

## Assessment of Patient Satisfaction Level to Dental Health Care Services in Indonesia

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### Abstract

**Objective:** To know the level of patient satisfaction with dental healthcare services in Bantaeng, Indonesia.

**Material and Methods:** This pilot pathfinder survey was conducted at Dental and Oral Health Services in Bantaeng and Pa'jukukang Sub-districts of Bantaeng Regency of South Sulawesi Indonesia. The Short-Form Patient Satisfaction Questionnaire (PSQ-18) scaled was used and it consists of 18 questions and seven subscales. The t-test and ANOVA were used with a significance level set at 5% ( $p < 0.05$ ). **Results:** The female participation (72.8%) was greater than the male (27.2). Regarding age, 74.6% were <40 years, 21.1% were between 40-60 years old and 4.4% were over 60 years old. On the subscale of technical quality, there was significant value in the age variable ( $p=0.45$ ), education level ( $p=0.031$ ), job ( $p=0.026$ ), waiting time ( $p=0.46$ ), distance to dentist= $0.026$ ), and location ( $p=0.007$ ). There were significant values on the interpersonal aspect subscale that were present at age ( $p=0.016$ ), education level ( $p=0.038$ ), and occupation ( $p=0.007$ ). The highest satisfaction score was found on the technical quality subscale ( $13.04 \pm 1.75$ ) and the lowest satisfaction score was seen on the general satisfaction subscale ( $4.11 \pm 1.75$ ). There was a significant difference between the value of patient satisfaction with age, education, and occupation. **Conclusion:** Patients from the District Bantaeng and Pa'jukukang Bantaeng regency of South Sulawesi were more satisfied with the service provided. The highest satisfaction score was found on the technical quality subscale and the lowest satisfaction score was found in the general satisfaction subscale.

**Keywords:** Patient Satisfaction; Quality Indicators, Health Care; Comprehensive Dental Care.

## Introduction

Patient satisfaction is an important measurement result for healthcare and as defined by Pascoe, patient satisfaction is the patient's response to a significant aspect of his or her healthcare experience [1]. Donabedian said that patient satisfaction is essential as a measure of the quality of care because it provides information about the success of the service provider in meeting the patient's values and expectations, the issues on which the patient's authority is based. And also said that health services can be evaluated according to the structure, work process, results, and user satisfaction [2-4]. Patient satisfaction with healthcare can be assessed from various dimensions, such as general satisfaction, technical quality, interpersonal aspects, communication, financial, time spent in the dentist, and access/convenience [5].

A total of 25.9% of Indonesians have dental and oral problems in the last 12 months (potential demand). In South Sulawesi, Indonesia has a high dental and mouth problem (>35%) of 36.2% with an Effective Medical Demand (EMD) score of 10.3% [5]. This can be due to the insufficient number of medical personnel and facilities/access. Bantaeng is one of the districts in South Sulawesi [6]. In Bantaeng District Health Profile 2016, the number of health personnel and facilities/access for health services in Bantaeng Regency in 2016 is still considered inadequate. The aim of this study was to determine the level of patient satisfaction on dental and oral healthcare services in Bantaeng and Pa'jukukang Sub-districts of Bantaeng Regency of South Sulawesi.

## Material and Methods

### Study Design and Sample

This pilot pathfinder survey was conducted in Dental and Oral Health Services in Bantaeng and Pa'jukukang Sub-districts of Bantaeng Regency of South Sulawesi from 29th – 31st January 2018. This study had a non-probabilistic sample comprising 114 participants.

### Data Collection

Trained researchers collected data. To assess the level of patient satisfaction, the short-form Patient Satisfaction Questionnaire (PSQ-18) was taken from a previous study [7,8], which was preceded by several questions about demographic data (gender, age, education level and occupation) and visit (type, waiting time, distance and location). Standardized PSQ-18 questionnaires include 18 statements focusing on the quality of healthcare services provided. Respondents are free to choose the answer on a five-point Likert scale ranging from one (strongly agree) to five (strongly disagree). Statements are divided into 7 subscales: General satisfaction (Q3 and Q17); technical quality (Q2, Q4, Q6, and Q14); Interpersonal aspects (Q10 and Q11); Communications (Q1 and Q13); Financials aspects (Q5 and Q7); Time spent with the doctor (Q12 and Q15); Access/convenience (Q8, Q9, Q16, and Q18). Based on the results of the class interval calculation found that the level of satisfaction range to not satisfied (18-54) and satisfied (55-90).

