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Knowledge, Attitude Towards Basic Life Support Among Undergraduate Dental Students

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ABSTRACT

Main purpose of basic life support is to maintain airways, support breathing and circulation without equipment. Emergencies can often happen in the dental chair. It is necessary that a dental practitioner should have adequate knowledge and practices towards basic life support. Thus this study aims to assess the level of awareness and attitude towards basic life support among dental undergraduates in Chennai.

Material and methods

This cross-sectional study was conducted among 102 dental undergraduate students of private dental institutions. A pre-validated questionnaire containing 12 question items pertaining to basic life support were mailed as google forms to dental students and were requested to fill the same. Descriptive and inferential statistics were performed.

Results

About 37.79% students have average knowledge, 31.6% have excellent knowledge, 13.86% have good knowledge and the remaining have poor knowledge regarding basic life support. About 49% of students have not done or seen basic life support before. About 20.79% students strongly agree to include basic life support in dental curriculum, 24.75% agree, 26.73% have responded neutral and remaining disagree to add BLS in dental curriculum. There was no significant difference in the knowledge, attitude and practice of BLS among male and female participants ($p>0.05$).

Conclusion

Undergraduate dental students have good knowledge on basic life support measures. However, their attitude towards practicing basic life support during emergency should be inculcated during their course of study

KEYWORDS: Basic life support, defibrillator,ventilation,cardiopulmonary resuscitation, novel method

INTRODUCTION

The main purpose of basic life support (BLS) is to maintain airways,support breathing and circulation with equipment. BLS is most important in case of medical emergencies. In a study conducted 86% of interviewed dentists had information about CPR (1). Dental practitioners are not much aware of medical emergencies, ⅔ rd of dentists witness only one or less emergency cases during their 12 month study period (2). When a patient experiences a respiratory arrest, cardiac arrest or obstructed airway you need to act swiftly and promptly start with basic life support skills (3). The combined findings of surveys by (4) showed that 30,602 emergencies occurred over a ten year period in the offices of the 4,309 dentists. The gravity of these situations justifies the need for every dental practitioner to be at least able to perform the basics of CPR, chest compression and rescue breathing.

The knowledge of BLS among dental practitioners in north and south India was found to be average (5). BLS maintains adequate ventilation and circulation till resources can be obtained to reverse the underlying cause of cardiac arrest (6). Factors affecting CPR were feedback, education and monitoring. Basically BLS comprises initial assessment, airway maintenance, rescue breathing and chest compression. It is very important that every person in the community knows about BLS (7). Prevention, recognition and effective management of life threatening emergencies are the major responsibilities of the health care professionals. Studies have found that the knowledge towards BLS among medical students and interns is satisfactory (8).

Our team has extensive knowledge and research experience that has translated into high quality publications (9–28). However, a few researches were carried out to assess knowledge and attitude towards BLS in dental students . Thus this study aimed to assess knowledge, attitude and practice towards basic life support among dental undergraduate students in Chennai city.

MATERIALS AND METHODS

A cross sectional study was conducted employing a self administered questionnaire to the undergraduate students of the author's university. Prior ethical approval to conduct the study was obtained from the Institutional Review Board of the author's university. A non-probability convenience sampling method was employed. Students pursuing 1st year, 2nd year, 3rd year, final year and internship who were willing to participate in the study were included. Oral consent from the participants was obtained after explaining the need for the study. The participation of the subject was voluntary, and their identities were kept anonymous. A prevalidated and reliable questionnaire containing 12 questions had been distributed to the participants (Annexure 1). The internal consistency of the questionnaire using Cronbach's alpha was found to be 0.71.

This study was conducted by assessing responses to 12 selected questions pertaining to BLS among dental students through Google forms with a sample size of 102 dental students. The email id of all the undergraduate students was obtained from the students office and a link to the google forms were sent. A reminder mail was also sent for non-respondents. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) software version 23.0 (IBM, Chicago, USA).

Descriptive statistics and inferential statistics were performed to present the frequency distribution of the options of the question items.

