

## Influence of Waiting Times in Dental Offices Towards Patient Satisfaction and Evaluations of Patient/Provider Relationships in Bantaeng District, South Sulawesi, Indonesia, 2018

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### Abstract

The purpose of this survey was to determine if the waiting times affect patient satisfaction towards dental care and patient/providers relationships in Bantaeng District and Pajukukang, Bantaeng, South Sulawesi. This survey was a pilot pathfinder survey conducted on 29-31 January 2018 in Bantaeng Regency. Survey data was obtained from 114 patients adults who had received dental care and answered the questionnaire of satisfaction and patient/providers relationship that had been validated. Patients in the early provider group were more satisfied and more likely to plan to follow their provider's recommendation compared to the on-time and late groups (3.88, 3.87, 3.97). When evaluating their relationships with their provider, patients in the late provider group were more positive than patients in the early and on-time groups. Patients with high levels of education were found to have a better satisfaction than low education. Patients with first visit had a worse satisfaction on service providers than non-first visit patients. Overall, waiting times in dental offices has no influence on patient satisfaction and patient/provider relationships.

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### Introduction

Oral health is one of the important part towards someones well-being, affecting all ages, disturbing aesthetics, and causing pain and discomfort.<sup>1,2</sup> It can be seen from the increasing demand for dental care all over the world, especially in the field of aesthetic dentistry.<sup>3</sup> Achieving positive treatment outcomes not only requires the skill of a dentist, but the cooperative attitude of patients and communication between the patient and the dentist should be good. The attitude is often associated with how satisfied a patient is with their provider.<sup>3,4</sup>

Patient satisfaction was first discussed in 1970 when the supply and demand for healthcare began increasing and was directly related to the quality of services. In 1984 a study was published stating the quality of health

services cannot be said to be done well without a patient satisfaction measurement.<sup>5</sup> Patients satisfaction towards dental care has an impact on the use of dental health services utilization. Satisfaction can be classified as level of experience of each individual. Whereas, depending on the nature of treatment facilities available. It has been established that patient satisfaction is one of the keys to successful healthcare treatments.<sup>5,2,6,7</sup>

Allah et al.<sup>8</sup> mention that there are several combination factors affect patient satisfaction, such as emotional factors that combine patients perception to skill as well as communication of service providers, system factors include technical service quality, their comfort and amenities. Moderate factors such as socio-demographic, public health status, environment, family, friends, and other patients also affect satisfaction. Inglehart<sup>4</sup> showed that one aspect of a visit that patients identify has a negative impact on the satisfaction is the length of time spent in a waiting room.<sup>4,8</sup>

Waiting time on health treatment has been reported as one of the factors that make the level of frustration in patients increase and is regarded as an obstacles in one's activities.

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Making patients wait can cause stress, both to the doctors and patients. Management of hospital care has been conducting observations in patients, both by having appointments or in the queue will feel dissatisfied when waiting time is too long and even go without receiving treatment. Therefore, the waiting time is an aspect patients use to assess health workforce that even exceeds the knowledge and skill of a doctor or a dentist.<sup>9</sup> The relation between waiting time and satisfaction has been documented in a variety of medical settings, such as when searching for emergency room care, obstetrician, and other medical experts. At the dental clinic, long waiting times have been recorded, but only minimally.<sup>4,9</sup>

The health ministry of the Republic of Indonesia has assigned minimum service standards (SPM) to provide in healthcare centre hospitality covering health services and utility covering; healthcare facilities, time, technical procedures, and accessibility to healthcare facility by all citizens. Overall, the cumulative amount of time it takes from the arrival of all the patients until they are served by the service provider is a 5 minute time interval in order to be considered quality good service.<sup>10</sup>

Many factors can affect the patient's satisfaction towards the services. Afzal<sup>11</sup> et al. have shown that older patients tend to have better than the satisfaction of various ages. Level of education, gender, job, and first visit or not towards dental care is also a factor that has been noted to have an impact on customer satisfaction. In addition to research in general, it is rarely examined whether specific groups of patients will give a response to a longer waiting time compared to other groups of patients.<sup>4,11</sup>

### Materials and methods

This survey is a pilot pathfinder survey. The survey was conducted on 29-31 January 2018 in Bantaeng Regency. The survey data was obtained from 114 patients adults who had received dental care and answered the questionnaire of satisfaction and patient/providers relationship that has been validated.

