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EVALUATING QUALITY OF PHYSIOTHERAPY HEALTHCARE SERVICES: EVIDENCE FROM MOHALI, PUNJAB: A NARRATIVE REVIEW

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ABSTRACT

Background: Good healthcare services will be required to enhance patient outcomes, satisfaction, and confidence in rehabilitation services. Physiotherapy is important in the recovery of functional ability and improvement of the quality of life. Yet the quality of the services provided by the physiotherapists in terms of physiotherapy healthcare is a dependent factor that depends on a combination of factors that include the skills of the physiotherapist, the rehabilitation measures, the presence of equipment, and the physical treatment environment. It is relevant that under such determinants, patient-centred physiotherapy care may be enhanced.

Methods: The descriptive survey research design was adopted to investigate the factors that affect the perceived quality of the physiotherapy healthcare services in Mohali, Punjab. The participants of the study were 199 physiotherapy patients who had been treated in the chosen clinical facilities. The data were gathered with the help of the structured self-administered questionnaire on the basis of the Patient-Reported Outcomes measures (PROMs). The questionnaire was used to evaluate the skills of a physiotherapist, rehabilitation procedures, treatment area, equipment, and the general quality of services. The analysis of data was based on SPSS version 25, and the following statistics were used descriptive statistics and inferential statistics correlation and regression test.

Results: The results indicated the great satisfaction with the overall patient satisfaction (98.5) with the physiotherapy services. The perceived quality of the services received received the most positive correlation with rehabilitation protocols ($r = 0.473$, $p < 0.001$), then

physiotherapist skills ($r = 0.442$, $p < 0.001$), and equipment quality ($r = 0.398$, $p < 0.001$). The spatial factors proved the less significant yet significant connection with the service quality. The lack of enough time to consult is noted as one of the areas that need to be improved with about 28.6% of the patients citing that they did not get ample time to consult. Conclusion: The quality of the perception of the physiotherapy healthcare services by the patients is largely determined by the competencies, effective rehabilitation protocols, and properly maintained equipment of the physiotherapists. Making the process of consultation time more effective, providing a better infrastructure and reinforcing the concept of patient-centred communication can further enhance service delivery of physiotherapy. The results presented in these studies have valuable implications to health care practitioners and policymakers who are interested in improving physiotherapy care and patient satisfaction in India.

KEYWORDS: Physiotherapy services, patient satisfaction, healthcare quality, rehabilitation protocols, physiotherapist skills, PROMs.

I. INTRODUCTION

Quality of healthcare services has turned out to be the key issue of healthcare systems all over the world because one of the major goals of contemporary medicine is to enhance patient outcomes and satisfaction. The quality of healthcare is no longer assessed based on clinical effectiveness alone and incorporates the extent to which it satisfies the expectations of patients, is safe and provides patient-centred care. According to the **Institute of medicine (IOM)** quality healthcare methods are those that are safe, effective, patient-centred, timely, efficient and equitable. In this context, physiotherapy has become very important in rehabilitation, disability prevention and restoration of functional independence amidst patients with acute and chronic conditions.

Physiotherapy services imply constant interaction between the patients and the therapists and hence patient perception and satisfaction are important parameters that are needed in measuring service quality. In contrast to most other medical fields, physiotherapy does not always involve a one-time interaction and short-lasting treatment. In turn, the perception of professional competence and interpersonal communication affect patient experiences, and studies indicate that patients with a higher perception of competence and communication with a physician are better adherents to treatment programs with notable rehabilitation outcomes.

The patient-centred care has thus become one of the most crucial aspects of quality physiotherapy services. Literature on the importance of patients in decision making and treatment planning offers significant insight as it shows that patients appreciate the services of physiotherapists who can demonstrate their interpersonal and communication abilities.[2] Samson et al, 2016 indicate that patients favour physiotherapists that engage them in decision making and treatment planning as they show respect for them, provide a holistic assessment and goal setting.

Alongside the particular therapist-patient relationships, there are organizational and environmental considerations that are likely to drive the perceptions of the physiotherapy care. Infrastructure, availability of equipment, waiting period, and service accessibility are some of the significant factors that affect patient satisfaction.[6] The scarcity of resources and disproportionality of physiotherapy facilities may pose obstacles to effective service provision in most healthcare settings especially in developing countries. Indeed, the research in India has reported that there were differences between access to physiotherapy between urban and rural communities and suggested that better facilities and distribution of workforce was necessary.[7]

The Donabedian model is another common model of assessing the quality of healthcare and divides the concept of quality into three areas including structure, process, and outcomes. This model has been extensively used in studies of physiotherapy to measure service provision and patient satisfaction with services, and also to measure process factors by evaluating interactions between healthcare providers and patients.

