

Proportion of Joint Pain Patients Seeking Physical Therapy in Quetta City

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Received: 00-00-2023; **Accepted:** 00-00-2023; **Published:** 00-00-2023

DOI: 10.5281/zenodo.10446012

ABSTRACT

Physical therapy is one of the most emerging fields in the world due to its different and reliable and beneficiary mode of treatments. According to the American Physical Therapy Association (APTA), physical therapists are trained and licensed movement experts. They can diagnose and treat a range of injuries, disabilities, and health conditions. Physical therapists aim to improve a person's range of movement and quality of life and prevent further injury or disability. Pakistan has a disability rate of (2.65%) with a total of around 5.035 million disabled people. Physical therapy as a profession started in 1956 at the Jinnah Postgraduate Medical Centre with a 2-year diploma, later on 4 years bachelors' program was also started. In 2008, Doctor of Physical Therapy program was initiated. The representative body "Pakistan Physical Therapy Association" was also established in 2008 which then joined the World Confederation for Physical Therapy in 2011. There is plenty of work being done in the field and it has seen a rapid growth in the past decade compared to the last 50 years. Currently, there are 69 institutions in Pakistan offering various physical therapy courses.

Awareness of physical therapy in Pakistan is one of the major issues that is currently on the top. Thus, the current study was conducted with the aim to evaluate the proportion of joint pain patients seeking physical therapy in Quetta city. This was a cross-sectional study conducted on general population of Quetta city. An interview Schedule of consisting of 3 parts (Socio-demographic, Pain history, Treatment history) and 20 questions were asked from the people who are currently having joint pain, about 347 interviewees participated in this study after which the data was analyzed by Statistical Package for Social Sciences (SPSS)

version 26. A p-value <0.05 was considered statistically significant. Among the [N=347] participants (48.4%) were male and (51.6%) were female. About (12.1%) of the participants belong to the age group (59-78) and were all aware about the physical therapy. [N=105] participants belong to the postgraduate education group, and about (98%) were aware about physical therapy. [N=130] participants were currently employed and (94.6%) were aware about physical therapy. Among [N=347] of total participants (89.6%) were aware about physical therapy. When it comes to consultation of physical therapy only [N=135] (38.9%) of [N=347] participants have consulted PT as mode of treatment. Among those [N=135] participants [N=42] of them belong to age group (59-78) and only (76.2%) among them consulted physical therapist, with education of FA/FSC participants were [N=37] and among them (75.7%) consulted PT's and (68.5%) of employed participants and participants belonging to Punjabi ethnicity (74.5%) have consulted a PT's. education

showing great significance ($p\text{-value}=0.000$), followed by age ($p\text{-value}=0.013$) and employment ($p\text{-value}=0.018$) when associated with Awareness. Meanwhile, ethnicity showing great significance ($p\text{-value}=0.002$), followed by education ($p\text{-value}=0.005$), followed by age ($p\text{-value}=0.029$) and employment ($p\text{-value}=0.029$) when associated with Consultation of PT. in conclusion the awareness was high among study participants but consultation of PT was moderately lower than expected and to overcome that screening awareness program about Physical therapy benefits must be conducted around Balochistan especially in Quetta so that people can take advantage of such highly reliable and emerging profession around the globe.

Keywords: Physical Therapy, Joint Pain, Doctor of Physical Therapy, Physically Handicapped

Cite as: First Author, Second Author (Year). Type the Research Title. *Mader e Milat International Journal of Nursing and Allied Sciences*, 1(1), 1–10. <https://doi.org/10.1037/edu0000696>

INTRODUCTION

Physical therapy also known as “Physiotherapy” is a profession in which a person who guide’s or treats “Physiotherapist” a patient through exercises and promotes life and maintains the health of a patient without medication and surgical interventions. The physical therapy management includes the exercises, manual therapy, manipulation techniques, traction devices, and modalities such as TENS, hot pack (heat therapy) and cold pack (cryotherapy), radiations, and sound waves. For assistance a Physiotherapist can use aiding devices also known as prosthetics and orthotics. In Pakistan Physical Therapy was introduced in 1956 by Federal Government and in early 20th century, Physiotherapy treatment of many health-related issues started in Quetta, but there was no institute in whole of Baluchistan offering Doctor of Physical Therapy Degree but soon in 2013, University of Balochistan started 05 years program of “Doctor of Physical Therapy” in Quetta.



Figure 1: Physical Therapy

Background

Wars, epidemic, accidents, the need the physically handicapped, and increased social demand for integration of people with disabilities into society have all shaped the development of physical therapy as an essential component of the health care. Federal legislation and medical advance also have contributed to the evolution of the profession.

The first decades of the twentieth century were exciting times in the development of physical therapy with many first occurring: Pennsylvania become the first state of license PTs; the first physical therapy textbook and first journal devoted to physical therapy were published and first baccalaureate program for PT's was established. Aftermath of world war I as the United States developed programs to provide care for injured soldiers workers and children devastated by the effect of infantile paralysis or poliomyelitis.



Figure 3. World War I physiotherapy reconstruction aide performing electrical stimulation with a group of rehabilitation soldiers as onlookers. Emma Vogel Collection, National Museum of Health and Medicine, Walter Reed Army Medical Center, Washington DC.

Figure 2: Physical Therapy Rehabilitation in WWI

In 1956 the American physiotherapy association (formerly the AWPTA) changes its name to the American physical therapy association and become more structurally complex through the creation of special interest groups and sections.

Physical therapy could not have evolved into the profession it is today without the vision of its pioneers. The history of physical therapy in the United States begins with Marry McMillan. Who founded the American women's physiotherapy Association and was elected its first president in 1921, Although American born, McMillan lived in Europe in her early years, She completed studies at Liverpool University and did graduate work in physical culture and corrective exercises, which include Swedish gymnastic and dynamics of scoliosis. She then worked in the Hospitals in England, where she treated victims of industrial accidents, until she returned to the United States in 1915. McMillan becomes director of massage and medical gymnastic at the Children's Hospital in Portland, Maine.

The year 1940 to 1969 we marked by the passage of legislation supporting the training of allied health personnel, the building of the hospitals, and creation of Medicare and Medicaid. Soldiers injured in the World War 2 and Korea and Vietnam required the attention of PTs in the military and in Veterans Administration hospitals.

In 2004 the priority Goals of American Physical Therapy Association were established. Such as Academic and clinical education prepares Doctor of Physical Therapy who are autonomous practitioners. Research advance the science of physical therapy and furthers the evidence-based practice of the PT. PTs and PTAs are committed to meeting the health need of patients/clients and society through ethical behavior, continued competence, and advocacy for the profession.

The goals are based upon the APTA vision statement for physical therapy 2020 (vision 2020) developed by the Association in 2020. The goal encompasses the association's major priorities as it moves toward realization of the ideals set forth in vision 2020. The board committed to these goals as the foundation from which the lead the Association.

Physical therapy today: The APTA performed well in fulfilling the functional of a professional organization and meeting its obligation to its members. Through its political action and lobbying efforts, it has protected the economic and social welfare of its members, particularly in the area of health care financing legislation. The influence of the APTA on the licensure requirements and on ethical, educational and research standards directly affects the performance of each individual practitioner's professional duties.

(Professionalism in Physical Therapy History, practice & Development)
(Laura Lee, Swisher Catherine G. Page)

Types of Joints

Shoulder Girdle Complex

There are three synovial joints (glenohumeral, acromioclavicular, sternoclavicular) and two functional articulations (scapulothoracic, supra-humeral) that make up the shoulder girdle complex.

