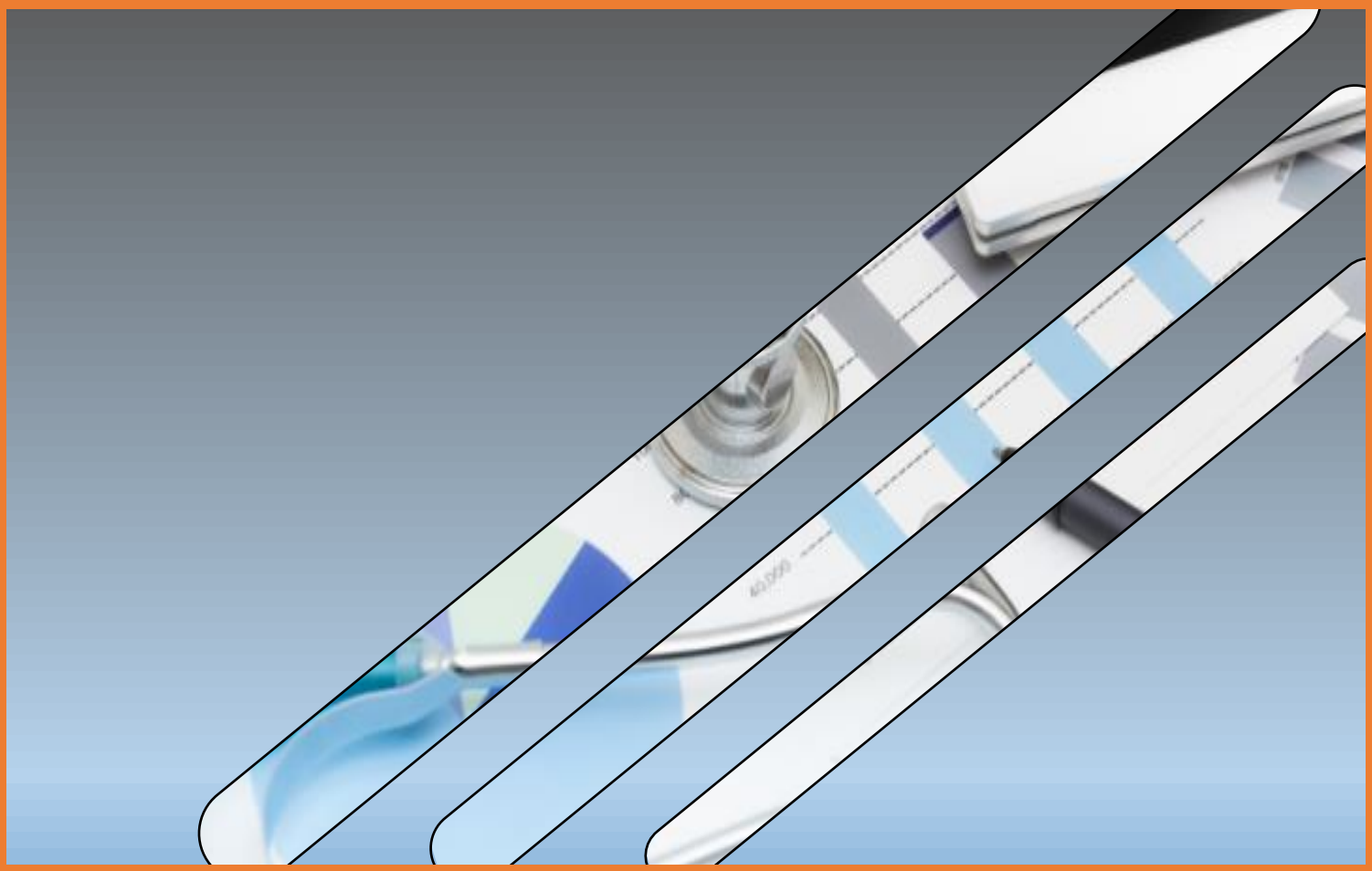

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CONTENTS (VOLUME 5, ISSUE 12, MARCH 2022)

LETTER TO EDITOR

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"Qigong" Mind-Body Exercise for Elderly Care

SIU KAN LAW[1*], DAWN CHING TUNG AU[1], ALBERT WING NANG LEUNG[2], CHUAN SHAN XU[3]

Dear Editor,

Qigong originated in China and has a history of nearly 5,000 years ago. "Qi" is the vital energy or life force, and "gong" is the meaning of work or skill. This is a mind-body exercise and an energetic form of movement designed to regulate and enhance the flow of "qi" inside the body. The mind-body program consists of Dao-Yin-Shu, Wu-Qin-Xi, Baduanjin, and Yi-Jin-Jing regarding medication, controlled breathing, and movement exercises. It is believed to have intense body strengthening for preventing several elder diseases.

Qigong is considered a traditional Chinese medicine practice that contains a series of graceful movements linked together in a continuous sequence. The qigong practice is constantly shifting from foot to foot with a lower center of gravity for strengthening muscle training reduces joint stress in the body. Rogers CE et al. reported that qigong helped older adults improve physical function, reduce blood pressure, decrease the fall risk of depression and anxiety. The length of intervention ranged from 3 weeks to 12 months with at least 60 minutes and 2 to 3 times weekly. It also evaluated physical and psychological outcomes and even quality of life.[1]

Tsang HW et al. discovered that regular qigong practice could relieve depression, improve self-efficacy and personal well-being among elderly persons with chronic physical illness and depression. The intervention group was given 16 weeks of qigong practice, and the control group participated in a newspaper reading with the same duration and frequency. The results showed that qigong generalized to the daily task domain of the self-concept after the intervention.[2]

Phansuea P et al. also indicated qigong programme was effective in reducing depression scores both in mild and moderate depression community-dwelling older adults. It was a mind-body exercise and incorporated mindful breathing. The intervention group required a 3 sessions/week 12-week course of qigong exercises while the control group participated in singing and praying with the same duration and frequency.[3]

Gouw VXH et al. suggested qigong as an adjunct activity for chronic disease management with potential benefits on the overall quality of life among community-dwelling older adults, such as reduced depressive symptoms and increased self-efficacy.[4] Qigong was also significant improvements in general cognitive function, memory, executive function, and the daily problem-solving ability for preventing vascular cognitive impairment or vascular dementia.

The COVID-19 pandemic occurred in 2019, qigong was act as a traditional Chinese medicine practice to play a role in the prevention, treatment, and rehabilitation of respiratory infections which included stress reduction, emotion regulation, strengthening of respiratory muscles, reduction of inflammation, and enhanced immune function. Based on the concept of traditional Chinese medicine theory, "Ying and Yang," "qi," "main and collateral channels," "essence, qi, and spirits," "nature-life," "qi, blood, and body fluid," etc. Qigong enhances the flexibility of limbs and stretches the movements of the body, thus dredging the inner passages through which qi and blood circulate to promote the circulation of qi in blood to reach a healthy state including strong muscles, bones, flexible joints, and boosting the immune system.[5] Qigong was effective to eliminate the pathogen and strengthen vital qi which helped to increase

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righteousness and enhance the body's ability to resist disease during the COVID-19 outbreak.

Up to the present, there is no limitation for qigong as it is an extremely gentle practice that does not even necessarily require the individual to stand. Many movements can be done easily and adequately. However, it must pay attention to the elderly on difficult types of qigong practice. The above information demonstrates that a qigong mind-body exercise is suitable for the elderly. It intense body strengthening for preventing several elder diseases such as improve physical and physiological functions, cardiovascular and Alzheimer's diseases. Qigong supports internal energy to regulate the qi circulation and strengthen the muscle-tendon within the practice for the whole body.

Author contributions

All authors contributed to the concept, acquisition and analysis of data, drafting of the article, and critical revision for important intellectual content.

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SHORT COMMENTARY

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Hikikomori: A Short Commentary

DIVYANSHI PANJLA*[1], PRISHITA VIJ[2], NISHA THAKUR[1]

In today's world endless streams of emails, posts, likes, comments, tweets and pictures connects us to others worldwide and keeps us constantly plugged into the modern life. But there are several hermits too.

"Hikikomori" is a Japanese term derived from hiku,"pull back", and komoru, "island". Hikikomori is a severe social withdrawal among adolescents and young adults who become recluses in their parent's homes, unable to work or go to school for months or years. The term refers to both the condition itself and the people who suffer from it.

HIKIKOMORI AND ITS ORIGIN

The term was coined by Japanese psychologist Tamaki Satio in his book Social Withdrawal – Adolescence without End in 1998.

Primarily, the term "hikikomori" was seen as a phenomenon unique to Japan but recently similar cases have been reported in other countries as well. In 2010 the Oxford Dictionary published the word hikikomori which denotes its presence and acceptance outside of Japanese context. According to Oxford Dictionary's definition (in Japan) Hikikomori is the abnormal avoidance of social contact, typically by adolescent males. Initially it was thought to be a culture- bound syndrome but now is considered as global condition and perhaps better understood as a 'contemporary society –bound syndrome'.[1]

Earlier in 1970s and 1980s hikikomori was referred to as 'truancy' or 'school refusal' (futoko in Japanese), then in latter half of 1990s several cases were widely recognized under the term hikikomori or 'social withdrawal' by T Satio.

In 2003 MHLW (ministry of health, labour and welfare) was the first to publish guideline for hikikomori (organised by J.Ito) but did not clearly define the parameters of hikikomori. This was the first guideline that described variety of the causes leading to an individual social withdrawal.

WHAT MAY LEAD TO HIKIKOMORI?

Psychologically, hikikomori may link to traumatic childhood experiences like those who might have been through bullying or peer rejection. An introvert personality may also lead to hikikomori.

At family level those children who face rejection from the parents or overprotection may also predispose to develop hikikomori.