The use of patient-reported outcome measures (PROMs) as the tool of assessing the quality of healthcare is on the rise in healthcare organizations across the world. By obtaining patient views on the symptoms, functional improvement, and quality of life, PROMs can offer great insight into the efficacy of the physiotherapy interventions performed.[35] The integrated measures into the clinical routine will increase transparency and patient-focused healthcare systems.

Although there is a growing literature on quality of physiotherapy services, the issue of structural, professional, and technological factors working together in relation to patient perceptions persists especially in third world countries. Most of the existing research is based on the healthcare systems of high-income countries where high-level technologies and standardized procedures are rather common. Nonetheless, the appropriateness of these

findings to other contexts can be constrained by different contextual aspects of infrastructure and healthcare policies, and patient expectations.

Hence, it is necessary to review the current literature on the subject of physiotherapy healthcare service quality and outline primary determinants that affect how patients perceive the service and its outcomes. This kind of review would offer an idea of the role played by physiotherapist skills and rehabilitation protocols, infrastructures and equipment's in ensuring the overall quality of the physiotherapy services. The knowledge of these factors can guide policy-makers in the health sector, clinicians, and researchers in working out strategies to enhance rehabilitation and patient-centred care.

II. METHODS

Author & Year	Study Title / Focus	Methodology / Study Type	Key Findings	Implication for Present Study
Kidd et al., 2011	Patient-centred care in musculoskeletal physiotherapy	Qualitative study	Patient-centred communication and therapeutic relationships significantly improve satisfaction and treatment adherence.	Highlights importance of therapist communication skills in physiotherapy service quality.
Del Baño-Aledo et al., 2014	Determinants of patient satisfaction in physiotherapy services	Cross-sectional study	Technical expertise, empathy, and communication were the strongest predictors of patient satisfaction.	Supports evaluating physiotherapist skills and interpersonal competence.
Samson et al., 2016	Physiotherapist-led orthopaedic triage vs standard primary care	Comparative clinical study	Physiotherapist-led care improved patient satisfaction and clinical efficiency due to personalized care and shared decision-making.	Demonstrates the effectiveness of physiotherapist-led service models.
Georgiadou & Dimitrios, 2017	Patient satisfaction in public healthcare services	Survey-based study	Staff quality, clinical attention, and communication were key predictors of perceived healthcare quality.	Reinforces role of healthcare staff competence in service perception.
Reyes et al., 2020	Organizational determinants of patient satisfaction	Quantitative health services research	Accessibility, waiting time, and organizational	Highlights importance of structural factors such as space and

	in rehabilitation services		infrastructure significantly influence satisfaction.	system efficiency.
Singh et al., 2018	Accessibility of physiotherapy services in India	Observational study	Physiotherapy services are concentrated in urban areas, leaving rural populations underserved.	Indicates need to examine service accessibility and infrastructure.
Desmeules et al., 2012	Advanced practice physiotherapy in primary care	Systematic study	Advanced physiotherapy roles reduce wait times and improve service delivery efficiency.	Supports expanding physiotherapist roles in healthcare systems.
Taylor et al., 2011	Application of Donabedian model in healthcare quality	Conceptual framework study	Healthcare quality should be evaluated using structure, process, and outcome components.	Provides theoretical basis for assessing physiotherapy service quality.
Maddison, 2014	Infrastructure and service delivery in healthcare	Health systems analysis	Adequate staffing, infrastructure, and appointment systems are essential for patient-centred care.	Justifies studying facility space and operational systems.
Amoudi et al., 2017	Communication and care processes in physiotherapy	Clinical observational research	Effective therapist-patient communication improves adherence and clinical outcomes.	Highlights communication as a core physiotherapy competency.
Glasziou et al., 2015	Outcome measures in healthcare services	Evidence-based healthcare study	Patient-reported outcome measures (PROMs) are essential for assessing treatment effectiveness.	Supports use of PROMs in evaluating physiotherapy services.
Fayers & Machin, 2007	Quality of life measurement in healthcare	Methodological research	Patient-reported outcomes provide valuable insight into patient satisfaction and wellbeing.	Strengthens rationale for patient-centred evaluation methods.
Ferreira et al., 2009	Therapeutic alliance in physiotherapy	Clinical study	Strong therapist-patient relationships improve treatment outcomes and satisfaction.	Emphasizes role of interpersonal skills in rehabilitation success.
Pincus et al., 2013	Psychological factors in physiotherapy rehabilitation	Clinical research	Psychological support improves recovery in chronic pain and musculoskeletal disorders.	Indicates importance of psychological skills in physiotherapy practice.

