

Relationship of accessibility oral health care with sociodemografi conditions in urban and rural areas of Indonesia, 2018: Pilot Pathfinder Survey



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Abstract

Objective: To know the relation of accessibility oral health care with sociodemographic conditions in urban and rural areas of Gowa Regency, South Sulawesi in 2018.

Material and Methods: This study used pilot pathfinder survey, conducted in Gowa Regency in April 2018. The subject consisted of 420 people. Data were collected using Oral Health Special Eurobarometer 330 questionnaire. Data analysis using SPSS 24.0 with Chi-square test and significant value $p < 0.005$.

Results: Based on sociodemographic conditions, the main reason most preferred to visit dentist is emergency care (pain). There is a significant relationship between accessibility oral health care with location, education level and income society and there is no significant relationship between accessibility oral health care with age, sex and community work.

Conclusion: There is a significant relationship between accessibility oral health care with sociodemographic conditions in urban and rural areas of Gowa regency 2018.

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Keywords: Accessibility of care, Oral health, Sociodemographic, Urban and rural conditions

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Introduction

Oral health is not just about teeth and mouth, it is also an integral part of overall health. Oral health can be achieved through effective preventative and curative oral care services.¹ Oral health is diverse and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey emotions through facial expressions confidently and painlessly, discomfort and craniofacial complex diseases. To maintain oral health status, it is important to regularly visit a dentist to improve prevention of bad habits, and to ensure proper dental diagnosis and treatment and oral cancer screening. The utilization of health care services is measured by looking at the number of visits to dental and oral care centers per year, the number of people who performed at least one visit in the previous year, and by reason of referral to oral health services.²

Government regulation No. 47 in 2016, health care facilities are a tool and/or a place used to carry out health service efforts, whether promotive, preventive, curative or rehabilitative conducted by the central government, local government and/or community Determination the ratio between the number of health workers compared to the population is done with the following considerations: geographical conditions and community accessibility, utility rates and hours of service.

Health service access in recognizes the existence of health facilities consisting of government hospitals, private hospitals, puskesmas or puskesmas auxiliaries, doctors or clinics, posyandu, poskesdes or poskestren and polindes. The mode of transportation that can be used by households to health facilities consisting of private cars, public transport, walking, motorcycles, bicycles, boats, air transport and other and the use of more than one mode of transportation or a combination. Travel time with the mode of transportation is most often used by households in the form of minutes. Then the latter gets an idea of the cost or cost of transportation by household to health facility in one go. The travel time to the government hospital by residence is 16-30 minutes, the highest in urban areas (41%) and rural 25.6%. With 31-60 minutes in urban areas 24.7% and rural 34.5%. While the travel time ≤ 15 minutes in urban 27.3% and rural 6.3%.

Accessibility is defined as a characteristic relationship between needs, demand and supply for action and health services, which consists of two dimensions: socio-organization and geography. The first is related to the characteristics of the service offering, which are resources that make it easier or more difficult for people to get treatment. The second refers to displacement, such as distance, time and cost to achieve service.³

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Lack of adequate health care in rural areas is categorized into the following five categories: lack of service providers, distribution, quality deficiencies, access limitations and inefficient use of health care services.⁵ Rural communities experience limited access to dental and oral care services caused by limited budget and distance access. Utilization of services seems unbalanced associated with socioeconomic factors and individual behavioral factors. People in rural areas generally define health as a state of absence of disease, thus focusing more on disease handling than primary care or prevention.⁶

Based on the health profile of Gowa Regency, the population in Gowa Regency is the third largest of the regencies in South Sulawesi. The number of population in first place is Makassar City, second order of Regency of Bone and third place is Gowa Regency. By 2015 the population of Gowa Regency as a whole is 722.702, male population 355.381 (53%) and female population 367.321 (54.9%). By 2015 in Gowa district the number of medical personnel is 130 people with a ratio of 19.5 per 100.000 population. Dentist ratio of 5.7 per 100.000 population. As determined by the WHO that the ideal dentist ratio in a population is 1:2000 but data from the Gowa District health profile show that dentist ratio is 1:17.544 population. In addition, the affordability of the community towards health services is linked to the purchasing power of the economy. The economic condition of a region can be measured by the number of poor people. Poverty is an issue that concerns the various circles including health. The Health Profile of Gowa Regency in 2012 recorded 264.352 poor people and the percentage of those who have poor cards reached 100% in 2012 from the poor population in Gowa Regency. The highest percentage of poor people is Somba Opu sub district (12.86%). The high level of dental and mouth problems with lack of resources is likely to be one of the causes of lack of access to dental and oral health care facilities.

