



Assessment of Knowledge, Attitude and Practice of Probiotics among Dental and Medical Students of Private University, Mehsana, Gujarat: A Cross-Sectional Study

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ABSTRACT

Background: Probiotics are defined as “those supplements of food which contain microbial flora that has the capacity to effect human health in a beneficial way.” The most commonly used bacterial strains for probiotic preparations belong to the genera *Lactobacillus* and *Bifidobacterium*. **Aim:** Present study aimed to assess the knowledge, attitude, and practice of using probiotics for health among dental and medical undergraduate students of Private University, Mehsana, Gujarat. **Material and Methods:** Cross sectional study conducted among 2nd year dental and medical student of sankalchand Patel University to evaluate knowledge, attitude and practice of probiotic to overcome various oral health problems by filling a structured self-administered, close-ended questionnaire including 15 questions. Informed consent will be taken from students before conducting the study. **Result:** 42.2% of respondents were men and 57.8% of respondents were women among the 230 undergraduate medical and dental students. According to the study, 55.2% of respondents correctly identified the response that live microorganisms are an element of probiotics, and 83.0% of participants are aware of the term probiotics. 38.3% of the participants reported never used probiotics as a medicinal supplement. 87.8% of participants said that it contributes to better dental health. **Conclusions:** Undergraduate medical and dental students in the current study majority of them knew that probiotics improve immunity and how well food is absorbed by the body. Still, they don't offer the additional health advantages of probiotics. There was also a bit less understanding and clarification around the phrase "prebiotic."

Keywords: Dental health, probiotics, medical and dental, students.

INTRODUCTION

Health is a priceless positive facet of life hence maintenance of health is of utmost importance for a productive life. Oral health is an integral part of general health, which can be achieved by good oral hygiene. Oral infections constitute some of the most common and costly form of infections in humans [1, 2].

Introduction of antibiotics revolutionized the field of medicine, after the introduction of antibiotics life expectancy increased and it greatly improved the quality of human life by decreasing the mortality rate throughout the world. But the major drawback with antibiotics was that besides killing bad bacteria it also kills good bacteria and hence it disturbs the ecosystem of the body, causing devastating effects on the body like super infection and drug resistance [3].

Supplemental foods with potentially advantageous bacteria or reasts are called probiotics. To enable colonization, they are supplied at various dosages. These products suppress pathologic colonization and the spread of disease while also boosting the growth of beneficial flora. Since oral infections have taken centre stage among other illnesses affecting people, probiotic usage has become increasingly significant in dentistry. There is a growing body of research supporting the idea that microbial ecology affects dental and medical changes [4].

Material and Methods

An assessment of the knowledge, attitude, and use of probiotics to address a range of oral health issues was done through a cross-sectional study involving second-year Sankalchand Patel University dental and medical students. Participants answered 15 structured, self-administered, closed-ended questions. An ethical approval was acquired from the "Ethical Committee of Narsinhbhai Patel Dental College and Hospital. Sankalchand Patel University, Visnagar." Every research participant received a written consent form before to the study's commencement.

A questionnaire with prior validation was distributed to each participant. Both pieces made up the questionnaire. The demographic information in the first section included the student's name, age, gender, marital status, and address, among other things. In the second section of the survey, there were fifteen questions about probiotics that were related to knowledge, attitude, and practice.

The questionnaire was created in English. The participants who answered to the questionnaire were included in the study. The participants who were not present at the time of study were excluded from the study.

Statistical Analysis

Data was gathered and entered using Microsoft Excel Office 2013. Version 20.0 of the Statistical Package for Social Sciences (SPSS) was used to analyse the collected data. When appropriate, the Chi Square test was used to measure the descriptive values. P-Values less than 0.05 were regarded as statistically significant.

