

# The Relationship of Accreditation with Quality of Service and Satisfaction of Health Care Center Patients in East Kolaka District

Pirman<sup>1\*</sup>, La Ode Saafi<sup>2</sup> and Erwin Azizi Jayadipraja<sup>2</sup>

<sup>1</sup>East Kolaka District Health Office, Indonesia.

<sup>2</sup>Mandala Waluya College of Health Sciences, Kendari, Indonesia.

## Authors' contributions

*This work was carried out in collaboration among all authors. Author Pirman as the main contributor was responsible for the formulation of the problem, research objectives, data collection and writing the script. Authors LOS and EAJ designed and developed the concept of the methodology. All authors read and approved the final manuscript.*

## Article Information

### Editor(s):

(1) Dr. Carla Maria Ferreira Guerreiro da Silva, Nurse Director at Centro Hospitalar de Setúbal, Portugal.

### Reviewers:

(1) Faisal Nadeem, Rashid Latif Nursing College, Pakistan.

(2) Michalis Skordoulis, Democritus University of Thrace, Greece.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/60912>

Original Research Article

Received 29 June 2020  
Accepted 04 September 2020  
Published 21 September 2020

## ABSTRACT

**Background:** Health Center accreditation aims to improve the quality of health services at the Health Center, so that it is expected that the quality of improved health services can have an impact on satisfaction for patients or the community better. The purpose of this study was to determine the relationship between accreditation and quality of service and satisfaction of Health Center patients in East Kolaka Regency.

**Materials and Methods:** This type of research is a quantitative study with a cross sectional study approach. The population in this study was all patients who visited the East Kolaka District Health Center from January to March 2020 as many as 1330 people. The sample size of 299 respondents was taken by proportional random sampling. Data obtained using a questionnaire then analyzed descriptively and inferentially using the Chi Square test.

**Results:** The results showed that there was a relationship between accreditation with quality of service and patient satisfaction at the East Kolaka District Health Center, where a p-value  $< \alpha = 0.05$ . There is a relationship between service quality and patient satisfaction at the Health Center in East Kolaka Regency, where obtained p-value  $< \alpha = 0.05$ .

\*Corresponding author: Email: pirmanaere@gmail.com;

**Conclusion:** Accreditation can improve the quality of health services in health center, thus affecting patient satisfaction with health services. It is expected to improve the quality of services better. Which is not only limited to health services but overall such as timeliness and speed in serving patients at the registration counter, medical records and every polyclinic so as not to cause patients to wait too long and patients can feel more satisfied with services obtained.

*Keyword: Quality of service and satisfaction.*

## 1. INTRODUCTION

Health development is an integral and most important part of national development; the goal of holding health development is to increase awareness, willingness and ability to live healthy for everyone in order to realize an optimal degree of public health. The success of health development plays an important role in improving the quality and competitiveness of Indonesia's human resources. To achieve the goals of national health development a variety of comprehensive, multi-level and integrated health efforts are held. Health Center are the vanguard in organizing basic health efforts. Health Center which is the Technical Implementation Unit of the Regency / City Health Service is a health service facility that organizes public health efforts and first-level individual health efforts [1].

The vision of health development organized by the Health Center is the achievement of the Healthy District towards the realization of Healthy Indonesia. Healthy sub-district is a picture of the future sub-district community that is to be achieved through health development, namely people who live in an environment and with healthy behavior, have the ability to reach quality health services in a fair and equitable manner, and have the highest degree of health [1].

To ensure that quality improvement, performance improvement and the application of risk management are carried out on an ongoing basis at the Health Center, an external party needs to be assessed using established standards, namely through an accreditation mechanism. Health Center are required to be accredited regularly at least once every three years, as well as accreditation is one of the credential requirements as a first-level health service facility in collaboration with a public legal body. The main purpose of Health Center accreditation is to foster quality improvement, performance through continuous improvement of management systems, quality management systems and service delivery systems and programs, and the application of risk management, and not just assessments to obtain accreditation certificates.

The approach used in Health Center accreditation is the safety and rights of patients and families, with due regard to the rights of officers. This principle is upheld as an effort to improve the quality and safety of services [1].