Patients were informed about the survey first. If they agreed, then they received the questionnaire. The approval was done by implicit consent. Patients received an explanation about the questions in the questionnaire using easily

understandable language. The questionnaires were collected followed by data processing.

Instrument aThis questionnaire has evolved and was validated by Inglehart et al.<sup>4</sup> on 10 groups of patients. With each value of the coefficient of Cronbach Alpha inter-item questionnaire, satisfaction ( $\alpha=0.763$ ), patient/provider relationship ( $\alpha=0.763$ ). The question measured using Likert scale 5 points

Statistical analysis of data was processed using SPSS (Statistical Product and Service Solutions) version 20.0 in the form of tables, graphs, and descriptions. The analysis data used the MANOVA (Multivariate Analysis of variants) test. MANOVA is an extension of the ANOVA test that aims to measure the influence of the one independent variable, and some dependent variables.<sup>19</sup>

### Results

Table 1 shows 83 women and 31 men patients participated in this survey. Most patients were aged <40 years. A total of 83.3% patient surveys came from low-educated patients (graduates of high school or lower) and 16.7% of patients were highly educated. There was 57% of patients that reported this as their first visit to the dentist. When questioned about the length of wait time in the waiting room, the average answer was 38.5 minutes. This survey also revealed that the most patients are coming from urban areas (88%).

Table 2 shows Amounted to 45.6% was satisfied with their visit to the dentist, agreed that they enjoyed their visit (47.4%), comfortable (51.8%) and they were learning more how to keep their teeth healthy (36.8%). At the time of satisfaction index was built by averaging the response from to these 4 questions, the average response was 3.88 on a 5 points with 5 being the most satisfied response. Responses to the questionnaire questions measured 8 relationships between patient-service providers. All respondents agreed that their providers were well-prepared, welcomed them with a friendly demeanor, explained the treatment, and took the time to listen to them. More than that, all of the respondents also believed their provider and planned to follow the recommendations of providers. They are also willing to go back and felt that their service providers appreciated their time. At the time of an index was built by

averaging from to these 8 question, the average response was 3.91, with the value of Cronbach alpha = 0835.

Background Characteristics	Frequencies	Percent	Mean
Gender			
Male	31	27.2%	
Female	83	72.8%	
Age			28.9*
<40 years	85	74.6%	
41-60 years	24	21.1%	
>60 years	5	4.4%	
Low Educations level	95	83.3%	
High Educations level	19	16.7%	
Visit to dentist information			
First visit	57	50%	
Not first visit	57	50%	
Waiting time (in minutes)			38.5 **
Early	47	41.2%	
On-time	32	28.1%	
Late	35	30.7%	
Location			
Urban	88	77.2%	
Rural	26	22.8%	

**Table 1.** Background characteristics of study participants.

Table 3 shows Patients that had earlier or shorter treatment by their provider were more satisfied than patients who had on-time treatment, and patients who were the most dissatisfied were those had late dental treatment (4.10, 3.87, 3.71). The same answer was also found in the statement "I feel good today." Univariate analysis of variance with the dependent variable "satisfaction with the promise" indicated that the satisfaction was obtained from patients with the early provider.

Table 4 shows Patients having their first visit to dental care with a late provider have worse satisfaction than those who are not a first visit. It can be seen from the lowest average value on the first visit patients with a late provider (3.57). In the case of patients who have made many visits to the dentist, they show high satisfaction against the service provider even though it has been waiting for a long time, with an average value of 4.04. In addition, it can be seen in the table 4 that most patients were not positive in the evaluation of the relationship

between patients with service providers if their providers were too late or it was their first visit to the dentist. Overall, there is no significant influence.