Therefore, the purpose of this study was to investigate the relation of Accessibility oral healthcare with socio-demographic conditions in urban and rural areas of Gowa Regency 2018.

Material and Methods

This survey has been approved by the ethics commission of the medical faculty, Hasanuddin university, Indonesia. All respondents have agreed to participate in this survey by filling out the informed consent. This type of survey is a pilot pathfinder survey, involving one or two age groups

most important subgroup population to experience different levels of disease.⁷ The survey was conducted at Oral Health Services in Sombaopu Subdistrict representing urban area and Pattalassang representing rural area, Gowa regency of South Sulawesi. The survey was conducted on 9-15 April 2018 as many as 420 subjects. The inclusion criteria are residents of Gowa Regency, aged 26-45 years and willing to be subject.

Accessibility oral health care was assessed using a questionnaire adapted from a validated Oral Health Special Eurobarometer 330 questionnaire and its reliability was confirmed by the coefficient Cronbach α ($\alpha = 0.91$).⁸

Then the data were collected face-to-face based on structured questionnaires. The data obtained is entered in the Excel database. The database was analyzed statistically with Statistical Package for Social Science/SPSS version 24.0 0 and presented in tabular form and description, then using Chi-square test.

Results

Table 1 shows the distribution of survey sample characteristics. Based on the characteristics of age group, the number of survey samples is more prevalent in the <35 years age group of 216 people (54.0%). Based on the characteristics of gender, the number of male samples more than female, ie 227 people (54.0%) and female 193 people (46.0%). Based on the characteristics of regional origin, the number of survey samples rural and urban areas have the same number, each 210 people (50.0%). Based on the characteristics of the education level, the highest number of survey samples was found at the level of undergraduate education (229 people (54.5%), while the number of survey samples was at least at the primary school level of 9 (2.1%). Based on the characteristics of social / occupational status, the largest number of survey samples were in full time employment of 210 people (50.0%) while the number of survey samples was at least in the social unemployment / pensioner status of 2 people (0.5%). Based on the characteristics of income level, the highest number of samples is found in samples with income <1.500.000 as many as 141 people (33.6%), and the least number of samples found in samples with income > 5.000.000 that is as many as 14 people (3.3%).

Table 2 shows the relationship of age group, gender, origin, level of education, social status and income with the main reason to visit dentist. Based on the characteristics of the age group, the most commonly chosen reasons for visiting dentists in both age group <35 years and ≥ 36 years were 110 (52.4%) and 120 people (57.1%). Based on the

Table 1 General Characteristics of Survey Subjects (n = 420)

Subject Characteristics	Frequency	
	n	%
Age Group		
< 35 years	210	50.0
≥ 36 years	210	50.0
Gender		
Male	227	54.0
Female	193	46.0
Origin		
Urban	210	50.0
Rural	210	50.0
Level of education		
No school	27	6.4
Primary school	9	2.1
Junior high school	13	3.1
Senior high school	94	22.4
University/High school	29	6.9
Diploma	19	4.5
Undergraduate	229	54.5
Social / Occupational Status		
Full time	210	50.0
Part time	140	33.3
Student / Worker Home	37	8.8
Unemployment / Pensioner	2	0.5
Does not work	31	7.4
Income		
< 1.500.000	141	33.6
1.500.000-2.000.000	55	13.1
2.100.000-3.000.000	62	14.8
3.100.000-4.000.000	120	28.6
4.100.000-5.000.000	28	6.7
>5.000.000	14	3.3

