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Public satisfaction with the quality of First Health Facility Services in Indonesia: Does sociodemographic matter?

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ABSTRACT

Objective: To investigate individual characteristics related to satisfaction with the quality of First Health Facility Services (FHFS) in Indonesia.

Methods: This cross-sectional study analyzes national representation data. Meanwhile, the study involved 9846 representative respondents in 2019. Respondent's satisfaction with FHFS based on the five dimensions of service quality (SERVQUAL) is a dependent variable. Independent variables consist of sex, marital status, age, education, employment, insurance ownership, and economics. The study used multivariate logistic regression to explain the relationship between individual characteristics and FSHS quality.

Results: 77.3% Respondents were satisfied with FHFS, with the highest order of satisfaction dimensions being assurance (59.4%), empathy (57.3%), reliability (53.6%), responsiveness (52.7%), and then tangibility (49.1%). Multivariate logistic analysis showed that divorce was 1.48 more likely than never-married to be satisfied (95% CI 1.17-1.87). Employees were 0.77 less likely than the unemployed to get satisfied (95% CI 0.70-0.86). Respondents with higher education was 0.82 less likely than those with primary education to be satisfied (95% CI 0.67-0.99). Meanwhile, respondents who had government-run insurance were 1.61 more likely than uninsured to be satisfied (95% CI 1.42-1.80). Moreover, the rich were 0.82 less likely than the poor to get satisfied (95% CI 0.73-0.92).

Conclusions: Community satisfaction with FHFS is generally high, though some areas could be improved. Demographic factors are still strongly related to satisfaction ratings. The government can assess the quality of services in accordance with standards and disseminate information about service standards for primary facilities to all levels of society, ensuring that service satisfaction is rated as good by all groups.

KEYWORDS: Health services quality; Satisfaction; National health insurance

1. Introduction

Every citizen has a human right to obtain affordable and quality health services in the health sector. These health rights are protected and responded to by the World Health Organization (WHO) in a declaration of the Universal Health Coverage (UHC) program[1]. UHC aims to strengthen the health system and increase access and equity of health services for all levels of society[2]. As a member of the world organization, Indonesia is also committed to guaranteeing its citizens the fulfillment of human rights in the health sector through the National Health Insurance Program. Law Number 40 of 2004 concerning the National Social Security System regulates the implementation of National Health Insurance, which uses a mandatory social health insurance mechanism. The goal is that the government can adequately meet the basic needs of public health. The government establishes a Health Social Security Administrator (SSA), who reports directly to the President[3]. SSA Health, as a

Significance

Patient satisfaction is an essential indicator of healthcare quality, including First Health Facility Services. Three-quarters of respondents were satisfied with First Health Facility Services, with sociodemographic influencing it. These results can encourage the government to ensure that service satisfaction is rated as good by all groups.

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public legal entity administering the National Health Insurance program, cooperates with several Referral and Advanced Health Facilities and primary health facilities, from now on, referred to as First Health Facility Services (FHFS)[4].

As the gatekeeper of public health services in the National Health Insurance era, FHFS is required to provide complete services to National Health Insurance participants and reduce the number of referrals to Referral and Advanced Health Facilities. Types of health facilities classified as FHFS are primary health center, doctor's practice, dentist practice, primary clinic, or equivalent. FHFS is obliged to provide comprehensive and quality health services, including promotive, preventive, curative and rehabilitative health services, according to the applicable laws and regulations[3,4]. Health systems based on primary health care have lower rates of preventable hospitalizations, better performance in reducing social inequalities, lower costs for health system management, and more satisfactory population health indicators[5].

Quality is one indicator to describe a service system. In the health sector, service quality is the key to manage health services related to increased profits, cost savings, and market share. Information from clients helps management evaluate the achievement of the objectives of the functional aspects of the health care system. Quality, in this term, is based on the client's perception of service quality, comparing the client's expectations before the service with the experience when receiving the service. Based on this perspective, Parasuraman *et al.* developed a scale to measure service quality, most popularly known as service quality (SERVQUAL)[6]. SERVQUAL is measured through five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. SERVQUAL defines service quality as the difference between client expectations and client perceptions[6].

