International Journal of Health Sciences and Research
[Indexed, Peer-Reviewed Journal]
Volume 16; Issue: 4; April 2026
Website: www.ijhsr.org
Original Research Article *ISSN: 2249-9571*

Assessment of Awareness of Geriatric and Pediatric Rehabilitation Approaches Among Physiotherapy Students and Interns: A Cross-Sectional Study

Dhruv Taneja[1], Arun Chougule[2], Waribam Ranjeeta[3], Yash Prajapati[4], Anamika Jain[5], Tabish Aziz[6]

[1]Principal, Swasthya Kalyan College of Physiotherapy, Jaipur, Rajasthan
[2]Dean, Swasthya Kalyan Group of Institutions, Jaipur, Rajasthan
[3]Professor, JPTC MVGU, Jaipur, Rajasthan
[4]Assistant Professor, Swasthya Kalyan College of Physiotherapy, Jaipur, Rajasthan
[5]Assistant Professor, Swasthya Kalyan College of Physiotherapy, Jaipur, Rajasthan
[6]Professor, Swasthya Kalyan College of Physiotherapy, Jaipur, Rajasthan

Corresponding Author: Dr. Anamika Jain

DOI: https://doi.org/10.52403/ijhsr.20260421

ABSTRACT

Background: Awareness of age-specific rehabilitation approaches is essential for effective physiotherapy practice. Despite the growing demand for both geriatric and paediatric rehabilitation services, limited evidence exists regarding physiotherapy students' awareness of these domains. Understanding such awareness is important to identify potential educational gaps in physiotherapy training.
Objective: To assess and compare the level of awareness regarding rehabilitation approaches in geriatric and paediatric physiotherapy among physiotherapy students and interns, and to examine the relationship between domain-specific and total awareness scores.
Methods: A cross-sectional observational study was conducted among physiotherapy students and interns (N = 515). Demographic information including age, gender, and year of study was collected. Awareness of geriatric and paediatric rehabilitation approaches was assessed using a structured questionnaire developed based on relevant literature and underwent content validation by a panel of five physiotherapy experts holding doctoral qualifications, who reviewed the items for clarity, relevance, and domain representation before final administration. Ethical approval was obtained from the Institutional Ethics Committee prior to data collection. Descriptive statistics were used to summarize demographic characteristics and awareness scores. As the awareness scores were normally distributed, parametric tests were applied. A paired t-test was used to compare geriatric and paediatric awareness scores, while Pearson's correlation coefficient was used to examine the relationship between domain-specific awareness scores and total awareness score. Statistical significance was set at $p < 0.05$.
Results: The mean awareness score for geriatric rehabilitation was 7.74 ± 2.78**,** while paediatric rehabilitation awareness was 7.90 ± 4.41**,** indicating a moderate level of awareness in both domains. Paediatric rehabilitation awareness was statistically higher than geriatric awareness ($p < 0.05$). The total awareness score was 19.35 ± 5.82**.** Significant positive correlations were observed between geriatric awareness and total awareness scores ($r = 0.72$, $p < 0.05$) and between paediatric awareness and total awareness scores ($r = 0.76$, $p < 0.05$)**.**

Most participants were aged 20–22 years**,** predominantly female, and from senior academic years or internship.

Conclusion: Physiotherapy students and interns demonstrated a moderate level of awareness regarding rehabilitation approaches in both geriatric and paediatric physiotherapy. Although awareness of paediatric rehabilitation was statistically higher, the findings suggest the need for greater emphasis on geriatric rehabilitation within physiotherapy education to ensure balanced knowledge across age-specific rehabilitation domains.

Keywords: Awareness, Physiotherapy education, Geriatric rehabilitation, Paediatric rehabilitation.

