

A study to assess the level of awareness about probiotics and their usefulness in MBBS students of a medical college of Meerut

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Abstract: Functional foods like probiotics deliver health benefits to host beyond nutrition and are very advantageous in improving host immunity but many health care providers are not aware of them. Hence this study was conducted to assess and increase the awareness of medical students regarding probiotics. The study was conducted on students of MBBS 2017 and 2018 batches of Subharti Medical College using a self made semi structured questionnaire. In this quasi experimental study, 49% students were initially aware about probiotics out of which 77% had previously used them. The awareness increased by 24% after giving an audio visual presentation and again administering the questionnaire.

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I. Introduction

Discovery of antibiotics, the so called “miracle drugs”^[1] was a milestone in the history of medicine at the time of World War II^[2] which made antibiotics – “the staple food of modern medicine”. But, the antibiotic era has been remarkably short^[3] and with increasing awareness of relationship between diet and health^[4] has forced people to look upon other sources for improving and maintaining health like the probiotics.

The probiotics are live micro organisms that when consumed in enough amount, exert their health benefits.^[5] These compounds come under the broad umbrella of functional foods that provide health benefits beyond nutrition like enhanced immune response, treatment or prevention of urogenital and respiratory infections and prevention of allergic and atopic diseases.^[6]

The probiotics exert these health benefits through colonization, resistance and immune modulation^[7] with minimum side effects and maximum advantage. They are naturally found in dairy and non dairy products including cheese, ice cream, yoghurt, butter and other fermented products.^[5]

But despite all these advantages, not many health providers^[7] are aware of them and as strong foundation is of utmost importance for durable construction,^[8] it has now become necessary to analyze the awareness of medical students as today’s students are tomorrow’s doctors.^[9] So the present study was conducted to assess and increase the awareness of MBBS 1st and 2nd year students of a private university regarding probiotics and their uses.

II. Material And Methods

Study Setting - Subharti Medical College

Study Population - Students of MBBS-2017,2018 batch

Study Type - Quasi-experimental

Study Duration – 2 months

Sampling Technique - Purposive Sampling

Sample Size - 152

Research Tool - Self-designed semi structured Questionnaire and PowerPoint presentation

Statistical Analysis – Analysis was done by using chi – square test for testing the association between dependent and independent variables and p – value < 0.05 was taken as significant. SPSS software was used for analysis.

Inclusion criteria – All students present and who gave consent for participating in the study

Exclusion criteria – All students who were absent or who did not give consent for participating in the study.

Independent variables – Age, gender, education of father, occupation of father, socio economic status

Dependent variables – Awareness about probiotics, Awareness of usefulness of probiotics and Frequency of previous use of probiotics

Methodology – After purposively selecting MBBS 2017 and 2018 batch as the target group for our study, we took permission from the teacher in charge and the students were supplied a self designed semi structured questionnaire with questions to assess the awareness of students regarding probiotics and their usefulness. Then the students were given a 30 minutes power point presentation on this topic and on some other day again the level of awareness of the students regarding antibiotic misuse, antibiotic resistance and probiotics was assessed by the same set of question which were supplied again. The data was entered on Microsoft Excel sheet and was analyzed using SPSS software.

III. Result

In the present study of 152 students, majority of the students i.e. 114 (75%) belonged to the age group of 19 - 20 years while 23 (15.1%) belonged to 17 – 18 years and 15 (9.9%) to 21 – 22 years of age. There were 93 (62.1%) girls but only 59 (38.8 %) boys.

All students belonged to an educated family with 8 (5.3%) fathers who had a professional degree, 131 (86.2%) who had a graduate or postgraduate degree, 1 (0.7%) intermediate pass, 10 (6.6) high school pass and only 2 were (1.3%) middle school pass outs. Most fathers 75(49.3%) were professional by occupation while 24 (15.8%) were semi - professional, 50 (32.9%) were clerical, shop owner or farmer and only 3 (2%) were semi – skilled worker bringing the socioeconomic status of families as either 78 (51.3%) upper middle or 74 (48.7) upper as calculated using modified Kuppuswamy socioeconomic criteria of 2017.

The students in the study group were undergraduates with 66 (43.4%) belonging to MBBS – 2017 and 86 (56.6%) belonging to MBBS – 2018 batch of Subharti Medical College.