The emerging new technologies and an individual's personality also might reflect the signs of hikikomori. Poor academic performance, combined with high expectations.

The invention of internet, preference for online communication may be the reason for development of social withdrawal.[2]

WHAT ARE THE MANIFESTATIONS OF HIKIKOMORI?

The foremost important thing is to diagnose it. The people suffering from hikikomori have following characteristics.

1. They spend most of the time at home and avoid social gatherings.
2. Have no interest in going to school or work places.
3. Social withdrawal persists for 6 months or more.
4. Exclusion of schizophrenia, mental retardation, and bipolar disorders.
5. Exclusion of those who maintain personal relationships like friendships.[3]

PREVALENCE OF HIKIKOMORI

Around 1-2% of the adolescents and young adults are hikikomori in the Asian countries like Japan, Hong

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Kong, and Korea. There seems to be an emerging consensus that most of the hikikomori cases have a co-morbid psychiatric diagnosis. The co-morbidity with other psychiatric diagnosis is also very variable, ranging from none, half of cases to almost all the cases. Also cases from Oman, Spain, Italy, South Korea, India, France and the United States have been gradually reported. Many surveys from various countries like Australia, Bangladesh, Iran, Taiwan, and Thailand suggested that hikikomori has spread all over the countries especially the urban areas. There are very few cases of hikikomori reported outside Asia.[4]

MANAGEMENT

Hikikomori patients find the social gathering and communication as a challenge so the goal should is to break the physical and social segregation and motivate these patients to be more active socially and be more interactive. The initial step should centre mental health that idealizes clinical approach. Then comes the non-clinical approach with psychosocial enhancement. Parents should be encouraged to control internet use in hikikomori children. Such children should be motivated to play outdoor games than videogames which will help them to build the confidence to socialise.

Teachers at school level should record which student is being absent for more than 10 days in continuity and the reason should be recorded as well.[5]

CONCLUSION

In today's world computer, video games, technology devices and internet service have become an integral part of our everyday life including the younger generation. This could be the reason for withdrawal of people socially. They find the social communications more challenging than communicating on internet platform and feel more comfortable being alone in isolation. Hikikomori cases are not only reported in Japan but its cases are emerging globally which could be alarming as hikikomori affects adolescents and young adults making them drop out of school and their work which will eventually affect the country and its development as well.

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REVIEW

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Oil Pulling: A Review

AARUSHI SINGH RANA[1], NITYA SEHGAL*[1], AYUSHI RANA[2]

ABSTRACT

Oil pulling is extensively used traditional Indian folk remedy to prevent decay, bleeding gums, oral malodor, dryness of throat, cracked lips and for strengthening teeth, gums, and jaws. In this procedure, the practitioners rinse their mouth with approximately one tablespoon of an ordinary cooking oil for 3-20 min, then spits it. This practice is usually performed on a daily basis. This technique is believed to cure more than thirty systemic diseases when practiced regularly and as directed. As a result of side effects to modern medicines and oral hygiene products, people are increasingly attracted towards such traditional practices. The present article attempts to review and discuss this ancient practice and its effects on one's oral and general health.

KEYWORDS: Oil Pulling, Traditional Medicine, Folk Medicine, Oral Health, Health.

INTRODUCTION

A health of mind, body and spirits starts with a healthy mouth, which in turn facilitates good digestion. Oil pulling is an ancient oral kriya or practice recommended in Ayurvedic scriptures as an essential part of daily health rituals or Dinacharya. The oil pulling of was first introduced in the 90's by Tummala Kotesware Rao, of Bangalore India.[1]

Oil pulling is an ancient Ayurvedic practice that involves swishing oil in our mouth. Not only is oil-pulling advantageous for one's oral health but it also has other benefits on one's body. The mouth is considered as the mirror of the general health of human body. Oral cavity has billions of microorganisms, some of these leads to the development or progression of systemic diseases such as infective endocarditis, diabetes mellitus, etc. Oral health and general health are interrelated. So, maintaining oral health is very important. Antibiotic resistance, adverse effects and intolerance to modern medicines has prompted scientists to research on natural products. Oil pulling is said to improve oral health. It came into knowledge and popularity by Dr. F. Karach.

PROCEDURE OF OIL PULLING

Start by selecting a pure, cold pressed variant of oil for the process ideally coconut oil is the best choice because of its viscosity and Lauric acid content which aids in the removal of toxins. The next best choice for oil- pulling can be either olive oil or sesame oil.[2]

On an empty stomach, take one tablespoon (10 ml) of the oil and rinse it through your mouth. Continue to do so for 15-20 minutes, moving the oil to different areas of mouth. In case of children above five years of age, a teaspoon of oil is used. You will find that the oil will start to get watery as your saliva mixes with it. Keep on swishing until you notice the oil/saliva mixture in your mouth has become thicker. Once the time is up spit it out and wash the mouth thoroughly with warm saline water. The oil should be spit into a trashcan or on a paper towel and make sure you do not swallow any of it as it is loaded with toxins. Then proceed to brush your teeth or gargle with mouth wash to remove the oily texture in your mouth.[3]

It should be ideally performed in the morning on empty stomach before brushing teeth so it absorbs toxins that have accumulated in the mouth during the night. Oil pulling is performed in sitting position with chin up. It is contraindicated for children below 5 years due to risk of swallow. In cases of oral ulcers, fever, vomiting tendency, asthma and in conditions where brushing is difficult and sometimes contraindicated, oil pulling can be useful to maintain

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oral health.

The anti-bacterial nature of oil strips away bacteria and gives whiter teeth, stronger gums and curbs bad breath.

MECHANISMS OF OIL PULLING AND ITS BENEFITS

The exact mechanism of action of oil pulling is not known. It has been proposed however, that the viscosity of oil can inhibit bacterial adhesion and plaque coaggregation.[4]

Studies state that the oil act as a cleanser. When we put it in our mouth and swish around our teeth and gums, it "pulls" out the bacteria and other soft debris. It has a very powerful detoxifying effect on the body .One of the very first symptoms experienced after oil pulling is an increased flow of mucous from the throat and sinuses. Mucous drainage is considered as body's own way of removing toxins. It has also been claimed that swishing of oil in our mouth causes activation of enzymes and draws the toxins out of the blood.

Various oils used in oil pulling include sesame oil, coconut oil, sunflower oil, palm oil and soy bean oil. The more commonly available oils like coconut and sesame are used extensively.[5]

Sesame oil is found to be effective in reducing bacterial growth and their adhesion. Toxins and bacteria from the body might be expelled through tongue and trapped in oil and thrown out of the body. Sesame oil significantly reduces S.mutans counts in plaque and saliva of teenagers within 1 week.

Coconut oil has a unique role in diet as an important physical functional food. Besides health and nutritional benefits, it has been shown to have anti carcinogenic effect against colon tumours. It is different from other dietary oils due to it's basic building blocks, or fatty acid (medium chained), making up the oil. It has anti microbial activity against a variety of gram positive and gram negative bacteria including Helicobacter pylori, Staphylococcus aureus, Candida spp. etc.[7]

It was hypothesised that medium chained fatty acids have the capacity to alter bacterial cell walls, penetrate and destroy cell membranes, inhibit enzymes involved in energy production and nutrient transfer, leading to the death of bacteria.

HEALTH BENEFITS

Oil pulling isn't only good at prevention and reduction oral infections, but can actively fight them as well. The oil pulls the infection (bacteria, toxins, and pus) out of the tissues, allowing the tissue to heal better, Inflammation reduces, stop bleeding, loose teeth tighten, pain and sensitivity decreases . Teeth become white and gums gain normal colour and look healthy. The toxins in the mouth often meet the blood stream, which in turn affects the skin. As oil-pulling cuts toxins out from the source. It helps clear the skin of impurities which causes acne, dullness and rashes.

The body too is positively affected when one carries out oil-pulling. Regularly oil-pulling every morning can aid in rested sleep, help reduce headaches and curb allergies.

ORAL HEALTH BENEFITS

1. Prevents tooth decay, bleeding gums, oral malodor
2. Reduces dryness of throat, cracked lips
3. Strengthening of teeth, gums, and jaws

Oil pulling benefits also include helping to support and strengthen the body's immune system, which in turn helps the entire body to be healthier and function better.[6]

GENERAL HEALTH BENEFITS

1. Prevents Thrombosis ,Intestinal infection
2. Decreases incidence of Diabetes ,Bronchitis, Asthma ,Migrain and Skin problems
3. Improves Digestion and gut health.

ADVANTAGES

Oil pulling is cheap and very easy to perform. You simply swish oil in your mouth. Compared to other forms of detoxification it is comparatively effortless. It doesn't require dieting, fasting, or consuming medication. It is seen to have advantages over commercial mouthwashes since it causes no staining, has no lingering aftertaste, causes no allergic reactions and is easily available in the household.[8]

PRECAUTIONS

Do not swallow, however, if you swallow, there is nothing to worry. It will go out of body if not digested. No spitting where people walk or on vegetation. Spit in the toilet and flush it. If you are allergic to a particular oil brand then it can be changed to other

brand oil. Make sure the oil is good and refined. Keep chin up so that pulling covers the back of the oral cavity and the molar teeth. For children of 5 years and above, only one teaspoon full (5 mL) of oil will do.[9]

CONCLUSION

Inspite of all the advances made the field of health science, traditional methods still have a greater role. These methods are born out of native wisdom of very high intellectualism. These techniques are untouched and unspoiled. If they are analysed on scientific backgrounds they stand out the best. Hence oil pulling is one such method which improves the oral health and benefits general health also. Sufficient scientific research has not been carried out to evaluate the effect of oil pulling therapy on oral health and thus needs to be explored.

