



# Website-based Dental Health Promotion on Night Tooth Brushing Patterns in Junior High School Students

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## ABSTRACT

Background: According to Riskesdas in 2018 at the age of 15-24 years the percentage of correct brushing time is still very less, namely 3.3%. Promotive efforts that can be done are through a health website which contains health information about the importance of a night toothbrush that can change the student's toothbrush pattern. Aim: This study was to the effect of promotive health websites on night brushing patterns for junior high school students in Kawalu City, Tasikmalaya. Methods: pre-experimental design with a one group pretest posttest design on 23 students. Promoting the health website was carried out twice with a pretest on filling out the night toothbrush pattern questionnaire. Results: Wilcoxon test obtained the night toothbrush pattern with a value of  $p = 0.000$  ( $p < 0.05$ ), which means that there is a significant effect of Health website on night brushing patterns for junior high school students in Kawalu, Tasikmalaya city. Conclusion: Website-based dental health promotion is effective in improving night brushing patterns in junior high school students.

## INTRODUCTION

Promotive is carried out as an effort to create conducive behavior and conditions in the form of education, economy, organization, and support systems in an environment that supports the creation of health (Jurgensen & Petersen, 2013). Promotive is an activity or series of health service activities that prioritizes promotional activities (Mahmud et al., 2013).

Most of the Indonesian population already has good tooth brushing behavior, namely brushing their teeth every day, but there are still a few who brush their teeth at the right time, namely at least twice, after breakfast and before going to bed. Age group, the highest group with good tooth brushing behavior is aged 15-24 years, with the right brushing time still lacking, while in the lowest group, the good tooth brushing behavior group is aged 65 years and over with the moderate category with good tooth brushing behavior. brushing teeth properly is still lacking (Purnama et al., 2019; Kemenkes RI, 2018). Brushing your teeth at the right time and in the right way is very important because healthy teeth and mouth reflect a good quality of life (Jayagopi & Balasubramanian, 2021; Purnama et al., 2020).

The effect of brushing teeth at night will prevent caries, as well as improve gingival health. Brushing your teeth is an effective way to control plaque (Purnama, 2022). Brushing your teeth at night can also remove bacteria that breed at night, causing bad breath in the morning, and brushing your teeth can prevent food particles from decaying and reduce acid levels so that the stomach becomes neutral (Jayagopi & Balasubramanian, 2021). A person's level of knowledge is influenced by several things, namely education that is well received from the school environment, family and from other people, can also be obtained through various information media such as books, the internet and other mass media (Kasihani et al., 2022; Pay et al., 2021).

Current health information, it turns out that there are many professionally managed health websites in the form of startup companies (Jamaludin et al., 2020). Among these health websites, namely

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halodoc, alodokter, and klikdokter are health startups in Indonesia. The features offered are also very diverse, not only providing an article, users can also consult a doctor without having to go to a health center (Suroso & Sukmoro, 2021).

The number of internet users in Indonesia according to APJII (Association of Indonesian Internet Service Providers), namely in 2019 - 2020 states that internet users in Indonesia are more than half of Indonesia's population. The results of a user survey based on age, the age group with the highest internet usage is the student age group of 75.5%. These data show that digitalization in the world of education has great potential because if you look at the results of a survey conducted by APJII, most active internet users are in the student age group, namely in the age range of 13-18 years (Fadly & Utama, 2020; Zaki & Sari, 2019).

Based on a preliminary study on January 12, 2022 at PUI Kawalu Junior High School, Tasikmalaya City. Researchers were allowed to conduct surveys in grades 1 and 2. The researchers chose to conduct surveys in grade 2 because in terms of their knowledge they opened the internet more often, especially during this distance learning period, from grade 2 the researcher met 10 students, namely 5 boys and 5 women and on average all of them have smartphones, through these smartphones they themselves often open health websites, especially about their body problems because they are teenagers, but they rarely open websites about dental and oral health. For girls, what they often see is about facial care, beauty products and women's fashion, while for boys they often look for information about how to increase muscle mass in men because they want six pack abdominal muscles and they also often look for information about around the world of football, then the researchers asked if they often opened health websites such as halodoc, alodokter, klikdokter, it turns out they rarely opened these health websites and did not understand what the function of these health websites was for their health, from there the authors were interested in this research so they will understand the importance of maintaining healthy teeth and mouth. because teeth are an inheritance that will be used until old age and don't let the teeth disappear because they are removed or damaged.

The results of these data are used as a reference to determine the promotive effect of health websites on night toothbrush patterns for Kawalu junior high school students, Tasikmalaya city. This research is expected to change the toothbrush patterns of Kawalu junior high school students in Tasikmalaya City.