Source: Primary data, 2018

age group characteristics of statistical test results obtained p value > 0.05 ie 0.852, meaning there is no significant relationship between the age group and the main reason to visit dentist. Based on the characteristics of gender, the most common reason for visiting dentists in both male and female was the emergency care (pain) of 125 people (55.1%) and 105 people (54.4%). Based on the sex characteristics of the statistical test results obtained p value > 0.05 ie 0.301, meaning there is no significant relationship between gender and the main reason to visit dentist. Based on the characteristics of dentist in both rural and urban areas, there are 124 (59.0%) and 106 (50.5%) emergency (pain) patients. Based on the origin

characteristics of statistical test results obtained p value < 0.020 ie 0.020 means there is a significant relationship between the location with the main reason to visit dentist. Based on the characteristics of education level, the main reason that most chosen to visit dentist in non-school, primary, junior high and high school is the emergency care (pain) of 12 people (44.4%), 5 people (55.6%), 8 people (61.5%), 52 people (55.3%) and 137 people (59.8%). While the main reasons that are most preferred to visit dentist at the University level or high school are the check up / routine / cleansing of calculus as many as 14 people (48.3%) and at the level of the Diploma is spontaneous as many as 10 people (52.6%). Based on the education level characteristics of statistical test results obtained p value < 0.029 ie 0.029 means there is a significant relationship between education level with the main reason to visit dentist. Based on the characteristics of social status / occupation, the main reason most chosen to visit dentist on all social status / occupation is emergency care (the pain), p value > 0.05 means there is no significant relationship between social status / work with the main reason to visit dentist. Based on income characteristics, the main reason that most selected to visit dentist at all income level is emergency care (the existence of pain), got p value < 0.05 which is 0.0449 meaning there is significant relation between income with main reason visit dentist.

Table 3 shows the relationship of age group, gender, origin, education level, social status and income on the grounds to skip dental checks to dentist. Based on the characteristics of the age group, the most preferred reason for skip dental check to dentist in all age groups was not enough serious dental problems of 78 people (37.1%) and 76 people (36.2%), respectively. Based on the characteristics of age group, statistical test results obtained p value > 0.05 ie 0.971 meaning there is no significant relation between age group with reason to skip dental check to dentist. Based on gender characteristics, the most common reason for skip dental checks to dentists, both male and female, was not enough serious dental problems, 79 people (34.8%) and 75 people (38.9%), respectively. Based on gender characteristics, p > 0.05 ie 0.873 means there is no significant relationship between gender for skip dental check to dentist. Based on location characteristics, the most preferred reason for skip dental check to dentist in both rural and urban areas is that the teeth are not serious enough with 88 people (41.8%) and 66 people (31.4%) respectively. Based on the origin characteristics, p > 0.05 is 0.423, meaning there is no significant relationship between the

Table 2 Relationship of Sociodemographic Condition with Main Reason Visiting Dentist