### Data Analysis

Data were analyzed using IBM SPSS Statistics for Windows Software, version 23 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to calculate the absolute and relative frequencies, mean and standard deviation. The t-test and ANOVA were used with a significance level set at 5% ( $p < 0.05$ ).

### Ethical Aspects

Permission was obtained from Faculty of Dentistry, Ethics and Research Advisory Committee, Hasanuddin University (Protocol No. 0246/PL01/KEPK FKG RSGM UNHAS/2018). Informed consent was obtained from all the subjects.

## Results

The female participation (72.8%) was greater than the male (27.2). Regarding age, 74.6% were <40 years, 21.1% were between 40-60 years old and 4.4% were over 60 years old. Table 1 shows the distribution of 114 subjects based on demographic characteristics. Most participants had junior high school education level (37.7%), were students/university students (43.0%), revealed an early waiting time (41.2%) and 77.2% were from the urban area.

**Table 1. Subject distribution based on demographic characteristics.**

Variables	Categories	N	%
Education Level	Uneducated	2	1.8
	Elementary	13	11.4
	Incomplete Elementary	0	0.0
	Junior High School (JHS)	43	37.7
	Incomplete JHS	1	0.9
	High School (HS)	34	29.8
	Incomplete HS	2	1.8
	Diploma	6	5.3
	Bachelor	13	11.4
Occupation	Student/University Student	49	43.0
	Government Employee/Police/Pensioners	18	15.8
	Private Employee	7	6.1
	Entrepreneur	21	18.4
	Housewives	14	12.3
	Others	5	4.4
Type of Visit	First Visit	57	50.0
	Not First Visit	57	50.0
Waiting Time	Faster	47	41.2
	On Time	32	28.1
	Late	35	30.7
Distance to the Dentist	Far	44	38.6
	Moderate	45	39.5
	Near	25	21.9
Location	Urban (Bantaeng Sub-District)	88	77.2
	Rural (Pa'jukukang Sub-District)	26	22.8

Table 2 shows that female patients being satisfied ( $55.42 \pm 6.42$ ) while with male patients being dissatisfied ( $54.35 \pm 4.78$ ). There was a significant difference between age and dental healthcare service satisfaction ( $p=0.001$ ). The highest satisfaction value at the level of education finished elementary ( $57.77 \pm 4.73$ ). There was a significant difference between education level and dental healthcare service satisfaction ( $p=0.042$ ) and between occupation and satisfaction of dental healthcare service ( $p=0.005$ ). The first and repeat visits were satisfied with the satisfaction score of  $55.02 \pm 6.40$  and  $55.25 \pm 5.67$ . Medium distances to the dentist had the highest satisfaction score ( $55.84 \pm 6.47$ ) compared to the others. Patients in rural area were satisfied with the given dental healthcare service ( $56.73 \pm 8.36$ ) while the urban patients were dissatisfied ( $54.66 \pm 5.10$ ).

