



KNOWLEDGE, ATTITUDE AND PRACTICE OF BASIC LIFE SUPPORT RELATED TO CPR AMONG MEDICAL STUDENTS

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ABSTRACT

Background: When a person has sudden cardiac arrest, Basic Life Support (BLS) aids in the emergency response system's activation, resuscitation, and quick defibrillation. Since Pakistan has one of the highest rates of accidental mortality, it is essential to evaluate the BLS knowledge of medical practitioners. Thus, my goal is to evaluate the BLS knowledge, attitude, and practice of medical students.

Objective(s): To assess knowledge, attitude and practice of basic life support related to CPR among medical students.

Methodology: From April to July 2023, a cross-sectional survey utilizing the Knowledge, Attitude, and Practice (KAP) framework was carried out at the University of Chenab in Gujrat, a privately owned institution. A modified version of previously employed questionnaires from similar research endeavors was employed.

Results: Among total 374 participants, 330 were female and 44 were male, among which 46 participants has good knowledge, 232 has middle knowledge and 96 has poor knowledge about CPR, 258 has negative attitude and 116 has positive attitude towards CPR, 354 has week practice and 20 participants has good practice of BLS specifically CPR. Descriptive statistics were analyzed using SPSS v22.0. $P < 0.05$ was considered as significant.

Conclusion(s): The majority of student's knowledge was poor, attitude was negative and practice towards CPR in University of Chenab was poor and is not sufficient and safe enough, even though few participants have positive and good attitude towards it.

Keywords: Basic life support, Medical students, Knowledge, Attitude, Practice, Cardiopulmonary Resuscitation.

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INTRODUCTION

Basic Life Support (BLS) is a crucial technique utilized for rescue individuals from potentially life-threatening situations like cardiac arrest and choking due to foreign objects. BLS has demonstrated significant success in increasing the chances of survival for victims.¹The leading cause of disabilities and mortality was cardiac arrest. This event frequently happened abruptly to patients who were outside medical facilities or hospitals, leaving them without timely medical assistance.²

Administering bystander chest compressions diminishes the likelihood of fatality following a cardiac arrest. The Global Resuscitation Alliance underscores the significance of imparting Basic life support (BLS) knowledge to the general population. Among the ten strategies aimed at augmenting survival rates subsequent to out-of-hospital cardiac arrest (OHCA), four strategies center around educating BLS practitioners within the community setting.³

Despite more than 8000 OHCA incidents occurring annually in Switzerland, the majority of regions in the country lack a structured BLS training program for the public. As a result, medical students may find themselves unexpectedly encountering OHCA cases in non-hospital or university settings and may be expected to take action due to their profession.⁴

It is not just doctors and nurses who encounter life-threatening medical emergencies; dental practitioners also face such situations as part of their profession. There have even been some cases reported where patients have suffered cardiopulmonary arrest and died during dental treatment.⁵ Numerous studies indicate that prompt identification and effective management of critical life-threatening signs can lead to a higher survival rate. Cardiovascular diseases account for more than 40% of all disease burdens.⁶

The goal of basic first aid is to keep the airway, breathing, and circulation (ABC) functioning properly without relying on additional equipment.⁷In the meantime, a

research was conducted in Hong Kong among the general public of Asian origin and results showed that just 12.0% of participants had received CPR instruction. This study also highlighted that even the group of individuals who had received CPR training before had inadequate knowledge regarding CPR.⁸

Several articles have estimated the levels of BLS awareness among undergrad students.⁹However this type of information is not present about undergrad students of Pakistan. The aim of this cross-sectional study is to assess and explore the knowledge, attitude and practice about basic life support related to CPR in medical students.

METHODOLOGY

Inclusion criteria: We conducted cross-sectional study to find knowledge, attitude and practice of basic life support related to CPR among medical students. Data were collected from University of Chenab, Gujrat. Students of Allied Health Sciences (DPT, MID, DDNS, PHARM-D) and students who are willing to participate are included in the study while students with any kind of communication difficulty¹⁰, dental students, nursing students and MBBS students were excluded from the study.

