

# EXAMINING THE SOCIO-DEMOGRAPHIC FACTORS AND HEALTH SERVICE PROCEDURES IN PUSKESMAS (PUSAT KESIHATAN MASYARAKAT)

Fahmi Ichwansyah

Balai Penelitian dan Pengembangan Kesehatan Aceh, Kementerian Kesehatan Republik, Indonesia  
Email: fahmiupf@gmail.com

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## Abstract

**Purpose of This Study:** The purpose of the study is to analyze the socio-demographic factors and health service procedures in the Puskesmas on patient satisfaction based on the theory of Service Quality (ServQual) by Parasuraman. This is crucial to create a society that has healthy behaviors which includes awareness, willingness, and ability to a healthy live, able to reach good quality health services, live in a healthy environment and have optimal health status, individually, in families, groups and communities.

**Methodology:** This study employs quantitative and qualitative approaches with the survey as its major tool. The survey questionnaires were distributed to the samples of 300 people, 100 people in each Puskesmas (Pusat Kesehatan Masyarakat, *Community Health Centre*) for the survey. While for the qualitative data collection conducted by researchers and 6 personnel experienced enumerators and educated to the degree of public health. The data collection in every Puskesmas conducted by two enumerators by interviewing outpatients who have received services from registration services at the registration counter, one of examination sites, whether in general polyclinic, KIA, family planning, Dental, IGD and the last services received by patient when taking the medicine (pharmacy).

**Main Findings:** The results showed that the percentages of patients' satisfaction in three Puskesmas are not much different, the significant difference is responsiveness and empathy element in Puskesmas Kuta Alam. The analysis results of the relationship between socio-demographic and patients' satisfaction in the three Puskesmas varied.

**Applications of This Study:** This study is beneficial and useful for the learning process of health services procedures on outpatients' satisfaction. Hence, health service providers could enhance their service satisfaction delivery.

**The novelty of this study:** The patient satisfaction level is analyzed through the Service Quality (ServQual) which is connected with the socio-demography of patients and health service procedures based on Standard Operating procedures (SOP), which became a standard set by ISO 9001:2008.

**Keywords:** Socio-demographic factors, health services, patients' satisfaction, service quality, outpatients, ServQual model.

## INTRODUCTION

The purpose of health development conducted by the Puskesmas is to create a society that has healthy behaviors which includes awareness, willingness, and ability to a healthy live, able to reach good quality health services, live in a healthy environment and have optimal health status, individually, in families, groups and communities. In order to implement its function optimally, Puskesmas needs to be managed with good service performance, service process, and the resources used. People want safe and reliable health services and can fulfill their needs, therefore improving the quality and risk management needs to be applied in the management of Puskesmas. However, Puskesmas has not been used optimally by the community even basic health care facilities have been found in all subdistricts and supported by two or three Puskesmas Pembantu. Many factors cause this to happen, from them; socio-demographic factors, such as age, sex/gender, educational level, occupational status, income, health services provided for the patient in Puskesmas and the quality of services such as; real evidence, trust, immediately responded, and empathy to the patient.

The utilization of health services can also be influenced by the availability of health care workers who work according to their expertise. Patients will discourage to seek medical treatment to Puskesmas if the professional health workers are still lacking, there are health workers but they are not trained yet. The results of research studies in health facilities showed that for essential services such as family planning (KB), 42% of Puskesmas does not have at least one person trained in family planning services in the last 2 years, and 38% of Puskesmas does not have family planning guidelines, for basic obstetric care 62% of Puskesmas is able to provide Basic Emergency Neonatal Obstetric Care (PONED) have at least one trained staff member in a period of 2 years, the availability of TB care; 35% of Puskesmas does not have staff trained to deal with tuberculosis, and 27% does not have the ability to diagnose TB from sputum samples, while the important first-line treatment is not widely available in Puskesmas, most of the Puskesmas does not have critical diagnostic capabilities as urine and blood glucose testing ([World Bank, 2014](#) and [Badan Litbang Kesehatan, 2011](#)). The impact of these Puskesmas limitations will decrease the number of patients who seek medical treatment to the Puskesmas.

The low utilization of health care facilities can be seen in the utilization of Puskesmas 12%, the utilization of Pustu 4.5%, Poskesdes or Polindes 1.5%. The achievement of the target of minimum service standards (MSS), which follows the MDG's include the coverage of pregnant women visit K4 of 61.3% while the MSS target of 95%, the coverage of active FP 53.9% while the MSS target 70%, the coverage of births attended by health workers 82.3% while the national target of 90% and the coverage of neonates visit 60.6% while the MSS target 90% (*Badan Penelitian dan Pengembangan Kesehatan*, 2010). Based on the description above, it was found the gap between expectation and reality in the health services provided by Puskesmas Darussalam, Puskesmas Kuta Alam, and Puskesmas Banda Raya. The third health center has been certified ISO 9001: 2008, which means that the quality of health services provided by the Puskesmas is in accordance with the standard of service, but in reality, the number of outpatients visiting the health centers has decreased in 2011, 2012 and 2013. Therefore, a statement arose "why did health service in Puskesmas certified ISO 9001: 2008 in Banda Aceh not to provide satisfaction to the patient". It occurs naturally because there are health service factors that are lacking for patients to receive services in registration room, examination room, such as in General Polyclinic, KIA, family planning, Dental, ED and pharmacy room. Likewise, the condition of facilities in the Puskesmas does not provide comfort for patients who visited the Puskesmas.

