



Demand for ICU Services at Rantau Prapat Regional General Hospital in 2022

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Abstract

The increasing demand for health services and advances in technology have an impact on the expansion of hospitals which continue to grow in terms of number, capacity, and infrastructure. The purpose of this study was to analyze the demand for services in the ICU at the Rantau Prapat Regional General Hospital. This research was a quantitative study with a cross-sectional study approach. The population in this study were all patients seeking treatment at the ICU of the Rantau Prapat Regional General Hospital with a total of 46,467 people. By using the slovin formula, a sample of 397 people was obtained and the data were analyzed using STATA software. The results of the study found that the patient's age, health insurance, waiting time, type of disease, patient disease severity, and quality of service had a significant influence on the demand for ICU health services at the Rantau Prapat general hospital. Patient education, income, and customer costs do not have a significant relationship with the demand for ICU health services in hospitals.

Keywords: *Demand, Services; ICU; Hospital*

Introduction

Because health is needed to support all activities of human life, health is a factor that determines the degree of human existence (Todaro & Smith, 2006). Everyone strives for excellent health by investing in or consuming various health products and services. Someone will need adequate health facilities and infrastructure to achieve good health conditions (Grossman, 1972). From an economic perspective, health is a determinant of the quality of human resources. According to the microeconomic theory of demand for health services, the quantity demanded for health services is inversely proportional to the desired price (Folland et al., 2007).

Health services, according to Folland et al. (2007), is a normal good, which means that the higher the family income, the greater the demand for health services. While the type of service is low, the higher the family income, the lower the individual demand for health care (Folland et al., 2007). Demand is a

person's willingness to buy a particular product based on their support, desire, and ability to do so. The use of a person's health services is influenced by health needs. The act of obtaining health care is referred to as using health services (Andersen & Newman, 2005).

The use of health services is also very important in society because it helps assess the level of public health (Andersen & Newman, 2005). Because the Hospital is a health institution that functions as a referral center for specialist and sub-specialist health services, one of its strategic tasks is to improve the health status of the Indonesian people. As a result, compared to other health service institutions, this has fostered a public view that hospitals are capable of providing medical services as a curative and rehabilitative effort for disease (Ministry of Health, 2015).

The increasing demand for health services and advances in technology have an impact on the expansion of hospitals which continue to grow in terms of number, capacity, and infrastructure. From year to year the number of hospitals in Indonesia has increased quite significantly; in 2015 as many as 2,490 units. From 2016 to 2018 the number was 2,601 units, 2,773 units, and 2,820 units respectively (Trisnantoro & Listyani, 2018). Due to the growing development of hospitals today, there will be competition between hospitals, so every hospital must work hard to "survive" in the healthcare market (Hanif, 2001).

In this case, the use of hospitals by the community cannot keep up with the rapid growth of hospitals. According to Balitbangkes statistics for 2014, the proportion of various health service places visited by the community is as follows: Integrated Healthcare Center 61.6%, Public health center 31.4%, Doctors Practicing Health 17.0%, and Hospitals 10.6%. Based on data on visits to Rantau Prapat Hospital in 2019, it is known that the number of patient visits to the ICU at Rantau Prapat Hospital decreased between 2018 and 2019. The number of visits in 2018 was 51,101 patients, and the number of visits in 2019 was 46,467 patients.

According to Andersen and Newman (2005), the factors that determine the demand for health services are classified into three categories: predisposing factors such as demographic conditions (age, gender, marital status), social conditions (education, race, family size, religion, ethnicity, occupation), attitudes/beliefs that emerge (towards health services, towards labor, people's attitudes towards health and disease); and supporting factors such as sources of information (Andersen & Newman, 2005).

Mills and Gilson (1990) stated that the demand for health services in developing countries is influenced by factors: income, price, attainment of health care facilities, efficacy, and quality of health services provided.

Literature Review

Demand is defined as someone's desire to buy a good at a different price level in a certain period (Feldstein, 2012). Green and Kreuter (2005) define demand as an individual's desire for an item with the support of the capacity and the will of the individual to buy. Demand is also described as the number of goods that people want and can buy at different price levels at a particular moment when the desire or need is accompanied by the will and ability to obtain, as well as sufficient money to pay. As a result, demand can be said to be the belief power strengthens want and need (Green & Kreuter, 2005). According to Henderson (2005), the simple demand function shows that the price of an item can change the demand for a product. According to Gilarso (2004), the price of goods, the price of other commodities that affect it, the buyer's income, and preferences all affect the demand for fish as a product. There is always demand, supply, and distribution of commodities in the economy when these commodities are health care rather than health itself. From a demand point of view, individuals want to improve their health condition, because that is why they need health services to do so. Meanwhile, health will produce additional output

in the form of the provision of primary health services. Where health cannot be exchanged with someone else, health cannot be traded. Health solely has a utility value and does not have a monetary value (Tjiptoherijanto, 1990).

