



## EVALUATION OF THE KNOWLEDGE AND AWARENESS ON DENTAL CARIES AMONG THIRD YEAR MEDICAL STUDENTS

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<p><b>Article Info</b> <i>Received 15/06/2015</i> <i>Revised 27/06/2015</i> <i>Accepted 12/07/2015</i></p> <p><b>Key words:</b> Dental Caries, Dental Health Education, Medical Students.</p>	<p><b>ABSTRACT</b> The purpose of this study is to assess the awareness and knowledge among third year medical students on dental caries and also proposes ways to improve, increase and impart oral health education within the dental health education process. A survey is conducted among medical college students. The sample population includes 100 third year students. A self-administered questionnaire, consists 18 questions divided into four domains assessing I) General knowledge regarding dental caries II) Early childhood caries, III) Fluorides and IV) Preventive strategies were distributed among the participants included in the study .The data analysis was done using SPSS version 17 . After conducting health education classes the questionnaire were again hand over to all participants and the total score is calculated based on response. The results reflects that these students are already such motivated can lead in making of a society with great improvements if proper revised and continuous education is implicated towards the people of different interests through different resources. Medical health care education can have a strong positive influence on oral-health related attitudes and behavior. The results indicate the need for intervention through oral health education and promotion to alter individuals' behavior related to dental health. Therefore, more emphasis should be placed on oral health education to other medical professionals.</p>
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### INTRODUCTION

Disease of the teeth and adjacent oral structures are the most common maladies affecting human beings. Dental caries is a problem that has existed since prehistoric times and early historic times. It is a chronic disease affecting the tooth .The etiology of dental carries is an interaction of several factors, which determine whether an individual has much or little dental caries [1-3].

Although dental diseases are not life-threatening, they are detrimental to the quality of life throughout the life span and can have an impact upon the self-esteem, nutrition and health of an individual. Oral diseases are associated with considerable pain, anxiety, and impaired social functioning [2].

Oral health information is considered to be an essential prerequisite for health-related behavior.

Dental health education plays an important role in improving oral hygiene. The application of dental education to medical students to improve their own oral health care could be of great value because the students will transfer the same knowledge and behavior patterns to their patients during their practices [3].

The purpose of this study is to assess the awareness and knowledge among third year medical students on dental caries and also proposes ways to improve, increase and impart oral health education within the dental health education process.

### MATERIAL AND METHODS

A survey is conducted among medical college students. The sample population includes the third year students. There were no exclusion criteria for this study.



The study population consisted of (N=100) students. Participation in the study was voluntary and the answers were anonymous. Students were given the option of discontinuing at any time.

The questionnaire consists eighteen polar response regarding oral health-related behavior. A total score is calculated based on the response to each item. Higher scores indicate better oral health knowledge. On a specific day and time scheduled as per the convenience of the respective medical students, a self-administered questionnaire was distributed. They were allotted 10 minutes to complete the questionnaire after which they were explained the importance of oral health and their role in preventive and pediatric dentistry.

The questionnaire consisted of 14 questions on knowledge and 4 on attitude divided into 4 domains assessing:-

I) General knowledge regarding dental caries II) Early childhood caries, III) Fluorides and IV) Preventive strategies. The data was analyzed for frequency distributions. General questionnaires regarding oral health practices were included. Data is entered into SPSS version 17 and used for statistical analysis. After conducting health education classes the questionnaire were again hand over to all participants and the total score is calculated based on response.

**RESULTS**

The results obtained are summarized as follows

99% of students are aware that frequency of consumption of sugary food can cause tooth decay is while only 1% of the students are not aware (Figure-1).

89% of students are aware in the knowledge of tooth decay can be prevented by using fluoride paste twice daily (Figure -2).

86% of students are aware in the knowledge of bottle fed children get early childhood caries (Figure -3).

92% are aware that Presence of cavity indicate tooth decay (Figure -4).

Only 32% of students are aware that infants who sleep with mother and nurse all nightlong have an increased risk of caries but 68% of students are not aware (Figure -5). 94% of students are aware that ineffective

tooth brushing can cause teeth decay (Figure -6). 19% of students are aware that cavity causing bacteria can be transmitted from mother and 81% of students are not aware (Figure -7).

67% of students are aware that tooth anatomy can cause caries and 33% of students are not aware (Figure -8).

70% are aware that Plaque formation of teeth can cause caries and 30% of the students are not aware (Figure -9).

16% students are not aware that General body health has a relationship to oral and dental disease (Figure -10).

64% of students are aware in the knowledge of mal positioned teeth can cause caries and 36% of students are not aware (Figure -11).