## LITERATURE REVIEW

Customer satisfaction is defined as "the overall attitudes regarding good or services after its acquisition and uses" ([Mowen, 1995](#)), in other words, it is viewed that satisfaction is the breadth to which the idea of product or service attainment to achieve the apprehension of buyers. If the attainment of the product is greater than the prediction of customers, the buyers are satisfied or very happy ([Azam and Moha Asri, 2015](#); [Haque et al., 2014](#); [Tarofder et al., 2017](#)). Furthermore, according to [Zeithaml \(1990\)](#), a customer's decision to consume or not the goods or services affected by various factors such as the fact that the quality of service. In other words, both the good and the bad quality of services provided by the service providers depend on consumer perceptions from the service provided. This statement shows the strong interaction between 'consumer satisfaction and the 'quality of service' ([Zeithaml and Barry, 1988](#)).

[Parasuraman, Zethaml and Barry \(1993\)](#) in their book "Delivering Quality Service Customer Perception and Expectation" said that good quality services are meeting or exceeding what is expected by the consumers of the services provided. High or low quality of service depends on the performance provided in the context of what is expected ([Railya and Galeeva, 2016](#); [Dabholkar et al., 2000](#)). Based on the reality experienced and hope that consumer's want, then ServQual can be defined as the level of the gap between expectations and reality ([Zeithaml, 1990](#)). He also explained that consumer's expectation toward the service quality is strongly influenced by information obtained through word of mouth; the consumers need itself, past experience in consuming a product and external communications through the media. According to [Zeithaml \(1990\)](#) to know the quality of service perceived by the consumer significantly, there are indicators that can measure satisfaction, are five dimensions of servqual. [Mileide et al.\(2013\)](#) also used ServQual in health services. The five dimensions are:

1. *Tangibles*; the service quality of infrastructure in offices, computer management, waiting room, and information center. This aspect connects to the uniqueness of the tool used, the appeal of the facilities, personnel orderliness, and completeness of supporting equipment.
2. *Reliability*; service quality in the form of the competency and accuracy to produce reliable service. Elements related to the assurance of solving things as wanted, the administration of consumer complaints, the performance of appropriate services, provide services according to promised time and the demands on recording errors.
3. *Responsiveness*; service quality and the ability to help and provide precise and quick service, as well as compassionate to the desire of consumers. These elements comprise information of the provider for the consumers about the services provided, service provided quickly, the willingness of the provider to give assistance to the consumer and the provider never felt busy to serve consumer demand.
4. *Assurance*; service quality of the capabilities and the friendliness and the provider in order to convince consumer's trust. The dimensions related to the behavior of the providers who remain confident in the consumer, the security feeling of the consumer and the ability of the provider in terms of science to answer consumer questions.
5. *Empathy*; service quality with the firm but caring attitude from the provider to the consumer. The dimensions include: providing individual consideration to the consumers, timeliness of services for all consumers, the firm has officers who provide dedicated service to the consumer, services embedded in the hearts of consumers and the provider understands the specific needs of consumers.

Although this theory has been widely used by various groups, it is still tried to reassess the hope that the customer wants to be compared with a standard measurement of ServQual as an implication for future research ([Parasuraman, 1993](#)). Besides, the level of satisfaction is highly dependent on the quality of a product ([Dabholkar et al., 1996](#); [Elliott and Healy, 2001](#)). The products can be goods or services. A product is said to be excellent for someone if the product can meet his/her needs.

Quality aspects can be measured through the satisfaction level. These measurements will be useful for the growth of such businesses; 1). To know well how the running or the working of the business processes, 2). To know where to make changes in a continuous improvement effort to satisfy customers, especially for things that are considered important by customers 3). To determine whether changes were made leading to improvements ([Supranto, 2011](#)). To determine the correlation between the quality and the satisfaction, of course, can be viewed from the perceptions and attitudes of the customers who can make the decision that the quality of products can meet their expectations. The entrepreneurs may use customers' perceptions and attitudes to estimate the quality of goods and services, the instruments or tools of customer satisfaction measurement should really be able to measure with fixed perceptions and attitudes of the customers. If the measuring tool is not good, then it will not be able to represent the perception of customers ([Azam et al., 2014](#); [Haur et al., 2017](#); [Tham et al., 2017](#)). Decisions based on this information would interfere with the achievement of business success, the decision could be wrong. Instead of business organizations with accurate information will be able to make good decisions, particularly in providing services to the customers so that they will feel satisfied.