INTRODUCTION

Rehabilitation is a fundamental component of modern healthcare that aims to optimize functioning and reduce disability among individuals with diverse health conditions across the lifespan. It focuses not only on disease management but also on improving functional ability, participation, and quality of life through multidisciplinary and patient-centered interventions. With the increasing global burden of chronic diseases and disabilities, rehabilitation has become an essential strategy for improving population health outcomes. The World Health Organization has emphasized this need through the *Rehabilitation 2030: A Call for Action* initiative, which advocates strengthening rehabilitation services, expanding the rehabilitation workforce, and enhancing education and awareness related to rehabilitation care within healthcare systems. [(1)]

Across the lifespan, the geriatric and pediatric populations represent two particularly vulnerable groups requiring specialized rehabilitation services. Population ageing is occurring rapidly worldwide, with projections indicating that the global population aged 60 years and above will nearly double by 2050. This demographic shift is associated with increased prevalence of chronic diseases, frailty, falls, and functional limitations, thereby increasing the demand for geriatric rehabilitation services[(2)]**.** Evidence suggests that structured rehabilitation interventions, including resistance training, balance and gait training, and functional task-specific exercises, play a significant role in improving mobility, reducing fall risk, and enhancing functional independence among older adults [(3)]**.**

In contrast, pediatric rehabilitation focuses on addressing functional limitations that arise during infancy, childhood, and adolescence due to developmental, neurological, or congenital conditions. Pediatric physiotherapy often involves multidisciplinary management aimed at optimizing motor development, improving functional abilities, and preventing secondary complications. Rehabilitation interventions for children are designed to enhance motor control, regulate muscle tone, improve sensory and perceptual responses, and promote independence in daily activities as the child progresses toward adolescence and adulthood [(4)].

Given the distinct rehabilitation needs of geriatric and pediatric populations, physiotherapists must possess adequate knowledge of age-specific rehabilitation approaches, as the knowledge is essential for informed clinical decision-making, early identification of needs, and enhancement of functional outcomes [(5)]. However, existing literature has largely focused on the clinical effectiveness of rehabilitation interventions, while limited attention has been given to assessing awareness of these approaches among physiotherapy students. Evaluating such awareness is important to identify potential educational gaps within physiotherapy training.

Therefore, the present study aimed to assess and compare the level of awareness regarding geriatric and pediatric

rehabilitation approaches among physiotherapy students and interns.

MATERIALS & METHODS

Study Design

A cross-sectional survey study was conducted to assess awareness of rehabilitation approaches in geriatric and pediatric physiotherapy among physiotherapy students and interns. The study was conducted over a period of 4–6 months using a structured questionnaire.

Study Population and Sampling

The study population consisted of undergraduate physiotherapy students and interns enrolled in physiotherapy colleges. Participants were recruited using a convenience sampling method, where eligible students and interns who were available and willing to participate during the data collection period were included in the study. A total of 515 participants completed the survey. The sample size was considered adequate to represent the target population and to ensure sufficient statistical power for comparing awareness levels between geriatric and pediatric rehabilitation domains.

Physiotherapy students from first-year to final-year and interns who were willing to participate and provided informed consent were included in the study. Participants who were able to understand and complete the questionnaire were considered eligible. Students who submitted incomplete questionnaires or those who were unwilling to participate were excluded from the study.

Data Collection Tools

Data were collected using a self-developed structured questionnaire designed to assess awareness of geriatric and pediatric rehabilitation approaches among physiotherapy students and interns. The questionnaire included three sections: demographic details (age, gender, and year of study), awareness of geriatric rehabilitation approaches, and awareness of pediatric rehabilitation approaches. The items were primarily close-ended, and awareness scores were calculated by assigning one point for each correct response, with higher scores indicating greater awareness. The questionnaire was developed based on relevant literature and underwent content validation by a panel of five physiotherapy experts holding doctoral qualifications, who reviewed the items for clarity, relevance, and domain representation before final administration. Ethical approval was obtained from the Institutional Ethics Committee prior to data collection.

Procedure

Ethical approval was obtained from the Institutional Ethics Committee prior to data collection. The questionnaire was converted into a Google Form and circulated electronically among physiotherapy students and interns. A mandatory informed consent statement was included at the beginning of the form, and only consenting participants proceeded to complete the questionnaire. Participation was voluntary, and confidentiality and anonymity were maintained. Completed responses were exported and analyzed using SPSS software.

