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Original Research Article

EXPLORING THE ENABLERS AND OBSTACLES TO PHYSICAL ACTIVITY AMONG UNDERGRADUATE PHYSIOTHERAPY STUDENTS IN NORTH INDIA: A QUALITATIVE STUDY

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ABSTRACT

Background: Physical inactivity is a major public health concern among young adults, particularly in competitive academic environments. Undergraduate physiotherapy students are a uniquely relevant subpopulation, as future allied health professionals whose own physical activity behaviours carry direct implications for personal health and professional practice. Qualitative evidence exploring this issue in the North Indian university context is lacking. **Objective:** To explore the enablers and obstacles to physical activity among undergraduate physiotherapy students at a medical university in North India.

Materials and Methods: A qualitative study using focus group discussions (FGDs) was conducted at UPUMS, Saifai between June and September 2024. A total of 32 undergraduate physiotherapy students were recruited through purposive sampling. Data were collected via a semi-structured interview guide and analysed using Braun and Clarke's thematic analysis framework.

Results: Two overarching domains encompassing eight themes were identified. Enablers included intrinsic self-motivation, institutional infrastructure (gymnasium, multipurpose hall), and organised sports activities. Obstacles comprised academic workload, increased screen time, negative peer influence, poor environmental conditions, and gender-related sociocultural constraints.

Conclusion: Physical activity among undergraduate physiotherapy students in North India is influenced by a complex interplay of individual, social, institutional, and environmental factors. While self-motivation, supportive infrastructure, and organised sports activities promote engagement in physical activity, barriers such as academic burden, excessive screen time, peer influence, and gender-related constraints limit participation.

Keywords: Physical activity; qualitative research; focus group discussions; physiotherapy students; barriers; enablers; India.

INTRODUCTION

Physical activity is defined as any bodily movement produced by skeletal muscle contraction resulting in energy expenditure above the resting metabolic rate.[1] Regular engagement into physical activity reduces risk of cardiovascular disease, type 2 diabetes, several cancers, and mental health

disorders.[2] Despite WHO recommending 150–300 minutes of moderate-intensity aerobic activity weekly,[3] an estimated 27.5% of adults globally fail to meet these thresholds-a figure projected to rise without multilevel intervention.[4] In India, the Indian Council of Medical Research-India Diabetes Study survey has documented declining leisure-time physical activity, particularly among urban young adults, compounded by urbanisation, digital proliferation, and the attrition of physically active routines.[5,6]

Undergraduate students in health professional programmes are especially important because those who are physically active are more likely to counsel patients on exercise and model health-promoting behaviours in clinical practice.[7,8] Physiotherapy students occupy a particularly salient position, given that their discipline is predicated on the therapeutic application of movement, yet emerging evidence indicates suboptimal physical activity levels within this cohort during training.[9] Qualitative methodologies are uniquely suited to capturing these experiential dimensions.[10] A scoping review identified a substantive gap in regionally contextualised qualitative data from North India, where specific sociocultural norms, gender dynamics, and institutional structures create a distinct physical activity ecology.[11] This study therefore aimed to qualitatively explore the enablers and obstacles to physical activity among undergraduate physiotherapy students at a tertiary medical university in North India, generating contextually grounded evidence to inform university-based preventive strategies.

MATERIALS AND METHODS

This study is reported in accordance with the COREQ 32-item checklist. [Table 1][12]

Table 1: COREQ 32-Item Checklist

No.	Item	Response	Reported
	DOMAIN 1: RESEARCH TEAM & REFLEXIVITY		
1	Interviewer / Facilitator	A.G. (principal investigator)	Yes
2	Credentials	Postgraduate — Community Medicine	Yes
3	Occupation at time of study	Junior Resident, UPUMS	Yes
4	Gender	Male facilitator; female co-facilitator	Yes
5	Experience / training	Formal qualitative research training	Yes
6	Prior relationship with participants	None	Yes
7	Participant knowledge of interviewer	Institutional affiliation disclosed	Yes
8	Interviewer characteristics	Reflexivity statement documented	Yes
	DOMAIN 2: STUDY DESIGN		
9	Methodological orientation	Thematic analysis — Braun & Clarke 2006	Yes
10	Sampling	Purposive — batch, sex, residential status	Yes
11	Method of approach	Direct in-person invitation	Yes
12	Sample size	Reported in Methods	Yes
13	Non-participation	Not applicable	Yes
14	Setting	Private room, UPUMS campus	Yes
15	Presence of non-participants	Note-taker only	Yes
16	Sample description	Batches 2020–2023; mixed sex; hostel/day scholars	Yes
	DOMAIN 3: DATA COLLECTION & ANALYSIS		
17	Interview guide	Semi-structured guide developed and pilot-tested	Yes
18	Repeat interviews	No	Yes
19	Audio/visual recording	Audio recording — all sessions	Yes
20	Field notes	Non-verbal observations and analytic memos	Yes
21	Duration	20-30 minutes per FGD	Yes
22	Data saturation	Documented; see Methods	Yes
23	Transcripts returned	Member checking with participant subset	Yes
24	Number of coders	Two independent coders (A.G. and G.K.)	Yes
25	Coding tree description	Thematic framework reported in Results	Yes
26	Derivation of themes	Inductive (data-driven)	Yes
27	Software	Manual thematic analysis	Yes
28	Participant checking	Member checking conducted	Yes
	DOMAIN 4: REPORTING		
29	Quotations presented	Yes — 2–3 attributed quotes per theme	Yes
30	Data and findings consistent	Yes	Yes
31	Clarity of major themes	Yes — 8 themes reported	Yes
32	Clarity of minor/deviant themes	Yes — gender, peer influence, screen time	Yes