Glenohumeral Joint

The glen humeral joint is an incongruous, ball-and socket (spheroidal) triaxle joint with a lax joint capsule. It is supported by the tendons of the rotator cuff and the glen humeral (superior, middle, inferior) and coracohumeral ligaments. The concave bony partner, the glenoid fossa, is located on the superior-lateral margin of the scapula. It faces anteriorly, laterally, and upward, which provides some stability to the joint. A fibro cartilaginous lip, the glenoid labrum, deepens the fossa for greater congruity and serves as the attachment site for the capsule. The convex bony partner is the head of the humerus. Only a small portion of the head comes in contact with the fossa at any one time, allowing for considerable humeral movement and potential instability.

Acromioclavicular Joint

The acromioclavicular joint is a plane, triaxial joint that may or may not have a disk. The weak capsule is reinforced by the superior and inferior AC ligaments. The convex bony partner is a facet on the lateral end of the clavicle. The concave bony partner is a facet on the acromion of the scapula

Sternoclavicular Joint

The sternoclavicular joint is an incongruent, triaxial, saddle-shaped joint with a disk. The joint is supported by the anterior and posterior SC ligaments and the interclavicular and costoclavicular ligaments. The medial end of the clavicle is convex superior to inferior and concave anterior to posterior. The joint disk attaches to the upper end. The superior-lateral portion of the manubrium and first costal cartilage is concave superior to inferior and convex anterior to posterior.

(Book: Therapeutic Exercise Foundations and Techniques, Chapter 17)

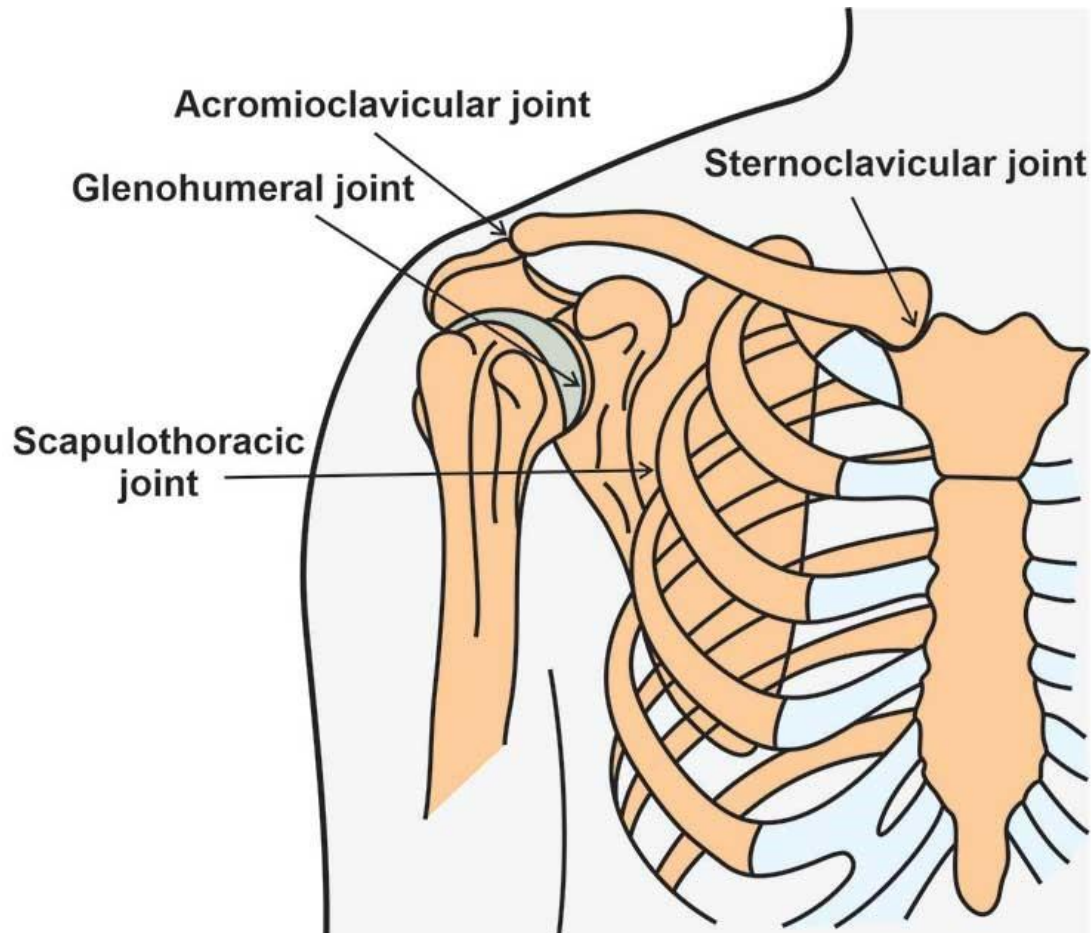


Figure 3: Joints of Shoulder Girdle

Joints of the Wrist

The wrist joint is multi-articular and is made up of two compound joints. It is biaxial, allowing flexion (volar flexion), extension (dorsi-flexion), radial deviation (abduction), and ulnar deviation (adduction). Stability is provided by numerous ligaments: the ulnar and radial collateral, the dorsal and volar (palmar) radio-carpal, the ulno-carpal, and the intercarpal.

Radio-carpal Joint

The radio-carpal joint is enclosed in a loose but strong capsule that is reinforced by the ligaments shared with the mid-carpal joint. The biconcave articulating surface is the distal end of the radius and radioulnar disk (discus articularis); it is angled slightly volar-ward and ulnar-ward. The biconvex articulating surface is the combined proximal surface of the scaphoid, lunate, and triquetrum. The triquetrum primarily articulates with the disk. These three carpals are bound together with numerous interosseous ligaments.

Mid-Carpal Joint

The mid-carpal joint is a compound joint between the two rows of carpals. It has a capsule that is also continuous with the intercarpal articulations. The combined distal surfaces of the scaphoid, lunate,

and triquetrum articulate with the combined proximal surfaces of the trapezium, trapezoid, capitate, and hamate
(Book: Therapeutic Exercise Foundations and Technique, Chapter 19)

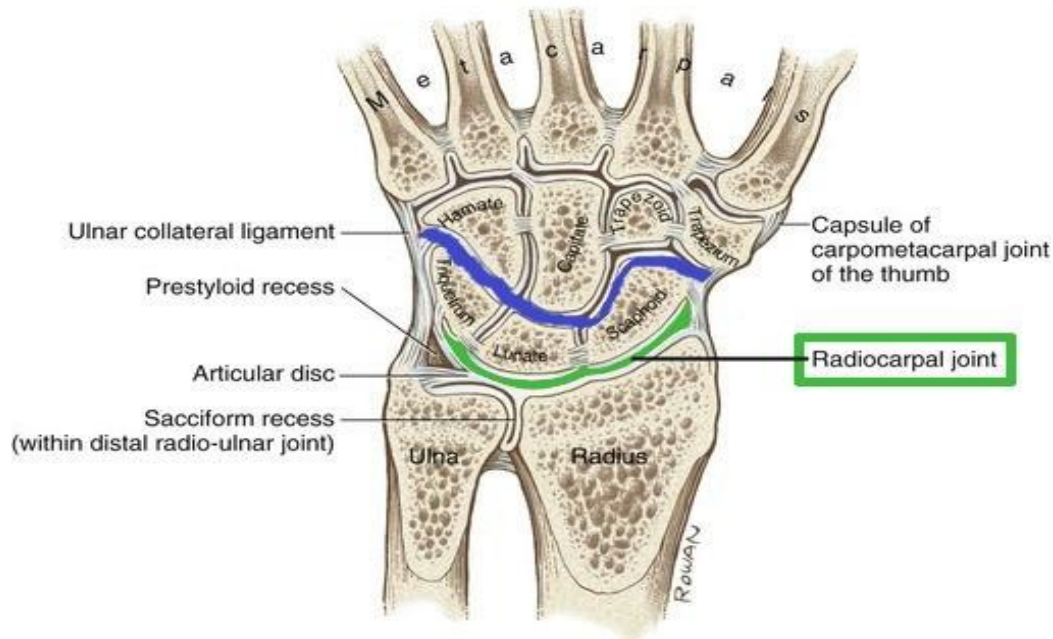


Figure 4: Joints of Wrist

Knee Complex

A lax joint capsule encloses two articulations: the tibio-femoral and the patellafemoral joints. Recesses from the capsule form the supra-patellar, sub-popliteal, and gastrocnemius bursas. Folds or thickenings in the synovium persist from embryologic tissue in up to 60% of individuals and may become symptomatic with micro-trauma or macro-trauma.