Statistical Analysis

Data were analyzed using SPSS software. Descriptive statistics were used to summarize demographic variables and awareness scores. Continuous variables were expressed as mean ± standard deviation, and categorical variables as frequencies and percentages. A paired t-test was used to compare awareness scores between geriatric and pediatric domains, and Pearson's correlation coefficient was used to assess the relationship between domain scores and total awareness score. Statistical significance was set at $p < 0.05$.

RESULT

Table 1: Demographic Characteristics of the Study Participants

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	< 20 years	48	9.3
	20–22 years	352	68.5
	23–25 years	114	22.2
Gender	Male	200	38.9
	Female	313	60.9
	Other / Prefer not to say	0	0
Year of Study	1st Year	77	15
	2nd Year	36	7
	3rd Year	150	29.2
	4th Year	144	28
	Internship	107	20.8

The demographic characteristics of the participants are summarized in Table 1. A total of 515 physiotherapy students and interns participated in the study. The majority of participants were aged 20–22 years (68.5%), followed by 23–25 years (22.2%), while 9.3% were below 20 years of age.

Regarding gender distribution, female participants represented 60.9% of the sample, whereas 38.9% were male. In terms of academic status, most respondents were from the third year (29.2%) and fourth year (28%), followed by interns (20.8%), first-year students (15%), and second-year students (7%).

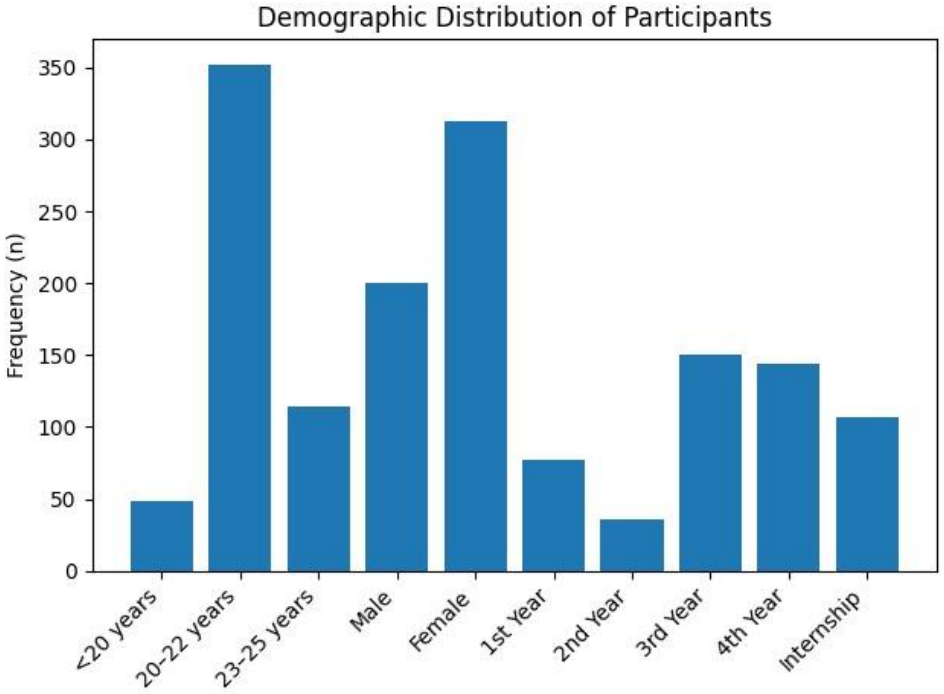

Figure 1: Demographic distribution of participants.

Table 2: Descriptive Statistics of Awareness Scores (Mean ± SD)

Awareness Domain	Minimum	Maximum	Mean ± SD
Geriatric Rehabilitation Awareness	1	15	7.74 ± 2.78
Paediatric Rehabilitation Awareness	1	15	7.90 ± 4.41
Total Awareness Score	2	30	19.35 ± 5.82

Descriptive statistics of awareness scores are presented in Table 2. The mean awareness score for geriatric rehabilitation was 7.74 ± 2.78, whereas the mean score for paediatric rehabilitation was 7.90 ± 4.41. The overall awareness score among

participants was 19.35 ± 5.82, indicating a moderate level of awareness regarding rehabilitation approaches across both domains.