The implementation of accreditation in Health Center has a very important role and meaning in improving the quality of Health Center services. The implementation of accreditation is not merely to fulfill the requirements or criteria for health facilities that can work together with a public legal body in the administration of social security, but the results of the accreditation assessment are also important in improving the protection of health workers, the public and their environment and can improve the performance of the Health Center itself in carrying out health services., both individuals and the community [2]. This is in line with research conducted at Health Center with primary and plenary accreditation status in the city of Semarang, which was assessed from the five dimensions of service quality [3]. While research conducted by primary health centers at Switzerland states that, the service quality management system that exists in the accreditation process can improve three domains of service quality, namely quality and safety, information, and finance. The improvement of the three quality domains directly affects the quality of service received by the patient or the level of patient satisfaction [4].

In an effort to improve the quality of Health Center services, measurement of patient satisfaction level absolutely must be done because by carrying out these measurements, patient satisfaction can be known to the dimensions of service quality that have been held. Dimensions - quality of health services that affect patient satisfaction is the response time of service officers in serving patients, communication between health workers and patients to environmental cleanliness [5].

Based on data obtained from the East Kolaka District Health Office, data were obtained that there were 12 Health Center in the East Kolaka

District that had been accredited. namely Tirawuta Health Center, Loea Health Center, Lalolae, Ladongi Jaya Health Center, Lambandia Health Center, Polia, Mowewe, Dangia Health Center, Tinondo Health Center, Aere, Sanggona and Ueesi Health Center.

In terms of quantity, it can be seen that Health Center that have been accredited in East Kolaka District are still some whose services are not yet optimal, for example in Health Center Aere, which has been accredited intermediate but there are no human resources for implementing in dental clinics even though there are dental care tools, in Health Centers that have been accredited primarily but still high in communicable diseases, especially tuberculosis and in Lambandia Health Center which have basic accreditations, there are still many immunization status in their working areas that do not reach complete basic immunization standards. From this data, also shows that accredited Health Center cannot meet the standard requirements Health Center accreditation as stipulated in the Republic of Indonesia Health Regulation No 46 of 2015. Therefore, it is unable to meet the quality of service and patient satisfaction. The lack of research that wants to see the effect of accreditation Health Center and non-accreditation Health Center in terms of service quality and patient satisfaction, coupled with the realization of accreditation implementation at Health Center is new in East Kolaka Regency.

Based on the main purpose of Health Center accreditation, which is to foster Health Center in an effort to continuously improve the service system and performance that focuses on the needs of the community, the implementation of this accreditation is expected to improve the quality of Health Center health services [1]. This shows that the quality of health services that have been accredited Health Center can meet optimal service quality and be able to provide satisfaction to patients in accordance with established accreditation standards. The next problem that arises is that there are still problems with service quality indicators at accredited Health Center and non-accredited Health Center [6]. As is the case with the results of research conducted at the Wonogiri I Health Center, which is an accredited Health Center. From the Wonogiri I Health Center, for health services at the primary Health Center level, the indicators of the comfort and safety of the Health Center were inadequate due to the lack of parking space and

registration space. Whereas health services at the level of Sub-health centers and are indicators of discipline and responsibilities of health workers as well as environmental comfort that is not good. That is because there are some officers who are still concerned with personal interests during working hours and inadequate facilities and infrastructure of the Sub-health centers and, for health services at the primary health center level, the indicators of service speed and environmental comfort are still poor due to inadequate numbers of health workers and inadequate registration space conditions. While health services at the level of sub-health centers and indicators of discipline and responsibility of health workers and environmental comfort Sub-health centers and are not good. That is because there are still some officers who are concerned with personal interests during working hours and inadequate conditions of the Sub-health centers and [7].

Tate credibility of a Health Center cannot guarantee that the Health Center has no problem in terms of the quality of health services. There is no data that can show that all accredited Health Center must have a better quality of service than non-accredited Health Center [6]. Meanwhile, according to Ministerial Health Regulations No.46 of 2015, the main purpose of the accreditation of the Health Center itself is to foster quality improvement, performance through continuous improvement of the quality management system, and the system of organizing health service programs, as well as the application of risk management and not just an assessment to obtain accreditation certificate.

