



Analysis of Dental and Oral Health among Elementary School Students in The Working Area of Tembilahan Hulu Community Health Center

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ABSTRACT

Dental and oral health is an integral part of overall body health. Having healthy teeth and mouth significantly helps in activities such as speaking, eating, and socializing without being disturbed by pain, discomfort, or embarrassment. However, the reality is that the level of dental and oral health in Indonesia is still relatively low. This study aims to analyze the dental and oral health of elementary school students at the Tembilahan Hulu Community Health Center, Indragiri Hilir Regency. This research employs a qualitative method through in-depth interviews, observations, and document review. The research informants were the Head of the Community Health Center and the dentist. Observations were made by directly observing the planning, implementation, and reporting processes, as well as documentation review. The results of the study identified the priority problem, which was the high number of dental caries cases in school-age children at the Tembilahan Hulu Community Health Center. The causes were limited human resources for implementing the dental and oral health program, non-functioning counseling and mass tooth brushing, lack of educational media, incomplete School Dental Health (UKGS) KIT, no Health Operational Assistance funds for the UKGS program, lack of knowledge and awareness of the importance of dental and oral health, and the family environment having incorrect habits such as improper tooth brushing. It is recommended for the Community Health Center to attend dental and oral health training, create educational videos on Instagram, and optimize the budget for activities such as counseling and mass tooth brushing.

Keywords: *Dental and Oral Health, Tembilahan Hulu Community Health Center*

1. INTRODUCTION

Dental and oral health is an integral part of overall body health. The mouth is the gateway for the entry of food and drink, as well as the entry point for germs and bacteria that can disturb the health of other organs in the body (Rakhmawati et al., 2020). Having healthy teeth and mouth significantly helps in activities such as speaking, eating, and socializing without

being disturbed by pain, discomfort, or embarrassment. However, the reality is that the level of dental and oral health in Indonesia is still relatively low (Putri & Suri, 2022).

Data from the 2018 Basic Health Research (Riskesdas) showed that the proportion of dental and oral problems was 57.6%, and those who received treatment from medical personnel amounted to 10.2%. The prevalence of dental caries was 88.8%, and the prevalence of periodontitis was 74.1%. The results also

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showed that the proportion of daily tooth brushing behavior was 94.7%, and the proportion of correct tooth brushing time was 2.8%. One of the risk factors causing the high dental and oral health problems is poor behavior in maintaining dental and oral health (Kemenkes RI, 2018).

Dental caries is one of the dental and oral health diseases that damages the hard tissues of the teeth caused by acid activity from bacteria along with the results of carbohydrate fermentation. The mildest caries only appears as black spots on the tooth surface, which, if left untreated, will expand to the enamel, dentin, and pulp layers (Septiani et al., 2021). According to the 2018 Riskesdas data, the proportion of cavities (caries) problems in the population of Riau Province was 45.56%. The population who had dental and oral problems was 58.76%, and those who received treatment from medical personnel amounted to 8.63%. The results also showed that the proportion of cavities (caries) problems in Indragiri Hilir Regency was 45.59%. The population who had dental and oral problems amounted to 58.38%, and those who received treatment from medical personnel amounted to 6.53% (Riskesdas, 2018).

The Tembilahan Hulu Community Health Center is a health service institution in Indragiri Hilir Regency with target schools from elementary to high school level that has a dental and oral health program, one of which is the School Dental Health (UKGS) program. The UKGS program at the Tembilahan Hulu Community Health Center is a promotive program for dental health checks and counseling carried out by dentists and dental nurses. However, since the Covid-19 case, the UKGS program has not been running optimally. In 2021-2022, the dental and oral health program has started to be implemented again, but only dental and oral health screening. The implementation of mass tooth brushing and counseling has not been carried out because it is not included in the Health Operational Assistance (BOK) budget, which causes the community to be less concerned about dental and oral health, resulting in high cases of caries at the school-age level.

Based on a preliminary survey, data from the 2023 screening showed that the caries rate in

elementary, junior high, and high schools was quite high, with 447 people experiencing caries out of 754 elementary school students in the community health center area, 325 people experiencing caries out of 777 junior high school students in the community health center area, and 389 people experiencing caries out of 862 high school students in the community health center area (Tembilahan Hulu Community Health Center Profile, 2023).

The purpose of this study is to identify problems, prioritize problems, determine alternative solutions, and create an Intervention Plan (Plan of Action) in accordance with alternative solutions related to the analysis of dental and oral health at the Tembilahan Hulu Community Health Center, Indragiri Hilir Regency.