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CASE REPORT

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Kaposi's Sarcoma in A Subject Treated for Dermatomyositis With Immunosuppressant and Steroid

BADANA BHARDWAJ[1], SHIVANI THAKUR[2]

ABSTRACT

The incidence of Kaposi's sarcoma has increased in recent years mainly because its association with the acquired immunodeficiency syndrome and organ transplant recipients treated with immunosuppressive drugs, especially with cyclosporine. We present the case of a patient with dermatomyositis who developed Kaposi's sarcoma after receiving treatment with steroids, cyclosporine, and human polyclonal immunoglobulin.

KEYWORDS: Dermatomyositis. Kaposi's Sarcoma, Cyclosporine

INTRODUCTION

Kaposi's sarcoma has received special attention in recent decades due to its progressive increase in patients with acquired immunodeficiency syndrome and in transplant patients treated with immunosuppressive drugs.[1] Cyclosporine is an immunosuppressive agent used in transplanted patients to prevent rejection.[2] The incidence of malignant tumors in transplanted patients receiving cyclosporine is higher than in the general population. The most common tumors are non-Hodgkin lymphoma and Kaposi's sarcoma.[3,4] Cyclosporine is used to control diseases of an autoimmune nature.[5,6] We present the case of a patient diagnosed with dermatomyositis, treated with glucocorticoids, cyclosporine, and human polyclonal immunoglobulin, who subsequently developed a Kaposi's sarcoma.

CASE REPORT

A 55-year-old man presented to us in whom proximal muscle weakness began in the shoulder and pelvic girdle 2 months before admission. Physical examination revealed a heliotropic exanthema in the eyelids and decreased proximal muscle strength in the upper limbs and the lower limbs. The remainder of the examination was normal. Laboratory tests detected an erythrocyte sedimentation rate of 66 mm in the first hour. Serum glutamic-oxaloacetic transaminase values were 874 U/L; glutamic-pyruvic transaminase, 541 U/L; gamma-glutamyl transpeptidase, 135 U/L; alkaline phosphatase, 399 U/L; lactate dehydrogenase, 2,400 U/L; creatine phosphokinase, 10,026 U/L, and aldolase, 80 U/L. The determination of antinuclear antibodies, rheumatoid factor and other antibodies, including anti-Jo1, was negative. Complementary and immunoglobulin values were normal.

Electromyographic study was consistent with the diagnosis of inflammatory myopathy. Muscle biopsy showed the presence of a lymphocyte infiltrate surrounding muscle fibers and small vessels, with perifascicular atrophy and fat replacement, consistent with the diagnosis of dermatomyositis. No occult neoplasm was detected.7,8 Initial treatment consisted of glucocorticoids. After a month the patient had not experienced any improvement, with elevated muscle enzymes persisting. Therefore, treatment with human polyclonal immunoglobulin and cyclosporine was started, with good clinical response and decreased muscle enzyme values, normalizing within one month. The prednisone dosage was tapered to 30 mg/day.

Three months after starting cyclosporine, the patient developed several macular violaceous lesions on the skin of the trunk, face and limbs, as well as on the mucosa of the oral cavity. The diagnosis of Kaposi's sarcoma was histopathologically confirmed. Systemic involvement was ruled out and testing for viral infections, including the human immunodeficiency virus and cytomegalovirus, was negative at baseline and after 6 months. It was decided to discontinue cyclosporine and reduce the glucocorticoid dosage to 20 mg/day and continue with human polyclonal immunoglobulin. Six months after the onset of Kaposi's sarcoma, the patient was asymptomatic from his dermatomyositis. However, the Kaposi's sarcoma persisted, and he presented with new lesions. Radiotherapy was applied to the skin lesions, some of which remitted.

DISCUSSION

Kaposi's sarcoma has occasionally been described as

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being associated with dermatomyositis and polymyositis.[9-12] In our patient, Kaposi's sarcoma most likely developed secondary to immunosuppressive therapy for two reasons: the clear relationship between the onset of treatment with glucocorticoids and cyclosporine and the presentation of Kaposi's sarcoma, and the increase in the frequency of this tumor in patients undergoing immunosuppressive drugs. Kaposi's sarcoma has been described in association with the use of immunosuppressive drugs in patients who had received transplants.[3,4,13] It has been reported less frequently in patients with autoimmune diseases treated with these drugs.[10,11,14] The incidence of Kaposi's sarcoma has increased since the introduction of cyclosporine as the drug of choice in transplant patients. It is estimated that in these patients the possibility of developing Kaposi's sarcoma is 400–500 times higher if treated with azathioprine and glucocorticoids. This increase reaches 5000 times as much if receiving cyclosporine13, and furthermore the tumor develops earlier.[3,4] In most cases, treatment discontinuation results in partial or complete remission of the Kaposi's sarcoma.[3,4,11-14] Our patient was treated with human polyclonal immunoglobulin. This treatment is effective in controlling inflammatory myopathies15, and recently as demonstrated by Carmeli in a patient with polymyositis[12], may even cause the human polyclonal immunoglobulin lesions to return. Although control of the dermatomyositis was achieved in our case, the Kaposi's sarcoma lesions did not decrease. We also considered the possibility that we may have introduced the HIV with this treatment. However, repeatedly negative serological tests practically rule out this possibility. Another possible hypothesis about the pathogenesis of these 2 processes would be that dermatomyositis, being an autoimmune disease, acting on its own or in association with therapeutic immunosuppression, would have predisposed the patient to developing Kaposi's sarcoma. The strong relationship between Kaposi's sarcoma and immunosuppressive therapy, especially cyclosporine, suggests that this treatment is an important factor in the pathogenesis of this tumor. The immunocompromised state caused by this drug could facilitate the expression of viral agents. The virus most recently implicated as a causative agent of Kaposi's sarcoma is the human herpesvirus type 8, demonstrated in both Kaposi's sarcoma in HIV-infected patients as well as those of Mediterranean or African origin, and associated with transplant patients.[16]

CONCLUSION

The recent introduction of cyclosporine in the treatment of dermatomyositis may increase the number of Kaposi's sarcoma cases in dermatomyositis in the coming years. Healthcare professionals should be aware of such adverse events of cyclosporine.

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ORIGINAL RESEARCH

QR CODE

Need of Dental Insurance Plan in India-Survey

SAURABH INGOLE*[1], VAISHNAVI ADHAV[2], PRINSHU GUPTA[2], VANISREE RAMANATHAN[2], SHRUTI MAHAJAN[2]

ABSTRACT

INTRODUCTION: Practically in every developed country, dental insurance is available to a large number of people. It reimburses a percentage of dental visits and other dental treatment providers. Dental hygiene is an essential component of our daily lives. In most industrialized nations, dental insurance is one of the most common type of medical insurance, but not in India. Dental insurance shields consumers from the financial strains that come with unexpected dental expenses. If dental insurance were available, more people would seek dental care, reducing the hardening of dental disease and future costs for expensive dental treatment. If and when dental insurance is provided, it will have a favorable influence on people's attitudes toward dental care. The availability of dental insurance will help to improve oral health. Dental insurance will encourage patients to take better care of their teeth, resulting in improved oral health.
AIM AND OBJECTIVES: To formulate & introduce a comprehensive dental insurance plan in India. To evaluate people's & dentist's view on need of dental insurance in India
MATERIALS AND METHOD: Online questionnaire based, cross sectional study, conducted between 1st January 2022 to 30th January 2022, data was collected by filling the online questionnaire form from dentists & patients.
RESULT: There is demand & need for comprehensive dental insurance plan in India.
CONCLUSION: Government should provide dental insurance as part of general health care insurance to promote oral hygiene and dental field, also leading to control of the oral disease burden in India.

KEYWORDS: Insurance, Public Health, Dental insurance, Dentist

INTRODUCTION

Dental hygiene is an important part of our everyday routine. People's oral health has a big impact on their quality of life, appearance, and self-esteem. From young toddlers to adults, teeth are highly important. Although some people have dental insurance via their employers, the majority of people pay for their dental care out of pocket. Dental appointments aid in the detection and treatment of oral disorders at an early stage. According to statistics, most dental patients only visit the dentist when they are in pain and never return for follow-up. To enhance oral health outcomes, it is critical to have a thorough understanding of how people use health services and the factors that influence this behaviour. Dental phobia, cost, distance travelled to receive treatment, and a preference for tooth preservation are all regarded hurdles to regular dental care.[1] Paying full price for dental services can be stressful, especially if extensive work is required. In India, there is no such thing as comprehensive dental insurance. In the Western world, dental insurance is one of the most common types of medical insurance. In India, dental insurance is still not widely available as part of medical treatment. It covers a portion of the costs of visiting the dentist & other dental treatment providers. It protects consumers from financial difficulties as a result of unanticipated dental costs. In the Indian setting, however, this appears to be almost unheard of. India has showed promise for the insurance sector to expand due to its big middle-class population. There are 17 general insurance companies in India, 12 of which offer health insurance, but only two of them pay for dental treatment up to a specified sum.[2]

Dental coverage is the single most important factor in determining whether or not a person visits the dentist, according to the National Health Centre for Statistics' National Health Interview Survey.