COREQ: Consolidated Criteria for Reporting Qualitative Research; FGD: Focus Group Discussion.

Study Design, Setting, and Participants

A qualitative study employing focus group discussions (FGDs) was conducted at the Department of Physiotherapy, UPUMS, Saifai. A total of 32 undergraduate physiotherapy students were recruited through purposive sampling from different batches,

ensuring representation across year of study, sex, and residential status. All eligible consenting students present during the data collection period were enrolled.

Data Collection

FGDs were conducted between June and September 2024. Each session comprised six to eight participants, facilitated in a private campus room by the principal investigator, supported by a designated note-taker. Sessions were bilingual (Hindi and English), lasted 20-30 minutes, and were audio-recorded with prior written consent. A semi-structured interview guide developed from a literature review, reviewed by two independent qualitative researchers, and pilot-tested explored: current physical activity behaviours; perceived benefits; facilitating factors; and barriers. FGDs were continued until thematic saturation was achieved.[13]

Data Analysis

Verbatim transcripts were analysed using Braun and Clarke's six-phase thematic analysis framework: familiarisation, initial coding, theme generation, theme review, theme definition, and reporting.[14] Two investigators (A.G. and G.K.) independently coded transcripts; discrepancies were resolved by team consensus. Negative case analysis and member checking were employed to strengthen credibility and confirmability.

Ethical Considerations

Ethical approval was granted by the IEC, UPUMS, Saifai (Ref. 170/Cert./IEC/UPUMS2025-26). Written informed consent was obtained from all participants. Anonymity was maintained using alphanumeric codes (e.g., FGD1-P1). Data were stored on a password-protected institutional server.

RESULTS

Thematic analysis yielded two overarching domains — Enablers and Obstacles — encompassing eight themes across individual, social, institutional, and environmental levels (Figure 2). The frequency distribution of key concepts is presented in Figure 1.

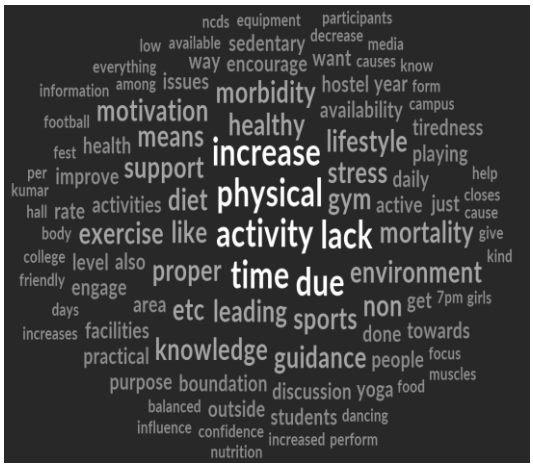

Figure 1: Word cloud-Frequency distribution of key concepts across all FGD transcripts. Font size is proportional to frequency of occurrence

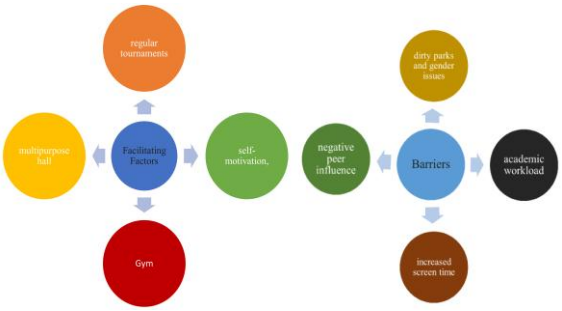

Figure 2: Thematic Framework-Facilitating Factors & Barriers of Physical Activity

3.1 Domain 1: Enablers of Physical Activity

Theme 1.1 – Intrinsic Self-Motivation

Intrinsic self-motivation was the most consistently expressed enabler. Participants linked exercise to personal health consciousness, stress relief, and distinctively- professional identity as future physiotherapists, describing motivation as self-sustaining and resistant to academic disruption.