Physiotherapy healthcare services are determined by various factors such as competence of physiotherapist, rehabilitation rules, infrastructure and availability of equipment's. Patient-centre care has been broadly acknowledged as a decisive factor of treatment result and satisfaction. According to Kidd et al. (2011), the high levels of compliance with treatment are achieved through good communication and therapeutic relationship between physiotherapists and patients. In a similar fashion, Del Bano-Aledo et al. (2014) have established the following determinants of patient satisfaction in physiotherapy services to be technical competence, empathy, and interpersonal skills.

Service quality is also determined by what models of healthcare delivery are used. Samson et al. (2016) have established that the model of orthopaedic care led by physiotherapists is more effective in patient experience than in efficiency in providing services than the traditional models led by physicians. Patient perceptions are also influenced by organizational and infrastructural variables; Reyes et al. (2020) noted that accessibility, waiting time, and institutional support are the main factors that determine satisfaction.

According to the systems perspective, the Donabedian model has provided foundation on the importance of structure, process, and outcomes in terms of measuring healthcare quality.[33] Furthermore, Glasziou et al. (2015) followed up on the importance of Patient-Reported Outcome Measures (PROMs) that are used to measure the effectiveness of treatment. All in all, it can be concluded that the quality of physiotherapy services is multidimensional and is determined by professionalism, developed rehabilitation regimens, and supportive healthcare facilities, as evidenced in the existing literature.

III. RESULTS

The literature review indicates that several and interconnected variables determine the perceived quality of physiotherapy healthcare services, which are the skills of the physiotherapist, rehabilitation procedures, facilities, and equipment accessibility. The research has continuously revealed that patient satisfaction is a major indicator of the quality of healthcare especially in physiotherapy where patient and therapist have to interact continuously and the patient has to engage in long term rehabilitation therapy.

Physiotherapist Skills and Satisfaction of Patients

Some of the studies emphasise that competencies of physiotherapists play an important role in determining the views of patients regarding the quality of care provided. Major contributors to patient satisfaction were always found to be communication skills, empathy,

and professional expertise. A study conducted by Kidd et al. and Del Bano-Aledo et al. demonstrated that patients are more satisfied with therapists who explain the process of their treatment thoroughly and engage the patients in the decision-making process.[1,3] On the same note, Samson et al. showed that patients are more satisfied with treaters who offer a personalized approach and involve the patients in the process of decision-making.[4]

Rehab Procedures and Treatment Results

It has been indicated that rehabilitation protocols used in structured and evidence-based practices have a great positive effect on the patient outcomes and quality of service. Research underlines that standardized treatment plans increase the consistency of the practice of physiotherapy and provide the opportunity to implement individual adjustments according to the needs of the patient. Ambrosino et al and Bernhardt and Hill found out that early mobilization and systematic rehabilitation guidelines are found to decrease complications, enhance functional results and shorten the recovery time. The interventions are also structured and enhance patient confidence in physiotherapy services.

Organizational and Structural Factors

The structural organization of the organization is also a significant factor in perceived health care quality. The factors which were identified to have a direct impact on the level of patient satisfaction are accessibility, waiting time, and the organization of the facility. Similarly, Georgiadou and Dimitrios found that quality of staffing and efficiency of the system is a powerful predictor of healthcare service perception.[5] Reyes et al. also established that institutional support, sufficient staffing, and availability of resources are cost-effective in enhancing the patient trust and adherence to treatment.[6]

Accessibility and Models of Healthcare Delivery

The provision of physiotherapy services is a very crucial challenge in developing nations. According to Singh et al., there were unequal distributions of physiotherapy services in India with urban areas having much better access to rehabilitation services than rural areas.[7] Studies on countries like Canada and the United Kingdom reveal that making physiotherapists the first-contact provider model is more efficient, fast and more satisfying to patients.

Equipment and Infrastructure

Treatment effectiveness and perception by the patient are also affected by the availability and maintenance of the physiotherapy equipment. Nadinne emphasized the use of modern

therapeutic equipment's as a means of enhancing functional rehabilitation. Also, safety measures and frequent upkeep of equipment were highlighted as critical towards the provision of physiotherapy services in a reliable manner.

