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## **Evaluation of Expectations and Perceptions on Quality of Dental Services in Bantaeng District, South Sulawesi, Indonesia, 2018**

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### **Abstract**

The purpose of this survey is to evaluate the expected dental health services that people want and the perception or reality of health services that people get in Bantaeng District, South Sulawesi. This survey is a pilot pathfinder survey using a SERVQUAL questionnaire with a sample size of 114 survey subjects. Of 114 samples consisting of 83 types of female (72.8%) and 31 male (27.2%). There were 85 samples aged <40 years (74.6%), 24 samples aged 41-60 years (21.1%), and 5 samples aged >60 years (4.4%). T-test is used to compare expectations and perceptions of health services that patients receive. And logistic regression analysis was used in this survey to see the effect of sociodemographic variables.

There is a significant difference between expectation and perception of health service that patients receive ( $P < 0.05$ ) in Bantaeng District seen in each SERVQUAL dimension so that it can be said that the service quality is not good enough. If associated with sociodemographic characteristics then all SERVQUAL dimensions have significant relevance, but on the resonant dimension is not significantly related.

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### **Introduction**

Service quality is a measure of the degree of discrepancy between the expected service delivery that consumers want and the perception or reality of the service facility they get after treatment. Consumer dissatisfaction occurs when consumer expectations are greater than the performance of service staff and the quality of service perceived as unsatisfactory. Grøroos defines service quality as a function of hope, results and image. Most research on service quality is done in developed countries because of their initial awareness of the importance of the service sector in the country's economy.<sup>1</sup> Patients' expectations are thoughts about the things they want to get from a health service.

The patient's expectation of a service is

very important because it affects the satisfaction when the expectation is fulfilled. A fulfilled hope can be a good thing for the patient.<sup>2</sup> According to research conducted by Dewi,<sup>3</sup> many previous studies have shown that patient expectation is higher than perceived by patient.<sup>3</sup> Patient perception is patient experience about service given to them. This perception can affect satisfaction and influence the patient's cooperative level and facilitate the dentist in arranging future schedules.<sup>2</sup> Expectations and perceptions are the main things that determine patient satisfaction that can be the basis in evaluating the quality of services provided. To gain satisfaction with the service, the perceptions felt by the patient must be at least equal to or more than their expectations.<sup>2,4</sup>

In terms of health services, as one of the factors that play a role in achieving the development of the country's economy, it is necessary to improve the quality of service facilities. Existing health facilities, such as hospitals, puskesmas, and dentist practices. To achieve the goal of health development in accordance National Health System (SKN), the government in this case DEPKES RI has

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developed a fundamental and directed concept. As a guideline for the implementation of health development, health programs are more directed at improving the quality of health services, quality means customer satisfaction (patient) is very closely related to the quality of health services.<sup>5</sup> Research on dental care assessments is increasingly attracting attention, primarily due to increased dental care costs and an increasing number of patient complaints to services.<sup>6</sup>

Quality of service has been studied in several different countries. In Niger countries it is generally found that patient expectations go beyond perception and statistically significant ( $P=0.002$ ). The most significant differences were found in the assurance dimensions ( $P=0.001$ ) and tangibles (0.06).<sup>7</sup> Studies conducted in Greece showed a significant gap of expectations and perceptions on all dimensions of the assessment. The bigger the gap the smaller the satisfaction with the quality of service provided. The largest gap was seen in responsive and reliability dimensions, and was statistically significant ( $P=0.001$ ).<sup>8</sup> In the Brazil state, research on the quality of care was also undertaken, in the study it was reported that patients' expectations had a mean value greater than the mean-average perceptual value on all dimensions of SERVQUAL measurement. The most significant differences in expectation and perception were statistically significant ( $P<0.001$ ) and reliability ( $P=0.001$ ). This means that the average patient satisfaction is not met which means the quality of service is still low.<sup>6</sup> Based on the results of research in several different countries it can be seen that the current quality of service tend to be low. Tebai et al.<sup>9</sup> said, the demand for improving the quality of general health services and oral services is increasing. One of the best and most used models for evaluating the quality of health services is SERVQUAL. Based on research conducted by Tebai et al. was provides strong evidence supporting the reliability and validity of the Indonesian SERVQUAL to be used as a satisfied oral health service measure for Indonesian people.<sup>9</sup>