Based on a preliminary survey conducted at an accredited Health Center by interviewing patients who came for treatment, they said that the Health Center was accredited but the service was slow, the officers were not friendly, the officers were slow to serve the patient and were unable to understand patient complaints, the absence of a doctor or dentist. Based on this, the researcher will conduct a study on "Relationship between Health Center Accreditation and Service Quality and Patient Satisfaction in East Kolaka Regency."

## **2. METHODS**

### **2.1 Research Types and Design**

This type of research is a quantitative study, with a cross sectional study approach, which aims to

determine the relationship between the independent variable (quality of health care and patient satisfaction) with the dependent variable (accreditation) which is observed at the same time at the same time [8].

### 2.2 Research Location and Time

This research was conducted in East Kolaka Regency, Southeast Sulawesi Province. The research will be carried out until the final report preparation starts from December 2019 and finishes in May 2020. The East Kolaka region was chosen because based on a patient satisfaction survey conducted by the Ministry of Health of the Republic of Indonesia in 2019 it shows that, there are several facilities in this area, the level of patient satisfaction with health services is very low, even though it is seen from an overall accreditation point of view of health facilities in the area.

### 2.3 Population and Sample Population

The population in this study was all patients who visited the Health Center in East Kolaka Regency from December to February as many as 1330 people. The sample size is calculated using the Lemeshow formula.

$$n = \frac{Z_{1-\alpha/2}^2 P(1-P)N}{d^2 (N-1) + Z_{1-\alpha/2}^2 P(1-P)}$$

$$n = \frac{(1,96)^2 \times 0,5 \times 0,5 \times 1.330}{((0,5)^2 \times 1.330 - 1) + ((1,96)^2 \times (0,5 \times 0,5))} = \frac{1277,332}{4,2829} = 298,24$$

n = 298,24 = 299

### 2.4 Sample

This study consisted of 299 respondents taken by proportional random sampling.

### 2.5 Data Collection

Data were collected using a questionnaire. Standardized questionnaire. The study used a questionnaire consisting of two parts, informed consent and a questionnaire core sheet. Before use, it was tested for validity and reliability.

### 2.6 Data Analysis

Data were analyzed descriptively and inferentially. The inferential analysis used is Chi Square.

## 3. RESULTS

### 3.1 Relationship of Accreditation Status with Quality of Health Center Services in East Kolaka Regency

The analysis of the relationship between the statuses of Health Center accreditation with the quality of health services in Health Center in East Kolaka Regency, Southeast Sulawesi Province, can be described in full and in detail in Table 1.

Table 1, shows that of 69 respondents who came from Health Center with basic accreditation status there were 48 respondents (69.6%) who stated the quality of service was inferior and 21 respondents (30.4%) stated that they were already of quality. From 167 respondents with middle accreditation status, there were 48 respondents (28.7%) who stated that they were not qualified and 119 respondents (71.3%) who said they were qualified. While of the 63 respondents whose primary health center status was 26 respondents (41.3%) who stated that they were of poor quality and 37 respondents (58.7%) who stated that they were qualified.

Based on the results of statistical tests using the Chi Square test at  $\alpha = 5\%$  and  $df = 2$ , obtained count  $X^2 > X^2$  table (33,776 > 3,841), meaning that there is a significant relationship between the health center accreditation status with the quality of health services at health centers located in the area of East Kolaka Regency, Southeast Sulawesi Province.

### 3.2 Relationship of Accreditation Status with Public Health Center Patient Satisfaction in East Kolaka Regency

The relationship of patient satisfaction with the accreditation status of Health Center in East Kolaka can be seen in Table 2.