It is imperative for health care facility institutions to be committed to improving the quality of health services provided to their patients[7]. Meanwhile, SERVQUAL is a tool for evaluating the quality of healthcare services by comparing customers' expectations and perceptions of various aspects[8]. The level of patient satisfaction is one of the measuring tools for the quality of services provided by health institutions[9]. Patient satisfaction is an essential indicator of healthcare quality because it influences patient retention, patient loyalty, and the efficient delivery of quality care. Furthermore, patient experiences and opinions are critical for improving healthcare, shaping health policy, and providing feedback on the quality, accessibility, and responsiveness of healthcare services[10].

SSA Health in Indonesia has been operating to provide services since 2014. Several previous studies in Indonesia have revealed satisfaction with health services in primary facilities within the framework of the NHI system; however, the scale is at the district level and with specific service topics, such as maternal, chronic diseases and dental[11–15]. Based on this background, it is necessary

to know the description of the level of satisfaction of FHFS service users through an assessment of the quality of FHFS services on a national scale[16]. Moreover, the study aims to determine the individual characteristics related to satisfaction with the quality of FHFS in Indonesia. These results are expected to be the material for policy recommendations for quality improvement in FHFS, especially in the five service dimensions.

2. Materials and methods

2.1. Study design and study samples

The study was a cross-sectional study. It uses data on research on the Ability and Willingness to Pay Fees and Participant Satisfaction in the Implementation of National Health Insurance in Indonesia in 2019, which was carried out by the Health Research and Development Agency of the Republic of Indonesia. Data collection was carried out in September 2019 in all provinces in Indonesia.

The research sample was taken using probability sampling, with the sampling unit being households that could represent the national level. The Central Bureau of Statistics sampled by determining the number of household samples described the national general as 10000 households. Considering that the national coverage of Health Social Security Agency (SSA) participation is 77% of the total population, the study will require 13000 household samples. With a 10% reserve, the total sample size that must be collected is 14300 households. This sample is then spread across five regions: Sumatra, Java-Bali, Kalimantan, Sulawesi, and Nusa Tenggara-Maluku-Papua. The sample selection method is Multistage Cluster Sampling, which consists of the following steps: (1) Choosing a number of sub-districts in each province using probability proportional to size (PPS) sampling, taking into account population size, with the allocation of selected sub-districts determined in advance in each province. (2) Choosing two villages in each sub-district using PPS sampling, taking into account population size. (3) Using systematic sampling and implicit stratification of the number of residents/households, select 1 local neighborhood unit in each village. This is done to achieve sample proportionality. (4) Local neighborhood unit systematically sampled 10 households.

The number of household samples obtained until the end of data collection was 99.42% (of the target sample to be taken) or 14217 households. A total of 47644 respondents aged 18 and over were successfully interviewed. Collecting data through face-to-face interviews with respondents using a structured questionnaire may not be represented. The data collectors have a bachelor's degree in health or work experience in the health sector. This satisfaction study solely examines respondents who have utilized FSHS, namely 9846.

2.2. Variables

The independent variables in this study are individual characteristics that can describe differences in satisfaction with FHFS services. The characteristic variables include (1) sex, (2) marital status, (3) age, (4) education level, (5) employment status, (6) health insurance ownership, and (7) economic status. Each of these variables will be categorized with the following details: (1) sex categories are male and female; (2) the marital status category is never married, married, and divorced/widowed; (3) age categories based on the latest birthday (in year) are 18-27, 28-37, 38-47, 48-57, age ≥ 58 [17]; (4) the category of education level is primary education (no school-junior high school), secondary education and higher education (minimum diploma); (5) the category of employment status is unemployed and employed; (6) the category of insurance ownership is uninsured, government-run, private-run insurance, and having both insurance (government-run and private-run); (7) the survey measured economic status from data on ownership of goods in the household, namely homeownership, home lighting source, the main water source for drinking, primary fuel/energy type, latrine ownership, motorized vehicle ownership, television ownership, gas cylinder ownership, fridge ownership, and water heater ownership. These data are then

formulated using Principal Component Analysis (PCA) to become the ownership index. The index is grouped into five levels/quintiles; however, the analysis is into three categories, namely poor (quintiles 1 and 2), middle (quintile 3), and rich (quintiles 4 and 5).