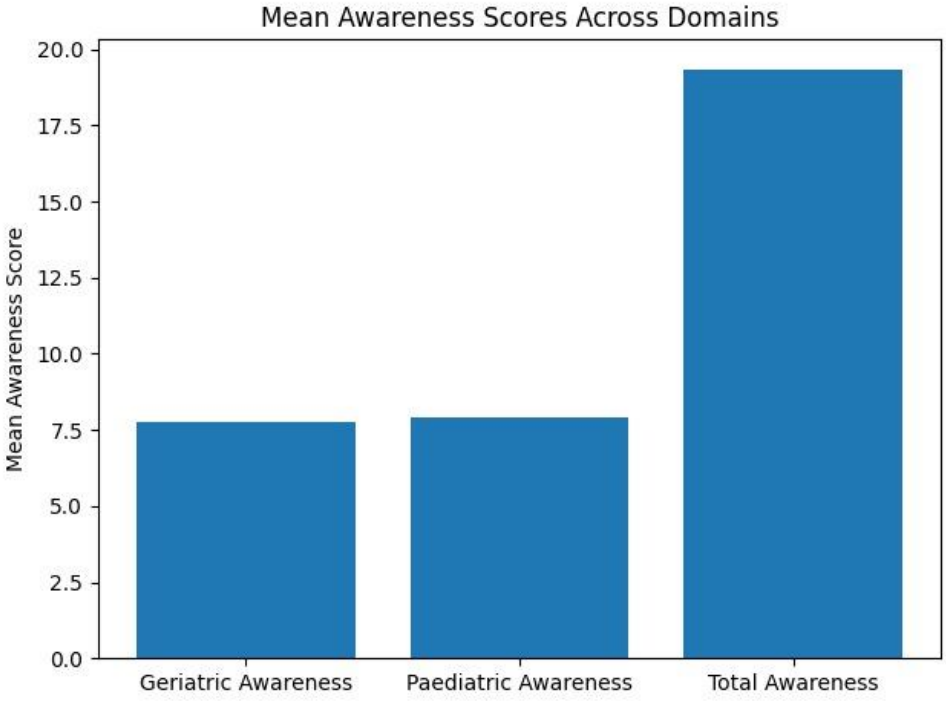

Figure 2: Mean awareness scores across domains.

Table 3: Comparison Between Geriatric and Paediatric Awareness Scores

Awareness Domain	Mean ± SD	Mean Difference	95% Confidence Interval	t value	p-value	Effect Size (Cohen's d)
Geriatric Rehabilitation Awareness	7.74 ± 2.78					
Paediatric Rehabilitation Awareness	7.90 ± 4.41	0.16	0.01 – 0.31	2.14	0.033*	0.09 (Small)

A paired-samples t-test was conducted to compare awareness levels between geriatric and paediatric rehabilitation. As presented in Table 3, paediatric rehabilitation awareness scores were higher than geriatric rehabilitation awareness scores. The difference between the two domains was statistically significant ($t = 2.14$, $p = 0.033$). The mean difference between scores was 0.16 points (95% CI: 0.01 to 0.31). The calculated effect size (Cohen's $d = 0.09$) indicated a small magnitude of difference between the two awareness domains.

