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CORRELATION OF PARENTS' KNOWLEDGE AND SOCIOECONOMIC STATUS WITH THE EXPERIENCE OF TOOTH EXTRACTION

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ABSTRACT

Background: Tooth extraction that is not replaced with dentures causes decreased masticatory and speech functions, from irregular tooth arrangement to disorders of temporomandibular joint. Public awareness in filling their teeth is still lacking due to their preference to remove problematic teeth than treating them. Socioeconomic status in the form of work, income, and education affects the ability of a family to meet the need for health services. The low level of public knowledge about tooth extraction causes the perception that if a tooth is aching, then tooth extraction is the most appropriate treatment.

Purpose: The purpose of this research was to analyze the relationship between knowledge and socioeconomic status of parents with the experience of tooth extraction in students at SMPN 6 Banjarmasin. **Methods:** This research was an observational analytic research with a cross sectional approach. The research sample was 34 students of SMPN 6 Banjarmasin obtained using the correlation formula. Collecting data was performed using a questionnaire that has been tested for validity and reliability. Data analysis was performed using Spearman's test. **Results:** The results of the Spearman test showed a significant relationship between knowledge and socioeconomic status of parents and experience of tooth extraction ($p < 0.05$). **Conclusion:** There is a significant correlation between knowledge and socioeconomic status of parents with the experience of tooth extraction at SMPN 6 Banjarmasin.

Keywords: Adolescent, Knowledge, Parents, Socioeconomic Status, Tooth Extraction

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INTRODUCTION

Tooth extraction is the removal of a tooth from its alveolar socket when it can no longer be treated.¹ Tooth extraction is most commonly used to cure caries and is only used last when the tooth is no longer treatable.² Tooth extraction may also refer to a delayed treatment of severe dental and oral treatment.³ Basic Health Research (Riskesdas) in 2018 stated that 57.6% Indonesian population had dental and oral problems, particularly dental caries. Approximately 46.90% in South Kalimantan Province and 37.62% in Banjarmasin had these dental problems.⁴ Filling Index (F) in South Kalimantan was extremely low, with just 0.11% of teeth filled, and Performance Treatment Index (PTI) of only 1.71%.⁵ It reveals that the knowledge on the necessity to fill in cavities was

inadequate to preserve the teeth. The proportion of tooth extraction in Indonesia is 7.9%, the second ranking only to the prescription of medicines for dental and oral disorders.⁶ Tooth extraction was accounted for 17.84% in South Kalimantan, while it accounted for 14.10% in Banjarmasin. This indicates that the people of South Kalimantan prefer to extract damaged teeth rather than treat them. Based on age, the proportion of tooth extractions in South Kalimantan at the age of 10-14 years was 19.44%, suggesting that this is the age at which most tooth extractions are performed, followed by the age of 5-9 years at 36.47%.⁴

The level of knowledge a person has on dental and oral health influences their decisions in maintaining dental and oral health, preventing dental and oral problems, and treating them to

restore oral cavity function.⁷ Dental and oral health knowledge also includes the knowledge about tooth extraction. Due to the lack of public awareness on tooth extraction, many people believe that if there was a tooth aches, tooth extraction was the best therapy.⁸

One of the factors affecting dental and oral health is socioeconomic status. Several studies have found that children or teenagers with poor socioeconomic status, aged 5 to 23 years, had higher caries.⁹ Occupation, income, and education all have an impact on the capacity of a family to fulfill their needs, including the health care.¹⁰ People with lower socioeconomic status encounter numerous difficulties to get dental and oral health care.¹¹ Another factor such as education level is also affect the ability to receive dental health care.¹² As per prior study, the level of education among parents determines their abilities to provide knowledge and access to information on the benefits of dental and oral health care; low levels of education lead to bad attitudes and motivation toward dental and oral health care.¹³ According to the statement above, the author is interested to conduct a research to determine the correlation between parents' knowledge and socioeconomic status with experience of tooth extraction.

MATERIALS AND METHODS

This research was an analytical observational research with cross-sectional design. All parents and students of SMPN 6 Banjarmasin were included in this research. The population of students at SMPN 6 Banjarmasin was 860 people. The correlation formula yielded a sample size of 34 people. The sampling technique was simple random sampling with inclusion and exclusion criteria. The inclusion criteria were the following: students from SMPN 6 Banjarmasin aged 12-14 years, whose parents and students are willing to participate in the research, and physically and mentally healthy. Parents and students who did not complete the questionnaire were excluded. An online questionnaire was the instrument used to assess parents' knowledge about tooth extraction, socioeconomic status, and experience of tooth extraction.

The author arrived at the location to present the procedure to the respondents, then requested informed consent and prompted respondents to fill out the online questionnaire. All students were allowed to fill out the questionnaire. Sampling was conducted by randomization based on the number of respondents required. The samples were selected based on inclusion and exclusion criteria. The questionnaire data was described as univariate and bivariate. Data were analyzed using *Spearman's* test.