RESULTS

Awareness of participants related to BLS was estimated by assessing questions, only 66% participants knew the abbreviation for BLS and the rest of the participants were not aware of it (Figure 1). Second question was based on chest compression and ventilation ratio , 55.4% responded correctly, that was 3:1 ratio the rest 23% answered for 30: 10 ratio, and remaining responded to 2 :1 ratio (Figure 2). The third question was based on the attitude towards BLS, 44.5% answered for chest compression, 30.69% answered for two breathing and the rest looked for safety options (Figure 3). About 56.44% responded they would activate emergency medical services, and the rest responded to make them sleep for the fourth question (Figure 4). We assessed the knowledge of students by asking them to self grade themselves and the results were 37.65% students responded saying they have average knowledge, 31% have excellent knowledge, 13.86% have good knowledge and the remaining 31.68% have poor knowledge about BLS (Figure 5). When asked about whether the students have done or seen BLS done before, students responded saying yes were 48.51% and the remaining students have not done or seen BLS done before (Figure 6). About 20.79% students strongly agree to include basic life support in dental curriculum, 24.75% agree, 26.73% have responded neutral and remaining disagree to add BLS in dental curriculum (Figure 7). In this study there were more female respondents than male respondents. There was no significant difference in the knowledge, attitude and practice of BLS among male and female participants ($p>0.05$) . In figure 8 the bar graph depicts the association between the gender and students' response to the abbreviation of BLS . In figure 9 the bar graph depicts the association between the gender and students' first response on BLS . In figure 10 the bar graph depicts the association between the gender and students first response on chest compression ratio.The difference between the groups were statistically significant (Chi-square test ,p value =0.000 - significant) .

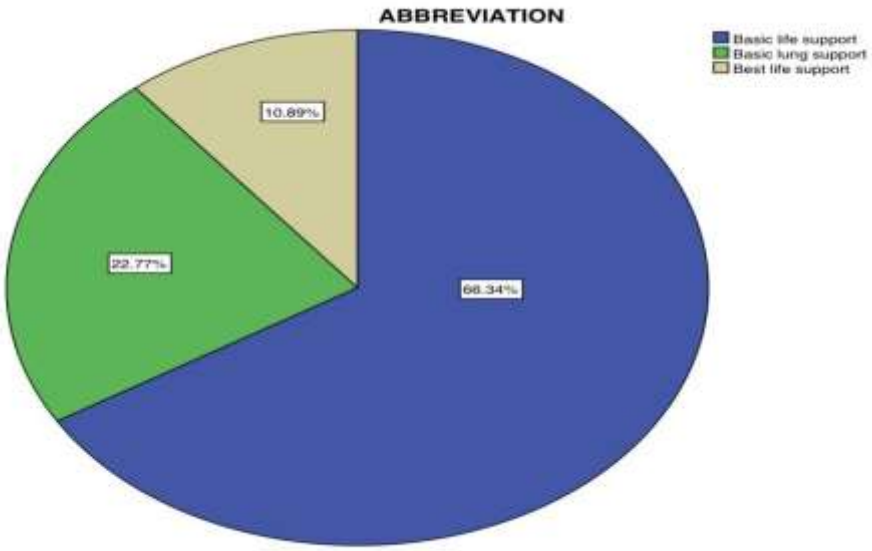

Figure 1: Pie chart showing the percentage of students' response on abbreviation of BLS . 63.4% responded to basic life support (blue), 22.7% responded to basic lung support (green) and remaining 10.89% responded to best lung support (sandal).