Data collection: For each patient, we collected socio-demographic data (age group, sex, and department) and then a structured questionnaire was used, which was adapted from pre-tested questionnaires that have been used previously in similar studies in India¹¹⁻¹³ and in Saudi Arabia¹⁴, to check the knowledge, attitude and practice of Basic Life Support related to CPR in medical students. We collect the data on the bases of structured questionnaire rather than performing any kind of test to check the knowledge, attitude and practice of Basic Life Support related to CPR in medical students.

Statistical analysis: Data were entered and analyzed using statistical package for Social Sciences (SPSS) software version 24. For descriptive analysis, mean and standard deviation will be calculated for quantitative variables whereas Frequency and percentages

will be calculated for qualitative variables. For inferential statistics, appropriate statistical test will be applied. All results will be calculated at

95% confidence interval and P-value ≤ 0.05 was considered as a significant value.

Ethical consideration: Informed consent was obtained for all participants in the study.

RESULTS:

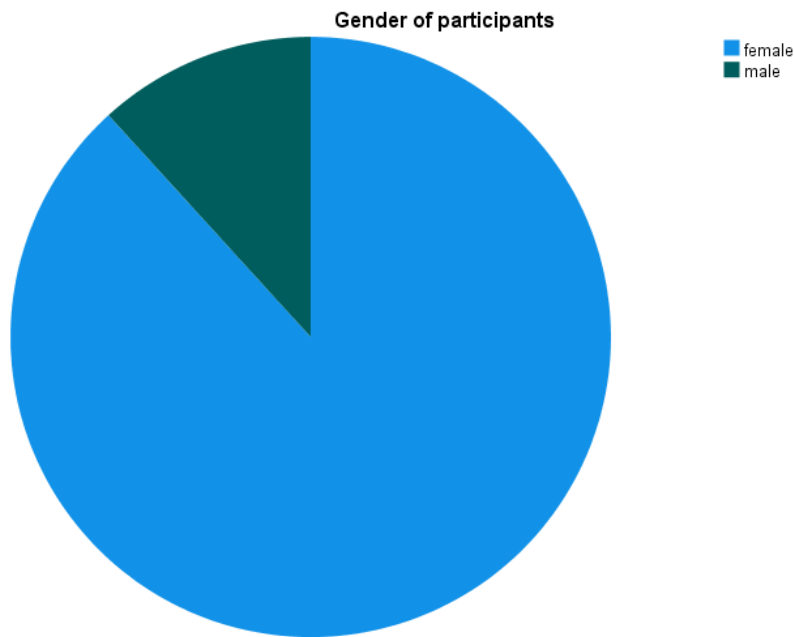


Figure.1.1 Gender of participants

Figure 1.1 shows gender of participants. In this study out of 374 participants, 330 (88.2%) were female and 44 (11.8%) were male.