RESULT

Table 1 shows the Out of the 230 participants, 66(48.5%) were male medical students and 70(51.5%) were female medical students. Out of the 230 participants 31(33.0%) were male dental students and 63(67.0%) were female dental students. Table 2 shows the 83.0% of participants are aware about probiotics term (p value=0.030). 40.0% of participants got the information about probiotics from the Internet (p value=0.026). Majority of participants (55.2%) had chosen the live microorganism as a constitutes of probiotics (p value <0.001). Majority of participants (44.8%) had replied food and drinks for better consumption of probiotics (p value = 0.465). Fig-1 shows the 87.8% of participants thought the probiotics is improve health (p value= 0.023). Fig-2 shows the majority of participants (86.1%) had agree that probiotics were safe (p value<0.001). Fig-3 shows the majority of participants (68.7%) had consumed food products with probiotics (p value=0.03).

Table 1: Demographic data of the study participants

Variable	Course n (%)		P value
	Medical	Dental	
Gender			
Male	66(48.5%)	31(33.0%)	0.21**
Female	70(51.5%)	63(67.0%)	
Address			
Urban	71(52.2%)	58(61.7%)	0.136**
Semi Urban	27(19.9%)	13(13.8%)	
Rural	38(27.9%)	23(24.5%)	

Table 2: The association between the Location and knowledge, attitude, and practice levels Questions

Questions	Response	Medical Students N (%)	Dental Students N (%)	P value
Are you aware of the term probiotics?	Yes	119(87.5%)	72(76.6%)	0.030*
	No	17 (12.5%)	22(23.4%)	
If yes, then how did you obtain information about probiotics?	Doctors	20(14.7%)	27(28.7%)	0.026*
	Social media	35(25.7%)	13(13.8%)	
	Internet	56(41.2%)	36(38.3%)	
	Others	25(18.4%)	18(19.1%)	

What you think are the constituents of probiotics?	Live microorganism	93(68.4%)	34(36.2%)	<0.001*
	Synthesized drug	6(4.4%)	16(17.0%)	
	Natural plant product	7(5.1%)	19(20.2)	
	Don't know	30(22.1%)	25(26.6%)	
Consumption of probiotics is better from	Foods and drinks	65(47.8%)	38(40.4%)	0.465**
	Supplements	32(23.5%)	28(29.8%)	
	Don't know	39(28.7%)	28(29.8%)	

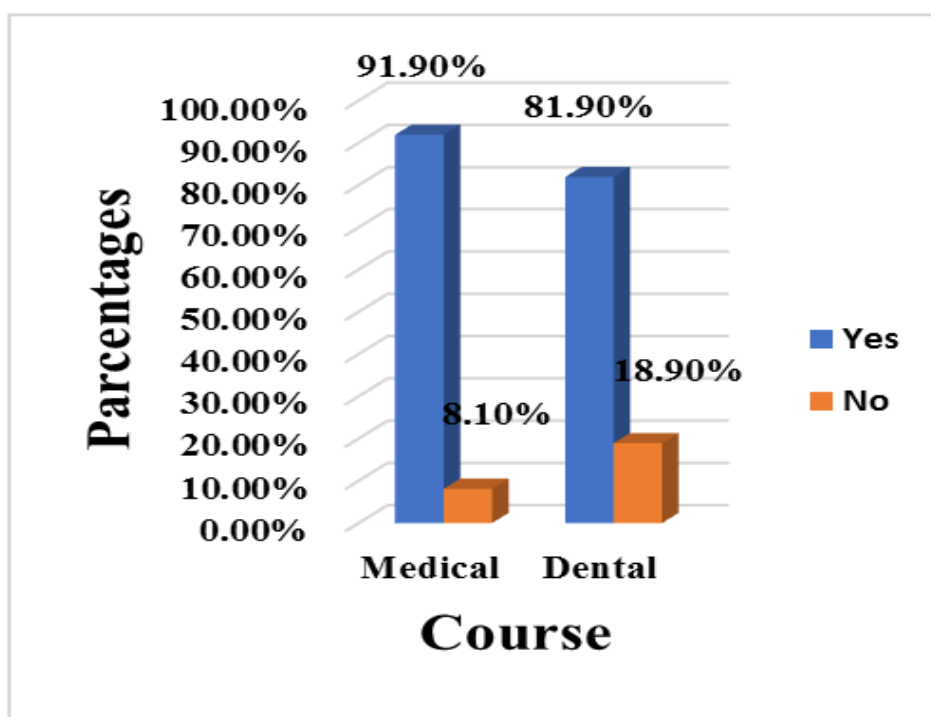


Figure 1:Improvement of Health through Probiotics, (p value=0.023*)