Satisfaction with appointment	Waiting Time		
	Early	On-time	Late
Satisfaction with dental visit today	4.10	3.87	3.71
I enjoyed the visit today	4.04	3.81	4.00
I felt comfortable today	4.04	3.93	3.88
I learned more about how to keep my teeth healthy	3.70	3.87	3.91
<b>Index "Satisfaction with appointment"</b>	<b>3.97</b>	<b>3.87</b>	<b>3.88</b>
<b>Evaluations of relationship</b>			
My provider was well prepared	3.89	3.46	3.80
My provider welcomed me in a friendly manner	3.82	3.62	3.80
My provider explained what would be done today	3.65	3.75	3.88
My provider explained what would be done today	3.82	4.09	4.28
I trust my provider to give good treatment	4.10	3.96	3.94
I plan to follow my provider's recommendations	3.76	4.00	3.80
I plan on returning to this provider	4.02	3.75	4.25
I feel my provider values my time	3.89	4.06	3.82
<b>Index "Evaluation of relationship"</b>	<b>3.87</b>	<b>3.84</b>	<b>3.95</b>

**Table 3.** Average responses of patients towards waiting time.

## Discussion

Patient satisfaction towards health service is one of the most important indicators to reach quality and effectiveness of health services in a hospital. Since the patient is the primary hospital customers, then the patient is a valuable source of information to assess the quality of a healthcare. Patient satisfaction is influenced by various factors. By eliminating the cause of dissatisfaction, the quality of service providers is improved, patient satisfaction is improved, and an overall physical and mental improvement. Satisfaction to medical and dental visits, as well as service providers, may affect their desire to return to do treatment and to refer the service

provider to other patients. Meanwhile, the lack of cooperation may impact the potential negative treatment in particular and may also affect the final result of the treatment. One of the factors commonly associated with dental treatment satisfaction is the length of waiting time.<sup>4,19,20</sup> This survey has been designed using the pathfinder pilot, as the survey was done on condition of this pathfinder the pilot was not met. This could be caused by time limitations, the lacked of public enthusiasm, and the survey was not done at the hospitals, health centres, and others dental care facilities.

This survey shows female patients made more visit to the dentist than men. This is because women are paying more attention to their health condition, both body and oral, especially in terms of aesthetics. This is similar to some research including research conducted by Spalthoff et al.<sup>21</sup> who revealed that significantly more women do dental check-ups than men. Mohebifar et al.<sup>22</sup> in the research on the service quality conducted at hospitals in Korea also reported the most participants were female.<sup>21,22</sup> Table 1 also shows that the Bantaeng Regency society has a low level of education compared to the highly educated. This data is similar to the data shown by the Ministry of Education and culture centre of Data and Statistics of education in primary and secondary education profile 2013. Highest number of Bantaeng residents educational profile is never attended school and the level of the smallest population is those who completed High School.<sup>23</sup> In this survey the number of patients in urban areas were more than rural areas. In research by Pramanik<sup>24</sup> comparing urban and rural areas, urban patients tend to devote a lot more leading to better hospital environments, quality of care and service compared to rural areas.<sup>24</sup>

Indicated that most of the patients was satisfied, comfortable, and enjoy their visit to the dentist and assumed that they learned more about how to keep their teeth to stay healthy. Inglehart et al.<sup>4</sup> reported almost all participants felt very satisfied with their visit to the dentist while Farzianpour et al.<sup>19</sup> reported that 86% of patients were satisfied with their providers. Table 2 also explains that the relationship between the patient and service providers was a good relationship. Inglehart<sup>4</sup> et al. also makes conclusions on the relationship between patients and their care providers.<sup>4,19</sup>

Survey shows that there is no significant influence among the waiting time towards the satisfaction and the relationship between care providers and patients. The time set in a dental clinic is crucial because it will affect the success of a dental clinic. In a study conducted by Patel,<sup>25</sup> long waiting times are the main reason for patient unrest, followed by poor quality and errors that occurred during the dental treatment, as well as a poor attitude of staff and other health services. If it is difficult to set the waiting time in a dental clinic due to the large number of requests, then the problem solving that needs to be taken for this problem is to add a dental health staff, as well as amenities, include scheduling the patients before attending the treatment.<sup>25</sup> Furthermore, this survey found that the relationship between the patient and care providers was found within the patients with a long waiting period. The results of this survey are inconsistent with research conducted by Inglehart et al.<sup>4</sup> which said that patients who have an early service provider have the best relationship when compared with other groups.<sup>4</sup> This may be incurred as a result of the location of the survey that is conducted is the community who tended to be educated and low use of health insurance. Communities tend to be more apathetic and receive properly what is given to them. The community with the most insurance will receive the care without giving any negative feedback. Inglehart et al.<sup>4</sup> also argued that at the time the service provider let patients wait for a long time so the service providers could spend a lot of time with patients during the meeting so as to minimize the negative effects of waiting time, and also effect conferring on better communication between patient/provider. Further research needs to be done about this.