2. RESEARCH METHOD

The design used is a qualitative research design with an in-depth interview approach, observation, and document review at the Tembilahan Hulu Community Health Center, Indragiri Hilir Regency. In-depth interviews are a process of obtaining information to answer the objectives through questions and answers between researchers and informants, namely the Head of the Community Health Center and the dentist. Observations were made by directly observing the planning, implementation, and reporting processes. Document reviews were obtained from the Tembilahan Hulu Community Health Center profile, 2023 screening report, and documentation results. The research instruments used were interview sheets, observation sheets, and document review sheets. The key informants of this study were the Head of the Community Health Center and the dentist.

Determining problem priorities was done qualitatively using the Urgency Seriousness Growth (USG) method. USG is one of the tools used to arrange the priority order of problems that need to be solved. This is done by determining the level of urgency, seriousness, and development of the problem by assigning a scale value of 1-5 or 1-10. The problem with the highest total score is the priority problem. After prioritizing the problem using the weighting method by considering the aspects of Urgency

(U), Seriousness (S), and Growth (G) or the USG method, alternative solutions to the problem are then elaborated, including making a Plan of Action (POA) related to solving the problem.

3. RESULTS AND DISCUSSION

Based on the results of the analysis of the work unit situation obtained from interviews and document reviews at the dental clinic, it was found that the UKGS program had not been running during Covid-19, but in 2021-2022, it had been implemented again but not optimally because it was not included in the Health Operational Assistance (BOK) budget since it was diverted to Covid-19 handling activities. Based on the results of interviews with the main informant, it was stated that:

"...The UKGS program is running again. Last year, during Covid in 2019, it didn't run at all. It started running again in 2021, joined with UKS, but only screening. For counseling and mass tooth brushing, there is no more because it's not included in the BOK budget."

The statement from the main informant was reinforced by a statement made by the key informant:

"...UKGS is now running again. During Covid, it was stopped, but the UKGS activities are only limited to screening at schools in the Community Health Center area because there is no budget from BOK."

This causes the community to be less concerned about dental and oral health, resulting in high cases of caries at the school-age level. Based on the results of interviews with the main informant, it was stated that:

"...There are still many school-age children who experience dental caries, both in elementary, junior high, and high school. One of the causes is still high because the UKGS activities stopped in 2019 and started again but only screening."

The statement from the main informant was reinforced by a statement made by the key informant:

"...The dental caries rate is indeed still high, especially since not many UKGS programs are running, so it needs a lot of improvement to reduce the caries rate in school children."

Based on the results of interviews with the Head of the Community Health Center and the dentist in charge of the UKGS program, several dental and oral health problems were identified at the Tembilahan Hulu Community Health Center, including: (1) The high number of dental caries cases in school-age children in the working area of the Tembilahan Hulu Community Health Center, (2) The low achievement of elementary/Islamic elementary school students who received dental health care at the Tembilahan Hulu Community Health Center, (3) The unachieved development and guidance for mass tooth brushing at elementary/Islamic elementary schools in the working area of the Tembilahan Hulu Community Health Center.

Furthermore, the existing problem priorities are determined using the Urgency Seriousness Growth (USG) method with weighting by considering the aspects of Urgency (U), Seriousness (S), and Growth (G) by assigning a scale value of 1-5 or 1-10. Problem priorities can be seen in the table below:

Table 1. Determination of Dominant Causative Factors Based on USG Analysis

Problem	(U) Urgen sy	(S) Seriousn ess	(G) Growt h	Tota l	Rangki ng
The high number of dental caries cases in school-age children in the working area of the Tembilahan Hulu Community Health Center;	5	5	4	14	I
The low achievement of elementary/Islamic	3	4	2	9	II

elementary school students who received dental health care					
The unachieved development and guidance for mass tooth brushing at elementary/Is lamic elementary schools in the working area of the Tembilahan Hulu Community Health Center	2	3	3	8	III

Description:

1 = does not affect

2 = less influential

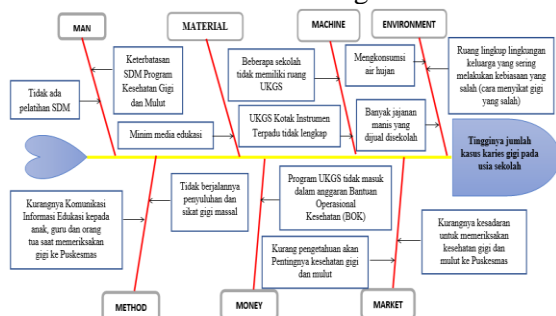
3 = quite influential

4 = influential

5 = very influential

Based on the table above, it can be seen that using the USG analysis, the highest priority problem is "The high number of dental caries cases in school-age children in the working area of the Tembilahan Hulu Community Health Center". Furthermore, alternative solutions to the problem from the established problem priority will be elaborated. Before determining alternative solutions, a fishbone analysis is first made which describes the causes of the problem.