In health care, the public toward the service system that is less professional and empathy often criticize the service of Puskesmas. Although Puskesmas provided by the government primarily intended for people who are poor, it does not mean that Puskesmas can arbitrarily provide health services to the community, Puskesmas should provide the best service. So, as a public service, it can provide satisfaction to the community. Service quality is how far the difference between reality and expectations regarding their services. To measure customers' satisfaction by using service quality provided, it is required to know five dimensions of service. The five dimensions of services by [Zeithaml \(1988\)](#) are reliability, tangibles, responsiveness, assurance, and empathy. The five dimensions are called ServQual (Service Quality) developed by [Parasuraman, et. al. \(1993\)](#) in a series of their research. In measuring the service quality, [Parasuraman \(1988\)](#) said there are two critical elements influencing the quality of service that is normal (expected) service and anticipated (perceived) service, meaning that the quality of services is strongly influenced by the expectations and the fact that acquired customers for getting services. The five dimensions can be used as references for determining the quality of the services in Puskesmas, through the perception of consumers who receive services in Puskesmas.

The results of this research can be used as a reference for scientists who study the field of health service management for the development of science and the concept of health service for patients/customers in Puskesmas. Besides, the results of this research can be used as a rationale for health policymakers in structuring the organization of health services in outpatient Puskesmas, mainly related to the standardization of ISO 9001: 2008 and Puskesmas accreditation. Furthermore, the results in this research can be used as a baseline to create a model of health service in outpatient Puskesmas, so that the Puskesmas can be accredited and its services in accordance with ISO 9001: 2008. The results of this study can be used as a self-evaluation guideline for health care providers, so they can know the successes and weaknesses when providing health care. Likewise, it can be seen the successes and weaknesses of the process, teamwork and service procedures provided. The health care providers can improve themselves in the form of; increasing their knowledge, attitudes, and skills and also maintaining the stability of the health services provided in accordance with the fixed standards.

## METHODOLOGY

Research design implicates a context for data collection and analysis and demonstrates arrangements about the priority given to a dimension of elements of the research process ([Bryman, 2008](#)). Categorically, methodological examinations have the eventual aim of administering researchers with framing, or a path they can follow, which corresponds with their particular research aims ([Crotty, 1998](#)). This consists of beliefs about the essence of reality (ontology) and assumptions about how knowledge is accomplished (epistemology), mixed with the essence of how methods are used or examined (methodology) ([Guba & Lincoln, 1994](#)).

This study employs quantitative and qualitative approaches with the survey as its major tool. This research is “an explanatory research” with cross-sectional study design that aims to explain the relationship of socio-demographic factors (age, gender, educational level, occupational status, and income), factors of health service procedure in Puskesmas. The survey questionnaires were distributed to the samples of 300 people, 100 people in each Puskesmas for the survey. While, the data collection in every Puskesmas conducted by two enumerators by interviewing outpatients who have received services from registration services at the registration counter, one of examination sites, whether in the general polyclinic, KIA, family planning, Dental, IGD and the last services received by patient when taking the medicine (pharmacy). The population in this study was the outpatients who visited Puskesmas Darussalam, Puskesmas Kuta Alam, and Puskesmas Banda Raya. The number of samples is determined by using a formula [Lemeshow and David \(1997\)](#). With the provision of Z-Score = 1.96, d = 10%, 53% proportion. The calculation result is  $n = 96$  respondents x 3 Puskesmas = 288 respondents. The results of these calculations plus 4%, then the total respondents in the three Puskesmas were 100 respondents. Hence, the respondents for each Puskesmas were Puskesmas Kuta Alam = 47100, Puskesmas Banda Raya = 100 and Puskesmas Ulee Kareng = 100 respondents. The purpose of this sampling is to secure information about health service satisfaction they received during seeking medical treatment in the Puskesmas.

The research instrument used was a questionnaire, in the form of a question for socio-demographic consisting of Gender, Age, Educational Level, Occupational Status and Monthly Income. The next question for Health Service Procedure refers to the SOP of ISO 9001:2008 consists of questions about registration services at the registration counter, amounting to 5 (five) questions, then the question of public services in the general polyclinic, Dental, KIA, KB, IGD, the number of

questions is 9 questions, then the question about services in pharmacies amounted to 7 (seven) questions. Each question was given an alternative assessment scores, to answer Very Well (SB) was given a score of 5. Good (B) score of 4, Hesitation (RR) score of 3, Less (K) score of 2 and Very Less (SK) score of 1. The next is the question about Patients' Satisfaction, based on the Quality Services (ServQual) by Parasuraman: Tangible, which consists of 8 questions. Reliability consists of 7 questions. Assurance consists of 5 questions. Responsiveness consists of 3 questions and Empathy consists of 5 questions. In order to know the 48satisfaction of patients attending outpatient Puskesmas, then sought the gap between "expectation" and "reality".

