

VOL. 1 | THE PHYSIO BROTHERS | ISSUE 3

PHYSIOTRENDS

Advancing Physiotherapy Knowledge & Innovation

The Role of Physiotherapist in Paralympics

Impact of PHYSIOTHERAPY

in Head and Neck Cancer

Peek into NICU

Art of Fostering Newborns

To find out effect of Goldfish exercise in TOBACCO

chewing person for TMJ Dysfunction

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IMPORTANCE OF
COMMUNICATION
IN THE FIELD OF
PHYSIOTHERAPY



An Interview with
Dr. Rachana Patel
A Para Badminton Player

August 2024



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The Role of Physiotherapist in Paralympics

05

Parisa Leela Siva Parvathi Devi

Peek into NICU: Art of Fostering Newborns

09

Dr. Krupal Modi

Impact of Physiotherapy in Head and Neck Cancer

13

Dr. Tarshika Jain

Importance of communication in the Field of Physiotherapy

15

Shreya Patel

To find out Effect of Goldfish Exercise in Tobacco Chewing person for TMJ Dysfunction: An Interventional Study

17

Dr. Grishma Dineshbhai Zalavadiya, Dr. Mihir Vanzara

FOUNDER'S NOTE

Dr. Darshan Parmar

**Assistant Professor
at KD Institute of
Physiotherapy**



Welcome to the third issue of PhysioTrends!

It's been an exhilarating journey watching this publication grow from a simple idea to a vibrant platform for sharing the latest in physiotherapy advancements and practices.

Our mission remains steadfast: to inform, inspire, and connect physiotherapists and healthcare professionals worldwide.

In this issue, we delve into groundbreaking research on rehabilitation techniques, spotlight innovative tools enhancing patient outcomes, and explore emerging trends shaping the future of our field. Our diverse range of articles is crafted to provide valuable insights and practical knowledge, ensuring you stay at the forefront of physiotherapy.

We are grateful for your continued support and engagement. Your feedback and contributions are the lifeblood of PhysioTrends, and we encourage you to keep sharing your thoughts and expertise with us.

Thank you for being a part of our community. Together, we can elevate the standards of physiotherapy and make a lasting impact on the health and well-being of those we serve.

Warm regards

Darshan Parmar

CO-FOUNDER'S NOTE

Dr. Sujay Makwana

MPT in Neurological Conditions



Welcome to the August 2024 edition of Physiotrends Magazine! We're thrilled to bring you Volume 1, Issue 3, packed with inspiring content and cutting-edge insights from the world of physiotherapy. This month, we're honored to feature an exclusive interview with Dr. Rachana Patel, a trailblazing para badminton player whose journey exemplifies resilience and excellence.

Inside, you'll find thought-provoking articles on the latest advancements, practical tips for enhancing performance, and much more. We hope these stories and insights inspire you and deepen your understanding of the dynamic field of physiotherapy.

Thank you for joining us on this journey. Your support and engagement drive us to continue bringing you the best in physiotherapy news and research.

Warm regards,

Sujay Makwana

Dear Readers,
Welcome to the third issue of Physio Trends! It is encouraging to see the enthusiasm provided from our physiotherapy community as we continue to explore and share knowledge within the field.

In this issue, we have covered a range of important topics that highlight the diverse roles played by the physiotherapists in various settings. From their involvement in the Paralympics, where they help athletes achieve peak performance, to their essential contributions in the Neonatal Intensive Care Unit (NICU), supporting the delicate needs of newborns, physiotherapists prove to be invaluable in many areas.

Further in this issue, we also discuss the significance of effective communication in physiotherapy, emphasizing how strong interpersonal skills can enhance patient care and outcomes.

Additionally, we are honored to present an inspiring interview with Dr. Rachan Patel, a para-badminton player whose journey is a testament to determination and the impact of physiotherapy. Her story will surely motivate and uplift us all.

Thank you for being a part of Physio Trends. Your support drives us to keep bringing you relevant and insightful content. We hope you enjoy this issue and find it both informative and inspiring.

Warm regards,

Dr. Jaspreet Kaur Kang

CHIEF EDITOR'S NOTE

Dr. Jaspreet Kaur Kang

Principal at
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Physiotherapy





An Interview with Dr. Rachana Patel A Para Badminton Player

Can you tell us about your journey into para-badminton?

I hail from Vinchchan village in Gujarat but now reside in Ahmedabad. Despite my scoliosis diagnosis and undergoing seven surgeries, I pursued my MBBS in China and started playing para-badminton.

What are some of your career highlights?

Winning bronze at the 2022 Asian Para Games and several medals at international events, including the World Championships, have been significant milestones.

How do you balance your medical career with sports?

It's challenging but fulfilling. Both fields require dedication and resilience, which I embrace fully.

How did you manage to balance your medical studies and your sports career?

It wasn't easy, but my determination and support from my family played a crucial role. My parents and brother have been my pillars of strength.

You've had remarkable success with Nithya Sre Sivan in doubles. What's the secret to your partnership?

Nithya and I share great chemistry on the court. Our mutual understanding and consistent practice have been key to our success.

What qualities do you value most in your coach that contribute to your success?

My coach is Padma shri Gaurav khanna, Head coach of Indian Para badminton team. He started supporting me since day one. I train in Gaurav Khanna Excellia Badminton academy, Lucknow Uttar pradesh. I am so grateful to his support. It wouldn't have possible to become who I am today without his support.

What are your future goals in para-badminton?

I aim to continue improving my game and bring more laurels to India. Winning a medal at the Paralympics 2028 is my ultimate dream.

