to nature - Nature can heal many

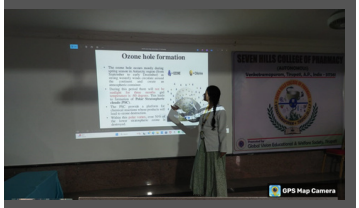
performances, and presentations by students, expressing their gratitude for the positive impact of their teachers. The event fosters a sense of appreciation and respect within the community, often featuring award ceremonies to recognize exceptional educators. Students and faculty come together to reflect on the importance of teaching, highlighting the role teachers play in shaping lives and society. It's also an opportunity to inspire future generations to consider education as a noble profession.

Nutritional Week Celebration

Nutritional Week, celebrated annually during the first week of September, is dedicated to raising awareness about the importance of healthy eating and proper nutrition. It encourages individuals to make informed food choices that contribute to overall health and well-being. During this week, various educational campaigns, workshops, and seminars are organized to highlight the role of nutrition in preventing chronic diseases like obesity, diabetes, and heart conditions. The aim is to

promote balanced diets, hydration, and physical activity, while also focusing on the benefits of consuming a variety of nutrients from different food groups. Nutritional Week serves as a reminder of the crucial link between good nutrition and a healthy lifestyle, urging communities to adopt habits that lead to long-term health benefits.

World Ozone Day



World Ozone Day, observed on September 16 every year, is dedicated to raising awareness about the importance of the ozone layer and the efforts needed to protect it. The day commemorates the signing of the Montreal Protocol in 1987, an international agreement aimed at phasing out substances that deplete the ozone layer. The ozone layer plays a critical role in shielding the Earth from harmful ultraviolet (UV) radiation, which can lead to skin cancer, cataracts, and other health problems, as well as negatively impact ecosystems. World Ozone Day highlights the global collective action required to preserve the ozone layer and promotes sustainable practices to reduce harmful emissions. The day also encourages .

traumas and supplies many energies ,A as set of values – a belief system that includes values such as truth, beauty, and worth ,A relationship with a higher power – understanding that you're a part of this cosmic energy,A set of practices - such as meditations , yoga and other religious rituals ,A set of virtues - acceptance, faith, hope, charity . A journey - of self reflection ,healing and affirmation of the ego.

Spiritualty is an important accessory in the lives of most palliative patients and not formally adhere to a specific religion. Facilitating personal growth and psychological resilience in coping
with one's health issues is one of the objectives of successful palliative care.

Integrative medicine provides many people with nonverbal, noncognitive ways to attain inner serenity and tranquility. Deep prayer or meditation can produce a feeling of serenity that is comparable to the one frequently attained during integrative medicine therapies. Integrative methods may therefore help patients become more self-aware and satisfy their spiritual needs without the religious connotations associated with conventional prayer.]2

Integrative medicine uses an evidence based approach , where it treats whole body – your mind ,body ,and soul . your physical ,emotional, mental and spiritual needs are all involved

Integrative medicines are combination therapies where it integrates conventional approaches and complementary therapies to achieve optimal health and healing .

A nationally representative household survey of Singaporeans aged 18 and above was used to gather the data. sample as a whole said they had sought assistance from spiritual or religious counselors. Among respondents with at least one mental disease, the frequency was higher among those with bipolar disorder, generalized anxiety disorder, or lifetime dysthymia.

In one of the study they concluded that , Chinese children are typically not religious, which has an impact on their overall wellbeing. An investigation on the spiritual needs of Chinese children admitted to hospitals with cancer using a qualitative, descriptive, and phenomenological approach. 22 children in hunan province interviewed using a semi structured interview format .Conducted a thematic analysis where four important themes : the need for self-exploration, inner needs, need for a connection with others, and need for a connection with gods, supernatural powers, and fictional characters. they found that culture will influence spiritual things most . Hope was a key factor for recovery which will come from spirituality.]6

Substance use disorders are a significant public health issue with a complex etiology and few viable treatment alternatives. In this regard, spirituality-based methods for treating
substance use disorders could offer intriguing and practical choices. Some of the main symptoms of substance use, such aggression, can be positively reduced with this type of intervention. Clinical studies have also reported improvements in the rates of people quitting problems related to alcohol, cocaine, and opioids . which is a widely accessible intervention for alcohol use disorders, is a spirituality-based approach.spiritual-based interventions could be viewed as a potential therapeutic supplement to traditional therapies.]8.

