

# KNOWLEDGE ABOUT BASIC LIFE SUPPORT AMONG DENTAL STUDENTS AND STAFF AT TEACHING DENTAL HOSPITAL

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## ABSTRACT

*Before receiving complete medical attention at a hospital, patients of life-threatening illnesses or injuries receive basic life support (BSL), which is the first stage of medical care. Study aims to increase knowledge about BLS among dental students and supporting staff, so they can save lives. All batches of BDS undergraduate and staff of Islamabad Dental Hospital were included. The data was collected in the form of questionnaire and SPSS version 23 was used for analysis.*

*A total sample of 203 with 149 females and 54 males as shown were included with mean age of 22.26±4.525. Participants (94.6%) thought that having knowledge is important and almost half (51.2%) attended the BLS workshop before. 36.5% had the very good knowledge of BLS whereas poor knowledge was found in 17.7%. A significant difference was found between undergraduate dental students and supporting staff. Significant improvement in knowledge was seen in undergraduate students of senior years as compared to junior years of BDS. Dental students and support staff had a good attitude toward BLS training despite the poor knowledge.*

**Keywords:** BLS, Health emergency, life threatening, Serious emergency.

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## INTRODUCTION

Recognizing a sudden cardiac arrest and triggering the emergency response system, then performing resuscitation and quick defibrillation, is known as basic life support (BLS).<sup>1</sup> When a cardiac arrest occurs, basic life support and cardiopulmonary resuscitation (CPR) are

urgently needed and must be carried out. Healthcare personnel must master these potentially life-saving techniques. In industrialized nations, students, academics, even the general public are taught how to carry out these lifesaving protocols.<sup>2</sup>

According to a study done in India, medical, dentistry, and nursing students generally have very little understanding of BLS.<sup>3</sup> A study by Owojuyigbe et al, revealed that the group of dentistry students had very little understanding of BLS.<sup>4</sup> There was a glaring lack of expertise among the interns regarding the management of medical emergencies.<sup>5</sup>

Abbas et al reported that trained students had more knowledge as compared to untrained students.<sup>6</sup> Sudeep and Jain also mentioned the need of improvement of BLS knowledge among dental students and faculty.<sup>7</sup>

Many studies reported the lack of knowledge about BLS in dentistry.<sup>8-10</sup> Saquib et al. conducted a study in which health interns participated and their BLS knowledge was below average.<sup>11</sup> Cardiorespiratory arrest in the hospital is one of the leading causes of death in the Western world. Carlos Mendez-Martinez et al demonstrated in a study that students had a value for quality CPR greater than 70%.<sup>12</sup> In the United Kingdom, medical students have a poor understanding of BLS And not up to mark according to latest AHA

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guidelines. There is a disparity in knowledge standards across institutions, with respondents indicating a desire for more training.<sup>13</sup>

Healthcare providers are required to maintain basic life support (BLS) skills. This study is being conducted to assess dental students' and dental staff's current knowledge of BLS at Islamabad Dental Hospital.

The purpose of our research is to increase knowledge about BLS among dental students and supporting staff, to prepare them for life threatening situations and provide lifesaving BLS care before transporting them for definitive management at medical hospital.

**METHODOLOGY**

A cross sectional questionnaire study using convenience sampling technique was conducted among the dental undergraduate students and hospital staff including dental assistants, hygienists, and lab technologists.

After ethical approval from intuitional review board, a self-administered questionnaire in hard copy were distributed among dental students and staff. Incomplete questionnaire was and those who were not willing to participate were excluded.

Data from undergraduate dental students and staff was obtained in Urdu or English language according to their will. Filled questionnaire forms were encoded

and entered in SPSS version 23.

A descriptive analysis was performed. For quantitative data, mean and standard deviation were determined, while frequencies and percentages were factored for qualitative data. Figures and tables were created to demonstrate the results.

**RESULTS**

Total sample of dental staff and undergraduate dental students was n-203 with 149 (73.4%) females and 54 (26.6%) male as shown in figure 1. Mean age of participants was 22.26±4.525 with range of 18-48. Distribution of participants into different groups were shown in figure 1. Majority of participants (94.6%) thought that having knowledge is important as shown in table 1. Almost half (51.2%) of the participants attended the BLS workshop before.

Among the participants 36.5% had the very good knowledge of BLS followed by 45.9% who had partial knowledge. Poor knowledge was found in 17.7%. Response to different questions were shown in table 2. When staff and undergraduate dental students were compared, a significant difference were found as p-value were found significant. Undergraduate dental students had better knowledge as compared to staff working in hospital. Knowledge regarding BLS was increasing as undergraduate student moves to higher classes. A significant difference was found between preclinical

TABLE 1: PERCEPTION THAT HAVING KNOWLEDGE OF BLS IS IMPORTANT

	Yes	No	Sometime	Total
1st Year	42	2	0	44
2nd Year	43	3	3	49
3rd Year	38	0	0	38
Final Year	46	0	0	46
Staff	23	1	2	26
Total	192	6	5	203