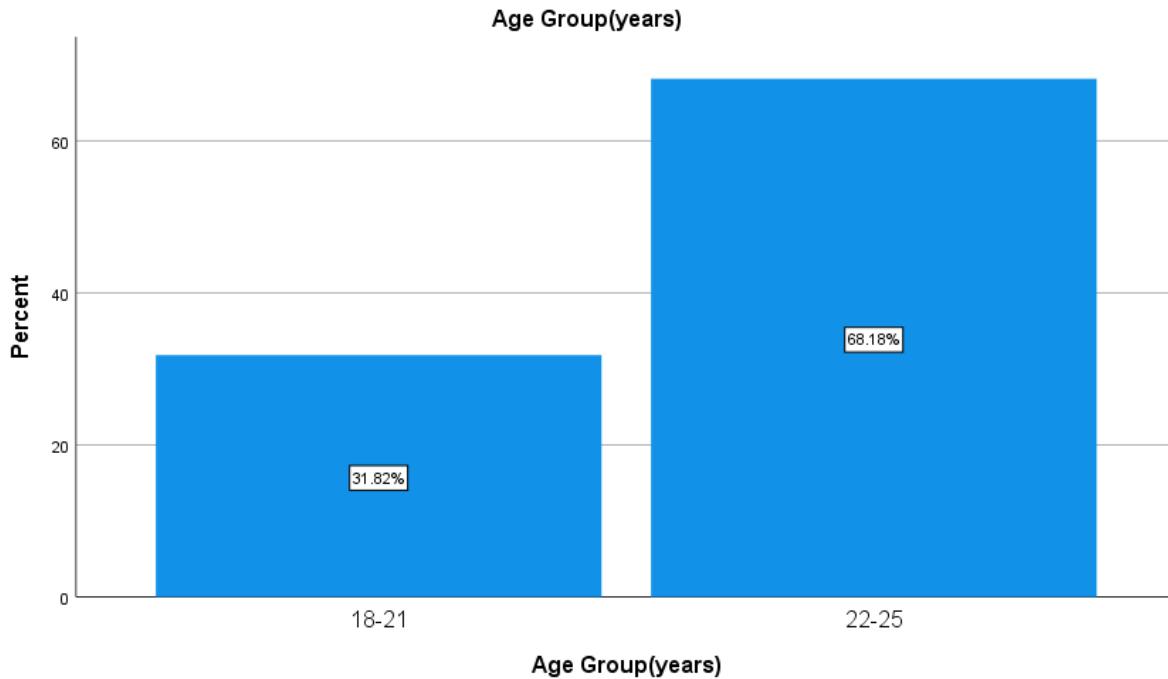


Figure.1.2 Age group of participants in years

Figure 1.2 shows the age group of participants. Age of participants is divided into 2 categories. First group includes participants with age from 18-21 years and second group includes participants with age from 22-25 years. According to the data group 1 included 119 (31.82%) individuals and group 2 included 225 (68.18%) participants.

