

Caring for Caregivers: Exploring Physical Self-care Perspectives and Practices among Dental Students

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ABSTRACT

Background: The importance of self-care in medical education has been a major area of focus because self-care is one of the ways to eliminate burnout and enhance resilience in students. Although there has been an increase in global interest, there is a paucity of evidence regarding the perceptions and practices of dental students in Pakistan with regard to self-care in the academic and socio-cultural setting.

Objective: This paper has examined the views, habits, and contextual factors that shape self-care behaviors among both male and female dental students in Abbottabad in Pakistan.

Methods: The lived experiences of ten undergraduate students studying the Bachelor of Dental Surgery (BDS) at various institutions were studied using a qualitative phenomenological approach. The interviews were carried out between June and October 2025 and were semi-structured. The thematic analysis of data relied on the six-phase framework of Braun and Clarke, which was based on the socio-ecological model to place the results of the study into the context of personal, interpersonal, institutional, and environmental levels.

Results: Six themes emerged: (1) academic pressure as a structural barrier to self-care, (2) sociocultural and gender influences restricting physical activity, (3) family as both a source of support and constraint, (4) peer influence reinforcing an overwork culture, (5) awareness of self-care without sustained behavior, and (6) environmental and policy supports for student wellness. While students demonstrated awareness of healthy habits such as exercise, diet and rest, systemic academic demands, cultural expectations, and lack of institutional wellness initiatives hindered consistent practice.

Conclusion: Dental students of medical and dental colleges in Abbottabad view self-care as a necessity, but there are structural, cultural, and behavioral challenges that restrict its application. A culture of self-care within medical education can be reinforced by incorporating structured wellness, culturally competent, gender-inclusive policies, and faculty as role models of healthy behaviors into the medical educational curriculum.

Keywords: *Self-care, medical education, dental students, Pakistan, wellness, gender norms, academic stress*

INTRODUCTION

Medical education profoundly shapes students' attitudes towards self-care culture, including the curriculum, how they relate to their colleagues, and the support the institution offers. Teaching self-care in medical school is becoming increasingly important because it helps medical professionals prevent stress and, in turn, improve overall health. It is against this background that we shall explore how curricular programs, peer relations, and faculty influences affect the establishment of

an environment that is self-care supportive. Most individuals are keen on the idea of so-called Well-being Days, during which students can dedicate a portion of their time to self-care practices (Byrnes et al., 2020).

The classes in Mind-Body Medicine have been discovered to make the students feel less anxious and more confident in themselves and their capacities (Scullion et al., 2023). The use of an elaborate program that incorporates time for wellness and team projects is associated with a decrease in the severity of burnout among students (Pipas et al., 2020). As demonstrated in a 2020 study by Byrnes et al., well-being can be improved by having peers who support you, but rivalry with them may decrease those peers' supportiveness (Byrnes et al., 2020).

This indicates that students' interest in engaging in self-care activities is substantially influenced by the degree of confidence they have in their relationships with peers. Misgivings about the possibility of their being misused also contribute in this respect. Because the credibility of staff members among students is an important determinant of how students will perceive these activities, active involvement and intercellular communication among faculty members are key to the successful implementation of self-care programs (Byrnes et al., 2020).

Wan et al. (2024) believe that educating teachers about the importance of self-care and well-being will create an environment that can simplify students' navigation of well-being. Although most students take self-care programs with reverence, some are doubtful of their usefulness (Wan et al., 2024). This is mainly because they feel there is competition among their classmates and are also concerned about the school's credibility. It is on that basis that medical students should forge on with the discussions on self-care and ensure that their activities regarding the field of medicine are well-updated

Medical school can be rigorous and can take a toll on students' emotional and physical health. Although global studies indicate that self-care programs are effective in preventing burnout and increasing medical students' resilience, little is known about how medical students in Abbottabad, Pakistan, perceive and apply these programs. These approaches are shaped by institutional support, academic pressure, and cultural norms. A profound understanding of students' perspectives, the roles of instructors, peers, and the curriculum is important for developing effective, context-sensitive interventions. It is this piece of knowledge that the current study seeks to address by presenting data that could encourage the continued adaptation of healthcare facilities to the needs of patient wellness and self-care.

METHODS

Study Design

The method used was a qualitative interpretive phenomenological approach because it involves the study of human experiences and the description or analysis of the meanings of events participants experienced. Phenomenology is a philosophical practice that concentrates on the frameworks of consciousness and lived experience as a first-person practice that gives prominence to the intentionality of experience in its relation to objects or phenomena (Badil et al., 2023). The study used Interpretive (Hermeneutic) Phenomenology. The approach was suitable for the study, as the research objective was to identify how dental students described their experiences and perceptions of their physical self-care practices and related issues in their own words.

Study Setting

The study was conducted at dental colleges of Abbottabad, Abbottabad International Medical & Dental College, Women Dental College and Frontier Medical & Dental College.

Study Duration

The study was conducted and completed within six months after approval from ASRB.

Sampling Technique

The purposive sampling method was selected to explore how dental students described their experiences and perceptions of their physical self-care practices (Katayoun et al., 2024). A purposive sample is used when an investigator is interested in understanding a phenomenon. Thus, a sample is chosen where maximum information is likely to be obtained

Sample Size

Twelve in-depth interviews were conducted by the principal investigator/researcher of the study with third & final-year BDS students. The data was collected till the attainment of data saturation.