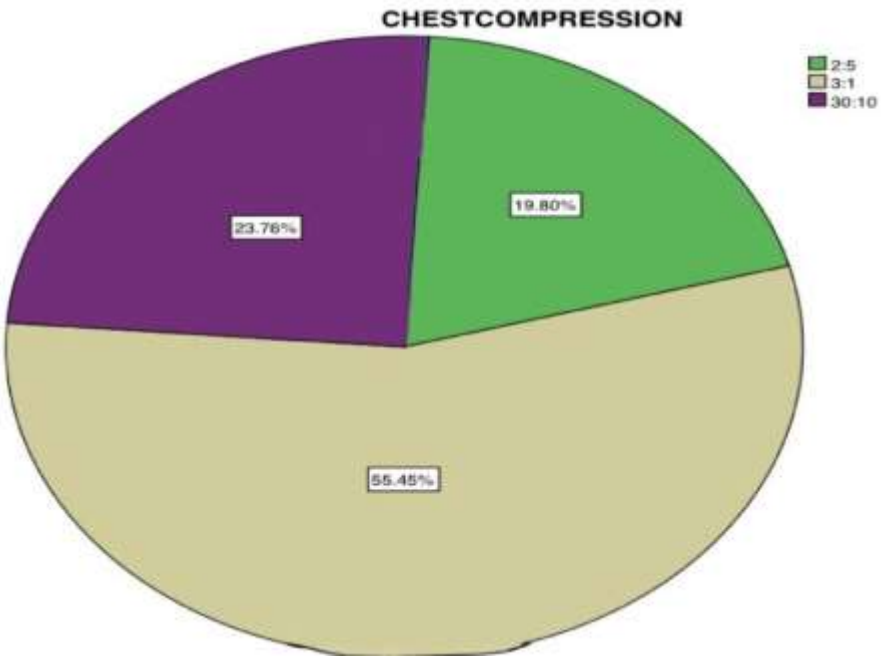

Figure 2: Pie chart showing the percentage of students' response on chest compression ratio. 55.4% responded 3:1 (sandal), 19.8% responded 2:5 (green) and 23.76% responded 30:10 (purple).

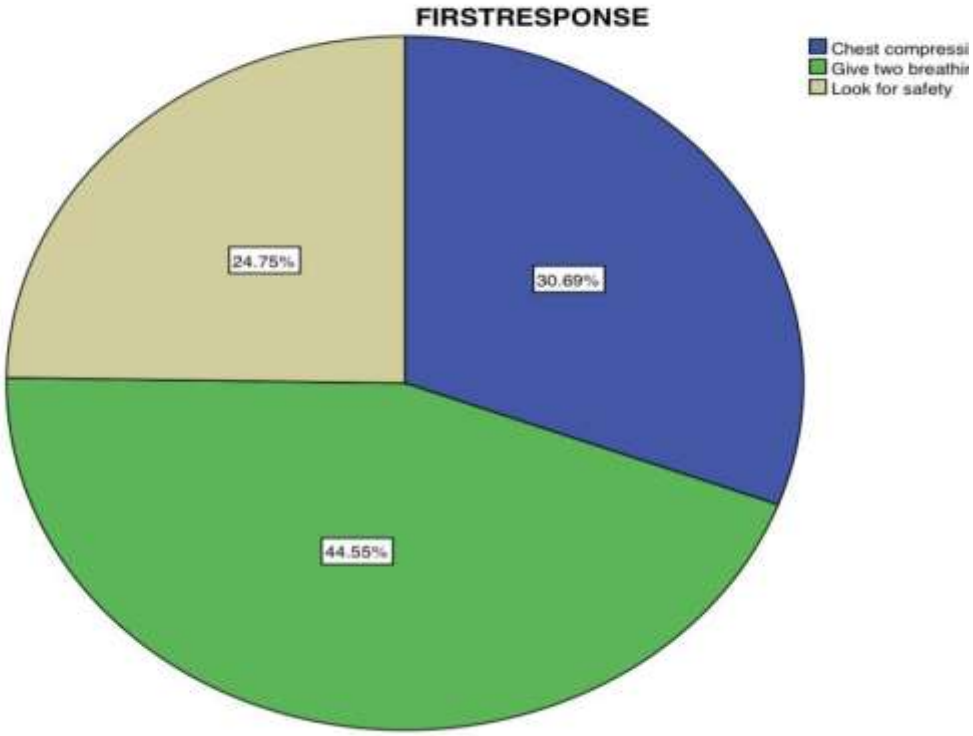

Figure 3: Pie chart showing the percentage of students' responses on what's their first response to BLS needing patients. 30.69% chest compression (blue), 44.55% responded two breaths (green) and the remaining 24.75% responded looking for safety (sandal).

