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RESEARCH ARTICLE

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ASSESSMENT OF KNOWLEDGE, ATTITUDE, AND PERCEPTION OF BASIC LIFE SUPPORT (BLS) AND ADVANCED CARDIAC LIFE SUPPORT (ACLS) AMONG UNDERGRADUATES AND POSTGRADUATES OF PRIVATE DENTAL COLLEGE - A QUESTIONNAIRE BASED SURVEY

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ABSTRACT

The aim of study is to assess the knowledge and awareness of cardiopulmonary resuscitation and basic life support among dental undergraduate students, interns and post graduates. A questionnaire of 15 questions about the attitude and basic knowledge of CPR and basic life support was circulated among 250 students belonging to third year, final year, interns, and postgraduate students of Adhiparasakthi Dental College and hospital, melmaruvathur. All data will be analyzed manually and tabulated in order to assess the clinical knowledge in emergency situations.

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INTRODUCTION

Emergency medical care frequently occurs in dental practices because of the increasing number of medically compromised and elderly patients seen by dentists. Emergency medical care includes the provision of basic life support (BLS). A further component of emergency medical care is lifesaving cardiopulmonary resuscitation (CPR). Basic life support entails doing CPR and automated external defibrillation (AED) as well as assessing indicators of angina, sudden cardiac death, foreign body pulmonary obstruction, cerebral infarction, and engaging the system for emergency response.^[1,10] Cardiac arrest can lead to the death of a patient if not treated immediately and promptly^[2,3]. Early detection and management of sudden cardiac death by doing CPR helps the patient survive until the patient receives conclusive medical attention and is moved to a hospital for additional care.^[3,5,8] Maintaining the airway, ability to breathe and the flow of blood by CPR is the goal of BLS.^[3,4,5] Dental students in clinical situations had the greatest anxieties while facing medical emergencies^[6].

Although the handling of medical emergencies is taught to the students in many dental colleges, dental students' awareness of and familiarity with medical crises with BLS and CPR is varied in dental practices^[7,11]. Hence, the aim and the purpose of this study was to evaluate dentistry students' attitudes and level of BLS knowledge and introduce these skills into the dental teaching curriculum.

Aim : To assess the knowledge and awareness about cardiopulmonary resuscitation and basic life support in medical emergencies among dental students in Adhiparasakthi Dental College and Hospital, Melmaruvathur.

MATERIALS AND METHODOLOGY

Using a questionnaire, the students of Adhiparasakthi Dental College and Hospital, Melmaruvathur participated in this study. A set of 15 questions related to the management of medical emergency conditions was prepared and circulated to third-year, final year UG

students, interns, and post-graduate students. All students in the study are instructed to attend the questions for analysis of their knowledge and attitude. The questions focused on managing foreign body blockage, actions required for BLS, acronyms for BLS, AED, and EMS, evaluation of breathing assistance techniques regarding breathing, respiration, and blood flow in not responding individuals of various years of age, and their readiness to learn with regard to BLS. Information will be collected and tabulated, analysis of data will be done manually and guided by a dental professional.

Questionnaire of the Study

01	Acronyms of BLS? (a) Basic lung support (b) basic life support © best life support (d) best life service.
02	Acronyms of AED? (a) Automated external defibrillator (b) automated emergency device © Automated extended device.
03	Acronyms of EMS? (a) Effected medicinal system (b) Emergencies managed system © emergency medical services (d) externally management services
04	If you discover that someone is not listening to you despite your yelling and shaking at them, what will you do right away? (a) Put him/ her in recovery position (b) Activate EMS © Activate CPR
05	For adult , initial BLS step is? (a) Check pulse, start CPR, activate EMS. (b) Assess the person, Get AED, Activate EMS And start CPR. © Activate the EMS, Start CPR, Check pulse and get AED. (d) Evaluate, call for help, activate the AED, Check the patient's pulse,and begin CPR
06	When performing CPR, where should one place their hands to squeeze the chest? (a) Chest's right side (b) chest's center © chest's left side
07	Chest compression depth for adult is? (a) Inch of 1-1.5 (b) Inch of 2-2.5 © Inch of 1.5-2 (d) Inch of 2.5-3.
08	Chest compression depth for children is ? (a) Inch of 1-1.5 (b) Inch of 2-2.5 © Inch of 1.5-2 (d) Inch of 0.5-1.
09	When performing CPR , where should one compress the chest in an infant? (a) Below the nipple line by one fingers width (b) At the intermedinal line © At sternum (d)
10	Chest compression rate for doing CPR?
11	In adults , What is the CPR to rescue ratio?
12	In an infant, what is the ratio of compression and ventilation while doing CPR?
13	If a baby began to suffocate while using a toy and it was proven that he was unable to cry or cough, what would you do?
14	Ever witness a BLS being performed?
15	Would you want to learn CPR techniques clinically?