The dependent variable in this analysis is satisfaction with FHFS service quality assessment. This method of assessing the quality of FHFS services is based on the five dimensions of service quality (SERVQUAL) found by Parasuraman[18]. The five dimensions are tangibles, reliability, responsiveness, assurance, and empathy, obtained from 31 questions (Table 1). Each question is scored on a Likert scale, with 1 being “strongly disagree” and 5 being “strongly agree.” All evaluations of this quality are based on respondents’ assumptions of their experiences with primary health care.

The study calculated quality by adapting the Customer Satisfaction Index (CSI) method[19]. This article changes the CSI method that produces the total CSI value to CSI per individual. The four steps of calculating individual CSI are:

1. Determine the mean importance score (MIS) and mean satisfaction score (MSS) for each individual using the following formula, where n stands for number of questions; Y_i is the value of respondent’s answer for the expectation; X_i is the value of respondent’s answer for reality; i is the value of respondent’s answer i .

Table 1. Question points for the five dimensions of service quality.

Dimensions	Questions
Tangible	<ol style="list-style-type: none"> 1) Health facilities are easily accessible; 2) Health facilities have buildings or rooms that are well maintained and adequate; 3) Health facilities have a large parking area; 4) Health facilities have comfortable waiting rooms; 5) health facilities have clean toilets; 6) Health facilities have sufficient medical equipment; 7) The appearance of the officers is neat and clean; 8) Officers are willing and sufficient in number in service.
Reliability	<ol style="list-style-type: none"> 1) The flow of Social Security Agency patient care is clear; 2) Patients receive health services according to their medical needs/benefits packages (outpatient and inpatient) at health facilities; 3) Patients get drugs according to their needs; 4) Patients receive supporting services (physiotherapists, laboratories, radiology, <i>etc.</i>) following medical needs in health facilities; 5) The administrative settlement process in health facilities can run according to the service flow; 6) Health workers are skilled in providing services.
Responsiveness	<ol style="list-style-type: none"> 1) The patient registration process as informed; 2) Health services (outpatient/inpatient) are provided adequately; 3) The waiting time for drug services follows existing standards; 4) The waiting time for supporting services is adequate; 5) The administrative settlement process is adequate; 6) Officers provide the required information clearly; 7) Officers respond promptly to every patient complaint.
Assurance	<ol style="list-style-type: none"> 1) Officers provide friendly service; 2) Competent officers (officers have sufficient knowledge, good communication skills, always prioritize participants) in providing services; 3) Officers provide precise and reliable information; 4) Patients get access to the same services; 5) Officers provide appropriate services.
Empathy	<ol style="list-style-type: none"> 1) Officers always pay attention to patients; 2) Officers provide equal treatment to all patients; 3) Officers understand and help solve patient problems and needs; 4) Officers listen well to patient complaints; 5) Officers prioritize services for participants with certain conditions (pregnant women, the elderly, people with disabilities, <i>etc.</i>).

$$MIS = \frac{\sum_{i=1}^n Y_i}{n} \text{ dan } MSS = \frac{\sum_{i=1}^n X_i}{n}$$

2. We calculated the weight factor (WF_i), where WF_i is the percentage weighted MIS value for each respondent to the total MIS in all questions. And i stands for question i , p is the number of questions.

$$WF_i = \frac{MSI_i}{\sum_{i=1}^p MSI_i} \times 100$$

3. We calculated the weight score (WS_i), where WS_i is the multiplication between WF_i and MSS_i .

4. We calculated the total weight (WT_i) value, where WT_i is the total of all i^{th} WS values. Then each WT_i is divided by the maximum scale and multiplied by 100, so that the CSI value per individual is obtained, and then the value is grouped into two categories, namely satisfied and dissatisfied.