The relationship between the demand for health care appears to be straightforward, but in fact, it is rather complicated. One of the problems is the lack of information. The use of health services must be translated into various kinds of information, such as information about current health conditions, information about improving health status, information about types of services offered, the suitability of health services, and so on. This is because the need for health services is marked by uncertainty, where a disease is a symptom of a health problem which is uncertainty. Imperfect knowledge and uncertainty are common aspects of the demand for health services (Tjiptoherijanto, 1990). Increasing spending on health care requires other solutions, such as paying greater attention to the contents of market offerings. The only way to reduce healthcare costs is to change the behavior of healthcare providers. Ignoring the contents of market demand, and regulating the interests of individuals is the most powerful mechanism capable of limiting health care expenditures. Understanding the content of fundamental requests from markets is an important step toward being physically prudent in health care (Folland et al., 2007).

Fuchs (1998) and Dunlop (1981) stated that needs are based on physiological aspects, an individual's assessment of his health status, economic factors such as tariffs, the existence of an insurance system, and income, as well as demographics and organizational factors, all of which affect the demand for health services. Other considerations besides that are advertising, the impact of the availability of personnel and medical facilities, and the impact of inflation. These elements are connected intricately to one another. In this study, demand was divided into two categories based on the number of patients visits, low demand and high demand during the previous six months (Damayanti et al., 2017).

People's ideas about the importance of health will be influenced by social and cultural influences. For example, the level of knowledge and education of a person has an impact on the importance of health. Increasing education is often translated into higher demand. Higher education can increase awareness of the health status of the community and encourage them to seek medical services. Individuals who are more educated and have more respect for their health so will use health services more frequently than individuals who are less educated and less informed (Mariyono et al., 2008).

Because the level of education can influence people's awareness and understanding of their health, there is a strong correlation between education and the use of health services. Lack of individual awareness and understanding of issues related to health behavior is one of the factors that hinder the utilization of health services. The lack of awareness and knowledge of individuals can be very diverse, from ignorance about health facilities in the surroundings to ignorance about the benefits of services, indications of danger, or situations that require services (Mariyono et al., 2008).