The function of spirituality in post-stroke aphasia healing has been disregarded. Thirteen aphasic persons took part in semi-structured interviews and answered a modified spirituality questionnaire. During their post-stroke recuperation, all subjects reported gains in communication and saw themselves as spiritual. The interviews revealed two spiritual themes: (a) a higher force controlling events, and (b) a higher power acting as an aid.]9.

One of the study sheds light on the relationship between existential and spiritual needs, health care ethics, and people's mental health and general well-being. While spiritual needs are described as the need for pastoral care, release from despair, remorse, and/or sin. A holistic approach to treating mental illness that takes into account all of the needs. For patients to get well and heal, all needs must be met. This is the sole method for certain patients to restore their mental health and overall wellbeing]11

In both general and cardiac populations, higher degrees of spirituality and resilience are independently associated with improved health outcomes. After heart surgery, we looked into the long-term relationships between these psychological variables. The Connor-Davidson Resilience Scale-10 and the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale were used to measure resilience. increment of resilience, Increasing spirituality after surgery may help patients recover more fully and get better mental and physical health results]12

In sexually victimized persons : the study provide profound understanding of the spiritual basis for revictimization and its reversal, and

that knowledge can alleviate survivors suffering from self blame.]13

In a phenomenological study, nine spiritual leaders, ten spiritually oriented therapists, and seventeen survivors of sexual trauma who see their healing as a spiritual journey were interviewed. Results indicate that sexual trauma was characterized by a distinct victimized self-centeredness that attached survivors to a victim identity. The survivors gradually gained a new, spiritual sense of self with improved intrapersonal and interpersonal relationships as well as a transpersonal one by putting spiritual ideas into practice. It was believed that this relationship was crucial to the recuperation of survivors.14

To avoid osteoporosis, health-promotion tactics were recommended, by means of spiritualty an approach that incorporates stress management, interpersonal relationships, health responsibility, physical activity]16

Dysorexia, or anorexia with reduced appetite. The genesis of AN is not fully understood using the usual approach, despite a complicated hormonal explanation. Disease states are thought to be caused by imbalances in the humors and temperaments of the organs.

Both points of view frequently advocate for a healthy lifestyle and spiritual support. alternative medical techniques following confirmation by carefully planned clinical studies.]17

The neurobiology of spirituality and poses the question of whether it is feasible or desirable to use genetic engineering to enhance human spiritual and religious experience (gene-spirituality). Examined are the neural relationships between spirituality and the mirror neuron system, the default mode network, reward deficits (RDS) (hypodopaminergia), and reward genes. To treat RDS and balance DMN activity, some addiction medicine therapies that could improve the neuro-spirituality connectome—a key component of the Purpose and Meaning of Life as Reward (PMLR)—are deemed appropriate targets]7

Culturally appropriate therapies should be created and integrated into their care to meet their particular spiritual requirements and improve their spiritual health.]6.

Spiritualty , can improve over all health which will helps to connect with themselves and also with surroundings . spiritualty can heal different disease conditions .

Where it includes integrative therapy, meditation, daily sunlight and exercise were comes under spirituality development where it will control our 4 hormones which will play crucial role ones own life they are; dopamine , serotonin ,oxytocin, endorphins.

Results show that regular meditation practice is more beneficial for recovery capital than occasional, extended sessions. The findings also corroborate earlier research showing the beneficial effects of mindfulness and meditation on rehabilitation outcomes]10 This study looked at the importance of the spiritual dimension in palliative care and the necessity to do additional research to spread awareness of the subject.]18

Integrative and complementary therapies are gaining more popularity recently , where it gives more outputs along with the conventional therapies .]15

Spirituality can also be tied to concepts like compassion, love, and interconnectedness. Many spiritual traditions emphasize the importance of treating others with kindness and understanding, recognizing that all beings are interconnected. Ultimately, spirituality is about finding what resonates with you personally and cultivating a sense of peace and fulfillment in your life.