RESULTS

This research results regarding the parents' knowledge of SMPN 6 Banjarmasin students about tooth extraction were presented in the figure below.

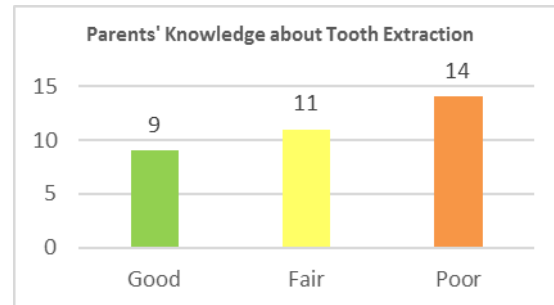


Figure 1. Distribution of Parents' Knowledge about Tooth Extraction.

Based on Figure 1, the results of the "poor" category presented the highest frequency with a total of 14 people.

The following result was the findings from a research on the socioeconomic status of parents of SMPN 6 Banjarmasin students, as measured by education, occupation, and income.

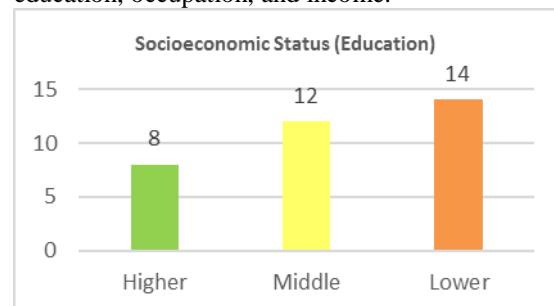


Figure 2. Distribution of Socioeconomic Status based on Education.

According to Figure 2, most of the subjects completed the primary or lower education, which was 14 people, compared to other categories.

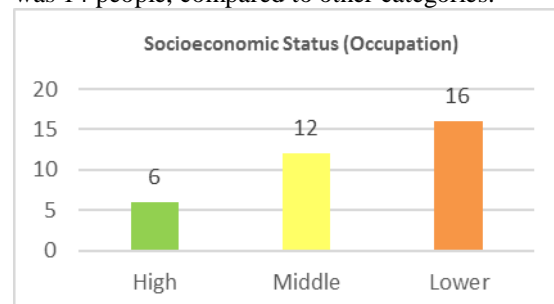


Figure 3. Distribution of Socioeconomic Status based on Occupation.

Based on Figure 3, the lower socioeconomic status had the largest number of frequencies, which was 16 people.



Figure 4. Distribution of Socioeconomic Status based on Income.

As presented by Figure 4, the lower income had the largest number of frequencies, which was 16 people.

The results of this research regarding tooth extraction in SMPN 6 Banjarmasin students were presented in Figure 5



Figure 5. Distribution of Experience of Tooth Extraction of the Students.

Based on Figure 5, the “high” category had the highest number of frequencies, which was 17 people.

Below is the bivariate data analysis using *Spearman* correlation test:

Data Analysis	Spearman Test	
	Significance	Coeff. Correlation
Parents' knowledge on tooth extraction with experience of tooth extraction	0,0001*	- 0,808
Socioeconomic status with experience of tooth extraction	0,0001*	- 0,863

*p < 0,05

Table 1. Bivariate data analysis using *Spearman* correlation test

Based on table 1, the significance value of parents' knowledge on tooth extraction compared to the tooth extraction was 0.0001 with correlation coefficient of -0.808 (very strong negative correlation). The significance value of socioeconomic status and tooth extraction was also

0,0001 with correlation coefficient of -0.863 (very strong negative correlation). Both of the two significance values were less than 0.05, indicating that there was a significant correlation between parent's knowledge and socioeconomic status with tooth extraction, thus the hypothesis was accepted.

DISCUSSION

The level of knowledge of parents in this research regarding tooth extraction was found to be "good" for 9 people (26%), "fair" for 11 people (32%), and "poor" for 14 people (42%). The questionnaire revealed that parents in the "poor" group preferred to extract their child's teeth right away if they had cavities or were in discomfort/pain. This finding was consistent with a study conducted by Kurniawati (2014) reporting that the majority of respondents had a poor level of knowledge regarding dental and oral health (n = 21, 70%), compared to those with an excellent level of knowledge (n = 4, 13.3%).¹⁴ This was supported by the assumption that tooth extraction is the simplest and most efficient way to reduce pain. People believe that tooth extraction is the best solution for toothache, a very common misconception. Many parents prefer tooth extraction when their child has a cavity or is in pain which is based only on the parental concern.⁸ Parents undoubtedly want their child's pain to recede as soon as possible, but due to their lack of awareness regarding tooth extraction, they assume that removing the tooth will solve the child's toothache. Anxiety is typically high in the groups with poor levels of education and knowledge parents.¹⁵

