

The relationship between sociodemographic characteristics of urban and rural areas with oral health service accessibility in Indonesia



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Abstract

Objective: The authors are interested in conducting a survey on the relationship of sociodemographic characteristics of urban and rural areas with the accessibility of OHS in Pinrang Districts, South Sulawesi, Indonesia in 2019.

Material and Methods: This study used a qualitative approach by distributing questionnaires to adult subjects aged 18 years and above in Pinrang Districts, South Sulawesi during January 29th till February 1st, 2019. The location was divided according to the Pilot Pathfinder Survey method. The Urban area is represented by the Watang Sawitto Sub-District and the rural area is represented by the Suppa Sub-District.

Results: The subjects who participated in this study were 298 people, an urban population (UP) was 184 people (61.74%) and a rural population (RP) was 114 people (38.26%). There is a significant relationship between sociodemographic characteristics and visits to oral health services ($p=0.045$). Community Health Center is the main choice if the subject has dental health problems.

Conclusion: The main reason for visiting the oral health service facilities of the urban and rural population is for a tooth filling. Expensive cost and remote locations are the main reasons for not visiting oral health service facilities.

Keywords: Accessibility, Health service, Rural, Socioeconomic, Urban
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Introduction

The Universal Declaration of Human Rights (UDHR) on December 10th, 1948 explains that all humans deserve the protection of life, health, and well-being. It cannot be denied to any person because of ethnicity, religion, gender, education level, job, and others. Public health services must be respectful of human rights norms and standards. This aimed to enable health personnel to use human rights standards in providing health services.¹

Accessibility of health services is the ability of every person in seeking health services according to their needs. The law of the Republic of Indonesia Number 17 in 2007 concerning the National Long Term Development Plan shows that the challenges faced in the health sector reduce the gap in public health status and access to health services between regions, socio-economic levels, and gender; increasing the number and distribution of inadequate health personnel; increasing access to health facilities.²⁻⁴

According to Indonesian Basic Health Research in 2018, dental and oral health problems in Indonesia still show a high percentage (57.6%). Low dental and oral health conditions can have an impact on public health status. If the public health status is still poor, then it can be ascertained that the area has not yet achieved complete social welfare.

This shows that Indonesia still has problems in terms of fulfilling basic rights in the form of health service guarantees for the community.⁵

Research in Ghana shows that most rural people still have poor access to basic health services. This is caused by poor road conditions in the area. This condition affects people's reactions in responding to barriers to access. Some are seeking traditional healing, switching to self-medication, even relying on spiritual methods.⁶⁻¹⁰

Research in Spain shows that individuals living in urban areas more often access specialist health services that live in rural areas. This is due to a problem in the form of limited health service specialists in rural areas. Then the results of other studies in Italy showed that individuals who settled in central Italy more often access health services than individuals who settled in southern Italy. This shows that residential areas affect access to health services.¹¹

The number of health personnel in Pinrang Districts, South Sulawesi is still relatively low. The population of Pinrang Districts in 2017 was 372,230 people. While the number of dentists is only 55 people. So, the number of dentists compared to the population shows a ratio of 1: 6700. This ratio is not ideal according to the rules of the World Health Organization (WHO) so that it appears that there

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is a gap between the need for dental and OHS with the ability to obtain treatment from the dentist.¹²⁻¹⁴

Data on the utilization of health personnel in Pinrang Districts shows that there is an uneven distribution pattern. Of the 12 Sub-Districts in Pinrang Districts, only in Watang Sawitto Sub-District, there were 40 dentists. Apart from the Sub-District, there are only 2 dentists for each Sub-District. In this condition, a survey is needed regarding the community's efforts to access the health services system.¹²

Based on the description of the background above, the authors are interested in conducting a survey on the relationship of sociodemographic characteristics of urban and rural areas with the accessibility of OHS in Pinrang Districts, South Sulawesi, Indonesia in 2019.

Material and Methods

The method used in this survey is the Pilot Pathfinder Survey. This main method uses age and location to obtain validity data. Watang Sawitto Sub-District represents the urban area and Suppa Sub-District who represent the rural area. This study has obtained ethical approval from the Ethics Commission at the Faculty of Dentistry, Hasanuddin University, Indonesia.^{15,16}

The subjects of this study are adults aged 18 years and above. 298 patients that came to the survey location from January 29th till February 1st in 2019.