What advice would you give to young athletes, particularly those facing physical challenges?

My advice would be to focus on what you can do, not on what you can't. Every challenge is an opportunity to grow stronger and more resilient. Surround yourself with positive influences, stay committed to your goals, and remember that your journey is unique. Celebrate your progress, no matter how small, and keep pushing forward.

THE ROLE OF PHYSIOTHERAPIST IN PARALYMPICS

BACKGROUND

The term paralympic was considered as a pun combining paraplegic and olympic. Although its origin is unclear, the term “Paralympic” is used to describe the Stoke Mandeville Games. The paralympic sport has grown and developed for the following three main reason

- Sports are an effective means of augmenting rehabilitation outcomes for people with disabilities.
- People with disabilities have a right to participate in sports and should have the same opportunities as others.
- Paralympic sport is ELITE, EXCITING AND INSPIRING.



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Advent of Paralympics

- It is commonly accepted that the Paralympic movement began in England in 1940's. However, the concept of providing sports opportunities specifically for people with disabilities was pioneered by Sir Ludwig Guttmann.
- Sir Ludwig Guttmann - Founding Father of the Paralympic Games.
- Sir Ludwig Guttmann (1899-1980) was born into a Jewish family in Germany. He qualified as a medical doctor in 1924(MD) and began his lifelong specialization neurology and neurosurgery.
- At Stoke Mandeville, Guttmann began a number of highly innovative methods of rehabilitation for people with spinal cord injury (SCI).
- Chief among these was the inclusion of sport as an integral part of physical rehabilitation, as an initiative. It ultimately lead to the establishment of the paralympic games.

History

- 1948 - First Stoke Mandeville Games
- 1949 - Second Stoke Mandeville Games
- 1956 - Third Stoke Mandeville Games
- 1957 - The term “Paralympic” is to describe Stoke Mandeville Games
- 1960 - First Paralympic Games held in Rome
- 1964 - Second Paralympic Games held in Tokyo
- 1968 - Third Paralympic Games held in Israel
- 1972 - Fourth Paralympic Games held in Germany
- 1976 - Fifth Paralympic Games held in Canada
- 1980 - Sixth Paralympic Games held in Netherlands
- 1984 - Seventh Paralympic Games held in New York
- 1988 - Eighth Paralympic Games held in Seoul Korea
- 1992 - Ninth Paralympic Games held in Spain
- 1994 - Tenth Paralympic Games held in Norway
- 1996 - Eleventh Paralympic Games held in Atlanta
- 1998 - Twelfth Paralympic Games held in Japan
- 2000 - Thirteenth Paralympic Games held in Australia
- 2002 - Fourteenth Paralympic Games held in Australia
- 2004 - Fifteenth Paralympic Games held in Greece
- 2006 - Sixteenth Paralympic Games held in Italy
- 2008 - Seventeenth Paralympic Games held in China
- 2010 - Eighteenth Paralympic Games held in Canada
- 2012 - Nineteenth Paralympic Games held in UK
- 2014 - Twentieth Paralympic Games held in Russia
- 2016 - Twenty first Paralympic Games held in Brazil
- 2018 - Twenty second Paralympic Games held in Russia
- 2020 - Twenty third Paralympic Games held in Korea
- 2022 - Twenty fourth Paralympic Games held in Japan
- 2024 - Twenty fifth paralympic Games are going to be held in France

Sport as Rehabilitation

- A hallmark of rehabilitation at Stoke Mandeville was that, patients were always encouraged to extend themselves physically - whether sitting up in bed during early rehabilitation from the unit, patients were expected to have high levels of physical independence.

- As attractive as this game was for the patient, the use of the stick at the same time as propelling the wheelchair made the game unacceptably dangerous, and it was soon replaced by a variety of other sports, including archery, netball, javelin throw and snooker.

- Guttman promoted sports as the most natural form of remedial exercise, restoring physical fitness, strength, coordination, speed, endurance and overcoming fatigue.

- Guttman believed that sport was a vital means of achieving what he regarded as the ultimate aims of rehabilitation to make the spinaly injured person as independent as possible and to restore him to his rightful place in social life.

Logo

Official logo for the IPC (International Paralympic Committee) adopted in 2003. It comprises three agitos symbolising "spirit in motion" and "mind and body spirit".



Paralympic categories

The five areas of resolution are that all paralympic systems of classification must be

- Be consistent with the International Classification of Functioning Disability and Health (ICF)
- Based on scientific evidence
- Define eligible types of impairments
- Define minimum impairment criteria
- Classify impairments according to the extent of activity limitation caused

Defining eligible types of Impairments

To date only ten types of Impairment have been eligible for Paralympic sports.

- Visual impairment
- Impaired strength
- Impaired range of movement
- Limb deficiency
- Leg length discrepancy
- Hypertonia
- Ataxia
- Athetosis
- Short stature
- Intellectual impairment

The above mentioned ten impairment types are eligible for various Paralympic sports; In order to compete in Paralympic sports, a person must be affected by at least one of the impairments listed above.

Disability

Those who are confirmed to a wheelchair, deaf, blind or missing a limb, those who have only one of a paired set of organs or those with behavioural, emotions and psychological disorders that substantially limit a major life activity are said to be disabled persons.

Types

- Amputee
- Cerebral palsy
- Spinal cord injury
- Spina bifida
- Polio

Biomechanics

- The study of biomechanics of wheelchair propulsion played an important role in designing the equipment and improved athletic performance impact on wheelchair racing, basketball, rugby and handcycling.
- Risks of mechanical overuse are higher, due to overuse injuries, mobility can decrease. Nevertheless high level sports performance is possible with the subsequent increases in physical fitness, health and mobility.
- A properly fitted manual wheelchair should offer freedom and efficiency during propulsion.
- The wheelchair users have been encouraged to use a more forward long smooth strokes during the propulsive phase.
- Higher stroke frequencies have been shown to correlate to median nerve injury and lead to increased heart rate and cardio respiratory stress.

