



Awareness on Herbal Mouthwash among Dental Students

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Authors' contributions

This work was carried out in collaboration among all authors. Author NS designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors DG and KKP managed the analyses of the study. Author AV managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2020/v32i1730667

Editor(s):

(1) Dr. Somnath D. Bhinge, Rajarambapu College of Pharmacy, India.

Reviewers:

(1) Gladys Velazco de Maldonado, University of the Andes, Venezuela.

(2) Murat Eren Özen, Özel Adana Hospital, Turkey.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/59728>

Original Research Article

Received 27 May 2020
Accepted 31 July 2020
Published 24 August 2020

ABSTRACT

Background: Plaque is the main factor responsible for dental diseases such as dental caries, gingivitis, and periodontitis. Dentists play a vital role in the maintenance of oral hygiene and prescribing mouthwash of plaque control agents is of greater value. This study carried out the awareness of herbal mouthwash among dental students and knows about the herbal mouthwash in detail

Aim: The aim of the study is to assess the awareness of herbal mouthwash among Dental students.

Materials and Methods: This study was conducted by assessing responses to 10 selected questions related to herbal mouthwash through a survey planet among 100 dental students. The results were studied and analyzed.

Results: In this present survey, Awareness of dental students related to herbal mouth wash, only 67% answered only peppermint oil is used in herbal mouth wash. While 9% said it has only

cinnamon oil and 3% of them said it has lavender oil and 21% answered it has all of the essential oil mentioned. About 8% of the students said herbal mouthwash only has antibacterial effects. While 12% answered for antimicrobial effect, 6% answered for anti-inflammatory effect and the rest of 24% of the students said it has an antibacterial, antimicrobial, and anti-inflammatory effect.

Conclusion: Awareness on herbal mouthwash for general oral health among dental students is still below the satisfactory level. Awareness of the herbal mouthwash for maintaining good oral hygiene needs to be enhanced among dental students.

Keywords: Herbal mouthwash; plaque; gingivitis.

1. INTRODUCTION

Mouthwash plays a very crucial role in maintenance of oral hygiene, which is an important factor responsible for general health [1]. Improper maintenance of oral hygiene is one of the main reasons for the accumulation of plaque growth. Brushing the teeth routinely is the main mechanical method of removing plaque and reduces the risk of dental diseases [2]. Dental plaque is a complex biofilm that adheres on the surface of the teeth. Dental plaque and bacterial flora are the main factors in the pathogenesis of gingivitis and periodontal diseases. Gingivitis is a painless hyperemia of the gums, which usually leads to spontaneous or easy bleeding after brushing the teeth [3]. The interdental area is the most common site of plaque accumulation, and the beginning of periodontitis and caries development [4].

A mouthwash reduces the supragingival plaque, gingivitis and prevention of dental caries. It is medicated liquid which is held in the mouth for a few seconds and swished by the action of perioral musculature to eliminate the oral pathogens [5]. They provide a means of depositing an active material for slow release in the mouth. So, they have an antiplaque effect for a long period of time [6]. The naturally occurring active ingredients in these herbal products offer a gentle and enduring way of restoring health in a most trustworthy and least harmful way [7].

Herbal mouthwashes usually do not contain alcohol or any added sugars or preservatives [8]. In the present study, aim is to assess the awareness of herbal mouthwashes among dental students.

2. MATERIALS AND METHODS

2.1 Participants and Study Design

It is a questionnaire-based survey study was conducted at the Saveetha Dental College and hospital. The subjects of the study were dental

students who are in their undergraduate years in the Saveetha Dental College and Hospital. The students were informed in advance about the objective of the study and identities were kept anonymous.

2.2 Data Collection Methods

This study was conducted to assess the responses of 10 selected questions related to herbal mouthwash among 100 dental students through a survey planet. A Questionnaire was self-constructed about the knowledge and awareness toward herbal mouthwash. The questionnaire was developed to gain information on knowledge, awareness among dental students in recommending and prescribing mouthwash to their patients. After excluding the incomplete responses, the results were recorded and analyzed.