The majority of Indians do not have access to basic oral health care, despite the fact that roughly 25,000 dental graduates graduate each year.[3] Being a price-sensitive market, India's affordability as insurance would be a godsend once and for all.[4]

DENTAL INSURANCE SCHEMES IN INDIA

On October 9, 2002, Hindustan Lever (HLL)

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announced the launch of a dental insurance programme. Customers can get Rs.1,000 worth of free dental insurance with every purchase of Pepsodent toothpaste via a collaboration with New India Assurance. They covered expenses associated with the extraction of a permanent tooth due to severe caries and periodontitis, cost of medicines, but not for aesthetic dentistry or accident cases and the age limit had to be no more than 50 years old. This programme is no longer available.[2] ICICI Lombard Dental Insurance Cover is a health policy plan that reimburses dental consultation and treatment costs under Out Patient Treatment. Treatment costs can only be claimed once during the insurance period.[5] In its Easy Health Premium plan, Apollo DKV Health Insurance covers dental treatment on an outpatient basis up to a limit of Rs.5000/-, with a three-year waiting period.[6]

Our lawmakers routinely put oral health last during the pilot phase of the National Oral Health Care Program. They are misinformed about the impact of dental problems on overall health, resulting in step-motherly treatment of dental public health activities.[7]

BURDEN & STATISTICS OF ORAL HEALTH IN INDIA

Oral diseases & ailments such as dental caries, periodontal disease, malocclusion, facial deformities, dental fluorosis, tooth loss, temporo-mandibular joint problems, facial trauma, & oral malignancies impact nearly 3.5 billion people.[8]

It is reasonable to expect a reduction in oral disease burden with significant changes in the dental sector and an increase in dental staff in India, as well as the establishment of private dentistry sectors, but India is experiencing population growth, with a growing senior population and a lopsided dental workforce distribution. Due to a number of economic and sociocultural reasons, the burden of oral problems in India has largely stayed same over time.[9]

According to a Ministry of Health-WHO India oral health study conducted in 2007-08, the prevalence of dental caries among 12-year-olds ranged from 23% to 71.5%, while adults aged 35-45 years ranged from 48.1% to 86.4%. The elderly, had dental caries in the range of 51.6 percent to 95.1%. Periodontal disorders affected 15.32% to 77.9% of adults & 19.6-96.1% of the elderly, respectively. According to research published in 2018, the prevalence of untreated dental caries in children under the age of six years was determined to be 49.6% in India. If this percentage is extrapolated to children under the age of six, the number of children with untreated dental caries is estimated to be around 10 crores.[8]

Except for oral cancer, most dental problems are considered non-life threatening, expensive, and time consuming. The irony of India's budget allocation is that health spending contributes for about 2% of the overall budget, yet only a little percentage of that is allocated to oral health-related activities. In truth, there is no particular budgetary provision for oral health in India.[10]

Oral health issues are becoming one of India's major public health concerns. Oral disorders not only cause pain, suffering, functional, & cosmetic issues, but they also result in lost man-hours at work. As a result, they will undoubtedly have a substantial influence on our economy in the long run.[11]

METHODOLOGY

This is online questionnaire based, cross sectional study, conducted between 1st January 2022 to 30th January 2022, we selected 150 Dentists & 150 dental patients as participants out of which 111 dentists & 115 patients participated. Informed consent was taken by the participants online. Data was collected by filling the online questionnaire form related to views on need of dental insurance plan in India.

Inclusion criteria- Dentists, Dental Patients
Exclusion criteria- Non-dental professionals, pediatric dental patients

Sampling method- Snow ball sampling

RESULTS

Patient's response: 58% of respondents were female & 42% male with mean age of 25.04 (table 1). This indicates that there are more female dental patients than male.

	n	Minimum	Maximum	Mean	Std. Deviation
Age	115	14	60	25.04	9.283
N	115				

Table 1. Age distribution of respondents amongst patients.

A significant (15.7) percentage of patients choose never to visit dentist. Maximum (65.2%) patients tend to visit dentists only when the treatment is needed (table 2).

	n(%)
	Total n=115
Responses	
Never	18 (15.7%)
Once a month	8 (7%)
Once every 6 months	14 (12.2%)
Whenever needed	75 (65.2%)

Table 2. Visit frequency of patients

About 82% of the people visit a dentist only when there is a pain. (table 3)

	N(%)
	Total n=115
Responses	**Visits**
Yes	21 (18.3%)
No	94 (81.7%)

Table 3. Visit when there is pain

About 48% of the respondents brush their teeth twice daily, whereas 52% brush only once which shows lack of awareness & ignorance towards oral health. Only 50% of the respondents use tongue cleaner regularly which again indicates ignorance towards oral health. Due to the cost issues, about 30% of the respondents are not getting dental treatment in spite of having some or other dental related problem (table 4). 70% of the respondents were of the opinion that the government should start dental insurance plan. About 50% respondents would consult a dentist regularly, once in 6 months, if there is a government dental insurance plan. Also, 40% feel that they will consult a dentist as & when required, whenever there is a government dental insurance plan.

	N(%)
	Total n=115
Responses	**Have issue but not getting treated**
Yes	34 (29.6%)
No	81 (70.4%)

Table 4. Do you currently have any dental issue but not getting it treated because of high cost?

86 % of the respondents visit private dental clinics whereas only 14% visit the Government dental facilities & more than 90% of the respondents said that the Government dental facility offers cheaper dental treatment as compared to the private.

Only 17% of the respondents said that their health insurance covers the dental treatment, whereas, 44% said, they are not aware whether it covers or not (Figure 1).

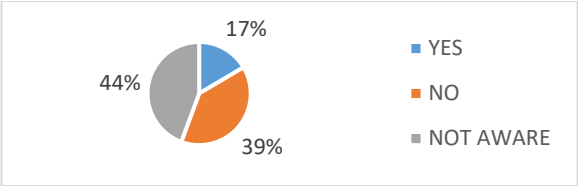

Figure 1. Does your Health Insurance Plan cover your dental treatments?

About 83% percent from the patient's respondents feel that there should be separate dental insurance plans apart from the general health insurance (Table 5).

	N(%)
	Total n=115
Responses	**There should be separate dental insurance plan**
Yes	95(82.6%)
No	20 (17.4%)

Table 5. Do you think there should be separate Dental insurance plan?

Only 17% of the respondents feel that the dental treatment is affordable on a regular basis & 37% of the respondents pay in instalments. 28.7% said it is really expensive, even though 45% consult or get treated whenever it is necessary.

DENTIST'S RESPONSE

60% of dentists were females & 40% males & 96% were private dental practitioners. Most of the dentists accept only one time cash or online payment. Only 1 % of the dentists accept instalment payment, which may be due to poor recovery rate of payment from patients but having a dental insurance will eliminate this issue.

According to dentists, only 18% feel that dental treatment is expensive. Remaining 89% were of the opinion that the cost is affordable or moderate.

78.2% of the dentists were of the opinion that if there is a (separate) government dental insurance plan then the dental awareness of the public will increase (Figure no.2). Almost all dentists (97%) feel that if there is government dental insurance plan available, the patient flow will increase. About 42% of the dentists have patients who regularly visit for general dental checkup. But, when we asked the same question to the patients, only 19% make regular visits for checkups (Table 6).

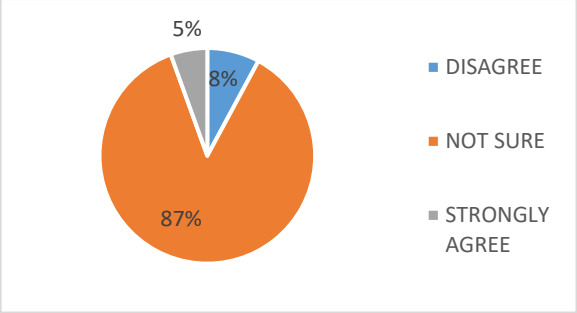

Figure 2. Do you think if there was government dental insurance plan then dental awareness

99.1% of respondent dentists feel that if there is a government dental insurance plan then will it lead to increased awareness & early detection of dental diseases.

	N(%)
	Total n=115
Responses	**Regular visits to dentist**
Yes	46(41.8%)
No	64 (58.2%)

Table 6. Patients who regularly visit for general dental check-ups?

About 86% of the dentists were of the opinion that the government is doing less for dentists & dental field.

DISCUSSION

Dental insurance is a key determinant of oral health care accessibility. According to literature, those who have dental insurance visit their dentists more frequently than those who do not. Most insurance plans exclude cosmetic operations and orthodontic treatment for youngsters (if they are, the premiums are generally high). Despite the high frequency of oral disorders and the significant amount of money spent on dentistry, dental care policy alternatives were mostly overlooked in public health policy debates.[12] According to this survey replies, the majority of patients seek dental care only when necessary, rather than as a preventive measure, and even dentists agree on this. Patients skip dental visits because they believe dental care is expensive, and instead wait for their dental health to worsen to the point where it requires intervention. Although it is common knowledge to brush your teeth twice daily, the majority of people do not do so, & the use of tongue cleansers is similarly low, indicating a lack of concern for oral hygiene. People are aware of their health insurance & pay close attention to detail when choosing one, but no one looks for or chooses dental coverage. While dentists believe that the cost of dental treatment is justified based on the amount of work and material necessary, the price may differ from one dentist to the next. Although many people have begun to visit the dentist for regular exams, the percentage of follow-up is poor. In India, both dentists and patients agree that a separate dental insurance is necessary. Dental insurance provides coverage for unforeseen dental costs, seeking to decrease or eliminate financial barriers. A dental insurance plan will improve the lifestyle of children and the elderly, as many children suffer from dental problems at a young age and many parents believe it is a waste of money to get dental treatment at such a young age. Also, the majority of dental problems arise with old age, such as complete tooth loss, cancer, periodontitis, and it is not always affordable for the elderly to go for dental treatment, so having a comprehensive dental insurance plan in place will help. Having dental insurance will result in more frequent patient visits for treatment &, in the long term, a reduction in treatment costs owing to greater patient flow. Having dental insurance will change people's attitudes about dental treatment & help dentists & the dental community in India.