Figure1 shows the awareness about probiotics which was present among 49.3% students of our study group before intervention and in 73.4 % students after it bringing a change of about 24.1% which was statistically significant.

Figure1: Distribution of population according to awareness about probiotics

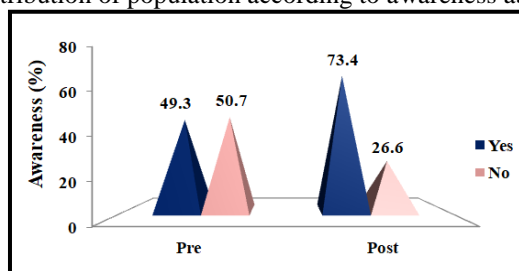


Figure 2 shows that 42.1% students were aware about the usefulness of probiotics before the presentation while 67.1% after it, bringing a significant increase of about 25%.

Figure 2: Distribution of study population according to awareness about usefulness of probiotics

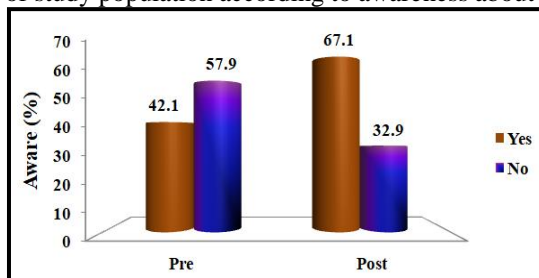


Table 1 shows the association of frequency of previous use of probiotics with their awareness. In our study population, 75 (49.3%) students were aware about probiotics, out of which 58 (77.3%) had previously used them while the rest had not and out of the 77 (50.6%) students who were not aware about probiotics majority i.e. 65 (42.8%) students had previously not used them bringing the association to be statistically significant.

Table 1: Association of frequency of previous use of probiotics with awareness about them

Awareness about probiotics	Frequency of previous use		Total
	Yes	No	
	No. (%)	No. (%)	No. (%)
Yes	58 (77.3)	17 (22.7)	75 (49.3)
No	29 (37.7)	48 (62.3)	77 (50.6)
Total	87 (57.2)	65 (42.8)	152 (100)
Pearson's Chi Square = 24.429		df = 1	P Value = 0.000

Table 2 shows the association of previous use of probiotics with awareness about their usefulness in diseases. In our study group of 152 students, 64 (42.1%) students were aware about the usefulness of probiotics, out of which 46 (71.9%) had previously used them while 88 (57.8%) students were not aware about their usefulness. Out of these, 47 (53.4%) students i.e. majority had not previously used them. The association was found to be statistically significant.

Table 2: Association of frequency of previous use of probiotics with awareness about their usefulness

Awareness about usefulness of probiotics	Frequency of previous use		Total
	Yes	No	
	No. (%)	No. (%)	No. (%)
Yes	46 (71.9)	18 (28.1)	64 (42.1)
No	41 (46.6)	47 (53.4)	88 (57.8)
Total	87 (57.2)	65 (42.8)	152 (100)
Pearson's Chi Square = 9.678		df = 1	P Value = 0.002

IV. Discussion

Awareness about probiotics: In our study 49% students were aware about probiotics which was slightly higher than the results reported by Thiruvanakararu et al. (2017) ^[6] in their study conducted in a dental college in Chennai where the awareness was around 45%. In contrast Amaruche et al. (2016) ^[10] in their study conducted on health care professionals in Nigeria reported the awareness to be more than 65% which was higher than the results of our study. Uma Mageshwari et al. (2014) ^[11] in their study in Coimbatore also reported a higher awareness, of 58%, about probiotics as compared to our study.

Awareness about usefulness of probiotics: As for usefulness of probiotics, in our study there was 42.1% awareness regarding usefulness of probiotics which was in contrast with the result of the study conducted by Payahoo et al. (2012) ^[5] on medical science students in Iran where awareness regarding usefulness of probiotics was about 60% which was considerably higher than the result of our study. Uma Mageshwari S et al. (2014) ^[11] also reported a higher awareness of 62% than seen in our study.