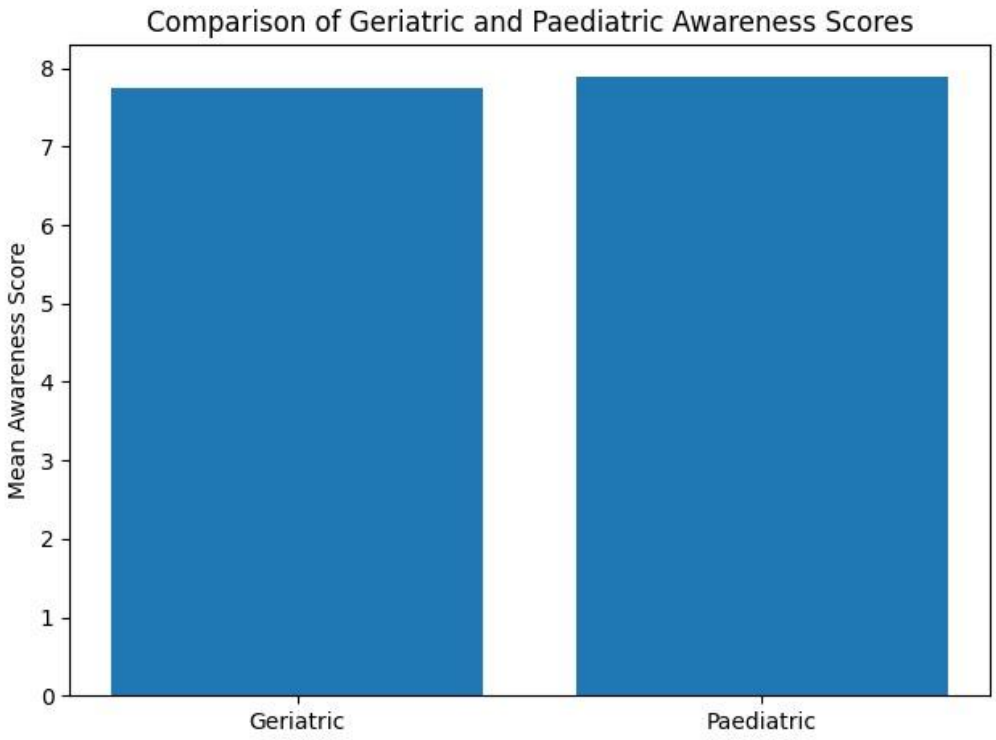

Figure 3: Comparison of geriatric and paediatric awareness scores.

Table 4: Correlation Between Awareness Domains and Total Awareness

Variables	Geriatric Awareness	Paediatric Awareness	Total Awareness
Geriatric Awareness	1		
Paediatric Awareness	r = 0.41	1	
	p = 0.001		
	95% CI: 0.33 – 0.48		
Total Awareness	r = 0.72	r = 0.76	1
	p < 0.001	p < 0.001	
	95% CI: 0.67 – 0.76	95% CI: 0.72 – 0.80	

The relationships between geriatric awareness, paediatric awareness, and total awareness scores were examined using Pearson's correlation analysis, as shown in Table 4.

Geriatric rehabilitation awareness demonstrated a strong positive correlation with the total awareness score ($r = 0.72$, 95% CI: 0.67–0.76, $p < 0.001$). Similarly, paediatric rehabilitation awareness showed a strong positive correlation with total awareness ($r = 0.76$, 95% CI: 0.72–0.80, $p < 0.001$).

These findings indicate that awareness in both geriatric and paediatric rehabilitation domains contributes significantly to overall rehabilitation awareness among physiotherapy students and interns.