The questionnaire was divided into 2, the first questionnaire about the general characteristics of the subjects which were supplemented with informed consent and the second questionnaire specifically about OHS accessibility. The questionnaire consists of a predefined answer and multiple answers possible for several questions. OHS accessibility questionnaire modified and assessed using a Special Eurobarometer 330.¹⁷

Statistical analysis

Statistical analyses were performed using the Statistical Package for the Social Sciences version 23 (SPSS Inc., Chicago, IL, USA). Descriptive analyses of the data were performed. Cronbach's alpha and Pearson's correlation coefficient were used to test the reliability and validity of the questionnaire, and Chi-square test was used to knowing the relationship between sociodemographic conditions of urban and rural areas with OHS accessibility in Pinrang Districts, South Sulawesi.¹⁸

Results

The subjects who participated in this study were 298 people, an UP was 184 people (61.74%) and a RP was 114 people (38.26%). Most subjects were female, 128 of them (69.87%) for the UP and 96 people (84.21%) for the RP [Table 1](#). Overall, the ratio of male to female subjects is 1:3.

The most UP is in the 35–44-year age group, which is as many as 46 people (25%), while the least in the 25–34-year age group is 24 people [Table 1](#) (13.04%). The most RP is in the age group ≥ 56 years, which is as much as (31.58%), while the least in the age group of 18-24 years, which is as many as 14 people (12.28%). Overall, the population in Pinrang Districts is the highest in the age group 35-44 (24.16%).

Most of the population ($n = 298$) were Bugis ethnic [Table 1](#), which were 289 people (96.98%). The Makassar ethnic consists of 6 people (2.01%), Toraja ethnic as many as 2 people (0.67%), Mandar ethnic does not exist at all, and other ethnics, consist of 1 person (0.34%). In the UP, Bugis ethnic were 178 people (96.74%), there are absolutely no Toraja and Mandar ethnic of UP recorded in the study. While in the RP, the Bugis ethnic (97.37%), there are absolutely no Mandar ethnic and other than Bugis ethnic.

The majority population is Islam [Table 1](#), which is as many as 264 people (88.59%). The subjects were Buddhism as many as 31 people (10.40%), and subjects of Hinduism, Christian, and other religions were 1 person each (0.34%). In the UP, 168 Muslim subjects (56.38%) are not subject to Hinduism and religions other than Islam, Buddhism, Hinduism, and Christian recorded in the study. While in the RP, subjects were Muslim (84.21%), there were no christian subjects recorded in the study.

Most subjects were married [Table 1](#), as many as 190 people (63.76%). Not married as many as 52 people (17.45%), widows as many as 26 people (8.72%), and widowers as many as 30 people (10.07%). In the UP, married subjects were 111 people (60.33%), unmarried as many as 37 people (20.11%), widows as many as 12 people (6.52%), and widowers as many as 24 people (13.04%). In the RP, married subjects were 79 people (69.30%), unmarried as many as 15 people (13.16%), widows as many as 14 people (12.28%), and widowers as many as 6 people (5.26%).

Most subjects had the last high school education level [Table 1](#), which was as many as 55 people (29.89%). At least one doctoral degree has the last level of education, which is 1 person (0.54%). In the RP, most of the subjects had the last level