The provision of health facilities is a basic necessity in the effort to improve the health status of the community and become one of the main concerns of development in the health sector and aims to all levels of society to enjoy health services such as health centers and

hospitals.<sup>10</sup> Regulation of the minister of health on the quality of service is the realization of good public health conditions is the duty and responsibility of the state as a constitutional mandate that is the constitution of the Republic of Indonesia. In the implementation of the state is obliged to maintain the quality of health services to the community. Quality of health services is determined by health facilities and qualified health personnel.<sup>11</sup>

According to Simamora there are two factors that affect the quality of service that is expected service and perceived service. If the service received or perceived in accordance with the expected, then the quality of service perceived good and satisfactory. Whether the service received exceeds consumer expectations, the quality of service is perceived as the ideal quality of service. Conversely, if the service received is lower than the expectations of consumers, the quality of service is perceived poorly. Whether or not service quality depends on the service provider's ability to meet patient expectations. Therefore, to create patient satisfaction the health care company (Hospital) or the puskesmas must create and manage a system to obtain more patients and be able to retain patients.<sup>12</sup>

The quality of health services is determined by the health facilities and services provided by the health personnel in it. Dentists become professional and effective and efficient managers can provide quality assurance, financing and health care services.<sup>13</sup> Number of dentists performing health services will affect the quality of health services provided in an area. According to riskesdas the number of dentists in bantaeng district is only 16 people with a ratio of 1: 87.248 inhabitants.<sup>10</sup> Compared with the WHO standard of the World Health Organization, which is 50 dentists for 100.000 patients, or ideally 1 dentist handling 2000 patients. The population of Bantaeng District is 87.248 people. Ideally in Bantaeng district the total of dentists are 44 people, but there are only 16 dentists. It appears that the ratio for dentists is not ideal. Thus, when the total of population is not balanced with the total of health personnel in this case the dentist will have an impact on the quality of health services.

Based on the number of dentists in Bantaeng District that have not reached the ideal

ratio according to WHO, it is probable that the quality of service provided is still not good enough. In addition there is no data or previous research that evaluates the quality of services provided by providers of dental and oral health services in Bantaeng District. This is the basis<sup>13</sup> the researchers to conduct a survey on the quality of services provided by the providers of dental and oral health services in Bantaeng District.

In the rapid development of technology and increasingly fierce competition, hospitals and Puskesmas are required to continue to improve the quality of their services (Department of Health Republic of Indonesia 2007). Hospitals and health centers of one individual health care facility become part of the health resources needed to support the implementation of health efforts.<sup>12</sup> Puskesmas is a health facility that the patient needs. In Bantaeng District in 1999 the total of puskesmas in Bantaeng 9 puskesmas, in 2003 increased 1 puskesmas that is Puskesmas Baruga, in 2007 increased 2 puskesmas that is Puskesmas Dampang & Puskesmas Sinoa and in 2015 again 1 puskesmas Pa'bentengang so total to 13 Puskesmas.<sup>10</sup> In addition to the absent dentist ratio, the number of these puskesmas is also inadequate and lead to complaints about unmet health care. This indicates that the quality of health services in Bantaeng District has not been satisfactory. Therefore the need for further research on patient's expectation and perception about health service quality in Bantaeng Regency.

### Materials and methods

The pilot path finder of this survey was conducted on 29 - 31 January 2018, in Bantaeng District and Pa'jukukang Sub-district, Bantaeng District, South Sulawesi. The survey of expectations and perceptions of dental patients in Bantaeng sub-district, urban area and Pa'jukukang, which is a rural area, Bantaeng District, South Sulawesi, has received dental health services at hospitals or health centers. The total sample totals are 114 samples. Samples of female amounted to 83 samples and male samples totaling 31 people (Table 1).