Tibio-femoral Joint

The knee joint is a biaxial, modified hinge joint with two interposed menisci supported by ligaments and muscles. Antero-posterior stability is provided by the cruciate ligaments; medio-lateral stability is provided by the medial (tibial) and lateral (fibular) collateral ligaments, respectively the convex bony partner is composed of two asymmetrical condyles on the distal end of the femur. The medial condyle is longer than the lateral condyle, which contributes to the locking mechanism at the knee. The concave bony partner is composed of two tibial plateaus on the proximal tibia with their respective fibro-cartilaginous menisci. The medial plateau is larger than the lateral plateau. The menisci improve the congruency of the articulating surfaces. They are connected to the tibial condyles and capsule by the coronary ligaments, to each other by the transverse ligament, and to the patella via the patellameniscal ligaments. The medial meniscus is firmly attached to the joint capsule as well as to the medial collateral ligament, anterior and posterior cruciate ligaments, and semi-membranous muscle. The lateral meniscus attaches to the posterior cruciate ligament and the tendon of the popliteus muscle through capsular connections. Because of the relatively secure attachment of the medial meniscus compared to the lateral meniscus, it has a greater chance of sustaining a tear when there is a lateral blow to the knee

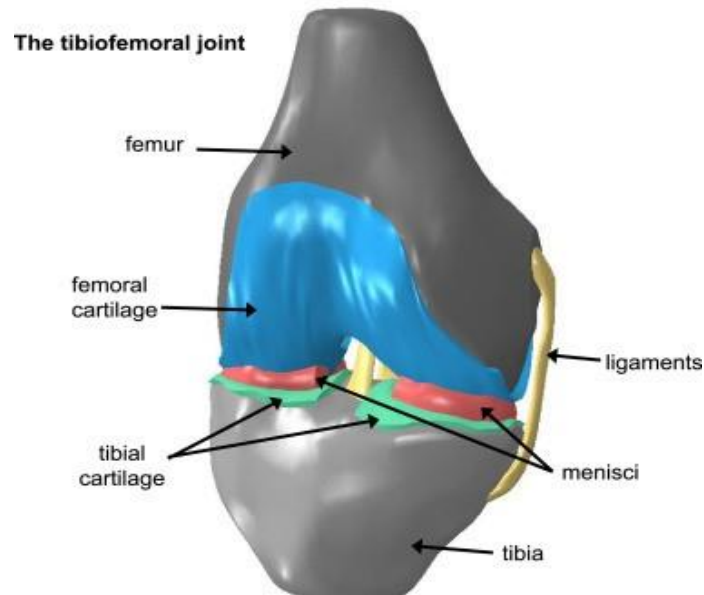


Figure 5: Tibiofemoral Joint

Patello-Femoral Joint

The patella is a sesamoid bone in the quadriceps tendon. It articulates with the intercondylar (trochlear) groove on the anterior aspect of the distal portion of the femur. Its articulating surface is covered with smooth hyaline cartilage. The patella is embedded in the anterior portion of the joint capsule and is connected to the tibia by the ligamentum patellae. Many bursas surround the patella and the foot (talus). (Book: Therapeutic Exercise Foundations and Techniques, Chapter 21)

Patellofemoral Joint



Figure 6: Patellofemoral Joint

Ankle Joint

The ankle joint (or talocrural joint) is a synovial joint located in the lower limb.

It is formed by the bones of the leg (tibia and fibula).

Functionally, it is a hinge type joint, permitting dorsi flexion and plantar flexion of the foot. The ankle joint is formed by three bones; the tibia and fibula of the leg, and the talus of the foot.

The tibia and fibula are bound together by strong tibio-fibular ligaments. Together, they form a bracket shaped socket, covered in hyaline cartilage. This socket is known as a mortise.

The body of the talus fits snugly into the mortise formed by the bones of the leg. The articulating part of the talus is wedge shaped – it is broad anteriorly and narrow posteriorly:

Dorsiflexion – the anterior part of the talus is held in the mortise, and the joint is more stable.

Plantarflexion – the posterior part of the talus is held in the mortise, and the joint is less stable.

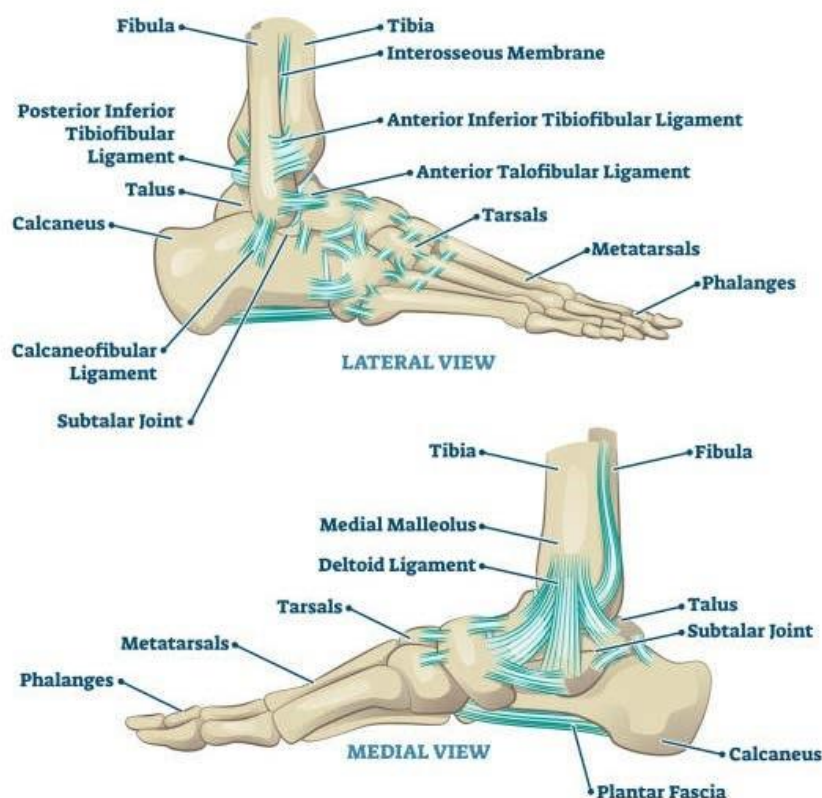


Figure 7: Ankle Joint

Hip Joint

The hip is a ball-and-socket (spheroidal) triaxial joint made up of the head of the femur and acetabulum of the pelvis. It is supported by a strong articular capsule that is reinforced by the iliofemoral, pubofemoral, and ischial-femoral ligaments. The two hip joints are linked to each other through the bony pelvis and to the vertebral column through the sacroiliac and lumbosacral joints.