Table 1. Subject distribution according to sociodemographic characteristic

Sociodemographic Characteristics		Urban (n = 184)		Rural (n = 114)		Total (n = 298)	
		n	%	n	%	n	%
Gender	Female	128	69.57	96	84.21	224	75.17
	Male	56	30.43	18	15.79	74	24.83
Age Group	18-24	42	22.83	14	12.28	56	18.79
	25-34	24	13.04	15	13.16	39	13.09
	35-44	46	25.00	26	22.81	72	24.16
	45-55	41	22.28	23	20.17	64	21.48
	≥56	31	16.85	36	31.58	67	22.48
	Ethnic	Bugis	178	96.74	111	97.37	289
	Makassar	5	2.72	1	0.88	6	2.01
	Toraja	0	0.00	2	1.75	2	0.67
	Mandar	0	0.00	0	0.00	0	0.00
	Others	1	0.54	0	0.00	1	0.34
Religion	Islam	168	91.31	96	84.21	264	88.59
	Christian	15	8.15	16	14.03	31	10.40
	Buddhism	0	0.00	1	0.88	1	0.34
	Hinduism	1	0.54	0	0.00	1	0.34
	Others	0	0.00	1	0.88	1	0.34
Marital	Unmarried	37	20.11	15	13.16	52	17.45
Status	Married	111	60.33	79	69.30	190	63.76
	Widow	12	6.52	14	12.28	26	8.72
	Widower	24	13.04	6	5.26	30	10.07
Education Level	No school	26	14.13	22	19.30	48	16.11
	Elementary school	35	19.02	40	35.09	75	25.17
	Junior high school	39	15.76	20	17.54	49	16.44
	Senior high school	55	29.89	17	14.91	72	24.16
	Bachelor degree	34	18.48	11	9.65	45	15.10
	Master degree	4	2.17	4	3.51	8	2.68
	Doctoral degree	1	0.54	0	0.00	1	0.34
	Job	Does not work	82	44.57	73	64.03	155
	Farmer	13	7.07	17	14.91	30	10.07
	Laborer/handyman	5	2.72	1	0.88	6	2.01
	Entrepreneur	32	17.39	7	6.14	39	13.09

	Private employee	14	7.61	3	2.63	17	5.76
	Government employee	20	10.87	12	10.52	32	10.74
	Others	18	9.78	1	0.88	19	6.38
Income	IDR 0 – IDR 150,000	82	44.57	61	53.51	143	47.99
	IDR 150,000 – IDR 500,000	21	11.41	22	19.30	43	14.43
	IDR 500,000 – IDR 1,000,000	33	17.93	12	10.53	45	15.10
	IDR 1,000,000 – IDR 2,000,000	26	14.13	9	7.89	35	11.74
	≥IDR 2,000,000	22	11.96	10	8.77	32	10.74

Source: Primary Data, 2019

Table 2. Accessibility of oral health services between urban and rural population

Accessibility of Oral Health Services	Urban (n = 184)		Rural (n = 114)	
	n	%	n	%
Main reference for oral health service facilities				
Community health centers	100	54.35	80	70.18
Regional public hospital	13	7.07	0	0.00
Public hospital outside the area (out of Pinrang)	3	1.63	2	1.75
Dentist's private clinic	27	14.67	12	10.53
Dental specialist's private clinic	8	4.35	5	4.38
Dental handyman	15	8.15	7	6.14
Others (Free Answer)	18	9.78	8	7.02
Yearly frequency of oral health services visits				
Once a year	76	41.30	71	62.28
Twice a year	32	17.39	11	9.65
Several times a year	25	13.59	14	12.28
Not routine every year	51	27.72	18	15.79
Transportation used to oral health services				
Personal transport	145	78.80	93	81.58
Public transport	18	9.78	11	9.65
On foot	3	1.63	1	0.88
Bicycle	2	1.09	1	0.88
Others	16	8.70	8	7.01
Travel time to oral health services				
≤ 30 minutes	126	68.48	80	70.18
≥ 30 minutes	25	13.59	13	11.40
Don't know	33	17.93	21	18.42

Source: Primary Data, 2019

REASONS TO VISIT DENTAL HEALTH SERVICE

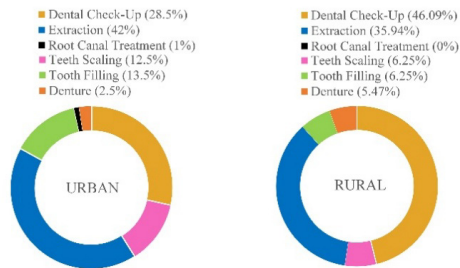


Figure 2. Reason to Visit Dental Health Service

REASONS NOT TO VISIT DENTAL HEALTH SERVICE

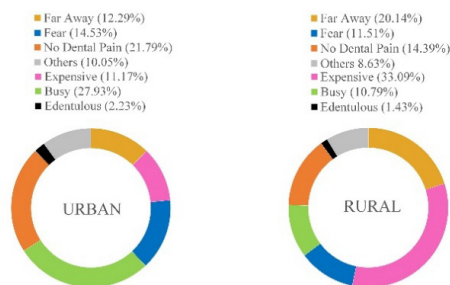


Figure 3. Reason Not to Visit Dental Health Service

of elementary school education, as many as 40 people (35.09%). At least have the latest education level master degree, which is as many as 4 people (3.51%). There were absolutely no subjects in the RP with the last level of doctoral degree education recorded in the study. Overall, the population of Pinrang Districts has the most last education status of an elementary school, which is as many as 75 people (25.17%) and at least has the last education status of a doctoral degree, which is as many as 1 people (0.34%).