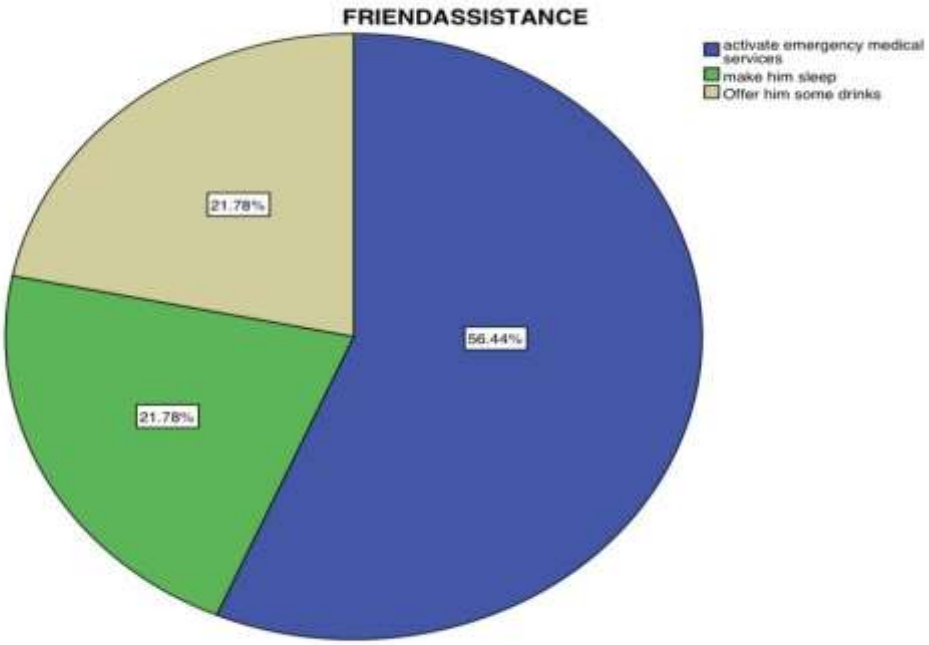

Figure 4: Pie chart showing percentage of students' response on their attitude towards BLS.56.44% responded for activating medical emergency services (blue), 21.78% responded making him sleep (green) and the remaining 21.78% responded Offer him some drink (sandal).

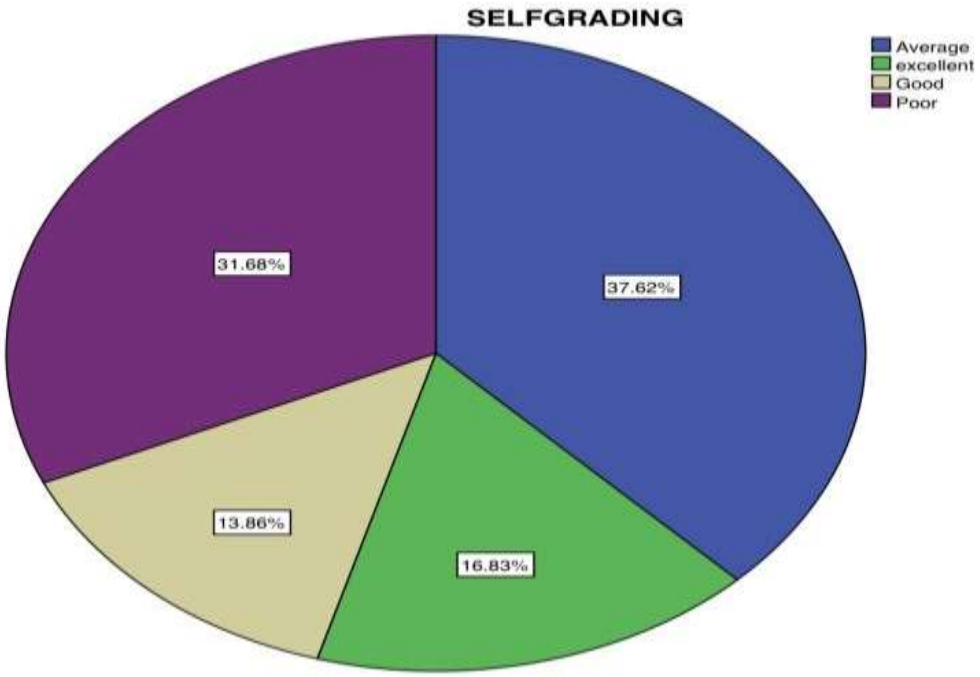

Figure 5 : Pie chart showing percentage of students responding to self grading themselves on their awareness regarding BLS. Blue colour denotes 'Average' (37.62%),Green colour denotes 'Excellent' (16.83%), Sandal colour denotes 'Good' (13.86%) and Purple colour denotes 'Poor' (31.68%).