(Book: Therapeutic Exercise Foundations and Techniques, Chapter 20)

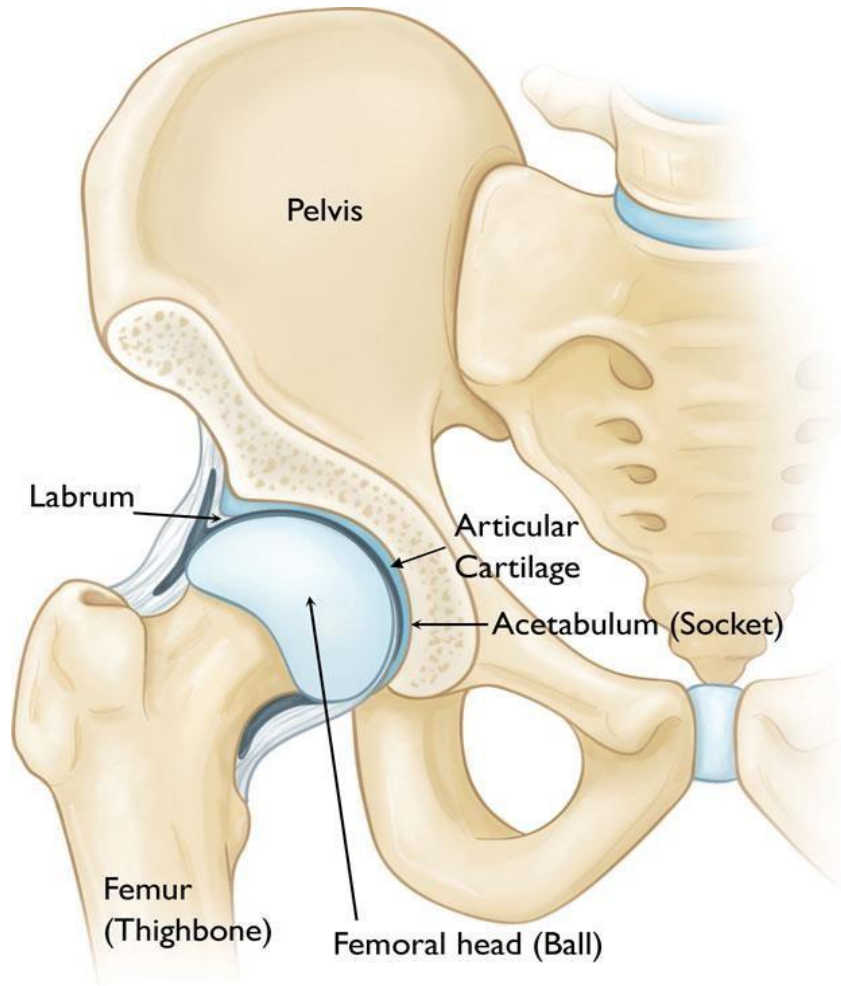


Figure 9: Hip Joint

Spine (back)

A healthy spine has three natural curves that make an S-shape. These curves absorb shocks to your body and protect your spine from injury. Many different parts make up your spine:

Vertebrae

The spine has 33 stacked vertebrae (small bones) that form the spinal canal. The spinal canal is a tunnel that houses the spinal cord and nerves, protecting them from injury. Most vertebrae move to allow for a range of motion. The lowest vertebrae (sacrum and coccyx) are fused together and don't move.

Facet Joints

These spinal joints have cartilage (a slippery connective tissue) that allows vertebrae to slide against each other. Facet joints let you twist and turn, and they provide flexibility and stability. These joints can develop arthritis and cause back pain or neck pain.

Intervertebral Disks

These flat, round cushions sit between the vertebrae and act as the spine's shock absorbers. Each disk has a soft, gel-like center (the nucleus pulposus) surrounded by a flexible outer ring (the annulus). Intervertebral disks are under constant pressure. A herniated disk can tear, allowing some of the nucleus' gel substance to leak out. Herniated disks (also called bulging, slipped or ruptured disks) can be painful.

Spinal Cord and Nerves

The spinal cord is a column of nerves that travels through the spinal canal. The cord extends from the skull to the lower back. Thirty-one pairs of nerves branch out through vertebral openings (the neural foramen). These nerves carry messages between the brain and muscles.

Soft Tissues

Ligaments connect the vertebrae to hold the spine in position. Muscles support the back and help you move. Tendons connect muscles to bone and aid movement.

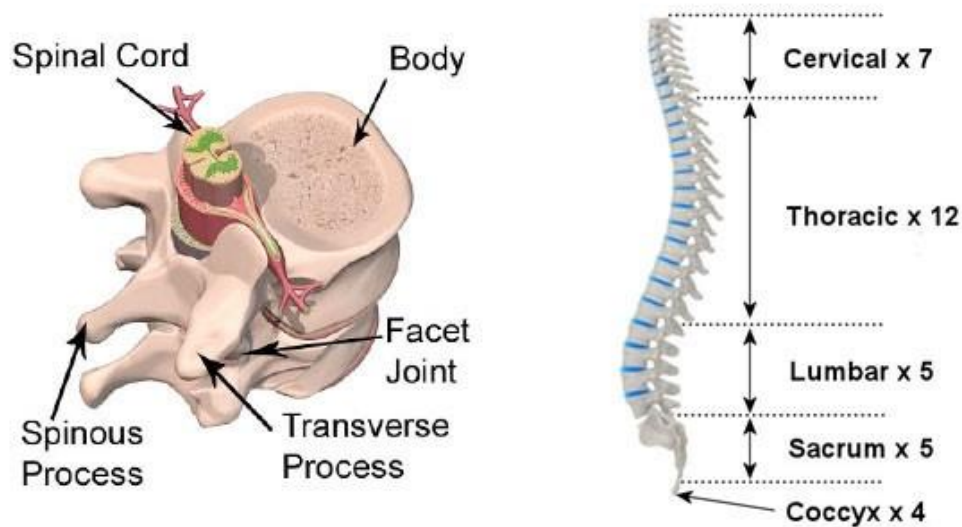


Figure 10: Spine

Joint Pain

Joint pain is very common in older people because in older age joint pain is start because of knee osteoarthritis. Joint pain is start because of injury and overuse of joint Physical therapy and supportive aids help to maintain or reduce the joint pain.

Shoulder Joint Pain

Shoulder pain is any pain in the shoulder or around the shoulder. Shoulder pain cause because of rotator cuff impingement, Arthritis, bony spur formation, bursitis, fracture, shoulder dislocation, tear of rotator cuff tendon. And poor posture cause the shoulder joint pain

Wrist Joint Pain

Wrist pain is caused because of repetitive stresses, arthritis, overuse of joint, sprain, strain, fracture, and carpal tunnel syndrome.

Wrist joint injuries are common in sports such as football, tennis and bowling and diabetes also causes the wrist joint pain.

Knee Joint Pain

Knee pain may be the result of injury to the ligaments, cartilage, meniscus. Pain may be caused because of knee arthritis, fracture, bursitis, and infection of joint. Knee becomes swollen, red, stiff and warm because of pain. Other risk factors which cause the joint pain such as overweight, weak muscle, sports injuries and lack of muscle flexibility.

Ankle Joint Pain

Ankle pain is caused because of injury, wear and tear, sprain, strain, fracture, tendinitis, arthritis, and bursitis of ankle joint problem causes the pain, swelling and redness. Physiotherapy and rest is reducing the ankle pain.

Hip Joint Pain

Hip pain is caused because of injury, fracture, bursitis, arthritis, sprain, tendinitis, labral tear, osteoporosis, cancer, and osteomyelitis. These problems cause the swelling, redness, and pain.

Back Pain

Back pain is caused because of arthritis, strain, muscle spasm, injury, fracture, bulging disk, sciatica, and ruptured disks.