3. RESULTS

Awareness of dental students related to herbal mouthwash was evaluated by assessing the first set of questions; only 67% answered that only peppermint oil is used in herbal mouth wash, 9% answered that it has only cinnamon oil, 3% has lavender oil. 21% answered it has all of the essential oil mentioned [Fig. 1]. As for the second question, 8% of the students said herbal mouth wash only has antibacterial effect. While 12% answered for antimicrobial effect, 6% answered for anti-inflammatory effect and the rest of 24% of the students said it has antibacterial, antimicrobial and anti-inflammatory effect [Fig. 2]. The third question gives knowledge of students on the contents of the chemical mouthwash. 39% answered that it contains alcohol, 3% of the students mentioned that only contains triclosan, 33% answered that it contains lauryl sulphate (SLS) and 24 % answered that chemical mouthwash contains all the mentioned substances [Fig. 3]. Fourth question gives awareness of students on the advantages of using herbal mouth wash; about 30% answered as to reduce bleeding gums, whereas 42%

answered that it will help to reduce xerostomia and the rest of 27% of the students answered to help in management of swollen gums [Fig. 4]. According to the fifth question students give the disadvantages of using the chemical mouthwash; 70% of students answered that it causes burning discomfort, While 27% students replied for freshen breathe as a disadvantage and the 3% replied that preventing xerostomia as a

disadvantage [Fig. 5]. The sixth question gives the students' knowledge on the periodontal pathogens; about 22% of the students replied that the periodontal diseases are caused by *Aggregatibacter actinomycetemcomitans*, whereas 47% answered it will be caused by *Porphyromonas gingivitis* and Only 31% were aware that both of the bacteria causes periodontal disease [Fig. 6].

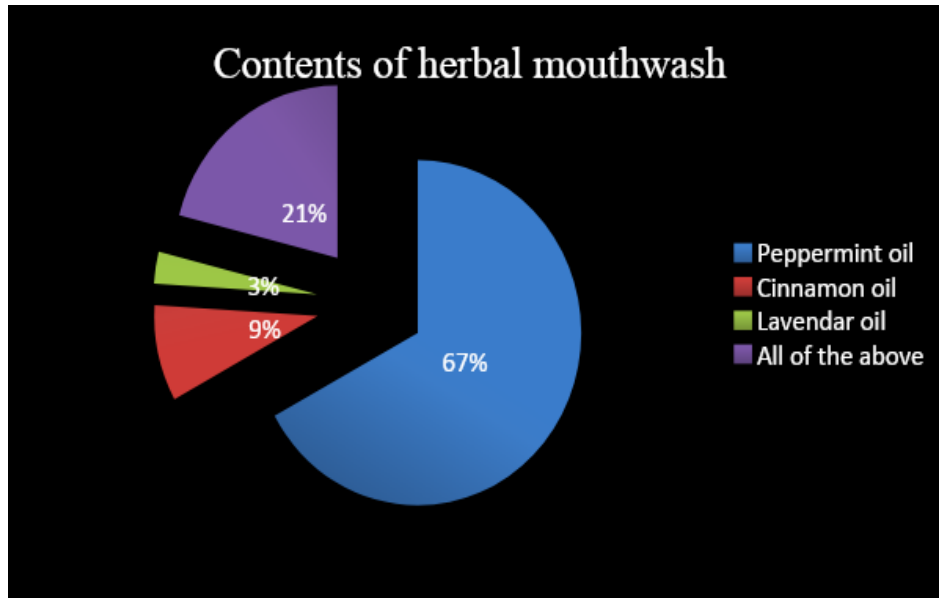


Fig. 1. Pie chart representing the contents of herbal mouthwash. 67% answered that only peppermint oil is used in herbal mouth wash, 9% answered that it has only cinnamon oil, 3% has lavender oil. 21% answered it has all of the essential oil mentioned