Table 2, shows that of 69 respondents who came from Health Center with basic accreditation status there were 54 respondents (78.3%) who stated they were not satisfied with health care workers and 15 respondents (21.7%) said they were satisfied with health services. Of the 167 respondents who came from Health Center with intermediate accreditation, status there were 81 respondents (48.3%) who expressed less satisfaction and 86 respondents (51.5%) said they were satisfied. While of the 63 respondents who came from Health Center with primary accreditation status there were 25 respondents (39.7%) stated that they were not satisfied with

health services and 38 respondents (60.3%) the rest stated they were satisfied.

Based on the results of statistical tests using the Chi Square test at  $\alpha = 5\%$  and  $df = 2$ , obtained  $X^2_{count} > X^2_{table}$  ( $23,517 > 3,841$ ), meaning that there is a significant relationship between the health center accreditation status with the quality of health services at the health centers located in the area of East Kolaka Regency, Southeast Sulawesi Province.

### 3.3 Relationship between Service Quality and Patient Satisfaction in Health Center East Kolaka Regency

The relationship of service quality with patient satisfaction at the East Kolaka District Health Center can be seen in Table 3.

Table three shows that of the 122 respondents with poor quality of services 98 respondents (80.3%) were less satisfied with health services and 24 respondents (19.7%) were satisfied with health services. While from 177 respondents who stated quality of service quality there, were 62 respondents (35%) who were less satisfied and 139 respondents (46.5%) were satisfied with health services.

Based on the results of statistical tests using the Chi Square test at  $\alpha = 5\%$  and  $df = 2$ , the calculated  $X^2_{value} > X^2_{table}$  ( $57,767 > 3,841$ ), means that there is a significant relationship

between the quality of health services with the satisfaction of Health Center patients in East Kolaka Province Southeast Sulawesi.

## 4. DISCUSSION

### 4.1 Relationship of Accreditation Status with the Quality of Health Center Services in East Kolaka Regency

Quality is a standard that must be achieved by health centers or hospitals through health workers who provide the best possible service for patients so that patients get satisfying services. Such a level of reliability is related to the ability of health care providers to provide accurate services from the first time without making any mistakes and delivering their services according to the agreed time. Responsiveness, which deals with the willingness and ability of health workers to help customers, respond to their requests, inform when services will be provided, and then provide, services quickly. Health workers must also have an empathy where health care providers must understand the problems of their customers, act in the best interests of customers, and have comfortable operating hours. Health workers have a very important role in the service, therefore officers should not neglect their duties to serve patients, this can reduce the level of patient satisfaction [9].

**Table 1. Relationship between service quality and health center accreditation status in East Kolaka Regency**

Accreditation status	Service quality				Amount		Statistic test
	Less quality		Have quality		n	%	
	n	%	n	%			
Basic	48	69.6	21	30.4	69	100	<b>X<sup>2</sup>Hit = 33,695</b> <b>X<sup>2</sup> tab = 3.841</b> <b>P-value= 0,000</b>
Intermediate	48	28.7	119	71.3	167	100	
Main	26	41.3	37	58.7	63	100	
amount	122	40.8	177	59.2	299	100	

**Table 2. Relationship of patient satisfaction with health center accreditation status in East Kolaka Regency**

Accreditation status	Patient satisfaction				Amount		Statistic test
	Less satisfied		Satisfied		n	%	
	n	%	n	%			
Basic	54	78.3	15	21.7	69	100	<b>X<sup>2</sup>Hit = 23,517</b> <b>X<sup>2</sup> tab = 3.841</b> <b>P-value= 0,000</b>
Intermediate	81	48.5	86	51.5	167	100	
Main	25	39.7	38	60.3	63	100	
amount	160	53.5	139	46.5	299	100	



Center to provide good services for patients provides benefits in building a positive image of the patient's social environment so that it contributes to the improvement of a better Health Center image in the eyes of the community. In addition, nurses) Health Center are personally considered capable of carrying out tasks in accordance with their duties and professional ethics. On the other hand, the guarantee of the ability of the Health Center to provide good services for patients provides benefits in building a positive image of the patient's social environment so that it contributes to the improvement of a better Health Center image in the eyes of the community.