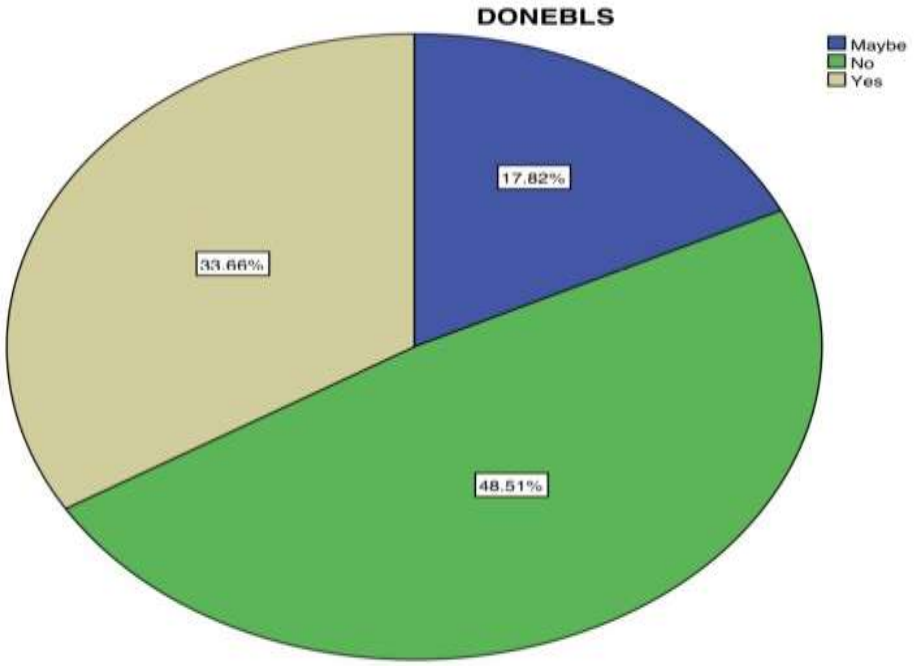

Figure 6: Pie chart showing percentage of students responding to done or seen BLS done before. About 48.51% responded 'No' (green), 33.6% responded 'Yes'(sandal) and the remaining 17.82% responded 'Maybe'(blue).

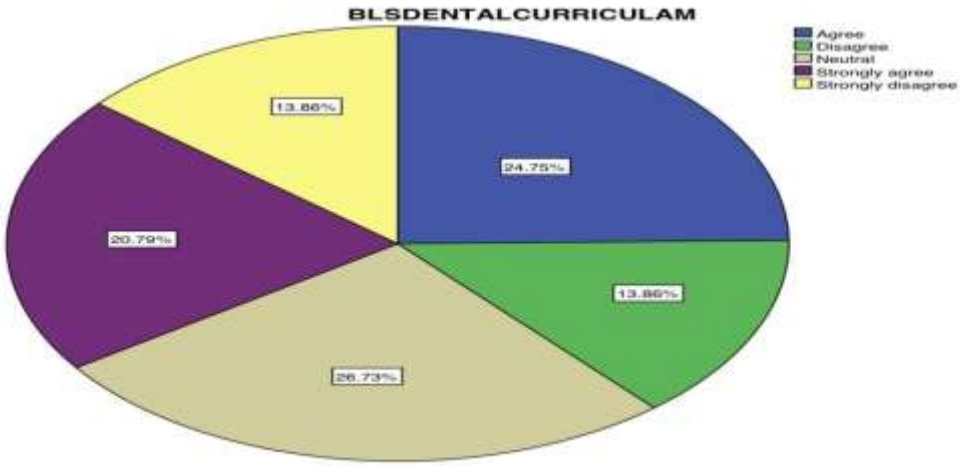

Figure 7: Pie chart showing percentage of students responding to BLS being added in dental curriculum. Blue colour denotes 'Agree'(24.75%), Green colour denotes ' Disagree' (13.86%), Sandal colour denotes 'Neutral'(26.73%), Purple colour denotes ' Strongly agree' (20.79%) and Yellow colour denotes 'Strongly disagree' (13.86%).