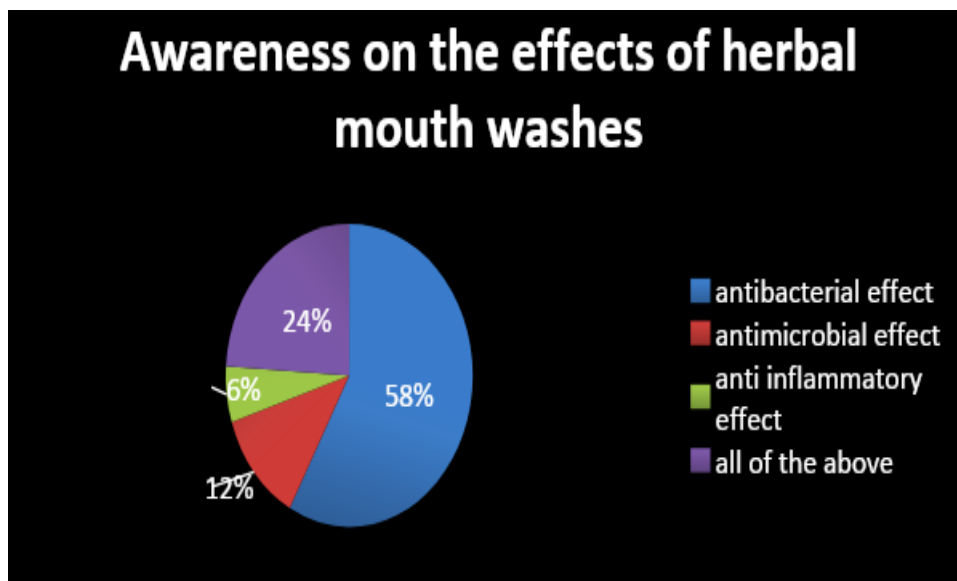


Fig. 2. Pie chart representing the knowledge of students the effects of herbal mouth washes. 58% of the students said herbal mouth wash only has antibacterial effect. While 12% answered for antimicrobial effect, 6% answered for anti-inflammatory effect and the rest of 24% of the students said it has antibacterial, antimicrobial and anti-inflammatory effect

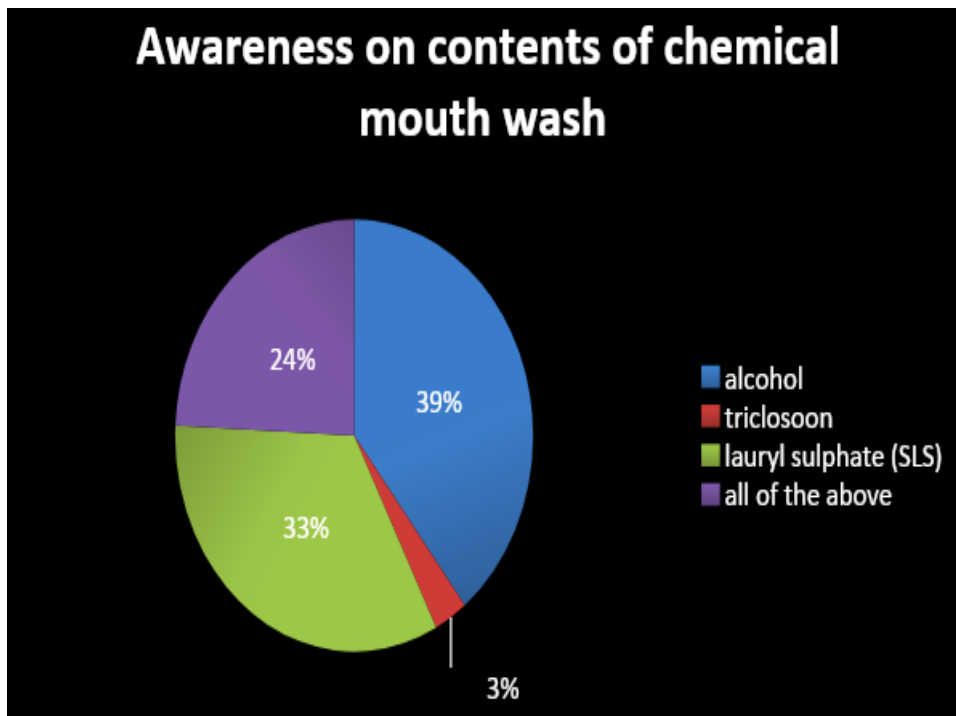


Fig. 3. Pie chart representing the knowledge of students on the contents of the chemical mouthwash. 39% answered that it contains alcohol, 3% of the students mentioned that only contains triclosan, 33% answered that it contains lauryl sulphate (SLS) and 24 % answered that chemical mouthwash contains all the mentioned substances

