
Relationship Of Socioeconomic Level With Caries Status In Communities In Cureh Village, Indrapuri District, Aceh Besar Regency

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ABSTRACT

Economic status is the position of a person or family in society based on monthly income. The socio-economic level can affect the degree of knowledge, lifestyle, and access to health information and services. The socioeconomic level also affects the family's ability to meet the needs of food intake and healthy lifestyle habits. Several factors involved in socioeconomic is work, income and education. The initial examination of dental caries conducted by researchers on 15 people in Cureh Village found that 12 of them had high criteria, namely 5.1 and 3 d low criteria, namely 1.4. The study aimed to determine the relationship between socioeconomic level and caries status in the community of Cureh Village, Indrapuri District, Aceh Besar Regency in 2022. This research is analytical with a cross-sectional design. The population in this study is the entire Cureh village community, totalling 394 people. The research sample was determined using a random sampling technique totalling 79 people. The research was carried out in Cureh Village, Indrapuri District, Aceh Besar District on 5-10 January 2022. The instruments used in this study were questionnaires, diagnostic sets, and patient status cards. The results showed that with low income there was a high number of dental caries experienced by 32 respondents (52,45%). The results of statistical tests obtained the results of p. Value 0.001 indicates $< \alpha$ 0.05. Based on the results of the study, it can be concluded that there is a significant relationship between socioeconomic level (income) and dental caries. It is hoped that the community will increase knowledge by seeking information about dental health from information media such as posters, advertisements, television, magazines, and newspapers, and changing maintenance behaviour such as brushing teeth regularly and checking teeth every 6 months at the dentist or health centre and consuming nutritious and fibrous food.

INTRODUCTION

Health development aims to increase awareness, willingness and ability to live a healthy life for everyone in order to realize a high degree of health (1). To achieve this goal, it is necessary to improve human resources and quality of life, improve family and community welfare and increase public awareness of the importance of healthy living (2). Healthy living is part of the quality of life, therefore healthy not only physically but also must be mentally healthy and socially life (3).

The status or degree of public health is determined by various factors such as population, environment, community behaviour and health services. In overcoming health problems, these

factors need attention and treatment as a unit. To support health efforts to achieve an optimal degree of health (healthy living), efforts in the field of dental health also need attention (4).

Socioeconomic levels can affect the degree of knowledge, lifestyle, and access to information and health services (4). A person with a low socioeconomic level will experience poor health status including dental and oral health so they are more at risk of developing caries due to a lack of knowledge about dental and oral health (5).

The socioeconomic level also affects the family's ability to meet the needs of food intake and healthy lifestyle habits (6). Some of the factors involved in socioeconomics are employment, income and education. People who

are at a low socioeconomic level or poor will find it difficult to get health services because of the ability to pay for these health services. A person with a high education has a positive attitude about health and applies healthy living behaviours in caring for dental and oral health (7)

Dental and oral diseases are in the top 10 of the list of diseases most often complained about by the people of Indonesia (8). The main problem in dental and oral health is dental caries. Dental and oral diseases that are widely found in the community are dental caries and periodontal disease. Results of the 2015 household health survey (SKRT) in the Ministry of Health show that 65.7% of the Indonesian population suffers from active dental caries or damage to untreated teeth. For 2016, WHO (World Health Organization) has targeted the DMFT index (Decayed, Missing, Filled-Tooth) to be 1.0 while in developing countries it sets the caries index at 1.2. Various indicators have been determined by WHO, including in children aged 5 years 90% must be caries-free, 12-year-olds have a DMF-T index of 1, residents aged 18 years have no teeth removed (component M = 0), and residents aged 35-44 years have a minimum of 20 functional teeth of 90%.

Journal of Indian Soc Pedod Prev Dent, reported the results of a study conducted in Mangalore City, in children aged 6 years whose prevalence of caries is high in children with low socioeconomic status background (Anegundi, 2012). The results of a study conducted in Burkina Faso, Africa, obtained results in children aged 6 years showing a prevalence rate of caries of 38% whose research was conducted at the age of 6, 12, 18, and 35-44 years (9).

The results of a study conducted in Chidambaram (India), on the relationship of socioeconomic status with the prevalence of dental caries in school children aged between 5-15 years, found that the percentage of caries experienced by these children was relatively high. In the study 80.4% of students were low socioeconomic groups (10).

The results of research conducted by Azwindar in 2015 in Barombong Village, Tamalate District, Makassar. The study looked at the relationship between the socioeconomic level and the caries status of the community in the village, and obtained the results of the high status of

caries in the community by 78% with low economic status (11).