This research is "an explanatory research" with cross-sectional study design that aims to explain the relationship of socio-demographic factors (age, gender, educational level, occupational status and income), factors of health service procedure in Puskesmas based on Standard Operating Procedures (SOP) in the outpatients' department that is in the registration room/counter, general polyclinic, Polyclinic of Maternal and Child Health (KIA), Polyclinics, Family Planning, Dental, Emergency Unit (IGD), and pharmacy on the satisfaction of patients who take medication in Puskesmas Darussalam, Puskesmas Kuta Alam and Puskesmas Banda Raya Banda Aceh City. The data collection started by providing a letter of the license application of research submitted by the Program Manager School of Graduate Studies Management Since University(MSU) Shah Alam-Malaysia. Data collection began after obtaining permission from the Health Office of Banda Aceh City that aimed to the Puskesmas as research site, No: 441/322/2015, about: permissions for data collection, May 20th 2015. Data collection began in Puskesmas Darussalam (from May 20th to July 24th, 2015), followed by Puskesmas Kuta Alam (from May 20th to July 24th, 2015) and the last Puskesmas Banda Raya (from May 21st to July 29th, 2015). The data collection was conducted by researchers and 6 personnel experienced enumerators and educated to the degree of public health. Before the data collection, the enumerator received training first on the direction and content of the questionnaire and interview techniques. The data collection in every Puskesmas conducted by two enumerators interviewing outpatients who have received services from registration services at the registration counter, one of examination sites, whether in general polyclinic, KIA, family planning, Dental, IGD and the last services received by patient when taking the medicine (pharmacy). Furthermore, after data collection was completed, the head of Puskesmas provided a written statement that the study has been completed.

## DISCUSSION / ANALYSIS

This research is "an explanatory research" with a cross-sectional study design that aims to explain the relationship of socio-demographic factors (age, gender, educational level, occupational status, and income), factors of health service procedure in Puskesmas. The qualitative data collection process through personal interviews conducted by researchers and 6 personnel experienced enumerators and educated to the degree of public health. Before the data collection, the enumerator received training first on the direction and content of the questionnaire and interview techniques. While, the data collection in every Puskesmas conducted by two enumerators by interviewing outpatients who have received services from registration services at the registration counter, one of examination sites, whether in general polyclinic, KIA, family planning, Dental, IGD and the last services received by patient when taking the medicine (pharmacy). This research shows the work performance of Puskesmas Darussalam, Puskesmas Kuta Alam, and Puskesmas Banda Raya through the identification of the satisfaction levels of patients who seek treatment in the Puskesmas. The patient satisfaction level is seen through the Service Quality (ServQual) which is connected with the socio-demography of patients and health service procedures based on Standard Operating procedures (SOP), which became a standard set by ISO 9001:2008.

### Socio-Demography

The research conducted in Puskesmas Darussalam dominated by female respondents 57%, likewise in Puskesmas Kuta Alam, the respondents were women of 53%, and also in Puskesmas Banda Raya, the percentage of the female respondent was 64%. The data showed that the three Puskesmas most visited by women patients. Besides, the visit of male patients was also almost 50% in each Puskesmas. The difference percentage of male and female visits in these three Puskesmas only varies slightly. In terms of age, however, patients who visit the Puskesmas Darussalam are between 21-30 years old as much as 32%, as well as in Puskesmas Kuta Alam, the same age category as Puskesmas Darussalam as much as 37%. While the visits to Puskesmas Banda Raya dominated by 31-40 years old patients as much as 32%. The most often of educational level category of patients visiting Puskesmas Darussalam is senior high school level as much as 48%. Likewise in Puskesmas Kuta Alam as much as 38% and Puskesmas Banda Raya as much as 44%. While the occupational status of the patients who visit Puskesmas Darussalam 50% is self-employed, as well as in Puskesmas Kuta Alam dominated by patients who are self-employed as much as 38%. In contrast to the Puskesmas Banda Raya, most patients who seek treatment are government staff (PNS) as much as 34%. Patients who seek treatment from the self-employed category in Puskesmas Kuta Alam can be rationalized because the environment around Puskesmas Kuta Alam is the shopping area. Likewise in Puskesmas Darussalam, around the working area is simple shopping area for the students because it is located adjacent to the University of Syiah Kuala and the Islamic University of Ar Raniry and several other private colleges. Whereas the area around Puskesmas Banda Raya is the residential population and adjacent to some government offices.

### Health Service Procedure Based on Standard Operating Procedure (SOP) According to ISO 9001: 2008

Health service procedure studied was based on the Standard Operating Procedure (SOP) which covers registration services in registration counters, general services in general polyclinic, dental polyclinic, polyclinic of maternal and child health

(KIA), family planning and emergency departments and services in pharmacy. Health services procedure in Puskesmas Darussalam was in the good category of 53%, Puskesmas Kuta Alam was also in the good category 51%, followed by the good category of Puskesmas Banda Raya as much as 56%. The good category of service procedure has not to be fully guaranteed yet because the patients who said the service procedure is less good almost equal with whom said that it is good. The difference between the two categories is small. From the above conditions, it can be seen that there are health workers in the three Puskesmas who have not to use the SOP optimally. This attitude is known by the patients seeking treatment because there are still some health workers who are irregular in working, this situation causes the patient to feel less satisfied with the service provided. To avoid disappointed patients, the targeted and measurable working ways are needed, one of which is the use of institutional or individual SOP as a profession that runs his/her duties and functions as the health service provider to the public. This standard becomes very important because it contains the written work instructions and guidance for every profession to perform specific actions in order to achieve the work result that is in accordance with the established provisions so that the service provided becomes more efficient, effective, consistent and safer. Every activity should be documented. The result of research about the influence of management system of ISO 9001:2008 on pharmacy services in Puskesmas Sleman, states that the organization must establish a documented procedure to control the activity.