In addition, from the Health Center with basic accreditation status there were 48 respondents (69.6%) who stated the quality of service was inferior. From the Health Center with intermediate accreditation status, there were 48 respondents (28.7%). While from the Health Center with the main accreditation status, 26 respondents (41.3%) stated that the service was of poor quality. This is because the Health Center accreditation is not only based on patient perceptions but is supported by various other aspects stipulated by Ministry of Health Regulations No. 46 of 2015 concerning Health Center Accreditation Standards consisting of three parts and nine chapters. This is in line with the research of Ng et al (2013) which states that the factors that influence accreditation are the increase of staff involvement and communication, the formation of disciplinary teams, positive changes in organizational culture [11].

This study is also in accordance with the research of Hajli et al. (2014) that there is no relationship between service quality as indicated by patient satisfaction scores and technical quality as indicated by accreditation scores. That accreditation contains construction and other domains that are not closely related to patient satisfaction, such as structural, procedural and technical aspects, which improve the quality of care but are not always visible to patients [12].

#### **4.2 Relationship of Accreditation Status with Satisfaction of Health Center Patients in East Kolaka Regency**

Patient satisfaction is a level of patient feeling that arises as a result of the performance of health services obtained after the patient compares with expected [13]. Patient satisfaction

becomes an integral and comprehensive part of health service quality assurance activities. That is, measuring the level of patient satisfaction must be an activity that cannot be separated from the measurement of the quality of health services. The consequence of this mindset is that the dimension of patient satisfaction is an important dimension of quality of health care [14].

The results showed that there was a significant relationship between the accreditation status of Health Center and the quality of health services at the Health Center in the East Kolaka Regency, Southeast Sulawesi, where  $\chi^2$  counts  $> \chi^2$  tables (23,517  $>$  3,841) were obtained. Therefore, the results of this study can prove that the Health Center accreditation status has to do with the level of patient satisfaction. This study is in line with research conducted in Manado City which shows that there is a significant relationship between the accreditation status of Health Center and the level of patient satisfaction in Health Center Kota Manado [15]. This study is also in accordance with previous research conducted by Mirshanti (2017), which was conducted on 200 respondents in 4 (four) Health Center with different accreditation status in Surakarta City and Karanganyar Regency which showed the results that there was a significant influence between accreditation status and satisfaction patients at the Health Center [16].

The results of this study also showed that from the Health Center with basic accreditation status there were 54 respondents (78.3%) who stated they were not satisfied with the health services. From the Health Center with middle accreditation status, 81 respondents (48.3%) expressed less satisfaction. Whereas from the Health Center with the main accreditation status there were, 25 respondents (39.7%) stated that they were not satisfied with health services. This is due to the patient's perception of the quality of services provided. Like there are still doctors who do not arrive on time and in a hurry, it means that it is not in accordance with what the health officer promised to the patient since he first came to the Health Center and there are still nurses or other health workers who are less friendly to patients. In addition, some respondents also felt unsatisfied because the waiting rooms at the Health Center were inadequate. This is because the Health Center building is still in the process of being renovated. Patients who are not satisfied with the existing health center services in East Kolaka Regency will be able to reduce the attractiveness of patients to make it seem

wasteful. Therefore, aspects of health services in this quadrant do not or need not be improved performance of health services. If this is examined more deeply, there are several factors that influence this, including the arrears of health service funds by health insurers such as capitation funds, which have an impact on employee behavior and the state of inadequate facilities. This is in accordance with the results of research conducted in Greece, [17].

And from the Health Center with basic accreditation status, there were also 15 respondents (21.7%) who were satisfied with health services, and from the middle accreditation Health Center as many as 86 respondents (51.5%) said they were satisfied and 38 respondents (60.3%) from the main accreditation Health Center which stated they were satisfied. This is due to the good quality and service provided by the Health Center to respondents such as this respondent feeling very satisfied with administrative services ranging from taking patient numbers quickly, and many are satisfied with the services provided by doctors and health workers. In addition, the existence of support from family and the environment also contributes to increasing patient satisfaction with the health services provided [18].

However, the accreditation of Health Center is not only assessed based on the level of patient satisfaction, but is supported from various aspects that have been determined by Ministry of Health regulations Number 46 of 2015 concerning Health Center Accreditation Standards which consists of 3 parts and 9 chapters.

