



AWARENESS ABOUT ROLE OF PHYSICAL THERAPY IN BREAST CANCER AMONG FINAL YEAR PHYSICAL THERAPY STUDENTS

Fida Hussain^{1*}, Maryam Dilawar², Rumaisa Parvez Akhtar³, Sadaqat Saleem⁴, Saleem Malik⁵, Wareesha Mahmood⁶, Ikram ullah⁷

^{1*}Lecturer Department of Allied Health Sciences City University of Science and Information Technology Peshawar, Pakistan, Fida.hussain@cusit.edu.pk

²Department of Allied Health Sciences City University of Science and Information Technology Peshawar, Pakistan, Maryam9444khan@gmail.com

³Department of Allied Health Sciences City University of Science and Information Technology Peshawar, Pakistan, Rumaisakhan200110@gmail.com

⁴Department of Allied Health Sciences City University of Science and Information Technology Peshawar, Pakistan, Sadaqatsaleem36@gmail.com

⁵Institute of Physical Medicine and Rehabilitation, Khyber Medical University Peshawar, Pakistan, Saleemmalik3376@yahoo.com

⁶Department of Allied Health Sciences City University of Science and Information Technology Peshawar, Pakistan, Wareeshamahmood90@gmail.com

⁷Registered Nurse, Burn and Plastic Surgery Center Peshawar, Pakistan, shanglatiger@gmail.com

***Corresponding Author:** Fida Hussain

^{*}Lecturer Department of Allied Health Sciences City University of Science and Information Technology Peshawar, Pakistan, Fida.hussain@cusit.edu.pk

Abstract

Background: Breast cancer is one of the diseases that has many physical and psychological barriers which are experienced by the patient, and so the treatment must be as efficient as possible. The aim of this study is to assess the awareness as well as attitude towards breast cancer by the undergraduate physical therapy students with focus on PT inpatient treatment.

Methodology: As an objective and quantitative working model, this paper provides a much-needed insight of the particulars of breast cancer symptoms, risk factors and the use of physical therapy in the treatment regime as perceived by the students. The present study identifies issues and gaps in the current and curricular in undergraduate physical therapy programs.

Findings: The study highlights the importance of using nerve gliding, strength training, and posture correction to treat musculoskeletal issues related to breast cancer. It emphasizes the need to include breast cancer and physiotherapy training in the education of future physical therapists, ensuring they have the skills to provide complete care for their patients. Integrating these key practices is essential for preparing physical therapists to meet the full range of needs for those affected by breast cancer.

Conclusion: While studying this problem, the goal of the research was to help improve the competency of physical therapy graduates to address problems connected to breast cancer. It seeks to enhance the effectiveness in the offering of therapies as well as the quality of the care extending to the breast cancer patient via enhancing curriculum and education.

Keywords: Breast Cancer Awareness, Physiotherapy, Undergraduate Physical Therapy Education, Quantitative Study, Health Education, Curriculum Development

Introduction

Breast cancer is one of the most prevalent and dangerous diseases affecting millions of women worldwide. It originates in breast tissue, typically developing in the lobules that produce milk or the ducts that carry it to the nipple (Abdelbasset, 2023). The progression of breast cancer is influenced by a combination of genetic, hormonal, lifestyle, and environmental factors (Eid, 2021). Despite advancements in medical science, breast cancer remains the leading cause of cancer-related deaths among women, emphasizing the need for continued research and comprehensive healthcare policies to combat this disease (Suhail, 2021). Early detection through screening methods such as mammography, ultrasound, or MRI significantly increases survival rates (Osei, 2021). Moreover, treatment modalities including surgery, chemotherapy, radiation therapy, and targeted biological therapies have greatly improved outcomes for many breast cancer patients (Hadi, 2010).

A multidisciplinary approach is crucial in the diagnosis, treatment, and survivorship care for breast cancer patients. This includes the integration of supportive care services, such as physiotherapy, which aims to mitigate the functional and physical disabilities caused by the disease and its treatments (Rahman, 2019). Physiotherapy plays an essential role in breast cancer care, addressing issues like movement limitations, pain, lymphedema, and overall patient well-being (Islam, 2022). Given that many breast cancer patients experience musculoskeletal problems and other physical side effects from treatment, physiotherapists are increasingly recognized as vital members of the care team (Alsaraireh, 2019). They develop personalized rehabilitation programs and teach patients exercise and self-care techniques, which are crucial for recovery and long-term health (Tagne Simo, 2021).