**Table 2. Mean difference in dental health service satisfaction scores.**

Variables	General Satisfaction		Technical Quality		Interpersonal Aspect		Communication		Financial		Time Spent <sup>#</sup>		Access/Comfort	
	Mean (SD)	p-value	Mean (SD)	p-value	Mean (SD)	p-value	Mean (SD)	p-value	Mean (SD)	p-value	Mean (SD)	p-value	Mean (SD)	p-value
Gender														
Male	4.84 ± 2.10	0.006*	13.19 ± 2.20	0.726	6.23 ± 1.06	0.131	5.65 ± 1.40	0.446	6.19 ± 0.83	0.163	6.10 ± 0.65	0.000*	12.16 ± 2.46	0.760
Female	3.84 ± 1.53		12.98 ± 3.17		6.75 ± 1.79		5.86 ± 1.27		6.63 ± 1.64		7.07 ± 1.40		12.30 ± 2.05	
Age														
< 40 Years	4.19 ± 1.82	0.738	13.41 ± 3.17	0.045**	6.82 ± 1.75	0.034**	5.79 ± 1.41	0.777	6.69 ± 1.57	0.069	6.96 ± 1.39	0.073	12.42 ± 2.37	0.390
40-60 Years	3.92 ± 1.56		12.13 ± 1.70		6.08 ± 1.10		5.75 ± 0.99		5.96 ± 1.08		6.42 ± 1.02		11.75 ± 1.36	
>60 Years	3.80 ± 1.64		11.00 ± 1.00		5.40 ± 0.55		6.20 ± 0.84		6.00 ± 0.00		6.00 ± 0.00		12.00 ± 1.00	
Education Level														
Uneducated	3.50 ± 2.12	0.636	12.00 ± 0.00	0.031**	6.00 ± 0.00	0.038**	6.00 ± 0.00	0.317	6.00 ± 0.00	0.537	5.50 ± 0.71	0.131	11.00 ± 1.41	0.773
Elementary	3.54 ± 1.13		11.46 ± 2.54		6.31 ± 1.18		6.15 ± 1.07		6.31 ± 1.55		6.77 ± 1.42		12.23 ± 0.83	
Junior High School (JHS)	4.00 ± 1.84		14.07 ± 3.02		7.33 ± 1.96		5.79 ± 1.52		6.93 ± 1.92		7.23 ± 1.59		12.26 ± 2.61	
Incomplete JHS	3.00 ± 0.00		13.00 ± 0.00		6.00 ± 0.00		6.00 ± 0.00		7.00 ± 0.00		8.00 ± 0.00		13.00 ± 0.00	
High School (HS)	4.44 ± 1.94		13.29 ± 2.74		6.03 ± 1.40		5.35 ± 1.15		6.24 ± 0.96		6.47 ± 0.96		12.12 ± 2.16	
Incomplete HS	3.00 ± 1.41		12.00 ± 0.00		6.00 ± 0.00		6.00 ± 0.00		6.00 ± 0.00		6.00 ± 0.00		10.50 ± 2.12	
Diploma	4.83 ± 1.60		11.67 ± 2.34		6.00 ± 0.63		6.50 ± 0.84		6.17 ± 0.75		6.33 ± 0.52		12.33 ± 1.03	
Bachelor	4.23 ± 1.59		11.46 ± 2.96		6.54 ± 1.27		6.23 ± 1.30		6.31 ± 1.11		6.77 ± 1.09		13.08 ± 1.98	
Occupation														
Student/Univ. Student	4.02 ± 1.90	0.116	13.86 ± 2.89	0.026**	7.22 ± 1.91	0.007**	5.84 ± 1.37	0.610	6.76 ± 1.76	0.741	7.27 ± 1.50	0.031*	12.49 ± 2.59	0.489
Government Employee <sup>s</sup>	4.83 ± 1.82		12.50 ± 2.79		5.72 ± 1.13		6.17 ± 1.38		6.28 ± 1.13		6.17 ± 0.51		11.78 ± 1.90	
Private Employee	4.14 ± 1.35		12.14 ± 2.34		6.57 ± 0.98		5.43 ± 0.79		6.29 ± 0.76		6.43 ± 1.13		12.86 ± 2.04	
Entrepreneur	4.33 ± 1.80		13.43 ± 2.89		6.43 ± 1.08		5.52 ± 1.33		6.43 ± 1.29		6.52 ± 1.08		12.05 ± 1.83	
Housewives	3.79 ± 0.97		11.07 ± 2.37		5.86 ± 1.51		5.64 ± 1.34		6.36 ± 1.55		6.64 ± 1.22		11.71 ± 1.27	
Others	2.40 ± 0.89		12.00 ± 3.67		6.60 ± 1.34		6.20 ± 0.45		6.00 ± 0.00		6.80 ± 1.79		13.40 ± 1.52	
Type of Visit														
First Visit	4.21 ± 1.83	0.559	13.00 ± 3.16	0.899	6.77 ± 1.73	0.279	5.60 ± 1.28	0.099	6.60 ± 1.44	0.527	6.67 ± 1.38	0.257	12.18 ± 2.41	0.666
Not First Visit	4.02 ± 1.68		13.07 ± 2.70		6.44 ± 1.54		6.00 ± 1.31		6.42 ± 1.51		6.95 ± 1.25		12.35 ± 1.89	
Waiting Time														
Faster	3.85 ± 1.82	0.410	13.79 ± 2.71	0.046**	6.55 ± 1.46	0.090	5.62 ± 1.09	0.446	6.28 ± 1.75	0.314	7.23 ± 1.48	0.003**	12.11 ± 2.01	0.034**
On Time	4.31 ± 1.67		12.84 ± 3.18		6.19 ± 1.80		5.88 ± 1.54		6.78 ± 1.39		6.78 ± 1.13		13.06 ± 1.78	
Late	4.29 ± 1.74		12.20 ± 2.78		7.06 ± 1.64		5.97 ± 1.34		6.57 ± 1.07		6.26 ± 1.04		11.74 ± 2.49	
Distance to the Dentist														
Far	3.89 ± 1.54	0.146	13.14 ± 2.49	0.026**	6.66 ± 1.51	0.931	5.98 ± 1.09	0.376	6.45 ± 1.82	0.614	7.02 ± 1.52	0.266	12.61 ± 1.91	0.31
Moderate	4.51 ± 2.04		13.67 ± 3.08		6.53 ± 1.56		5.78 ± 1.52		6.67 ± 1.28		6.78 ± 1.26		11.91 ± 2.03	
Near	3.80 ± 1.44		11.72 ± 3.03		6.64 ± 2.02		5.52 ± 1.23		6.32 ± 1.07		6.48 ± 0.96		12.28 ± 2.72	
Location														
Urban	4.01 ± 1.57	0.252	12.64 ± 2.78	0.007*	6.57 ± 1.57	0.659	5.92 ± 1.13	0.066	6.47 ± 1.41	0.569	6.78 ± 1.28	0.734	12.27 ± 2.00	0.931
Rural	4.46 ± 2.27		14.38 ± 3.05		6.73 ± 1.89		5.38 ± 1.75		6.65 ± 1.67		6.88 ± 1.45		12.23 ± 2.66	
<b>TOTAL</b>	<b>4.11 ± 1.753</b>		<b>13.04 ± 2.926</b>		<b>6.61 ± 1.638</b>		<b>5.80 ± 1.305</b>		<b>6.51 ± 1.471</b>		<b>6.81 ± 1.316</b>		<b>12.26 ± 2.116</b>	