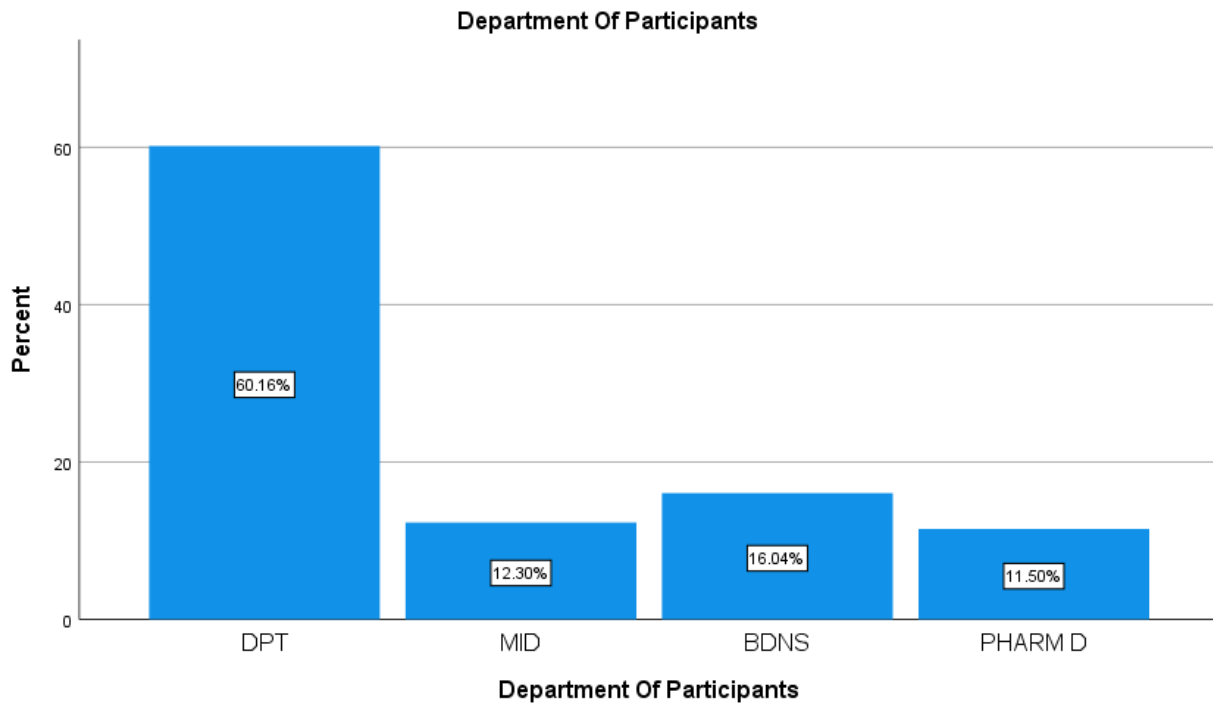
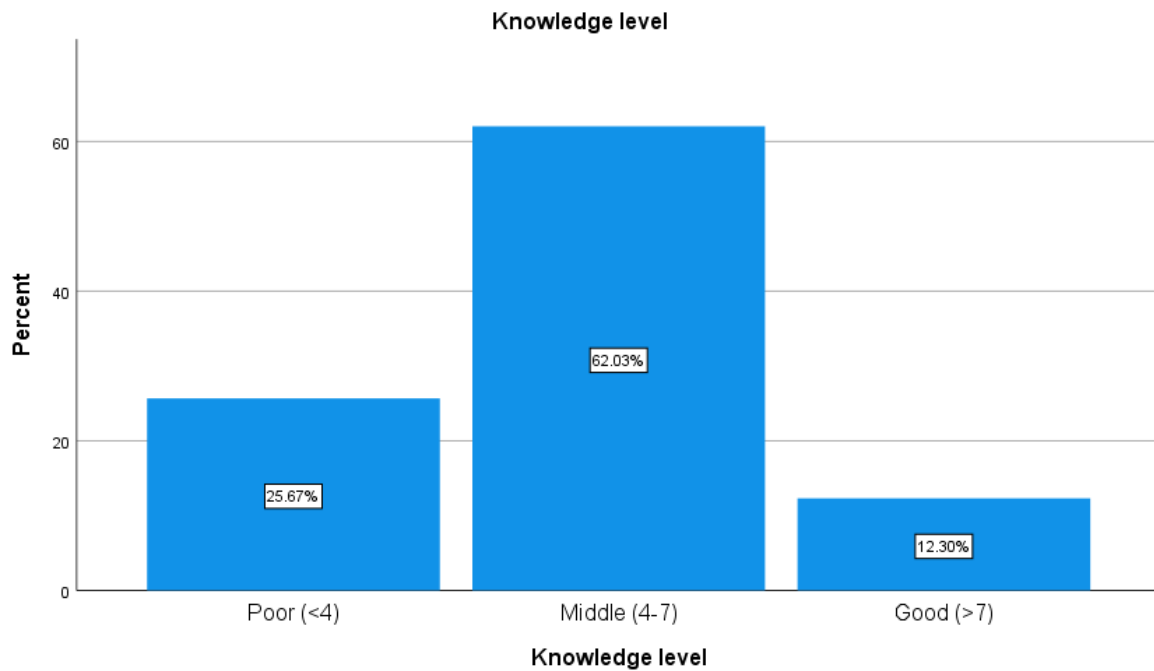


Figure.1.3 Department of participants

Figure 1.3 shows the departments of participants. Out of 374 participants 225 (60.16%) were from DPT, 46 (12.30%) were from MID, 60 (16.04%) were from BDNS, 43 (11.50%) were from Pharm-D.



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Figure.1.4 Knowledge level of participants

Figure 1.4 shows knowledge level of participants. Knowledge level of 96 (25.67%) participants was poor, 232 (62.03%) participants was middle and 46 (12.30%) participants was good.