Raising awareness about breast cancer is a critical component of managing this deadly disease. These activities help foster breast health awareness and encourage prompt medical follow-up when irregularities are detected (Getu, 2018). Awareness campaigns also play a significant role in dispelling myths about breast cancer, reducing stigma, and encouraging open discussions about the disease (Roheel, 2023).

The purpose of this study is to assess the knowledge of undergraduate physical therapy students about breast cancer and their profession's role in its treatment (Afaya, 2023). Informed physical therapists can significantly contribute to the comprehensive management of breast cancer patients, helping them recover and improve their quality of life (Noreen, 2015). This study aims to identify educational gaps that could inform curriculum development, ensuring that future physical therapists are well-prepared to manage patients with breast cancer (Kulakci, 2015). The increasing incidence of breast cancer and the evolving role of physical therapy in oncology care highlight the importance of this research (Abo Al-Shiekh, 2021).

Healthcare systems play an indispensable role in the identification, management, and treatment of breast cancer. Imaging, surgery, and oncology are critical components of breast cancer treatment, with physiotherapy supporting other aspects of the body (Rahman, Awareness about breast cancer and breast self-examination among female students at the University of Sharjah, 2019). Early diagnosis, which is crucial for reducing mortality rates, is only possible through screening methods like mammograms. Healthcare professionals must stay current with new diagnostic and treatment techniques to provide the best care for their patients (Alsaraireh, Breast cancer awareness, attitude and practices among female university students: A descriptive study from Jordan, 2018). Additionally, patient education and support services are vital components of healthcare, helping patients understand their conditions, treatment options, and the importance of lifestyle changes to maintain their well-being (Sama, 2017).

Physiotherapists need adequate knowledge about breast cancer to provide comprehensive care. Understanding the functional and physical disabilities that arise from breast cancer and its treatment, they are indispensable in the treatment process (Birhane, 2017). Physiotherapists must be familiar with the various stages of breast cancer, common surgical procedures, and the effects of

treatments like radiation and chemotherapy to develop appropriate rehabilitation programs (Davies, 2020). Enhanced awareness among physiotherapists of the needs of breast cancer patients can lead to better management of conditions such as lymphedema, post-surgical pain, and stiffness (Williams, 2023).

Integrating breast cancer awareness into physiotherapy curricula ensures that future physiotherapists understand the unique challenges faced by breast cancer survivors (Green, 2023). This includes knowledge of screening methods, the importance of timely referrals to oncologists, and an understanding of the psychological impact of breast cancer. Physiotherapists can also promote disease awareness, endorse regular medical check-ups, and advocate for healthy lifestyles that reduce the risk of cancer recurrence (Hindmarch, 2023). By staying informed about the latest research and advancements in breast cancer treatment, physiotherapists can provide the highest quality care (Smith, 2024).

Materials and Methods

This study utilized a cross-sectional survey design to evaluate the knowledge and perceptions of breast cancer and the role of physiotherapy among final-year physical therapy students. The research focused on students from accredited universities in Peshawar, including City University, CECOS University, Iqra University, Sarhad University of Science and IT, and Abasyn University, all recognized by relevant authorities in Pakistan. The objective was to assess students' understanding of breast cancer and their perspectives on physiotherapy's role in its management. Data collection occurred from April 20, 2024, to June 30, 2024, within the universities, ensuring convenient administration of questionnaires and adherence to ethical standards. By involving multiple institutions, the study aimed to capture a wide range of insights from future physical therapists in Peshawar, which could inform curriculum development and enhance educational approaches in physical therapy, particularly regarding breast cancer care.

Ethical approval and consent

Ethical approval was obtained from the relevant institutional ethics committee. Written consent was secured from all participants, ensuring they understood the study's objectives and any potential risks. Confidentiality was maintained, with participants' identities concealed during data analysis. The study adhered to principles of beneficence and complied with the country's ethical standards and regulations.

