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Knowledge of Productive Age Communities Regarding the Use of Traditional Medicines for Self-Medication in Dental Care (A Study in South Jakarta)

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ABSTRACT

Background: Maintaining oral and dental health is an integral part of a person's overall physical condition, as the two are closely interconnected. Dental and oral problems can affect overall body health, which in turn will affect a person's productivity. The productive age population is the population between the ages of 18-64 years. The diversity of Indonesian herbal plants offers affordable and easily accessible natural options for maintaining oral health with methods that are proven effective and safe. As time goes by and as customs and natural healing methods become more widely understood, more and more people are deciding to use traditional medicine as part of their self-medication practices to maintain oral and dental health.

Purpose: This study aims to assess the extent of knowledge among productive age people in Jakarta about the use of traditional medicine as a form of self-medication in maintaining oral and dental health.

Methods: This type of research is descriptive with a cross-sectional research design and the population in this study is the productive age population in Jakarta aged 18-64 years. The number of samples in this study was 35 subjects who met the inclusion criteria. The initial data analysis was in the form of data entry which was then subjected to univariate analysis. The univariate analysis is presented in the form of tables and diagrams.

Results: The results of this study can be seen through tables and figures based on the answers to the questionnaire given to respondents of productive age. The survey results indicate that productive age people still prefer visiting a dentist for dental treatment rather than using traditional medicine.

Conclusion: Knowledge among productive age communities in South Jakarta regarding the use of traditional medicine for self-medication in dental care remains relatively low.

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KEYWORDS:

Traditional medicine, self-medication, oral health, knowledge.

I. INTRODUCTION

Public health is important to improve, including dental and oral health. Early treatment and prevention in maintaining health are better for optimal health conditions. [1] If dental and oral health is disturbed, it will affect the health of the body and will affect the quality of human resources. [2,3] Dental and oral health is an important element for the standard of human life. According to the World Health Organization (WHO), good oral health positively influences overall health, the ability to speak, eat, and relate to others. In Indonesia, especially in large cities like Jakarta, dental and oral health issues remain a significant problem. In the WHO's 2001 strategic plan, one of the points was the implementation of the integration of traditional medicine (OT) so that OT can be served in health care facilities. [4] The World Health Organization, WHO, welcomes research and innovation in natural medicines as alternative and supporting therapies. [5]

Indonesia is a country rich in natural resources and has more than 400 ethnicities and sub-ethnicities spread

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throughout Indonesia. Java, Sunda, Manado, Kalimantan, and various other regions still use plants as traditional medicines that are inherited from generation to generation. According to the Food and Drug Monitoring Agency, traditional medicines are divided into three categories, and are used by the community for generations, with simple processing methods. [6,7] The use of medicinal plants is a legacy of our ancestors that has been used for centuries. [8] Traditional medicine is part of the community's cultural system that can help develop public health. [9]

Data from the Basic Health Research (Riskesdas) shows that the prevalence of dental and oral health problems is quite high. The productive age population is those aged 15-64 years. [10] The prevalence of dental health problems in Indonesia is due to the low public awareness of dental caries, which is an increase in dental caries. The number of dental illnesses in Indonesia has increased by around 70% due to dental caries. Indonesia's geographical location is one factor that makes it difficult for health workers to access adequate dental and oral health services. The remoteness of rural areas, which are far from health services, is another problem. Awareness and knowledge in rural communities are impacted by the distance to access services, including limited access to medicines. Community problems such as caries and other oral diseases can actually be prevented and treated with natural remedies found around the home. [1,11] Data from the Basic Health Research (Riskesdas) shows that the prevalence of dental and oral health problems is quite high. The productive age population is those aged 15-64 years. [10] The prevalence of dental health problems in Indonesia is due to the low public awareness of dental caries, which is an increase in dental caries. The number of dental illnesses in Indonesia has increased by around 70% due to dental caries. Indonesia's geographical location is one factor that makes it difficult for health workers to access adequate dental and oral health services. The remoteness of rural areas, which are far from health services, is another problem. Awareness and knowledge in rural communities are impacted by the distance to access services, including limited access to medicines. Community problems such as caries and other oral diseases can actually be prevented and treated with natural remedies found around the home. [1,11]