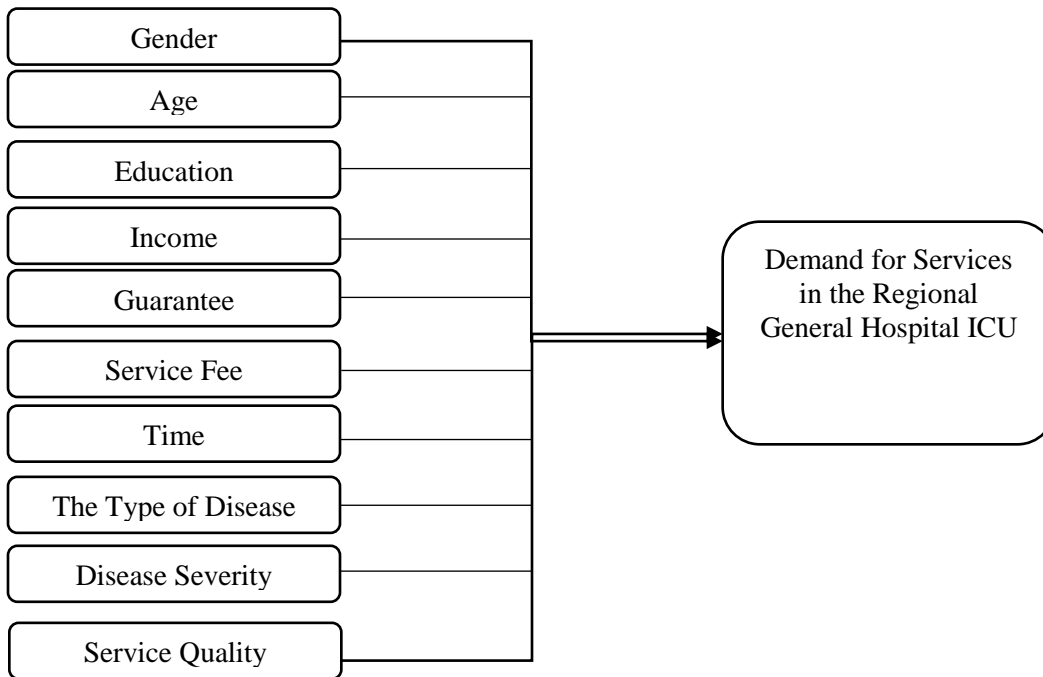


Fig 1. Conceptual Framework

Methods

The method in this study was a quantitative and analytical survey in nature with a cross-sectional design, that is, the research was conducted at one time and using a questionnaire as an instrument for data collection (Notoatmodjo, 2012). The variables that include the independent factor and independent factor are idiosyncratic observations at the same time. This research aims to find out the idea of the services ICU General Hospital in Rantau Prapat. The population is the entire object of research or the object being studied (Notoatmodjo, 2005). The population in this research is all patients who are treated in ICU General Hospital Rantau Prapat Year 2022 is 46,467 people. The sample is obtained from as many as 397 people. Samples were taken from populations that were selected, with the determination of the samples in the studies that could be studied were patients who met the inclusion criteria. The sampling technique in this study used the accidental sampling technique, which was carried out by taking cases or respondents who happened to be available or available (Sumantri, 2015).

Results and Discussion

The results of this study indicate that there is no significant relationship between gender and the demand for health services at the ICU of the Rantau Prapat Regional General Hospital. The results of this study are different from studies that have been conducted in the United States showing that the demand for women's health services is higher than that of men (Dunlop, 1981). These results are following the research conducted by Wardoyo et al. (2015) that gender is not related to the demand for health services. Similar to the research by Damayanti et al. (2017), showed that there was no relationship between gender and community demand for outpatient services. However, according to Hutapea (2009), women use more health facilities than men, where women use health services starting from the time of pregnancy, breastfeeding, and various diseases that only women suffer. The researcher assumes that a person's desire and habit of going to the hospital have more to do with things other than gender. The desire and effort to get health services at the Rantau Prapat Regional General Hospital are the same for male and female

patients. However, female respondents have a higher incidence of disease than male respondents and female work rates are lower than male respondents so women spend more time visiting health services than men. However, in emergency cases, the use of health services between male and female patients is not real.

The results of this study found a significant relationship between age and the demand for health services at the Rantau Prapat Regional General Hospital. Where the age of the respondent increases, the demand for health services will increase, because old age is more at risk for chronic diseases such as hypertension, DM, stroke, and others, requiring repeated visits to health services. This result is in line with the research by Damayanti et al. (2017) that age has a significant relationship with the demand for health services. In contrast to Wahyuni's research (2012) which stated that there was no relationship between age and the demand for health services at the Public health center. Respondents with an age group greater than fifty-five years have a lower chance of not utilizing health services compared to respondents with an age group of seventeen to fifty-five years. One of the factors that influence the demand for health services is age, where the younger age group (children) is more at risk of disease (ARI and diarrhea) and the productive age is more at risk from traffic accidents, work accidents, and diseases due to lifestyle, and the elderly are more at risk against chronic diseases (high blood pressure, coronary heart disease, cancer, diabetes mellitus, and others) (Notoatmodjo, 2003). The older respondents have a higher demand for health services compared to young respondents, this is because old age has decreased physical endurance and is more at risk of exposure to a disease.

The results of this study found that there was no relationship between education and service demand in the ICU of the Rantau Prapat Regional General Hospital. This is because patients who are highly educated after one or two requests for health services at the ICU of the Rantau Prapat Regional General Hospital feel dissatisfied or spend a lot of time, so they prefer to visit private health services or practice private doctors. Similar to the research by Damayanti et al. (2017) that education has no significant relationship with the demand for health services. Fuchs (1998) and Dunlop (1981) also stated that the higher a person's level of education, the more awareness of his health status increases, so the demand for health services will increase. So they no longer need services to treat disease only but to improve their health status (Azwar, 1980). In line with Nunez's research (2002) where a person with higher education tends to have higher demands. Higher education tends to increase awareness of health status. People with higher education value the importance of health, so they will use more health services when compared to people who are less educated and have less knowledge. Education can be correlated with medical knowledge so people with higher education tend to visit specialist doctors than general practitioners (Pohlmeier & Ulrich, 1995). In contrast to the results found by Oktarina (2010) that education has no relationship with the utilization of outpatient health services in Jambi. Someone who is highly educated tends to have a higher demand. Higher education further increases awareness of one's health status in using health services. (Nunez, 2002) and Feldstein (1979) stated that education influences the demand for health services. Families with a high level of education will recognize the signs of illness and its consequences so that they are more willing to seek treatment or prevention. Besides that, it can also increase efficiency in family spending and the use of health services. The people with higher education prioritize the quality of health services provided at healthcare facilities if the services provided are very satisfying and do not cost time, they will return to visit the health care facility. Otherwise, they are more inclined to look for other, better service facilities.