Association of previous use of probiotics with their awareness In our study, association between previous use of antibiotics and their awareness was found to be statistically significant as frequency of probiotics use was seen with more of those students who were aware about them. 49.3% students were aware of probiotics, out of which 77.3% had previously consumed them while out of 50.6% students who were not aware of them 62.3% i.e. majority of the students had never consumed them. Al - Nabulsi AA et al. (2014) ^[4] in their study in Jordan reported that, 97.5% of the participants did not consume probiotic products because they were unaware of what they were. Stanczak et al. (2009) ^[12] in their study done in America reported that there was significant association between knowing what probiotics are and frequency of probiotic consumption. Both the studies had similar observations like ours.

Association of previous use of probiotics with awareness about their usefulness: In our study, we observed a statistically significant association between frequency of previous use of probiotics and awareness about their usefulness. 42.1% students were aware about the usefulness of probiotics, out of which 71.9% had previously used them while out of 57.8% students who were not aware about their usefulness, 53.4% had not consumed them. Stanczak et al. (2009) ^[12] in their study in America reported that, awareness regarding benefits of probiotics was significantly related to increased frequency of their intake and Al - Nabulsi AA et al. (2014) ^[4] in their study in Jordan reported that, lack of knowledge about probiotics and little awareness of their benefits lead

to poor consumption of probiotic products by students. The results of both the studies were consistent with the results of our study.

V. Conclusion

Probiotics are the new emerging products for attaining good health and though many students do not know about them, they are willing to gain knowledge about them in which these type of studies play a major role and thus should be promoted.

References

- [1]. Bassoum O, Sougou NM, Diongue M. Assessment of General Public's Knowledge and Opinions towards Antibiotic Use and Bacterial Resistance: A Cross-Sectional Study in an Urban Setting, Rufisque, Senegal. *Pharmacy*. 2018;(6):1-16.
- [2]. Desai AJ, Gayathri GV, DS Mehta. Public's Perception, Knowledge, Attitude and Behaviour on Antibiotic Resistance - A survey in Davangere City, India. *Journal of Preventive Medicine and Holistic Health*. 2016;2(1):17-23.
- [3]. Banerjee F, Raghunathan A. Knowledge, attitude and practice of antibiotic use and antimicrobial resistance: a study post the 'Red Line' initiative. *Current science*. 2018;114(9):1866-1877.
- [4]. Al-Nabulsi AA, Obiedat B, Ali R. Knowledge of probiotics and factors affecting their consumption by Jordanian College students. *International Journal of Probiotics and Prebiotics*. 2014;9(3):77-86.
- [5]. Payahoo L, Nikniaz Z, Mahdavi R. Perceptions of Medical Sciences Students towards Probiotics. *Health Promotion Perspectives*. 2012;2(1):96-102.
- [6]. Thirunavakarasu R. Survey on knowledge and awareness of probiotics among dental students. *International Journal of Pharmacy & Technology*. 2017;9(1):29129-29135.
- [7]. Sunayana M, Kota Alekhiya K, Preethi A. Awareness about probiotics in dental, medical professionals and health care providers. *Unique Journal of Medical and Dental Sciences*. 2013;01(02):36-40.
- [8]. Padmanabha TS, Nandini T, Manu G. Knowledge, attitude and practices of antibiotic usage among the medical undergraduates of a tertiary care teaching hospital: an observational cross-sectional study. *International Journal of Basic & Clinical Pharmacology*. 2016;5(6):2432-2437.
- [9]. Jayabalan N, Selvaraj N, Ganesan S. A questionnaire based survey on knowledge, attitude and behaviour of antibiotic usage and resistance among undergraduates in South Indian teaching hospital. *International Journal of Basic & Clinical Pharmacology*. 2018;7(10):1991-1997.
- [10]. Amarauche CO. Assessing the Awareness and Knowledge on the Use of Probiotics by Healthcare Professionals in Nigeria. *J Young Pharm*. 2016;8(1):53-55.
- [11]. Raihing C, Mageshwari U S. Consumer Knowledge and Awareness of Prebiotic and Probiotic Foods. *International Journal of Scientific Research and Reviews*. 2014;3(4):91-104.
- [12]. Stanczak M, Heuberger R. Assessment of the Knowledge and Beliefs Regarding Probiotic Use. *American Journal of Health Education*. 2009;40(4):207-211.

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