● A racing chair used in combination with correct propulsion biomechanics can result in an extremely efficient means of movement above and beyond all other hand rim sport.

● A racing chair's primary steering is however controlled by the upper body's interaction with the front wheel, where pressure can be applied to handle the bars, which turn the front wheel from left to right.

● The racing stroke as a technique where the extensive shoulder extension and abduction during the backswing lead to increased hand speed at the impact energy transfer phase.

● There are a total of five phases

1. Drive forward and downward
2. Push rim contact
3. Pushing through to the bottom of the push rims
4. Push off or follow through
5. Elbow drive to the top

In paraplegic:-

During the push phase:- triceps brachii, antero medial deltoid, pectoralis major are more active

During the recovery phase:- subscapularis, supraspinatus, middle trapezius are more active

In Quadriplegic:- Activation of pectoralis major seems to be more prolonged when compared to paraplegic

Role of Physiotherapist in Paralympics

It is interesting to find out how the physiotherapist involved in the Paralympics. The Olympic ambition will lead to an increase in the number of active sports participants, which will have both positive and negative consequences in the sense of more sports injuries, increase in costs as a result of sports injuries. This is where the role of the physiotherapist comes into play, which will become increasingly prominent in guiding sports participants.

Muscles to be strengthened:-

- 1 Shoulder elevators, depressors, flexors, adductors
- 2 Scapula elevators
- 3 Elbow flexors, extensors and Forearm supinators, pronators
- 4 Trunk mobilization
- 5 Pelvic rotators and elevators
- 6 Hip extensors, flexors and adductors
- 7 Knee flexors and extensors

Strength training benefits

- Increase bone mineral density
- Improve glucose metabolism
- Avoid muscle loss
- Reduce low back pain
- Reduce resting blood pressure

Trainings so vital

● Range Of Movement (ROM) of all joints to prevent thrombosis, improve mobility and to gain strength

● Mobility training for trunk, shoulder and pelvis

● Resistive exercises practiced on the sound limb

● Training for weight transfers, crutch walking, wheelchairs etc

● Chest exercises

● Assessing the athlete's ROM and strength

● Training for single limb standing and balancing

● Flexibility and strengthening programme

Last but not least, lots of talking, boosting of the morale of the patient plenty of sympathy and psychological reassurance

Physiotherapeutic modalities

- Ultrasound
- TENS
- Electric stimulation
- LASER therapy
- Soft tissue manipulation
- Cryotherapy
- Hot packs
- Therapeutic exercises

Conclusion

Physical benefits:- General fitness, CVS conditioning, postural control, flexibility, muscle strength, balance

Psychological benefits:- Impaired motivation, self confidence, self esteem, competitive spirit

Physical Medicine & Rehabilitation (PM&R) in Christian Medical College (CMC) Vellore, Tamil Nadu, India

The history of PM&R in India is intertwined with the personal story of Dr.Mary Verghese. The tragedy of a road traffic accident that rendered her paraplegic inspired her to establish a department of PM&R in Vellore and a Rehabilitation institute, the first of its kind in the country. The field of the physical medicine and rehabilitation which deals with the comprehensive care ,for persons with disability, to make them physically independent.



Elite Paralympic Athlete's:

Aiming at success from wheelchairs. Spinal cord injury might have changed their lives competitively, but for young men who were treated and rehabilitated at PM&R, CMC Vellore, overcame the challenges to make a difference. Spinal cord injuries posed numerous challenges for patients as they would lose sensation in the legs and would not be able to move. The department introduced wheelchair sports into the rehabilitation programme not on a competitive basis, but to expose the patients to sports and make them fit.

Mr .Venkatachalam who underwent rehabilitation at PM&R Vellore had won the athletic events of discuss throw, shotputrace in the Paralympics 2015 .He was devastated following the SCI and did not know what he was getting to do for the rest of his life on a wheelchair. But being part of sports has energised him, made him fit and has won the recognition of being a Paralympic player.

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PEEK INTO NICU: ART OF FOSTERING NEWBORNS



Dr. Krupal Modi
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The presence of a physical therapist in the Neonatal Intensive Care Unit (NICU) has been found to be influential in reducing physical impairments and limitations in infants, as well as in educating the family on how to provide optimal care for their newborn. Two terms coined in the NICU that should be learned are 'Early intervention' & 'Developmental supportive care'.

EARLY INTERVENTION: It is a prevention-focused program that aims to support the well-being of preterm infants and their families. It involves identifying and providing early support to children who are at risk of poor outcomes and can help prevent problems from occurring or address them before they worsen. Early intervention programs are often implemented soon after birth, when the infant's brain is still developing and interventions are most likely to have the greatest impact.

DEVELOPMENTAL SUPPORTIVE CARE: It is a practice model that aims to reduce stress and pain for babies, parents, and healthcare professionals in a neonatal unit. It also aims to provide babies with developmentally appropriate sensory experiences and maximize their neurological development. This approach can help reduce long-term cognitive and behavioural problems.