The survey was conducted in Bantaeng District, South Sulawesi by using the SERVQUAL

Variables	Expectations and Perceptions
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	n	%
<b>Gender</b>		
Male	31	27.2
Female	83	72.8
<b>Location</b>		
Urban	88	77.2
Rural	26	22.8
<b>Education</b>		
Uneducated	2	1.8
Graduated from Elementary School	13	11.4
Didn't Graduated From Elementary School	0	0.0
Graduated from Junior High School	43	37.7
Didn't Graduated From Junior High School	1	0.9
Graduated from High School	34	29.8
Didn't Graduated From High School	2	1.8
3-Years Diploma	6	5.3
Bachelor	13	11.4
<b>Occupation</b>		
Student	49	43.0
Government Employees/Police/Pensionary	18	15.8
Private Employees	7	6.1
Entrepreneur	21	18.4
Housewife	14	12.3
Others	5	4.4
<b>Age</b>		
18-40 years	85	74.6
41-60 years	24	21.1
> 60 years	5	4.4
<b>Total</b>	<b>114</b>	<b>100</b>

**Tabel 1.** Demographic characteristics of survey samples in Kecamatan Bantaeng and Pa'jukukang Subdistricts.

questionnaire. The questionnaire used a comparison between patient expectations and patient perceptions.

The service quality indicators currently used in the field of dentistry are generally normative. The SERVQUAL tool measures the user's general satisfaction by comparing expectations and perceptions about dental services (Parasuraman et al., 1993).<sup>23</sup> All are measured using a five-point likert scale. Sociodemographic questionnaires are also used, which have questions such as gender, age, occupation, and education.

**1**  
 SERVQUAL questions were divided into five dimensions:

1. **Tangibles:** the physical characteristics of the premises (physical facilities, equipment and appearance of personnel).
2. **Reliability:** ability to perform the promised service dependably and accurately, reference to another specialized dentist or physician when necessary.
3. **Responsiveness:** reactivity to help the patient, provision of prompt care and adequate information on oral health and hygiene.
4. **Assurance:** freedom from risk (i.e. from possible damage or infection by means of sterilization, disposable gloves and masks and also use of antiseptics), having a positive effect in security, confidence and consistency.
5. **Empathy:** effort to learn about the patient's needs understanding and showing interest. Caring and individualized attention.

**7**  
 Data were analyzed using SPSS (Statistical Product and Service Solution) program version 20.0. The t-test was conducted to find the difference between expectations (questionnaires completed before dental care) and subsequent perceptions (GAP). With value ( $p < 0.05$ ). Dependent variables are service quality and sociodemographic groups grouped by sex (male and female), age, last education, and occupation. All those associated with  $P < 0.05$  were included in a multivariate logistic regression analysis.

## Results

Table 1 shows that the sample consisted of 83 female (72.8%) and 31 males (27.2%). Based on the location of 88 samples located in urban or Banteng sub-district (77.2%) and 26 samples are located in Rural or Pa'jukukang sub-district (22.8%). By age There were 85 samples aged 18-40 years (74.6%), 24 samples aged 41-60 years (21.1%), and 5 samples aged > 60 years (4.4%). Based on the last level of education 43 graduated sample (37.7%) and there are 49 samples who work as a student (43.0%).