LITERATURE REVIEW

Physiotherapy is a vast and rapidly growing area in the field of medical sciences. Physiotherapy treatment has high recovery rates with lowest side effects. Our research was basically based on awareness about Physiotherapy within Quetta, Baluchistan and we tried to calculate the percentage of how many people among general population are seeking physiotherapy by taking in consideration the general population our aim was to cover all the age groups and to see the overall awareness among individuals. We focused on the term "JOINT PAIN" because it's the most common problem faced by people of all age groups and most of the patients that consult a physiotherapist, do so due to joint pain. In one of the Questions of our research interview schedule we asked general people about the cost of Physiotherapy treatment. In most of the cases the cost is inversely proportional to awareness, the less the cost is the more will be the number of people utilizing the services. We tried our best to cover all categories of population which included students, employed population, unemployed population, people from all cultures within Baluchistan and people from urban as well as rural areas. Our goal was to target every possible aspect of general population around us.

Study was conducted by Fa maruf, Ec ekeiegwu, Ao akinpelu, Mj nwankwo in Department of Physiotherapy, College of Medicine, University of Ibadan, Ibadan, Nigeria in year 2012. This study examined the awareness, attitude, belief, and utilization of physiotherapy services (PS) in a Nigerian sample. This was a crosssectional survey involving 885 adult residents of Nnewi in south-eastern Nigeria.

Awareness of physiotherapy existence was high (61.8%). Many of the respondents (29.7%) got their information about physiotherapy from hospitals and 20.8% thought that government should be responsible for creating awareness about physiotherapy. The majority of respondents (89.6%) felt they needed to know more about physiotherapy while 56% felt their current knowledge about physiotherapy was enough to advise others on PS. Almost all the participants (93%) thought that physiotherapy should be in all hospitals, while 41.3% and 35.6% respectively reported physiotherapy to be always and sometimes effective. Of those who had received physiotherapy, 22.7% and 20.2% felt satisfied and impressed respectively.

A study was published on July 2014 regarding to Awareness in Physiotherapy among High School Students by Thusharika D. Dissanayaka, Shayama Banneheka Department of Physiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka . The aim of this study was to assess the level of awareness about physiotherapy among advanced level science students in the Kandy educational zone and to assess the sources from which they could obtain information regarding physiotherapy. A structured survey consisting of three parts was used, and eight hundred and fifteen high school level Sinhala medium science students from nine schools in Kandy zone in Sri Lanka were approached. Of these, seven hundred and seventy six completed questionnaires were returned (95% response rate). A vast majority of student were unaware about the uses of physiotherapy in other disease conditions than sports injuries , mainly in chest conditions like bronchitis (80%). The overall awareness about physiotherapy was approximately 30.5% .The students were not much aware of physiotherapy as a career, treatment method and its applications in disease conditions other than sports injuries. Television, internet, and newspapers/magazine were the most cited source of information for physiotherapy.

A study was published in 2017 on the topic physiotherapy awareness in medical and non-medical population: a social media survey by Devanshi Doshi , Mariyah Jiandani , Rucha Gadgil , Neha Shetty in India. The purpose of this study was to find level of awareness of Physiotherapy among medical professionals and general population. Its result was 103 people from medical and 153 people from general population filled the questionnaire.90% of medical professional and 78% of general population knew physiotherapy field. Both groups were aware about specialties of Physiotherapy. However, awareness was less in specialty such as Cardiovascular and pulmonary conditions, Plastic surgery, Oncology and Post-surgery physiotherapy in both the populations.

According to study published on March 2019 about Physiotherapy Awareness Among Community Health workers by Dr. Fouzia Hussain, Dr. Hajra Ameer Shaikh, Dr. Muhammad Saad Khan, Dr. Saffa Ibrahim Study was conducted from August 2017 to November 2017 on CHWs. study concluded that there is a very little awareness regarding to physiotherapy among CHWs and there is almost no way of awareness to provide knowledge related to physiotherapy. Provide enough education about physiotherapy during their treatment time period aware all CHWs by contacting personally and awareness through media and accessibility for healthcare. Deliver provide education about physiotherapy necessity in gynecological and pediatric conditions. Call workers to seminars and arrange workshops for CHWs to provide information regarding physiotherapy. Study was held on educated people.

An Article published was on June 30 2019 on awareness of physiotherapy in electronic media Peshawar written by Abdullah Abdullah, Haider Darain, Ayaz Uddin, Shahid Ali, Babar Ali, In this article a cross-sectional survey was carried out and data was collected from 114 electronic media personnel of different TV channels of Peshawar. Data was analyzed through SPSS version 22. Results pf study shown that Overall, 57.96% of study population has sufficient knowledge regarding Physiotherapy.

Only 20.2% know that Physiotherapy is practiced by physiotherapists instead of other doctors like MBBS, BDS and MD etc. Interestingly 44.7% thought that physiotherapists are masseurs. Authors concluded their study as “The knowledge about Physiotherapy is not sufficient. Awareness about Physiotherapy in electronic media personnel needs attention. Steps should be taken to improve and clarify the understanding about Physiotherapy.

Another survey report that was published on 11 December 2019 which was conducted by Smruti Swagatika, Dash Narayana, Hrudayalaya Institute of Physiotherapy, Bangalore-560099, Karnataka, India on the topic awareness of physiotherapy & its scope among women in a community. A community-based survey was carried out purely based on the questionnaire method which consist of sets of questions. Prior to the data collection the researcher explained about the study to the subject and an informed consent was obtained from them. The researcher gave the questionnaire form to the subject and was required to fill the frame. Results were that only 79% of respondents had awareness about physiotherapy but the awareness about scopes & scenarios in which women can actually benefit from physiotherapy was less. The result of the study indicated that women in city are still not completely aware of scopes of physiotherapy service. They just know it is a kind of health care service.

Appropriate measures have to be taken to increase the awareness and create a good attitude towards the Physiotherapy profession.

METHODOLOGY

Study Sample

The study interviewed 347 patients suffering from any type of joint pain consisted of [N=168] males and [N=179] females. The mean age of both male and females were [S.D = 39.6 ± 15.6]. Patients from the age of 18 and onwards were interviewed having education background from being illiterate to post-Graduate studies. Patients were interviewed from different towns, streets, educational institutes as well as from different hospitals in Capital city of Baluchistan “Quetta”.

Study Tool

Interview schedule consisted of a two-page document involving three Parts with a total of 20 close ended questions. Patients were asked questions from their demographic history, Pain and motion history and Treatment history. The first part (demographic history) asked questions from patients age, weight, marital status, employment, education, ethnicity & residence followed by the second part (pain and motion history) which asked questions related to which joint is affected to aggravating and relieving factors with one question which had NRS (numerical rating scale) asking patient to rate their pain from a scale of 0 to 10. The third part (treatment history) included a series of question related to patients' treatment, which included questions like whether they have ever heard about Physical Therapy, whether they think that Physical therapy is better than medication, the cost and nearby facility of Physical Therapy to how many sessions they were taking in a week.

Study Procedure

It was an observational study, with all interviews being taken by researchers. The procedure typically went as follows. The interviewer approached a random person and would ask that if they ever had or is having any type of joint pain, if the answer was Yes, then the interviewer would continue to ask some questions related to questionnaire and subject were told that their information would be kept confidential, but the exact purpose of the interview was not revealed but they were asked to participate in a “Health related survey”. a series of 20 close ended question were asked, the interview took only 5 minutes to be completed.

Study Duration

The study was conducted in a total time frame of 6 months from October 12, 2021, to March 28, 2022.

Study Eligibility Criteria

Inclusion Criteria

The people suffering from any type of joint pain were interviewed and were asked questions related to their pain and treatment history as well as personal information

Exclusion criteria

The people who never had any history of joint related pain or people who were not suffering from joint pain currently were not interviewed.

Ethical consideration

The study was conducted according to the ethical guidelines for human experimentations study has been approved by research committee from Department of Physical therapy, Faculty of Pharmacy. Verbal consent was taken from every participant prior to research

Statistical Analysis

The data were computed, and Descriptive analysis was performed using IBM statistical package for social science version 26 (IBM SPSS version 26). continuous data was presented as mean, median and standard deviations. To obtain final model of factors associated with awareness of physical therapy and consultation of physiotherapy scores, a p-value of <0.05 was considered statistically significant.