Selection of Participants

All individuals who met the aforementioned requirements and inclusion criteria were initially selected by purposive sampling. From this purposive sample, individuals were subsequently selected, contacted via phone numbers, and sent request forms through WhatsApp and email. Following the approval of the requests, participants were later provided with the consent form, and interview dates were scheduled upon mutual agreement. Twelve in-depth interviews were done until data saturation was achieved, meaning that participants' quotations and statements were reiterated. We validated data

saturation with the information gathered in the prior interviews.

Inclusion Criteria:

Third and Final Year BDS students were included.

Exclusion Criteria:

Students with psychological illness.

Students with chronic illnesses.

Data Collection Instrument

An interview guide/questionnaire was developed using a literature review under the supervisor's guidance, which included open-ended questions. It was reviewed by two experts in medical education and was piloted on two potential participants who were not part of the final study.

Ethical Approval

The Advanced Studies and Research Board of Khyber Medical University granted approval to this study via DIR/KMU-AS&RB/CC/003320 (Annex-II). Ethical approval was granted by the Institute of Health Professions Education and Research via 1-13/IHPER/MHPE/KMU/25-03 (Annex III). Data Collection Permission was granted from the Dean of each institution where the participants were recruited (WDC, 2023/KMU/IHPE/MHPE/33, RC-AIMI03-25). The participants were provided with detailed information about the study's objectives, procedures, confidentiality measures, and their right to withdraw from the study without adverse academic or personal consequences. All participants provided both written and verbal consent before starting the study. Anonymity was ensured with the use of identification codes assigned to each participant and data were securely stored on a password-protected computer that was only accessible to the researcher.

Data Collection Procedure

Official communication was initiated with the respective colleges to commence data collection. Students who declined to participate in the research study were respectfully excluded. Subsequently, final-year students were invited to participate in the interview phase of the study. Those who agreed to participate were thoroughly informed about the purpose of the research. Informed consent was obtained from all participants following the provision of comprehensive details regarding the study.

Participants were chosen using purposive sampling, and all third-year & final-year BDS students who met the criteria for inclusion were asked to take part. The goal of the in-depth interviews (IDIs) was to gather detailed, descriptive information about how dentistry students conceptualize and practice physical self-care, and what curricular, peer, familial, and institutional factors influence these practices. We talked about their experiences with making mistakes, how they felt about it, how they handled it, and the support systems in place at their schools. All responses were kept confidential and anonymous.

Dr. Dur-e-Saman, the principal investigator, conducted the IDIs. She had already piloted the interview guide to make sure it was clear and to reduce the chance of interviewer bias. Before each session began, participants were assured that their responses would be kept private and that they were free to leave at any time.

The interview guide that was made was used to start each session with open-ended, exploratory questions. The interviewer used good methods like reflective listening, neutral body language, and contextual probing to help the conversation along, but not to control it. There were twelve in-depth interviews. We got permission from everyone to record all of the sessions. At the end of each interview, a summary of the main points was made to make sure they were correct. All of the interviews were done by the same investigator to make sure they were consistent and to make the data collection more reliable.

Quality & Rigor

The research was conducted in line with the Consolidated Criteria for Reporting Qualitative Research (COREQ) to make the research rigorous, transparent, and credible in the process of designing, data collection, and analysis.

Trustworthiness and Rigor

To ensure the credibility and dependability of the analysis, several strategies were employed. Credibility was maintained through verbatim transcription, prolonged engagement with the data, and continuous cross-checking of interpretations with the raw transcripts. Participants were invited to review their transcribed interviews (member checking) to verify accuracy and ensure their experiences were correctly represented.

Dependability was reinforced by maintaining an audit trail of all coding decisions, category definitions, and analytical memos. Regular discussions were held among the research team to compare coding outcomes and resolve discrepancies through consensus (Guest et al., 2012).

Confirmability was achieved through reflexive journaling, where the researcher documented personal reflections and potential biases throughout the research process. This ensured that findings were derived from participants' accounts rather

than the researcher's assumptions (Olmos-Vega et al., 2022).

Transferability (or Fittingness) was supported by providing detailed contextual descriptions of the research setting, participants, and cultural environment, allowing readers to assess the applicability of findings to similar contexts (Ahmed, 2024).

Theoretical Framework

This study framed the socioecological model. The socio-ecological model recognizes that health behaviors and outcomes are determined not only by individual characteristics but also through multiple nested layers of influence of relational experiences, institutional contexts, community environments, and environmental or policy environments (Kilanowski, 2017). The socioecological model (SEM) is a broad framework for figuring out how many different things affect people's health and behavior. It stresses how individual, relationship, community, and societal factors work together. This model is used in many areas, such as public health, mental health, and career changes, to plan effective interventions. For example, influencing individual knowledge, family or social support, institutional access, neighborhood context, and regulation to increase the likelihood of sustained change (Olaniyan et al., 2021).