First visit patients with a late service provider have worse satisfaction and patient/provider relationship, but overall there is no significant influence. In case to patients who have made visits to the dentist many times, they continue to show high satisfaction although they have been waiting for a long time. This is in line with the studies by Lobertoet et al.<sup>27</sup> which shows that there is no significant differences between the first visit and non-first visit towards patient satisfaction and patient/provider relationships. Different with research conducted by the Inglehart et al.<sup>4</sup> that says patients making a first visit to the dentist with late providers have the

satisfaction and the worst relations with significant results. To the question of the relationship between patients with service providers, namely "my provider explains what will be done today" and "provider stated "I have time to listen to my patients", it has significant influence the waiting time at the dental care against these questions as seen from the kind of patient visits.<sup>28-31</sup>

## Conclusions

Based on the surveys that have been conducted, it can be concluded that there is no influence of waiting times in dental offices towards patients satisfaction and patient/provider relationships. Patients with earlier service providers are overall more satisfied than those who have on-time and late providers. Patients with late service providers have a relationship that is best compared to other groups. In this survey were also not found the existence of a waiting time of influence against the satisfaction and the relationship between patients with providers as seen from the type of visit.

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## Declaration of Interest

The authors report no conflict of interest.

## References

1. Reda SF, Reda Sm, Thomson M, Schwendicke F. Inequality in utilization of dental services: A systematic review and meta-analysis. *Am J Public Health* 2017;108(2):e1-e7.
2. Bhat Nagesh, Singh A, Asawa K, Tak M, Kahlon H, Gambhir RS. Assessment of satisfaction levels of patient during dental outreach programs in rural part of Udaipur, India. *Nigerian Postgraduate Medical Journal* 2016;23(4):227-31.
3. Maghaireh GA, Alzraikat H, Taha NA. Satisfaction with dental appearance and attitude toward improving dental esthetics among patients attending a dental teaching teacher. *The Journal of Contemporary Dental Practicing* 2016;17(1):16-21.
4. Inglehart MR, Habil P, Lee A et al. Do waiting times in dental offices affect patient satisfaction and evaluation of patient-provider relationship? A quasi experimental study. *The Journal of Dental Hygiene* 2016;90(3):203-11.
5. Ali Dena. Patient Satisfaction in dental healthcare centers. *European Journal of Dentistry* 2016;10(3):309-14.
6. Bath Nagesh, Sultane P, Chhabra S, et al. Assessment of patient satisfaction toward dental care services of patients visiting dental schools in Udaipur, India. *Int J Oral Care Res* 2017;5(1):34-41.
7. Baatbathar E. Conceptualisation of patient satisfaction: a systemic narrative literature review. *Perspective in Public Health*, SAGE Publication 2015;135(5):243-50.
8. Allah M. B, Altwansy M. S, El-Shafei D. A. Patient Satisfaction at Dentist Clinic Zagazig University Hospitals Egypt. *Journal Public Health International* 2017;2 (4):1-6.
9. Khatoun KF, Reddy BK, Guvva S. Reducing patient waiting time in dental clinic according to treatment type. *Int J Com Health and Med Res* 2016;2(4):3-8.
10. Minister of Health of the Republic of Indonesia No: 129 / Menkes / SK / II / 2008. Minimum Service Standards House of Health Minister of Health, 2008. Accessible at: <https://www.slideshare.net/f1smed/kepmenkesno129tahun2008standarpeayananminimalrs>
11. Afzal M, Rizvi F, Azad AH, et al. Effect of demographic characteristics on patients satisfaction with healthcare facility. *J Postgrad Med Inst* 2014;28(2):154-60.