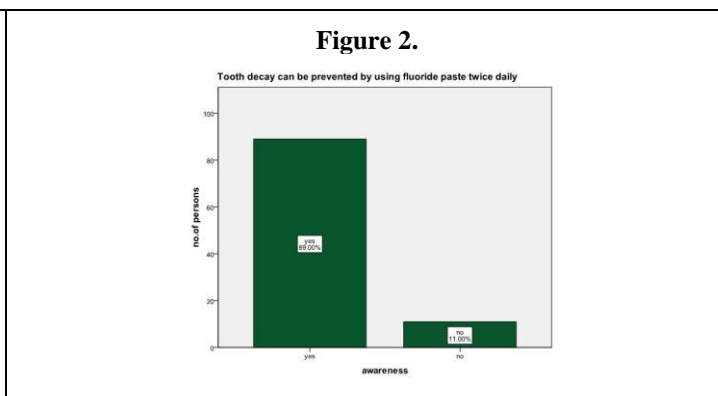
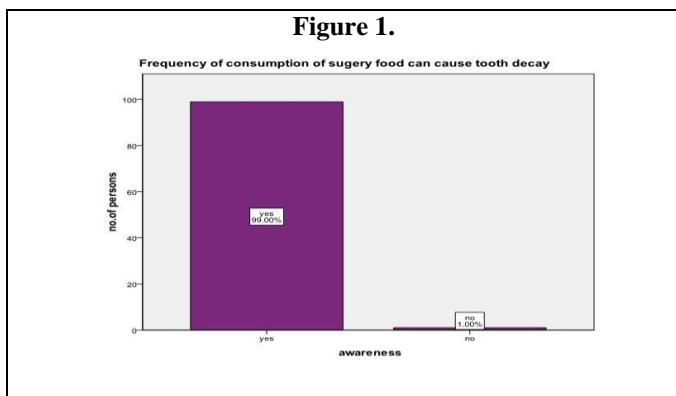
54% of students are aware in the knowledge of family tendency is a risk factor for caries and 46% of students are not aware (Figure -12).

96% of students are aware in the knowledge of saliva has a role in caries prevention and only 4% of students are not aware (Figure -13).

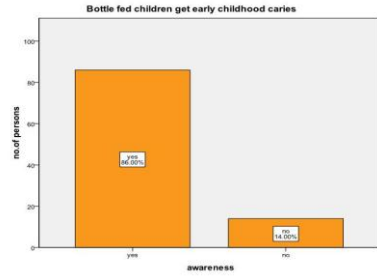
97 % of students are aware in the knowledge of treatment of dental caries is an important as any organ in the body and only 3% of students are not aware (Figure -14).

93% of students are aware in the knowledge of carious teeth can affect teeth appearance and 7% of students are not aware (Figure -15).

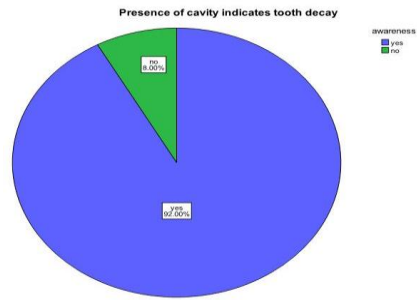
94% students believe that soft drink can cause caries (Figure -16). And 99% of students are aware in the knowledge of early occurrence of dental caries can be diagnosed by regular dental checkup (Figure -17). (Figure -18) represents that overall knowledge and awareness almost 100% of the students have the knowledge and awareness of frequency of consumption of sugary food can cause tooth decay, treatment of dental caries is an important as any organ in the body and early occurrence of dental caries can be diagnosed by regular dental checkup. Only fewer number of students are aware in the knowledge of infant who sleep with mother and nurse all nightlong have an increased risk of caries and cavity causing bacteria can be transmitted from mother.