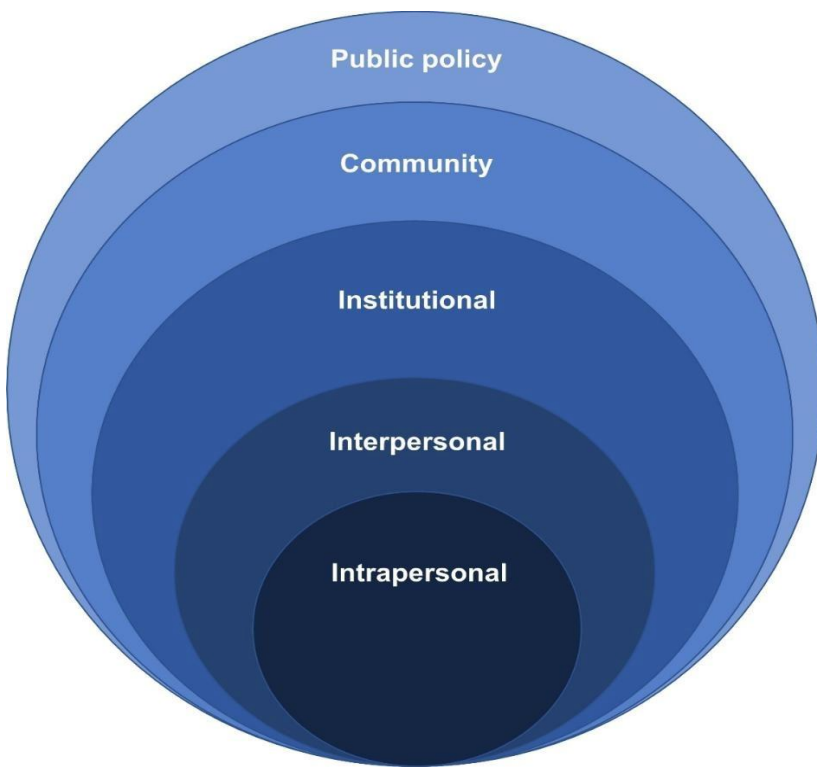


Figure 1: Components of Socioecological Model

Data Analysis

We used a thematic analysis technique to look at the data by hand. We didn't use any software because we didn't know how to use it. It is a way to look at data to find a pattern, a finding, or an answer to a research question (Braun & Clarke, 2022). This qualitative data analysis technique enables the identification of data at contextual, descriptive, and analytical levels.

Thematic analysis is a common method in medical education research to get a deeper understanding of participants' experiences (Ahmed et al., 2025). The first step was open coding. This meant going through the transcripts of the interviews line by line and marking important words, phrases that were repeated, and medical or educational terms that showed what the residents were trying to say. These open codes worked like short labels or "tags" to show what each statement really meant.

Axial coding was used to put the open codes into larger groups after they were found. This step helped put together similar ideas. In the last step, selective coding was used to narrow these groups down into main themes and subthemes that directly answered the research questions. At this point, themes like Academic Pressure as a Structural Barrier to Self-Care, Sociocultural and Gender Influences on Physical Self-Care, Family as a Dual Source of Support and Strain, Peer Influence

and the Academic Culture of Neglecting Health, Awareness of Self-Care Practices without Sustained Behaviour, and Environmental and Policy Supports for Student Wellness were created.

The interviewer, supervisor, and two experts in health professions education did the coding and theme development to make sure the process was fair and accurate. Participants also got back each transcript to confirm (member checking), so that residents could make any needed changes or clarifications. The research team then looked over the codes and themes again until everyone was happy with the final structure.

To make the results more useful, the report included direct quotes from the residents, with numbers assigned to each participant to keep their identities secret. We collected and analyzed data at the same time so that new information from earlier interviews could help later discussions. This step-by-step process made sure that the final set of themes was both correct and useful in a clinical setting.

Table No 2: Abbreviations from first cycle of coding

No.	Abbreviation	Codes From the First Coding Cycle
1	EXE	Exercise as Core to Self-Care
2	DIET	Healthy Diet and Hydration
3	SLEEP	Adequate Sleep and Rest
4	PREV	Preventive Health Orientation
5	IRR	Irregular Routine
6	TIME	Time Constraints and Academic Pressure
7	SED	Sedentary Lifestyle Effects
8	SLPD	Sleep Disturbance and Stress
9	EXAM	Exam Period Neglect
10	AWARE	Awareness but Low Implementation
11	PSUP	Peer Support for Self-Care
12	PSTR	Peer Struggle and Inconsistency
13	ACUL	Academic Peer Culture of Overwork
14	FENC	Family Encouragement
15	FDOM	Domestic Responsibilities as Barrier
16	FEMO	Emotional Support from Family
17	FAC	Availability of Facilities
18	FUSE	Low Utilization of Facilities
19	INST	Lack of Institutional Wellness Support
20	GNORM	Gender Norms Limiting Mobility
21	CULT	Cultural Emphasis on Academics
22	COMM	Community Health Awareness
23	ENV	Environmental Supports (Parks/Spaces)
24	POL	Policy and Program Suggestions
25	STRESS	Stress and Burnout
26	GUILT	Guilt for Neglecting Self-Care

27	WARN	Physical Warning Signs
28	TIMEP	Time Management Plans
29	POLC	Policy or Institutional Change Calls
30	PEERG	Peer Group Motivation and Collaboration

Following the open coding phase, an axial coding process was conducted to identify relationships among the initial codes and group them into broader conceptual categories. This step enabled the researcher to move beyond descriptive labeling and explore the underlying connections between conditions, contexts, and consequences in students' experiences. Related codes were clustered into categories that captured shared meanings, for example, academic workload, stress, and irregular routines were integrated under the broader category "Academic Demands and Structural Barriers to Self-Care." Similarly, peer motivation and peer struggle were merged into "Peer Influence and Collective Academic Culture."