2.3. Data analysis

The data was analyzed to show the distribution of five quality dimensions describing satisfaction by individual characteristics, the relationship of CSI with individual characteristics, and multivariate regression logistic for satisfaction. All analyses were carried out using the SPSS version 15 software. The first step in logistic regression modeling is to run a bivariate test on all research variables and then select those with a significance value less than 0.25. The next step is to select variables by running a multivariate test backwards, so that the variables that enter the model are chosen at the end of the process[20]. The benefit of using this backward method is that the variables that enter the model are obtained at the end of the step (iteration), so we no longer need to select these variables[21]. The analysis method uses non-random sample requirements that involve weight values during analysis so that the data can provide information on the condition of the community. Quality assessment can be used to assess community satisfaction with FHFS services.

2.4. Ethics approval and consent to participate

The study used secondary data from the "Abilities and Willingness to Pay, Fee, and Participant Satisfaction in implementing National Health Insurance in Indonesia in 201" survey, so it does not require ethical approval. The Ethics Committee of National Institute of Health Research and Development has approved the "Abilities and Willingness to Pay, Fee, and Participant Satisfaction in implementing National Health Insurance in Indonesia in 2019" survey's ethical clearance. The current study has an ethical waiver statement from the

Ethics Committee in the National Institute of Health Research and Development (Number: LB.0201/2/KE.340/2019).

Each participant gave written informed consent after being assured that their information would be kept private and used exclusively for research reasons. The survey followed all procedures in compliance with the applicable norms and legislation. The poll deleted all the identities of respondents from the dataset.

3. Results

3.1. Individual characteristics

The number of samples in the analysis is 9 846. The proportion of the female is slightly higher (58.6%) than males. In the age group, the smallest proportion is in the 18-27 year (13.3%), while other age groups have proportions above 20%. The majority of respondents involved in this analysis are married (79.3%), and the rest are unmarried and married but have divorced/widowed their partners (10.3%). Based on the level of education completed, most respondents still have a low level of education (not attending school until graduating from junior high school). Half of the individuals analyzed stated that they were currently employed.

The proportion of FHFS service users with SSA insurance is the most significant respondent (79.8%). At the same time, when viewed from the economic status, it can be seen that the proportion of FHFS service users with poor status has the largest percentage (44.0%) and is followed by the rich (36.5%) and medium level (19.5%).

3.2. The relationship between individual characteristics and the five dimensions of satisfaction

Table 2 provides information on the characteristics of FHFS users with five quality dimensions according to Parasuraman, which is then used to describe the level of satisfaction of FSHS service users. From Table 2, it can be seen that the satisfaction of FHFS users based on the five dimensions has different levels of significance on the characteristics of the FHFS users. Sex, age group, marital status, employment status, and health insurance ownership, are significantly related to the five CSI dimensions ($P < 0.05$), economic status is only related to the tangible dimension, while education is not related to all dimensions.

3.3. Relationship of individual characteristics with total satisfaction score

The relationship between individual characteristics and satisfaction based on the total score can be seen in Table 3. About 4 552 female

Table 2. Distribution of five quality dimensions describing satisfaction by individual characteristics.