The DMF-T index describes the severity of permanent tooth decay and is a summation of the D-T, M-T, and F-T components that show the amount of tooth decay a person has experienced, either in the form of Decay / D (is the number of permanent teeth that have caries and have not been treated or patched), Missing / M (the number of permanent teeth that are removed or are still root residues), and Filling / F is the number of permanent teeth that have been placed or patched. Indonesia's DMF-T index is 4.6 with each value: DT= 1.6; M-T=2.9; F-T=0.08; which means tooth decay in the Indonesian population of 460 teeth per 100 people (12).

Dental Caries is influenced by Age, Gender, Physical And Social Environment, Education, Location of Residence, Behavior, Visits To The Dentist, Use Of Fluoride, Smoking Status, Pregnancy, Family Income, Psychosocial Influences. This is indicated by the high value of DMF-'I' in women. older age, living environment (living in the depths), under-income and low education of his parents, rarely to the dentist. (13).

Based on data from the Information Data Center of the Ministry of Health R.I., in 2019 the government targeted in 2020 DMF-T Indonesian population is 4.1 and in 2025 Indonesia's population DMF-T is 3.7 in 2030 DMF-T Indonesian population is 3.3. Looking at the DMF-T data through Riskesdas, it can be seen that the data is still above the target to be achieved by the government, so the strategy that has been made by the ministry of health based on the decree of the minister of health number 189 of 2019 concerning the dental and oral health committee, the strategy is as follows: 1). Increase promotional efforts, 2). Improve the quality of service, 3). Increase the participation of stakeholders related to dental and oral health services (14).

Nanggroe Aceh Darussalam Province, people who brush their teeth after breakfast are 10.0%, while 90.0% do not brush their teeth after eating breakfast, and those who brush their teeth before going to bed at night are only 20.8%. Meanwhile, in Aceh Besar Regency, which brushed their teeth after eating breakfast, 5.9% and before going to bed at night 29.3%. The percentage of Indonesians who behave correctly brushing their

teeth is 7.3% and those who behave incorrectly brush their teeth is 92.7% (15).

Nationally, according to Riskesdas 2018 data, as many as 57.6% of the Indonesian population had dental and oral problems over the past 12 months, but only 10.2% received treatment by dental personnel. By age group, the largest proportion of dental and oral problems is the age group of 5-9 years (67.3%) with 14.6% having received treatment by dental personnel. While the lowest proportion of dental and oral problems is aged 3-4 years (41.1%) with 4.3% having received treatment by dental personnel. Hasil Riset Kesehatan Dasar (RISKESDAS) yang dilakukan oleh Kementerian Kesehatan Indonesia pada tahun 2018 menunjukkan peningkatan pada proporsi masyarakat Indonesia yang mengalami masalah gigi dan mulut dibandingkan dengan hasil RISKESDAS tahun 2013, yaitu dari 25,9% pada tahun 2013 menjadi 57,6 % pada tahun 2018.

Data were obtained from the Indrapuri Health Center, Aceh Besar Regency in 2021. The number of patients who visited dental poly in the last 3 months covering September, October and November amounted to 427 patients. Among those who experienced dental caries totalled 243 patients.

Cureh is a Gampong In Indrapuri Subdistrict, Aceh Besar Regency, Aceh Province, Indonesia. Gampong Cureh is bordered by Gampong Meusale, Seuot, Lamlung and Lheue. Based on data obtained from kampong cureh, there are 394 residents with average jobs as farmers and housewives. The initial examination of dental caries conducted by researchers in 15 communities in Cureh Village found that 12 of them with high criteria were 5.1 and 3 people were asked low criteria of 1.4.

The results of the interview obtained from the community also explained that their average job as a rice field farmer and housewife with an average income of less than 1,500,000 per month so the income is included in the low-income category. If they have a toothache, they will visit the nearest health centre because they remember the limited economy. The people of Cureh village have used personal toothbrushes without alternating toothbrushes with other family members, unfortunately, the toothbrushes they used for a long time but were still functioning for

up to 4 months were not replaced. Therefore, researchers are interested in making a study on "The Relationship between Socioeconomic Level and Caries Status in Cureh Village, Indrapuri District, Aceh Besar Regency in 2021".