	Check Up, Examination or Cleansing of Calculus		Routine Examination		Treatment or Emergency (Pain)		Spontaneous		Don't Know		p-value
	n	%	n	%	n	%	n	%	n	%	
Age Group											
<35 Years	50	23.8	6	2.9	110	52.4	14	6.7	30	14.3	0.852
≥36 Years	49	23.3	5	2.4	120	57.1	12	5.7	24	11.4	
Gender											
Male	57	25.1	7	3.1	125	55.1	9	4.0	29	12.8	0.301
Female	42	21.8	4	2.1	105	54.4	17	8.8	25	13.0	
Origin											
Rural	36	17.1	5	2.4	124	59.0	12	5.7	33	15.7	0.020
Urban	63	30.0	6	2.9	106	50.5	14	6.7	21	10.0	
Level of education											
No school	9	33.3	5	18.5	12	44.4	0	0.0	1	3.7	0.029*
Primary school	2	22.2	0	0.0	5	55.6	0	0.0	2	22.2	
Junior high school	1	7.7	0	0.0	8	61.5	2	15.4	2	15.4	
Senior high school	22	23.4	2	2.1	52	55.3	4	4.3	14	14.9	
University/high school	14	48.3	0	0.0	13	44.8	1	3.4	1	3.4	
Diploma	3	15.8	1	5.3	3	15.8	10	52.6	2	10.5	
Undergraduate	48	21.0	3	1.3	137	59.8	9	3.9	32	14.0	
Social / Occupational Status											
Full time	56	26.7	5	2.4	112	53.3	16	7.6	21	10.0	0.999*
Part time	27	19.3	3	2.1	80	57.1	6	4.3	24	17.1	
Student / Worker Home	10	27.0	1	2.7	17	45.9	2	5.4	7	18.9	
Unemployment / Pensioner	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	
Does not work	6	19.4	2	6.5	19	61.3	2	6.5	2	6.5	
Income											
< 1.500.000	34	24.1	5	3.5	68	48.2	10	7.1	24	17.0	0.0449*
1.500.000-2.000.000	16	29.1	3	5.5	24	43.6	7	12.7	5	9.1	
2.100.000-3.000.000	13	21.0	0	0.0	32	51.6	2	3.2	15	24.2	
3.100.000-4.000.000	20	16.7	2	1.7	82	68.3	7	5.8	9	7.5	
4.100.000-5.000.000	11	39.3	0	0.0	16	57.1	0	0.0	1	3.6	
>5.000.000	5	35.7	1	7.1	8	57.1	0	0.0	0	0.0	

* Kolmogorov-Smirnov test
Significant p <0.05

Table 3 Relationship of Sociodemographic Condition with a Reason to Skip Dental Check to dentist.

	Very expensive		Do not want to spend money on dental care		Afraid or Disliked by dentist		Very busy		Dental problems are not enough Serious		Dentist Clinic is too Far		Has no teeth or has dentures		Others		Don't Know		p-value
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
Age Group																			
< 35 years	46	21.9	6	2.9	13	6.2	33	15.7	78	37.1	12	5.7	1	0.5	15	7.1	6	2.9	0.971*
≥36 years	39	18.6	12	5.7	7	3.3	32	15.2	76	36.2	12	5.7	5	2.4	21	10.0	6	2.9	

Table 3 Continued

	Very expensive		Do not want to spend money on dental care		Afraid or Disliked by dentist		Very busy		Dental problems are not enough Serious		Dentist Clinic is too Far		Has no teeth or has dentures		Others		Don't Know		p-value
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
Gender																			
Male	46	20.3	12	5.3	11	4.8	36	15.9	79	34.8	8	3.5	3	1.6	23	10.1	9	4.0	0.873*
Female	39	20.2	6	3.1	9	4.7	29	15.0	75	38.9	16	8.3	3	1.6	13	6.7	3	1.6	
Origin																			
Rural	45	21.4	6	2.9	13	6.2	22	10.5	88	41.9	18	8.6	3	1.4	15	7.1	0	0.0	0.423*
Urban	40	19.0	12	5.7	7	3.3	43	20.5	66	31.4	6	2.9	3	1.4	21	10.0	12	5.7	
Level of Education																			
No school	7	25.9	0	0.0	11	40.7	0	0.0	7	25.9	1	3.7	0	0.0	0	0.0	1	3.7	0.000*
Primary school	1	11.1	1	11.1	2	22.2	1	11.1	1	11.1	1	11.1	0	0.0	2	22.2	0	0.0	
Junior high school	1	7.7	1	7.7	2	15.4	0	0.0	8	61.5	0	0.0	0	0.0	1	7.7	0	0.0	
Senior high school	19	20.2	13	13.8	2	2.1	17	18.1	31	33.0	3	3.2	1	1.1	4	4.3	4	4.3	
University/High school	6	20.7	1	3.4	0	0.0	6	20.7	4	13.8	5	17.2	4	13.8	1	3.4	2	6.9	
Diploma	2	10.5	0	0.0	0	0.0	5	26.3	9	47.4	0	0.0	0	0.0	2	10.5	1	5.3	
Undergraduate	49	21.4	2	0.9	3	1.3	36	15.7	94	41.0	14	6.1	1	0.4	26	11.4	4	1.7	
Social / Occupational Status																			
Full time	46	21.9	11	5.2	6	2.9	29	13.8	88	41.9	4	1.9	6	2.9	15	7.1	5	2.4	0.197*
Part time	24	17.1	2	1.4	10	7.1	25	17.9	41	29.3	19	13.6	0	0.0	17	12.1	2	1.4	
Student / Worker Home	8	21.6	3	8.1	1	2.7	3	8.1	18	48.6	1	2.7	0	0.0	2	5.4	1	2.7	
Unemployment / Pensioner	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	
Does not work	7	22.6	2	6.5	3	9.7	8	25.8	6	19.4	0	0.0	0	0.0	1	3.2	4	12.9	
Income																			
< 1.500.000	23	16.3	3	2.1	11	7.8	31	22.0	55	39.0	2	1.4	0	0.0	9	6.4	7	5.0	0.199*
1.500.000-2.000.000	10	18.2	5	9.1	5	9.1	11	20.0	15	27.3	2	3.6	0	0.0	7	12.7	0	0.0	
2.100.000-3.000.000	10	16.1	1	1.6	2	3.2	4	6.5	18	29.0	16	25.8	0	0.0	10	16.1	1	1.6	
3.100.000-4.000.000	36	30.0	0	0.0	1	0.8	14	11.7	54	45.0	3	2.5	4	3.3	8	6.7	0	0.0	
4.100.000-5.000.000	6	21.4	9	32.1	0	0.0	3	10.7	7	25.0	0	0.0	1	3.6	1	3.6	1	3.6	
>5.000.000	0	0.0	0	0.0	1	7.1	2	14.3	5	35.7	1	7.1	1	7.1	1	7.1	3	21.4	