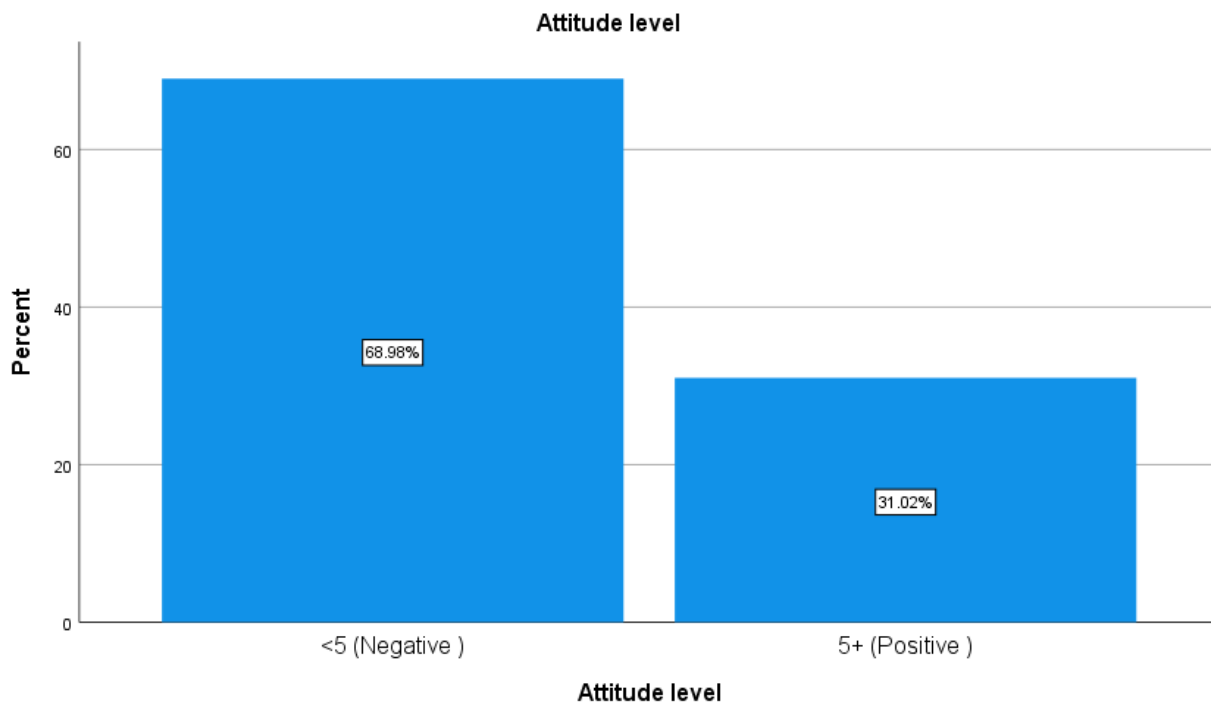


Figure.1.5 Attitude level of participants

Figure 1.5 shows the attitude level of participants. Out of 374 participants attitude level of 258 (68.96%) was negative and attitude level of 116 (31.02%) participants was positive.



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Figure.1.6 Practice level of participants

Figure 1.6 shows the practice level of participants. Out of 374 total participants practice level of 354(94.65%) was week and practice level of 20 (5.35%) was good.

