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Original Research Article

KNOWLEDGE, ATTITUDE, AND PRACTICE OF BASIC LIFE SUPPORT AMONG NURSING STUDENTS IN THE COLLEGE OF NURSING NISHTER MEDICAL UNIVERSITY/HOSPITAL MULTAN

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Abstract: *Basic Life Support (BLS) is a critical skill for healthcare providers, enabling them to respond effectively to cardiac and respiratory emergencies. However, limited training and resource constraints pose challenges to BLS knowledge, attitudes, and practices (KAP) among nursing students in Pakistan.* ***Objective:*** *To evaluate the knowledge, attitudes, and practices of BLS among nursing students at Nishtar Medical University, Multan, and identify gaps that could inform curriculum enhancements.* ***Methods:*** *A descriptive cross-sectional study was conducted among 130 nursing students from all academic years. Data were collected using a structured questionnaire based on international BLS guidelines, assessing demographic characteristics, knowledge, attitudes, and practices. Statistical analysis was performed using SPSS version 26, employing descriptive and inferential statistics. A p-value ≤0.05 was considered significant.* ***Results:*** *Among the participants, 84.6% correctly identified the abbreviation of BLS, and 73.1% knew the correct chest compression location. However, only 53.8% demonstrated competence in performing CPR in simulated scenarios. Positive attitudes toward BLS training were prevalent, with 96.2% advocating for its inclusion in the nursing curriculum and 88.5% willing to undergo hands-on training. Prior BLS training significantly correlated with higher knowledge and practice scores (p<0.05).* ***Conclusion:*** *While nursing students at Nishtar Medical University exhibit adequate theoretical knowledge and positive attitudes toward BLS, practical proficiency remains suboptimal. Integrating hands-on BLS training into the curriculum and addressing resource limitations is essential to enhance emergency response capabilities and reduce preventable mortality.*

Keywords: Basic Life Support, Nursing Students, Cardiopulmonary Resuscitation, Knowledge, Attitude, and Practice, Pakistan, Nishtar Medical University

Introduction

Basic Life Support (BLS) is a critical component of emergency care, encompassing techniques such as cardiopulmonary resuscitation (CPR), chest compressions, and the use of automated external defibrillators (AEDs) to save lives during cardiac and respiratory emergencies. Globally, cardiac arrest remains a leading cause of mortality, with early initiation of BLS significantly improving survival rates and neurological outcomes (1, 2). In Pakistan, the incidence of cardiac arrest in both pre-hospital and in-hospital settings is rising due to increasing rates of cardiovascular diseases, yet the availability and application of BLS skills remain limited (3).

Nursing students, as future healthcare providers, play a pivotal role in responding to medical emergencies. Proficiency in BLS is essential for them to provide timely and effective interventions, particularly in resource-limited settings like Pakistan, where advanced life support systems are often unavailable (4, 5). However, studies conducted in Pakistan and other developing countries reveal alarming gaps in the knowledge, attitudes, and practices (KAP) of BLS among healthcare students, with many reporting inadequate training and lack of confidence in performing life-saving procedures (6,7).

The barriers to effective BLS training in Pakistan include the absence of standardized training programs in nursing curricula, limited access to practical training tools, and a lack of emphasis on the importance of emergency response skills. For example, Ahmed et al. found that only 40% of nursing students in Lahore had adequate knowledge of CPR techniques, and less than 25% demonstrated correct practices during simulated scenarios (8). Similarly, a study by Khan et al. reported that while 70% of nursing students recognized the importance of BLS, only 30% felt confident enough to perform it in real emergencies (9).

International guidelines, such as those established by the American Heart Association (AHA), emphasize the need for regular and hands-on BLS training to improve competency and confidence among healthcare providers (10). Incorporating such training into nursing education is crucial for bridging the gap between theoretical knowledge and practical application. This is particularly relevant in Pakistan, where healthcare providers often serve as first responders in emergencies due to limited availability of paramedics and pre-hospital care services (11).