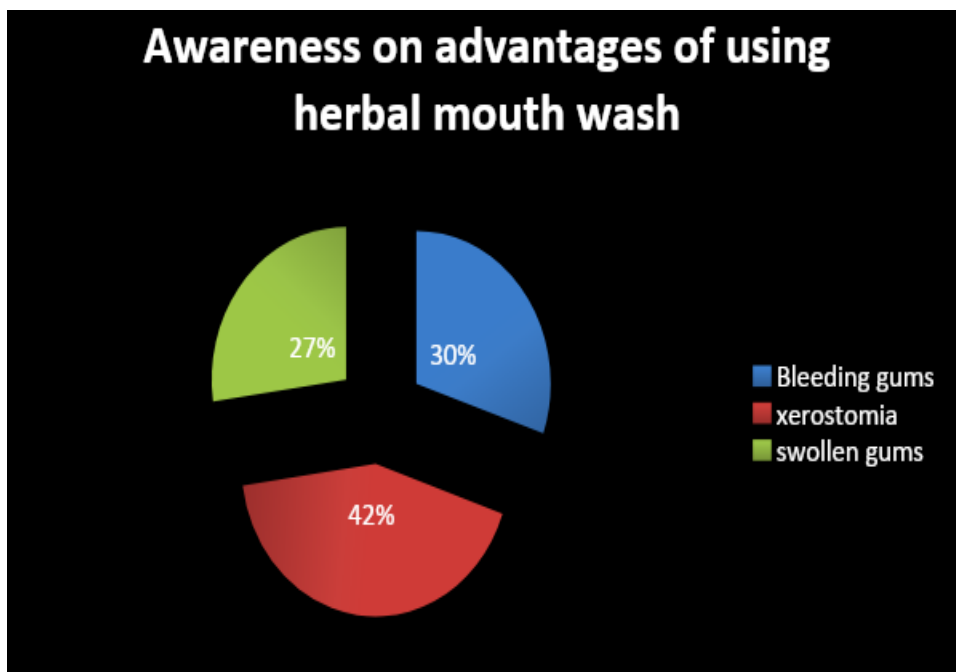


Fig. 4. Pie chart representing awareness of the students on advantages of using herbal mouthwash. 30% answered as to reduce bleeding gums, whereas 42% answered that it will help to reduce xerostomia and the rest of 27% of the students answered to help in management of swollen gums

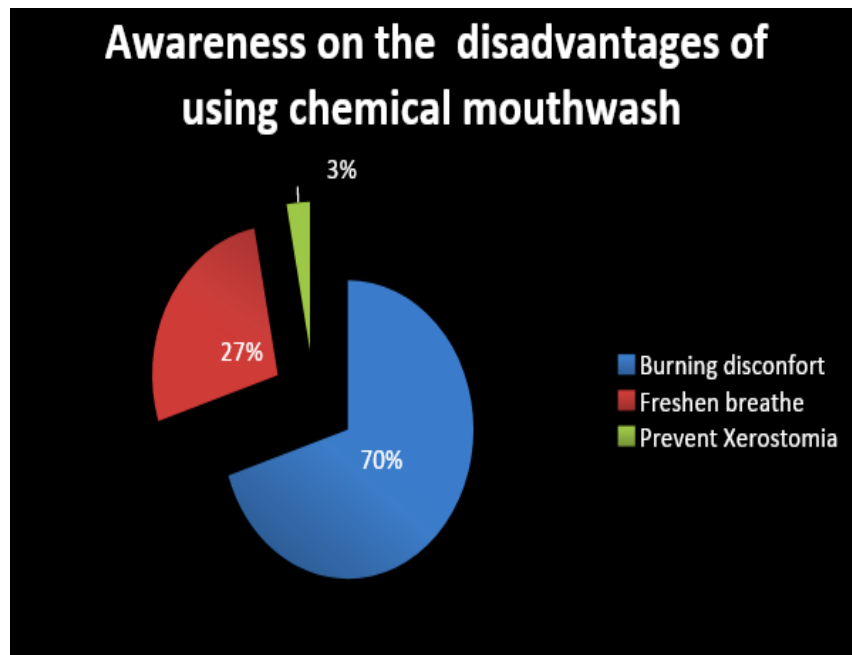


Fig. 5. Pie chart representing knowledge of the students on the disadvantages of using herbal mouthwash. 70% of students answered that it causes burning discomfort, While 27% students replied for freshen breathe as a disadvantage and the 3% replied that preventing xerostomia as a disadvantage