The results of this study indicate that there is no significant relationship between income and demand for health services in the ICU of the Rantau Prapat Regional General Hospital. The higher the patient's income, the greater the demand for services at the ICU at the Rantau Prapat Regional General Hospital. This is following the research of Damayanti et al. (2017) that the income factor is not related to service demand. However, this is not following Astati's research (2006) that there is a relationship between income and the demand for health services. The results of this study are not following the

research of Suaedi (2000) which states that there is an influence between the income factor and a positive effect on the demand for outpatient care in hospitals or health centers. Higher-income people can use services more than lower-income people (Nunez, 2002). Currently, patients who use health services use more health insurance compared to general patients or do not use health insurance, so the income of respondents has no effect. Patients with high incomes will increase the demand for health services, whereas individuals with high incomes do not really like health services that waste a lot of time, so the waiting time/queuing to get health services must be re-evaluated by the Hospital. So this must be anticipated immediately by the Hospital to increase the demand for health services.

The results showed that there was a significant relationship between patients using BPJS health insurance and the demand for health services in the ICU of the Rantau Prapat Regional General Hospital. The more people who use health insurance, the demand for services in the ICU of the Rantau Prapat Regional General Hospital will increase.

The results of this study are not following the research of Damayanti et al. (2017) that health insurance has a significant relationship with the demand for health services. This is the same as Wahyuni's research (2012) which states that there is no relationship between health insurance and the utilization of health services. This means that respondents who do not have health insurance have almost the same opportunity not to take advantage of health services compared to respondents who have health insurance. The demand for health services can increase with health insurance or health insurance, so it can be said that the demand for health services with health insurance is positive (Fuchs, 1998). Health insurance is to reduce costs for people who use healthcare facilities. Thus, the more people are covered by health insurance, the demand for health services will increase. Individuals who are already covered by health insurance will use health services as much as possible (Dunlop, 1981). This research is in line with Adisasmito in Wahyuni (2012) that health insurance is a tool that helps people to continue to use health insurance without having to be burdened with economic/financial problems. Health insurance has a very important function in maintaining public health, especially when sick so that the community's need for health services is met and health financing can be more secure. Health insurance does not have a significant relationship with the demand for health services, because almost 95.21% of all patients who use health services have health insurance. Health insurance is to reduce costs as a barrier for patients to get health services when they are sick. The more people who have health insurance, the demand for health services will increase. Health insurance is an important factor for today's society, whereby having health insurance the community feels more protected if one day they are attacked by a disease because by having health insurance they can be freed from the cost of health services.

The results of this study indicate that there is no significant relationship between service costs and demand for health services in the ICU of the Rantau Prapat Regional General Hospital. This is because there are still patients who go to the ICU at the Rantau Prapat Regional General Hospital for a fee of 5.79%. However, the chance of patients using free services is only 20%, this shows that there is still a high chance of patients using free services at the ICU of the Rantau Prapat Regional General Hospital. Where the results of this study support the statement of Astatu (2006) that an increase in tariffs (price) in the supply of health services does not affect the demand for health services, or is inelastic. In circumstances that require immediate medical treatment, the cost factor does not play a role in influencing demand. Price plays a role in determining the demand for healthcare services. The cost or price of health services with the demand for health services has a negative effect. A price increase will further reduce the demand from low-income groups compared to high-income groups (Mills & Gilson, 1990). The relationship between cost and demand is negative in hospital services, especially ineffective services. Simulations show that price has little effect on the utilization of health services and that the use of joint health fee authorities increases utilization by emphasizing improving both the quality of structural processes and care in public health facilities (Mariko, 2003). According to Akin et al. (1995) that higher prices for each type of facility will tend to reduce utilization of health services, and that usage will tend to

increase for each type of care as the quality of care increases. The results also show no difference in the price response of different income groups. The researcher's assumption is that cost/price has no relationship with the demand for health services, where the lower the cost of services, the higher the demand for health services. Where patients who use healthcare facilities at the Rantau Prapat Regional General Hospital use more health insurance compared to general patients.