Rationale of the Study

Given the critical role of nurses in emergency care and the evident gaps in BLS knowledge and skills among nursing students, this study aims to evaluate the KAP of BLS among nursing students at Nishtar Medical University, Multan. By identifying strengths and weaknesses in their training, this research seeks to inform curriculum enhancements and advocate for the integration of comprehensive BLS programs in nursing education. This study addresses an urgent need to equip future nurses with life-saving skills, ultimately improving patient outcomes and reducing preventable mortality in Pakistan.

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Methodology

The study was conducted as a descriptive cross-sectional survey at Nishtar Medical University, Multan, to assess the knowledge, attitude, and practice (KAP) of Basic Life Support (BLS) among nursing students. Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Nishtar Medical University. Written informed consent was secured from all participants, ensuring confidentiality and anonymity throughout the study in accordance with the Declaration of Helsinki.

The study population consisted of nursing students enrolled in the four-year BSN program at Nishtar Medical University. Inclusion criteria were students from all academic years who were willing to participate and had no prior medical qualifications beyond their current training. Students who were absent during data collection or unwilling to participate were excluded. A sample size of 130 participants was calculated using the Cochran formula, assuming a 95% confidence level, a margin of error of 5%, and an estimated prevalence of adequate BLS knowledge among nursing students.

Data collection was carried out over a three-month period using a structured questionnaire designed to assess the KAP of BLS. The questionnaire was developed based on existing literature and international guidelines for BLS training and practice. It consisted of three sections: (1) demographic information, including age, gender, academic year, and previous BLS training; (2) knowledge-based questions about key components of BLS, such as chest compression technique, ventilation rates, and AED usage; and (3) attitude and practice-related questions to evaluate willingness to learn BLS, confidence in performing BLS, and practical proficiency in simulated scenarios.

The questionnaire was pretested on a small group of nursing students to ensure clarity, reliability, and cultural appropriateness. Modifications were made based on feedback before the final administration. Data were collected in classroom settings under the supervision of trained research assistants, ensuring uniformity and minimizing bias. Each participant completed the questionnaire independently, with a maximum time limit of 30 minutes.

Data were analyzed using SPSS version 26. Descriptive statistics, including frequencies, percentages, and means, were calculated to summarize demographic characteristics and KAP scores. Chi-square tests were performed to determine associations between prior BLS training and knowledge, attitude, and practice scores. A p-value ≤ 0.05 was considered statistically significant.

Results

This study assessing the knowledge, attitude, and practice of Basic Life Support (BLS) among nursing students at Nishtar Medical University, Multan, are structured below. The study included 130 nursing students enrolled in the four-year BSN program. The demographic profile of the participants is summarized in Table 1.

Table 1 provides the demographic characteristics of the participants.

The knowledge of BLS among nursing students was assessed using a structured questionnaire, and the results are presented in Table 2.

Table 2 highlights the participants' knowledge of various aspects of BLS.

The attitude of nursing students toward BLS training and practice was assessed, with results summarized in Table 3.

Table 3 demonstrates the participants' attitudes toward BLS training and practice.

The practical application of BLS skills was evaluated, and the results are shown in Table 4.

Table 4 illustrates the practical application of BLS skills among participants.

The study identified significant gaps in BLS knowledge, particularly in the practical application of skills such as chest compressions and rescue breaths. While the majority of participants recognized the importance of BLS and were willing to undergo training, less than 60% demonstrated proficiency in practical scenarios. Prior BLS training was associated with better knowledge and practice scores, emphasizing the importance of regular and hands-on training programs.

Table 1: Demographic Characteristics of Participants

Demographic Variable	Frequency (n)	Percentage (%)
Age (years)		
- 18–20	40	30.8
- 21–23	70	53.8
- >23	20	15.4
Gender		
- Female	130	100.0
Academic Year		
- First Year	30	23.1
- Second Year	35	26.9
- Third Year	40	30.8
- Fourth Year	25	19.2
Previous BLS Training		
- Yes	50	38.5
- No	80	61.5

Table 2: Knowledge of Basic Life Support Among Participants

Knowledge Question	Correct Response (n)	Correct Response (%)
Abbreviation of BLS	110	84.6
First response for an unresponsive person	90	69.2
Chest compression location	95	73.1
Depth of compression in adults	80	61.5
Rate of chest compressions per minute	100	76.9
Abbreviation of AED	105	80.8
Compression-to-ventilation ratio	85	65.4