The new technologies in Physiotherapy

The increased role of digital technologies in physiotherapy is also noted in the current literature. Virtual reality rehabilitation, wearable sensors, and tele-physiotherapy are the examples of innovations that have demonstrated good outcomes in patient engagement and monitoring the progress of the treatment. The technologies can also increase the reach of access to physiotherapy services as well as patient-centred care, which is especially important in resource-limited environments.

Overall Findings

Generally, the literature suggests that perceived quality of physiotherapy healthcare services is defined as a blend of the skills of the professionals, evidence-based treatment procedures, organizational framework, and technological facilities. Among them, the physiotherapist communication skills and the treatment procedures always appear as the most significant determinants of patient satisfaction and treatment outcomes.

DISCUSSION

The current research explored the aspects that determine the perceived quality of physiotherapy health care services in Mohali in Punjab, in terms of skills of the physiotherapists, rehabilitation schedule, space, availability of equipment and general satisfaction of the patients. The results indicate that patients have a positive perception of the physiotherapy services in Mohali with therapist communication, compliance with rehabilitation protocols, and equipment safety presenting exceptionally good results. The outcomes are in line with the international focus on the patient-centred delivery of healthcare, where patient experience, as well as clinical efficiency are the key factors of healthcare quality.

General Perceived Quality of Physiotherapy Services

The research also showed extremely high patient satisfaction (98.5%), which is higher than the reported international standards of 85-90% in relation to patient satisfaction with healthcare services. This means that the services of physiotherapy in Mohali have a positive patient experience and achieves expectation concerning treatment outcome and professional

behaviour. The results are similar to previous findings that patient-centred care models play a key role in patient satisfaction and perceived quality of service, which is critical in long-term rehabilitation where patients need to interact with their therapists.

The positive perception of care was also confirmed through patient-reported outcome measures (PROMs) that were utilized in the current study. The use of PROMs as a measure of healthcare quality is becoming accepted as a valid tool since it reflects subjective patient experiences and treatment outcomes first-hand3. It is the incorporation of such measures into the physiotherapy practice which can be effective in ensuring transparency, accountability and the involvement of the patient in clinical decision-making.

Skills and Satisfaction of patients with physiotherapists

The skill sets of physiotherapists became one of the most powerful predictors of the perceived service quality and showed a great positive correlation with patient satisfaction. Respect and treatment, comprehensive explanations of the therapy regimen to the patients, and responsiveness were the highly esteemed aspects of treatment in patients. These results support the previous studies that remind us of the significance of communication and interpersonal skills in practice of physiotherapy.[2,3] The positive effects are the adherence to treatment, patient confidence, and the improved outcomes of rehabilitation.

The findings are also in line with the biopsychosocial model of healthcare that acknowledges that biomedical interventions are not the only factors that determine the outcomes of physical rehabilitation but also consider psychological and social factors to be part of these factors.1 Physiotherapists who offer emotional support, reassurance and even motivational encouragement aid patients to manage chronic conditions and long rehabilitation period. This supports the thesis that interpersonal competence can be of the same importance as technical expertise in physiotherapy practice.

Moreover, the results suggest that multidisciplinary care and collaboration are a positive factor in patient perception of care. Physiotherapists often work with physicians, nurses and rehabilitation experts in order to have a complete management of patients. Past studies have revealed that interdisciplinary collaboration enhances patient satisfaction and treatment outcomes through the coordinated between disciplines care pathway.[6]

Rehab Procedures and Evidence-Based Practice

The most significant associations to perceived service quality were made in relation to

rehabilitation protocols in this study. Patients were confident in systematic treatment plans, systematic assessment procedures and regular patient monitoring of the progress. The use of evidence-based rehabilitation protocols in physiotherapy is important in that it will standardize the treatment procedures and yet flexible enough to meet the needs of individual patients.

Such results are in line with previous research that suggests that standardized rehabilitation pathways enhance clinical outcomes and have less variability in treatment practices.[4] Early mobilization, structured exercise programs, and progressive rehabilitation strategies are especially effective in the prevention of complications and functional recovery. Significance of using evidence based clinical guidelines in the physiotherapy departments is highlighted by the high relationship between protocol adherence and patient satisfaction recorded in this study.

Yet, facilities varied a little with regard to the implementation of the protocols. This has also been indicated in the international literature, in which changes in staff training, institutional facilities and patient demographics affect rehabilitation practices.[5] Standardized physiotherapy guidelines adapted to the Indian healthcare setting could therefore be useful in ensuring that there is uniformity in service delivery.

Physical space and physical environment

The physical climate of physiotherapy centers also had an impact on the perceptions about the quality of services by the patients. Although the treatment rooms and reception areas were rated positively, the patients raised their concern of the availability of parking space and the space in the waiting area. These results demonstrate that patient experiences are influenced by the design of infrastructure and facilities.