With the advancement of technology and increasing understanding of traditions and natural remedies, more and more people are choosing to use traditional medicines as part of self-medication efforts to maintain dental and oral health. One such self-medication is called self-medication. Self-medication is usually done to address common complaints and minor ailments. Many people use traditional medicines for both treatment and care.[12-14] The use of traditional medicines is seen as more natural, more economical, and culturally acceptable. In Indonesia, various herbal recipes and traditional medicines have been used for generations to address various health problems, including those related to teeth and mouth. Today, the use of traditional medicines is expanding for curative and promotive purposes in cases of degenerative diseases.15 Indonesia is rich in plant diversity that can be used as food ingredients. Thirty thousand types of plants, 7,500 types can be used as medicinal plants, 5,000 simples that have been used as traditional medicines and 63 simples as standardized herbal medicines and only 24 simples as phytopharmaceuticals.16 Traditional medicines are widely used by the community, this is because traditional medicines are easy to obtain and use, however if the use and dosage are not appropriate then they are not effective for healing.[17]

However, public understanding of the use of traditional medicines for dental and oral care is still relatively low and variable. The lack of precise and accurate data or information can result in inappropriate use, potentially even causing side effects or worsening dental health. The use of traditional medicines is an effort to maintain health, prevent disease, and health care. [18] Types of toothaches that can be treated with self-medication are dental caries, gingivitis, and cavities. [19] Increasing public awareness of health has also influenced the use of herbal medicines derived from plants through traditional or processed methods. Traditional medicines are ingredients or mixtures of ingredients in the form of plant materials, animal materials, mineral materials, essence preparations (galenic), or mixtures of these ingredients that have been used for generations for treatment, and can be applied according to prevailing norms in society. [12,14] Since 1998, more than 60% of the Indonesian population has self-medicated. [20] Therefore, it is very important to determine the extent of awareness of the people of Jakarta about traditional medicines in self-medication for dental and oral health care independently.

II. METHODS

The study population consisted of productive-age individuals who met the inclusion criteria and completed the questionnaire. The sample consisted of productive-age individuals aged 18–64. The number of subjects was determined using the total sample size and the snowball method. This type of research is descriptive with a cross-sectional research design. The research instrument used was a questionnaire designed to measure the knowledge of productive-age individuals regarding the use of traditional medicines for self-medication in dental care. The instrument was developed based on knowledge indicators related to the types of traditional medicines, their benefits, and how to use them.

The questionnaire used in this study underwent validity and reliability tests. Validity and reliability tests were conducted on a sample whose respondent characteristics matched the location where the research was conducted. This study focused on respondents residing in South Jakarta. With a sample size of 20 respondents and a significance level of 5% ($\alpha = 0.05$), the r table value was 0.444. The item was

declared valid because the Corrected Item–Total Correlation value was greater than the r table. The results of the analysis showed that all retained items had a Corrected Item–Total Correlation value greater than the r table (0.444), so that all questions were declared valid and suitable for use in research. The instrument is said to be reliable because it has a Cronbach's Alpha value ≥ 0.70, which indicates that the items in the questionnaire have good internal consistency in measuring the same variables.

III. RESULTS

This research was conducted on 35 subjects who met the inclusion criteria. The research procedure began with research preparation such as the preparation of a research permit letter and an ethical clearance letter (No: 101/KEPK/FKGUPDMB/IX/2025). Furthermore, the research was carried out by administering questionnaires to research subjects to be filled out and collecting questionnaires via Google Form. Data collection began with subjects reading and agreeing to the PSP (Consent After Explanation) sheet, as well as completing the research consent form (informed consent). The data obtained were presented in tables and pie charts. The research results are as follows:

Table 1. Frequency distribution based on gender

Gender	Frequency	%
Female	28	80
Male	7	20
Total	**35**	**100**

Table 2. Frequency distribution based on age

Age (year)	Frequency	%
18-24	4	11,4
25-34	0	0
35-44	2	5,7
45-54	23	65,7
55-64	6	17,1
Total	**35**	**100**

Table 3. Frequency distribution based on level of education

Level of education	Frequency	%
Junior High School	1	2,9
Senior High School	5	14,3
Bachelor's Degree	20	57,1
Master's Degree	6	17,1
Doctoral/PhD Degree	0	0
Others (Diploma 1/Certificate)	3	8,6
Total	**35**	**100**

Table 4. Frequency distribution based on employment status

Employment Status	Frequency	%
Students	4	31,4
Private sector employee	13	37,1
State official	3	8,6
Businessman	2	5,7
Retired	2	5,7
Housewife	11	31,4
Total	**35**	**100**

Table 5. Frequency distribution based on understanding self-medication

Understanding Self-Medication	Frequency	%
Yes	18	51,4
No	17	48,6
Total	**35**	**100**

Table 6. Frequency distribution based on understanding self-medication in overcoming toothache

Understanding Self-Medication in Overcoming Toothache	Frequency	%
Good	3	8,6
Enough	13	37,1
Poor	19	54,3
Total	35	100