Table no 3: Second Cycle of coding

Sr No.	Axial Codes	Categories
1	Heavy academic workload, lack of time for exercise, prolonged sitting, disturbed sleep, stress during exams, irregular routines, and low facility use due to timetables.	Academic Demands and Structural Barriers to Self-Care
2	Limited institutional focus on wellness, absence of formal programs, restricted use of college gym and sports facilities, need for policy change to support student health.	Institutional Support and Resource Constraints
3	Cultural norms restrict female mobility for outdoor activities; societal emphasis on academic achievement over personal health and sports.	Sociocultural and Gender Influences on Self-Care
4	Family beliefs that health is a priority; encouragement for exercise and healthy eating; emotional support from parents but conflicting domestic responsibilities reducing time for self-care.	Family Influence and Emotional Environment
5	Peer groups motivating each other to walk or play sports together but sharing similar difficulties in maintaining regular routines due to academic pressure.	Peer Influence and Collective Academic Culture
6	Students describe self-care as exercise, balanced diet, adequate sleep, and preventive health practices but report inconsistency in implementation.	Core Self-Care Practices and Health Awareness
7	Awareness of self-care importance coexists with feelings of guilt and failure to act; poor time management and self-discipline noted as barriers.	Psychological and Behavioral Regulation Challenges
8	Awareness of community resources such as parks and health campaigns; suggestions for government policies and college initiatives to encourage student wellness.	Environmental and Policy Support for Student Well-Being

During selective coding, these axial categories were refined into overarching themes that represented the core dimensions of the students' lived experiences. Through constant comparison and memo writing, the themes were continuously reviewed, ensuring that each was grounded in the participants' narratives. Ultimately, six dominant themes emerged:

Academic Pressure as a Structural Barrier to Self-Care

Sociocultural and Gender Influences on Physical Self-Care

Family as a Dual Source of Support and Strain

Peer Influence and the Academic Culture of Neglecting Health

Awareness of Self-Care Practices without Sustained Behavior

Environmental and Policy Supports for Student Wellness

This iterative analytic process allowed a gradual progression from raw data to conceptual understanding, highlighting both the personal and systemic factors influencing dental students’ self-care behaviors. The integration of direct quotations throughout the analysis strengthened the credibility of the interpretations by retaining the participants’ authentic voices.

Finally, the analysis and reporting adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ) ensuring methodological transparency and rigor across all stages of the research process.

Following open coding, an axial coding stage was conducted to establish connections between these codes. The open codes were conceptually clustered into eight axial categories, each representing a broader dimension of participants’ experiences. These included:

Academic Demands and Structural Barriers to Self-Care

Institutional Support and Resource Constraints

Sociocultural and Gender Influences on Self-Care

Family Influence and Emotional Environment

Peer Influence and Collective Academic Culture

Core Self-Care Practices and Health Awareness,

Psychological and Behavioral Regulation Challenges

Environmental and Policy Support for Student Well-Being

Each category combined several open codes that shared similarities at a conceptual level, establishing meaning relationships among conditions, actions, and consequences. For instance, the axial code "Academic Demands and Structural Barriers" combined stress, irregular routine, and exam pressure, while peer support and peer struggle were synthesized under "Peer Influence and Collective Academic Culture." In this stage, the intersections of external pressures and internal behavior on self-care among students became more profound.

In the selective coding phase, axial categories were refined into subthemes and overarching themes to construct a coherent narrative. Six dominant themes emerged:

Academic Pressure as a Structural Barrier to Self-Care

Sociocultural and Gender Influences on Physical Self-Care

Family as a Dual Source of Support and Strain

Peer Influence and the Academic Culture of Neglecting Health

Awareness of Self-Care Practices without Sustained Behavior

Environmental and Policy Supports for Student Wellness

This thematic consolidation showed that students do have awareness of self-care, but systemic, cultural, and psychological barriers hinder them from consistently engaging in healthy behaviors. Constant comparison, memo-writing, and iterative revisiting of data ensured the maintenance of methodological rigor in which each identified theme is grounded in participants' experiences and supported by direct quotations. In summary, the analysis demonstrates a clear movement from descriptive coding to conceptual abstraction, showing how individual experiences were systematically incorporated into higher-order theoretical insights.

Table no 4: Themes and Subthemes

S.No.	Categories	Subthemes	Themes
1	Academic Demands and Structural Barriers to Self-Care	<ul style="list-style-type: none"> • Heavy workload and long study hours reducing time for exercise and rest • Exam stress leading to sleep disturbance and burnout 	Theme 1: Academic Pressure as a Structural Barrier to Self-Care

		<ul style="list-style-type: none"> • Sedentary lifestyle from prolonged sitting and limited mobility 	
2	Institutional Support and Resource Constraints	<ul style="list-style-type: none"> • Underutilized gyms and sports facilities due to tight schedules • Absence of institutional wellness programs • Students' call for administrative changes to promote health 	Theme 1: Academic Pressure as a Structural Barrier to Self-Care (Integrated under same dominant theme as structural/organizational element)
3	Sociocultural and Gender Influences on Self-Care	<ul style="list-style-type: none"> • Gender norms limiting female mobility • Cultural emphasis on academic achievement over self-care • Societal expectations restricting outdoor activity 	Theme 2: Sociocultural and Gender Influences on Physical Self-Care
4	Family Influence and Emotional Environment	<ul style="list-style-type: none"> • Family encouragement toward healthy habits • Emotional support as stress relief • Domestic responsibilities reducing time for rest or exercise 	Theme 3: Family as a Dual Source of Support and Strain
5	Peer Influence and Collective Academic Culture	<ul style="list-style-type: none"> • Peer encouragement through shared walks/sports • Mutual struggles in maintaining routines • Collective overwork culture normalizing academic stress 	Theme 4: Peer Influence and the Academic Culture of Neglecting Health
6	Core Self-Care Practices and Health Awareness	<ul style="list-style-type: none"> • Exercise, diet, and sleep as essential components • Preventive awareness but inconsistent application • Physical pain and fatigue as warning signs 	Theme 5: Awareness of Self-Care Practices without Sustained Behavior
7	Psychological and Behavioral Regulation Challenges	<ul style="list-style-type: none"> • Awareness-action gap due to poor self-regulation • Guilt for neglecting health • Ineffective time management and prioritization 	Theme 5: Awareness of Self-Care Practices without Sustained Behavior (Merged with behavioral inconsistency)
8	Environmental and Policy Support for Student Well-Being	<ul style="list-style-type: none"> • Access to parks and community gyms • Value of health awareness programs • Need for government or college-level health initiatives 	Theme 6: Environmental and Policy Supports for Student Wellness