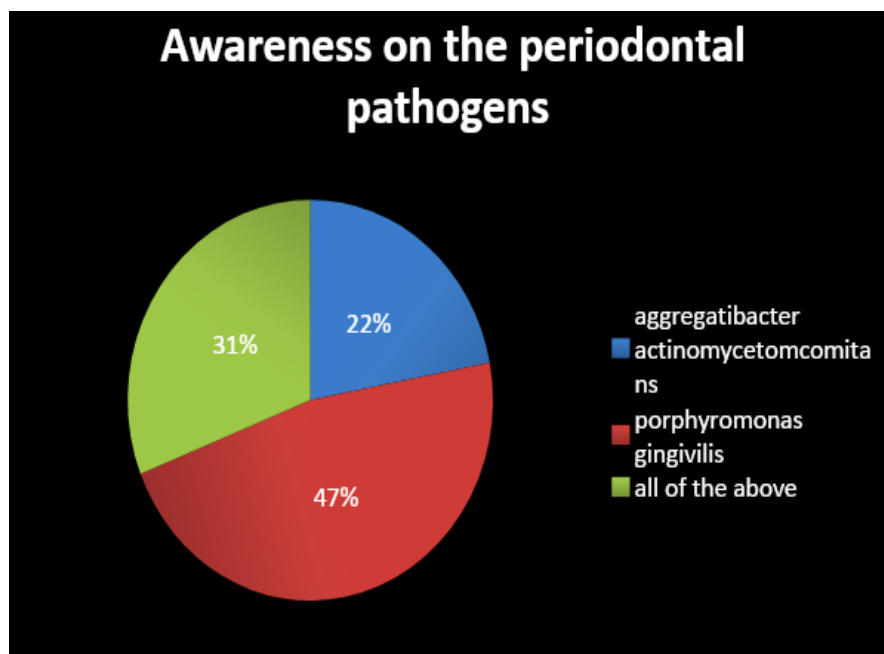


Fig. 6. Pie chart representing the knowledge of students on periodontal pathogens involved in periodontal disease. 22% of the students replied that the periodontal diseases are caused by Aggregatibacter actinomycetemcomitans, whereas 47% answered it will be caused by porphyromonas gingivilis and Only 31% were aware that both of the bacteria cause periodontal disease

According to the seventh question, the students were aware of bleeding gums as a symptom of gingivitis; 82% of students agreed that it is a symptom of gingivitis, while 18% of the students

denied it [Fig. 7]. The eight question, knowledge of students on how many times to use the herbal mouth wash; 15% answered that it should be

used only once, While 76% answered that it should be used twice and 9% of them replied that use it thrice a day [Fig. 8]. While the ninth

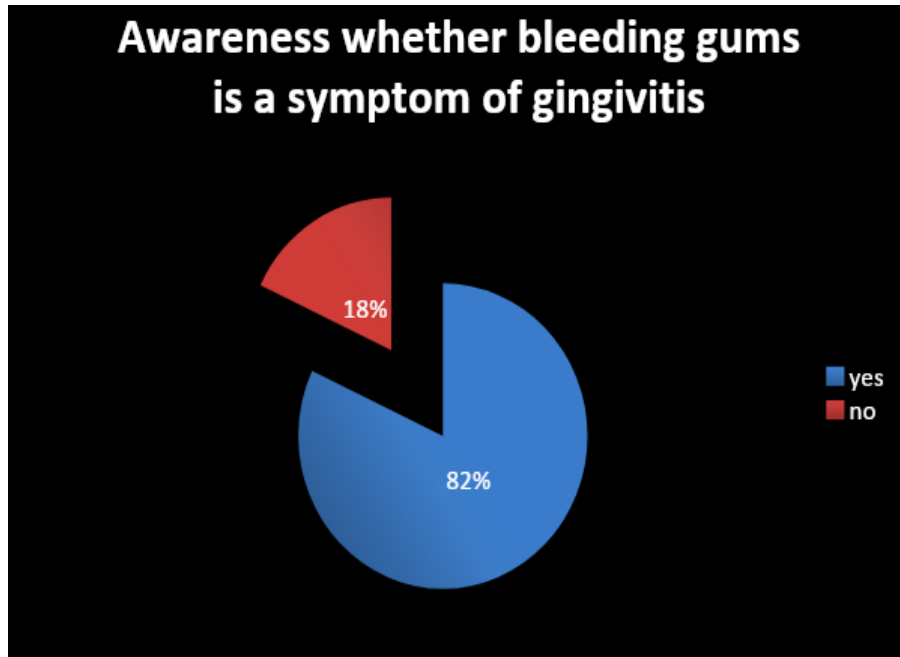


Fig. 7. Pie chart representing the knowledge on students whether bleeding gums is the symptom of gingivitis. 82% of students agreed that it is a symptom of gingivitis, while 18% of the students denied it