Nesting: In utero, the fetus is confined to an enclosed space with well-defined boundaries to support the development of physiological flexion. The boundaries allow a fetus to extend his arms and legs to meet resistance and subsequently recoil his extremities into a gently flexed position. This physiological flexion is necessary for the development of normal posture movement control. In the Nesting technique, the babies are protected inside a nest made out of rolls of cloth. It improves the comfort of neonates. The rolls can help them to feel boundaries and they can push up against the sides of the rolls comforting them (Fig-1). Nesting can be done while the infant is in the NICU and placed on a monitor that helps to ensure that the baby is physiologically stable. Because of the fragility of preterm infants, most NICUs have adopted a minimal handling and stimulation approach for very immature infants.





Swaddling: Swaddling is the art of snugly wrapping a baby in a blanket for warmth and security. It can keep the baby from being disturbed by her startle reflex, and it can help her stay warm and toasty for the first few days of life until her internal thermostat kicks in. It may even help to calm the baby.



Positioning: Preterm infants characteristically demonstrate low postural tone, with the amount of hypotonia varying with gestational age. Developmentally supportive positioning for infants in NICU may help to reinforce normal skeletal alignment and provide opportunities for normal movement patterns. In addition, positioning can provide skin care and support respiratory function. The combination of these three benefits can allow the infant to improve and longer sleep.

Research indicates that infants with long stays in NICU, who are not appropriately positioned, are at risk for positional plagiocephaly, and torticollis and may demonstrate a decrease in the quality and spontaneity of movement. The goal of neonatal positioning is to Optimize alignment toward a neutral neck-trunk position semiflexed, midline extremity posture, and neutral foot position.

Hyperextension of the neck, Frequent head turning to the side, Lower extremity frogging, and use of Bigger diapers should be avoided.

Kangaroo Mother Care: It is a Special way of caring for preterm-low birth weight babies which is practiced in many cultures. It fosters their health and well-being by promoting physiologic stability, breastfeeding, infection prevention, and increased maternal confidence & bonding. Kangaroo care is also known as skin-to-skin contact and the baby is breastfed exclusively to the utmost extent. Direct contact is established by removing all the baby's clothes, except for their diaper, and lying them in a prone position on the mother's chest (the Baby's abdomen should be at the level of the mother's epigastria) (Fig-2). It has been found that kangaroo care can be neuroprotective as it supports brain plasticity. KMC can be started as soon as the baby is stable in the hospital and continued at home. Short KMC sessions can be initiated during recovery with ongoing medical treatment (IV fluids, oxygen therapy). During KMC, Mother's breathing stimulates the baby's breathing, thus reducing the occurrence of apnea. It also helps decrease maternal stress and depression.



Therapeutic Massage: Infant massage (i.e. gentle and slow hand contact) is an early intervention approach to help with a newborn's tactile sense.

There is some evidence to suggest that massage can help with growth and weight gain for low birth weight and premature babies, reduce the length of stay in the hospital, reduce neonatal stress, and promote sleep. Massage therapy with moderate pressure may be useful. Research by Lu et al. has found that moderate-pressure massage therapy can cause greater daily weight gain in preterm infants than light-pressure massage therapy (Fig-3).



Therapeutic Handling: The primary aims of handling include assisting the newborn to achieve maximal interaction with parents & caregivers, and facilitating postural & movement patterns appropriate to the infant's adjusted gestational age. It includes care of a neonate around sleep/wake cycles time, no routine procedure, Providing 2-3 hrs of uninterrupted sleep, following "Minimal Handling" or "Quiet hour" Protocol, reducing noise, Reduce lights, and Clustering the caregiving procedure. Don't disturb the baby all the time.

Physical Activity: It has been proposed that a lack of physical stimulation might contribute to metabolic bone disease in preterm infants, leading to decreased bone mineralization and growth. Therefore, physical activity has been explored as an intervention to help promote bone mineralization and growth. Physical activity for neonates includes facilitating extension and flexion of the extremities, performing a range of motion exercises, and holding patients into flexion to help facilitate pushing against resistance. These exercises are usually completed for several minutes, several times a week for at least two weeks. Doğan et al. note that passive range of motion exercises may be beneficial for bone development, especially when applied to an infant's proximal joints.

Multimodal stimulation: The use of tactile, vestibular, proprioceptive, visual & auditory stimuli to facilitate infant development has been reported. For auditory stimuli, Soft & soothing music is used. For the tactile stimulus Gentle touch, massage & swaddling, For Visual stimulus pictures/human faces, and bright toys are used. For the Vestibular stimulus gentle rocking movements, and swinging are beneficial.

Non-Nutritive Sucking: High-priority functional activities in the NICU are sucking and swallowing. These actions should be supported by the physiotherapist and other caregivers.

Non-nutritive sucking provides tactile stimulation to the intraoral structures and facial muscles through a pacifier or a glove-wearing finger (Fig-4). Research shows that non-nutritive sucking can help reduce the length of hospital stay and improve feeding behaviours. It can be done using pacifiers.



Family Education: Family education is a substantial component of interventional care in the NICU. Understanding how to care for the preterm infant is important for posture and movement development, parent-infant attachment, and maintaining the baby's physiological stability.

Coaching the family on how to best support the baby's motor development should include topics such as feeding, dressing, sleep positioning, playing and communicating, therapeutic holding, and carrying the newborn after discharge.

OUR LIFE IN NICU: STORY OF A NICU GRADUATE

ello, I am a 'NICU graduate child' means after birth I lived in the NICU for some days. My mother said that I was born 8 weeks earlier than the expected date of delivery, so everyone used to call me 'preemie'. In NICU I made many friends. I heard that some of my friends were like me born premature and others had weak lungs (Respiratory distress syndrome), heart infections (Necrotizing endocarditis), brain tissue infections (Meningitis/Encephalitis), bleeding in the brain (Intraventricular hemorrhage), etc. But all were very strong fighters just like me. The room of the NICU was so strenuous and loaded heavily with noxious stimuli that we couldn't handle it. The loud noise of machines, the flashing lights, frequent running of doctors and nurses used to frighten me. I was put on oxygen therapy by 'O2 hood', and the Nasogastric tube was inserted inside my nose for feeding, and for regulation of my body temperature I used to sleep under a Radiant heat warmer.