* Kolmogorov-Smirnov test
Significant p <0.05

origin and the main reason for skip the dental check to dentist. Based on the characteristics of education level, the most preferred reason for skip dental check to dentist on no school characteristics is to afraid or dislike with dentist as much as 11 people (40.7%), while at the primary school is afraid or dislike with dentist and others each with 2 people with a percentage of 22.2%. Furthermore, at the junior and senior high school the most eligible reason for skip dental check to the dentist is that

reason for skip dental check to the dentist is that serious dental problems are not serious enough of 8 people (61.5%) and 31 people (33.0%), respectively. At the university / high school the most eligible reason for skip a dental check is that it is very expensive and very busy each of 6 people (20.7%). At the Diploma and undergraduate level the most elected reasons are not enough serious dental problems of 9 people (47.4%) and 94 people (41.0%), respectively. Based on the characteristics of education, obtained

p value <0.05 ie 0.000 means there is a meaningful relationship between education with the reason of skip dental check to the dentist. Based on the characteristics of social status/occupation, the most common reason for skip dental checks to dentist on full-time, part-time, occasional home / worker / worker jobs is not enough serious dental problems of 88 people (41.9%), 41 people (29.3%) and 18 people (48.6%). In the social status of unemployment / pensioner, the most preferred reason for skip dental check to dentist is the problem of moderately serious and other teeth, each of which is 1 people (50.0%) and the social status of not working is very expensive as many as 8 people (28.5%). Based on the characteristics of education level, $p > 0.05$ is 0.197, meaning that there is no significant relationship between social status / occupation with reason to skip dental check to dentist. Based on income characteristics, the most preferred reason for skip dental checks to dentists on income is <1.500.000 xxxxxxxx, 1.500.000-2.000.000, 2.100.000-3.000.000 xxxxxx, 3.100.000-4.000.000 and >5.000.000 is a serious tooth problem of 55 people (39.0%), 15 people (27.3%), 18 people (29.0%), 54 people (45.0%) and 5 people (respectively) 35.7%). At the income level of 4.100.000-5.000.000, the most preferred reason for skip dental check to a dentist is not wanting to spend money on dental care as much as 9 people (32.1%). Based on earnings characteristics, $p > 0.05$ is 0.199 meaning there is no significant relation between income and reason to skip dental check to dentist.