The socioeconomic status of parents of SMPN 6 Banjarmasin students based on education revealed that: 8 people (24%) had higher education, 12 people (35%) graduated from secondary education (middle), and 14 people (41%) had only completed primary education (lower). Education is one of the socioeconomic factors that influence a person's health. A person with a higher level of education was known to have a well understanding and attitude about healthy living behavior.¹⁶ All humans must have some form of education, whether at home, in the community, or informal educational institutions such as schools. Education helps humans in carrying out their tasks and responsibilities in life, both now and in the future.¹⁷ Based on occupation, the socioeconomic status of parents of students was the upper class for 6 people (18%), middle class for 12 people (35%), and lower class for 16 people (47%). Work serves as a bridge to fulfill basic requirements, a place to live, and the desired health care facility.¹⁸ Work is also related to income; the better the occupation, the better his

income will be, allowing him to fulfill the needs of life, family health, and dental and oral health.¹⁹ Per the socioeconomic status based on income, the higher income group comprised of 8 people (24%), the middle group had 10 people (29 %), and the lower group included 16 people (47%). Income is a household's or individual's capacity to purchase goods or services; it is assessed by the price at the moment of acquisition of goods and services.²⁰ The reaction and flow of a person's life in the community are impacted by income because a person's purchasing power to buy products and services of need is affected by income.¹⁹ One of the characteristics of low-income people is that most of them think that dental treatment is not necessary. Medical and dental healthcare for people with low incomes is a low priority. Thus, those people are commonly found with dental problems.²¹

The experience of tooth extraction at SMPN 6 Banjarmasin students obtained from the questionnaire was the following: high extraction category of 17 people (50%), medium tooth extraction of 11 people (32%), and low tooth extraction of 6 people (18%). This finding was similar to Kurniawati's (2016) study, which found that 19 people (63%) wanted to have their teeth extracted, compared to 11 people who did not (37%). RSGM Unsrat patients showed that tooth loss exceeded one tooth and the percentage for tooth extraction indication was higher than the contraindications of tooth extraction.²² The high rate of permanent tooth extraction compared to fillings (which require approximately 3 to 4 visits with an interval of approximately 3 to 4 days) and the lack of adherence on the scheduled visits causes exhaustion and laziness to further treatment compared to extractions (which only require 1 to 2 visits with an interval of 3 days).¹⁴ High tooth extraction rate is also depending on a child's level of anxiety. Children's excessive anxiety frequently causes postponement and avoidance of dental treatment. Dental caries in children, if not treated, will get worse once it reaches the pulp.¹⁵ Caries that have spread to the point of destroying the crown of the tooth can also develop root remnant or *gangrene radix*. *Gangrene radix* will produce periapical lesions if left untreated.²³ As a result, children see the dentist when their dental and oral diseases have progressed to the point when tooth extraction is recommended as a treatment.²⁴

According to *Spearman's* analysis, there was a significant correlation with a negative correlation coefficient between parents' knowledge of tooth extraction and student's experience of tooth extraction. This demonstrated that the greater the parents' lack of information about tooth extraction, the higher the tooth extraction rate. The knowledge

of the parents has an indirect impact on the children's perspective on dental health and aesthetics. Because parental education is the kid's first education, every education will be associated with the child.¹⁷

Knowledge holds a significant impact on the decreasing of dental caries. Knowledge serves as the foundation for attitude. The higher the knowledge, the greater the level of dental health care. It will lead to lower dental and oral diseases.¹⁶ According to *Spearman's* analysis, there was a strong correlation between socioeconomic status and experience of tooth extraction, which was characterized by a negative correlation coefficient. This indicated that the lower the parents' socioeconomic status, the higher the child's tooth extraction rate. Parents with better socioeconomic status are more likely to take their children to the dentist for dental care.¹⁹ Education is once more a socioeconomic factor that has a significant impact on a person's health. A well-educated person is regarded to have better knowledge and attitudes about healthy habits.¹⁶

Education and occupation significantly affect the amount of family income; nevertheless, strong economic conditions can also give good social status.²⁰ The most recent level of parental education for at least a moderate level is capable of providing parental awareness to take their children for a visit to the dentist in terms of dental care and providing children with knowledge about dental and oral health and aesthetics.¹⁷ Socioeconomic level in terms of education can affect a person's knowledge. A person's education level might have an impact on his or her knowledge. Higher education will provide a person with more information and insight, which will affect his/her healthy living behavior. They tend to pay more attention to their dental healthcare, and vice versa.¹⁰ Given the findings of the research, it was reasonable to conclude that there was a significant correlation between parental knowledge and socioeconomic status with tooth extraction.

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