Besides all these displeasures, I was under constant observation and great care by my neonatologist, physiotherapist, nursing staff, and many more people who always work with enthusiasm. For my weaker lungs, Dr. Neonatologist gave me SURFACTANT THERAPY that made my lungs stronger and helped me breathe efficiently. My Physiotherapist used to SWADDLE me to calm me down and help me regulate my body, giving me different POSITIONING and NESTING, she used to do MASSAGE THERAPY to strengthen my muscles and CHEST PHYSIOTHERAPY to clear secretions from my lungs. She also taught me NON-NUTRITIVE SUCKING so that later on I can do breastfeeding nicely. My therapist also taught my mother to give KANGAROO MOTHER CARE (skin-to-skin contact) which had increased 'Mother- infant bonding' between us. Gradually I started improving and gaining weight so they sent me home with my family!!

After living so long in my mother's womb which is the calmest and safest place, suddenly coming to NICU was quite scary for me so used to cry, cry, and cry....But after realizing that how much care and help they are giving me I wanted to THANK them but I have to words no describe so again I started crying, crying, and crying.....!!!



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Impact of PHYSIOTHERAPY in Head and Neck Cancer

Impact of Physiotherapy in Head and Neck Cancer

Head and neck cancer is broadly recognized as the seventh most frequently occurring type of cancer and consists of a various array of tumors affecting the upper aerodigestive tract. Despite the presence of various histologies, squamous cell carcinoma remains the most prevalent. Predominant risk factors include tobacco use, alcohol abuse, and oncogenic viruses, including human papillomavirus and Epstein-Barr virus. Head and neck cancer, comprising a range of malignancies affecting the oral cavity, pharynx, larynx, and surrounding structures, presents complex challenges in both treatment and rehabilitation.[1]

Physiotherapy plays a crucial role in the management of Oral, Head, and Neck cancer especially during and after Treatment. Here's how physiotherapy can help [2]:

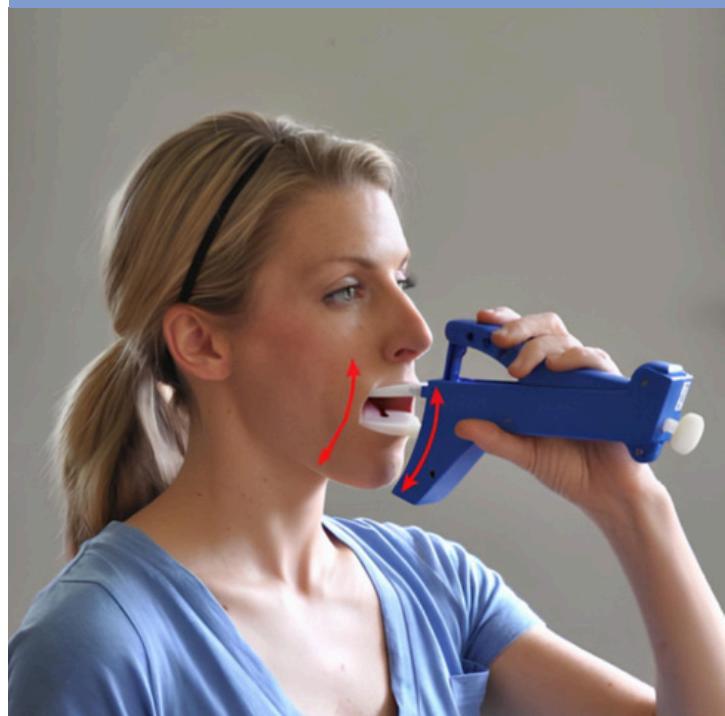
1. Restoration of Function and Mobility: Physiotherapy assists in restoring function and mobility to areas affected by surgery, radiation therapy, or chemotherapy. Therapists develop personalized exercise programs to improve strength, flexibility, and range of motion in the jaw, head, and neck.
2. Swallowing and Speech Therapy: Speech-language pathologists, often working closely with physiotherapists, help patients regain the ability to swallow and speak properly after treatment. This may involve exercises to strengthen swallowing muscles and techniques to improve speech clarity.
3. Pain Management: Physiotherapists use various techniques such as manual therapy, therapeutic exercises, and modalities like heat and cold therapy to manage pain and discomfort associated with cancer treatment.
4. Education and Support: Physiotherapists educate patients about self-care techniques, posture correction, and energy conservation strategies to optimize recovery and enhance the quality of life during and after cancer treatment. Overall, physiotherapy plays a vital role in addressing physical impairments, improving function, and promoting overall well-being in individuals undergoing treatment for oral, head, and neck cancer.



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Ahmedabad**

TheraBite Jaw Motion Rehabilitation System: Enhancing Jaw Mobility in Head and Neck Cancer Rehabilitation

TheraBite is a jaw motion rehabilitation system designed to improve jaw function, range of motion, and reduce trismus (limited mouth opening) often experienced by head and neck cancer patients. The device consists of a hand-held controller and custom-fit mouthpieces, allowing patients to perform exercises that gently stretch and mobilize the jaw muscles and temporomandibular joint (TMJ). Here's how TheraBite is typically utilized in the rehabilitation of head and neck cancer patients:



1. **Trismus Management:** After surgical procedures or radiation therapy, patients may experience trismus due to scarring, fibrosis, or muscle stiffness. TheraBite helps gradually stretch the muscles and tissues, promoting increased mouth opening over time.