RESULTS

This section presents the key themes that emerged from the analysis of interviews conducted with undergraduate dental students in Abbottabad. It explores their experiences, perceptions, and challenges related to self-care practices, highlighting how academic pressures, sociocultural expectations, family dynamics, and institutional factors collectively shape their approach to maintaining physical and mental well-being.

Academic Pressure as a Structural Barrier to Self-Care

Sociocultural and Gender Influences on Physical Self-Care
Family as a Dual Source of Support and Strain
Peer Influence and the Academic Culture of Neglecting Health
Awareness of Self-Care Practices without Sustained Behavior
Environmental and Policy Supports for Student Wellness.

Participants & Demographic Characteristics:

Table No 1: Demographics

Participant	Age	Gender	Year of Study
01	21	Male	3rd Year BDS
02	22	Female	Final Year BDS
03	22	Male	3rd Year BDS
04	23	Female	Final Year BDS
05	22	Male	3rd Year BDS
06	23	Female	Final Year BDS
07	22	Male	3rd Year BDS
08	23	Female	Final Year BDS
09	21	Male	3rd Year BDS
10	23	Female	3rd Year BDS

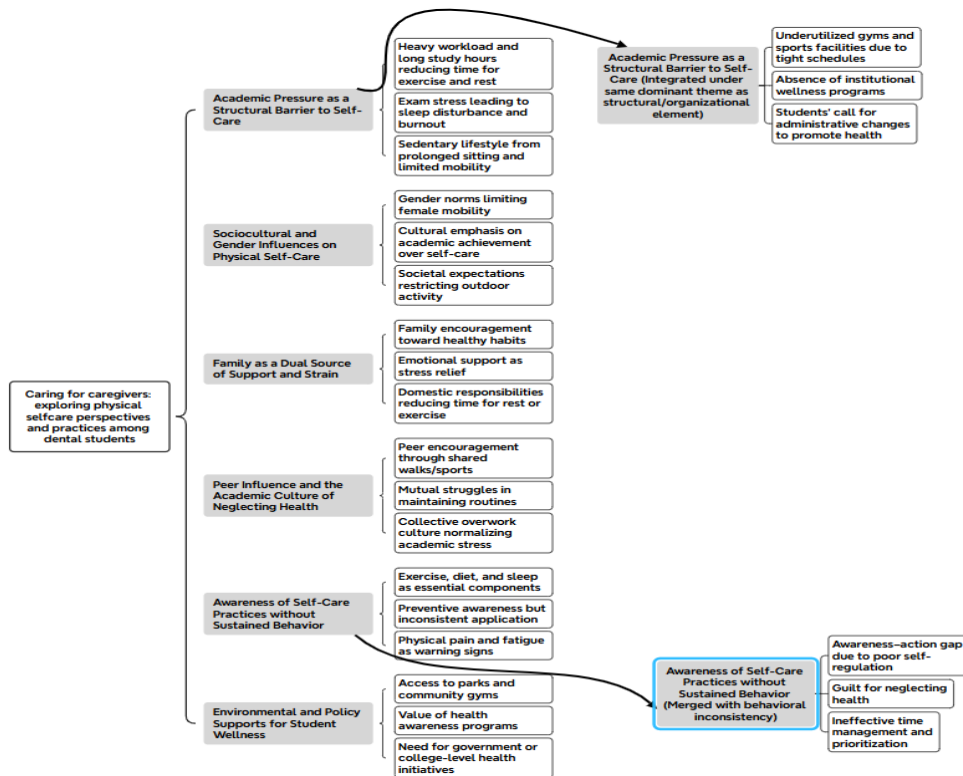


Figure 2: Concept Map of Themes & Subthemes

Table No. 5: Mapping of themes on the theoretical framework

Socio-Ecological Model	
Socio-Ecological Level	Mapped Themes
Intrapersonal	Core self-care practices; Psychological & behavioral regulation challenges
Interpersonal	Family influence & emotional environment; Peer influence & academic culture
Institutional	Academic demands & structural barriers; Institutional support & resource constraints
Community	Sociocultural and gender influences
Public Policy	Environmental and policy support for student well-being

Theme no 1: Academic Pressure as a Structural Barrier to Self-Care

This was the dominant factor in all the interviews. The respondents always reported that there was not enough time to exercise, sleep or eat healthy due to academic workload, examination pressures and the long sitting hours. In places where there were such facilities, students complained of poor use because of the tight schedules and workloads. This theme reveals the impact of the institutional structure on the continued physical neglect where the success of academic performance is associated with a sacrifice in self-care.