From the results of the fishbone analysis, the causes and alternative solutions to the problem can be formulated as in the Figure 1:

**Figure 1. Fishbone Analysis**

From the results of problem identification that have been carried out and then the problem priorities are determined and alternative solutions are made, it is then followed by making an intervention plan (Plan of Action) in the form of an intervention plan matrix.

3.1. MAN

The Head of the Community Health Center coordinates with the dentist and dental nurse to attend or hold training on dental and oral health accompanied by an evaluation of these activities, with the aim of improving the quality of human resources, namely dentists and dental nurses, to run the dental and oral health program. The indicator of success is an increase in the quality of human resources in terms of the dental and oral health program.

Implementing a program requires implementing personnel who are experts or have attended training related to the program being run. Human resource (HR) training or empowerment activities must be carried out in order to prepare and improve the quality of the program managers themselves (Nurchafifah et al., 2022).

3.2. METHOD

The dentist, assisted by the dental nurse, conducts dental and oral health counseling with creative media in the form of print media, namely flipcharts. The goal is for the target, namely school-age children (elementary, junior high, and high school), to be interested in knowing about the importance of dental and oral health. This activity can be done once a year where the indicator of success can increase the knowledge of school-age children about dental and oral health. The counseling method that can be used is the Socratic method (two-way method), where this method uses two-way communication between students and UKGS officers who provide counseling. Students are given the opportunity to express opinions and participate in expressing opinions (Arsyad, 2018).

Flipcharts are media that can help education which is very simple and quite effective for conveying information including dental and oral health messages. The use of

flipchart media can make the target of education easier to understand the content of the material presented. The advantages of using flipchart media for counseling are being able to present the message to be conveyed in a concise and practical way, can be used indoors or outdoors, easy to make, inexpensive, portable, and can increase student learning activities (Bagaray et al., 2016).

3.3. MATERIAL

The dentist can create educational media in the form of videos which are then shared on the Instagram of the Tembilahan Hulu Community Health Center regarding dental and oral health, so that educational media materials are available, so that each community, especially school children, can easily access and learn about dental and oral health. Providing education is one way to increase knowledge of dental and oral health in order to prevent dental and oral health problems. Education for school-age groups using conventional media is considered less successful because with the rapid development of internet technology in recent years, it has had its own impact on conventional media (print media). The fact in the field is that currently young people prefer social media, because it is easy to access internet facilities on their cellphones. Instagram provides space for its users to interact, share, and give space for its users to present themselves to convey what they want to convey to the public through photos and videos assisted by captions and comment columns (Ratna & Lies Elina P, 2021).

Creating education with videos as a medium is reinforced with captions and hashtags, users communicate their identity in cyberspace, and each video is a representation of what they want to convey to the audience. The use of Instagram social media as an information medium to seek dental and oral health knowledge by followers results in a cognitive (information), affective (emotional), and behavioral response in accessing, viewing, and searching for these posts. The cognitive response as a response that discusses a person's habit of seeking various knowledge and information about something that can form a meaning and view, the affective response seen is whether followers after seeing the post and

feeling an interest in seeing and emotional followers in responding to posts depending on how the needs of these followers and also their trust in the account, and the last response is behavioral where in this response the consequences caused by the audience themselves form a behavior, action, and activity. There are two media effects that result in a behavioral response, namely aggressive behavior (bad or even destructive activities) and prosocial behavior (positive activities). This follower response is interpreted as a result or consequence of someone receiving a stimulus (Ratna & Lies Elina P, 2021).

3.4. MARKET

The dentist assisted by the dental nurse conducts training and guidance to UKGS teacher supervisors in schools. The goal is for UKGS teacher supervisors to receive dental and oral health training which can then be educated to students in schools. The indicator of success for this activity is that all UKGS teacher supervisors in the Tembilahan Hulu Community Health Center area attend the training activity.

Guidance and training by Community Health Center health workers to UKGS teacher supervisors in schools is an activity that really needs to be done, because through the guidance and training of UKGS teacher supervisors, they can assist Community Health Center health workers in running the UKGS program. UKGS teacher supervisors can independently provide counseling to their students about dental and oral health if Community Health Center health workers cannot make visits to schools (Nurchafifah et al., 2022).

The guidance and training that can be given to UKGS teacher supervisors is in the form of counseling provided directly by the implementing team from the Community Health Center regarding dental and oral health. During the counseling, materials are provided in the form of presentations on dental and oral health data, the important role of UKGS, UKGS targets, UKGS strategies and implementation, steps for forming UKGS, and the role of UKGS personnel as well as discussions on dental and oral health. The resource persons for this activity are dentists who have competence in their field so that the objectives of the activity

are expected to be achieved (Ramadhani et al., 2022).