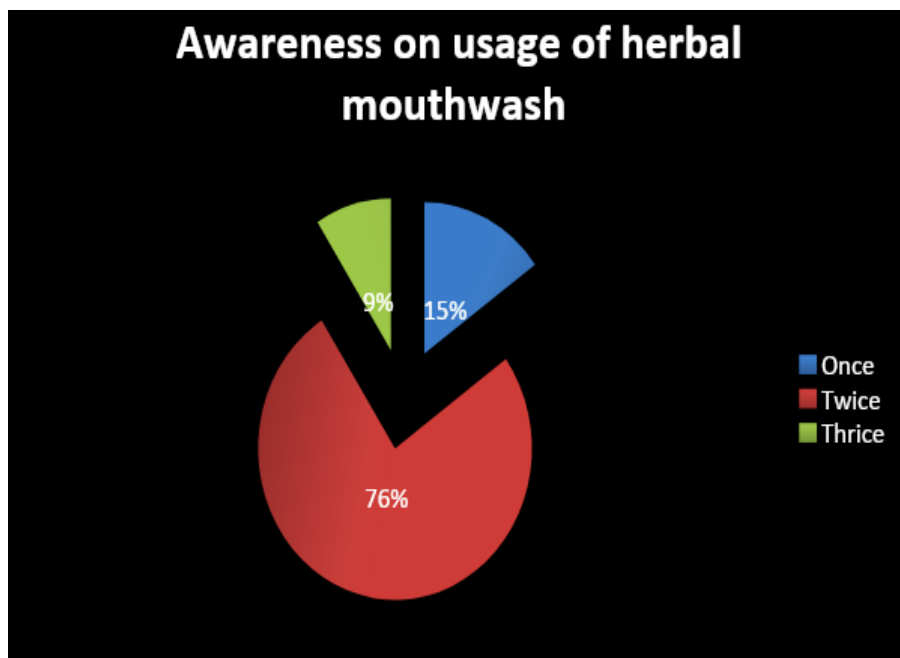


Fig. 8. Pie chart representing the awareness of the students on usage of mouthwash. 15% answered that it should be used only once, While 76% answered that it should be used twice and 9% of them replied that use it thrice a day

question shows the awareness of the students if water should be added to herbal mouth wash; 45% students replied that water must be added to herbal mouth wash while using it. 55% answered as to be well aware that adding water to herbal mouth wash is not necessary

[Fig. 9]. Finally, by asking this question encounters the knowledge of students on the advantage of herbal mouthwash on reducing halitosis; 72% answered that it will reduce halitosis, While 25% students denied it [Fig. 10].

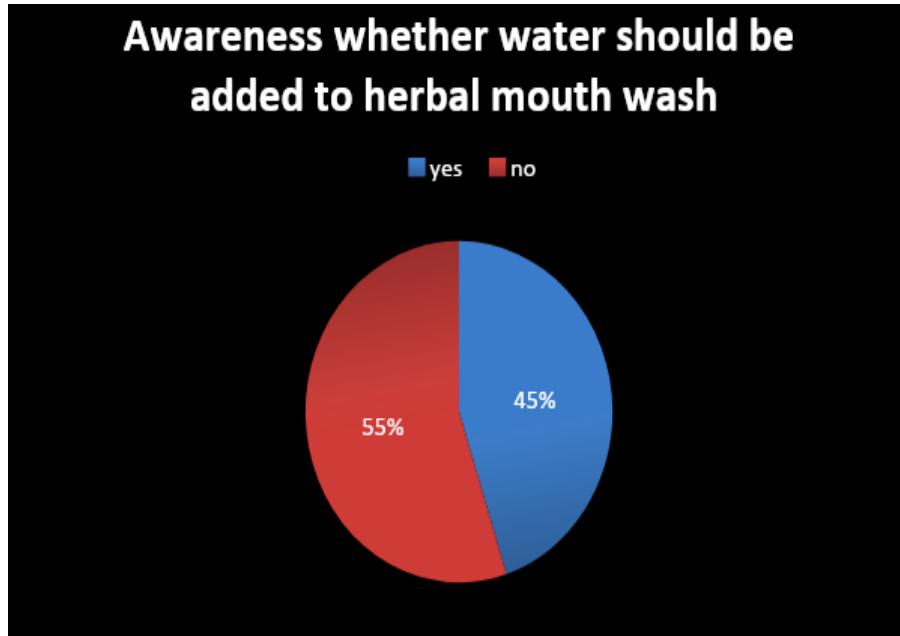


Fig. 9. Pie chart representing the knowledge of the students whether water should be added to herbal mouthwash. 45% students replied that water must be added to herbal mouth wash while using it. 55% answered as to be well aware that adding water to herbal mouth wash is not necessary