RESULTS

Out of 250 students, 245 UG scholars, the interns, and postgraduate learners completed the questionnaire and provided their answers. The data collected were analyzed to assess the knowledge about cardiopulmonary resuscitation in emergency situations. Out of 245 students 72.2% were female participants and 27.8% were male participants. Maximum number of responses was provided by 3rd year students in Adhiparasakthi Dental College And Hospital. Majority of the students responded correctly on the abbreviations such as CPR, and EMS. More than 75% of students said that they were knowledgeable about abbreviations and only 45.3% of students knew the abbreviation of AED. It was surprising to observe that only 22.4% responders knew the immediate action done by the person in an emergency situation which indicates that students have the need to know the importance of emergency conditions and immediate actions and only 16.3% of students responded correctly about the steps in basic life support. So the students have to increase their knowledge in basic steps and action in an emergency situation. Only 26.9 % of students know the adults' depth of compression in the chest, normally depth is at least 2 inches and more than 60% of students know the chest compression location and more than 50% of students know the ratio of CPR in adults . Only 13.1% of responders correctly know where the baby's chest is compressed and normally the location in infant is above the nipple line by one finger's width but mostly students confused with that below the nipple line and more than 40% of pupils gave accurate answers regarding the level of chest compression in infants and only 13.5% responders know the ratio of compression and ventilation in infants. Many students are unaware of the ratio and site of chest compression in infants, the normal ratio of compression and ventilation in infants are 3:1. Response to confirm foreign body obstruction is good as 66.5 % of the students correctly answered that question. More than 70% of students should not see a BLS done and more than 90% of students want to learn CPR techniques clinically. The above study represents the group of students showing poor performance in some procedures and lack of knowledge in steps of CPR in an emergency situation and other half has given satisfying answers and has better knowledge on some procedures . Majority of students have an interest in gaining knowledge clinically related to CPR techniques.

DISCUSSION

Previous studies has shown an equal demographic distribution among males and females participants^[11,12], and the correct answer ratio ranged between 7% to 93% based on the knowledge of each respondents, while the participants were mostly from final years and interns^[11,13] ,but in the present study the participants were mostly females (about 72.2%) compared to males (27.8%) and correct

answers ratio ranging between 40 to 83% which is a huge contrast from the previous studies, also in our present study the participants were mostly from the third year undergraduates, followed by final years and interns which also contrasted as the correct answer ratio is also high in the present study with undergraduates students participated highest in comparison to Interns or Post-graduates. The average student understanding of BLS and CPR in this study is comparable to that of studies conducted by Poudel et al^[13]. Ahmad et al^[14] and Baduni et al^[15], although it contradicts the results of the research carried out by Jarrah et al^[16], Al-Shamiri et al^[3], Khedher et al^[18], Alotaibi et al^[19], Gajjar et al^[17]. Data from studies by Jamalpour et al^[20], Zaheer and Haque^[21], and Chandrasekaran et al^[22], revealed inadequate understanding of BLS. Additionally, prior research has shown that while many participants had seen a scenario requiring CPR, only a small percentage were able to provide it. The main cause of this was ignorance. BLS training in a must among Medical and Dental students and practitioners, although participants showed a high interest in BLS training, past studies showed more positive response of participants in getting trained in BLS (about 93%)^[1,5,12], even the current study the participants ranging from undergraduates to postgraduates have felt the importance of BLS and are eager in improving the survival rate of patients who are unconscious especially when an uneventful situation happens on the dental chair such as syncope and Foreign body obstruction, which is the most life-endangering situation, students have cited the absence or lack of facilities to facilitate the training of BLS/ACLS such as the American Heart Association approved BLS Simulation training center, our current study shows an equal amount of interest of students wanting to participate in BLS training (about a staggering 91%), in an Indian scenario BLS training are mostly given at a faculty level and only a few colleges which has a proper facility as mentioned above are giving training for students as well.

CONCLUSION

Thus, the knowledge and perception of CPR is less than average among dental students because half of the students provided satisfactory responses and had more understanding of certain processes, while the other half performed poorly on several tasks and lacked knowledge on how to perform CPR in an emergency. The majority of students are interested in learning CPR skills from a

clinical perspective. Therefore, it was recommended that BLS instruction, which includes scenario-based and hands-on training to prepare students for handling crises, be included in the curriculum.

Conflicts of interest: There is no conflicts of interest.

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