Representative quotes from participants are

- “Due to studies, we get less time for physical activities.” (P6)
- “My body is taking the brunt of academic pressure.” (P2)
- “The workload and stress sometimes make it difficult to prioritize health.” (P1)
- “During exams I sleep less and eat irregularly.” (P9)
- “Lack of sleep, stress, poor posture, and limited time for exercise.” (P1)
- “Dental school has made maintaining physical health habits more challenging.” (P10)
- “Prolonged sitting during study sessions can lead to back pain and neck pain.” (P9)
- “Sports week is held but the academic workload makes it difficult to manage both sides.” (P7)
- “Less time for physical activities due to studies.” (P6)

Theme 2: Sociocultural and Gender Influences on Physical Self-Care

The majority of the female dental students emphasized the limitations based on a cultural and gender standpoint in the achievement of physical health. Pakistan has a culture where females are not culturally encouraged to engage in outdoor activities and have an emphasis on academic perfection as opposed to excelling in maintaining good health. This theme shows an imbalance created by society, the academic discipline system designed to promote academic efforts unwillingly promotes neglect of self-care and leisure in particular by female students.

Representative quotes are

- “As females, we can’t go out for walks easily.” (P1)
- “Cultural norms in Pakistan affect management of physical health.” (P7)
- “The cultural norms discourage females from outdoor physical activity.” (P8)
- “Parents focus more on grades than health.” (P9)
- “Society values achievement more than wellness.” (P9)
- “Cultural emphasis on academics over sports limits physical activity.” (P9)
- “Female students face restrictions on outdoor activities.” (P7)

Theme 3: Family as a Dual Source of Support and Strain

The subjects described their families as both helpful and restrictive: the parents gave them the encouragement to exercise, rest and eat a balanced diet, but the household chores and social conditions decreased the time they could spend on their own wellbeing. Families are the emotional anchor, but they unintentionally generate rather opposite forces which point out the ambivalence of the role of families in the Pakistani schooling culture.

Representative quotes are

“My family strongly believes that health should be the first priority because without good health, academic success is not sustainable.” (P1)

“They encourage me to eat well and rest.” (P1)

“My family believes that physical self-care is crucial for overall well-being.” (P2)

“Family contributes positively; they encourage me to eat well and get proper sleep.” (P3)

“Talking to family helps me relax.” (P3)

“My family provides emotional support and courage.” (P5)

“Sometimes, with household chores it becomes difficult to manage exercise.” (P8)

“Family gatherings reduce my resting time.” (P9)

“Family responsibilities can limit time for exercising or proper eating.” (P10)

Theme 4: Peer Influence and the Academic Culture of Neglecting Health

The peers became a significant source of the motivation, and some of the participants mentioned walking as a group or participating in some similar physical exercises. Nevertheless, students themselves also noted collective normalization of the overwork. The peers certainly do not model the consistent health behavior of one another, unlike the case where the peers commiserate about the stress of each other. This theme reveals one paradox of peer group in which a group will provide the motivation to take a person socially, and at the same time, boost the culture of academic exhaustion at the expense of physical wellbeing.

“My classmates are in favor but struggle to maintain it consistently.” (P1)

“We have group activities like playing sports or going for walks together.” (P5)

“These activities help us relax and bond as classmates.” (P5)

“Peers also face difficulty maintaining routine.” (P7)

“Everyone is busy with classes and academic work.” (P6)

“Most of my classmates are supportive but find it difficult to continue regularly.”

“Academic stress affects all of us equally.” (P4)

“Group motivation helps consistency.” (P2)

“If friends join, it becomes easier to exercise regularly.” (P2)

Theme 5: Awareness of Self-Care Practices without Sustained Behavior

The majority of the female dental students emphasized the limitations based on a cultural and gender standpoint in the achievement of physical health. Pakistan has a culture where females are not culturally encouraged to engage in outdoor activities and have an emphasis on academic perfection as opposed to excelling in maintaining good health. This theme shows an imbalance created by society, the academic discipline system designed to promote academic efforts unwillingly promotes neglect of self-care and leisure in particular by female students.

Representative quotes are

“We all know self-care is important but can't follow it regularly.” (P1)

“Awareness is there but implementation is lacking.” (P1)

“I know it's necessary but can't manage it.” (P7)

“We are aware yet fail to apply it.” (P9)

“Health means having enough rest and sleep.” (P7)

“I get proper sleep of at least 8 hours daily.” (P9)

“I try to eat healthy, have a balanced diet and exercise daily.” (P8)

“We feel guilty for not maintaining healthy habits.” (P8)

“Back pain reminds me to move and stretch more.” (P9)

“I’ll try to fix a schedule for exercise.” (P6)

“I plan to make a daily routine.” (P7)

Theme 6: Environmental and Policy Supports for Student Wellness

Other environmental settings that students identified were parks, communal gyms, and vaccination drives. They also supported policy changes to provide wider access to campus wellness programs, flexible study schedules as well as government health programs. This theme depicts that it comprehends a broader health ecosystem and that although individual responsibility is a component of health, there would be institutional and governmental assistance in order to make healthier decisions.

Representative quotes are “Yes, there are public parks and walking tracks nearby which I sometimes use.”