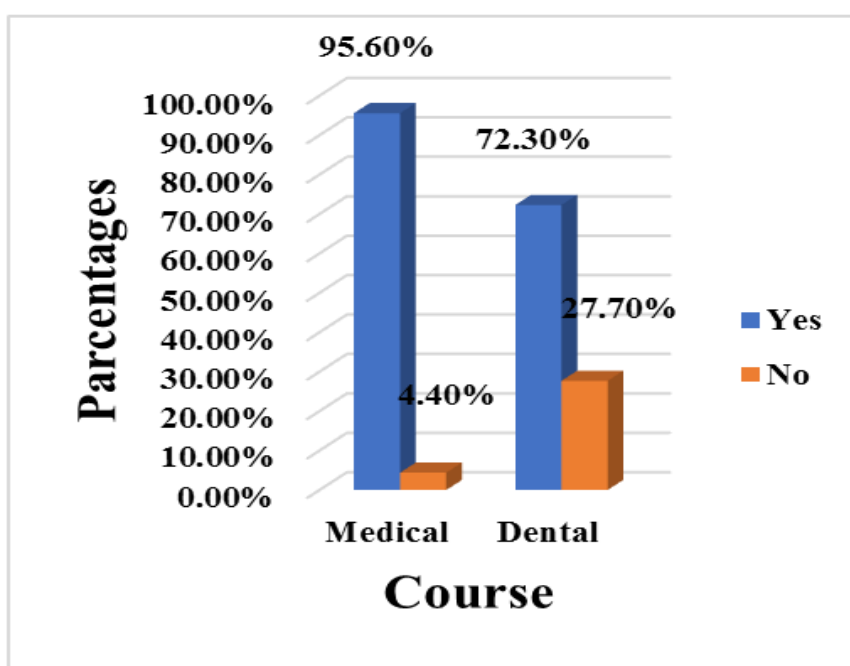


Figure 2:Safety of Probiotics, (p value<0.001*)

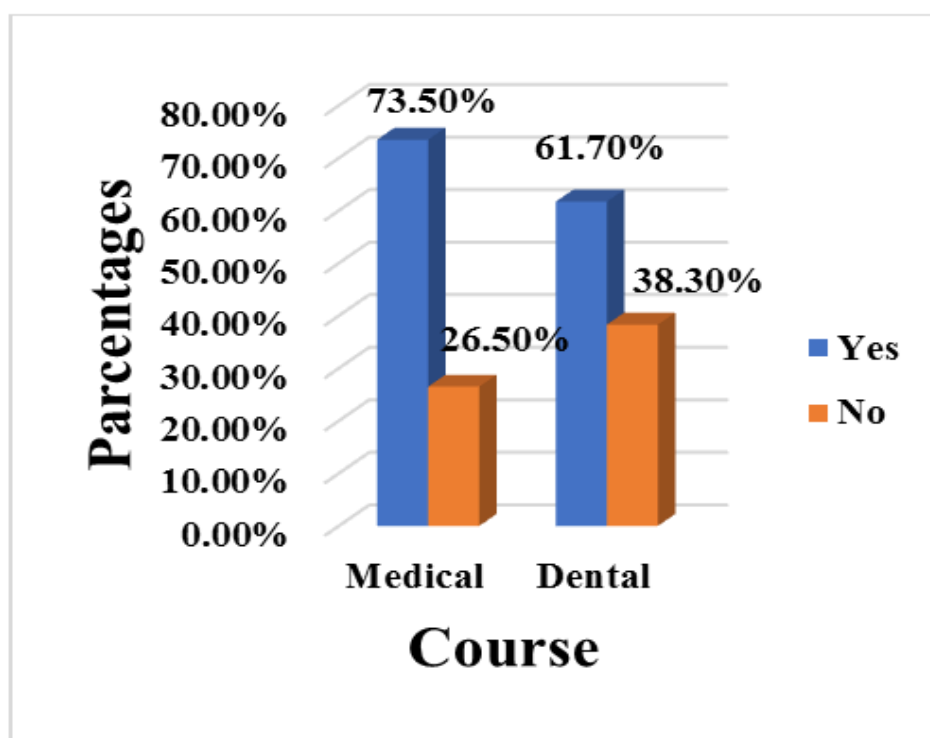


Figure 3: Consumption of Food Products with Probiotics, (p value>0.03*)

