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RESEARCH ARTICLE

IN TELEHEALTH, PHYSIOTHERAPISTS CAN TRIAGE ORTHOPEDIC WAITING LISTS: PILOT STUDY

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Abstract

Objectives: The purpose of this study is to understand the reasons for long waiting lists in orthopedic screening clinics in terms of duration and quantity, as well as to examine physical therapy visibility as an alternative form of management to improve the patient journey according to individual current needs through Telehealth.

Background: In public hospitals, there is typically a significant waiting period for outpatient orthopedic appointments with specialists. Subsequently, patients often face another waiting period if surgery is deemed necessary. Unfortunately, individuals with greater medical urgency are seldom given priority, which can lead to heightened morbidity for those who have to wait. Furthermore, alternative care options are generally unavailable during this waiting period.

Methods: The current study implemented a telephone triage method executed by two physiotherapists to evaluate new patients on the waiting list of an orthopedic screening clinic. The research took place at Qatif Central Hospital in the Eastern province of Saudi Arabia, spanning from October to December 2021. Telephone triage involves remotely assessing patients over the phone to determine the nature of their condition and determine if physical therapy could serve as a viable alternative treatment option. To ensure consistency in evaluations, the physiotherapists utilized a standardized instrument consisting of a predetermined set of questions and prompts.

Results: It was found that 66% of participants experienced a three-month waiting period for their appointments. Additionally, the study revealed a significant number of referrals originating from primary health centers (81%), with knee osteoarthritis being the most commonly diagnosed condition (45%). Another notable finding is that 72% of cases were considered suitable for physical therapy as an alternative treatment option.

Conclusion: Integrating physiotherapists into telephone triage for orthopedic outpatient appointments presents a valuable chance to address and prioritize lengthy waiting lists for orthopedic services. This approach offers cost-effectiveness and substantial benefits for

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institutions facing challenges in managing their orthopedic waiting lists.

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Introduction:-

In the last 30 years, musculoskeletal disorders have been a major cause of disability (1, 2), and their socioeconomic burden is evident (3). It is estimated that 30% of primary care consultations are related to musculoskeletal disorders (4), making it the second-highest reason for consulting a general practitioner (GP) (5). GPs typically refer patients to orthopedic surgeons for consultation, investigations, and/or interventions, although some studies indicate that only about 40% of patients require orthopedic intervention (6-8). Hence, the global healthcare system faces the critical challenge of improving access to orthopedic consultations that are timely and high quality for people who need them most, while simultaneously providing alternative care pathways that are equally cost-effective and effective to those who do not require the intervention of orthopedic surgeons (8).

Thus, in the last two decades, alternative models of care, such as physiotherapist-led (PT-led) orthopedic triage, have been explored, mostly in Australia, Canada, Ireland, the UK, and Sweden (3, 9). As part of this model of care, a physiotherapist (PT) assesses, diagnoses, and manages orthopedic patients referred for consultation by an orthopedic surgeon (OS) (10, 11). For the fact that PTs cost the health system half as much as an OS and reduce referral rates for investigation (9, 12), PT-led triage could be an effective means of addressing growing waiting lists and ensuring that patients who need orthopedic consultations receive them faster.

With the increasing use of technology to enhance health services (6), telehealth is becoming a more viable alternative to deliver health interventions. Health services delivered remotely by electronic communication media (e.g., websites, telephones) aim to improve individuals' health status, reduce healthcare costs, and overcome geographic barriers (7, 13).

Objectives:-

The purpose of this study is to understand the reasons for long waiting lists in orthopedic screening clinics in terms of duration and quantity, as well as to examine physical therapy visibility as an alternative form of management to improve the patient journey based on individuals' current needs through Telehealth.

Research Question

In orthopedic screening clinics, what kind of cases are awaiting? Does physical therapy appear to be an alternative treatment option for those patients?