## METHOD

This type of research uses a quasi-experimental design research with a research plan that is one group pretest and posttest design. This study did not use a control group as a comparison. The number of samples in this study were 23 students of class VIII Junior high school PUI Kawalu. The determination of the research sample was carried out by means of purposive sampling.

The study will be conducted for 3 weeks with 2 interventions. Giving a questionnaire sheet (pre test), which is about the night toothbrush pattern to find out the night toothbrush pattern of students before and after being given promotive through the health website, then carried out (post test), namely to find out the pattern of student night toothbrush before and after being given promotive. The data that has been collected was analyzed using the Wilcoxon test to determine the pattern of toothbrushing at night before and after being given the intervention.

## RESULT

**Table 1.** Frequency Distribution Based on Gender

Gender	Frequency	Percent (%)
Male	8	34.8
Female	15	65.2
Total	23	100

Table 1 shows that the number of Class VIII respondents at junior high school PUI Kawalu Tasikmalaya City was 23 students with a more dominant female gender compared to males, namely 8 male students (34.8%) and 15 female students (65, 2%).

**Table 2.** Frequency Distribution Based on Age

Age	Frequency	Percent (%)
14	16	69.6
15	7	30.4
Total	23	100

Table 2 shows that the research subjects based on age groups were divided into 2 groups. The most age-based group of respondents were 14-year-old respondents, namely 16 students (69.6%), the second age group were 15-year-old respondents, namely 7 students (30.4%).

**Table 3.** Distribution of Night Toothbrushing Patterns Before being given Health Website Promotives

Criteria	Frequency	Percent (%)
Minus	16	69.6
Moderate	7	30.4
Good	0	0
Total	23	100

Table 3 shows that most of the night toothbrush patterns in Class VIII students at junior high school PUI Kawalu Tasikmalaya City before being given a health website promotive were in the less category, namely 16 respondents (69.6%), while in the medium category there were 7 respondents (30, 4%), and in the good category as many as 0 respondents (0%).

**Table 4.** Frequency Distribution of Night Toothbrushing Patterns After being given a Health Website Promotive

Criteria	Frequency	Percent (%)
Minus	0	0
Moderate	3	13
Good	20	87
Total	23	100

Table 4 shows that most of the night tooth brushing patterns in Grade VIII students at junior high school PUI Kawalu Tasikmalaya City after being given a health website promotion were in the good category, namely 20 respondents (87%), the moderate category, 3 respondents (13%), and the category less than 0 respondents (0%).

**Table 5.** Wilcoxon Test Results

Variable	Z	p-value
Pretest-posttest night toothbrush pattern	-4.199	0.000

Table 5 shows the results of statistical tests using the Wilcoxon test on the night toothbrush pattern before and after being given counseling through the health website, p value = 0.000 <0.05, which means that promotion through the health website has an effect on night tooth brushing patterns.

## DISCUSSION

This research was conducted 3 times with interventions in the form of promotive health websites repeated 2 times within 1 week so that it was considered sufficient to change students' toothbrush patterns at night. The night toothbrush pattern for Class VIII junior high school students PUI Kawalu, Tasikmalaya City, before being given a promotive health website, obtained an average value of the night toothbrush

pattern of 38 with the less category, then after being given promotive, the average value of the night toothbrush pattern was 61 with the poor category. Good. Based on these results, a significant difference was obtained between the average value of the toothbrush pattern the night before and after being given a promotive health website, which was 23.

The results of this study were analyzed using the SPSS program with the Wilcoxon test to determine the influence of promotive health websites on night toothbrush patterns of Kawalu junior high school students, Tasikmalaya city. The results obtained a significance value of 0.000 or  $<0.05$  on the basis of decision making  $H_0$  was rejected and  $H_1$  was accepted, meaning that there is a difference between the results of the pretest and posttest, so it can be said that promotive health websites have an effect on the night toothbrush pattern junior high school students PUI Kawalu, Tasikmalaya city. Website media as a growing health promotion has a positive value in providing information. The role of this media is media that is used by students on an ongoing basis in supporting dental health prevention behavior (Wahyudi, 2021). Website is a collection of pages containing information stored on the internet that can be accessed or viewed via the internet network on devices that can access the internet itself such as computers and smartphones. The use of the website will facilitate the introduction, promotion and dissemination of the information itself (Hendaryanti et al., 2021). Strengthening the results of (Haryani et al., 2022) research with a digital detection application website can improve the quality of life of children related to the risk of dental caries

## CONCLUSION

Based on the results above, it can be concluded that Website-based dental health promotion is effective in improving night brushing patterns in junior high school students.

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