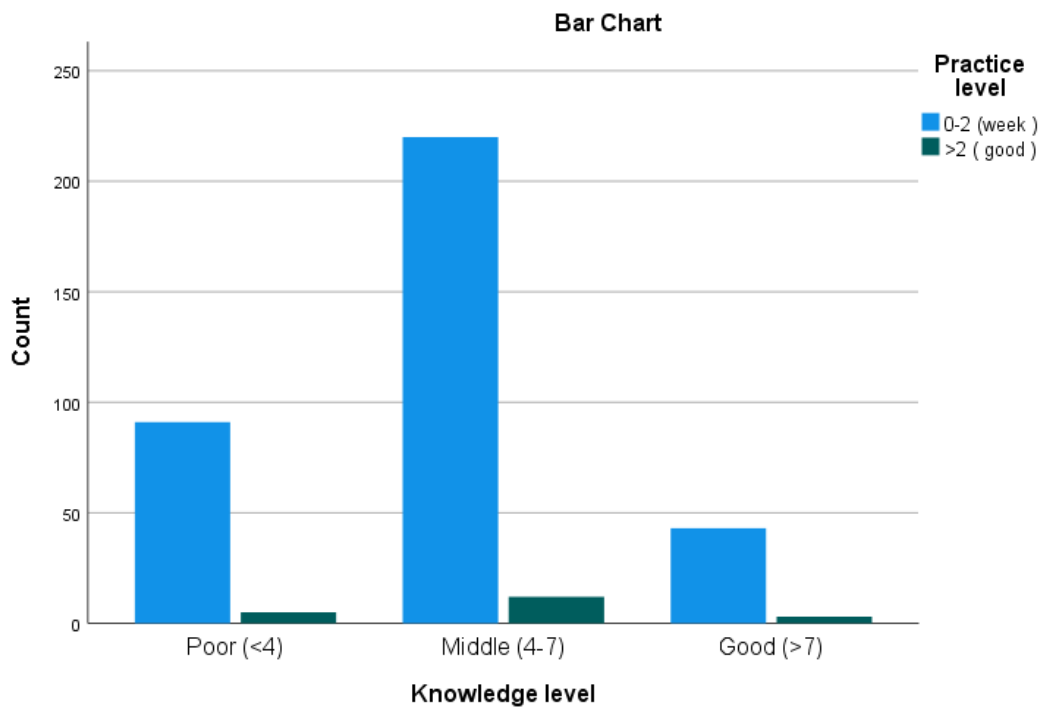


Figure.1.7 Knowledge*Practice Association



Out of the total 374 participants, 96 (25.7%) participants has poor knowledge level in which 91 (25.7%) has week practice and 5 (25.0%) has good practice of cardio-pulmonary resuscitation, 232 (62.0%) participants has middle knowledge level in which 220 (62.1%) has week practice and 12 (60.0%) has good practice and 46 (12.3%) participants has good knowledge level in which 43 (12.1%) has week practice and 3 (15.0%) has good practice. According to Chi-square test our value is <0.05 which means p value is significant.