Methodology:-

The present research employed a telephone triage approach executed by two physiotherapists to assess new patients on the waiting list of an orthopedic screening clinic. The study was conducted at Qatif Central Hospital in the Eastern province of Saudi Arabia, spanning from October to December 2021. Telephone triage involves remotely evaluating patients over the phone to determine the nature of their condition and ascertain whether physical therapy is a viable alternative treatment option. To ensure consistency across assessments, the physiotherapists utilized a standardized instrument. In March 2022, the same physiotherapists employed telehealth calls to remotely provide healthcare services to patients at the Rehabilitation Center within the hospital. Telehealth involves utilizing telecommunications technology to deliver healthcare services remotely. A semi-structured questionnaire was administered during the telephone triage assessments and telehealth calls to collect data. The questionnaire encompassed a predetermined set of questions and prompts, offering a structured framework for the conversation while also allowing flexibility for the inclusion of additional information as deemed necessary. The administration of the questionnaire was facilitated by employing a Google form, an online tool designed for the creation and management of surveys.

Result:-

This study aims to examine the types of cases present in the waiting list of an orthopedic screening clinic between Oct to Dec 2021 in Qatif Central Hospital, located in the Eastern province of Saudi Arabia. Telehealth calls were

made by two physical therapists over one month (March 2022) at the Rehabilitation Center in the same hospital. Data was collected using a semi-structured questionnaire looped in a Google form.

After processing the data, a 70% response rate was found, with some non-responses due to incorrect contact information. For instance, the fact that the majority of cases were in the age group of 46 years or older could be indicative of the prevalence of musculoskeletal disorders in older populations, which is a common finding in many studies related to orthopedic issues. Of the respondents, 59% were female and 41% were male, as shown in Table 1.

Demographic	Frequency	Percentage
patient age		
>20	7	12%
21-45	18	31%
46<	33	57%
sex		
Female	34	59%
Male	24	41%

Table1:- Cases frequency distribution by age group and gender.

Additionally, the fact that 66% of respondents reported waiting for their appointment for three months could be indicative of the demand for orthopedic services and the need for more resources to reduce wait times. Furthermore, the high percentage of referrals from primary health centers (81%) suggests that there is a strong demand that requires a review referral system in place to direct patients to the appropriate level of care. This is an important aspect of healthcare delivery as it ensures that patients receive timely and appropriate care based on their needs as seen in Table 2.

Waiting time		
Months	Frequency	Percentage
0	2	3%
2	12	21%
3	38	66%
4	6	10%
conversion from		
Health centers	47	81%
inside the hospital	10	17%
out of the hospital	1	2%

Table2:- Cases frequency distribution by waiting time and referrals source.

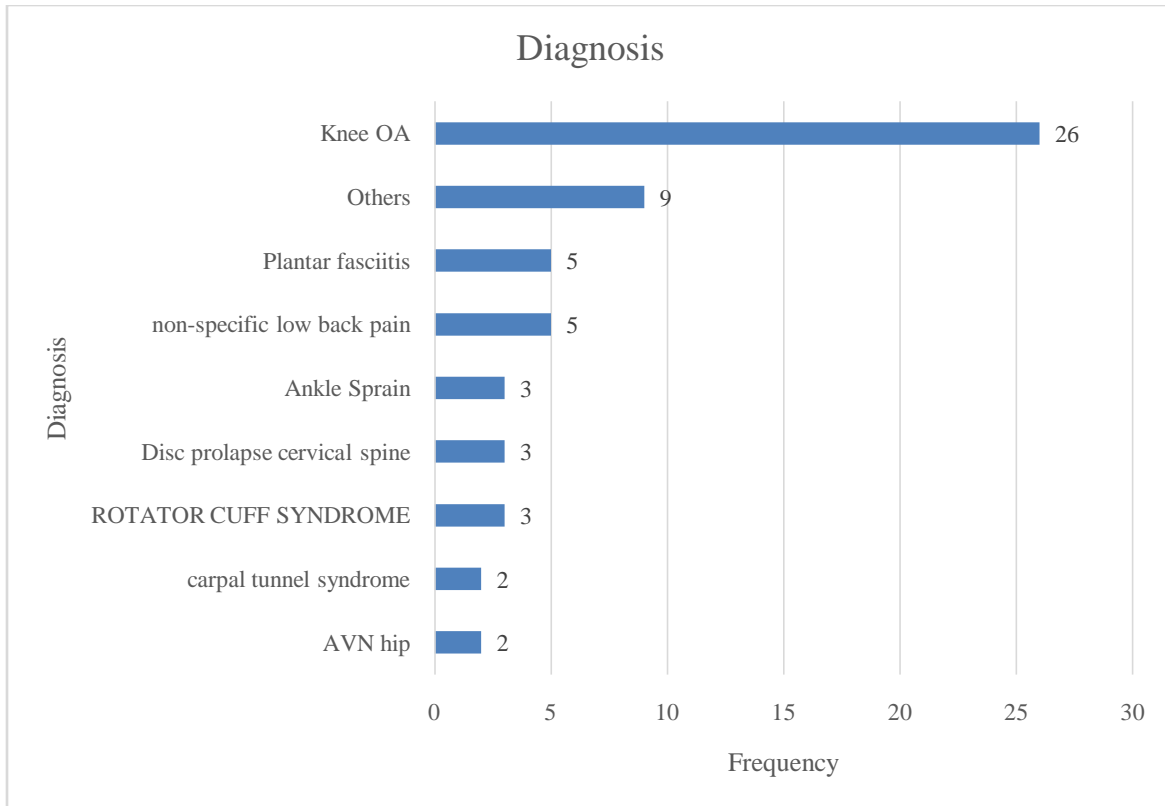
The fact that knee osteoarthritis was the most common diagnosis (45%) is also in line with previous research that showed that knee osteoarthritis is a prevalent condition in those population groups. This finding could help inform the development of targeted interventions and treatment plans for patients with knee osteoarthritis, as illustrated in Graph 1.