“Vaccination programs and awareness campaigns help.” (P8)

“Community initiatives promote physical self-care.” (P10)

“Public parks and community gyms promote physical self-care.” (P9)

“Government should promote physical activities and wellness.” (P5)

“Policies supporting work-life balance would be beneficial.” (P4)

“We need more student wellness programs and flexible academic schedules.” (P8)

“Institution should provide wellness initiatives within campus” (P8)

DISCUSSION

The present qualitative study explored how female dental students in Abbottabad perceive and practice physical self-care within their academic and sociocultural contexts. Using Braun and Clarke’s (2006) six-phase thematic framework, six dominant themes emerged: **1** academic pressure as a structural barrier to self-care, **2** sociocultural and gender influences on physical self-care, **3** family as a dual source of support and strain, **4** peer influence and the academic culture of neglecting health, **5** awareness of self-care practices without sustained behavior, and **6** environmental and policy supports for student wellness. These findings reflect the multi-layered reality described in the **socio-ecological model** (Bronfenbrenner, 1994), which posits that individual health behaviors are shaped by interconnected personal, social, institutional, and environmental forces. The findings highlight that while dental students are aware of self-care’s importance, they struggle to implement it because of systemic pressures, gendered cultural norms, and inadequate institutional support.

The initial significant result is that academic workload in the academic setting, institutional demands, and exam-related fears are the most severe structural impediments to self-care. The respondents reported long hours of studying, hard work in clinics, and fatigue, leaving them with little time to move, sleep, and have fun. Despite the existence of college gyms and sports weeks, they were not used much due to time and workload constraints. This correlates with the results of Pipas et al. (2020), which indicated that academic productivity at the institution comes at the cost of students’ well-being (Pipas et al., 2020).

A mass of other literature further supports such an insight. Across the globe, medical students have been reported to experience undue academic pressure, leading to stress, depression, and burnout (Ibrahim et al., 2013). These structural stressors were linked to a long-term decline in motivation to engage in healthy behaviors, a pattern also observed in the current study among students.

Moreover, the effects of sociocultural norms, particularly those concerning women, were also claimed to worsen these pressures. Multiple respondents also mentioned that cultural practices of modesty and household duties were some of the obstacles to outdoor exercise and, consequently, personal hygiene. These data align with the results of other studies that were carried out by Aujla and Narasimhan (2023), who outlined the effects of cultural and gender norms on self-care in South Asian women.

These findings are further supported by Sattar, Yusoff, & Khan (2014), who report on gendered and family-related obstacles to physical activity among Pakistani female medical students. It was revealed that the effect of institutional culture on self-care: learning environments that are gendered reduced stress levels and boosted students’ psychological well-being (Alfaris et al., 2014).

Family influence was found to be restrictive and protective. Students also claimed that families provided emotional and

motivational support, but said that domestic chores, social responsibilities, and family expectations limited their time for self-care. This dichotomy aligns with the cultural trend of collectivism, where family unity both facilitates and limits behavior (Byrnes et al., 2020). The peer networks also had a dual impact: they offered both companionship and encouragement to write, take a walk, or participate in sports with the groups, while also perpetuating an individual academic culture of overwork that sanctioned not taking care of themselves. The results of Tempiski et al., 2015 present the way in which resilient students who have strong relationships with the family and peers can become overcommitted towards achieving academic aspirations and forgetting about their health (Tempiski et al., 2015).

The awareness-action gap was one of the most important themes that was observed. The students were aware that it is essential to maintain a balanced diet, exercise, and get proper rest (which are also crucial for health), but could not continue doing so. This was corroborated by Scullion et al. (2023), who concluded that self-care among students tended to be aspirational with non-supportive institutional frameworks (Scullion et al., 2023).

Knowledge-to-practice has also been noted in systematic reviews of medical student self-care behavior (Wei et al., n.d.), which found that self-care training should be incorporated into curricula to promote long-term behavioral change (Wei et al., n.d.). Lastly, policy-level and environmental aspects, including community park accessibility, awareness programs, and government wellness programs, were noted but characterized as peripheral and not a part of student life.

These results have vital implications at the student, educator, institution, and policy levels. For students, the paper highlights the importance of developing self-care habits during the early stages of professional training. By incorporating daily life, stress management, mindfulness, and physical health practices, it will be possible to reduce the risk of burnout and improve academic performance. In the case of educational institutions, the indicators for shifting from viewing self-care as a personal issue to one that is part of professional training have been clearly presented. Wellness activities, such as wellness weeks, scheduled workouts, and mental health counseling, should be integrated into the academic calendar. Educators have to be role models of stability and equilibrium. According to the position of Pipas et al. (2020), the behavior of the faculty can play a central role in shaping the attitude of students toward self-care; therefore, academic leadership should stimulate healthy practices (Pipas et al., 2020). In the same manner, policymakers need to incorporate wellness and health promotion into the national dental and medical education standards, as suggested by Wan et al. (2024), who recommended introducing self-care education in all medical programs to enhance long-term professional well-being (Wei et al., n.d.) In the same vein, Slavin et al. (2014) also reported that wellness education in the curriculum leads to substantial improvements in mental wellness and academic satisfaction. Also, the WHO policy principles state that institutions of higher learning should offer systemic mental health models rather than single awareness campaigns (Slavin et al., 2014).