Dimension	Expectations		Perceptions		Gap value
	Mean	SD	Mean	SD	
<b>Tangibles</b>					
Have up to date equipment	4.59	0.53	3.75	0.70	0.83
Dentists are always well dressed and appear neat	4.81	0.44	4.07	0.73	0.74
The auxiliary staff well dressed clean and appear neat	4.20	0.40	4.03	0.67	-0.17
	14.19	1.12	11.85	1.69	-2.34
<b>Reliability</b>					
Treatment actions are performed thoroughly and correctly by the service provider	4.62	0.60	3.88	0.81	0.75
Inform patients precisely when services will be performed	4.63	0.58	3.91	0.74	0.62
Sincerity of clinic staff to try to solve patient problems	4.76	0.49	4.04	0.74	0.73
	14.02	1.38	11.72	1.89	-2.30
<b>Responsiveness</b>					
Receive prompt service from clinic staff	4.07	0.57	3.88	0.79	0.19
Staff are always willing to help patients	4.71	0.46	3.95	0.68	0.76
Prompt response to patient requests and problem	4.70	0.45	4.02	0.79	0.68
	14.08	1.23	11.84	1.98	-2.24
<b>Assurance</b>					
I believe my service provider will give good care	4.69	0.53	4.01	0.66	0.68
Staff are courteous	4.75	0.51	4.10	0.79	0.65
Staff work together in the patients' best interest	4.78	0.49	4.12	0.81	0.66
Feel secure in receiving services from the staff	4.73	0.47	3.96	0.71	0.77
	18.95	1.60	16.18	2.64	-2.76
<b>Empathy</b>					
Staff know what your need are	4.72	0.45	4.00	0.73	0.72
Convenient operating hours for patient needs	4.67	0.53	3.86	0.75	0.81
Staff give you personal attention	4.69	0.50	3.97	0.84	0.72
	14.09	1.23	11.83	1.98	-2.25

Table 2. Shows the Average Expectations and Perceptions on Each Dimension for each SERVQUAL Item along with the Gap Value.

In Table 2 shows the Warranty dimension has the highest average value in expectations and perceptions, when these dimensions are valued separately. When we consider the value of gap (the difference between expectation and perception), the Assurance dimension has the smallest score (-2.76). The best results relating to gap values are in the Responsive dimension (-2.24), indicating that a rapid clinical staff response results in little difference between patient expectations and perceptions.

Dimensions	Expectations		Perceptions		Sat %	P-value*
	Mean	SD	Mean	SD		
Tangibles	14.19	1.12	11.85	1.69	83.40%	<0.001*
Reliability	14.02	1.38	11.72	1.89	83.70%	<0.001*
Responsiveness	14.08	1.23	11.84	1.86	84.10%	<0.001*
Assurance	18.95	1.60	16.18	2.64	82.10%	<0.001*
Empathy	14.08	1.23	11.83	1.98	84%	<0.001*
Total	75.32		63.42		84.20%	

Note: \*P-value < 0.05 considered statistically significant

Table 3. Expectations and perceptions of patients regarding the quality services using SERVQUAL

Table 3 shows the patient's expectations and perceptions about the quality of care. The t-test shows that all dimensions have statistically significant differences in the ratio of expected and perceptual distributions seen from values ( $p < 0.05$ ). In the dimensions of Display, Reliability, Responsive, Guarantee, and Empathy have value ( $p < 0.001$ ) which means there is a significant difference between expectation and perception in each dimension. Warranty dimensions and display dimensions have the highest average score. On the average assurance dimension of 18.95 with the average

perception of 16.18 and memilliki the smallest percentage of satisfaction that is 82.10%. In the display dimension, the average expectation is 14.19 with an average perception of 11.85 and the satisfaction percentage of 83.40%. On the average reliability dimensions of expectations of 14.02 with an average perception of 11.72 and the percentage of satisfaction of 83.70%. On the Responsiveness dimension and mean empathy empathy of 14.08 with an average perception of 11.84 and the percentage of satisfaction on the responsive dimension is the largest of 84.10%, while in the empathy of 84%.

Table 4 shows the results of multivariate logistic regression analysis for each dimension and sociodemographic variable. The responsive and empathy dimensions are dimensions that are not significantly related to the assessed sociodemographic variables. On the dimension of tangibles and assurance, only the sociodemographic variable of work that has value ( $p < 0.05$ ) which means only significant job variables and there is an effect of 1.291 times on the quality of service. Similarly, in the dimensions of reliability, only educational sociodemographic variables that have a value ( $p < 0.05$ ) which means only significant education variables and 1.227 times affect the quality of service.