<sup>s</sup>Government Employee/Police/Pensioners; <sup>#</sup>Time Spent in the Dentist; \*t-test independent; \*\*ANOVA; Significant p<0.05.

There was a significant value on the time subscale spent with the dentist seen in the gender ( $p < 0.001$ ), employment ( $p = 0.031$ ), and at the waiting time ( $p = 0.003$ ). This suggests a significant difference between time spent with doctors with gender, occupation, and waiting times. Patients with a timely waiting time were significantly more satisfied with the dental healthcare service on the access/comfort subscale ( $p = 0.003$ ) than the other waiting time. The highest satisfaction score was found on the technical quality subscale ( $13.04 \pm 1.75$ ) and the lowest satisfaction score was seen on the general satisfaction subscale ( $4.11 \pm 1.75$ ).

Table 3 presents that men showed significantly more satisfaction on the general satisfaction subscale of dental healthcare services than women ( $4.84 \pm 2.10$  and  $3.84 \pm 1.53$ ,  $p = 0.006$ ). Age, education, occupation, type of visit, waiting time, distance, and location have almost no effect on the general satisfaction subscale of dental healthcare services. On the subscale of technical quality, there was significant value in the age variable ( $p = 0.045$ ), education level ( $p = 0.031$ ), job ( $p = 0.026$ ), waiting time ( $p = 0.046$ ), distance to dentist ( $p = 0.026$ ), and location ( $p = 0.007$ ). There were significant values on the interpersonal aspect subscale that were present at age ( $p = 0.016$ ), education level ( $p = 0.038$ ), and occupation ( $p = 0.007$ ). On the communication and financial subscale there was no significant difference between communication and finance with gender, age, education level, occupation, type of visit, waiting time, distance to the dentist, and location.

**Table 3. Difference in the total mean value of dental healthcare service satisfaction.**

Variables	Categories	Mean (SD)	p-value
Gender	Male	54.35 ( $\pm 4.78$ )	0.402
	Female	55.42 ( $\pm 6.42$ )	
Age	<40 Years	56.68 ( $\pm 6.42$ )	0.001*
	40-60 Years	53.05 ( $\pm 4.05$ )	
	>60 Years	50.89 ( $\pm 2.47$ )	
Education Level	Uneducated	50.00 ( $\pm 0.00$ )	0.042*
	Elementary	57.77 ( $\pm 4.73$ )	
	Junior High School (JHS)	57.60 ( $\pm 6.63$ )	
	Incomplete JHS	56.00 ( $\pm 0.00$ )	
	High School (HS)	53.94 ( $\pm 5.56$ )	
	Incomplete HS	49.50 ( $\pm 3.54$ )	
	Diploma	53.83 ( $\pm 2.40$ )	
	Bachelor	54.62 ( $\pm 5.85$ )	
Occupation	Student/University Student	57.45 ( $\pm 6.53$ )	0.005*
	Government Employee/Police/Pensioners	53.44 ( $\pm 5.00$ )	
	Private Employee	53.86 ( $\pm 3.02$ )	
	Entrepreneur	54.71 ( $\pm 5.48$ )	
	Housewives	51.07 ( $\pm 3.87$ )	
Type of Visit	Others	53.40 ( $\pm 7.09$ )	0.841
	First Visit	55.02 ( $\pm 6.40$ )	
	Not First Visit	55.25 ( $\pm 5.67$ )	
Waiting Time	Faster	55.43 ( $\pm 6.05$ )	0.450
	On Time	55.84 ( $\pm 6.20$ )	
	Late	54.09 ( $\pm 5.86$ )	
Distance to the Dentist	Far	55.75 ( $\pm 5.65$ )	0.082
	Moderate	55.84 ( $\pm 6.47$ )	
	Near	52.76 ( $\pm 5.42$ )	
Location	Urban	54.66 ( $\pm 5.10$ )	0.124
	Rural	56.73 ( $\pm 8.36$ )	