Free dental care were made available to children up to the age of 12 under Israel's National Health Insurance Law in 2010, resulting in a large rise in the frequency of children's dental check-ups among communities. The American Dental Association's "Affordable Care Act" was linked to an increase in private dental benefits coverage & dental treatment utilisation, also reduction in financial obstacles to dental care, among young individuals.[13] Because most dentists prefer private practice and lack a community network, the government can formulate a dental insurance plan that will have a faster and wider impact and penetration throughout the country, promoting oral health and uplifting the dental community in India.

CONCLUSION

Dental insurance is an effective way to manage the rising costs of dental care & eliminates many of the reasons why people avoid visiting to the dentist. Having dental insurance tends to boost dental check-up visits & millions of people will benefit from additional preventative & basic restoration services as a result of higher dental office visits. Dental insurance should be regarded an essential component of health-care coverage, and dental services should be available to the entire community as general health-care services. There is a dearth of public knowledge & preventative actions in India. It can eliminate many of the excuses people have for ignoring their dental health & benefiting dental sector in India.

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ORIGINAL RESEARCH

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Attitudes, Perception and Barriers towards Research in Occupational Therapy and Physiotherapy Undergraduate Students: A Cross-Sectional Study

MANNAT MADAN*[1], SAKSHAM GUPTA[2], MANISH SAMNANI[3]

ABSTRACT

INTRODUCTION: A constantly growing knowledge base is the fundamental requirement for any profession to survive in the ever-changing demands of the healthcare community. Early exposure to research and related activities is quintessential to developing a knack for research.
AIM: To determine the attitudes, perspectives and barriers to research in Physiotherapy and Occupational Therapy in undergraduate students.
MATERIALS AND METHOD: A survey-based study design was opted to carry out this research. An online survey was circulated among 1st, 2nd, 3rd, 4th year students and interns of various physiotherapy and occupational therapy colleges in India. A Likert type scale and percentage analysis was used to infer results.
RESULT: A total of 145 responses were received where students from all the years participated equally. Although most students had a positive attitude towards research, they had not been involved in any research activity. The students found research relevant to their lives, however, they felt conducting research is a challenging undertaking. Despite their desire to do research and their belief that there is a demand for researchers in the allied health field, the students were unable to participate in research due to a variety of hurdles identified in the study. The challenges identified, from major to minor were universities prioritising education over research, a lack of enthusiasm for research, a lack of funding at universities, poor infrastructure, a lack of supervisors, insufficient training, and lastly a lack of interest and good proposals.
CONCLUSION: The majority of students believed that research is valuable to their future careers. They had an optimistic outlook towards research. It identifies the major impediment, which is universities' lack of emphasis on research activity at the undergraduate level among other typical roadblocks must be overcome to ensure a desirable outcome.

KEYWORDS: Therapy, Research, Undergraduates, Attitudes, Barriers

INTRODUCTION

One of the most significant features of a career is the possession of a knowledge foundation. This knowledge base must continue to expand and evolve, and it is the professional's, clinician's, and researchers' responsibility to participate actively in this process. Scientific ideas must be incorporated into clinical practice, investigated, tested, and altered (or rejected) in an endless loop to give the greatest care.[1] Michels, a prominent figure in physical therapy, in 1978 stated that "standards for practice should be established and based on research evidence of the effectiveness of the methods used".[2]

In the current era of scientific research and evidence-based practice in the fields of rehabilitation, a pragmatic outlook towards research from a very ground level is indispensable for the growth of professions like physical therapy and occupational therapy in the right direction. Thus, facilitating a robust system for optimal patient care substantiated by a wide range of scientific evidence is important. It is crucial to promote critical thinking and reasoning skills in medical students at an age to develop a positive attitude towards health care research.[3]

According to APA, attitude is "a relatively enduring and general evaluation of an object, person, group, issue, or concept on a dimension ranging from negative to positive".[4] Attitudes can range from positive to negative. Several studies conducted in the past point towards students, in general, having a negative attitude towards research. Papanastasiou in his study saw that students usually have a negative attitude towards research; However, those who view research as useful to their profession tend to have a positive attitude towards it.[5] A similar study has been conducted by Salvi Shah in Vadodra, Gujarat which concluded that though physiotherapy students view research as useful to their careers and practice, many of them are hesitant to indulge in research due to their perceived difficulties and anxiety towards research.[6]

Perception is defined as the process of identifying and inferring the environment and implication of sensual motivations. Perception will be susceptible by thought and might occur subliminally, without cognizance.[7] A study conducted by Abida Arif and colleagues discovered that the majority of students agreed that undergraduate research is vital for the advancement of

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the physical therapy profession.[3]

Barriers are circumstances that prevent the progress of the field in clinical research. The most commonly identified barriers to research include inadequate experience, lack of motivation and scanty mentorship.[8] Besides a lack of experience with the research process, other hurdles being the inability to give up revenue-generating time and a lack of administrative financial support, clinical research in physical therapy continue to face significant obstacles.[9]

A study conducted on post-graduate physiotherapy students in Gujarat found that postgraduate physiotherapy students have poor knowledge, a positive attitude toward research and a positive opinion of research. Despite having studied research as part of their graduation requirements, they still have a modest understanding, which should be addressed.[10]

Research scholars are as important for a profession as are clinicians. In an ideal world, there can be overlapping in these roles. While the clinician is responsible for treating the client, a researcher ensures that there is enough evidence to support a particular protocol thus ensuring competency in the practice. Mosey in his study highlights the knowledge, skills and personal attitudes of a competent scholar.[11] In this fast-paced world, for a profession to survive and uphold its importance it is imperative to have a scientific base that is continuously upgraded and supported by empirical evidence. A study conducted by B. C. Abreu and colleagues' states that the ability of therapists to develop proficiency in scientific inquiry and analysis is one of the most recent and significant components for adapting to the continually evolving environments.[12]

Need for research: While a lot of studies exist regarding attitudes, perceptions and skills required for research in medical and nurse practitioners, limited evidence is present highlighting the perception, inclination and barriers to research in physiotherapy and occupational therapy in India. This paper intends to highlight the viewpoint of undergraduate students about research, their understanding of research and the perceived barriers to research in their formative years.

MATERIALS AND METHOD

A survey-based study design was opted to carry out of this research

Non-probability convenience sampling method was used. An online survey was carried out using Google Forms, which was distributed through WhatsApp and emails among the following institutes:

• Pandit Deendayal Upadhyaya National Institute for the Persons with Physical Disabilities (Divyangjan)
• Amarjyoti Institute of Physiotherapy
• Amity University
• Banarsidas Chandiwala Institute of Physiotherapy
• Jamia Milia Islamia University
• MGM Allied Health Sciences Institute
• Galgotias University

Statistical method employed: Percentage analysis.

Inclusion criteria:
• Students pursuing Bachelors in Physiotherapy or Bachelors in Occupational therapy from any university or college
• Year of study 1st/2nd/3rd/4th/Interns
• Both males and females

Exclusion criteria:
• MPT/MOT or PhD students
• Medical and allied health professionals
• Working Physiotherapists and Occupational therapists

PROCEDURE

The online survey was sent to students who matched the eligibility requirements. The survey included 25 multiple-choice questions (MCQs) using a 5 point Likert scale for answers and two demographic questions to determine the department and year of study of the participating students. Students were also questioned if they had ever authored a research paper throughout their undergraduate years of study before taking the survey. The questionnaire used in this study was formulated using studies done by Abida Arif et al.[3], Monika Saini et al.[7], Vairamani and Akoijam[8], and Papanastasiou[5]. The survey's 25 multiple-choice questions evaluated students on three criteria:

1. Attitude of students towards research
a. Undergraduate students can plan and conduct a research project and write a scientific paper.
b. Each student should conduct/ participate in research on their course even if it is not in their curriculum.
c. I feel confident in interpreting and writing a research paper.

d. Skills that I gain during research are useful in my future work.
e. Research will help in better understanding of the subject and aid in critical thinking.
f. Clinical experience is more important than research-based evidence when making clinical decisions.
g. Patient outcomes improve with continued research for treatments.
h. Taking time to do research is time wasted if it does not enhance my future career.

2.Perception of students regarding research
a. Research is irrelevant to my life.
b. I am very interested in conducting clinical research during my undergraduate years.
c. It is not in the scope of an undergraduate student to conduct and write research.
d. Conducting research is a difficult task.
e. Occupational/ physical therapy students can plan and conduct research project without supervision.
f. Only physical therapists and occupational therapists with research backgrounds are the most qualified to conduct studies with regard to physical therapy and occupational therapy treatment.
g. A demand exists for researchers in the physiotherapy and occupational therapy profession.
h. Research during undergraduate years is important for positive growth in the occupational therapy and physical therapy profession and it encourages Evidence-based practice.

3. Barriers faced by students in carrying out research
a. I don't feel comfortable asking professors to explain the clinical applications of research evidence
b. I have not received adequate training to help me understand different kinds of scientific research designs and how to interpret a research.
c. There is lack of funding in universities to facilitate student research projects.
d. There is a lack of motivation in students.
e. There is lack of sufficient mentorship.
f. There is lack of interest in research.
g. Lack of access to laboratory equipment for performing research project.
h. There is lack of good research ideas and familiarity with research proposal writing.
i. Priority is given to education over research in universities.

To each of the questions posed above, students were asked to offer a single response.

RESULTS

For each question, a percentage analysis was performed. Out of 190 students, only 145 responded to the survey out of which 88 (60.7%) were PT and 57 (39.3%) were OT students (figure 1).

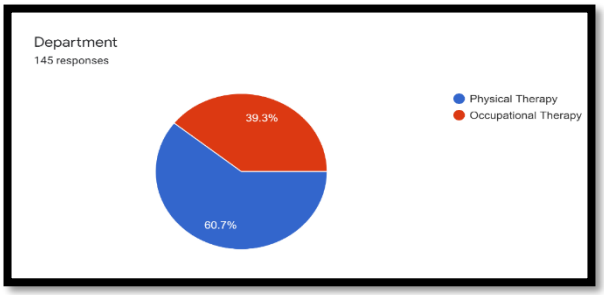

Figure 1.