12. Katre AN. Assessment of the Correlation between Appointment Scheduling and Patient Satisfaction in a Pediatric Dental Setup. *Hindawi Publishing Corporation International Journal of Dentistry*. vol. 2014, Article ID 453237, 7 pages, 2014. <https://doi.org/10.1155/2014/453237>.
13. Akbar FH, Jaya MT. Relationship between service Quality on Public Health Center and Patient Satisfaction. *Global Journal of Health Science* 2017;9(7):96-102.
14. Mthethwa SR, Chabikuli NJ. Comparing repeat and first visit patients satisfaction with service quality at medunsa oral health center. *SADJ*. 2016;71(10):454-459
15. Daniel CD, Berinyuy LP, Isberg Sofia. Using the SERVQUAL Model to assess service quality and customer satisfaction. *Umea School of Business*. Umea University. 2010.
16. Rutz M, Walker UJ, Dierks ML. Patient-Provider-Relationship in the Hospital Care of the Elderly—A Qualitative, Multi-Perspective Study. *Scientific Research Publishing* 2017
17. Tavakol M, Dennick R. Making sense of Cronbach's alpha. *International Journal of Medical Education* 2011;2:53-5.
18. Joshi A, Kale S, Chandel S, Pal DK. Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology*. 2015;7(4):396-403.
19. Farzianpour F, Byravan R, Amirian S. Evaluation of Patient Satisfaction and Factors Affecting It: A Review of the Literature. *Scientific Research Publishing*. 2015;7(11):1460-5.
20. Pandit A, Varma EL, Amruta. Impact of OPD waiting time on patient satisfaction. *International Education & Research Journal*. 2016;2(8):86-90.
21. Spalthoff S, Holtman H, Gertrud Kruskemper, et al. Regular Dental Visits: Influence on Health-Related Quality of Life in 1,607 Patients with Oral Squamous Cell Carcinoma. *Hindawi International Journal of Dentistry* 2017; vol. 2017, Article ID 9638345, 6 pages, 2017. <https://doi.org/10.1155/2017/9638345>.
22. Mohebifar R, Hasani H, Barikan A, Rafei S. Evaluating service quality from patients perceptions: application of importance – performance analysis method. *Osang Public Health Res Respect* 2016;7(4):233-8.
23. Ministry of Education and Culture Data Center And Education Statistics. Basic and secondary education profiles of 2012/2013; 2013. Accessible on [http://publikasi.data.kemdikbud.go.id/uploadDir/isi\\_BDA4CA2A-C95C-4D09-9524-CCB34AE8033A\\_.pdf](http://publikasi.data.kemdikbud.go.id/uploadDir/isi_BDA4CA2A-C95C-4D09-9524-CCB34AE8033A_.pdf)
24. Pramanik A. Patients perception of service quality of healthcare services in India: compative study on urban and rural hospitals. *Journal of Health Management* 2016;18(2):205-17.
25. Patel JY. A study on Evaluation of Patient Satisfaction with Dental Healthcare Services A study on Evaluation of Patient Satisfaction with Dental Healthcare Service. *International Journal of Scientific and Research Publications* 2014;4(8):1-4.

26. Akbar FH, Pratiwi R. Samad R, Fanissa F. Patient satisfaction on health service center in urban and rural area. Health Science International Conference. 2017;2:92-9.
27. Loberto LL, Martin L, Paula de B, Fereira E. Dissatisfaction with the dental services and associated factors among adults. *ciencia & Saude Coletiva* 2015;22(5):1623.
28. Akbar FH, Pratiwi R. Patient satisfaction against the quality of dental health services at dental polyclinic of tenriawaru general hospital in bone regency. *J Dentomaxillofac Sci* 2016;1(3):177-84.
29. Samad R, Akbar FH, Pasiga BD, Pratiwi R, Anwar AI, Djamaluddin N, Afiyah N. Evaluation of Patient Satisfaction on Quality of Public Dental Health Service from Different Dimensions in Indonesia. *Pesquisa Brasileira em Odontopediatria e Clinica Integrada* 2018;8(1):1-8.
30. Akbar FH, Pasiga B. Patient Satisfaction Level with Health Care Quality at Dental Hospital of Hasanuddin University. *Education and Humanity Research* 2017;127:253-8.
31. 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, *Pesquisa Brasileira em Odontopediatria e Clinica Integrada* 2018;18(1):4093