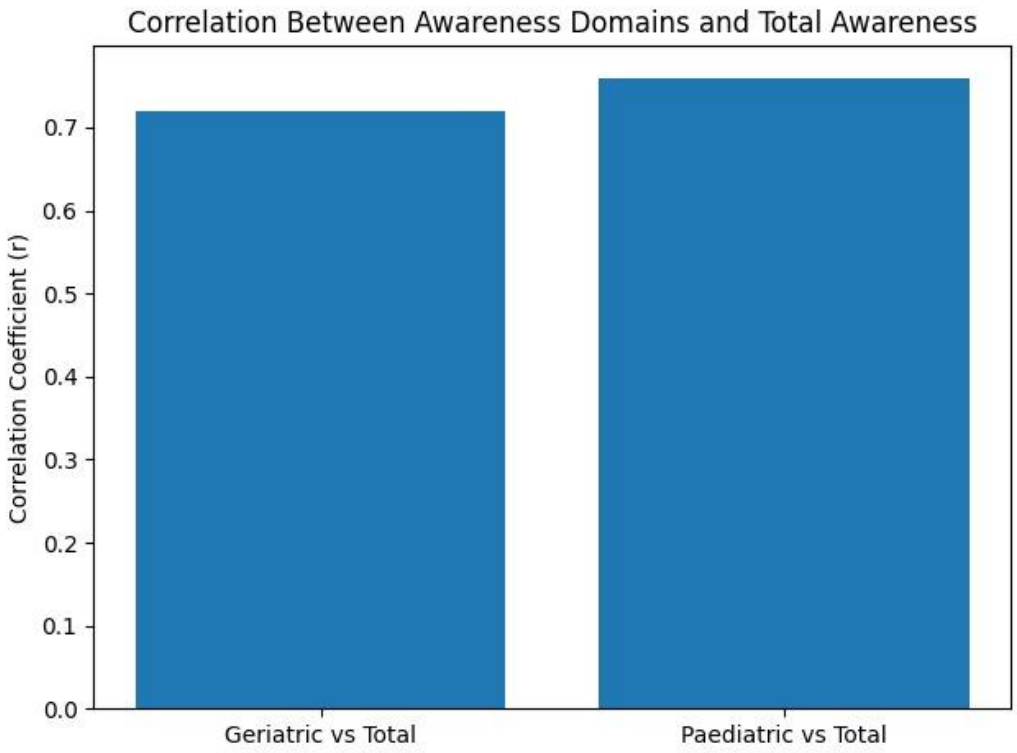

Figure 4: Correlation between awareness domains and total awareness.

DISCUSSION

The present study evaluated physiotherapy students' awareness of geriatric and paediatric rehabilitation and demonstrated a moderate level of overall awareness. A statistically significant difference was observed between the two domains, with participants showing relatively higher awareness of paediatric rehabilitation compared to geriatric rehabilitation. Although the difference reached statistical significance, the moderate scores observed in both domains suggest that students possess foundational knowledge but may require greater exposure to develop a comprehensive understanding of age-specific rehabilitation practices.

The comparatively higher awareness of paediatric rehabilitation may reflect the broader emphasis on early intervention and developmental rehabilitation within healthcare education. Clarke et al. reported that physiotherapy-led rehabilitation plays a crucial role in children with congenital heart disease and other developmental conditions, particularly in preventing delayed motor development and promoting functional recovery following medical interventions. Their findings highlight that early rehabilitation can significantly support physical development and improve long-term health outcomes in children [6].

Similarly, research on paediatric neurorehabilitation demonstrates that targeted physiotherapy interventions can improve balance, motor skills, and functional independence among children with neurological disorders such as cerebral palsy. Evidence synthesized in systematic reviews indicates that rehabilitation strategies including task-oriented training and virtual-reality-based interventions can enhance motor development and participation in daily activities among paediatric populations [7].

In contrast, geriatric rehabilitation focuses on maintaining independence, improving functional capacity, and reducing disability in ageing populations. Wong et al. conducted a systematic review and meta-analysis which demonstrated that structured geriatric rehabilitation programmes significantly improved functional outcomes and reduced mortality and long-term care

admission among older adults. These findings emphasize that geriatric rehabilitation is a critical component of healthcare systems addressing the increasing burden of ageing populations [8].

Additional evidence suggests that physiotherapy interventions can substantially improve mobility, pain levels, and functional independence among older adults with chronic conditions. Studies evaluating physiotherapy services in elderly populations have reported positive correlations between rehabilitation frequency and improvements in mobility and pain reduction, highlighting the clinical significance of geriatric physiotherapy interventions [9].

Despite the demonstrated importance of both paediatric and geriatric rehabilitation, the findings of the present study indicate an imbalance in awareness among physiotherapy students. This may reflect differences in educational exposure or clinical experience during training. Strengthening curricular integration of geriatric rehabilitation alongside paediatric training may therefore help ensure balanced competence in managing patients across the lifespan.

Limitations

- Participants were recruited primarily from physiotherapy students and interns within specific academic institutions, which may limit the generalizability of the findings to other educational settings or healthcare professionals.
- The study included a considerable number of participants; a larger and more diverse sample could provide stronger generalizability of the findings.