Based on research conducted by patients, they feel that the quality of health services in Health Center in East Kolaka still needs to be improved and improved. So that it can increase the number of visits and patient satisfaction, especially patients who are unable, because the patient's perception of service quality is subjective and is influenced by many interaction factors and affects one's satisfaction with the service received.

#### **4.3 The Relationship between Service Quality and Patient Satisfaction at the Health Center in East Kolaka Regency**

Satisfaction is the level of one's feelings towards the comparison between the results of an

understanding of a product in relation to what is expected. The relatively good quality of service does not necessarily satisfy the patient.

The results showed that there was a significant relationship between the quality of health services with the satisfaction of Health Center patients in East Kolaka Regency, Southeast Sulawesi Province, where  $X^2_{count} > X^2_{table}$  (57,767 > 3,841) was obtained. This illustrates that the quality of service can encourage or increase patient satisfaction in health centers. This study is in line with research conducted at Siti Hajar Public Hospital, where a p-value = 0,000 is obtained, meaning that there is a significant relationship between service quality delivery and patient satisfaction [19].

This study also shows that of 122 respondents with poor quality service, 98 respondents (80.3%) were less satisfied with health services. This illustrates that the quality of service that is lacking on patients will affect the patient's perception of health services. Some of the things most felt by respondents were inadequate space and less regular queue lines. Some patients are also dissatisfied with the waiting room, patients think that the waiting room is not clean and comfortable; one of them is due to the unavailability of sufficient seats in the waiting room so that when Health Center visitors are busy, many visitors do not get seats in the waiting room. In addition, some patients also believe that the toilet provided for patients who are less clean, especially if used during the day and has been used a lot before. This is in line with the theory put forward by Pohan which states that one aspect that affects patient satisfaction found in patient satisfaction studies is hospital cleanliness [20].

Whereas out of 177 respondents who stated quality of service quality there were 62 respondents (35%) who were less satisfied, and of 122 respondents with quality of service quality, there were also 24 respondents (19.7%) who were satisfied with health services at the Health Center. This is because the quality of health services is not only assessed from the level of patient satisfaction but is supported by various other aspects that have been set by Ministry of Health regulations No. 46 of 2015 on Health Center Accreditation Standards consisting of 3 parts and 9 chapters. Even though patient satisfaction is good but the quality of service is not in accordance with Ministry of Health regulations No. 46 of 2015 concerning Health

Center Accreditation Standards, it will still be considered less good.

In addition, of the 177 respondents who stated quality of service quality, 139 respondents (46.5%) were satisfied with health services. This illustrates that good service will affect patient satisfaction. One example of service quality in terms of responsiveness (responsiveness), namely the desire of staff to help customers and provide services with responsiveness is good. The services provided by the Health Center staff are one of the supports for the success of services for patients who are undergoing treatment and care. The service behavior among others is shown by the attitude of Health Center staff in serving patients. The attitude shown by behavior should meet the norms desired by the community, especially by the patient and the patient's family.

This is of course the expectation of each patient and is the responsibility of the service provider in this case the Health Center staff is directly related to the patient. How the staff responds to every patient's complaints and desires quickly and in accordance with established service standards. If it can be given to patients, it will increase service satisfaction to patients. For this reason, it is expected that all Health Center should be more responsive and concerned about the wishes and desires of patients, and must be considered and improved so that patient satisfaction is met. From this research it is also known that good service quality will have an overall impact on patient satisfaction, this is in line with research conducted by [21].

## 5. CONCLUSION

There is a relationship between Health Center accreditation and service quality and Health Center patient satisfaction in East Kolaka Regency. Therefore, it is recommended to the head of the Health Center to further improve the quality of hospital services, especially for A PUBLIC LEGAL BODY Health (participants and for health workers (doctors, nurses, and other health workers) not to differentiate services provided to patients who are A PUBLIC LEGAL BODY Health participants and general patients.

## CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

This study was approved by the ethics committee of the Southeast Sulawesi Province Research and Development Board.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. RI Ministry of Health. RI Minister of Health Regulation Number 46 of 2015 concerning Public health center Accreditation. Pratama Clinic, Independent Doctor's Practice Place, and Dentist's Independent Practice Place; 2015.
2. Misnaniarti M, Destari PK. Important aspects of public health center accreditation in supporting the implementation of national health insurance. *Journal of Health Service Research and Development*. 2018;10-6.
3. Damayanti NA, Jati SP, Fatmasari EY. Analysis of differences in patient satisfaction levels on outpatient service quality at public health center with main and plenary accreditation in semarang city. *Journal of Public Health (e-Journal)*. 2018;6(5):124-34.
4. Goetz K, Hess S, Jossen M, Huber F, Rosemann T, Brodowski M, et al. Does a quality management system improve quality in primary care practices in Switzerland? A longitudinal study. *BMJ Open*. 2015;5(4):e007443.
5. Efendi R, Arifin A. Relationship between health service quality and outpatient satisfaction at aeng towa public health center, takalar regency; 2014.
6. Hidayah MN. Differences in the quality of health services at accredited and non-accredited public health center in bone bolango district, gorontalo province; 2017. [Cited 2019, March 5] Available: <https://www.digilib.unhas.ac.id>
7. Setiawan F. Analysis of community satisfaction with accredited and unaccredited health services in community health centers in wonogiri regency: UNS (Sebelas Maret University); 2014.
8. Notoatmodjo S. *Health research methods*. Jakarta Rineka Cipta; 2014.
9. Andriani A. Relationship between health service quality and patient satisfaction in

- public polyclinic at public health center bukittinggi. *Endurance Journal*. 2017;2(1): 45-52.
10. Batubara S, Napitupulu LR, Kasim F, Manalu ED, Jauhari W. Relationship between public health center accreditation status and service quality in simalungun regency. *Wahana Inovasi: UISU Journal of Research and Community Service*. 2019;8(1).
  11. Ng K, Leung GK, Johnston JM, Cowling BJ. Factors affecting implementation of accreditation programs and the impact of the accreditation process on quality improvement in hospitals: A SWOT analysis. *Hong Kong Medical Journal*; 2013.
  12. Haj-Ali W, Karroum LB, Natafji N, Kassak K. Exploring the relationship between accreditation and patient satisfaction – the case of selected Lebanese hospitals. *International Journal of Health Policy and Management*. 2014;3(6):341.
  13. Khairani R. Satisfaction levels of inpatient participants of the social security administering bodies at rsud class b subang regency: Universitas Pendidikan Indonesia; 2019.
  14. Agustina L. Factors associated with inpatient satisfaction of health services at the Medan Helvetia Hariantary Clinic; 2008.
  15. Tawalujan TW, Korompis GE, Maramis FR. The relationship between public health center accreditation status and patient satisfaction level in Manado city. *KESMAS*. 2019;7(5).
  16. Mirshanti F. Influence of public health center accreditation status, socio-economic factors and patient insurance types on service quality and patient satisfaction at public health center; 2017.
  17. Drosos D, Tsotsolas N, Skordoulis M, Chalikias M. Patient satisfaction analysis using a multi-criteria analysis method: The case of the NHS in Greece. *International Journal of Productivity and Quality Management*. 2018;25(4):491-505.
  18. Gerber AH, McCormick CE, Levine TP, Morrow EM, Anders TF, Sheinkopf SJ. Brief report: Factors influencing healthcare satisfaction in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*. 2017;47(6): 1896-903.
  19. Sulaiman S, Anggriani A. Relationship of service quality to patient satisfaction at physiotherapy poli siti hajar hospital. *Endurance Journal*. 2019;4(2):252-61.
  20. Pohan IS. Editor health care quality assurance: The basics of understanding and applying. *EGC*; 2007.
  21. Zhang X, Guo X, Lai Kh, Yin C, Meng F. From offline healthcare to online health services: The role of offline healthcare satisfaction and habits. *Journal of Electronic Commerce Research*. 2017;18(2):138-54.

© 2020 Pirman et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:  
<http://www.sdiarticle4.com/review-history/60912>*