Study Objective

- To evaluate the awareness of Physical therapy among general population of Quetta, Balochistan.
- To evaluate the percentage of joint pain patients seeking Physical therapy.

DATA ANALYSIS AND RESULTS

Socio-Demographic Characteristics Among Study Population

Socio-demographic characteristics among study population are shown in Table 1. Majority of the interviewee were females (51.6%), mean weight and age of both genders were (69.7±13.2) & (39.6±15.7) respectively. Similarly, majority of the interviewee were married (62.2%), unemployed (62.5%) and undergraduate and postgraduate (30.3%) and (30.3%) respectively. Many of the interviewee belonged to Pashtun ethnicity (41.2%) and many of the interviewee were residence of urban areas (81.8%).

Table 1: Socio-Demographic Characteristics Among Study Population

Variables	Mean ± S. D	Number (%)
Gender Males		
Females		168 (48.4) 179 (51.6)
Weight	69.7 ± 13.2	
Lightweight		44 (12.7)
Underweight		167 (48.1)
Heavyweight		123 (35.4)
Obese		13 (3.7)

Age	39.6 ± 15.7	
18-38		190 (54.8)
39-58		109 (31.4)
59-78		42 (12.1)
>79		6 (1.7)
Marital Status		
Single		131 (37.8)
Married		216 (62.2)
Education		
Illiterate		66 (19)
Matriculation		34 (9.8)
FA/FSC		37 (10.7)
Undergraduate		105 (30.3)
Postgraduate		105 (30.3)
Employment		
Unemployed		217 (62.5)
Employed		130 (37.5)
Ethnicity		
Pashtun		
Baloch		143 (41.2)
Sindhi		70 (20.2)
Punjabi		20 (5.8)
Others		55 (15.9)
		59 (17.0)
Residence		
Rural		63 (18.2)
Urban		284 (81.8)

Pain and Motion History Characteristics Among Study Population

Total of thirteen (13) questioned were asked from the subjects related to their pain history and pain related activities which will be discussed below.

History of Joint Pain Characteristics Among Study Population

History of joint pain characteristics among study population is shown in Table as study was conducted on subject who had joint pain.

Table 5 History of Joint Pain Characteristics Among Study Population

Question	Numbers
Does the patients have any kind of joint pain?	347

Joints Affected Characteristics Among Study Population

Joints affected characteristics among study population are shown in table 6. In all of our 347 interviewee, knee joint (38.3%) was the most affected joint followed by back (33.1%) and then hip (6.3%), shoulder (6.1%), ankle (4.3%), wrist (3.5%) and other joints (8.4%) which includes elbow, MCP joints etc.

Table 6 Joints Affected Characteristics Among Study Population

Question	Numbers (%)
Which joint of these patients was affected the most?	
Back	115 (33.1)
Knees	133 (38.3)
Hip	22 (6.3)
Shoulder	21 (6.1)
Ankle	15 (4.3)
Wrist	12 (3.5)
Others	29 (8.4)

Previous History Of Injury/Fracture Characteristics Among Study Population

Previous history of the joint that is affected can be seen in Table 7. It can be seen that 214 (61.7%) of interviewee had no previous history of Fracture, injury and dislocation of the Joint that is affected.

Table 7: Previous History of Injury/Fracture Characteristics Among Study Population

Question	Number (%)
Do these patients have any kind of previous history of Injury/Dislocation/Fracture of the joint effected?	
Yes	133 (38.3)
No	214 (61.7)

Pain Effecting Adl's Characteristics Among Study Population

It can be seen in Table 8 that (80.7%) interviewee answered that pain does not effect their activities that they do everyday. Meanwhile (19.3%) interviewee answered that pain effects their ADL's.

Table 8: Pain Effecting Adl's Characteristics Among Study Population

Question	Number (%)
Does the activities that patients usually do every day is affected by pain? Yes	
No	67 (19.3)
	280 (80.7)

Pain Effecting Sleep Characteristics Among Study Population

Pain effecting sleep characteristics among study population can be seen in Table 9. Interviewee's sleep effected by pain were (52.4%), while (47.6%) interviewees had no issue in sleep due to pain.

Table 9: Pain Effecting Sleep Characteristics Among Study Population

Question	Number (%)
Does sleep of patient is affected by pain?	
Yes	
No	182 (52.4) 165 (47.6)

Effect of Movement on Pain Among Study Population

Effect of movement on pain among study population can be seen in Table 10 interviewee's who had no pain during movement were (79.8%), while (20.2%) interviewees answered yes.

Table 10: Effect of Movement on Pain Among Study Population

Question	Number (%)
Does Movement have effect on patient's pain?	
Yes	
No	70 (20.2) 277 (79.8)

Type of Pain Characteristics Among Study Population

The type of pain interviewee's felt is shown in Table 11. it can be seen that dull pain (36.9%) was felt by interviewee's followed, shooting pain (21.9%), tingling pain (21%) and burning pain (20.2%) were felt by patients respectively.

Table 11: Type of Pain Characteristics Among Study Population

Question	Number (%)
What kind of pain was felt by the patient, describe?	
Burning	70 (20.2)
Dull	128 (36.9)
Shooting	76 (21.9)
Tingling	73 (21)

Prolong Use and Heavy Lifting Characteristics Among Study Population

Table 12 below shows that heavy lifting or prolong use of joint causes pain or not. (82.7%) interviewees answered yes while, (17.3%) interviewees answered No.

Table 12: Prolong Use and Heavy Lifting Characteristics Among Study Population

Question	Number (%)
Does prolong use and heavy lifting Increase in patients joint Pain?	
Yes	287 (82.7)
No	60 (17.3)

Pain Aggravating Characteristics Among Study Population

The pain aggravating characteristics among study population can be seen in Table 13. it shows that ADL's in (73.5%) interviewees aggravates pain, meanwhile exercise and rest in (16.7%) and (9.8%) interviewees aggravates pain respectively.

Table 13: Pain Aggravating Characteristics Among Study Population

Question	Number (%)
What Aggravates Patient's pain the most?	
Rest	
Exercise	34 (9.8)
Activities of Daily Living	58 (16.7)
	255 (73.5)

Pain Relieving Characteristics Among Study Population

The pain-relieving characteristics among study population can be seen in table 14. it can be seen that majority of the interviewee (34%), answered rest as relieving factor. Similarly, medication (32.9%) was the second most relieving factor, followed by exercise (21%), hot and cold pack (10.7%) respectively. Only (1.4%) Interviewee selected all of the above as pain-relieving factor.

Table 14: Pain Relieving Characteristics Among Study Population

Question	Number (%)
What relieves patient's pain the most? Rest	
Exercise	118 (34)
Medication	73 (21)
Hot & Cold Pack	114 (32.9)
All of the above	37 (10.7)
	5 (1.4)

Kind of Pain Characteristics Among Study Population

Table 4.12 shows the kind of pain interviewees were experiencing.(64.8%) interviewees were experiencing Intermittent (episodic) pain, while (35.2%) were experiencing constant pain.

Table 15: Kind of Pain Characteristics Among Study Population

Question	Number (%)
What is the kind of pain pattern patients experiencing the most?	
Constant	122 (35.2)
Intermittent	225 (64.8)

Pain Intensity Characteristics Among Study Population

The intensity of pain characteristic among study population can be seen in Table 16. it shows that (49.6%) interviewees were feeling moderate type of pain followed by severe type of pain and mild type of pain, (28.2%) and (22.2%) were felt by interviewees respectively.