The subjects of Pinrang Districts that do not work shows the largest percentage Table 1, which is 52.01%. In the UP, subjects who do not work were as many as 82 people (44.57%). At least 5 people work as laborer/handyman, namely 2.72%. In the RP, subjects who do not work were as many as 73 people (64.03%). Overall, the population of Pinrang Districts who works as a farmer is as many as 30 people (10.07%), as laborers/handyman as many as 6 people (2.01%), as entrepreneurs as many as 39 people (13.09%), as private employees as many as 17 people (5.70%), 32 government employees (10.74%), and 19 other jobs (6.38%).

The highest income of the population of Pinrang Districts is IDR 0 – IDR 150,000 with a percentage of 47.99% Table 1. In the UP, most subjects have an income of IDR 0 – IDR 150,000, which is as many as 82 people (44.57%). At least they have an income of IDR 150,000 – IDR 500,000, which is 21 people

(11.41%). In the RP, most subjects had an income of IDR 0 – IDR 150,000, which was 61 people (53.51%). At least there is an income of IDR 1,000,000 – IDR 2,000,000, which is 9 people (7.89%).

133 subjects from the UP (72.3%) had visited dental health facilities with different frequencies Table 2, 1x a year as many as 76 people (41.3%), 2x a year as many as 32 people (17.4%), more than 2x a year as many as 25 people (13.6%). While there were 96 RP (84.2%) who had visited dental health facilities, 1x visits a year as many as 71 people (62.3%), 2x in a year as many as 11 people (9.6%), and more than 2x in a year 14 people (12.3%).

Following are the reasons for the decision on dental care visits in Pinrang Districts, namely: dental health checks (36%), tooth extraction (11%), root canal treatment (11%), making dentures (1%), and dental fillings (41%). Most subjects indicated that the main reason for visiting dental health facilities was dental fillings, which were as many as 130 subjects (41%).

Reasons for treatment visits in urban areas if sorted from the most are dental extractions (42%), dental health checks (28.5%), dental fillings (13.5%), tartar cleaning (12.5%), making dentures (2.5%), and root canal treatment (1%). While in rural areas, the reason for treatment visits in urban areas if sorted from the most is dental health checks (46.09%), tooth extraction (35.94%), dental fillings (6.25%), cleaning tartar (6.25%), and making teeth fake (5.47%). In rural areas, there is absolutely no one visiting dental health services on the grounds of root canal treatment Figure 2.

The reasons for the subjects did not visit dental care in Pinrang Districts Figure 3, namely: sorted from the most is because they are busy (27.93%), no dental pain (21.79%), afraid (14.53%), far (12.29%), expensive (11.17%), other reasons (10.05%), and edentulous (2.23%). While in rural areas, the reason for treatment visits if sorted from the most is because of high costs (33.09%), far (20.14%), no dental pain (14.39%), fear (11.51%), busy (10.79%), other reasons (8.63%), and edentulous (1.43%). Another reason recorded in the open question on the questionnaire was that the patient had his own tooth extracted.

Discussion

Based on the results of a survey conducted in Pinrang Districts, it was seen that patients who had more OHS were female patients. This is in line with research conducted in Europe and Saudi Arabia which states that women visit OHS facilities

more often than men. This happened because women generally have more to do with health facilities because they pay more attention to their dental health, especially those related to aesthetics. In addition, men have more work than women because they spend more time working so they do not pay too much attention to their dental health and influence the use of OHS facilities.^{21,22}

In the age group category, it can be seen that the most age group of UP that most often visits dentists is 35-44 years, whereas RP that is in the age group ≥ 56 years. The results of research in rural areas are in accordance with the research conducted in Switzerland. Tooth loss is more common at age ≥ 56 years and is one part of the aging process. Then in that age category, patients are susceptible to having systemic diseases that can manifest in the oral cavity, making it a reason to visit the dentist. However, on the other hand, other reasons such as fear of dentists and high costs have little effect on the use of dental health facilities by patients aged ≥ 56 years.²³