13.1% of the 145 students in the study were in their first year, 22.8% in their second year, 19.3% in their third year, 26.2% in their fourth year, and 18.6% were interns (figure 2).

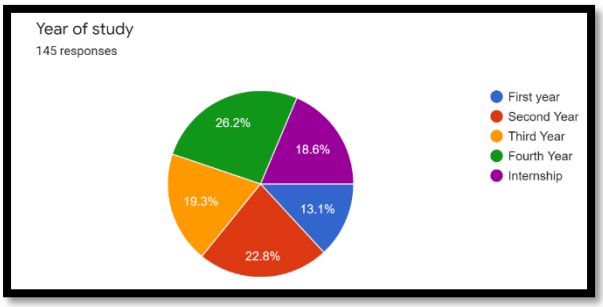

Figure 2.

10.3% of the students had produced a research paper during their undergraduate studies, compared to 89.7% who had not (figure 3).

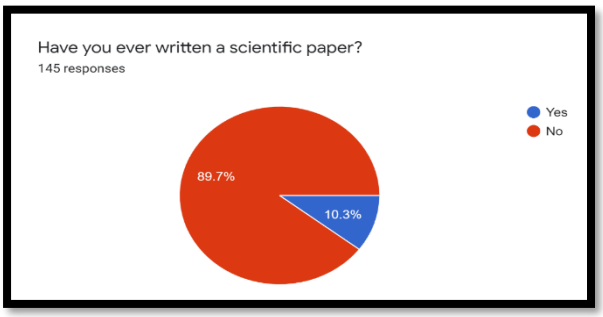

Figure 3.

84.1% of students (51% strongly agreed and 33.1% agreed) believed that undergraduate students can plan and perform research projects as well as produce a

scientific report, whereas 3.5% disagreed. The remaining 12.4% had a neutral stance (figure 4).

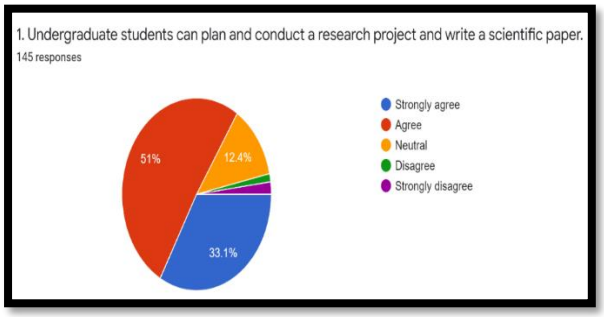

Figure 4.

Out of the 145 participants, 27.6% strongly agreed that every student should conduct/participate in research for their subject, even if it is not required by their curriculum. While 34.5 percent only agreed, and 19.3 percent said they could not decide. 18.7%, on the other hand, disagreed with the assertion (figure 5).

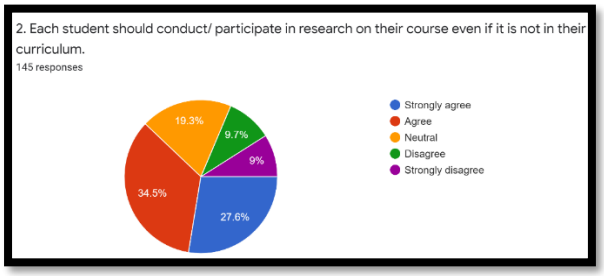

Figure 5.

11% of students strongly agreed that they were confident in their ability to interpret and write a research report, and 37.9% agreed as well. While 28.9% of those polled said they disagreed. A total of 22.1% of students took a neutral stance (figure 6).

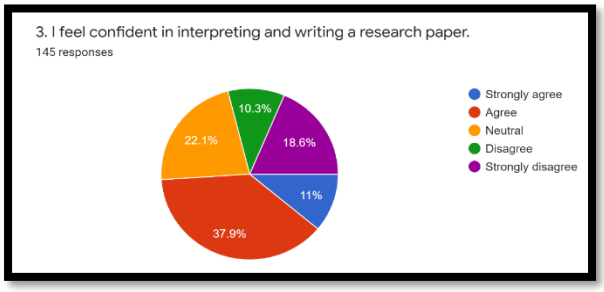

Figure 6.

The majority of students (93.8%) believed that the abilities they will acquire while undertaking research will be valuable in their future careers. Only 1.4 percent of students disagreed with this, while the remaining 4.8 percent were undecisive (figure 7).

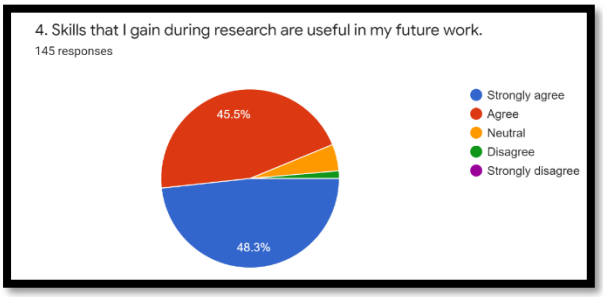

Figure 7.

43.4% of students strongly agreed that research helps students gain a deeper comprehension of the subject while also improving their critical thinking skills 53.8% of them agreed as well, while a tiny percentage of students (2.8 percent) remained undecisive (figure 8).

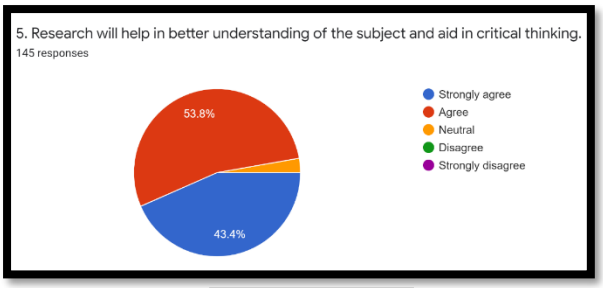

Figure 8.

When it comes to making clinical decisions, 31.7% of students firmly believed that clinical experience is more significant than research-based evidence, and 40% agreed as well. However, 13.1% of students disagreed, and 15.2% were undecisive (figure 9).

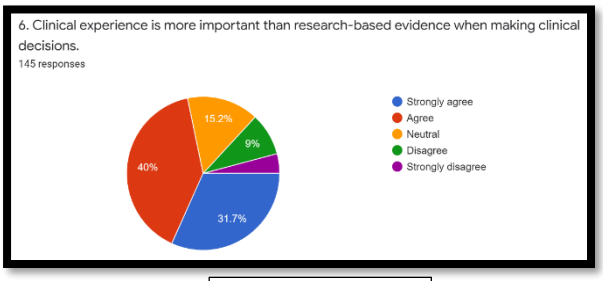

Figure 9.

Continued research for treatments leads to better patient outcomes, according to 38.6% of students. 55.2 percent of them agreed as well, with the remaining 6.2 percent taking an indifferent position (figure 10).

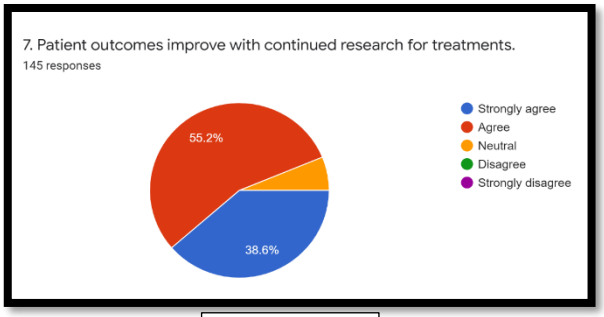

Figure 10.

13.8% of students strongly felt that doing research is a waste of time if it does not help them advance in their careers, while 22.1% agreed and 7.6% strongly disagreed with this assertion, whereas 37.9% disagreed. Rest 18.6% of those polled had no opinion (figure 11).

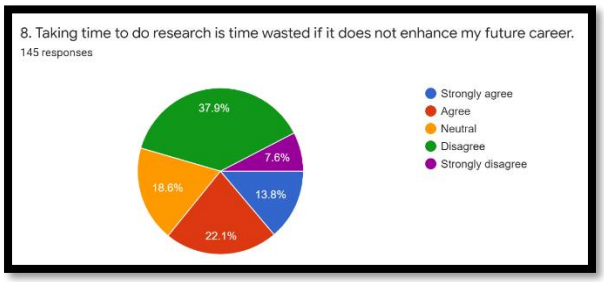

Figure 11.

While 11.8% of students said research is irrelevant to them, the majority of 58.6% disagreed, with 17.9% strongly disagreed and 11.7% of students were undecisive (figure 12).

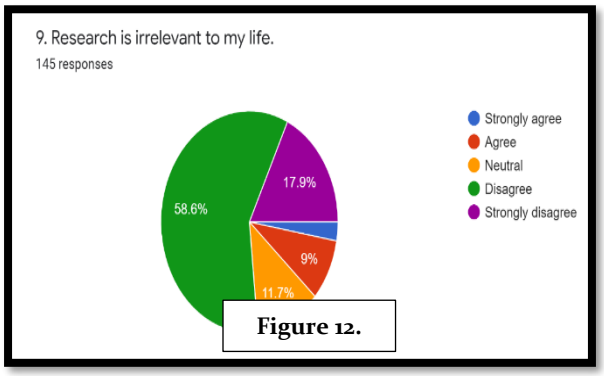

Figure 12.

A total of 74.5% of students expressed interest in doing a research study during their undergraduate years, whereas 14.4% did not (figure 13).