3.5. MACHINE

The program holder proposes the completeness of the UKGS KIT to the Health Office in order to achieve promotive, preventive, and curative activities. The implementation of UKGS activities such as dental examinations and counseling that provide equipment is the community health center, the school only provides time and place. The indicator of the successful implementation of the UKGS program is the need for fulfillment of facilities and infrastructure in accordance with the standards so that it can improve the quality of service for the implementation of the UKGS program (Nurchafifah et al., 2022).

3.5. MONEY

The Head of the Community Health Center seeks other sources of funds from health funds and School Operational Assistance (BOS) funds so that UKGS activities can run optimally. The Head of the Community Health Center can coordinate with the Principal and UKGS management teachers in schools.

The source of funding for UKGS activities is in the form of BOK (Health Operational Assistance) funds managed by the Community Health Center and used for training activities. Operational costs are also needed to support the implementation of the UKGS program so that program implementers can organize and utilize health services whose aim is to maintain and improve dental and oral health (Harapan et al., 2021).

Other sources of funds that can be used for the UKGS program are health funds and School Operational Assistance (BOS). Health funds are sourced from parents and sponsor assistance from toothpaste and toothbrush companies which are a promotion of the company's products to the target schools. Specifically for the promotion of the UKGS program with health funds from parents, it can be implemented in collaboration with teachers, school principals, school committees, and local education offices, with an approach at the beginning of the new school year to parents. This is carried out on an ongoing basis in order to achieve the desired program targets and objectives. In addition, sources of financing

from the community can be implemented by making plans or proposals for promotive and preventive programs (dental and oral health education counseling in schools) which are offered to the private sector in the form of cooperation (Kemenkes RI, 2012).

3.6. ENVIRONMENT

The dentist assisted by the dental nurse carries out mass tooth brushing activities where the goal is for school children to know how to brush their teeth and the right time so that there are no more environments that have wrong habits in terms of brushing their teeth. The indicator of the success of this activity is that all schools in the Sungai Salak Community Health Center area carry out mass tooth brushing activities.

Brushing teeth is a common way to clean various impurities that stick to the surface of the teeth and gums. The duration of brushing teeth is not determined, but it is usually recommended for a maximum of 5 minutes and a minimum of 2 minutes, the important thing is to brush your teeth in a systematic way so that no parts of the teeth are missed. The recommended method starts from the posterior to the anterior on the lower and upper jaws, and ends at the posterior on the other side (Putri & Maimaznah, 2021).

Health workers and teachers must work together to realize the dental health of school children, one of which is through the campaign program for students to brush their teeth through the UKGS program, including the implementation of mass tooth brushing. Health workers can make a visit schedule to conduct mass tooth brushing so that the program can be run consistently (Sari et al., 2018).

Rainwater is consumed by children daily as drinking water, water for brushing teeth, and water for bathing. The condition of rainwater can cause caries because the fluoride in rainwater is low. Dental caries can not only occur due to the low fluoride content of rainwater, but many factors can affect the severity of caries such as the acid contained in rainwater. Usually, the acid content can be expressed in pH. Normal rainwater has a pH of 6, while acidic rainwater has a pH below normal, which is below 5.7. This is what usually causes demineralization, which means that the

minerals in the teeth are reduced. If it continues, it will cause dental caries. The use of acidic drinking water can result in decreased hardness of the tooth enamel surface which can cause caries. Health workers should improve UKGS activities through promotive, preventive and curative efforts as well as train doctors. Rainwater should be treated before consumption, namely by fluoridating drinking water, adding fluoride to food and drinks, using fluoride-containing toothpaste, as well as supervising school canteens and providing health education (AR et al., 2022).

4. CONCLUSION

Based on the data from the 2023 screening results, the caries rate in elementary schools is quite high, with 447 people experiencing caries out of 754 elementary school students in the Tembilahan Hulu Community Health Center area. The high number of dental caries cases in school-age children at the Tembilahan Hulu Community Health Center is caused by limited human resources for implementing the dental and oral health program, non-functioning counseling and mass tooth brushing, lack of educational media, incomplete UKGS KIT, no Health Operational Assistance funds for the UKGS program, lack of knowledge and awareness of the importance of dental and oral health, consuming rainwater, and the family environment having incorrect habits such as improper tooth brushing.

5. RECOMMENDATION

It is recommended for the Community Health Center to attend dental and oral health training, create educational videos on Instagram, and optimize the budget for activities such as counseling and mass tooth brushing.

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