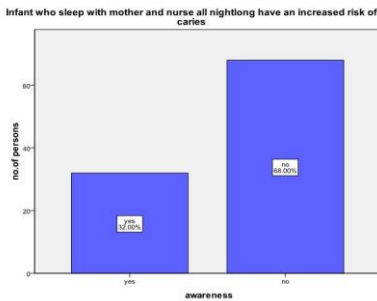
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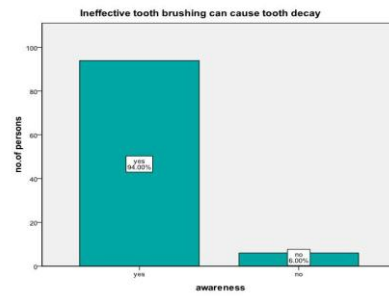
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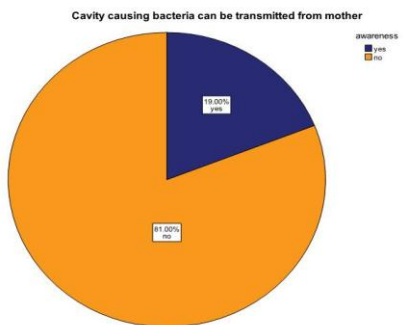
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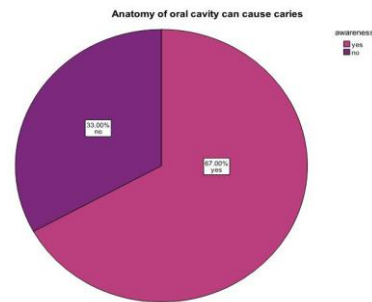
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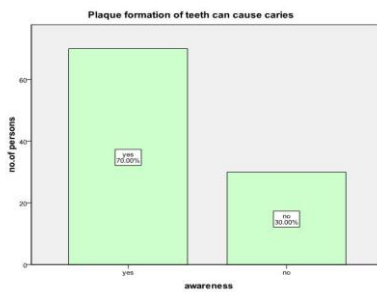
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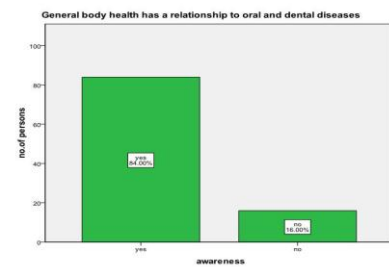
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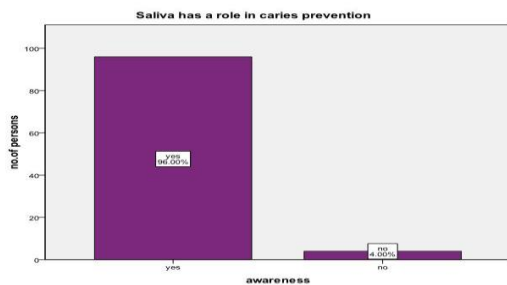
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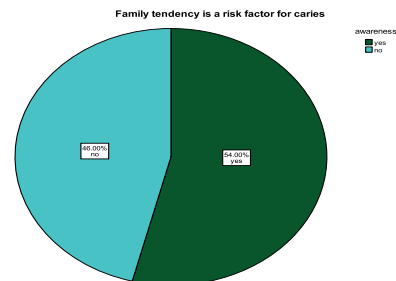
**Figure 10.**