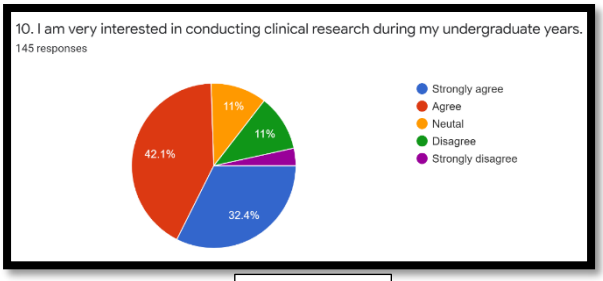

Figure 13.

According to 31% of students, conducting and writing a research paper was beyond the scope of an undergraduate student. However, 50.4% of students disagreed, while 18.6% were undecisive (figure 14).

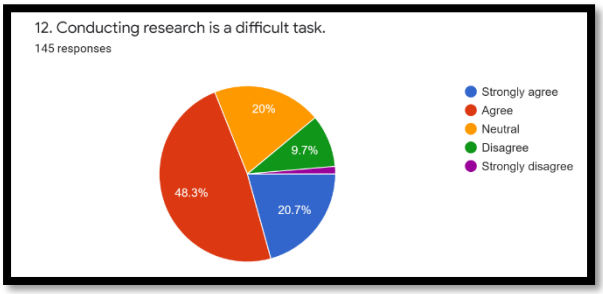

Figure 14.

20.7% of students strongly thought that conducting research is tough, and 48.3% agreed. While 11.1% of students disagreed with this and 20% maintained a neutral stance (figure 15).

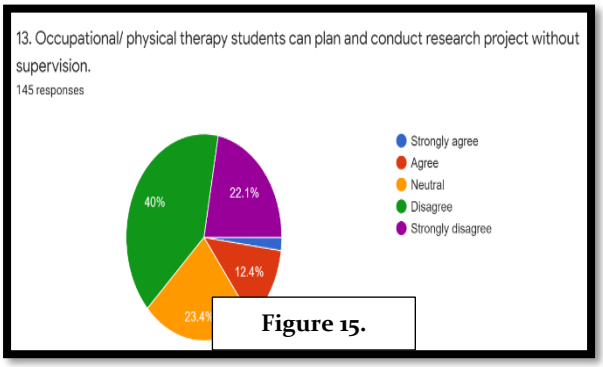

Figure 15.

14.5% of students agreed that OT/PT students can organize and conduct a research project independently. However, 22.1% strongly disagreed with this assertion, while 40% disagreed and 23.4% were neutral (figure 16).

Only physical therapists and occupational therapists

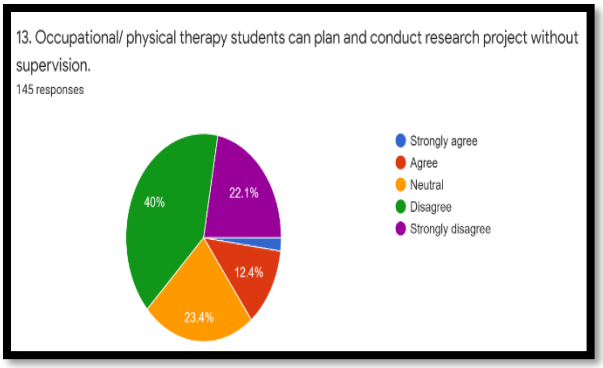

Figure 16.

with research backgrounds are the most suited to undertake studies in physical therapy and occupational therapy treatment, according to 6.2 % of students who strongly agreed and 20.7% who agreed. However, 23.4% of students strongly disagreed with this assertion, while 24.8% disagreed. Rest 24.8% of people were neutral (figure 17).

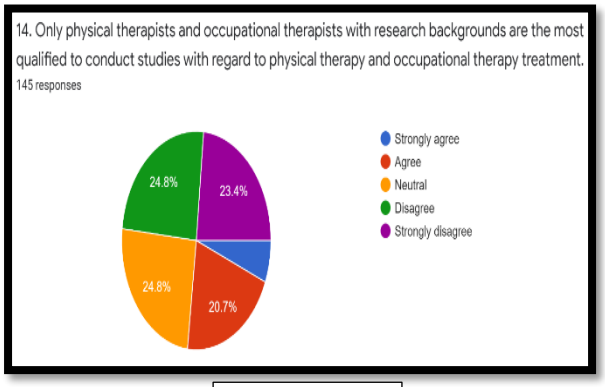

Figure 17.

24.8% of students strongly believed there is a demand for researchers in the field of physiotherapy and occupational therapy, and 48.3% agreed. However, 11.7% of students disagreed with this, while the remaining 15.2% were neutral (figure 18).

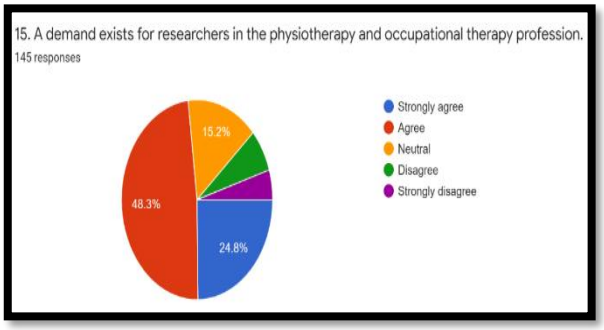

Figure 18.

A majority of students (90.4%) agreed that undergraduate research is vital for healthy growth in the OT/PT profession and promotes evidence-based practice. In addition, 1.4% of them disagreed with this statement, while 8.3% were undecisive (figure 19).

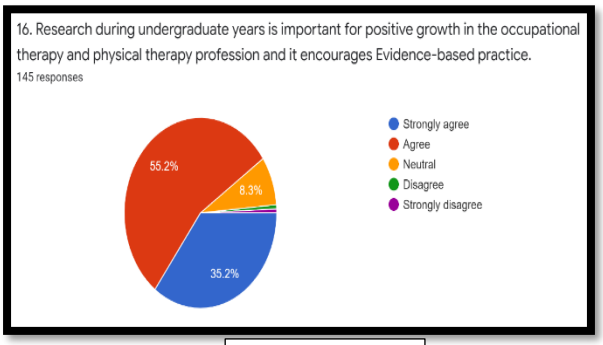

Figure 19.

27.6% of students strongly agreed that asking professors to explain the clinical applications of research results makes them feel uncomfortable, and 23.4% agreed as well. However, 28.3% of students disagreed with this, while the remaining 20.7% were undecisive (figure 20).

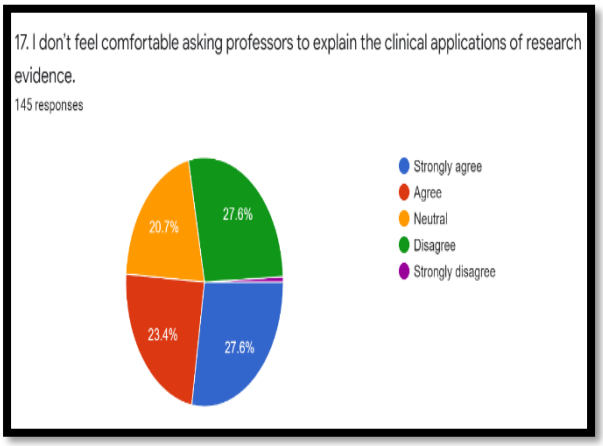

Figure 20.

76.6% of students reported that they did not get appropriate training to help them comprehend various various types of scientific study designs and how to interpret findings. Only 6.2% of students disagreed, while 17.2% were undecisive (figure 21).

Only 3.4% of students disagreed with the statement that universities lack resources to support student research initiatives, while 83.4% felt this is true and rest 13.1% of subjects were still uncertain (figure 22).

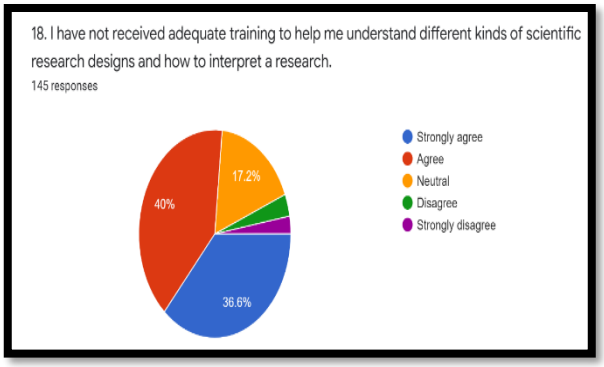

Figure 21.

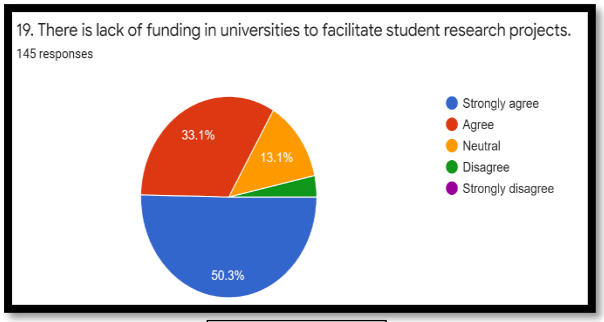

Figure 22.

The majority of students (84.1%) believed there is a lack of motivation among students to complete a research assignment, while only 5.5% disagreed. Rest 10.3% maintained a neutral stance (figure 23).

