Literacy Level on Dental and Oral Health in Health Students (Non Dentisty)

Widya Cahyati Puteri[1], Ayu Nur Aisyah Ruata[1], Ghinalya Chalbi Ananda[1], Mochamad Ghoza Satur Panama[1] , Martining Shoffa Puspitaningrum[1] , Fuad Adhi Waskita[1], Retno Palupi[2]

[1] Undergraduate Student of Dental Medicine, Department Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga Indonesia, [2] Staff Lecturer, Department of Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga Indonesia

Abstract

Background: Dental and oral disease is one of the most common health problems in Indonesia with a prevalence of 57.6% and only 10.2% who receive treatment. The level of oral health literacy in health students needs to be known to carry out this role based on interprofessional education (IPE) in improving dental and oral health services to the community. **Purpose:** To determine the level of dental and oral health literacy in health students (fields other than dental health) in Surabaya. **Methods:** Using a research design is an observational analytic conducted on health (non-dentistry) students at universities in Surabaya. Using the questionnaire there were 7 questions answered on a scale of 0-4 (very not-very agree), categorization using a score of T. Where T> 50 is a good category, and T <50 is a poor category and then analyzed the data using the Chi-square method. **Results:** 51.32% of non health students were categorized as having dental health literacy levels. Based on the study program group, 58.2% of the students of the Faculty of Medicine and 47.54% of the students of health (non-dentistry) were categorized as good. Based on sex 44.12% male health students and 52.9% female health students were categorized as good. **Conclusion:** The level of dental and oral health literacy in health students (non dentistry) in Surabaya as a whole does not show a significant comparison with the level of literacy in medicine students better than health students (non dentistry).

Keywords*: Literacy level, dental and oral health Health major students, interprofessional education, public health services*

Introduction

Dental and oral health is one thing that needs attention[1]. Because, the oral cavity is a port of the entry that allows all kinds of diseases to infect the body. The Basic Health Research Data in 2018 recorded the percentage of dental and mouth problems at 57.6%, and only 10.2% were treated for these problems. Whereas the percentage of people who brush their teeth properly is only 2.8%. There are still many dental and oral health problems in Indonesia and a good strategy is needed to reduce this prevalence[2]. Not only dentists, health professionals also have a role in socializing education about oral health[3]. Collaboration or collaboration between professionals especially in the health sector is needed in building strong clinical teams and improving patient care and reducing the incidence of health problems.

Literacy is defined as the ability of readers to understand the contents of reading, knowledge in a particular field, and individual knowledge in survival. In addition, literacy also has a broader meaning, covering several processes namely reading, writing, speaking, listening, imagining, and seeing.

Oral health defined according to FDI includes the ability to speak, smile, smell, feel, touch, chew, swallow, and convey various feelings through facial expressions with confidence and without pain, discomfort, and craniofacial complex disease[4]. It shows physical and mental health and well-being[5], which reflect physiological, social, and psychological attributes that are essential for survival. Several risk factors are known to cause oral diseases such as smoking, alcohol consumption, and unhealthy eating patterns[6]. A person‘s

dental health is influenced by good habits such as brushing teeth, avoiding cigarettes, visiting the dentist[7,8], and using dental floss[9], which is a good example above[10].

According to WHO, health literacy includes knowledge and skills in the community that determine the ability of everyone to obtain knowledge and information in maintaining good health[11,12]. The purpose of oral health literacy is to improve the prevention of dental and oral diseases in the community[13].

Teamwork is needed in achieving adequate levels of oral health literacy. Each member takes an important role in order to create a synchronous relationship to achieve good literacy[13]. In addition, the level of poor oral health literacy can also cause caries, dental plaque, temporo mandibular joint disorder (TMJD), mucosal lesions, fluorosis, and other dental and oral problems[14].