"Exercise karne ke baad mujhe mentally aur physically dono better feel hota hai. Physiotherapy student hone ke nate movement ko samajhna aur khud follow karna zaroori lagta hai." — FGD2-P3, Female, 3rd Year

"Jab exams ka stress zyada hota hai, tab thoda walk ya stretching kar leta hoon. Usse mind fresh ho jata hai aur concentration bhi improve hoti hai." — FGD1-P5, Male, 2nd Year

Theme 1.2 – Institutional Infrastructure

Campus gymnasium and multipurpose indoor sports hall were identified as structural enablers that lowered practical barriers by providing safe, cost-free, weather-independent exercise environments. Perceived quality and social atmosphere of facilities-not merely their existence- mediated actual utilisation.

"Campus me gym hona bahut help karta hai. Bahar nahi jana padta, paise bhi nahi lagte, aur especially girls ke liye safe feel hota hai. Facility available ho toh motivation apne aap aa jata hai." — FGD3-P2, Female, 4th Year

Theme 1.3 – Organised Sports Activities

Inter-batch tournaments, annual sports meet, and department competitions were described as social gateways into regular physical activity, particularly for students lacking pre-established habits. Social bonds formed during team sports sustained ongoing participation beyond the events themselves.

"Inter-department cricket tournament ki wajah se maine khelna start kiya tha. Ab har weekend khelte hain. Wahi se interest develop hua aur dost bhi ban gaye." — FGD4-P1, Male, 3rd Year

3.2 Domain 2: Obstacles to Physical Activity

Theme 2.1 – Academic Workload and Temporal Constraints

Academic workload was the most universally cited obstacle. Dense coursework, practical sessions, clinical postings, and high-stakes assessments created chronic temporal and cognitive resource constraints.

The absence of protected curricular time for physical activity was explicitly noted.

"Subah se shaam tak classes, postings aur practicals rehte hain. Hostel wapas aate-aate itni thakan ho jati hai ki exercise last priority ban jati hai." — FGD3-P4, Male, 4th Year

"Exams ke time toh poore weeks exercise band ho jati hai. Agar timetable me hi physical activity ka time ho toh shayad regular ho paye." — FGD1-P2, Female, 1st Year

Theme 2.2 – Increased Screen Time and Digital Sedentarism

Academically mandated screen time (e-learning, online lectures) and recreational screen use (social media, streaming) collectively generated prolonged sedentary behaviour. Despite awareness of health consequences, participants described substantial difficulty in self-regulating digital consumption, attributing this to its habitual and algorithmically reinforced character.

"Classes ke baad phone use karte-karte pata hi nahi chalta aur 2–3 ghante nikal jaate hain. Pata hai unhealthy hai, par control karna difficult lagta hai." — FGD2-P4, Female, 2nd Year

Theme 2.3 – Negative Peer Influence and Social Teasing

Social teasing related to body image and exercise participation particularly within the residential hostel ecology- functioned as informal social control, deterring exercise engagement through anticipated peer disapproval even in the absence of direct teasing.

"Kuch friends mazaak banate hain ki gym jaake show off kar rahe ho ya friends ko ignore kar rahe ho. Kabhi-kabhi isi wajah se exercise skip kar deta/deti hoon." — FGD3-P6, Female, 3rd Year

"Jab maine gym jana start kiya tha tab log tease karte the. Us wajah se maine kaafi months ke liye gym jana band kar diya." — FGD1-P7, Male, 2nd Year

Theme 2.4 – Environmental Barriers

Surrounding public parks and outdoor recreational spaces were described as uninviting and unsafe due to poor sanitation, absent evening lighting, unmaintained surfaces, and stray animals. Environmental barriers were perceived as beyond individual control, generating a sense of learned helplessness among motivated students.

"Hostel ke paas wala park clean nahi hai aur shaam ke baad safe bhi nahi lagta. Proper lighting aur walking path bhi nahi hai, isliye hum avoid karte hain." — FGD4-P5, Female, 3rd Year

Theme 2.5 – Gender-Related Sociocultural Constraints

Gender was a cross-cutting, intersectional obstacle, particularly for female participants. Cultural expectations regarding public behaviour, perceived safety in outdoor spaces at night, family-communicated norms framing vigorous exercise as inappropriate for women, and the absence of gender-segregated indoor exercise times collectively constrained participation.