2. **Improving Jaw Mobility:** TheraBite exercises involve controlled, repetitive movements of the jaw, encouraging improved mobility and flexibility. Patients work with their physiotherapists or speech therapists to establish a customized exercise regimen based on their specific needs and limitations.

3. **Pain Management:** Jaw exercises with TheraBite can also help alleviate discomfort or pain associated with muscle tightness and restricted movement. The device allows patients to perform exercises at their own pace, adjusting the intensity as tolerated.

4. **Functional Restoration:** By promoting increased jaw mobility and mouth opening, TheraBite contributes to the restoration of essential functions such as chewing, swallowing, and speech. This is particularly beneficial for patients aiming to regain oral function and quality of life post-treatment.

5. **Patient Education and Support:** Physiotherapists play a crucial role in guiding patients in the safe and effective use of TheraBite, ensuring proper technique and monitoring progress. They also provide education on self-care strategies and offer support throughout the rehabilitation process.

TheraBite is a valuable adjunctive tool in the comprehensive rehabilitation of head and neck cancer patients, facilitating improved jaw function, reduced trismus, and enhanced quality of life. Its integration into personalized treatment plans underscores the multidisciplinary approach required to address the diverse challenges faced by individuals undergoing treatment for head and neck cancer [3].

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IMPORTANCE OF COMMUNICATION IN THE FIELD OF PHYSIOTHERAPY

The ability to engage with others is known as communication. In the realm of physiotherapy, through patient interaction, one can learn about the difficulties patients are having performing specific tasks. Also, a therapist is able to comprehend the psychological context of the patient and the extent of their disturbance. Additionally, the therapist can vocally encourage and build the patient's confidence. Effective communication is essential in physical therapy as it promotes trust, guarantees precise diagnosis, and streamlines treatment regimens.

Effective communication between the therapist and patients facilitates comprehension of exercises, methods, and goals of rehabilitation, hence improving patient compliance and results. Moreover, proficient communication fosters cooperation among medical experts, culminating in comprehensive patient care and enhanced general health.

Asking questions, confronting people, focussing, and verbally tracking are all forms of communication in physical therapy. Understanding when to employ each form is crucial for therapists. Therefore, it is not advisable to employ such a confrontation until a therapeutic relationship based on trust has been created.



Physiotherapists have to work with a specific patient for a minimum of six months and a maximum of one year. Thus, the therapist must use simple language that the patient can comprehend. Furthermore, the therapist will win over the trust of the patient—that is, the person with illnesses or injuries. They will bolster their confidence and inspire them. With the goal for the patient to make more of an effort and heal as quickly as feasible.

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core of the healthcare industry is communication. Establishing trust, verifying correct diagnosis, treatment plans, and patient compliance all depend on effective communication. Physiotherapists may establish a positive, upbeat environment that will inspire their patients by listening, empathizing, and giving thorough explanations. This will help them develop trust and rapport with their patients. Patients will feel more confident and motivated to achieve their goals as a result of this trust, which will also enable a more thorough grasp of their situation.

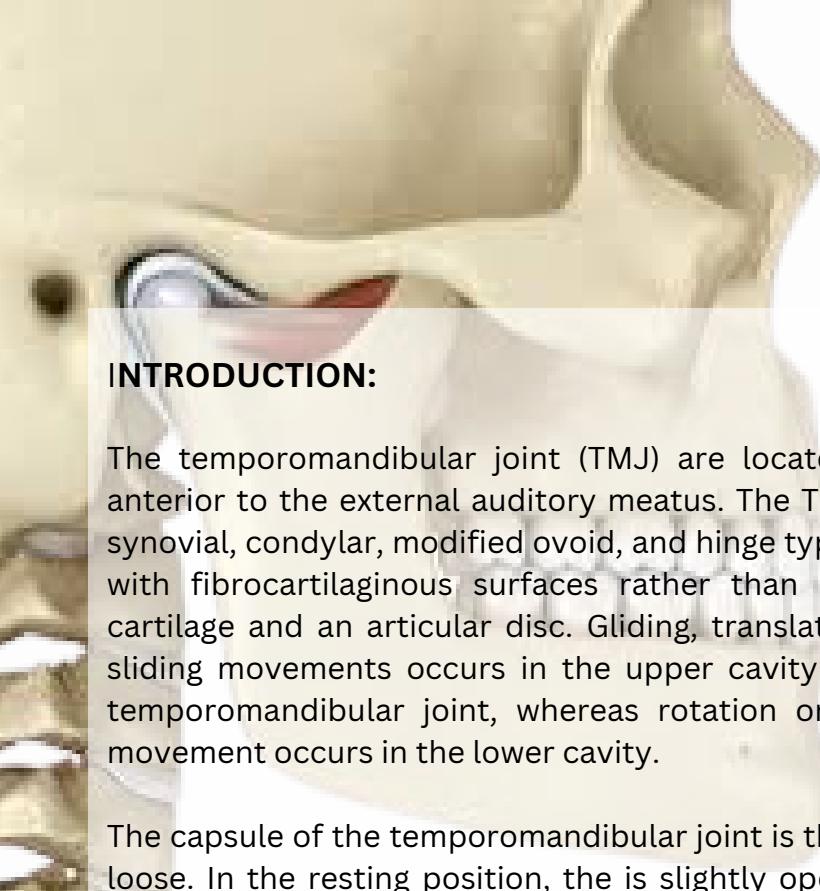
Physiotherapists can discover patients' problems by gathering important information by listening to patients describe their symptoms. With the assistance of a communication therapist, an accurate diagnosis and thorough assessment can be made. Nonverbal cues like body language can also be used in effective communication. Effective communication, education, and empowerment will enable patients to take an active role in their own rehabilitation by giving them the information and comprehension they need. Physiotherapists explain exercises using simple language, essential tools, and hands-on practice. This allows the patient to exercise correctly.