Table 7. Frequency distribution based on types of traditional medicine in overcoming toothache

Types of Traditional Medicine	Frequency	%
Betel leaves	15	42,9
Garlic	4	11,4
Cloves	12	34,3
Turmeric	3	8,6
Mint leaves	1	2,9
Ginger/Curcuma	0	0
Total	**35**	**100**

Table 8. Frequency distribution based on how to use traditional medicine

How to Use Traditional Medicine	Frequency	%
Used directly on the aching tooth	13	37,1
Drinked as a concoction	1	2,9
Used as a mouthwash	18	51,4
Don't know	3	8,6
Total	**35**	**100**

Table 9. Frequency distribution based on benefits of using traditional medicine for dental care

Benefits of Using Traditional Medicine	Frequency	%
Reduces pain	20	57,1
Reduces swelling	1	2,9
Treats tooth infections	4	11,4
Eliminates bad breath	6	17,1
Don't know	4	11,4
Total	**35**	**100**

Table 10. Frequency distribution based on how often to use traditional medicine for dental care

How Often to Use Traditional Medicine	Frequency	%
Never	23	65,7
Rarely	9	25,7
Sometimes	3	8,6
Often	0	0
Total	**35**	**100**

Table 11. Frequency distribution based on reasons for self-medication in overcoming toothache

Reasons for Self-Medication	Frequency	%
Practical (No need to go to the dentist)	6	17,1
Traditional Medicine Available at Home	6	17,1
Healthcare Services Away from Home	1	2,9
Pain Remains Mild	5	14,3
Never	17	48,6
Total	**35**	**100**

Table 12. Frequency distribution based on prefer traditional medicine or going to the dentist

Prefer Traditional Medicine or Going to the Dentist	Frequency	%
Traditional Medicine	2	5,7
Dentist	24	68,6
Depending on the Situation and Condition	9	25,7
Total	**35**	**100**

IV. DISCUSSION

Oral and dental health are an inseparable part of bodily health. If dental and oral health problems occur, it will impact the body's health and, consequently, the quality of human resources. One common oral and dental health problem in both children and adults is cavities. [2] The productive age population is those aged 18-64 years. Given the prevalence of dental health problems in Indonesia and the strong cultural connection with traditional medicine, this research is important to understand the extent to which the public knows, understands, and applies the use of traditional medicine in dental care. [1-3]

Indonesia is rich in natural resources.[1-3] Herbal plants in Indonesia have significant advantages, including their abundant diversity due to their biodiversity. The use of Indonesian herbal plants helps reduce the risk of irritation and side effects often associated with chemical dental care products. The diversity of Indonesian herbal plants provides affordable and easily accessible natural solutions for maintaining dental and oral health in a traditional and safe manner. The use of medicinal plants is a legacy from our ancestors that has been used for centuries. With the advancement of technology and increasing understanding of traditions and natural remedies, more and more people are choosing to use traditional medicines as part of self-medication efforts to maintain dental and oral health. [6,7]

This study aims to assess the extent of knowledge among productive-age residents in South Jakarta regarding the use of traditional medicine as a form of self-medication for dental and oral health. Using a survey approach, this study collected data from socially and culturally diverse respondents in the productive-age population in South Jakarta. The results are expected to provide a comprehensive overview of the knowledge of productive-age residents regarding the use of traditional medicine for self-medication in dental care, as well as serve as a basis for developing more effective, locally-based health education programs. This research will also assist policymakers and healthcare professionals in designing appropriate interventions to increase public awareness, knowledge, and understanding of the safe and effective use of traditional medicine in dental care.

The findings of this study indicate that 28 (80%) respondents were female, while 7 (20%) respondents were

male. This is in line with Salfiyadi's research in 2023 where women were also more numerous than men. 17 The productive age ranges from 18-64 years old and in this study, it was recorded that the age of the respondents was mostly in the 45-54 years old category, namely 23 (65.7%) respondents. The educational level of the respondents was mostly a bachelor's degree, namely 20 (57.1%) respondents. The employment status of the respondents was mostly private employees, namely 13 (37.1%) respondents and then housewives as many as 11 (31.4%) respondents.

Eighteen (51.4%) respondents stated they understood the concept of self-medication, while the remaining 17 (48.6%) did not fully understand it. This indicates the need for more intensive education to enable the public to utilize traditional medicine appropriately and safely. The results of this study indicate that knowledge and understanding of the use of traditional medicine for self-medication in dental and oral care among productive-age people in South Jakarta is still relatively low. This is also in line with Salfiyadi's 2023 study, which showed similar results, namely that the public's knowledge of the use of traditional medicine was mostly in the poor knowledge category, with 40 respondents (87.0%). [17]

Respondents' understanding of self-medication for toothache management was still lacking, at 19 (54.3%). This suggests that the working-age population's understanding of self-medication is still lacking and requires further education.