The population of Pinrang Districts is dominated by Bugis ethnic. The UP which is an ethnic from other Districts (Toraja and Mandar tribes) shows a smaller number of indigenous people. This is in line with the theory that the existence of the original Buginese is still eternal in its native region of South Sulawesi. Their community now manifests itself as an Indonesian people who firmly practice the principles of the Pancasila, but remain eternal as a Bugis ethnic who still practice native Bugis customs and speak in their own language even though names are separated which follow their respective regions there such as Bone, Pangkep, Barru, Sinjai, Wajo, Soppeng, Pinrang, and so on.²⁴

Based on the level of education, there is a significant relationship with the use of OHS facilities. These results are consistent with research conducted in Saudi Arabia. The higher a person's education, the greater the tendency in the use of dental health facilities and the lower the education of a person, the more likely they are to have limited financial resources and give low priority to the use of dental health services.²²

Based on the job characteristics, there is a significant relationship with the use of OHS facilities. Patients who have jobs tend to have a busy schedule so they have a tendency not to do OHS. Time problems, other psychosocial factors such as fear of the dentist. The combination of these two factors prevents a person from accessing OHS facilities. For the fear factor that the patient has towards the dentist, the dentist should pay more

attention to his attitude towards the patient. The relationship between the doctor and the patient is asymmetrical, referring to two people with different social backgrounds. Dentists must have a good cooperative relationship, based on a psychological approach. This is related to the quality of services provided to patients. Patients are an important aspect in looking at the quality of services provided in the health sector.^{25,26}

The Community Health Centers is the main choice for the majority of subjects in accessing OHS (Tab 2). The rest choose a dental clinic, Regional General Hospital, even to the Regional Outside General Hospital. Results of the questionnaire's undefined answer show that subjects choose to go to the Public Hospital Outside The Area (out of Pinrang Districts), in this case, they choose the OHS facilities of Pare-Pare City because the access by transportation system is easier. The concern is, there are still people in Pinrang Districts who choose OHS to Dental Handyman, even though not included in Community Based Health Enterprises. This is in line with research in rural Ghana that rural people who have barriers to access to health service show a reaction in the form of switching to traditional medicine, in this case, Dental Handyman.^{9,19}

The results of the study show that the main reason for the UP for OHS is tooth extraction, while the main reason for RP is dental check-up. The results of research in rural areas are in line with research in Germany which shows that the main reason for deciding visits to dental health services is dental check-up.^{27,35,36}

The results of the study show that the main reason for not visiting the OHS of UP is because they are busy, while the main reason of RP is because of high costs. This is in line with research in Germany which shows that costs are a consideration factor for oral health service. This is indicated by most patients in the OHS facilities who are patients residing in Switzerland. The cost of dental care in Germany is more affordable so patients prefer to visit outside the region to reduce the budget for OHS.^{27,37,39}

There is a significant relationship between locations, namely urban and rural to the use of OHS facilities. This result is consistent with research conducted in Japan which states that locations related to transportation use are an important factor in the accessibility of dental health services.^{20,39,40}

The Pinrang District community has not received comprehensive health insurance as described in the Universal Declaration of Human

Rights in 1948 article 25. There are still people who do not have health insurance, even in the lifetime they have never had dental care. This condition can affect the dental health status of the community in an area, especially Indonesia. So that this is one of the concrete pieces of evidence in connection with the Riskesdas 2018 data that dental and oral health problems in Indonesia are still high.^{1-4,7,9}

The results showed that there were significant differences in subjects living in urban and rural areas towards OHS accessibility. This is in line with Research in Ghana which shows that most rural communities still have poor access to basic health services compared to urban communities. Research in Spain also shows that individuals living in urban areas more often access specialist health services than individuals who live in rural areas. Thus, location affects the accessibility of dental health services.^{9,11,28-33}

Conclusion

Community Health Centers are the main choice if the subject has dental health problems. Most of the population in Pinrang Districts had health insurance and using it to access OHS. The main reason for visiting the oral health service facilities of the urban and rural population is for a tooth filling. Expensive cost and far away locations are the main reasons for not visiting OHS facilities. In terms of quantity, the population accessing OHS facilities is a resident of urban areas. Overall, there is a significant relationship between sociodemographic characteristics with OHS accessibility in Pinrang Districts, South Sulawesi, Indonesia in 2019.