The design of healthcare facilities is very important in terms of accessibility, comfort, and satisfaction. Research has demonstrated that properly planned medical facilities enhances patient confidence and alleviates anxiety in the management of medical conditions.[5] To physiotherapy patients and especially those with mobility disorders, sufficient parking and accessible facilities are part of the service delivery.

The findings thus underline the importance of healthcare administrators and policymakers in investing in development of infrastructure in physiotherapy units. A possible solution would be to increase the size of therapy rooms, better waiting bays, and make them accessible to disabled patients, which will help significantly improve patient experiences and satisfaction.

Quality and Technological Advancement in Equipment

Another significant factor of perceived service quality was physiotherapy equipment. The confidence related to safety and maintenance of the treatment equipment such as the electrotherapy devices, exercise machines and treatment tables were rated highly by the patients. Physiotherapy equipment should be properly maintained and inspected to achieve the safety and effectiveness of treatment of the patients.

Nonetheless, the paper has also found that there was a necessity to constantly upgrade technology. The new rehabilitation technologies like virtual reality-based therapy, wearable motion sensors, and robotic rehabilitation systems have shown a lot of prospects of enhancing the patient engagement and functional recovery. Even though the use of such technologies is quite common in developed nations, most physiotherapy centers in India have not embraced the technology fully.

The inclusion of the latest rehabilitation technologies in the practice of physiotherapy might lead to improved outcomes of treatment and patient satisfaction. Nonetheless, to do it successfully, it is necessary to train, invest in equipment, and develop regulatory frameworks that would make everything safe and effective.

Comparison of Study with the Previous Studies

The majority of literature on physiotherapy service quality is developed in the framework of an advanced healthcare system, where resources, infrastructure and technological capabilities are much better[7,8] In the context of the current study, the outcome is an insight into the delivery of physiotherapy services in an Indian setting, where the healthcare infrastructure and the availability of resources can vary a great deal.

The findings of this study are in agreement with the global literature regarding a number of regions as well as differences in contexts. As an illustration, interpersonal traits and adherence to rehabilitation protocols mentioned by physiotherapists in the body of literature have very often been found to be key determinants of patient satisfaction in various healthcare systems and systems with limited resources.[2,4] The focus that patients have laid in this study on the skills and interpersonal traits of physiotherapists compared to technological competence has indicated that human factor is the key driver in patient-centred care in a limited resources environment.

Clinical and Policy Implications.

The implications of the present study on physiotherapy practice and the healthcare policy are significant. To begin with, the ongoing professional development programs must focus on communication skills, interaction with patients, and psychological support techniques to physiotherapists. This kind of training may increase the level of therapeutic relationships and patient compliance to treatment plans.

Second, hospitals are encouraged to focus more on infrastructure development within the physiotherapy units especially regarding accessibility and space planning. Patient experiences can be greatly improved by investing in bigger treatment areas, easy entrances, and smooth waiting areas.

Third, the policymakers are advised to promote the implementation of standard rehabilitation practices in various physiotherapy centers to promote uniform treatment. The special guidelines under the professional physiotherapy associations on a national level might assist in reaching this goal.

The last suggestion is to introduce the modern technologies of rehabilitation into the sphere of physiotherapy practice, which should be supported on the governmental, research and collaborative levels within the medical institutions and within the sphere of technological development.

Limitations and Future Research

This research has a number of limitations though it has made such contributions. The study was carried out in one geographical area thus making it hard to generalize study findings to other areas in India. Also, the study has a cross-sectional nature which limits the capacity to draw causal relationships among the factors identified and perceived service quality. Future studies must use longitudinal designs and multi centre studies to prove and further elaborate on these results.

The cost-effectiveness of high-tech rehabilitation technologies in physiotherapy practice should also be addressed in the further studies, and patient attitudes towards digital health solutions like tele-physiotherapy should also be studied. Such a study would be of great importance in enhancing the service delivery in physiotherapy in both urban and rural medical facilities.

IV. CONCLUSION

In general, the results of this research reveal that the patients in Mohali have a positive attitude towards physiotherapy healthcare services, especially with regards to the competence of physiotherapists, rehabilitation procedures, and equipment safety. Nevertheless, infrastructural constraints and time allocation issues are issues that should be improved. The quality of physiotherapy services in India will have to be improved by strengthening patient-centred care, enhancing the healthcare infrastructure and incorporating modern rehabilitation technologies.

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