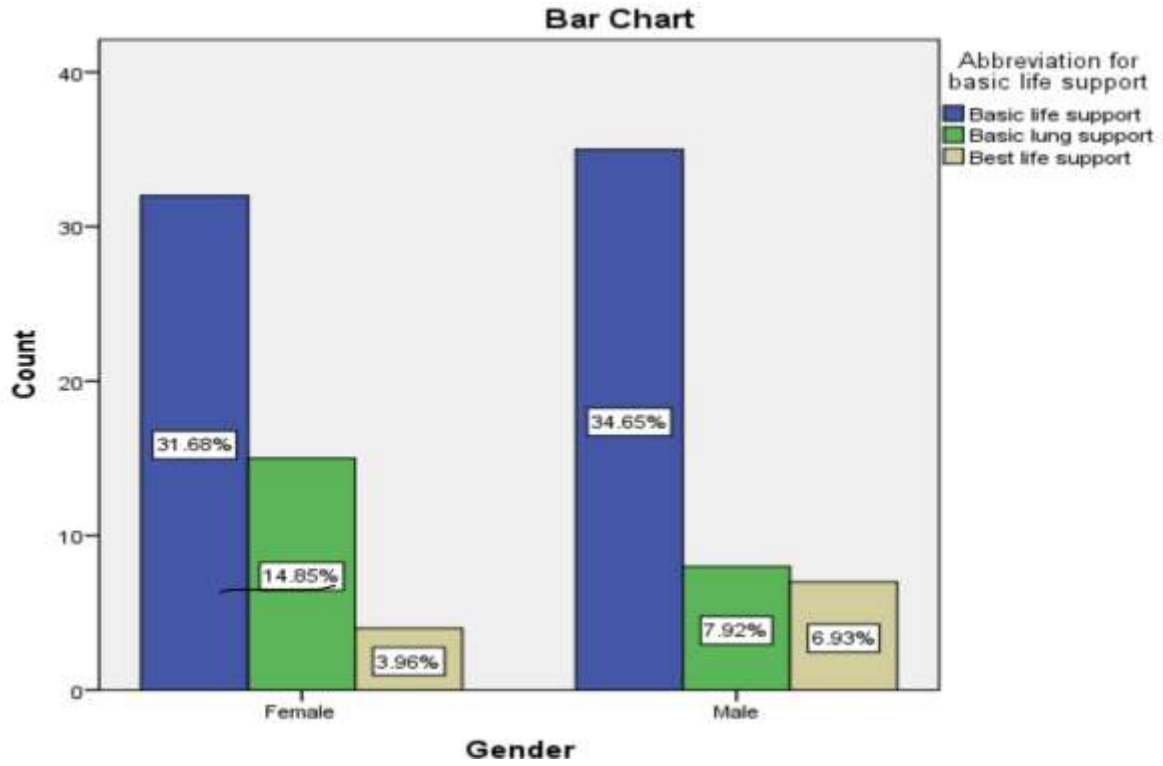

Figure 8 : Bar graph depicts the association between the gender and students' response on abbreviation of BLS . Blue denotes (basic life support), Green colour denotes (basic lung support), Sandal colour denotes (best lung support). About 31.68% females and 34.65% males have responded to the (basic life support) option. The difference between the groups was statistically significant (Chi-square test ,p value =0.000 - significant) .