The implementation of Interprofessional Education (IPE) for health students is a method which is quite relevant in the case of high dental and oral health problems with the aim of improving health services to the community. According to WHO, interprofessional education is an effective collaboration of students from two or more professions learning about, from and with each other to improve health status. Interprofessional collaboration is the process of professionals developing ways of practice by providing integrated and cohesive answers to the needs of clients / families / populations involving continuous interaction and knowledge sharing between professionals, organized to solve various problems of education and care while trying to optimize patient participation. Collaboration enhances predictors of intermediary quality such as knowledge transfer, information sharing, and improving decision making. Dental and oral interprofessional education methods begin by increasing collaboration among various members of the dental health team (such as dentists, dental health experts, dental therapists, dental technicians, and dental assistants) or expanding to cover various health professions (such as medical, nursing, pharmacy, and health related)[15]. This study aims to determine the level of literacy in health students (non dentistry) by comparing the students of the Faculty of Medicine and health students (non medicine).

Methods

This study was an observational analytic study conducted on a sample of 189 non-dentistry students in health, including 67 medical faculty students, 5 nursing students, 68 pharmacy students, 21 public health students, 9 nutrition science students, 7 students veterinary medicine, and 12 health students other than the above study programs at public and private universities in the city of Surabaya, namely Universitas Airlangga, Hang Tuah University, Surabaya Muhammadiyah University, Surabaya Pharmacy Academy, Nahdlatul Ulama University Surabaya, Surabaya University, Wijaya Kusuma University, and Widya Mandala University. Of the several study programs, grouped into 2 groups as variables to be observed, namely medical students (ie respondents who take medical studies) as many as 67 people and non-medical health students (ie respondents who take courses other than medicine) as many as 122 people.

This study uses a questionnaire instrument with 7 statements, namely: (1) I often use the information presented by the dentist to make decisions in dental and oral care; (2) I care about oral health; (3) I often take the time to take care of my teeth and mouth; (4) I often read brochures about oral health in clinics or public places; (5) I often apply instructions given by the dentist; (6) I often consider the advice of the dentist in making decisions in caring for my teeth and mouth; (7) I often ask someone to accompany me to the dentist. The statements on the questionnaire were then assessed by respondents based on their individual behavior with answers on a scale of 0 - 4 (strongly disagree - disagree - doubt doubt - agree - strongly agree), in this questionnaire there were no right and wrong answers. Then the sample answers will be scored with a minimum score of 0 and a maximum of 28. The level of literacy about dental and oral health will be categorized into 2 groups: good and not good.

Determination of the category of dental and oral health literacy level uses a T score. Where T> 50 is a good category, and T <50 is a poor category. This study uses Chi-square data analysis to determine whether there are differences in the level of dental health literacy in non-dentistry health students, based on the division of medical students and non-medical health students.

Result

Table 1. Comparison of dental and oral health literacy levels in (non-dentistry) health students

Variable	n	Good litercacy level in Dental Health (%)	Poor literacy level in dental health (%)	p value	Contingency Coefficient	PR
Field of Study						
Medicine	67	39 (58,2%)	28 (41,8%)	0,160	0,160	1,224
Non-Medicine	122	58 (47,54%)	64 (52,46%)			
Gender						
Male	34	15 (44,12%)	19 (55,88%)	0,353	0,353	0,834
Female	155	82 (52,9%)	73 (47,1%)			
Class of Study						
1	24	15 (62,5%)	9 (37,5%)			
3	33	15 (45,45%)	18 (54,55%)	0,434	0,434	1,357 0,996 0,834
5	57	26 (45,61%)	31 (54,39%)			
7	75	41 (54,67%)	34 (45,33%)			

In women, the level of literacy in oral health is better than in men, with a literacy rate in men 0.834 times that of women. The percentage level of dental and oral health literacy in women is 52.9%, while in men 44.12%. However, the comparison of dental and oral health literacy levels in women and men has no significant difference. This is because the p value owned is 0.353 which is smaller than the α standard of 0.05.

The level of dental and oral health literacy in semester 1 students has the highest rate with a percentage of 62.5%, followed by students in semester 7 with a percentage of 54.67%. 5th semester students are ranked third with a percentage of 45.61%, while the percentage of 3rd semester students is 45.45%. The percentage comparison does not have a significant difference because it has a p value of 0.434 which is less than the α standard of 0.05.