### Patient Satisfaction Level Based on ServQual

#### *Tangible*

The results of research in Puskesmas Darussalam showed that from the 100 patients treated, 30 (68.8%) male patients felt less satisfied with the tangible services, whereas 29 female patients (50.9%) said satisfied with the tangible services. The result of the *Chi-square* statistical test was obtained  $p = 0.042$ , it means that there is a significant relationship between sex/gender and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on *tangible* services. For patients who seek treatment in Puskesmas Kuta Alam, most of patients who expressed their satisfaction with the services were men's group as many as 47 (34.0%) patients, while who said that they are less satisfied than from men's groups were also 31 (66.0%) patients. The result of *Chi-square* statistical test was obtained  $p = 0.259$ , it means that there is no relationship between sex/gender and the satisfaction level of patients who visit Puskesmas Kuta Alam. Whereas patients who visit Puskesmas Banda Raya stated that the tangible service is satisfied dominated by the women's group as many as 31 patients (48.4%) and who stated less satisfied 33 (51.6%) patients as well as from women's groups. result of *Chi-square* statistical test was obtained  $p = 1.000$ , it means that there is no relationship between sex/gender and satisfaction level of patients who visit Puskesmas Banda Raya.

The age of patients treated in Puskesmas Darussalam who most stated satisfaction with tangible services were between the ages of 41-50 years, 13 people (54.2%) and who stated less satisfied aged between 21-30 years, 22 people (68.8%). The result of the *Chi-square* statistical test was obtained  $p = 0.034$ , it means that there is a relationship between age and satisfaction level of patients who seek treatment in Puskesmas Darussalam for tangible services. Most of patients treated in Puskesmas Kuta Alam in the age group of 21-30 years as many as 16 people (43.2%) stated satisfied with the services tangible, while who stated less satisfied were in the age group of 31-40 years as many as 16 people (69.6%). The result of the *Chi-square* statistical test was obtained  $p = 0.322$ , it means that there is no relationship between age and the satisfaction level of patients who visit Puskesmas Kuta Alam for tangible services. For patients who visit Puskesmas Banda Raya, most of the age group of 41-50 years as many as 17 people (60%) said they were satisfied and most of who stated less satisfied were in the age group 31-40 years as many as 18 people (56.3%). The result of the *Chi-square* statistical test was obtained  $p = 0.031$ , it means that there is a relationship between age and the satisfaction level of patients who visit Puskesmas Banda Raya on tangible services.

Most of the educational level of patients who visit Puskesmas Darussalam was senior high school level as many as 25 people (52.1%) stated they were satisfied with the tangible services, while who stated less satisfied as many as 24 people (63.2%) of the patients were educated diploma. The result of the *Chi-square* statistical test was obtained  $p = 0.012$ , it means that there is a relationship between educational level and the satisfaction of patients who seek treatment in Puskesmas Darussalam. Most of educational status of patients who visit Puskesmas Kuta Alam stated their satisfaction was senior high school level of 20 people (55.6%) and who stated less satisfied were the group of primary school level as much as 6 people (85.7%). The result of *Chi-square* statistical test was obtained  $p = 0.016$ , it means that there is a relationship between educational level and the satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on tangible services. For patients who visit Puskesmas Banda Raya, most of patients in the group of Primary school level, 5 patients (62.5%), said they were satisfied and most of patients in the group of junior high school level stated less satisfied, 6 patients (100%), while 20 patients (58.8%) in the group of diploma stated they were satisfied and in the group of senior high school level, 24 patients (54.5%), stated less satisfied. The result of the *Chi-square* statistical test was obtained  $p = 0.042$ , it means that there is a significant relationship between educational level and the satisfaction level of patients who visit Puskesmas Banda Raya for tangible services.

Occupational status of patients who visit Puskesmas Darussalam generally was the group of self-employed that said satisfied with the tangible services, 22 patients (44.0%), while who stated less satisfied were also dominated by the group of self-employed, 28 patients (56.0%). The result of the *Chi-square* statistical test was obtained  $p = 0.973$ , it means that there is no relationship between occupational status and satisfaction level of patients who seek treatment in Puskesmas

Darussalam on getting tangible service. Most of patients who visit Puskesmas Kuta Alam were in the group of private employees stated satisfied with the tangible services, 12 patients (46.2%), while who stated less satisfied were dominated by the group of self-employed, 21 patients (55.3%). The result of *Chi-square* statistical test was obtained  $p = 0.328$ , it means that there is no significant relationship between occupational status and the satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on tangible service. According to occupational status of patients who visit Puskesmas Banda Raya, most of patients in the group of self-employed stated satisfied with tangible services, 20 patients (64.5%), while who stated less satisfied were dominated by the group of government staff, 24 people (70.6%). The result of *Chi-square* statistical test was obtained  $p = 0.041$ , it means that there is a significant relationship between occupational status and the satisfaction level of patients who seek treatment in Puskesmas Banda Raya on tangible services.