The type of traditional medicine for toothache that is understood by 15 respondents (42.9%) is the betel leaf plant. The next type of plant that is also known by 12 respondents (34.4%). The high level of knowledge of these two plants is likely due to the community's long-standing culture of knowing and using these plants for generations. However, the limited knowledge of other types of herbal plants indicates a significant opportunity to broaden the public's understanding of Indonesia's rich natural resources in the field of traditional medicine. Dissemination of information about various herbal plants that have benefits for dental and oral health needs to be increased so that the public can optimally utilize local resources. It appears that the public still has minimal knowledge of various types of plants other than these two types. Indonesia is rich in terrestrial biodiversity, around 30,000 to 50,000 plant species. [5.10] Based on data from the Research on Medicinal Plants and Herbal Medicine (RISTOJA) conducted by the Indonesian Ministry of Health in 2012, 2015, and 2017, 32,013 traditional herbal remedies and 2,848 plant species were newly identified as traditional medicinal plants. The abundant natural wealth presents great potential for development into natural medicinal products that have health, economic, and socio-cultural impacts, as well as fostering national independence. [5]

Respondents' knowledge regarding how to use traditional medicine, which answered that it was used as a mouthwash, was 18 (51.4%). Other respondents answered that it was used directly on the aching tooth, as many as 13 (37.1%). The benefits of using traditional medicine were also asked to respondents. Respondents who chose the answer that it was to reduce toothache were 20 (57.1%). Another 6 (17.1%) respondents thought that traditional medicine was intended to eliminate bad breath.

Twenty-three (65.7%) respondents never used traditional medicine for dental care. The remaining nine (25.7%) stated they rarely used it, and three (8.6%) respondents stated they sometimes used it. These results indicate that public knowledge about traditional medicine remains limited, resulting in its use being largely unpopular.

Respondents cited reasons for self-medication for toothaches, including practicality (no need to go to the dentist) and the availability of traditional medicines at home, for only 6 (17.1%) respondents. However, trust in medical treatment remains high, as evidenced by the high number of respondents who choose to go to the dentist when experiencing toothache. This suggests that education about safe and effective alternative treatments from herbal plants needs to be continuously disseminated so that the public is not precluded from using traditional medicine wisely and according to procedure. Many respondents (24 respondents, 68.6%) chose to go to the dentist when experiencing toothache. Meanwhile, only 2 (5.7%) preferred to use traditional medicine when experiencing toothache. The survey results indicate that people of productive age still prefer to visit a dentist's office for dental treatment rather than using traditional medicine directly. This indicates that the public still has more trust and reliance on conventional medicine and medical professionals for treating dental problems.

The author assumes that there is a relationship between public knowledge in the use of traditional medicine and the healing of toothache, but in practice, people do not understand the dosage of traditional medicine that must be used so that it is safe for teeth. People also use traditional medicine to cure toothache because it is cheap and easy to get and they also pay less attention to the cleanliness of the traditional medicine they use, and on average, people who use traditional medicine do not seek further treatment at the community health center or dental clinic, this is because the assumption of the community about the use of traditional medicine as a treatment for toothache is due to the understanding that is inherited from generation to generation so that it is commonly used and conveyed to other people around them when experiencing toothache by utilizing various types of herbs and plants that are considered to be able to cure and do not contain chemicals. The author assumes that there is a relationship between public knowledge in the use of traditional medicine and the healing of toothache, but in practice, people do not understand the dosage of traditional medicine that must be used so that it is safe for teeth. People also use traditional medicine to cure toothache because it is

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Overall, the results of this study indicate an urgent need to improve public knowledge and understanding regarding the correct and responsible use of traditional medicines. Educational programs based on local culture and Indonesia's natural resources are crucial for broadening public awareness and increasing public trust in traditional medicine as part of safe and effective self-medication for dental and oral care.

V. CONCLUSION

Based on the research results, it can be concluded that knowledge among productive age communities in South Jakarta regarding the use of traditional medicines for self-medication in dental care is still relatively low. Although some respondents understand the concept of self-medication, their understanding of the types of herbs, how to use them, and their benefits is still limited. Most respondents trust and prefer direct treatment by a dentist when experiencing toothache rather than using traditional medicines independently. Practicality and ease of access are the primary reasons people choose to consult a healthcare professional. These results indicate the need for increased education and outreach regarding the safe and effective use of traditional medicines as an alternative to self-medication in dental care.

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