Table 16: Pain Intensity Characteristics Among Study Population

Question	Number (%)
What was the intensity of the pain patients were feeling?	
Mild	77 (22.2)
Moderate	172 (49.6)
Severe	98 (28.2)

Treatment History Characteristics Among Study Population

Eight (8) questions were asked from patients related to their treatment history the results are discussed below.

Physical Therapy Awareness Among Study Population

Physical therapy awareness among study population can be seen on Table 4.13. out of 347 interviewees, (89.6%) were aware about Physical therapy while only (10.4%) interviewees were not aware about Physical therapy.

Table 17: Physical Therapy Awareness Among Study Population

Question	Numbers (%)
Have the patient ever heard about Physical therapy?	
Yes	311 (89.6)
No	36 (10.4)

Effect of Treatment Characteristics Among Study Population

The most effective treatment according to interviewees can be seen in table 4.14. it is shown that (41.5%) interviewees thinks that both Physical therapy and medication are effective treatment. While (34.6%) interviewee thinks that Physical therapy is most effective and (16.7%) thinks that medication is better treatment. Only (7.2%) had no idea about treatment among physical therapy and medication.

Table 18: Effect of Treatment Characteristics Among Study Population

Question	Numbers (%)
What does Patient think is the most effected Treatment?	
Physical Therapy	120 (34.6)
Medication	58 (16.7)
Both	144 (41.5)
Don't Know	25 (7.2)

Facility and Cost Characteristics Among Study Population

It can be seen in table 4.15 that (56.8%) interviewee had no Physical therapy facility nearby their residence, only (43.2%) had nearby facility of Physical Therapy.

Those who had Physical therapy Facility nearby their residence were asked the cost of treatment. (32.3%) interviewees thinks that it was affordable, while (8.1%) interviewees thinks that cost was expensive, and (2.9%) interviewee thinks that it was cheap.

Table 19: Facility And Cost Characteristics Among Study Population

Questions	Numbers (%)
Do patients have Physical therapy facility nearby their residence?	
Yes	150 (43.2)
No	197 (56.8)
If they have Physical therapy facility nearby their residence, what is the cost?	
Cheap	10 (2.9)
Affordable	112 (32.3)
Expensive	28 (8.1)

Consultation and Response Characteristics Among Study Population

The consultation from Physical therapist characteristic among study population is shown in Table 20. it can be seen that (38.9%) out of 347 interviewees have consulted a Physical therapist and only (55%) interviewee who consulted physical therapist answered that it was beneficial. meanwhile (61.1%) have never consulted a Physical therapist for themselves or for their family members.

Table 20: Consultation and Response Characteristics Among Study Population

Questions	Numbers (%)
Have patients or any of their family member ever been to a physical therapist for treatment?	
Yes	135 (38.9)
No	212 (61.1)
If patients or their family member have been to a PT, was it beneficial?	
Yes	76 (55.6)
No	59 (44.4)

Sessions/Week Characteristics Among Study Population

Sessions/week characteristic of physical therapy treatment are shown in Table 21. it can be seen that majority of the interviewee took only 1 session of physical therapy (45.8%) followed by 6 Sessions/week (17.9%), similarly 3 sessions/week and 2 session/week were as (11.8%) and (10.1%) respectively. followed by 5 sessions/week, 7 sessions/week and 4 sessions/week (5.5%), (5.2%) and (3.7%) respectively.

Table 21 Sessions/Week Characteristics Among Study Population

Question	Numbers (%)
How many sessions/per weeks were you or any of your family member seeking? (Sessions Per Week)	
1 Session	
2 Sessions	61 (45.8)
3 Sessions	14 (10.1)
4 Sessions	16 (11.8) 5
5 Sessions	(3.7)
6 Sessions	7 (5.5)
7 Sessions	24 (17.9) 7
	(5.2)

Recommendation of Assistive Device Characteristics Among Study Population

Table 22 shows that (65.9%) of interviewee were recommended to use assistive or aiding devices for their joint pain, while remaining (34.1%) were not recommended to use any type of assistive or aiding devices.

Table 22: Recommendation of Assistive Device Characteristics Among Study Population

Question	Numbers (%)
Does patient's Physical therapist recommended them to use any aiding/assistive device?	
Yes	89 (65.9)
No	46 (34.1)

Cross-Tabulation of Subject's Characteristics and Awareness

Association of different variables with awareness about physical therapy can be seen in Table 23. both the genders were almost equally aware about physical therapy almost (90%). Similarly categorizing the Interviewee on the basis of weight all weight categories were aware about physical therapy with (100%) obese Interviewees were aware of physical therapy.

On the basis of age Groups. Interviewees ranging between 59-78 years old were all aware of physical therapy (100%) showing significance. when compared to other age groups on the basis of marital status both married and single were equally (90%) aware of physical therapy.

On the basis of education, 90% from every education category (matriculation to post graduate) were aware of Physical therapy showing significance in association On the basis of employment both employed (94.6%) and unemployed (86.7%) interviewee's were aware about PT but on the basis of ethnicity Punjabi's (96.4%) had knowledge related physical therapy.

On the basis of residence, interviewees living in urban areas (90.5%) were aware about physical therapy than interviewees living in rural areas education showing great significance (p-value=0.000), followed by Age (p-value=0.013) and Employment (p-value=0.018)

Table 23: Cross-Tabulation of Subject's Characteristics And Awareness

Variables	Awareness about Physical Therapy Number (%)		p-value
	No	Yes	
Gender Males Females	17 (10.1) (10.6)	151(89.9) 19 160(89.4)	0.880
Weight/kg Lightweight (35-54) Underweight (55-74) Heavyweight (75-94) Obese (95>)	3 (6.8) 18 (10.8) 108(87.8) 0 (0.0)	41(93.2) 149(89.2) 15(12.2) 13(100.0)	0.598
Age 18-38 39-58 59-78 >79	18 (9.5) 17 (15.6) (0.0) 1 (16.7)	172(90.5) 92(84.4) 0 42(100) 5(83.3)	0.013
Marital Status Single Married	14(10.7) (10.2)	117(89.3) 22 194(89.8)	0.882
Education Illiterate Matriculation FA/FSC Undergraduate Postgraduate	17 (25.8) (8.8) 36(97.3) 92(87.6) 2 (1.9)	49(74.2) 3 31(91.2) 1 (2.7) 13 (12.4) 103(98.1)	0.000
Employment Unemployed Employed	29 (13.4) (5.4)	188(86.7) 7 123(94.6)	0.018
Ethnicity Pashtun Baloch Punjabi Others	20 (14.0) (12.9) 53(96.4) 74(93.7)	123(86.0) 9 61(87.1) 2 (3.6) 5 (6.3)	0.088
Residence Rural Urban	9 (14.3) (9.5)	54(85.7) 27 257(90.5)	0.260

Cross-Tabulation of Subject's Characteristics With Pt Consultation

The Association of different variables with consultation of physical therapy is shown in Table 24. on the basis of gender both males (63.7%) and females (58.7%) consulted Physical therapist for the treatment. On the basis of weight group every weight group had high consultation rate with obese group (76.9%) having slightly more consultation percentage.

On the basis of age group every age group had high consultation rate with interviewees aging 79 or above having (83.3%) consultation rate.

On the basis of marital status, married interviewees had a slightly better treatment consultation from Physical therapist than unmarried interviewees. On the basis of education every category had a good consultation percentage with interviewees from FA/FSC and postgraduate leading with (75.7%) and (70.5%) consultation percentage respectively.

On the basis of ethnicity Pashtun and Punjabi interviewees had high percentage of (67.8%) and (74.5%) of consultation rate among them respectively.