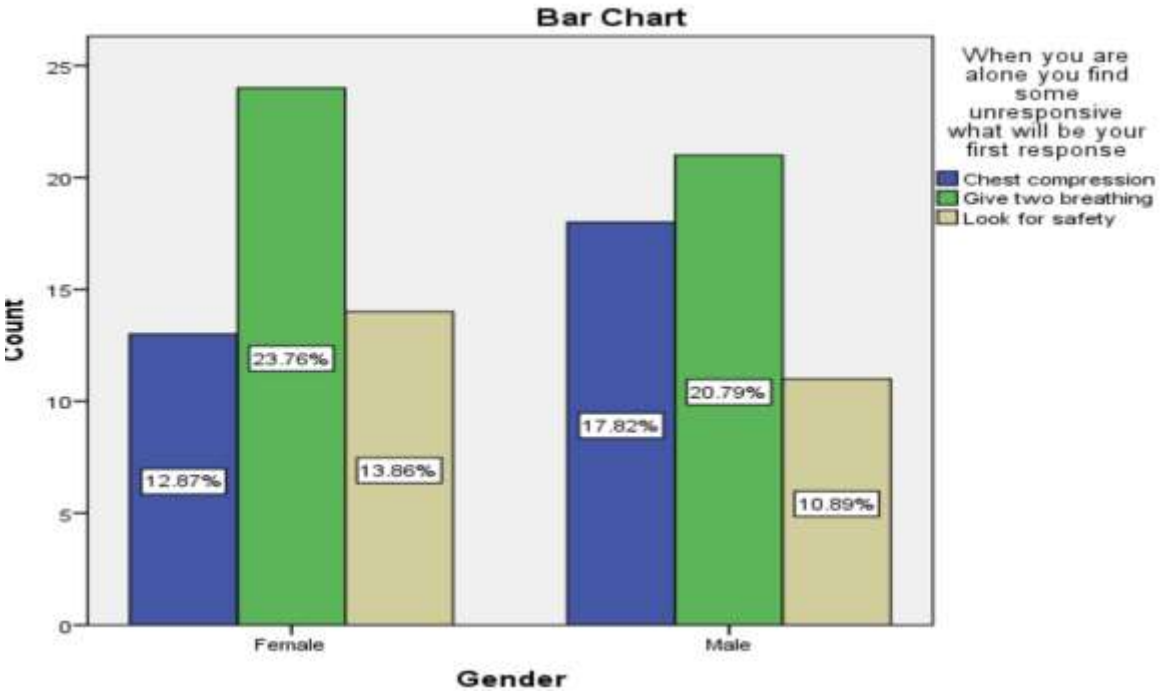

Figure 9: Bar graph depicts the association between the gender and students first response on BLS . Blue denotes (chest compression), Green colour denotes (give two breathing), Sandal colour denotes (look for safety). About23.76% females and 20.79% males have responded to the (chest compression)

option. The difference between the groups was statistically significant (Chi-square test ,p value =0.000 - significant) .