The results of this study indicate that there is a significant relationship between waiting time and the demand for health services in the ICU of the Rantau Prapat Regional General Hospital. So the less waiting time, the demand for services at the ICU of the Rantau Prapat Regional General Hospital will increase. This is in line with Purwati's research (2018) that there is a relationship between waiting time and the demand for health services, that the longer the waiting time, the lower the demand for health services. Similar to Christian et al.'s research. (2015) showed that patients with a fast waiting time have a greater level of satisfaction and the demand for services is increasing. One of the factors that influence the demand for health services at the Rantau Prapat Regional General Hospital is waiting time, the researchers suspect that this is caused by the performance of medical recorders and medical personnel who are not in accordance with their competence. Long waiting times will affect the demand for health services at the Rantau Prapat Regional General Hospital where patients will have private doctor practices or private clinics to get health services. Private medical practices or private clinics are felt to be able to serve quickly without spending a lot of time, because respondents do not like services that take up a lot of time due to the high busyness of the respondents.

The results of this study indicate that there is a significant relationship between the type of disease and the demand for health services in the ICU of the Rantau Prapat Regional General Hospital. This is because patients who suffer from chronic diseases must do a re-examination/control of the patient's chronic disease. This research is in line with the research of Damayanti et al. (2017) that the type of disease has a significant relationship with the level of demand for outpatient services. Types of disease tend to improve health services. This symptom is natural because the older a person is, the condition of his health will decline so he tends to access more health services. Likewise, the more types of diseases/health problems suffered by the community, the more access to health services will increase (Mariyono et al., 2008). Patients with chronic disease types have a high demand for outpatient services in the ICU of the Rantau Prapat Regional Public Hospital because they have a very bad medical history.

The statistical test results showed that there was a significant relationship between the severity of the disease and the demand for health services in the ICU of the Rantau Prapat Regional General Hospital. The results of this study indicate that the more severe the severity of a person's disease, the higher the demand for health services at the Rantau Prapat Regional General Hospital. increasing demand for services at the Rantau Prapat Regional General Hospital. From the research results, patients with severe disease severity are more likely to suffer from chronic diseases. Based on the results of previous research conducted by Arsyad (2015) that there is a significant difference between the types of mild illness and the type of severe illness in the demand for health services. This result is in line with research by Astaty (2006) which states that the type of disease shows a significant difference between mild illness and serious illness in influencing the demand for health services for workers in the feed industry. The type of disease affects the demand for health services. The more severe a person's type of disease, the greater the demand for health services. This is because the more complex the disease they suffer, the higher the treatment that must be carried out, which means that the demand for health services will increase.

The results of this study indicate that there is a significant relationship between service quality and demand for health services in the ICU of the Rantau Regional General Hospital. Respondents who have low demand for services in the ICU of the Rantau Prapat Regional General Hospital assess the hospital's ICU services as not good because of the attitude of medical and non-medical personnel who are not friendly to patients, so patients feel dissatisfied with the services provided by the hospital and the

level of demand Hospital services are low. From the results of this study, there are also patients with poor service quality but the level of demand for services at the Rantau Prapat Regional General Hospital is high, this is because the patient is comfortable with the doctor serving the patient and the distance between the patient's house and the hospital is easily accessible. Similar to the research conducted by Arsyad (2015) that there is a difference between very satisfactory service quality and quality that does not satisfy the demand for health services in Takalar District. This is also in line with Putra & Hendarto's research (2010) which states that the quality of health services has a positive effect on the use of health services. The quality of health services has a positive effect on the demand for health services, the quality of services includes an assessment of the doctor's decisions, medical treatment carried out, the level of efficacy, and others. The higher the quality of services provided, the higher the demand for health services (Andersen & Newman, 2005; Rexford & Neun, 2000; Mills & Gilson, 1990). The results of this study are different from the research conducted by Damayanti et al. (2017) that the quality of health services has no significant relationship with the demand for outpatient services. To measure service quality is to know the perception of the service from the point of view of a consumer or customer. Likewise in assessing the quality of health services by knowing the assessment or perception of these services by patients. The patient's perception is very important because satisfied patients will comply with treatment and want to come for treatment again (Khasanah & Pertiwi, 2010). The quality of health services greatly influences the demand for health services, where the quality of service is good or satisfying, the demand for services is increasing. Services received by patients are assessed based on expected service and perceived service. If the service received is perceived as expected, then the quality of service is perceived as good and satisfying, and vice versa.

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