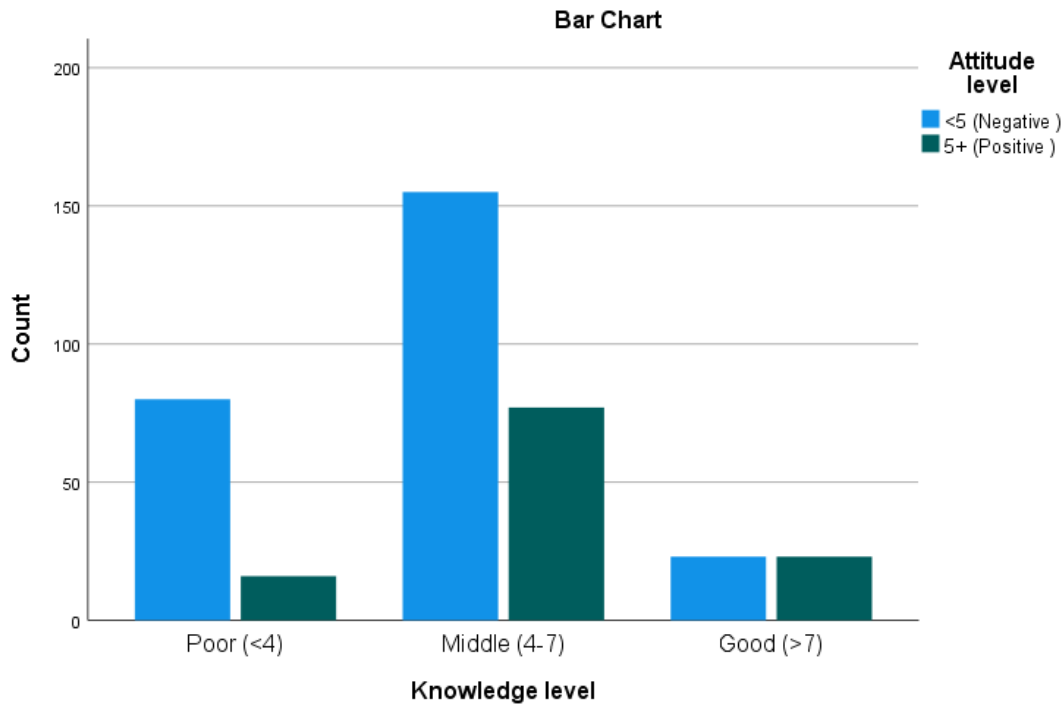


Figure.1.8 Knowledge*Attitude Association

Total 374 participants filled the questionnaire, out of which 96 (25.7%) participants has poor knowledge level in which 16 (13.8%) has positive attitude and 80 (31.0%) has negative attitude towards CPR, 232 (62.0%) participants has middle knowledge level in which 77 (66.4%) has positive attitude and 155 (60.1%) has negative attitude and 46 (12.3%) participants has good knowledge level in which 23 (19.8%) has positive attitude and 23 (8.9%) has negative attitude, and according to Chi-square test our value is >0.05 which means that p value is non-significant.

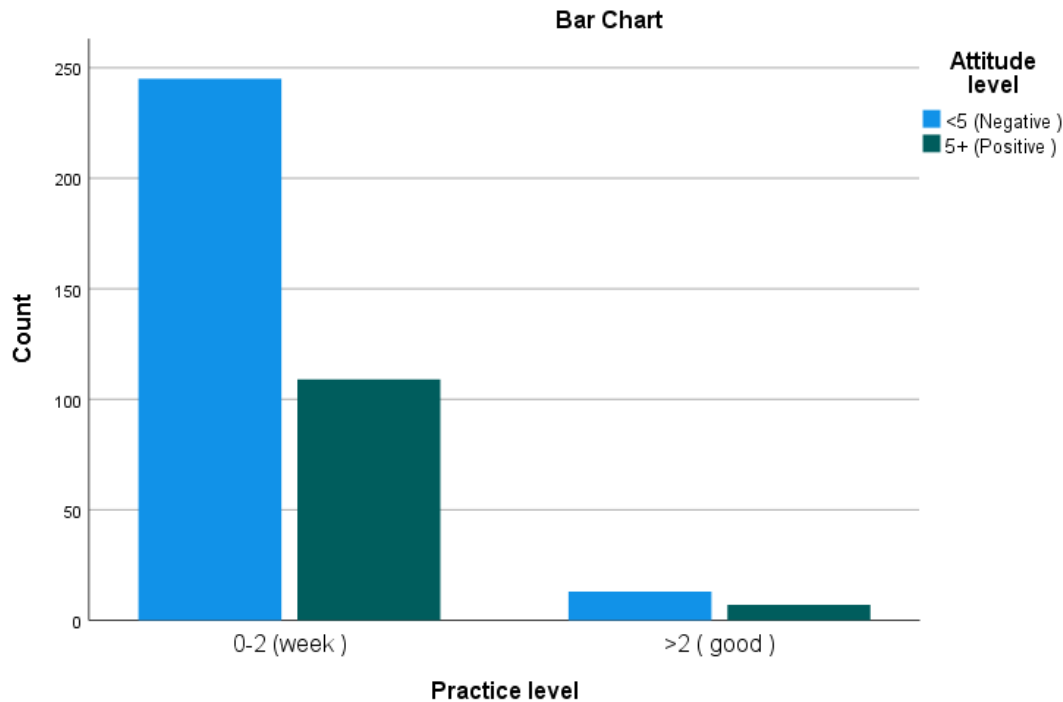


Figure.1.9 Practice*Attitude Association

Practice level of 354 (94.7%) participants, out of 374, is week from which 109 (94.0%) has positive attitude towards CPR and 245 (95.0%) has negative attitude and the remaining 20 (5.3%) participants has good practice from which 7 (6.0%) has positive attitude and 13 (5.0%) has negative attitude. According to Chi-square test our value is >0.05 which means p-value is non-significant.