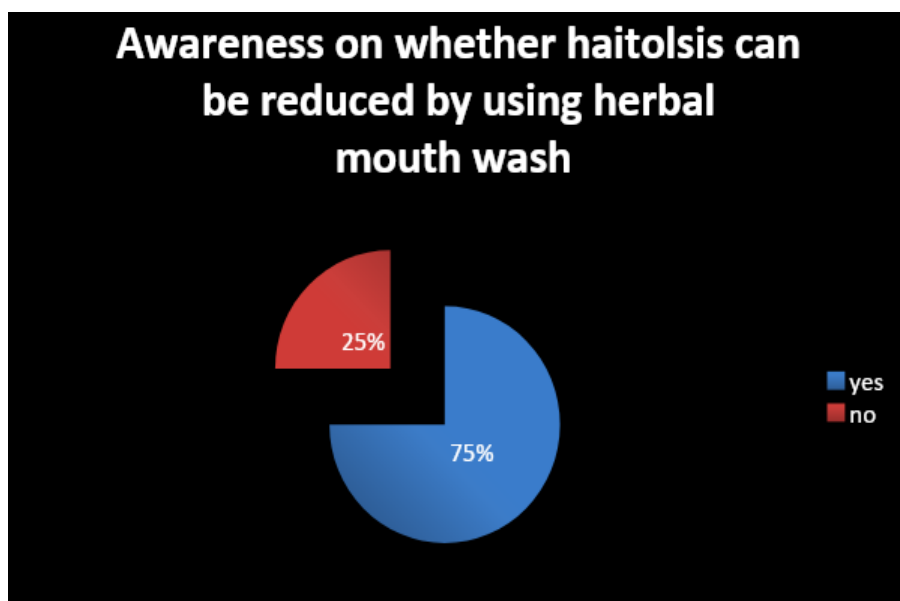


Fig. 10. Pie chart representing the knowledge of students on the advantage of herbal mouthwash on reducing halitosis. 72% answered that it will reduce halitosis, While 25% students denied it Whether halitosis can be reduced by using herbal mouthwash

4. DISCUSSION

Mouthwash are play important role in the treatment of gingivitis and periodontitis, A remedy to treat oral and periodontal disease is one of the most common oral health problems that affect most of the population [9].

The present study was compared to the study conducted by Niveda et al., in the selection of participants- Undergraduate and postgraduate from dental colleges [10]. A study was conducted by Singh et al., awareness about the use of natural/herbal products increased in daily life, particularly in case of health services and led to the increased usage of herbal mouthwashes containing tea, neem oil [11]. Ciancio et al., found that nearly 68% of the dentist prescribe mouthwashes at least once a day [12]. In the current study, about 76% of the dentists prefer prescribing mouthwashes twice a day.

Chlorhexidine mouthwash is a bisbiguanide and it has immediate bactericidal activity [13]. Rinsing with chlorhexidine mouthwash daily will leads to inflammation and some side effects like staining of teeth [14], contain alcohol which on long term use can cause oral cancer [15-17].

In a cross-sectional study by Ruksana Sheik et al., found that 22.5% of students strongly agree that herbal mouthwash causes less side effects than conventional mouthwash, 20% disagree with it, 23.75% are not sure, and the rest 33.75% no knowledge about it [18]. In the present study, awareness on advantages of herbal mouthwash; about 30% answered as to reduce bleeding gums, whereas 42% answered that it will help to reduce xerostomia and the rest of 27% of the students answered to help in management of swollen gums.

In this study results showed that dental students were inadequate on awareness of herbal mouthwashes. In the real sense, many dental students did not come forward to respond to the questionnaire. It is essential to create awareness of herbal mouthwashes among dental students and also equally important for the students to learn more about herbal mouthwash.

5. CONCLUSION

Within the limits of the present study, Awareness on herbal mouthwash for general oral health among dental students is still below the satisfactory level. Awareness on the herbal

mouthwash for maintaining good oral hygiene needs to be enhanced among dental students. Most dental students prefer conventional mouthwash over herbal mouthwash due to inadequate knowledge on the effects of herbal mouthwash also evident from this study.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

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