The therapist will encourage patients to promote exercises and lifestyle modifications by providing clear explanations, creating achievable goals, and providing support in order to ensure patient compliance through communication. Frequent communication also makes it possible to track development and make any required adjustments to treatment programs. The patient's psychosocial needs can be met by the therapist through interaction. A holistic approach is used by physiotherapists to address patients' physical, emotional, and social welfare as well as the psychosocial aspects of their experience, which include feelings like anxiety and fear.

By providing a secure environment for patients to communicate their worries and feelings, therapists help patients build confidence and trust. Furthermore, communication makes interdisciplinary collaboration easier, enabling therapists to work with other medical providers to meet patients' needs. To sum up, excellent communication is essential for physiotherapists to provide patients with quality therapy. The patient's life will eventually be improved by psychosocial education that promotes understanding, participation, and empowerment from the initial assessment through treatment planning.

Physiotherapists that possess great communication skills can form strong bonds with their patients, fostering physical rehabilitation and recovery to expedite the healing process.



TO FIND OUT EFFECT OF GOLDFISH EXERCISE IN TOBACCO CHEWING PERSON FOR TEMPOROMANDIBULAR JOINT DYSFUNCTION:AN INTERVENTIONAL STUDY

INTRODUCTION:

The temporomandibular joint (TMJ) are located just anterior to the external auditory meatus. The TMJ is a synovial, condylar, modified ovoid, and hinge type joint with fibrocartilaginous surfaces rather than hyaline cartilage and an articular disc. Gliding, translation, or sliding movements occurs in the upper cavity of the temporomandibular joint, whereas rotation or hinge movement occurs in the lower cavity.

The capsule of the temporomandibular joint is thin and loose. In the resting position, the is slightly open, lips are together, and the teeth are not in contact but slightly apart. In the closed packed position, the teeth are tightly clenched, and the head of the condyles are in the posterior aspect of the joint. Centric occlusion is the relation of the jaw and teeth when there is maximum contact of the teeth, and it is the position assumed by the jaw in the swallowing. The position in which the teeth are fully integrated is called the median occlusal position.

The temporomandibular joints are two of the most frequently used joints in the body, but probably receive the least attention. It has been shown that temporomandibular disorders affect 10% to 15% of adults. Without these joints, one would be severely hindered when talking, eating, yawning, kissing, or sucking. Temporomandibular disorders consist of several complex of multifactorial ailments involving many interrelating factors, including psychosocial issues. Oral lesions (herpes zoster, herpes simplex, oral ulcer), muscle overuse (clenching, bruxism), trauma, systemic lupus erythematosus, rheumatoid arthritis, headaches, and cancer pain can mimic temporomandibular joint disorders. Three cardinal features of temporomandibular joint disorders are orofacial pain, restricted jaw motion, and joint noise.(1)

The diagnosis of the temporomandibular joint dysfunction will be interpreted by the noise is assessed by the sound heard in stethoscope. A grafting sound indicates perforation of disk or arthritic changes. Limited opening suddenly resolved after click indicates disk displacement with reduction. Reducted ROM without clicking may be suggestive of disk displacement without reduction. The signs and symptoms of TMD disorders are pain and tenderness around jaw, Pain in one or both of the TMJs, pain in and around ear, difficulty in chewing or pain while chewing, locking of joint. Making it difficult to open or close the mouth, headache, neck pain, mental depression. The areas where pain of TMJ can radiate are temporalis, masseter, trapezius, sternoclenomastoid. (2)



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Goldfish Exercise was developed by Japanese Health Care Practitioner-SEIGO NISHI. This exercise was an outcome of inspiration on the concept of elegant swimming motion of the Goldfish. When this concept was put into practice, the Japanese realized its benefits at many levels. This newly found way of exercising became known in Japan as “KINGYO UNDO” or “GOLDFISH EXERCISE”. The pain assessment in systematically is essential for correct diagnosis.

This pain is a subjective part for both patient and health care professionals. So, require a valid and reliable tool for measurement of pain. VAS is widely used as a measure of pain intensity in globally. It has been shown that VAS is valid, reliable and interval scale. VAS has high test-retest reliability and repeatability. VAS is used in epidemiological and clinical research to measure the intensity or frequency of a variety of clinical symptoms. In randomized controlled trials, clinical trials VAS is frequently used to determine the effectiveness of treatment as an outcome measure.

Recently, there are different type of scale are used for assessing pain but without any valid (accurate) and reliable (reproducible) instruments it is very difficult to find real effect of treatment. The intensity of pain is a quantitative estimation and the most commonly used pain scales are the Visual Analogue Scale (VAS), the Numerical Rating Scale (NRS) the Verbal Rating Scale (VRS). (3) The mouth opening is an important indication of the functionality of the temporomandibular joint. A limitation in the degree of opening can be symptom of TMJ dysfunction.