### Reliability

The results of research in Puskesmas Darussalam showed that from the 100 patients treated, 31 (54.4%) female patients felt satisfied with the *reliability* services, whereas 21 male patients (48.8%) stated satisfied with the *reliability* services. The result of the *Chi-square* statistical test was obtained  $p = 0.749$ , it means that there is no significant relationship between sex/gender and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on *reliability* services. For patients who seek treatment in Puskesmas Kuta Alam, 29 female patients (54.7%) stated satisfied with the *reliability* services, while 24 male patients (54.7%) stated less satisfied with the *reliability* services. The result of the *Chi-square* statistical test was obtained  $p = 0.706$ , it means that there is no relationship between sex/gender and the satisfaction level of patients who visit Puskesmas Kuta Alam on *reliability* services. Patients who visit Puskesmas Banda Raya, 35 female patients (54.7%) felt satisfied with the *reliability* services, while 20 male patients (55.6%) stated less satisfied with the *reliability* services. The result of *Chi-square* statistical test was obtained  $p = 0.438$ , it means that there is no significant relationship between sex/gender and satisfaction level of patients who visit Puskesmas Banda Raya on *reliability* services. When viewed from the monthly income of patients who seek treatment in Puskesmas Darussalam, in general, earning Rp 500.000 to Rp 1.000.000, 11 patients (84.6%) stated satisfied with the *reliability* services, while who stated less satisfied earns Rp1.500.000 to Rp2.000.000, 17 patients (65.4%) and who earn >Rp. 2.000.000 per month as many as 19 patients (46.3%). The result of *Chi-square* statistical test was obtained  $p = 0.040$ , it means that there is a significant relationship between monthly income and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on the *reliability* service. When viewed from the monthly income of patients who visit Puskesmas Kuta Alam who earn Rp1.000.000 to Rp 1.500.000, 11 patients (78.6%) stated satisfied with the *reliability* services, and who stated less satisfied earned 500,000 to < Rp 1,000,000, 6 patients (66.7%) and who earn Rp 1,500,000 to Rp 2,000,000, 18 patients (60.0%). The result of *Chi-square* statistical test was obtained  $p = 0.078$ , it means that there is no significant relationship between monthly income and satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on *reliability* service. When viewed from the monthly income of patients who seek treatment in Puskesmas Banda Raya who earn Rp1.500.000 to 2.000.000, 23 patients (62.2%) stated satisfied with the *reliability* services and who stated less satisfied earns >Rp2.000.000, 22 patients (64.7%). The result of the *Chi-square* statistical test was obtained  $p = 0.027$ , it means that there is a significant relationship between monthly income and satisfaction level of patients who seek treatment in Puskesmas Banda Raya on *reliability* services.

### Assurance

The results of research in Puskesmas Darussalam showed that from the 100 patients treated, 31 (54.4%) female patients felt satisfied with the *assurance* services, whereas 22 male patients (51.2%) stated less satisfied with the *assurance* services. The result of the *Chi-square* statistical test was obtained  $p = 0.728$ , it means that there is no significant relationship between sex/gender and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on *assurance* services. The patients who seek treatment in Puskesmas Kuta Alam, 29 male patients (61.7%) stated satisfied with the *assurance* services, while 31 female patients (58.7%) stated less satisfied with the *assurance* services. The result of the *Chi-square* statistical test was obtained  $p = 0.069$ , it means that there is no relationship between sex/gender and the satisfaction level of patients who visit Puskesmas Kuta Alam on *assurance* services. The patients who visit Puskesmas Banda Raya, 17 male patients (47.2%) felt satisfied with the *assurance* services, while 34 female patients (53.1%) felt less satisfied with the *assurance* services. The result of the *Chi-square* statistical test was obtained  $p = 1.000$ , it means that there is no significant relationship between sex/gender and satisfaction level of patients who visit Puskesmas Banda Raya on *assurance* services.

When viewed from the monthly income of patients who seek treatment in Puskesmas Darussalam the patients who earned 500.000 to Rp 1.000.000, 11 patients (76.9%) stated satisfied with the *assurance* services, while who stated less satisfied earn Rp1.500.000 to Rp2.000.000, 17 patients (65.4%) per month. The result of *Chi-square* statistical test was obtained  $p = 0.136$ , it means that there is no significant relationship between monthly income and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on the *assurance* service. When viewed from the monthly income of patients who visit Puskesmas Kuta Alam who earn Rp1.500.000 to Rp 2.000.000, 17 patients (56.7%) stated satisfied with the *assurance* services, and who stated less satisfied earn >Rp 2,000,000, 24 patients (52.2%) and who earn Rp500,000 to Rp 1,000,000, 5 patients (55.6%). The result of the *Chi-square* statistical test was obtained  $p = 0.740$ , it means that there is no significant relationship between monthly income and satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on *assurance* service. When viewed from the monthly income of patients who seek treatment in Puskesmas Banda Raya who

earn Rp1.500.000 to 2.000.000, 23 patients (62.2%) stated satisfied with the *assurance* services, while who stated less satisfied earns >Rp2.000.000, 22 patients (64.7%). The result of the *Chi-square* statistical test was obtained  $p = 0.041$ , it means that there is a significant relationship between monthly income and satisfaction level of patients who seek treatment in Puskesmas Banda Raya on *assurance* services.