Finally, the fact that physical therapy was a suitable alternative for 72% of cases is an interesting finding. This suggests that there may be opportunities to use physical therapy as a viable treatment option for some orthopedic conditions, which could potentially reduce the need for more invasive treatments or surgeries.

The study included an analysis of out-of-pocket costs, revealing that 21% of the responses indicated visits to private orthopedic consultants, while an equal percentage reported seeking private physical therapy services.

Discussion:-

This study presents an opportunity to examine the potential impact of a physiotherapy-led telephone triage initiative on a lengthy orthopedic outpatient waiting list. The intervention involved the utilization of a standardized set of questions to assess patients' needs. As a result, this approach improved both the accessibility and timeliness of appropriate care.



Graph1:- Case frequency distribution by diagnosis.

The decision to prioritize physiotherapy as a primary management option is a significant paradigm shift in healthcare. This change reflects a growing recognition of the potential benefits of physiotherapy in addressing musculoskeletal conditions and the desire to optimize patient care by providing timely and appropriate treatments. Four cohort studies demonstrated statistically significant differences in patient satisfaction, with a preference for physical therapist-led orthopedic triage (3, 10, 14, 15). Factors such as the nature of the condition, patient preferences, and clinical judgment influence the decision to refer patients to physiotherapy. Evaluating the outcomes of patients who undergo physiotherapy before canceling their outpatient clinic appointments can indicate the effectiveness of this approach. It is important to assess whether patients could have been directed to physiotherapy earlier to avoid waiting periods and optimize resource allocation. The presence of strong concordance between physical therapists (PTs) and other medical professionals in terms of treatment approach, whether conservative or surgical, holds significance for the safety and efficacy of PT-led orthopedic triage. It is crucial to ensure that PTs do not provide a substandard level of assessment and decision-making. This concern is supported by the findings from seven cohort studies (3, 10, 15-19). The success of physiotherapy as a primary management option depends on factors such as the expertise of physiotherapists, the availability of suitable treatment modalities, and clear referral and treatment guidelines. Continual evaluation of patient outcomes, satisfaction, and cost-effectiveness is essential to determine the long-term viability and effectiveness of this approach (3, 20).

The study finding that 66% of respondents experienced a three-month wait for their orthopedic appointments highlights the significant demand for orthopedic services and the need for additional resources to address prolonged waiting times. Extended waits can negatively impact patients, leading to increased pain, functional limitations, and reduced quality of life. Understanding the factors contributing to this high demand is crucial for healthcare providers and policymakers to allocate resources effectively and improve access to timely orthopedic care. Strategies to reduce wait times include increasing orthopedic specialists, expanding healthcare facilities, implementing efficient scheduling systems, optimizing patient triage, and utilizing telemedicine solutions. In a randomized controlled trial by Samsson and Larsson, patients receiving physical therapist-led orthopedic triage experienced significantly shorter waiting times compared to those receiving standard care (mean 19 days vs. 28 days). This finding was supported by another cohort study, which also reported significantly shorter waiting times with PT-led orthopedic triage (15). Collaboration among stakeholders is essential for evaluating current capacity, identifying areas for improvement,