It is usually defined as the distance between the incisor crests when the mouth is open maximum, or as the interincisal distance plus the overbite. The mouth opening is usually measured simply by asking the patient to their mouth open as wide as possible and measuring the distance between the edges of the frontal incisors with

a ruler or calliper, and in some cases, the overlapping of the incisors is added. All these methods have in common that the measurements is usually taken manually and are dependent on the experience of the professional taking them.(4) Temporomandibular joint disability index assesses pain and routine functional skills requiring oral functions. It has 10 sections of pain and disability during various activity. The patient was asked to circle the number which describes his problem best. Total scores out of 40 was calculated and converted into percentage. (5)

Methodology:

The samples were be selected from the population on the of inclusion and exclusion criteria. Prior to the study, all patients were explained about the procedure, written informed consent was taken. Pre-participation evaluation form consisted of the demographic data of the patient that includes age, chief complain, history, previous surgery, pain assessment, range of motion. 60 patients having TMJ dysfunction was randomly taken from the in and around Amreli. They were randomly divides into two groups and they not know about group allocation. Group1: received goldfish exercise. Group2: control group. For 2 weeks duration, 5 times/week & No. of patients in each group = 30. The patients were requested to continue normal activities and avoid other forms of treatment for 2 weeks apart from routine physician treatment. Visual Analogue Scale (VAS), Mouth Opening (MO) and Temporomandibular Joint (TMJ) Disability Index were taken Pre and Post treatment.



Result:

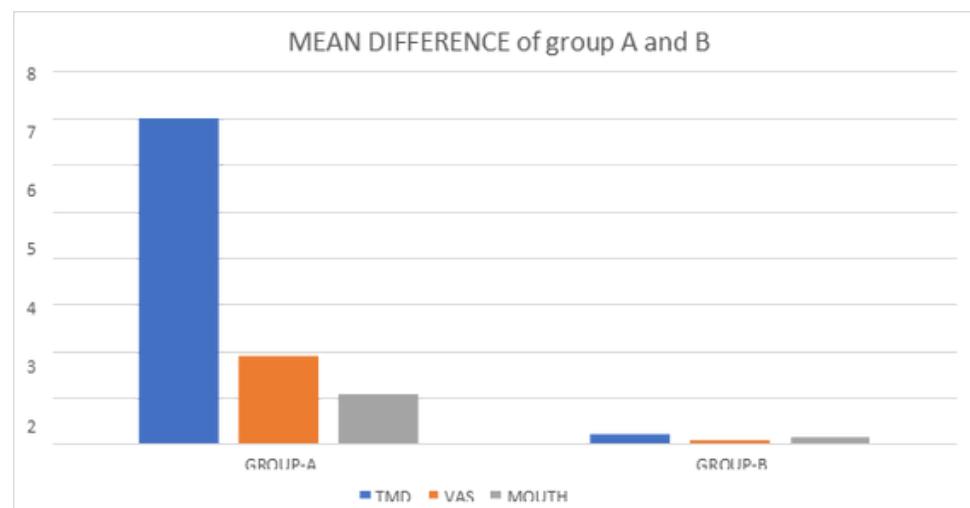
Data were analysing SPSS version 25.0. with using pair and unpaired t test. result of study showed that significant improvement <0.05 P value shows is group A. pre &post significant difference (<0.05) P value between group A and B.

Table 1:- Describes the improvement in the TMD dysfunction in the group A:

	Mean ± SD				
	pre	Post	T	P	Result
TMD	11.6±6.7	4.6±3.2	9.17	0.00	Significant
VAS	6.5±0.9	4.61±1.1	9.06	0.00	Significant
MOUTH OPENING	2.25±0.5	3.3±0.5	-7.79	0.00	significant

Table 2:- Describes the improvement in the TMD dysfunction in the group B:

	Mean ± SD				
	•PRE	POST	T	P	Result
TMD	11.1±6.15	10.9±5.9	1.98	0.06	Not-significant
VAS	6.12±1.1	6.2±1.01	-4.38	0.05	Not-significant
MOUTH OPENING	3.05±0.4	2.9±0.4	2.63	0.13	Not-significant



Discussion:

The aim of the study to find out the effect of goldfish exercise in tobacco chewing person for temporomandibular joint dysfunction. The study utilized a interventional design, and data were collected in and around Amreli. the study included 60 tobacco chewing person. And divided into two groups. Group A recived goldfish exercise and group B was control group. The result of the study revealed significant differences exists between two groups they received the goldfish exercise and control group. Hence, the alternate hypothesis stating that there is significant differences between goldfish exercise and control group on tobacco chewing person can be accepted and the null hypothesis can be rejected. Subjects who recived goldfish exercise showed improvement with the outcome measure. Subjects who are in control group didn't showed improvement with the outcome measure. But on comparing both the group. Group A seems more effective. The outcome measure will be used are VAS scale, TMJ disability index and increase in mouth opening. While the control group showed no statistical reduction on pain, TMJ disability index, mouth opening measurement. Goldfish exercise works on the principle of pulsatile motion of goldfish in water & thereby imitating the same motion for health benefits. It can be thought of stretching the fibrous bands, reducing TMJ stiffness & resulting in improvement in mouth opening. It would be beneficial to use this technique on daily basis and as far there are no contraindications of this exercise because it's done with in pain limits& further progression depends on the mouth opening of the patient. Goldfish exercise can be given to the patients having jaw problems and even taught for home exercise program. However, there was a significant result was noticed in the Group A i.e. goldfish exercise, when t-test is performed to find out the effect.

Conclusion:

After collecting and analyzing the data which collected from in and around Amreli. It was found that maximum number of tobacco chewing person suffering from temporomandibular joint dysfunction. This study shown that in, the group A given the goldfish exercise technique was better and effective in temporomandibular joint dysfunction then group B (control group)



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