### *Responsiveness*

The results of research in Puskesmas Darussalam showed that from the 100 patients treated, 31 (54.4%) female patients felt satisfied with the *responsiveness* services, whereas 23 male patients (53.5%) stated less satisfied with the *responsiveness* services. The result of the *Chi-square* statistical test was obtained  $p = 0.563$ , it means that there is no significant relationship between sex/gender and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on *responsiveness* services. The patients who seek treatment in Puskesmas Kuta Alam, 17 male patients (36.2%) stated satisfied, while 35 female patients (66.0%) stated less satisfied with the *responsiveness* services. The result of *Chi-square* statistical test was obtained  $p = 0.983$ , it means that there is no relationship between sex/gender and the satisfaction level of patients who visit Puskesmas Kuta Alam on *responsiveness* services. In Puskesmas Banda Raya showed 35 female patients (54.7%) stated satisfied, while 19 male patients (53.8%) stated less satisfied with the *responsiveness* services. The result of the *Chi-square* statistical test was obtained  $p = 0.611$ , it means that there is no significant relationship between sex/gender and satisfaction level of patients who visit Puskesmas Banda Raya on *responsiveness* services.

The educational level of patients who visit Puskesmas Darussalam, most of patients in the group of senior high school level as many as 26 patients (54.2%) and in the group of bachelor level as many as 9 patients (90.0%) stated satisfied with the *responsiveness* services, while who stated less satisfied as many as 22 patients (57.9%) were in the group of diploma. The result of *Chi-square* statistical test was obtained  $p = 0.009$ , it means that there is a relationship between educational level and the satisfaction of patients who seek treatment in Puskesmas Darussalam on *responsiveness* service. The educational level of patients who visit Puskesmas Kuta Alam, most of patients in the group of senior high school as many as 17 patients (47.2%) stated satisfied with the *responsiveness* services, while who stated less satisfied as many as 15 patients (83.3%) were in the group of junior high school. The result of the *Chi-square* statistical test was obtained  $p = 0.158$ , it means that there is no relationship between educational level and the satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on *responsiveness* services. The educational level of patients who visit Puskesmas Banda Raya, most of patients in the group of diploma and bachelor over 50% said that they were satisfied with the *responsiveness* services, while who stated less satisfied were in the group of senior high school as many as 23 patients (52.3%) and the group of junior high school, 5 patients (83.3%). The result of the *Chi-square* statistical test was obtained  $p = 0.324$ , it means that there is no significant relationship between educational level and the satisfaction level of patients who visit Puskesmas Banda Raya for *responsiveness* services.

### *Empathy*

The results of research in Puskesmas Darussalam showed that from the 100 patients treated, 28 female patients (52.6%) felt satisfied with the *empathy* services, while 23 male patients (53.5%) stated less satisfied with the *empathy* services. The result of *Chi-square* statistical test was obtained  $p = 0.686$ , it means that there is no significant relationship between sex/gender and the satisfaction level of patients who seek treatment in Puskesmas Darussalam on *empathy* services. The results of research in Puskesmas Kuta Alam showed that from the 100 patients treated, 19 male patients (40.4%) stated satisfied with the *empathy* services, while 35 female patients (66.0%) stated less satisfied with the *empathy* services. The result of *Chi-square* statistical test was obtained  $p = 0.645$ , it means that there is no relationship between sex/gender and the satisfaction level of patients who visit Puskesmas Kuta Alam on *empathy* services. The results of research in Puskesmas Banda Raya showed that from the 100 patients treated, 34 female patients (53.1%) stated satisfied with the *empathy* services, while 19 male patients (52.8%) stated less satisfied with the *empathy* services. The result of the *Chi-square* statistical test was obtained  $p = 0.571$ , it means that there is no significant relationship between sex/gender and satisfaction level of patients who visit Puskesmas Banda Raya on *empathy* services.

The educational level of patients who visit Puskesmas Darussalam, most of the patients in the group of senior high school as many as 27 patients (56.3%) and in the group of bachelor as many as 9 patients (90.0%) stated satisfied with the *empathy* services, while who stated less satisfied as many as 24 patients (63.2%) were in the group of diploma and 4 patients (100%) were in the group of junior high school. The result of the *Chi-square* statistical test was obtained  $p = 0.003$ , it means that there is a relationship between educational level and the satisfaction of patients who seek treatment in Puskesmas Darussalam on *empathy* service. The educational level of patients who visit Puskesmas Kuta Alam, most of patients in the group of diploma as many as 16 patients (44.4%) stated satisfied with the *empathy* services, while who stated less satisfied as many as 14 patients (77.8%) were in the group of senior high school. The result of *Chi-square* statistical test was obtained  $p = 0.308$ , it means that there is no relationship between educational level and the satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on *empathy* services. The educational level of patients who visit Puskesmas Banda Raya, most of patients in the group of diploma, 20 patients (58.8%) stated satisfied with the *empathy* services, while who stated less satisfied as many as 23 patients (52.3%) were in the group of senior high school and 5 patients (83.3%) were in the group of junior high school. The result of *Chi-square* statistical test was obtained  $p = 0.370$ , it means that there is no significant relationship between educational level and the satisfaction level of patients who visit

Puskesmas Banda Raya for *empathy* services. Therefore, the human capital is influenced by social justice hence the benefit of individual and the society (local or international) enhances institutional-individual relationships ([Ahamat, 2017](#)).