METHOD

The data in this study were obtained directly from filling out questionnaires and the results of the dental caries examination were then processed into the frequency distribution table of each variable. It also contains data obtained from community data including name, gender, age, education, occupation, and income obtained from various reliable sources, namely from the local keuchik office. Data collection was assisted by 3 enumerators. The following are the stages of research: Make a research permit to meet the Village Head to ask for research permission and a reply letter for research permission Conduct an interview and fill out an informed consent and examination to respondents who have been selected as sample After completing the research again ask for a letter of completion of research to the Village Head

RESULTS

Cureh Village is one of the 52 villages located in the Indrapuri District, Aceh Besar Regency, Aceh Province. There are 3 settlements in Indrapuri District, namely Mukim Empee Ara, Mukim Jruiek, and Mukim Reukih. Cureh is one of the 17 villages in the Empee Ara settlement. Cureh is a village located not far from the centre of the district with an area of $\pm 81 H^2$. The number of hamlets in Gampong Cureh amounts to 2 (two) hamlets, namely Monphet Hamlet and Munasah Jeumpa Hamlet. The number of households is 113 households, the total population is 394 residents. Based on research that has been conducted on January 5-10, 2022, the following research results were obtained:

1. Univariate Analysis

Table 5.1 Distribution of Respondent Frequency Based on Age in Communities in Cureh Village, Indrapuri District, Aceh Besar Regency in 2022

No	Age	F	(%)
1	25 - 35 Years	26	32,9

2	36 - 46 Years Old	26	32,9
3	47 - 57 Years Old	23	29,1
4	58 - 68 Years Old	3	3,8
5	69 - 79 Years Old	1	1,3
	Sum	79	100

Based on Table 5.1, it is known that the Age of Respondents is most in the categories of Age 25-35 and Age 36-46 Years which is 26 Respondents (32.9%) and the least is in the category of Age 69 - 79 Years totalling 1 Respondent (1.3 %).

Table 5.2 Distribution of Respondent Frequencies Based on Gender in Communities in CUREH Village, Indrapuri District, Aceh Besar Regency in 2022

No	Gender	F	(%)
1	Men	30	38
2	Woman	49	62
	Sum	79	100

Sumber : Data Sekunder Tahun 2022

Based on Table 5.2, it is known that the gender of respondents who are in the Female Sex category is 49 respondents (62 %).

Table 5.3 Distribution of Respondent Frequencies Based on Education in Communities in CUREH Village, Indrapuri District, Aceh Besar Regency in 2022

No	Education	F	%
1	Basic (Elementry-equivalent)	10	13
2	Middle (junior high school, high school equivalent)	55	70
3	Higher (Diploma, bachelor, master, specialist, doctorate)	14	17
	Sum	79	100

Sumber : Data Primer tahun 2022

Based on Table 5.3, it is known that most respondents' education is in the Secondary Education category (SMP, SMA equivalent) with 55 respondents (70%) and the least in the basic education category (SD equivalent) 10 respondents (13%).

Table 5.4 Distribution of Respondent Frequencies Based on Work in Communities in CUREH Village, Indrapuri District, Aceh Besar Regency in 2022

No	Work	Frequency	Percentage (%)
1	Civil servants	7	8,9
2	Not a Civil Servant	72	91,1
	Sum	79	100

Based on table 5.4, it is known that most respondents' jobs are in the category of work as Non-civil servants, totalling 72 respondents (91.1%).

a. Socioeconomic Level of respondents

No	Socioeconomic Level	Frequency	Percentage %
1	High Rp \geq 3.165.031	18	23
2	Low IDR < 3,165,031	61	77
3	Sum	79	100

Based on table 5.5, it is known that the Socio-Economic Level of respondents is most in the Low-Income category of Rp. < 3,165,031 / mo totalling 61 respondents (77 %).

Karies Gigi

Table 5.6 Frequency Distribution of Community Dental Caries Status in CUREH Village, Indrapuri District, Aceh Besar Regency in 2022

No	Category	Frequency	Percentage (%)
1	Very low	2	3
2	Low	4	5
3	Keep	22	28
4	Tall	35	44
5	Very high	16	20
6	Sum	79	100

Based on table 5.6, it is known that dental caries in cureh village communities is at most in the high category of 35 respondents (44%).

2. Bivariate Analysis

Bivariate analysis was performed on two interrelated variables to obtain correlation or uncorrelated results, statistical testing was carried out using the SPSS version 22 computer application. Test chi-square with a determination of α 0.05. It is stated that there is a relationship if $p\text{-Value} < \alpha$ 0.05 and the opposite if $p\text{-Value} > \alpha$ 0.05 then it is stated that there is no meaningful relationship. The chi-square test results are presented in the following cross-tabulation.