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governments, industries, and individuals to continue working towards environmental protection and the restoration of the ozone layer, ensuring a safer future for the planet

World Pharmacist Day

World Pharmacist Day is celebrated globally on September 25 each year to recognize the vital role pharmacists play in healthcare. At SHCP, the celebration typically involves various activities aimed at raising awareness about the contributions of pharmacists in promoting health and well-being. The event may include educational sessions, workshops, and seminars where students and faculty discuss the importance of proper medication use, patient safety, and the role of pharmacists in disease prevention and health management. It is a day to acknowledge the expertise pharmacists bring to healthcare, including their role in ensuring the safe and effective use of medications. The celebration also emphasizes the evolving responsibilities of pharmacists, such as their involvement in public health initiatives and their expanding role in patient care. Through this celebration, SHCP fosters a greater understanding of the profession and encourages students to appreciate the value of pharmacists in improving global health outcomes.

SNO	DEPARTMENT	ADVERSE DRUG REACTION	REPORTED BY
1	Medical Oncology	Dasatinib induced thrombocytopenia	Sai harshitha
2	OBG	Olanzapine sedation amisulpride hyperprolactinemia	Sai Harshitha
3	Medical Oncology	Palcitaxel Mucositis GR-II parasthesia myalgia	N.T. Sanjana
4	Medical Oncology	Palcitaxel Induced Neuropathy	N.T Sanjana
5	Medical Oncology	Capecitabine Induced Hyperpigmentallesion	N.T Sanjana
6	EMD	Empagliflozin induced UTI	Sree Vidhya
7	Psychiatry	Quetiapine induced oromandibular dyskinesia	T. Shamitha
8	General medicine	AIT induced allergic reactions	V. Sai Sreekar
9	General medicine	Metoprolol induced hypo tension	T. Shamitha
10	General medicine	Telmisartan induced hyperkalaemia	T. Shamitha
11	Endocrinology	Methyl Prednisolone induced avarcular necrosis of femur, Cushing syndrome	T. Shamitha
12	Neurology	AIT drugs induced alteration in liver enzymes	K. Harini
13	Endocrinology	Intrabuccal injection Tri aminolone 40 mg induced weight gain, amenorrhea	B. Sruthi selva kumari
14	Medical Oncology	Rituximab induced neutropenia	K. Preethi
15	Neurology	Aripiprazole induced amenorrhoea	T. Shamitha
16	Neurology	CVST with haemorrhage due to worethisterone	P. Ditesh
17	Neurology	Aripiprazole induced amenorrhoea	T. Shamitha
18	General medicine	Atorvastatin induced muscle weakness	K. Harini
19	General medicine	Isoniazid induced hyperkalaemia	K. Harini
20	Medical oncology	Capecitabine induced bradycardia	B. Sruthi selva kumari
21	Medical oncology	Cyclophosphamide induced granulomatous myosis fungoides	B. Sruthi selva kumari
22	Endocrinology	Prednisolone induced diabetes mellitus	T. Shamitha
23	Neurology	IV Heparin induced necrotic bullae	P. Ditesh
24	Medical oncology	Vincristine induced neuropathy	Sai harshitha
25	Neurology	Mefenamic acid induced rashes & blisters	K. Harini
26	General medicine	ACITROM induced oral bleeding	T. Shamitha
27	Medical oncology	Methotrexate induced hepatotoxicity	B. Dinesh
28	Emergency Medicine	Steroids induced addisons hypertensive urgency symptoms	R. sandhya
29	Psychiatry	Antipsychotics induced urinary incinsistence	K. Karunakaran
30	Neurology	Carbamazepine induced DRESS & rt. LL DVT	S. Salma

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