Data Collection Tools

The data for this study were gathered using a standardized questionnaire sent to final year students physical therapy students in Peshawar, Pakistan. Which contain three portions along with demographic information, questions related to awareness of breast cancer, awareness of role of physiotherapy in breast cancer, and contribution of education curriculum in role of physiotherapy in breast cancer.

Data collection procedure

Permission was taken from the respective universities' authority for the collection of data from their final year students. Verbal informed consent was taken from the selected participants. On the basis of inclusion criteria 150 students were selected as study sample by using disproportionate stratified sampling technique. All records were reviewed from their respective universities.

Data Analysis

After the data collection, the data was analyzed by using IBM SPSS (Statistical package for social sciences). SPSS version 24 would be used for the analysis of the data and compilation of results. Descriptive analysis, Correlation and chi-square were applied for the statistics. All results were calculated at 95% confidential interval and p-value <0.05 considered as significant value. The findings were presented using tables, charts, and graphs to highlight major findings and trends. This

quantitative approach seeks to give empirical information about undergraduate physical therapy students' awareness, knowledge gaps, and views about breast cancer and the function of physiotherapy.

Results

Respective participants 150 were selected as study sample by using disproportionate stratified sampling technique with 95% confidence interval and 5% of margin error.

Table 1: Demographic Gender base classification of participants

Male	72	48%
Female	78	52%
Total	150	100%

Table 2: Demographic Universities base classification of participants

University	Participants	Percentage
City university	30	20%
Abasyn university	30	20%
Iqra university	30	20%
Cecos university	30	20%
Sarhad university	30	20%
Total	150	100%

Table 1 presents the gender distribution of the study participants, with 48% being male (72 participants) and 52% being female (78 participants), totaling 150 individuals.

Table 2 shows the distribution of participants across five universities in Peshawar, with each university contributing 30 students, representing 20% of the total sample. The overall number of participants from all universities is also 150. These tables illustrate a balanced representation in both gender and university participation in the study.

Table 3: Breast Cancer awareness responds of participants

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Familiar with the prevalence of breast cancer and its impact	46	22	6	3	0
Understanding the risk factors associated with breast cancer and the importance of early detection	43	26	5	2	2
Knowledgeable about the symptoms of breast cancer and the significance of prompt medical attention	47	23	6	3	1

Table 3 presents responses on three aspects of breast cancer awareness. For familiarity with the prevalence and impact of breast cancer, 46 respondents strongly agree, indicating a high level of awareness, with 22 agreeing and minimal disagreement. Regarding understanding risk factors and the importance of early detection, 43 strongly agree and 26 agree, showing strong comprehension, with few being neutral or disagreeing. On knowledge of symptoms and the significance of prompt medical attention, 47 strongly agree and 23 agree, demonstrating excellent awareness, while only a few are neutral or disagree. Overall, the table reflects a robust understanding among respondents, with minor areas for improvement.

Table 4: Summary of Responses on Physical Therapy for Breast Cancer Patients

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Aware of the role of physical therapy in managing musculoskeletal issues in breast cancer patients	44	31	9	6	1

Understand the importance of gentle stretching exercises in improving mobility and reducing stiffness	39	33	11	6	1
Recognize the benefits of massage therapy for better healing and relaxation in breast cancer patients	41	29	12	7	0
Familiar with joint movement and mobility exercises that can improve function and quality of life	42	32	10	6	0
Understand the importance of posture training in reducing pain and discomfort associated with breast cancer	43	30	11	5	1
Recognize the value of strength-building exercises in improving overall physical function and well-being	38	35	10	7	0
Aware of nerve gliding techniques that can help alleviate neuropathic symptoms in breast cancer patients	40	31	12	7	0

Table 4 presents responses on the role of physical therapy in managing breast cancer-related issues. Most respondents strongly agree that physical therapy effectively addresses musculoskeletal issues, with high agreement on the importance of gentle stretching, massage therapy, joint movement exercises, posture training, and strength-building exercises. Specifically, 44 respondents strongly agree that physical therapy is beneficial for musculoskeletal problems, and similar strong agreement is seen for the role of gentle stretching (39 respondents) and massage therapy (41 respondents). Awareness of joint mobility exercises and posture training also garners significant support, with 42 and 43 respondents respectively strongly agreeing. The value of strength-building exercises and nerve gliding techniques is recognized by 38 and 40 respondents, respectively. Despite overall positive responses, there are some neutral and disagreement responses, indicating varying levels of awareness or differing opinions on the effectiveness of these interventions.