TABLE 2: RESPONSE TO DIFFERENT QUESTIONS BY PARTICIPANTS WITH COMPARISON

Questions	Undergraduate Dental Students				Dental Staff	Total	p-Value (Chi Square Test)
	1st Year	2nd Year	3rd Year	Final Year			
BLS stand for	44	49	38	45	16	192	0.000
Pt Need BLS	31	46	25	46	13	161	0.000
Calling for help	27	47	30	46	18	168	0.051
Dialing Number	43	49	37	46	25	200	0.284
Knowledge of chest compressions and breaths	15	23	23	43	4	108	0.000
AED stand for	33	37	36	42	3	151	0.000

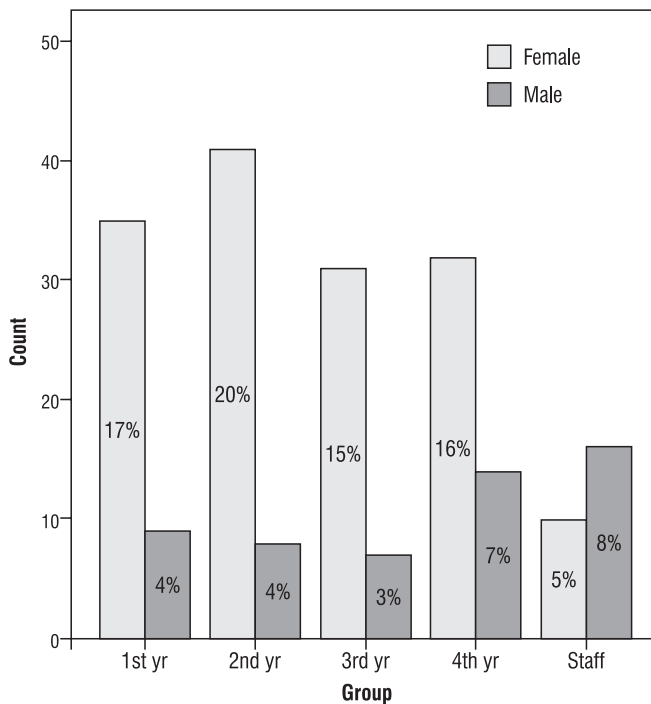


Fig 1: Gender distribution of sample in different groups and clinical years regarding BLS knowledge as p-value was less than 0.05 in many questions.

Attitude towards the training of BLS was positive among both the genders and no significant difference was found. No significant difference was found among different groups of participants regarding the attitude towards the training of BLS.

## DISCUSSION

According to the current study’s findings, 63.6% of the participants scored poorly on BLS knowledge. Cardiopulmonary disorders are on the rise today, and cardiac arrest rates have been noticeably rising.<sup>14,15</sup> The vast majority of community members should be proficient in BLS, especially CPR.<sup>16</sup> Learning CPR is one of the fundamental abilities that every member of a society should possess because it can save lives and lower the incidence of mortality.<sup>17</sup>

The results of this cross-sectional study revealed that hospital employees and dental students had poor levels of knowledge of BLS. A little more than 48% of participants had not attended any workshop or training program on BLS ever. The findings showed that 64.5% of participants had a poor understanding of BLS, indicating low awareness. The findings of a study on assessing BLS awareness and knowledge by Jarrah and colleagues were comparable to those of our study.<sup>18</sup> They outlined how little is known and understood about BLS. Due of health concerns of acquiring communicable diseases especially Covid and TB, many people do not appreciate performing mouth-to-mouth

CPR. The American Heart Association recommends using hands-only CPR if someone doesn’t like to or is unable to perform mouth-to-mouth resuscitation.<sup>19</sup>

Baduni and colleagues conducted research on dental practitioners’ knowledge and awareness of BLS in a different study. They conducted a survey including 104 people, and the findings indicated that none of them had perfect knowledge of BLS.<sup>20</sup> Singh et al. surveyed 241 dentists. A little more than 53% of them had never taken a CPR or BLS course which was concurrent with present study.<sup>21</sup>

In the current study, 36.5% of participants gave accurate answers to all of the questions, and 48.8% reported having no formal BLS training. The vast majority (95%) of participants agreed that learning BLS is essential and that everyone should receive BLS training. The awareness of BSL in infants and children was also as important as adult.

The findings of this study should be of serious concern for health care authorities and policy makers of the country because medical and dentistry students represent the nation’s healthcare system’s future. This study has demonstrated the necessity for further BLS training in medical universities’ curricula. Future research of the medical and dental sciences students and staff’ knowledge of BLS could be conducted in collaboration with other colleges and universities in more thorough fashion. We advocate a number of innovative teaching strategies for BLS, such as VR-based serious games, teaching BLS to others, and annually reinforcing the students’ knowledge and awareness as also recommended by Akhlaghdoust and colleagues<sup>22</sup>.

## CONCLUSIONS

Despite their lack of BLS expertise in the current study, dental students and support staff had a good learning attitude toward BLS training. For greater BLS skill training, more BLS training opportunities should be made available to everyone, even at the community level. It should be made mandatory for all health care providers and their license should not be renewed if they do not provide BLS training certificate.

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