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References

1. Heale R, Twycross A. Validity, and reliability in quantitative studies. *Evid Based Nurs* 2015;18: 66.
2. Nelson W, Pomerantz A, Howard K, et al. A proposed rural healthcare ethics agenda. *J Med Ethics* 2007;33: 136-139.
3. Hamano T, Miwako T, Kazumichi T, et al. Is accessibility to dental care facilities in rural areas associated with number of teeth in elderly residents. *Int J Environ Res Public Health* 2017;14: 5-6.
4. Saintrain MVL, Marques PLP, Almeida LHP, et al. The relation between gender in the access to dental services and goods. *Rev Bras Promoç Saúde Fortaleza* 2014;27: 385-386.
5. Sharifa AMALS. Access to dental care for persons with disabilities in Saudi Arabia (Caregivers' perspective). *J Disability Oral Health* 2012;13: 57.
6. Nitschke I, Angela S, Julia K. Utilization of dental service in old age. *Swiss Dent J* 2015;125: 434.
7. Akbar FH, Pratiwi R, Cendikiawan R. Relationship between oral health status with knowledge, attitude, and behavior of elementary school children. *J Int Dent Med Res* 2017;10: 921-926.
8. MacDougall H. Dental disparities among low-income american adults: a social work perspective. *Health Soc Work* 2016;41: 208-209.
9. Rocha-Madruga RC, de Souza Coelho-Soares R, Cardoso AMR, et al. Access to oral health services in areas covered by the family health strategy, Paraíba, Brazil. *Pesqui Bras Odontopediatria Clin Integr* 2017;17.
10. Gheorghe R, Zürcher A, Filippi A. Dental tourism from switzerland to Germany. *Swiss Dent J* 2017;127: 618-625.
11. Akbar FH, Jaya MT. Relationship between service quality on public health center and patient satisfaction. *Glob JH Sci* 2017;7: 96-102.
12. Akbar FH, Pratiwi R. Patient satisfaction against the quality of dental health service at dental polyclinic of Tenriawaru general hospital in Bone regency. *J Dentomaxillofac Sci* 2016;3: 177-184.
13. Akbar FH, Pasiga B, Samad R, et al. Evaluation of Expectations and Perceptions on Quality of Dental Services in Bantaeng District, South Sulawesi, Indonesia, 2018. *J Int Dent Med Res* 2018;11: 938-944.
14. Akbar FH, Pratiwi R, Samad R, et al. Patient satisfaction on health service center in urban and rural area. *Adv Health Sci Res* 2017;2: 92-99.
15. Akbar FH, Ayuandika U. Gender, and age differences in patient satisfaction with dental care in the urban and rural areas of Indonesia: Pilot Pathfinder Survey. *PBOCI* 2018;1: 1-9
16. Akbar FH, Pasiga BD, Montho R. Association between service health quality and patient satisfaction – A case study of people In North Mamuju, Indonesia 2017. *Int J Manag* 2017;8: 168-174
17. Akbar FH, Pasinringi S, Awang AH. Factors affecting dental center service quality in Indonesia. *Pesqui Bras Odontopediatria Clin Integr* 2019;19: e4269.
18. Husain FA, Tatengkeng F. Oral health-related quality of life appraised by OHIP-14 between urban and rural areas in Kutai Kartanegara Regency, Indonesia: pilot pathfinder survey. *Open Dent J* 2017;11: 557-564.
19. Akbar FH, Pasinringi S, Awang AH. Assessment of patient satisfaction level to dental health care services in Indonesia. *Pesqui Bras Odontopediatria Clin Integr* 2020;20: e4825.
20. Akbar FH, Pasinringi S, Awang AH. Relationship between health service access to dental conditions in urban and rural areas in Indonesia. *Pesqui Bras Odontopediatria Clin Integr* 2019;19: e4652.
21. Akbar FH, Rivai F, Abdullah AZ, et al. Dental tourism: New strategies for the health care in Indonesia. *Int J Scie Technol Res* 2020;9: 1432-1433.
22. Akbar FH, Alfian AA, Maretta YA. Relation of patient satisfaction level with oral health status on health insurance user in Indonesia 2018. *Int J Scie Technol Res* 2020;9: 3351-3357.
23. Akbar FH, Ulfah, Maretta YA. The effect of health services quality on satisfaction and loyalty in West Sulawesi Province, Indonesia. *Int J Adv Sci Technol* 2020;29: 3763-3777.



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