DISCUSSION

Probiotics are live microbes available commonly in the form of food supplements that benefit the host defence of the body by improving its intestinal balance. Recently, numerous research papers and studies focusing on the effect of probiotics for health are being published [5]. Unfortunately, these are not adequately utilized to combat health problems due to a lack of proper knowledge and low awareness about the benefits of probiotic products among the medical and dental fraternity [6]. Hence, data on the knowledge, attitudes, and practices related to the use and benefits of different strains in probiotic products for health among the medical and dental fraternity are important. Therefore, the current study is assessed the knowledge, attitude, and awareness of probiotics among Medical and Dental students. The results showed that maximum number of participants was aware of the role of probiotics and these results are in agreement with the study conducted among the dental students of Thodupuzha, Kerala in which 67% were aware of the term probiotics [7] most of the respondent's obtained information from internet or social media. Probable reason was the internet websites are a resource for patient seeking information about probiotics. Contradictory result shown in study conducted by Patatit *et al.*, [8] on the Dental Post-graduate Students. 44.1% of them got information from their physicians or other healthcare professionals. This demonstrates the critical role that medical professionals play in spreading information about probiotics. When asked what components make up probiotics, participants in this survey accurately identified live microorganisms, as did around 55.2% of undergraduate students studying medicine and dentistry. Similar findings were reported in research by Patatit *et al.*, [8]. Probiotic bacteria with more health benefits include *Lactobacillus*, *Bifidobacterium*, and *Streptococcus* types. In the current poll, the majority of participants (44.8%) thought that the best way to absorb probiotic food was through food and beverages, while just 26.1% thought it was best through supplements. Similar result shown in study conducted by Patatit *et al.*, [8] probable reason was the food and drink sources might help to promote a greater diversity of microbes in your biome, which is good for maintaining your general health. In present study Majority participants think probiotics improved health. Similar results shown in study conducted by Muchhalet *et al.*, [9]. Most of the participants in the present study were agreed that probiotics were safe. In a previous study conducted by Muchhalet *et al.*, [9] there were a significant number of the participants who agreed that probiotic was safe. While 31.3% of respondents had never eaten probiotic-containing food, 68.7% of respondents said they had personally consumed such food. When the question of how frequently they consumed it was asked, 17% said they did so once a day, 24.3% said they did so two to three times a week, 11.7% said they did so once a week, and 20.1% said they did so infrequently. In the study conducted by Melanie Betz *et al.*, [10] 40% of the participants ate probiotic food on a daily basis. 28.6% of the respondents consumed probiotics food 2-3 times per week in the study given by Patatit *et al.*, [8].

LIMITATION

Only one specific college's students were included in this study. Because of the smaller sample size, one of our study's potential limitations will be the results' generalizability. It is a known truth that research utilizing questionnaires is vulnerable to social desirability and acquiescence bias, and this could continue to be a problem.

CONCLUSION

Probiotics are considered as an emerging supplementary field in health care. They play an important role in improving the microbiota of the general as well as oral health.

Undergraduate students studying medicine and dentistry demonstrated a high degree of understanding in the current survey. The majority of them were aware of how probiotics improve immunity and food digestion in the human body. Also, most of them used to take probiotics two to three times a week and were aware that dairy products were a nutritional source of probiotics. The current study also showed that although students had a high degree of probiotic knowledge and awareness, their primary reason for using probiotic food products was to improve their overall health. They still don't have the additional health advantages of probiotics, though. Additionally, the phrase "prebiotic" was not as well understood.

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