Based on calculations, contingency coefficients are obtained based on study programs (medical and non-medical) of 0.160; based on sex by 0,353; based on the semester level traveled by 0.434. This result is greater than 0.05. This shows that there is no significant relationship between the study program, gender, and the level of semester that is lived with the level of oral health literacy.

Discussion

Dental and oral health literacy within the scope of health students needs to be considered to improve the degree of oral health in the community. Health literacy itself can be defined as the process of obtaining, processing, and understanding basic health information and services that are important to be implemented in the environment. Therefore, oral and oral health literacy can be interpreted as the process of obtaining, processing, and understanding basic dental and oral health information that is important[16].

The level of dental and oral health literacy in medical students and non-medical health students found no significant differences. This can be caused by the two groups having similarities, namely as health students who have insights on basic health even though the two groups study different disciplines. The insignificant comparison can also be influenced by the habits of each student. Medical students and non-medical health students have good habits related to oral health[16,17]. The level of dental and oral health literacy in medical students is better than non-medical health students. This is because medical students get better education about dental awareness. Dental awareness can be linked to oral health literacy because awareness of dental health can trigger an increase in someone‘s literacy on oral health[18].

In male and female students, literacy levels were obtained with insignificant differences. Although the data scores obtained by female students tend to be higher than male students. This is also supported by the results of a study which states that the results of oral hygiene preventive literacy levels in men and women are not significant differences even though 60% of female correspondents have higher literacy rates than men[19]. In other studies, it shows that the level of women‘s health literacy tends to be higher than that of men. This is due to the tendency of women to be more susceptible to disease so women tend to have the opportunity to know the basics of health concepts compared to men[20].

In the results of the study the relationship between dental and oral health literacy and class of study (semester) of students shows that semester 1 students have the highest grades, these results are similar to the results of studies that have been conducted previously using cross sectional methods to identify the level of health literacy in students faculty of medicine at the University of South Bohemia[21]. According to a study in 2018 in Jakarta, the oral health literacy rate decreases with age. This is influenced by several factors, such as mental health, reading ability, health status, and vision[22]. From the results of the study, 7th semester students have the second highest grades, then followed by 5th semester and 3rd semester students. There is no certain reason why this can occur so further research is still needed.

The study semester taken in this study also did not have a significant relationship with the level of oral health literacy. The same previous study, using the Health Literacy Questionnaire (HLQ) in health and non-health faculty students at the University of Indonesia showed similar results[23]. Further studies are needed to find out the specific reasons for the results of this study.

Conclusion

The level of dental and oral health literacy in non-dentistry health students in Surabaya as a whole did not show a significant comparison. Health student literacy level is needed because health students are expected to be able to help and play a role in improving the level of dental and oral health in the community as an implementation of interprofessional education.

Conflicts of Interest: There are no conflicts of interest.

Source of Funding: Self-Funding

Ethical clearance: Approved

References

1. Sopianah Y, Sabilillah MF, Fadilah A. Correlation of cost, time, need, access, and competence with the public interest in installing dentures at non-professional dentist. Dent J (Majalah Kedokt Gigi). 2017;50(1):49–53.