Table 5.7 Relationship between Socioeconomic Level and Dental Caries Status in Cureh Village Community, Indrapuri District, Aceh Besar Regency in 2022

Socioeconomic Level	Dental Caries Status										Total		P Value
	Very Low		Low		Average		High		Very High				
	n	%	N	%	n	%	N	%	n	%	n	%	
High	1	6	4	22	9	50	3	17	1	5	18	100	0,001
Low	1	2	0	0	13	21	32	52	15	25	61	100	
Total	2	8	4	22	22	71	35	69	16	30	79	100	

Based on Table 5.7 shows the high socioeconomic level that experienced the most dental caries status in the Medium Category, which was 9 respondents (50%). and the low socioeconomic level that experienced dental caries status the most in high cataly totaled 32 respondents (52%). Based on the Results of Statistical Tests, a p-Value of 0.001 was obtained which showed $< \alpha$ 0.05 It can be concluded that H_a is accepted and H_0 is rejected which means that there is a Significant Relationship Between Socioeconomic Level and Dental Caries Status in Society. It can also be interpreted that the Status of Dental Caries has a correlation with the Socioeconomic Level.

DISCUSSION

Based on research that has been carried out on January 5-10, 2022, statistical test results obtained a result of P.Value 0.001 which shows $< \alpha$ 0.05 It can be concluded that H_a is accepted and H_0 is rejected which means that there is a significant relationship between socioeconomic level and dental caries status in society. It can also be interpreted that the Status of Dental Caries has a correlation with the Socioeconomic Level.

Based on Table 5.7 shows the high socioeconomic level that experienced the most

dental caries status in the Medium Category, which was 9 respondents (50%). And the low socioeconomic level that experienced dental caries status was the most in the high catalysis of 32 respondents (52.45%).

Based on the results of research that has been carried out by the author of the most work with a Low Socioeconomic Level, namely with non-civil servant jobs (91.1%) including as farmers, housewives, traders, honorary employees, and electricians with an average education at the junior high school and high school levels (equivalent) so that it is more difficult to find a job that has sufficient income.

The author argues that a person with a non-

permanent job (Non PNS) with insufficient income will find it difficult to care about the degree of health because he must first meet the basic needs in his life.

The results of the interview obtained from the community they also explained that their average job as a rice field farmer and housewife with an average income of less than 1,500,000 per month so that the income is included in the low income category. If they have a toothache, they will visit the nearest health center because they remember the limited economy. The people of Cureh village have used personal toothbrushes without alternating toothbrushes with other family members, unfortunately the toothbrushes they used for a long time but were still functioning for up to 4 months were not replaced.

On the other hand, with the work of a civil servant, a person is able to realize his dental health because basic needs have been met so that he is more concerned about his health degree such as checking his family's dental health every 6 months to the dentist, highly educated parents will also be better at directing their children about their dental health, and in terms of facilities, parents will also prepare toothbrushes for each member of their family.

Hal ini sangat berkaitan dengan kesadaran masyarakat Karena walaupun sometimes the income is less but people have awareness that

they will do the maintenance of their dental health. People whose income is adequate have a higher desire for their personal health services, one of which is using quality and guaranteed health services with the hope of satisfaction and comfort in the fulfillment of health services for their personal.

The same opinion was also expressed by Ngantung, et al (2015) who stated that the higher the level of formal education of a person, the better the knowledge and behavior of healthy living, even the easier it is to get a job so that the more income is obtained to meet health needs. On the contrary, lack of education will hinder the development of one's attitude towards newly recognized values.

In line with the theory from Ngantung (2015). The socioeconomic level also affects the family's ability to meet the needs of food intake and healthy lifestyle habits. Some of the factors involved in Socio-Economic are Employment, Income and Education. People who are at a Low Socioeconomic Level or poor will find it difficult to get health services because of the ability to pay for these health services. A person with a high education has a positive attitude about health and applies healthy living behaviors in caring for dental and oral health (Fatmasari et al, 2017).

The results of a study conducted by Setyaningsih (2016) Bivariate Statistical Test Results using chi square $\alpha = 5\%$ (0.05) obtained p of 0.02 so that $p < 0.05$, which means that there is a Relationship of Socioeconomic Level (income) with the incidence of dental caries in Mancasan Village. In line with the results of research conducted by Azwindar in 2015 in Barombong Village, Tamalate District, Makassar. The study looked at the Relationship between Socioeconomic Level and Community Caries Status in the Village, obtained the results of high Caries Status in the community by 78% with Low Economic Status (Azwindar, 2015)

The results of the study presented by Prishardoyo, et, al.(2005), the factors that affect family income are the amount of family income, the number and age of family members, the level of prices for goods and services. So with the Results of the Bivariate Test, there is a Relationship between the Socioeconomic Level and the Incidence of Dental Caries in Mancasan Village, showing that Socio-Economic (Income) factors are able to influence the incidence of Dental Caries. From several previous research results and after research researchers found that

the higher the socioeconomic level of the community, the lower the status of dental caries. on the other hand, the lower the socioeconomic level of the community, the higher the dental caries rate.

DISCUSSION

Based on the results of research that has been carried out, it can be concluded that there is a relationship between socioeconomic level and dental caries status $p = 0.001$.

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