First, the academic demands of academics consume the students' time and energy, such that self-care is secondary to survival. Second, gender as well as cultural norms are another factor that limits the practice of exercise or recreation amongst the students, particularly the female students in a conservative environment. Third, family and peer support systems are present but inconsistent; they can offer emotional relief but rarely result in long-term behavioral change. Fourth, a knowledge/behavior gap is rampant: students know the importance of self-care well, but are not always able to do it. Finally, there is a poor institutional and environmental support system, and systemic reform is needed. Collectively, these revelations suggest an entrenched culture that favors academic perfection at the expense of holism.

The results are the findings that support and extend those of prior research. It was determined that peer and institutional processes are part and parcel of student wellness, as evidenced by participants through peer influence and institutional neglect. The results support and extend the prior research. It was determined that peer and institutional processes are part and parcel of student wellness, as evidenced by participants through peer influence and institutional neglect (Byrnes et al., 2020). (Scullion et al., 2023) have demonstrated that students' confidence, sleep, and self-efficacy increased with the introduction of mind-body medicine programs, which supports the hypothesis that organized interventions can have quantifiable benefits (Scullion et al., 2023). Similarly, have pointed out the need to develop a culture of wellness that would instill self-care in health professions education and thus have endorsed the concept of curricular change that can be seen in this study (Pipas et al., 2020) These results are also consistent with the results of (Dyrbye et al., 2006) who found burnout to be an endemic issue in medical education and (Iancu et al. 2020) who highlighted resilience training as the effective countermeasures.

The results can also align with the study by Aujla & Narasimhan (2023), who identified self-care as a socially embedded practice and, in most cases, limited by cultural norms. This layer of culture is more domestic in the Pakistani setting, where educational performance is socialized, and self-care is perceived as a luxury (Aujla & Narasimhan, 2023). Moreover, the gendered experiences mentioned above align with the recent study by Khan et al. (2025), who reported persistent gender inequities in healthcare leadership, citing the assumption that systemic disparities in well-being begin in medical training (Khan et al., 2025).

Nevertheless, it has some differences. In the current study, the participants did not refer to any formal self-care or resilience programs. In contrast, in the case of Scullion et al. institutions (2023), they had established a structured wellness curriculum (Scullion et al., 2023). Likewise, some studies have reported high faculty involvement in health promotion in Chinese

medical schools (Wan et al., 2024).

This overlaps with international evidence indicating the direct effects of academic stress, workload, and institutional culture on self-care practices among medical and dental students (Pipas et al., 2020; Scullion et al., 2023). This is also consistent with the work of Byrnes et al. (2020), who stated that peer relationships are both facilitators and obstacles to wellness (Byrnes et al., 2020). Nevertheless, this study departs from the approach, focusing on sociocultural and gender impediments that have not been critically examined in Western literature. The excessive family demands and gendered expectations mentioned by the participants point to a specific interaction between culture and education in Pakistan. The other divergence concerns the extent of guilt and internal pressure as reported by participants, reflecting a moral aspect of neglecting themselves that is hardly discussed in the literature.

Significantly, the study contributes to the literature on medical and dental education by providing context-specific information on Pakistan. It is among the initial qualitative research studies of the physical self-care practices of female dental students through a thematic analysis framework by Braun and Clarke (2006) and the socio-ecological model to guide the investigation. This study will contribute to the existing body of research by placing the problem of self-care within a broader context of South Asian culture, institutions, and gender, and by offering practical ideas for integrating wellness and self-care education into the professional curriculum. The research also validates the socio-ecological model as a relevant framework, within which the attitudes of individuals, their family relationships, and the institutional and environmental systems jointly contribute to self-care practices among health students. Incorporating cross-country evidence, like that of Slavin et al. (2014), Iancu et al. (2020), and WHO (2020), this discussion expands the discussion on the effect of policy, curriculum design, and culture in medical education as a unit on well-being outcomes (Slavin et al., 2014; *Mental Health*, n.d.).

Limitations

This study has several limitations. The sample size was limited to students in Abbottabad, and hence, the findings were not generalizable to other institutions or to other genders. Like most qualitative research, the results are based on self-reported perceptions that may be subject to social desirability bias. The cross-sectional design also does not capture changes in behavioral patterns over academic years, as it reflects experiences at a single point in time.

Suggestions for future research

The scope of future research must be expanded to include both male and co-ed samples to investigate gender differences in self-care practices. Longitudinal or mixed-method designs could provide a deeper understanding of how the habit develops and how it correlates with changes in stress, performance, and institutions. To examine the efficiency of such wellness programs as mind-body medicine programs or faculty mentorship models (Pipas et al., 2020) (Scullion et al., 2023). Cooperation between medical and dental education policymakers and institutes might ensure that self-care promotion is made mandatory for accreditation in Pakistan.

CONCLUSION

Conclusion. In short, the findings indicate that, though the female dental students in Abbottabad have excellent conceptual knowledge of physical self-care, the practice is undermined by academic overload, institutional negligence, and socio-cultural constraints. The established partnership between structural and cultural factors predetermines that self-care is not only an individual but also an institutional issue in medical education. The results reported thereby align with the existing global literature and add local flavor and cultural aspects. To have a competent, nurturing, and strong workforce within the healthcare system, self-care must be recognized as a professional quality and inculcated during education. As is said, the caretakers should take care of themselves first, and this should be the main principle of the spirit of dental and medical education in Pakistan.

Future Directions

In this regard, future studies will find value in examining how institutional wellness initiatives and reduced academic workload would affect students' self-care behavior. Comparative studies across medical and dental colleges in Pakistan could identify regional trends. Integration of self-care modules into the curriculum and subsequent assessment of their outcomes will help ensure a comprehensive approach to medical education.

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