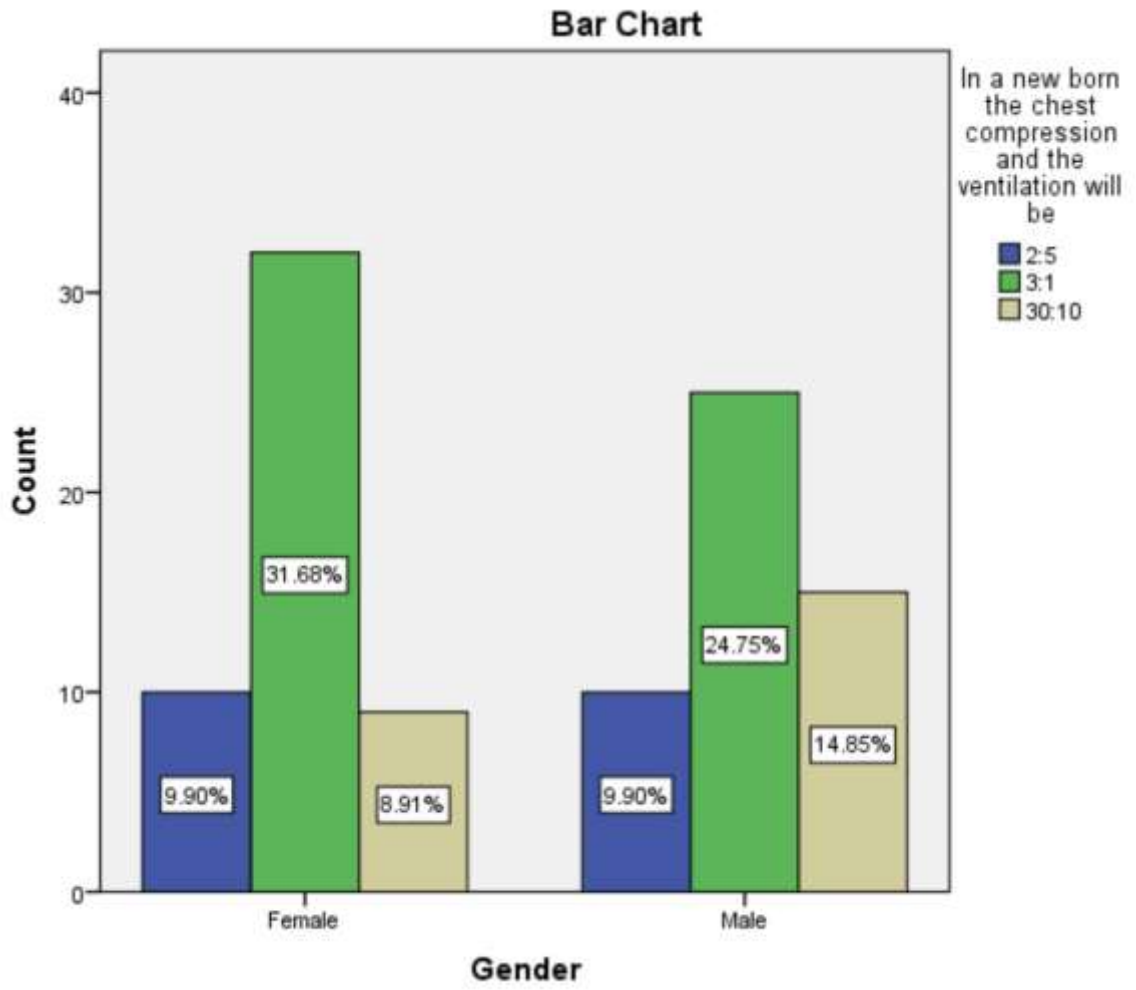

Figure10: Bar graph depicts the association between the gender and students first response on chest compression ratio. Blue denotes (2:5), Green colour denotes (3:1), Sandal colour denotes (30:10). About 31.68% females and24.5% males responded to the (3:1) ratio option. The difference between the groups was statistically significant (Chi-square test ,p value =0.000 - significant) .

DISCUSSION

In the study we observed that third-year dental students had more knowledge about BLS than other undergraduate dental students. Only 33.6% dental students have done or seen BLS before in our study which is similar to the study conducted in Iran about evaluation of knowledge about CPR among dentists in Iran, it was noted only 37% had the correct concept of BLS and CPR (29). Though 4% admitted that they had witnessed CPR done before, the majority haven't. This is because the guidelines for medical emergencies are updated every five years; it requires repetitive training to match the changes. The medical Council of India incorporated emergency medicine as a separate speciality. Awareness and basics of ACLS is the prime responsibility of this new emergency speciality. Interestingly, this study showed that two factors affect knowledge scores which were gender and year of study. In this study the knowledge score was higher among females and third-year undergraduates.

These results were in consistency with a study stating that females with more clinical experience had better knowledge on BLS than males (30).

One study in contrast found no association between knowledge and years of experience (31). He found that most participants lacked knowledge but weren't reluctant to perform CPR. Most common justification for lack of knowledge was a busy curriculum followed by no professional training available (32). Medical emergencies are not rare in dental practises, thereby it's important to have knowledge about BLS. In this study 30.7% of students had a positive attitude towards chest compression and average knowledge about BLS. The results of this study are in concordance with previous studies (33). The knowledge about BLS among dental students was average. However their attitude towards practising BLS was found to be positive.

We could only assess theoretical knowledge, however their practical skills were not evaluated. The results cannot be extrapolated since the study was carried out among dental students in one private institution.Future development of training courses about BLS within the academic curriculum, adapting guidelines in this regard in dental College should be applied .

CONCLUSION

Taken together our findings demonstrate that in this study dental students have an average knowledge regarding BLS. This study will ensure BLS training is incorporated in undergraduate courses in dental because dentistry, a health profession that should provide complete medical care and treat the whole patient rather than focusing on the oral cavity alone.

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CONFLICT OF INTEREST

None declared

AUTHORS CONTRIBUTION

S Pragya : Literature search, data collection analysis, manuscript drafting.
Dr Arthi : Data verification, manuscript drafting

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Questionnaire

Gender, Year of study

1)Abbreviation for basic life support

A) Best life support

B) Basic life support

C) Basic lung support

2) In a newborn the chest compression and the ventilation will be

A) 2:5

B) 3:1

C) 30:10

3) When you are alone you find some unresponsive what will be your first response

A) Look for safety

B) Give two breathing

C) Chest compressions

4) If you notice your friend has suddenly developed slurring of speech and weakness of the right upper limb which one of the following can be done

A) Offer him some drinks

B) activate emergency medical services

C) Make him sleep

5) Self grading on basic life support knowledge level

A) poor

B) good

C) average

D) excellent

6) Done/seen BLS (CPR) been performed on a patient

A) yes

B) maybe

C) no

7) Do you think all dental students and staffs need to know about BLS

A) yes

B) maybe

C) no

8) BLs training should be part of the dental curriculum

A) agree

B) disagree

C strongly agree

D) strongly disagree

E) neutral