\*Statistically significant.

## Discussion

Patient's satisfaction with the health service provided by the doctor is very important. Thus, it is essential to identify weaknesses in the service system to help improve through patient opinion. This can be done using Patient Satisfaction Questionnaire short form (PSQ-18), a validated tool that can be applied to various situations and can compare interventions [7].

In Table 2, the highest value of health service satisfaction is found on the technical quality subscale. Technical quality contains the competencies of service providers and adherence to high standards of diagnosis and treatment (accuracy, precision, unnecessary risks, making mistakes). Technical quality has a strong relationship with overall satisfaction. Other authors have also obtained similar results in their study [9]. While the lowest satisfaction score is found on the subscale of general satisfaction and communication. Communication errors between the service provider and the patient may result in a medical failure affecting the patient's condition. The communication-centered approach between communication service providers and patients is regarded a good strategy in creating relationships with patients and is considered a key to improving the quality of health services. The results obtained in this survey are similar to those previously reported in the literature [10].

Table 3 shows that the female variable is satisfied while the male feels satisfied. On women, the satisfaction level was higher than men's. Gender has an influence on the services provided. Women are more conscientious in appearance, while men do not care about it [11]. These findings have also been shown in previous studies [10,12].

In this study, the age variable found that the older the patient was not satisfied with the service. However, other studies have reported different findings. Previous research has found that older patient has higher level satisfaction [10,13]. This survey found that lower education has higher-level service satisfaction. This may occur because patients with higher education levels expecting better health care services compared to patients with low levels of education, confirming previous findings [4].

For patient satisfaction, the first visit and not the first visit in this study did not show a significant difference in all subscales of health services. This result is similar to the findings of other authors [1], who claim that there is no significant difference, but found high levels of satisfaction. Other studies reported that the difference between first and recurrent patient visits from all dimensions of quality of healthcare is not significant [2,14]. Previous research cannot demonstrate that first-time patients tend to provide a higher satisfaction assessment than recurrent-return patients as reported on emergency medical services [1]. These findings are consistent with studies that found no difference in satisfaction among first-time patients with recurrent patient visits at clinics in the UK [15].

The level of patient satisfaction at the waiting time of the majority of patients was satisfied with the service, and this is similar to the previously reported showing that long waiting time for treatment is a major problem for patient dissatisfaction [16]. Waiting time in the examination room has a more significant negative effect on patient satisfaction than the time spent in the waiting room, and first-time patients are very sensitive to waiting time [17]. Most importantly, longer waiting times can actually reduce the patient's perception of the physician's ability and reduce confidence in the care provided [18].

The level of satisfaction at the rural location is higher than urban. But only on technical quality subscales that have significant value. Rural patients were generally more satisfied with health services than urban and suburban populations. It can be explained that urban residents have the possibility to choose professional care from health care providers [4,19-26].

## Conclusion

Patients from the District Bantaeng and Pa'jukukang Bantaeng regency of South Sulawesi were more satisfied with the service provided. The highest satisfaction score was found on the technical quality subscale and the lowest satisfaction score was found in the general satisfaction subscale.

## Authors' Contributions

FHA	 0000-0003-4819-4820	Supervision, Conceptualization, Methodology, Investigation, Formal Analysis, Resources, Validation, Writing - Original Draft Preparation and Writing - Review and Editing.
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All authors declare that they contributed to critical review of intellectual content and approval of the final version to be published.

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## Conflict of Interest

The authors declare no conflicts of interest.

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