Table 5: Summary of Responses on the Inclusion of Physiotherapy in Breast Cancer Education

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I believe that education campaigns should include information about the role of physiotherapy in breast cancer.	85	20	10	2	1
I believe that education on breast cancer awareness and the role of physiotherapy should be included in the undergraduate physical therapy curriculum.	83	22	13	4	2

Table 5 displays responses about incorporating information on physiotherapy's role in breast cancer education. The majority of respondents strongly agree that educational campaigns should include details about physiotherapy's role in managing breast cancer. Similarly, there is a strong consensus that such topics should be part of the undergraduate physical therapy curriculum. This suggests a broad agreement on the need for integrating physiotherapy knowledge into both public education and professional training related to breast cancer.

Table 6: Consolidated Summary of Respondents' Attitudes and Knowledge

Category	Agree + Strongly Agree	Neutral	Disagree + Strongly Disagree
Awareness and Attitudes towards Breast Cancer	170	30	35
Knowledge and Role of Physiotherapy in Breast Cancer	397	172	170
Inclusion of Physiotherapy in Education	157	25	16

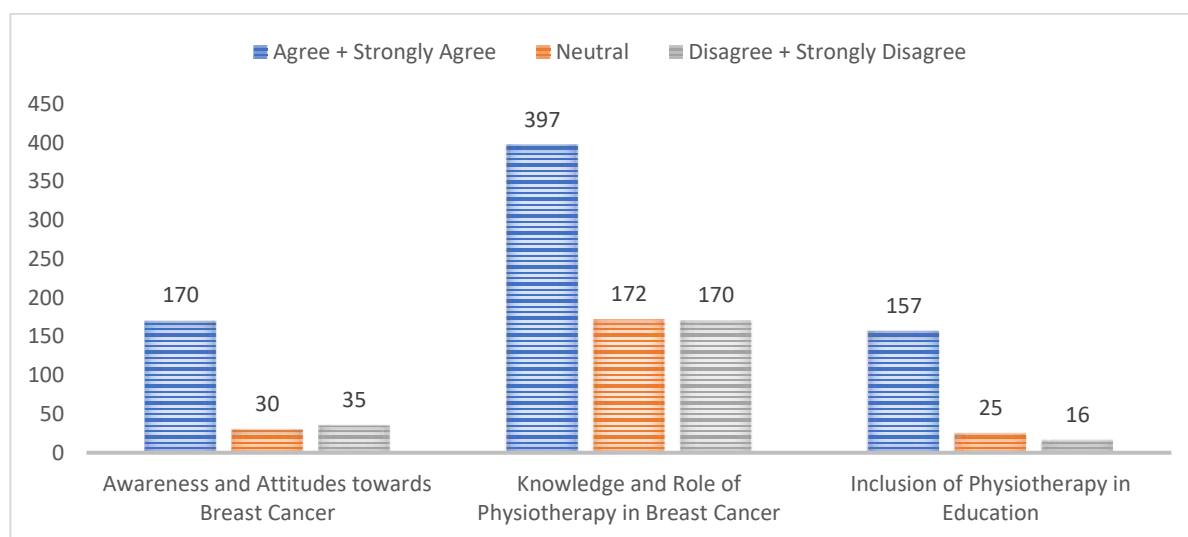


Figure 1: Consolidated Summary of Respondents' Attitudes and Knowledge graph

Table 6 provides a consolidated summary of respondents' attitudes and knowledge on three key aspects. For "Awareness and Attitudes towards Breast Cancer," a total of 170 respondents expressed agreement or strong agreement, while 30 were neutral, and 35 disagreed or strongly disagreed. Regarding "Knowledge and Role of Physiotherapy in Breast Cancer," 397 respondents agreed or strongly agreed, 172 were neutral, and 170 disagreed or strongly disagreed. Finally, in terms of the "Inclusion of Physiotherapy in Education," 157 respondents agreed or strongly agreed, 25 were neutral, and 16 disagreed or strongly disagreed. This table highlights the overall consensus and areas of divergence in respondents' views on these important topics.