"Girls ke liye raat me bahar exercise karna safe ya socially acceptable nahi maana jata. Agar gym me women-only timing ho toh bahut help milegi." — FGD3-P1, Female, 4th Year

"Family meri padhai support karti hai, lekin unko lagta hai gym aur sports ladko ke liye hote hain. Unke according usme time waste hota hai." — FGD1-P6, Female, 1st Year.

DISCUSSION

This qualitative study reveals that physical activity among undergraduate physiotherapy students in North India is shaped by a complex, multilevel ecology of determinants consistent with the socioecological model of health behaviour.[15] The findings advance contextually specific understanding of a population whose exercise behaviour holds both personal and professional significance.

The primacy of intrinsic self-motiation aligns with self-determination theory (SDT), which establishes autonomously regulated physical activity as more durable than externally incentivised behaviour.[16] The distinctive professional identity link- students framing exercise as constitutive of being a physiotherapist- is a finding absent from existing quantitative literature and suggests that physiotherapy curricula may reinforce health-promoting personal identities as a pedagogical outcome, alongside clinical competency.

Institutional infrastructure as a structural enabler is consistent with Sallis et al. (2016) multinational Lancet study establishing access to indoor recreational facilities as a robust correlate of population physical activity.[17] The present study extends this by demonstrating that perceived facility quality and social atmosphere mediate utilisation- an important nuance for institutional investment strategy. Organised sports as a gateway enabler are consistent with group cohesion research and suggests that structured sports programming offers a high-yield, low-cost entry point for students without established exercise habits.[18]

Academic workload emerged as the most prominent barrier to physical activity among participants. Long academic hours, frequent assessments, clinical postings, and demanding schedules appeared to leave students with limited time and energy for regular exercise. Participants' call for protected curricular exercise time reflect a structural intervention successfully implemented in several Western medical schools, warranting pilot evaluation in India.

Screen time as a barrier is corroborated by Pandey et al. (2023) who documented a 47% increase in daily screen time among Indian undergraduates following COVID-19 online learning transitions, with a concurrent reduction in physical activity.[19] The dual-driver pattern (academic and recreational screen use) suggests that simple behavioural counselling is insufficient without complementary institutional digital-use policies.

Negative peer influence, operating through anticipated social disapproval, reflects the powerful

regulatory role of social norms on health behaviour documented in the theory of planned behaviour.[20] Environmental barriers including unsafe, poorly maintained outdoor recreational spaces are consistent with Bauman et al. (2012) Lancet series establishing the built environment as a universal population-level physical activity determinant, and underscore the need for cross-sectoral engagement with municipal authorities.[21] Gender-related constraints documenting safety perceptions, family norms, and absence of gender-segregated facilities as dominant barriers among educated urban women. The persistence of these dynamics within a professional training programme highlights their structural depth and the necessity of gender-responsive institutional policy including designated women's exercise hours, improved campus lighting, and explicit institutional messaging affirming the appropriateness of vigorous physical activity for all students.

CONCLUSION

Physical activity among undergraduate physiotherapy students in North India is shaped by interacting individual, social, institutional, and environmental determinants. Self-motivation, institutional infrastructure, and organised sports programming are key enablers; academic workload, screen time, peer dynamics, environmental deficiencies, and gender constraints are major obstacles. Effective intervention requires a socioecological strategy including: protected curricular time for physical activity; investment in gender-inclusive, high-quality recreational facilities; peer-led social norm interventions; institutional screen-use policies; and cross-sectoral engagement for improved community recreational infrastructure. Future multi-institutional, mixed-methods studies are warranted to evaluate the effectiveness of context-adapted interventions in Indian health professional education settings.

6. STRENGTHS AND LIMITATIONS

Strengths include COREQ-compliant methodology, purposive sampling across four academic batches with balanced gender representation, dual independent coding, negative case analysis, and member checking. Limitations include single-institutional design restricting transferability, potential social desirability bias inherent to FGD formats, the cross-sectional qualitative snapshot precluding longitudinal inference, and the non-inclusion of mental health status and dietary patterns as co-determinants of physical activity.

7. DECLARATIONS

Conflict of Interest: None declared.

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Author Contributions: A.G.: Conceptualisation, data collection, analysis, writing. P.K.J.: Supervision, review. R.B.: Methodology, review. G.K.: Data collection, independent coding, member checking.

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