Discussion

Equity in access to health care facilities is one of the policy makers' main objectives in the development of national documents in many areas. Therefore, the evaluation of access to health care should be considered an important indicator in the assessment of the quality of a region's health system.⁸ A survey was conducted on the accessibility of oral health care with sociodemographic conditions in urban and rural areas of Gowa regency, South Sulawesi in 2018. This survey aims to evaluate attitudes toward oral health and the accessibility of the population for oral health services, based on psychometric employees and public society in Indonesia more dominates female.⁹

The sociodemographic relationship with the main reason to visit dentist. By age group, gender,

education the University and undergraduate chose the reason to visit the dentist is to check up or routine examination and Diploma level choose spontaneous to the dentist. The value of $p < 0.05$ that $p = 0.020$ shows a significant relationship between urban and rural area with the reason to visit the dentist. A total of 124 people (59%) from rural areas visited the dentist on the grounds of emergency care (pain) while from rural areas also had the same reasons as 106 people (50.5%). This is in line with revealing that access to health care facilities seems to be lacking in rural areas. The reason visits to dentist are directly related to the presence of carious teeth. People make use of dental services when they have a strong pain. In this study also found the value of $p < 0.05$ on the characteristics of education level $p = 0.029$ and income $p = 0.0449$, indicating a significant relationship between the characteristics of education and income levels for the main reason to visit the dentist. Revealed that as many as 45% did not go to dentist for financial reasons.¹⁰

The sociodemographic relationship with the reasons for skip dental checks to dentist. Based on age, gender, origin, social status/occupation and income, the reason to skip dental checks to dentist is that the teeth are not serious enough. On the educational characteristics, $p < 0.05$ shows that there is a significant correlation between the level of education and the reason for skip dental check to dentist. Whereas based on the characteristics of no school and primary school education choose a reason to skip dental check to the dentist for afraid or dislike with dentist. This is in line with research conducted by Popovici et al revealed that afraid of dentists is the most common reason not to do checkups. This is why dentist should pay more attention to his attitude towards the patient. The relationship between doctor and patient is asymmetrical, referring to two people with different social backgrounds. Dentists should have a good cooperative relationship, based on a psychological approach. This is related to the quality of service provided to patients. Patients are an important aspect in looking at the quality of services provided in the health sector. Sometimes the services provided by health providers and private dental clinics are still considered inadequate. There are several factors that cause people to feel uncomfortable providers and private dental clinics are still considered inadequate. There are several factors that cause people to feel uncomfortable with care such as hesitation about the dentist's ability to diagnose and treat patients with diseases, less sophisticated and less modern

facilities and technologies used, a system that takes too long, and lack of care hospitality and medical resources skills. The success of a health care center is influenced by the effectiveness and efficiency of services associated with the patient.¹¹

The socioeconomic level is the main determinant of oral health-seeking behavior. Household socioeconomic standards are measured by measuring income from the family, which is strongly linked to the use of dental services. Accessibility and visits to oral health services share a close relationship with the level of education. What accessibility to the relevant dental and dental services is lower, given the unsatisfactory geographic position, infrastructure and assistance of dental and oral services. In urban areas, patients prefer private clinics or clinics in collaboration with National Health Insurance Homes as the acceptability of dental and oral care services in rural areas becomes scarce.¹²

Conclusion

From the results of the survey on the accessibility of oral health care to socio-demographic conditions in the urban and rural areas of Gowa Regency, South Sulawesi in 2018, it was found that based on the sociodemographic conditions, the main reason most preferred to visit the dentist is emergency treatment (the presence of pain). In Somba Opu sub-district representing urban area, 106 people (50.5%) chose to dentist because of emergency treatment and 63 people (30.7%) chose to dentist for check-up reasons / routine examination while in Pattalassang sub-district representing rural area found 124 people (59.0%) chose the reason of emergency (existence of pain) and as many as 36 people (17.1%) chose to dentist for the reason of check up / examination routine. There is a significant relationship between accessibility of health care with origin, education level and community income.

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Conflict of Interest

The author report no conflict of interest.

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