Discussion

The analysis of data from undergraduate physical therapy students reveals a strong foundation in awareness and understanding of breast cancer and its management, with 78% of participants agreeing on the importance of this knowledge (Table 6). This finding is consistent with recent studies that emphasize the significance of breast cancer awareness among healthcare professionals, highlighting its impact on effective patient care and early detection (Kelley Jones, 2024). However, the 13% of students who remained neutral or disagreed suggest that there are gaps in knowledge that need addressing to ensure uniform understanding across the board.

Regarding the role of physiotherapy in breast cancer management, the data show that 69% of students recognize the benefits of physiotherapy in managing symptoms such as limited range of motion and neuropathic pain (Table 6). This aligns with current literature, which underscores the critical role of physiotherapy in enhancing the quality of life for breast cancer patients (Oh, 2022) (Schmid, 2022). For instance, recent studies have demonstrated that physiotherapy interventions, including manual therapy and exercise, significantly improve patient outcomes by addressing pain, improving function, and reducing treatment-related side effects (Roh, 2023). Despite this, 23% of students were neutral or disagreed about the role of physiotherapy, suggesting that while awareness is high, there remains variability in understanding the specifics of its application.

The consensus on incorporating education about breast cancer and the role of physiotherapy into the undergraduate curriculum is strong, with 85% supporting this integration (Table 6). This finding reinforces previous research advocating for curriculum reforms to include comprehensive education on oncology and physiotherapy. Studies have shown that integrating such topics into physical therapy programs equips students with essential skills for managing complex cancer cases and improves their readiness for clinical practice (Haggerty, 2022) (Schmitz, 2022). However, the 15% who were neutral or disagreed indicate that curriculum changes may face resistance or require further advocacy to align educational standards with contemporary clinical needs.

Overall, while the data reflect a robust understanding among physical therapy students, they also highlight areas for improvement. To address these gaps, targeted educational campaigns and

curriculum enhancements are recommended. These measures can bridge existing knowledge gaps and better prepare future physiotherapists for the challenges associated with breast cancer care, ultimately aligning educational practices with current clinical and patient care needs.

Limitations

The study is limited by its focus on specific universities in Peshawar, which may not represent broader populations, and potential biases from self-reported data, including social desirability or recall bias. As data were captured at a single point in time, it does not allow for causal inferences or the observation of changes over time. Additionally, the study may not fully capture the complexities of students' perceptions of integrating physiotherapy in cancer care, and non-response bias could skew results if less engaged students chose not to participate. Moreover, without qualitative methods, underlying causes of educational gaps and barriers may not be thoroughly explored.

Conclusion

The study highlights a commendable level of awareness among undergraduate physical therapy students regarding breast cancer and its management. With 78% recognizing the importance of understanding breast cancer and 69% acknowledging the role of physiotherapy in managing its symptoms, there is a solid foundation of knowledge. The strong support for integrating education on breast cancer and physiotherapy into the undergraduate curriculum 85% in favor underscores the students' readiness to engage with these critical topics. However, the 13% of students who were neutral or disagreed on the importance of breast cancer awareness and the 23% who were uncertain about the role of physiotherapy suggest there are still gaps in understanding that need to be addressed. These gaps highlight the need for targeted educational interventions and curriculum adjustments to ensure all students are adequately prepared to address the complexities of breast cancer management.

Incorporating comprehensive breast cancer education and physiotherapy training into physical therapy programs will enhance the preparedness of future practitioners and improve patient outcomes. Addressing these educational needs is crucial for aligning academic training with current clinical requirements and ensuring effective care for breast cancer patients.

Abbreviations

According to WHO: Full form

Abbreviation	Full Form
ALCL	Anaplastic Large-Cell Lymphoma.
ALL	Acute Lymphoblastic Leukemia.
BC	Breast Cancer
CIPN	Chemotherapy-Induced Peripheral Neuropathy
DPT	Doctor of Physical Therapy
MRI	Magnetic Resonance Imaging
PT	Physical Therapy

Supporting information

Standardized Questionnaire.

Participants consent forms.

Permission was obtained from the appropriate authorities of institutes.

Ethical Approval from university.

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