2. Rahardjo A, Adinda S, Nasia AA, Adiatman M, Setiawati F, Wimardhani YS, et al. Oral health literacy in Indonesian adolescent. J Int Dent Med Res. 2015;8(3):123–7.
3. Susilawati S, Monica G, Fadilah RPN, Bramantoro T, Setijanto D, Wening GRS, et al. Building team agreement on large population surveys through inter-rater reliability among oral health survey examiners. Dent J (Majalah Kedokt Gigi). 2018;51(1):42–6.
4. Glick M, Williams DM, Kleinman D V., Vujicic M, Watt RG, Weyant RJ. A new definition for oral health developed by the FDI World Dental Federation opens the door to a universal definition of oral health. Int Dent J. 2016;66(6):322–4.
5. Setijanto RD, Bramantoro T, Palupi R, Hanani A. The role of attitude, subjective norm, and perceived behavioral control (PBC) of mothers on teaching toothbrushing to preschool children - Based on the Theory of Planned Behavior: A cross-sectional study. Fam Med Prim Care Rev. 2019;21(1):53–7.
6. Irani S. Oral Health and Related Factors: An Update. J Int Oral Heal. 2016;8(12):1140–4.
7. Lendrawati L, Pintauli S, Rahardjo A, Bachtiar A, Maharani DA. Risk factors of dental caries: Consumption of sugary snacks among indonesian adolescents. Pesqui Bras Odontopediatria Clin Integr. 2019;19(1):1–8.
8. Nasution AH, Amatanesia DD. Correlation of salivary phosphorous level to dental calculus accumulation on patients of the periodontology installation in dental hospital of USU. J Phys Conf Ser. 2018;1116(5).
9. Primasari A, Ria N, Sutadi H. Vertical cephalic index, dental arch and palatal depth measurement: A study in Bataknese children. Pesqui Bras Odontopediatria Clin Integr. 2019;19(1):1–6.
10. Hsu KJ, Yen YY, Lan SJ, Wu YM, Lee HE. Impact of oral health behaviours and oral habits on the number of remaining teeth in older Taiwanese dentate adults. Oral Heal Prev Dent. 2013;11(2):121–30.
11. Pratiwi R, Akbar FH, Pasiga B, Samad R, Anwar AI, Djamaluddin N, et al. Description of the level of knowledge, attitude, preparedness and willingness of the Faculty of Dentistry Faculty of Hasanuddin University in Caring for people with Hiv/Aids. J Int Dent Med Res [Internet]. 2019;12(2):688–94.
12. Pratiwi R, Akbar FH, Abdullah A, Maretta YA. Knowledge and self perception about preventive dentistry among Indonesian dental students. Pesqui Bras Odontopediatria Clin Integr [Internet]. 2018;18(1):1–6.
13. Horowitz AM, Kleinman D V. Oral Health Literacy: The New Imperative to Better Oral Health. Dent Clin North Am. 2008;52(2):333–44.
14. Firmino RT, Ferreira FM, Paiva SM, Granville-Garcia AF, Fraiz FC, Martins CC. Oral health literacy and associated oral conditions: A systematic review. J Am Dent Assoc. 2017;148(8):604–13.
15. Balasubramanian M, Short S, Gallagher J. Dental professionals for a new century: Transforming dentistry through interprofessional education and collaborative practice. Indian J Dent Res. 2018;29(4):401–3.
16. Ickes MJ, Cottrell R. Health literacy in college students. J Am Coll Heal. 2010;58(5):491–8.
17. Sharda AJ, Shetty S. A comparative study of oral health knowledge, attitude and behaviour of non-medical, para-medical and medical students in Udaipur city, Rajasthan, India. Int J Dent Hyg. 2010;8(2):101–9.
18. Gunjal S, Pateel DGS, Parkar S. Dental Anxiety among Medical and Paramedical Undergraduate Students of Malaysia. Int J Dent. 2017;2017.
19. Bashiru B, Omotola O. Oral health knowledge, attitude and behavior of medical, pharmacy and nursing students at the University of Port Harcourt, Nigeria. J Oral Res Rev. 2016;8(2):66.
20. Lee HY, Lee J, Kim NK. Gender Differences in Health Literacy Among Korean Adults: Do Women Have a Higher Level of Health Literacy Than Men? Am J Mens Health. 2015;9(5):370–9.
21. Štefková G, Čepová E, Kolarčik P, Madarasová Gecková A. The level of health literacy of students at medical faculties. Kontakt. 2018;20(4):e363–9.
22. Wimardhani YS, Wiryoatmodjo AP, Sitepu CA, Nadiantari D, Soegyanto AI, Rahmayanti F, et al. Oral health literacy among adults in Jakarta, Indonesia. J Stomatol. 2019;71(5):392–9.
23. Lestari P, Handiyani H. The Higher Level of Health Literacy Among Health Students Compared with Non-Health Students. UI Proc Heal. 2017;1:1–5.