DISCUSSION:

Since CPR is shown to be beneficial, developed nations have been encouraging BLS training for high school students for nearly ten years.¹⁵ However, Pakistan still lacks such suggestions and norms, not even for students studying health and paramedical care. Except for only a few individuals, many medical and nursing students in Pakistan may not even learn the basic principles of BLS.

When someone's breathing or heartbeat has stopped due to an emergency, such as a heart attack or a near-drowning, cardiopulmonary resuscitation (CPR) can save their life. Everyone, including untrained audience members and medical professionals, is advised to start CPR with chest compressions,

according to the American Heart Association. If you're worried that your knowledge or skills aren't perfect, it's better to take action than to do nothing at all. Keep in mind that the difference between your action and inaction could affect someone's life.¹⁶

The current study intended to evaluate the extent of basic life support knowledge, attitude, and practice among medical students at the University of Chenab.

In the present study only 94.65% participants have not performed CPR ever while 68.96% participants have negative attitude towards CPR. Suzuki et al.'s research on 3305 Japanese medical students revealed that less than 20% of them were trained in performing standard CPR.¹⁷

Several research studies have showed that students had greater confidence in performing CPR after CPR education, indicating that CPR education boosted the confidence of schoolchildren.¹⁸

Additionally, CPR training greatly improved students' sense of self-worth and moral obligation to others.



The knowledge as well as attitude score among majority of the medical students of university of Chenab were poor and negative and statistically non-significant as well. Only 15.2% of the local students had enough knowledge of CPR, according to a survey by SzeNokng et al., revealing the lack of knowledge.¹⁹ The majority of respondents in Singapore are eager to perform standard CPR for a member of the public, which means majority has a positive attitude, according to a survey by Susmita Roy Chowdhury et al., which helped to focus future CPR training appropriately.²⁰

CPR instruction for lower-grade students in elementary school that is methodical and repetitive may be necessary to raise the rate of bystander CPR in emergencies. Previous researches have demonstrated a beneficial relationship between CPR expertise, a good outlook, and increased confidence in performing CPR.²¹

12.30% participants have adequate or good knowledge about CPR according to this study, among medical students of university of Chenab. AdemDursun et al. concluded that only 4.8% teachers have adequate knowledge of CPR in Kayseri secondary school in Turkey.²²

The standardized questionnaire employed in this research project only examines theoretical knowledge or the cognitive domain, which is one of the study's shortcomings. On the other hand, practical performance demands both psychomotor skills and theoretical understanding. As the sampling method was non-probability convenient sampling, confidence interval cannot be calculated which also limits the scope of the study. However, this study was conducted only in a single university and hence cannot be compared with the findings of this study.

CONCLUSION:

In conclusion, this study indicates that knowledge of BLS among medical students of university of Chenab is poor and needs to be improved, although few students have positive and good attitude towards BLS, but majority students don't even have adequate knowledge

of cardiopulmonary resuscitation and have negative attitude and week/poor practice of CPR. The deficits in the knowledge of BLS in medical students are a huge concern. Repeated training with practical demonstration is needed to achieve practical knowledge among medical students.

LIMITATIONS:

1. The only evaluation technique used in this study was a survey; therefore there may not have been much of a relation between survey respondents' responses and their actual behavior.
2. The participants were medical students studying in the same university, so the possibility of diffusion could not be completely eliminated. Furthermore, generalization of the findings is limited, as only university students from one university were examined.

RECOMMENDATIONS:

1. Only the theoretical knowledge of medical students was taken into account in this study. So it is recommended that future researchers emphasize on the impacts of practical instruction of CPR.
2. This study shows that majority students have negative attitude towards CPR, it is recommended that an intervention program be used to address the prevalent belief among medical students that cardiopulmonary resuscitation is a difficult procedure in order to change their perspective on the procedure.

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