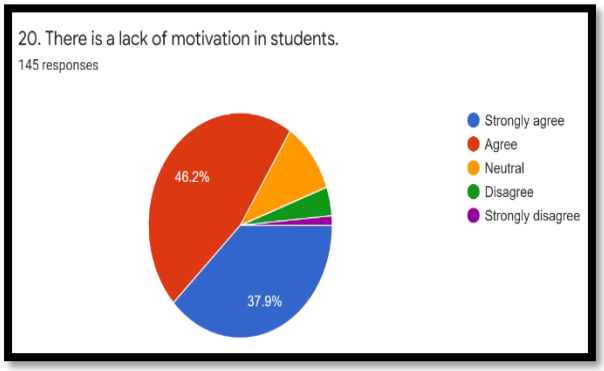

Figure 23.

80.7% of students said there is a lack of adequate mentorship, while only 6.2% disagreed. 13.1% of students maintained a neutral stance to it (figure 24).

The majority of students (71.7%) believed they lack the interest to conduct research, while 10.4% disagreed. Rest 17.9% of students said they had no opinion (figure 25).

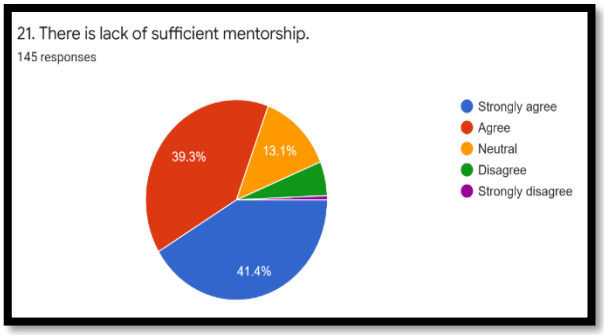

Figure 24.

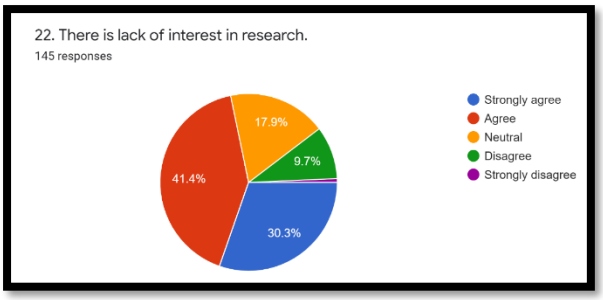

Figure 25.

There was a shortage of access to laboratory equipment for conducting a research project, according to 82.1% of students. 5.5%, on the other hand, disagreed with this assertion (figure 26).

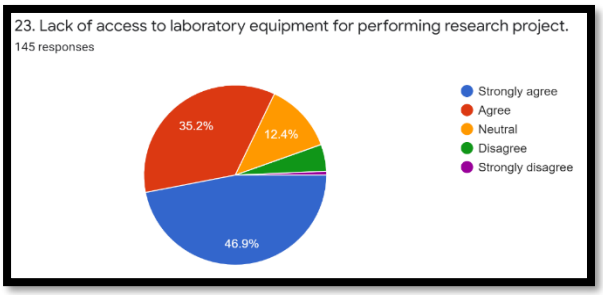

Figure 26.

While 71.7% of students thought that there was a shortage of strong research ideas and expertise with research proposal writing and 6.9% disagreed. Rest 21.4% who responded had no opinion (figure 27).

In universities, 47.6% strongly believed that education takes precedence over research, and 37.9% agreed as well. Only 1.4% of respondents disagreed, while 13.1% were neutral (figure 28).

The challenges identified, from major to minor were

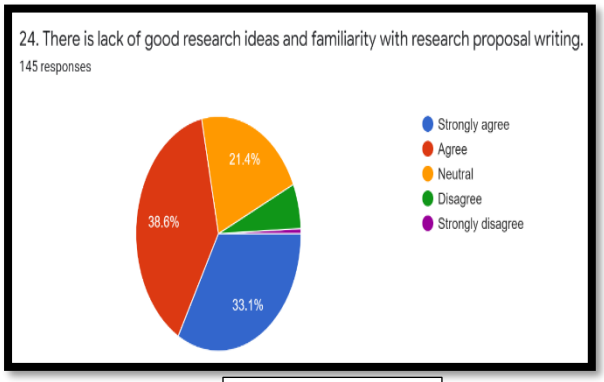

Figure 27.

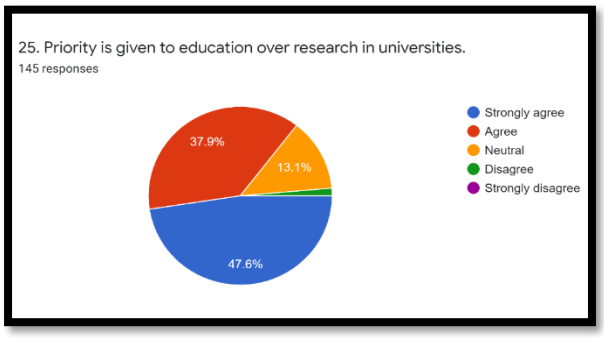

Figure 28.

universities prioritising education over research (85.5% agreed), a lack of enthusiasm for research (84.1% agreed), a lack of funding at universities (83.4% agreed), poor infrastructure (82.1% agreed), a lack of supervisors (80.7% agreed), insufficient training (76.6% agreed) and lastly a lack of interest (71.7% agreed) and good proposals (71.7% agreed).

DISCUSSION

The goal of this study was to highlight the viewpoint of undergraduate physiotherapy and occupational therapy students on research. An attempt was made to discover these students' perspectives on research. The perceived impediments to conducting research projects have also been mentioned.

Although the students were of an opinion that undergraduate students should plan and conduct research even if it is not in their curriculum, the majority of students who participated in this research had never written a research paper. This result corroborates with the result of studies conducted in Sweden, Pakistan and Gujarat indicating a positive attitude of undergraduate students towards research activities.[1,3,13–14]

Many students felt that research is essential to maintain competence in the profession and provide optimal care to the clients. Qualitative research is well-established in the field of rehabilitation and plays a vital role in its future development. It is critical to continue to develop qualitative researchers and methodologies.[15] Indulging in research adds to one's skillset and fosters critical thinking. Critical thinking is essential among the information, skills, and procedures required to enable evidence-based practice.[16] The most significant research activity is reading research literature to update knowledge, and the second most crucial activity is using research insights to improve occupational therapy practice. Therefore, inculcating the habit of referring to empirical data early on is necessary. Early exposure to journals, research articles have been shown to increase the ease of interpretation and application of research in future practice.[17] While clinical experience is an important determinant of successful practice, it is always beneficial for the clinician as well as the client if the latest evidence is incorporated into clinical decisions. Research evidence when incorporated into clinical practice increases the efficacy and accountability of the clinician. Nurses and other clinicians can take responsibility for their practices and revolutionize health care by gaining knowledge and skills in the evidence-based practice process.[18] Evidence-Based Practice mentors, collaborations between academic and clinical settings, evidence-based practice advocates, clearly articulated research, time and resources, and administrative support are all important components of a best practice culture.[18]

Undergraduates who have exposure to research in their formative years tend to have a more favourable outlook towards research. This has been found in several studies.[5,17] Undergraduate students are interested in performing research, according to the findings of this study. Despite the fact that research methodology and biostatistics were included in the curriculum, undergraduates were unable to participate in research due to a lack of practical experience with the research process, which may lead to the misconception that conducting research is a difficult task, as indicated by the findings. Given the current situation, in which the world is developing at an incredible rate, research is the most effective approach for a profession to stay up with changing societal needs. As much as we give importance to clinicians, researchers who diligently work towards forming the scientific databank, evidence for the current practices, devising new

methods analysing and preparing them for utilisation is of paramount importance. A study conducted by Pighills A. and colleagues says that academicians and clinicians should work closely to produce clinically relevant research.[19]

The growing trend of evidence-based practice shows the increasing need for rehabilitation professionals to indulge in research activities. As per a study conducted by A. Thomas and M. Law, fieldwork experiences and research activities that take place in clinical settings along with defined roles for universities in supporting evidence-based practice have the potential to achieve some important outcomes in promoting evidence-based practice. They highlighted that more participation in research would in turn lead to the use of research findings in practice as well.[20] A discipline that continuously evolves and has a scientific basis to account for its theories and practices is a discipline that can effectively make its place in the current advancing world.

The most common hurdles encountered by the participants to indulge in research are lack of funding, insufficient mentorship, lack of incentive in research which further contributes to sparse motivation and interest towards scholarly work in students. Furthermore, the emphasis on education far outweighs the importance placed on research throughout undergraduate years. A healthcare organisation could be transformed by an evidence-based practise programme that aims to produce mentors in both clinical and academic contexts.[21] Application of learned subjects is imperative to gain confidence in a particular area and same goes for research. Occupational therapy practitioners are still hesitant to use EBP due to a lack of confidence in evaluating and applying research.[21] Another factor for shying away from the research is the lack of mentorship for students to guide them through the research process. These findings are consistent with those of prior investigations.[7,8,22,23] Although knowledge is insufficient in itself to change behaviour, it is a necessary prerequisite. Regular journal reading, whether through personal subscriptions or access through facility libraries, can support lifelong learning and the adoption of new findings.[24]

CONCLUSION

According to the findings, students had a positive attitude toward research, which is an excellent sign for the profession's future. The students' enthusiasm for research gives the Indian allied health profession reason to be optimistic about the future. The limiting issues, such as a lack of funds, infrastructure, mentorship, and practical training, must be addressed in order to permit involvement in research-related activities. The major barrier being the priority given to education over research in universities needs to be addressed by the concerned authorities.

Ethical Approval: Ethical approval was taken through section 1 of google forms from each participant.

LIMITATIONS OF THE STUDY

- Small sample size
- Only Undergraduate students were included
- No standardised scale was used to measure the attitude towards research.

SCOPE FOR FUTURE STUDIES

- Factors that can enhance research participation
- Curriculum changes needed to indulge students in research

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