On the basis of residence living in urban and rural areas, interviewees living in rural areas had high consultation rate (65.1%) than interviewees living in urban areas. ethnicity showing great significance (p-value=0.002), followed by education

(p-value=0.005), followed by age (p-value=0.029) and employment (p-value=0.029)

Table 24: Cross-Tabulation of Subject's Characteristics With PT Consultation

Variables	Consultation of Physiotherapist Number (%)		P value
	No	Yes	
Gender Males Females	61 (36.3) 74 (41.3)	107(63.7) 105(58.7)	0.337
Weight/kg Lightweight (35-54) Underweight (55-74) Heavyweight (75-94) Obese (95>)	22 (50.0) 62 (37.1) 48 (39.0) 3 (23.1)	22(50.0) 105(62.9) 75(61.0) 10(76.9)	0.290
Age 18-38 39-58 59-78 >79	72 (37.9) 52 (47.7) 10 (23.8) 1 (16.7)	118(62.1) 57(52.3) 32(76.2) 5(83.3)	0.029
Marital Status Single Married	57 (43.5) 78 (36.1)	74(56.5) 138(63.9)	0.170
Education Illiterate Matriculation FA/FSC Undergraduate Postgraduate	29 (43.9) 12 (35.3) 9 (24.3) 54 (51.4) (29.5)	37(56.1) 22(64.7) 28(75.7) 51(48.6) 31 74(70.5)	0.005
Employment Unemployed Employed	94 (43.3) 41 (31.5)	123(56.7) 89(68.5)	0.029

Ethnicity Pashtun			0.002
Baloch	46 (32.2)	97(67.8)	
Punjabi	36 (51.4)	34(48.6)	
Others	14 (25.5)	41(74.5)	
	39 (49.4)	40(50.6)	
Residence			0.473
Rural	22 (34.9)	41(65.1)	113 (39.8)
Urban	171(60.2)		

CONCLUSION AND RECOMMENDATIONS

To the best of our knowledge this is first study in Baluchistan which evaluated the awareness of Physical therapy among general population of Quetta city as well as the percentage of Physical therapy consultation among joint pain patients. This chapter is comprised of the significant findings of the current study regarding the sociodemographics and awareness PT among study participants, and proportion of joint pain in study population seeking PT for their treatment.

as we know that Physical therapy is among one of the most reliable and significant in treatment of many health related issues, and for Physical therapy to come in handy among population, awareness of such profession is one of the biggest challenge that any health care provider or profession as a whole can face.

Awareness of Physical Therapy

Association of different socio-demographic characteristic of Quetta's general population with awareness about PT will be discussed primarily. in current study it was evaluated that among the interviewees' (89.6%) were aware of physical therapy in which most were females. It was seen in our study that variables which shows significance ($p\text{-value} < 0.5$) were Age, Education and Employment. it was evaluated that in age, the interviewees between the age of 59 – 78 were all aware of physical therapy as it is the age where many physical activities among population becomes less and they start having complications especially in joints, such as O.A and R.A, weakened joints due to lack of proper diet. Calcium and vitamin D deficiency is peak between this age. Age group was significant in current study as it had ($p\text{-value} = 0,013$).

furthermore, it was evaluated that among the Education the most aware education group was of interviewees who were currently or had done their post-graduate studies ($N=105$) out of which 98.1% were aware about physical therapy because in higher studies the more educated you become and the more knowledge you get the more you take care of your health, the more the health is taken care of the more people rely on exercises for many health related issues and physical therapy is the most reliable one. education was also significant in our study as it had a ($p\text{-value}=0.000$).

Moreover, among the employed and unemployed interviewees the more aware about Physical therapy were employed subjects (94.6%), as employment is directly proportion to education e.g. the more the educated, the better the chances of employment. It had a ($p\text{-value}=0.018$), thus showing significance.

Consultation of Physical Therapy

Association of socio-demographic characteristic among the study population with consultation of physical therapy is discussed, it was seen the variables that showed significance in out study when it comes to consultation were Age, Education, Employment and Ethnicity. Within the age, interviewees equal to or above the age of 79 were consulting a PT for treatment (83.3%), it can be discussed that at this age due to lack of physical activity people tend to have more joint related issues and due to increased

side effects of medicine they rely on exercise therapy or Physical therapy for the treatment. Age had a significance in this current study having (p -value=0.029). when it comes to education, the group that consulted PT for treatment were interviewees going to FA/FSC or High School (75.7%) and the reason for that is at this age Physical activity among the population is on its peak, sports related participation is major priority for many people at this age or belonging from FA/FSC education group, and consumption of medication for treatment is lowest among all the age groups in FA/FSC. Education having significance in current study (p -value=0.005). furthermore, interviewees among employment showed a significance of (p -value=0.029). Most of the interviewees consulting PT for the treatment were employed (68.5%), more the money, more the affordability of Physical therapy as one session of PT in Pakistan costs between 500rs to 1500rs depending on the city and reliability of PT's.

Quetta being one of the diverse cities in Balochistan, a lot of ethnic groups lives in this city with Punjabi and Pashtun people among the educated ones. The more the educated the more you rely on Physical therapy as people learn more about importance of physical therapy or physical activity in their daily life, .e.g., people who start their day by a morning walk tend to have less mobility related issues in their daily life. In the current study interviewees belonging to ethnic group of Punjabi (74.5%) consulted PT for treatment. Ethnicity showed a significance in current study when it comes to PT consultation (p -value=0.002)

Conclusion

Physical therapy as a growing profession in Balochistan needs a lot of recognition among the population of Baluchistan. The more the people are aware of the benefits of Physical therapy throughout their lives the more people will consult a Physical therapist for treatment of many health-related problems with Joint pain being the major problem. This can be easily overcome by doing Physical therapy awareness campaigns especially in Geriatric care. Ad's related to PT on social media as well as on billboards are a must to get people aware of physical therapy benefits. Screening campaigns about physical therapy in different educational institutes to cover all major age groups as well as education groups. This all should be done so that people can take advantage of Physical therapy in preventing, improving and maintaining their lifestyle.

Study limitations

Cross-sectional design and being a study from a single center are the major limitations associated with the current study, so its results could not be generalized. A multi-center study with large study participants is recommended to confirm the findings of the current study.

REFERENCES

Kooijman, M., et al. (2013). "Patients with shoulder syndromes in general and physiotherapy practice: an observational study." *BMC Musculoskeletal Disorders*

Stefane, P., et al. (2021). "Self-referral to physiotherapy in older adults: findings from the European Health Interview Survey." *European Journal of Physiotherapy*: 1-6.

Ahmad, Z. and Z. Shah (2021). "Awareness of physical therapy among medical doctors in Swabi." *Rehman Journal of Health Sciences* 3(1): 43-47.

Abdullah, Abdullah, Darain, H. Uddin, A., Ali, S., & Ali, B. (2019). Awareness of physiotherapy in electronic media Peshawar. *Annals of Allied Health Sciences*, 5(1), 14-19

Maruf, F., et al. (2012). "Awareness, Belief, Attitude and Utilization of Physiotherapy Services in a Nigerian Population." *Journal of the Nigeria Society of Physiotherapy* 20: 26-34.

Dissanayaka, T. and S. Banneheka (2014). "Awareness in Physiotherapy among High School Students." *International Journal of Scientific and Research Publications* 4.

Ameer Shaikh, H., et al. (2019). "Physiotherapy Awareness Among Community Health workers-A Survey." *International Journal of Scientific and Engineering Research* 10: 646-650.

Devanshi Doshi, Mariya Jiandani, Rucha Gadgil, Neha Shetty. physiotherapy awareness in medical and non-medical population: a social media survey. *Int J Physiotherapy Res* 2017;5(2):1971-1975. DOI: 10.16965/ijpr.2017.119

Smruti Swagatika Dash. awareness of physiotherapy & its scope among women in a community- a survey. *Int J Physiotherapy Res* 2019;7(6):3331-3335. DOI: 10.16965/ijpr.2019.198