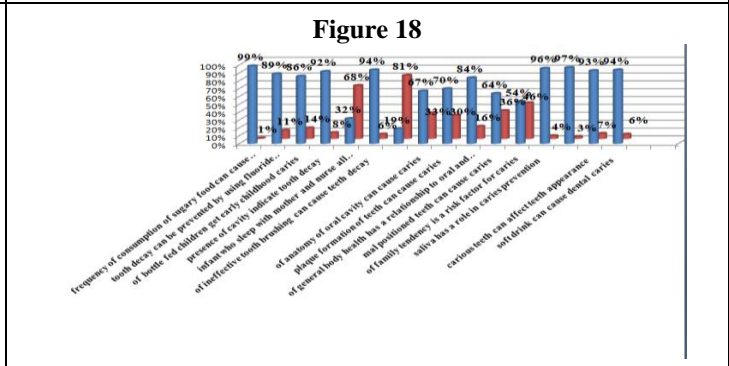
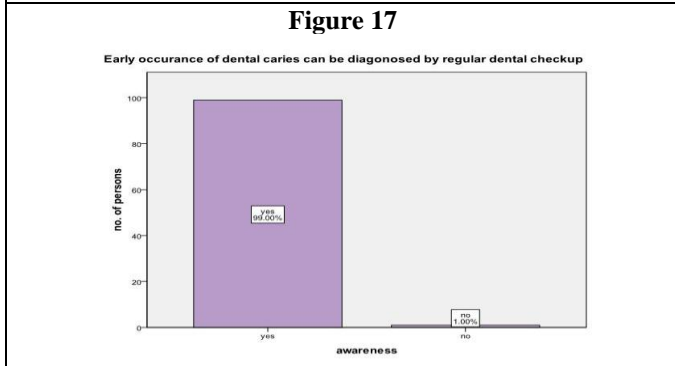
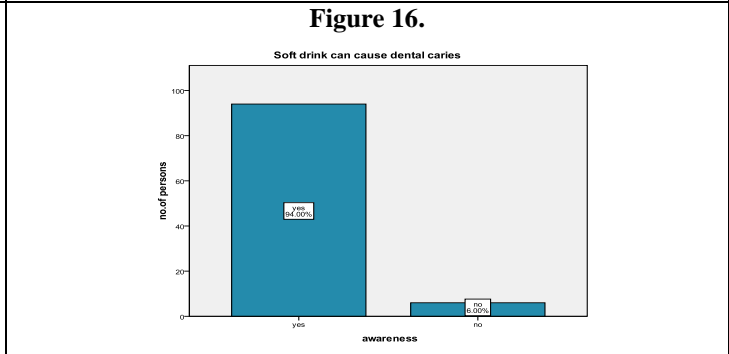
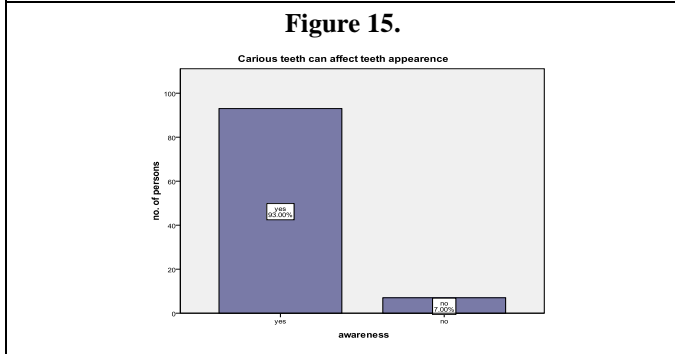
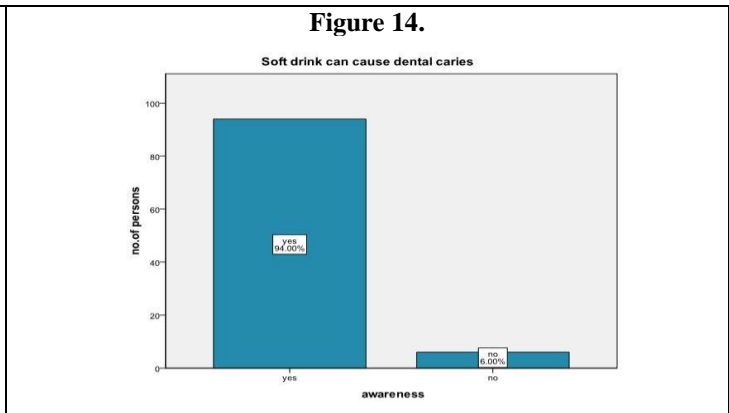
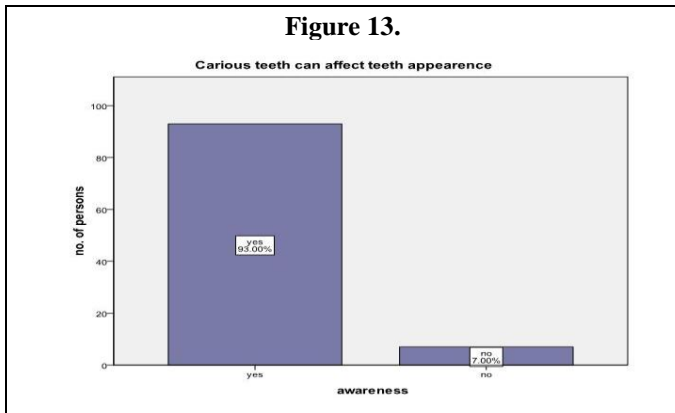


**Figure 11.**



**Figure 12.**





**DISCUSSION**

This study presented a comprehensive overview of oral health knowledge and awareness on dental caries of students in a medical teaching institution. Majority of the students showed a positive attitude towards preventive measures for dental caries. But some are not aware of certain etiological factors such as mal positioned teeth can causing caries , infants who sleep with mother and nurse all night long have an increased risk of caries and transmission of bacteria from mother to child.

In the present study majority students are aware of the frequency of Consumption of sugary food as an etiological factor for dental caries and they also aware that tooth decay can be prevented by usage of fluoride paste twice daily. Humagain etal [4] conducted a Questionnaire study for Evaluation of Knowledge, Attitude and Practice (KAP) About Oral Health Among Secondary Level Students of Rural Nepal and the results are same as of the present study.

In this majority of the students are not aware that infant who sleep with mother and nurse all night long have an increased risk of caries. Feeding during night time is one of the most common causes for early childhood caries. Night time bottle feeding with juice, repeated use of a sippy or no-spill cup, and frequent in between meal [5,6,7].