## Discussion

Based on table 1 of our survey shows that female have higher expectations and perceptions of the quality of care they receive than male. This can happen because female are more concerned with the appearance, cleanliness, and oral health of their mouth. This result is in line with research conducted by Rocha<sup>6</sup> that women tend to have higher expectations and perceptions.<sup>6</sup> In the Gopalkrishna<sup>24</sup> study also states that female's health care expectations and perceptions are higher because female are more likely to visit dental health services.<sup>24</sup> The research conducted by Fuad,<sup>25</sup> also in line with the results obtained in this survey, found that a totally of patients who came to the clinic were female.<sup>25</sup> The magnitude of female's expectations and perceptions of dental services found in this survey can also be attributed with the condition of the survey subjects that totally more female than male.

Table 2 shows that our survey shows that the smallest value of gap is in the responsive dimension, meaning that the service provided

has a good enough responsive level that almost meets the expectations of the patient. This is also in line with the research done by Rocha<sup>6</sup> which also found that the smallest gap value resides in the responsive dimension,<sup>6</sup> which means a rapid clinical staff response results in a slight difference between the expectations and perceptions felt by the patient. Although it can not be said satisfactory because the expectation of this dimension is still higher than the perception. The highest dissatisfaction is seen in the assurance dimension, it is known that the guarantees collected from this survey have the highest gap value, this means that the dental health services provided have the lowest level of assurance that causes the perceived perception of the patient to be very far compared to the expectations of the patient this may be the case and influenced by many factors, including operators and staff working as healthcare providers have not been able to convince patients that they are able to work together to provide good and safe care to patients. According to the SERVQUAL model, the smaller the "gap quality," the higher the level of patient satisfaction.<sup>26</sup>

Based on table 3 of our survey, there is a statistically significant difference between expectations and perceptions for all dimensions. This shows that there is a considerable difference between what people expect from health services and what they actually get. In addition, the results of this survey shows the highest expectation and perception value is on the Assurance dimension and then the Tangible dimension. This is also observed in another study of Lin<sup>27</sup> research showing significant results for all dimensions.<sup>27</sup> In this study, Assurance is the highest rated dimension, followed by the Tangible Dimension for the expectations and perceptions of the health services that patients receive. Similar results are reported in other studies, with Assurance being the second most preferred dimension.<sup>28</sup> This may be justified due to concerns about contagious communicable diseases in health care settings and the physical appearance of offices and staff. However, if based on the percentage of satisfaction, in table 3 it can be seen that patient satisfaction is quite high in all dimensions, this is also observed in another research conducted Akbar et al at Tenriawaru General Hospital in Bone Regency which is reported that patients are satisfied with

the services provided in all dimensions assessment.<sup>29</sup>

Based on table 4 of the survey we show that in the relationship between satisfaction and sociodemographic data, work and education are the factors that most significantly affect the dimension of service quality, unless the responsive and empathy dimensions are dimensions that have no significant relationship with service quality. this may happen because according to research conducted John<sup>14</sup> mentions that the higher the level of subject education, the more dissatisfaction felt.<sup>14</sup> Older subjects had higher frequency of expectation and perception, and from the results of analysis, the expectation scores were higher than perceptions at older patients had higher dissatisfaction. This is in line with Rocha<sup>6</sup> research that says older patients are less likely to be satisfied with health care.<sup>6</sup>

### Conclusions

In general, the survey subjects were satisfied with the health services provided, but the expected value of the patients tended to be higher than the perceived perception of oral dental services in Bantaeng District seen in each SERVQUAL dimension. When associated with sociodemographic characteristics all SERVQUAL dimensions have significant associations, but the resonant dimension is not significantly related. A higher expectation value than persepi is more common in female gender in display and assurance dimensions.

The results of this survey indicate that patients tend to make the dimensions of guarantee and appearance a top priority in assessing the quality of services provided, so that the dimension needs special attention in providing services to patients in order to improve the quality of services provided.

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### Declaration of Interest

The authors report no conflict of interest

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BIBLIOGRAPHY

EXCLUDE MATCHES < 5

WORDS