CONCLUSION

The present study demonstrated that physiotherapy students and interns possess a moderate level of awareness regarding rehabilitation approaches in both geriatric and paediatric physiotherapy. Participants showed relatively higher awareness of paediatric rehabilitation compared to geriatric rehabilitation, indicating variation in familiarity with rehabilitation practices across age groups. These findings highlight the importance of strengthening educational exposure to both paediatric and geriatric rehabilitation within physiotherapy training programmes to ensure balanced competence in managing patients across the lifespan. Incorporating structured learning opportunities and clinical exposure in these domains may help enhance students' preparedness for diverse rehabilitation needs. The findings should be interpreted in light of the study's cross-sectional design and the inclusion of participants from a specific academic setting, which may limit broader generalization.

Declaration by Authors

Ethical Approval: Approved. Approval number: SKHMCIEC/2025-26/138

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. World Health Organization. Rehabilitation in health systems: guide for action. Geneva: World Health Organization; 2019. Available from: https://www.who.int/publications/i/item/9789241515986
2. World Health Organization; World report on ageing and health. Geneva: World Health Organization; 2015. ISBN: 978-92-4-156504-2. https://apps.who.int/iris/handle/10665/186463.
3. Sherrington C, Fairhall NJ, Wallbank GK, Tiedemann A, Michaleff ZA, Howard K, Clemson L, Hopewell S, Lamb SE. Exercise for preventing falls in older people living in the community. Cochrane Database Syst Rev. 2019 Jan 31;1(1):CD012424. doi: 10.1002/14651858.CD012424.pub2.
4. Kerem Günel M. Fizyoterapist bakiş açisiyla beyin felçli çocuklarin rehabilitasyonu [Rehabilitation of children with cerebral palsy from a physiotherapist's perspective]. Acta Orthop Traumatol Turc.

2009 Mar-Apr;43(2):173-80. Turkish. doi: 10.3944/AOTT.2009.173.
5. Kosse NM, Dutmer AL, Dasenbrock L, Bauer JM, Lamoth CJ. Effectiveness and feasibility of early physical rehabilitation programs for geriatric hospitalized patients: a systematic review. BMC Geriatr. 2013 Oct 10; 13:107. doi: 10.1186/1471-2318-13-107.
6. Clarke SL, Milburn NC, Menzies JC, Drury NE. The provision and impact of rehabilitation provided by physiotherapists in children and young people with congenital heart disease following cardiac surgery: a scoping review. Physiotherapy. 2024 Mar; 122:47-56. doi: 10.1016/j.physio.2023.09.001.
7. Ravi DK, Kumar N, Singhi P. Effectiveness of virtual reality rehabilitation for children and adolescents with cerebral palsy: an updated evidence-based systematic review. Physiotherapy. 2017 Sep;103(3):245-258. doi: 10.1016/j.physio.2016.08.004.
8. Wong EKC, Hoang PM, Kouri A, Gill S, Huang YQ, Lee JC, Weiss SM, Daniel R, McGowan J, Amog K, Sale JEM, Isaranuwatchai W, Naimark DMJ, Tricco AC, Straus SE. Effectiveness of geriatric rehabilitation in inpatient and day hospital settings: a systematic review and meta-analysis. BMC Med. 2024 Nov 22;22(1):551. doi: 10.1186/s12916-024-03764-7.
9. Reddy RS, Alahmari KA, Alshahrani MS, Alkhamis BA, Tedla JS, ALMohiza MA, Elrefaey BH, Koura GM, Gular K, Alnakhli HH, Mukherjee D, Rao VS, Al-Qahtani KA. Exploring the impact of physiotherapy on health outcomes in older adults with chronic diseases: a cross-sectional analysis. Front Public Health. 2024 Sep 9; 12:1415882. doi: 10.3389/fpubh.2024.1415882.

How to cite this article: Dhruv Taneja, Arun Chougule, Waribam Ranjeeta, Yash Prajapati, Anamika Jain, Tabish Aziz. Assessment of awareness of geriatric and pediatric rehabilitation approaches among physiotherapy students and interns: a cross-sectional study. *Int J Health Sci Res.* 2026; 16(4):167-175. DOI: *https://doi.org/10.52403/ijhsr.20260421*

******