Majority of students are aware that presence of cavity indicate tooth decay ,they are also aware that ineffective tooth brushing cause tooth decay , soft drink can cause dental caries and carious teeth can affect teeth appearance due to the role advertisement of dentifrices related to caries prevention. Kaye F. Roberts-Thomson in Public knowledge of the prevention of dental decay and gum diseases also support the same [5].

Majority of medical students are not aware that bacteria can be transmitted from mother because they does not have a complete knowledge of oral micro flora and transmission. The results were same as that of a study conducted by MG Gussy et al. Parental knowledge, beliefs



and behaviors for oral health of toddlers residing in rural Victoria [8]. Sharing foods with other individuals and pretesting of food by adults has been associated with early infection with *S. mutans* in infants [9]. Dental caries is a transmissible infectious disease and understanding the acquisition of cariogenic microbes improves preventive strategies. Microbial risk markers for ECC include streptococcus mutans and Lactobacillus species. Streptococcus mutans may be transmitted vertically from caregiver to child through salivary contact, affected by the frequency and amount of exposure. Infants whose mothers have high levels of mutans as a result of untreated caries, are at greater risk of acquiring the organism earlier than children whose mothers have low levels. Horizontal transmission (eg, between other members of a family or children in daycare) also occurs. Eliminating saliva-sharing activities (eg, sharing utensils, orally cleansing a pacifier) may help decrease an infant's or toddler's acquisition of cariogenic microbes [5,10,11].

Most of students are aware that early occurrence of dental caries can be diagnosed by regular dental check up and dentist always explain the problem and solve it. Kaye F. Roberts-Thomson in Public knowledge of the prevention of dental decay and gum diseases also support the same [5].

Most of the students are not aware in the knowledge of malpositioned teeth can cause caries as they do not have

a in depth knowledge about the topics and has to discussed and explain in detail. Improper tooth positioning and an increased risk of caries their permanent teeth as plaque gets accumulated and also because of lack of reach of oral hygiene aids [9].

These results reflects that these students are already such motivated can lead in making of a society with great improvements if proper revised and continuous education is implicated towards the people of different interests through different resources. Medical health care education can have a strong positive influence on oral-health related attitudes and behavior. These results indicate the need for intervention through oral health education and promotion to alter individuals' behavior related to dental health. Therefore, more emphasis should be placed on oral health education to other medical professionals.

## CONCLUSION

The knowledge of the medical students attended in the study are fairly good. These results are giving us hope that hope that medical students and professionals will certainly play a beneficent key role in educating their societies and will help in improving oral health care as a community.

## REFERENCES

1. Gussy MG, Waters EG, Walsh O, Kilpatrick NM. (2006). Early childhood caries: Current evidence for aetiology and prevention. *J Paediatr Child Health*, 42, 37-43.
2. Kay EJ, Locker D. (1996). Is dental health education effective? A systematic review of current evidence. *Community Dent Oral Epidemiol*, 24, 331-335.
3. Muhammad Nadeem, Syeda Sidra Ahmed Rabbia Khaliq Huda Mirza. (2011). Evaluation of Dental Health Education and Dental Status among Dental Students at Liaquat College of Medicine and Dentistry. *International Journal of Dental Clinics*, 3(3), 11-13.
4. Humagain M. (2011). Evaluation of Knowledge, Attitude and Practice (KAP) About Oral Health among Secondary Level Students of Rural Nepal - A Questionnaire Study. *Webmed Central Dentistry*, 2(3), 1-11.
5. Kaye F. Roberts-Thomson A. John Spen. (1999). Public knowledge of the prevention of dental decay and gum diseases. *Australian Dental Journal*, 44(4), 253-258.
6. Don Gardner et al. (1977). At-will Breast Feeding and dental caries. *J Dent Children*, 44(3), 18-23.
7. Weinstein P, Harrison R, Benton T. (2006). Motivating mothers to prevent caries: confirming the beneficial effect of counseling. *J Am Dent Assoc*, 137,789-793.
8. Gussy MG, Waters EB, Riggs EM, Lo SK, Kilpatrick NM. (2008). Parental knowledge, beliefs and behaviors for oral health of toddlers residing in rural Victoria. *Australian Dental Journal*, 53, 52-60.
9. GA Murthy, U Mohandas. (2010). The knowledge, attitude and practice in prevention of dental caries amongst pediatricians in Bangalore: A cross-sectional study. *J Indian Soc Pedod Prev Dent*, 28(2), 100-3.
10. [http://www.aapd.org/ media/Policies\_ Guidelines/] website for ECC guidelines.
11. Ammari JB, Baqain ZH, Ashley PF. (2007). Effects of programs for prevention of early childhood caries. A systematic review. *Med Princ Pract*, 16, 437-442.