and implementing evidence-based strategies to enhance orthopedic services, leading to improved patient outcomes and satisfaction. The results obtained by the authors were consistent with previous research findings (3, 19-21). Taking into account the cost advantage of physical therapists (PTs) compared to orthopedic surgeons (OS), with PTs costing approximately half as much (22), and their ability to decrease referral rates for investigations (9, 12), the implementation of PT-led triage has the potential to be a cost-effective approach in addressing the growing issue of waiting lists. By ensuring that patients in need of orthopedic consultations receive timely care, PT-led triage can contribute to improving healthcare efficiency. Moreover, the notable reduction in waiting times observed with PT-led triage models (9, 15) can further impact economic parameters positively.

The high percentage (81%) of referrals originating from primary health centers highlights the demand for healthcare services in the community. Primary healthcare providers play a crucial role in identifying patient needs and initiating referrals to specialized clinics or hospitals. Improving the referral system with clear guidelines and effective communication channels can ensure timely and suitable care, optimizing outcomes and resource allocation. Benefits include timely access to specialized care, better outcomes, and improved patient satisfaction. In their study, Samsson and Larsson (9) observed a statistically significant decrease in the proportion of patients requiring investigations when receiving physical therapist-led orthopedic triage compared to standard care. The referral rate for investigations was 17% in the PT-led group and 29% in the standard care group, a difference of -12%. Strategies to enhance the system include education and training for primary healthcare providers, clear communication channels, and electronic referral systems. Regular evaluation and feedback are important for monitoring effectiveness and identifying areas for improvement. Optimizing the referral system improves patient care, outcomes, and resource utilization.

The finding that knee osteoarthritis is the most commonly diagnosed condition, accounting for 45% of cases, confirms previous research on its high prevalence (23-26). Knee osteoarthritis is a degenerative joint disease characterized by cartilage breakdown, resulting in pain, stiffness, and functional limitations. The knee joint is particularly susceptible due to its weight-bearing nature and mechanical stress. Factors contributing to its prevalence include age-related changes, genetics, obesity, previous joint injuries, and occupational factors. Recognizing the prevalence of knee osteoarthritis is vital for developing prevention, detection, and management strategies. This entails addressing modifiable risk factors, promoting healthy lifestyles, and ensuring access to evidence-based treatments. Research on knee osteoarthritis covers epidemiology, risk factors, pathophysiology, diagnostics, and treatments, including exercise, physical therapy, weight management, pharmacological interventions, and surgery. Understanding its impact allows for tailored interventions and guidelines to improve patient outcomes, quality of life, and healthcare system efficiency.

The finding that physical therapy was a suitable alternative treatment option for 72% of cases has significant implications for orthopedics. Although the utilization of telephone triage as a strategy to address staffing deficiencies is not a novel approach (27), prior research has provided evidence that physiotherapists, when functioning within their defined scope of practice, demonstrate the ability to proficiently direct triage patients within the context of an orthopedic clinic (19). The available evidence regarding the effectiveness of physical therapist-led orthopedic triage is steadily growing, with a specific emphasis on evaluating process outcomes. Our findings align with previous reviews (28-31), which highlighted a limited level of certainty regarding the positive impacts of PT-led orthopedic triage on both patient and process outcomes. Physical therapy shows promise as a non-invasive and conservative approach to managing orthopedic conditions. It focuses on improving strength, flexibility, and mobility, leading to enhanced functional outcomes and quality of life. Physical therapy may also reduce pain and inflammation and minimize the risks associated with invasive treatments or surgeries. Its personalized and holistic approach allows for targeted interventions tailored to individual needs and goals. However, it's important to consult healthcare professionals to determine the suitability of physical therapy for specific conditions and individuals, considering factors such as severity, medical history, and preferences.

Conclusion:-

The involvement of physiotherapists in telehealth triage for patients scheduled for orthopedic outpatient appointments presents an opportunity to restructure and prioritize a lengthy waiting list for orthopedic services. This approach provides a cost-effective solution and yields substantial benefits for institutions grappling with the management of their orthopedic waiting lists.

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