Occupational status of patients who seek treatment in Puskesmas Darussalam most of the patients who stated satisfied with *empathy* service were in the group of self-employed as many as 26 patients (52.0%). Who stated less satisfied were in the group of government staff, 9 patients (75.0%) and the group of self-employed 12 patients (54.4%). The result of the *Chi-square* statistical test was obtained  $p = 0.016$ , it means that there is no significant relationship between occupational status and satisfaction level of patients who seek treatment in Puskesmas Darussalam on *empathy* service. The occupational status of patients who seek treatment in Puskesmas Kuta Alam who most stated satisfied with *empathy* service was in the group of government staff, 12 patients (50.0%). Who stated less satisfied were in the group of self-employed, 24 patients (63.2%). The result of *Chi-square* statistical test was obtained  $p = 0.112$ , it means that there is no significant relationship between occupational status and the satisfaction level of patients who seek treatment in Puskesmas Kuta Alam on *empathy* service. Occupational status of patients who seek treatment in Puskesmas Banda Raya, most of patients who stated satisfied with *empathy* service were in the group of self-employed, 19 patients (61.3%) and the group of student, 5 patients (83.3%). Who stated less satisfied were in the group of government staff, 22 patients (64.7%). The result of the *Chi-square* statistical test was obtained  $p = 0.046$ , it means that there is a significant relationship between occupational status and the satisfaction level of patients who seek treatment in Puskesmas Banda Raya on *empathy* services.

## CONCLUSION

The health service procedure in Puskesmas Darussalam, Puskesmas Kuta Alam and Puskesmas Banda Raya Banda Aceh, based on Standard Operating Procedures (SOP) of ISO 9001:2008 in the registration counter, general polyclinic, KIA, family planning, Dental, IGD, and Pharmacies are in good categories, respectively 53%, 51%, and 56%. The level of satisfaction of patients seek treatment in Puskesmas Darussalam based on ServQual; The *tangible* service was said less satisfied 58%, *reliability* service was 53% satisfied, *assurance* service was 52% satisfied, responsiveness service was 51% satisfied and *empathy* was 50% satisfied. The satisfaction levels in Puskesmas Kuta Alam are as follows; patient treated said *tangible* service was less 59%, *reliability* service was 52% satisfied, *assurance* service was 51% satisfied, responsiveness service was 65% less satisfied and *empathy* service was 63% less satisfied. Patients said less satisfied with the *tangible* services 52%, *reliability* service was 51% satisfied, *assurance* service was 53% satisfied, *responsiveness* service was 53% satisfied and *empathy* service was 51% satisfied.

For the patient satisfaction levels based on ServQual that were not significantly different in the three Puskesmas were satisfaction with *tangible*, *reliability* and *assurance* services. The three variables have  $p$ -value  $> 0.05$ , whereas which have differences only *responsiveness* and *empathy* variables. But, when viewed more deeply by the Post Hoc Test, only *responsiveness* has a significant difference. Thus, health service procedures in Puskesmas Darussalam, Puskesmas Kuta Alam, and Puskesmas Banda Raya need to be improved because there are still many patients (about 50%) stated that the health service procedures were still not good. The health workers need to improve the services in the registration counter, the services in general Polyclinic, dental clinic, KIA, family planning, emergency, and pharmacy room by following all the procedures that have been established in accordance with ISO 9001:2008.

In Puskesmas Darussalam, Puskesmas Kuta Alam and Puskesmas Banda Raya, it is necessary to increase the quality of *tangible* service of ServQual by Puskesmas management and the staff who provide health service. Then in Puskesmas Kuta Alam, it is necessary also to improve service quality on the part of *responsiveness*, and *empathy*. Besides, it is necessary also to improve health services in the other ServQual parts, *reliability* and *assurance* because almost 50% of patients stated less satisfied. The Health Office of Banda Aceh City has to regularly evaluate (six months) the management of Puskesmas. This evaluation is conducted by the primary health program. Management of Puskesmas has to evaluate periodically (three months) the performance of health workers in providing services for patients. Management of Puskesmas has to evaluate (every six months) the Standard Operating Procedure (SOP) used in Puskesmas and to make improvements as needed. The suitable method is supervision. Management of Puskesmas shall propose (once in a year) to KAN (institution conducting the assessment of ISO 9001: 2008) for evaluation. The purpose is to increase the service quality in Puskesmas can always be guaranteed to be good. Looking at the development and the importance of quality products and services, several traditional institutions globally may encounter challenging situations of closure or difficulties upgrading their systems ([Ahamat et. al., 2017](#)). Thus, health service provider in this context is not excluded from similar challenges.

## LIMITATION AND STUDY FORWARD

While management studies and health disciplines differ in discrete approaches, there are still approaches that management study could benefit from health disciplines, thus the notions of the real world in institutions can be advanced via systems thinking ([Ahamat, 2014](#)). As a proposition for future study, it is beneficial for this research to use qualitative approach through integrating systems thinking to explore and discover the personal perspective of the patients. The future study may opt qualitative techniques via interviews and personal observation. Nevertheless, by engaging structured interviews and personal observation, this can steer to the exploration of few critical and emerging issues, which may not have been disclosed as peculiarly if only non-qualitative techniques had been utilized ([Ahamat, 2019](#)).



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