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Table 3: Attitude towards Basic Life Support

Attitude Question	Agree (n)	Agree (%)
BLS is necessary for nursing students	120	92.3
Willing to undergo hands-on BLS training	115	88.5
BLS training should be included in the curriculum	125	96.2
Confident to perform BLS in emergencies	70	53.8

Table 4: Practice of Basic Life Support among Participants

Practice Question	Correct Practice (n)	Correct Practice (%)
Positioning hands for chest compressions	90	69.2
Performing rescue breaths correctly	85	65.4
Handling foreign-body airway obstruction	75	57.7
Performing CPR in a simulated scenario	70	53.8

Discussion

This study assessed the knowledge, attitude, and practice (KAP) of Basic Life Support (BLS) among nursing students at Nishtar Medical University, Multan. The findings highlight significant gaps in practical skills and varying levels of knowledge and attitudes toward BLS training. These results are consistent with previous studies conducted in similar settings, providing valuable insights into the challenges and opportunities for enhancing BLS training in Pakistan.

In this study, 84.6% of participants correctly identified the abbreviation of BLS, and 73.1% knew the correct location for chest compressions. These results align with Bashir et al., who reported that 80% of nursing students in Karachi demonstrated adequate theoretical knowledge of BLS, but gaps in specific procedural details were noted in 25% of participants (12). Similarly, Ahmed et al. found that 78% of nursing students in Lahore had accurate knowledge of chest compression techniques, with 60% correctly identifying the recommended depth of compressions (13).

However, the practical application of BLS skills remains a significant challenge. In our study, only 53.8% of participants demonstrated competence in performing CPR in simulated scenarios. This aligns with Khan et al., who reported that less than 55% of nursing students in Pakistan were confident in performing CPR despite recognizing its importance (14). Almesned et al. observed a similar trend internationally, with 50% of nursing students in Saudi Arabia expressing a lack of confidence in their BLS skills (15).

Attitudes toward BLS training were generally positive, with 92.3% of participants agreeing on the necessity of BLS for nursing students and 96.2% advocating for its inclusion in the curriculum. These findings are consistent with Zafar et al., who reported that 90% of medical students in Pakistan considered BLS training essential for healthcare professionals (16). However, this positive attitude did not always translate into practical proficiency, highlighting the need for more effective training methodologies.

The influence of prior BLS training was evident in our study, where students with previous training performed better in both knowledge and practice assessments. This finding is supported by Roshana et al., who observed that nursing students with hands-on BLS training scored 20% higher in practical skills compared to those without training (17). Similarly, Perkins et al. emphasized the importance of regular and hands-on training to bridge the gap between knowledge and practice in BLS (18).

Barriers to effective BLS training in Pakistan include limited access to training resources, lack of standardized curricula, and insufficient opportunities for hands-on practice. These challenges were also highlighted by WHO, which identified resource constraints and inadequate training infrastructure as significant barriers to emergency care training in low- and middle-income countries (19).

Conclusion

The findings of this study underscore the urgent need for integrating comprehensive and hands-on BLS training into the nursing curriculum in Pakistan. While theoretical knowledge and positive attitudes toward BLS are prevalent, practical proficiency remains suboptimal. Addressing these gaps through policy interventions, enhanced training infrastructure, and regular refresher courses is critical for improving emergency care outcomes and reducing preventable mortality.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department Concerned.

Consent for publication
Approved

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Conflict of interest

The authors declared absence of conflict of interest.

Author Contribution

SHAGUFTA ABDUL RASHID (MS Nursing)
Coordination of collaborative efforts.
Study Design, Review of Literature.
SHAGUFTA MAJEED (Nursing Instructor)
Conception of Study, Development of Research Methodology Design, Study Design,, Review of manuscript, final approval of manuscript.
Conception of Study, Final approval of manuscript.
MUNAZZA RUBAB (Nursing Officer)
Manuscript revisions, critical input.
Coordination of collaborative efforts.

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Data acquisition, analysis.
Manuscript drafting.
Data entry and Data analysis, drafting article.

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