Characteristics	CSI Tangible			CSI Reliability			CSI Responsiveness			CSI Assurance			CSI Empathy		
	Unsatisfied (%)	Satisfied (%)	P-value	Unsatisfied (%)	Satisfied (%)	P-value	Unsatisfied (%)	Satisfied (%)	P-value	Unsatisfied (%)	Satisfied (%)	P-value	Unsatisfied (%)	Satisfied (%)	P-value
Sex															
Male	52.8	47.2	0.002	49.4	50.6	<0.001	49.7	50.3	<0.001	43.0	57.0	<0.001	44.5	55.5	<0.001
Female	49.6	50.4		44.4	55.6		45.6	54.4		38.9	61.1		40.6	59.4	
Age group (years)															
18-27	52.6	47.4	0.007	47.7	52.3	0.007	48.4	51.6	0.022	43.3	56.7	0.001	44.4	55.6	0.018
28-37	53.5	46.5		48.9	51.1		49.0	51.0		42.0	58.0		43.9	56.1	
38-47	49.9	50.1		46.0	54.0		47.7	52.3		40.5	59.5		40.7	59.3	
48-57	50.2	49.8		45.8	54.2		46.4	53.6		40.6	59.4		42.2	57.8	
≥58	49.3	50.7		44.4	55.6		45.6	54.4		37.5	62.5		40.6	59.4	
Marital status															
Never married	51.6	48.4	0.008	47.8	52.2	0.003	48.3	51.7	0.015	43.6	56.4	<0.001	44.2	55.8	0.004
Married	51.5	48.5		47.0	53.0		47.8	52.2		40.9	59.1		42.4	57.6	
Divorced/widowed	45.7	54.3		41.2	58.8		42.9	57.1		35.1	64.9		37.9	62.1	
Education level															
Primary	50.9	49.1	0.455	46.0	54.0	0.205	47.0	53.0	0.235	40.6	59.4	0.337	42.2	57.8	0.618
Secondary	50.2	49.8		46.8	53.2		47.2	52.8		39.7	60.3		41.6	58.4	
Higher	53.7	46.3		48.2	51.8		49.8	50.2		44.0	56.0		44.0	56.0	
Employment status															
Unemployed	49.4	50.6	0.009	44.4	55.6	<0.001	45.1	54.9	<0.001	38.6	61.4	<0.001	40.5	59.5	<0.001
Employed	52.3	47.7		48.2	51.8		49.2	50.8		42.4	57.6		43.6	56.4	
Health insurance															
Uninsured	61.5	38.5	<0.001	57.0	43.0	<0.001	56.6	43.4	<0.001	50.4	49.6	<0.001	52.2	48.0	<0.001
Government-run	48.3	51.7		43.8	56.2		44.9	55.1		38.1	61.9		39.7	60.3	
Private-run	64.7	35.3		64.7	35.3		62.7	37.3		60.8	39.2		49.0	51.0	
Government-run and private-run	60.6	39.4		55.6	44.4		56.7	43.3		47.6	52.4		48.8	51.2	
Economic status															
Poor	48.7	51.3	<0.001	46.3	53.7	0.642	47.2	52.8	0.959	41.2	58.8	0.559	41.7	58.3	0.388
Middle	51.9	48.1		46.0	54.0		47.9	52.1		39.2	60.8		42.4	57.6	
Rich	53.1	46.9		46.9	53.1		47.2	52.8		40.6	59.4		42.6	57.4	
Total	50.9	49.1		46.4	53.6		47.3	52.7		40.6	59.4		42.2	57.8	

CSI: Customer Satisfaction Index.

respondents (78.9%) stated that they are satisfied with the FHFS they have visited. In general, the level of satisfaction increases with age, although not significantly. A total of 79.9% respondents who did not work stated satisfaction. When viewed based on the health insurance owned by the respondents, for those who have other health insurance (private-run), the proportion of satisfaction based on the total CSI index is only 56.9%. Meanwhile, based on economic status (ownership of goods), those who are classified as rich stated satisfaction of 75.1%.

Table 3. Relationship between CSI and individual characteristics.

Characteristics	n	CSI		P-value
		Unsatisfied (%)	Satisfied (%)	
Sex				
Male	4077	1015 (24.9)	3062 (75.1)	<0.001
Female	5769	1217 (21.1)	4552 (78.9)	
Age group, years				
18-27	1305	312 (23.9)	993 (76.1)	0.059
28-37	2005	493 (24.6)	1512 (75.4)	
38-47	2326	528 (22.7)	1798 (77.3)	
48-57	2200	473 (21.5)	1727 (78.5)	
≥58	2010	428 (21.3)	1582 (78.7)	
Marital status				
Never married	1026	271 (25.7)	755 (74.3)	0.001
Married	7808	1780 (22.8)	6028 (77.2)	
Divorced/widowed	1012	190 (18.8)	822 (81.2)	
Education level				
Primary	6149	1371 (22.3)	4778 (77.7)	0.367
Secondary	2872	669 (23.3)	2203 (76.8)	
Higher	825	199 (24.1)	626 (75.9)	
Employment status				
Unemployed	4570	919 (20.1)	3651 (79.9)	<0.001
Employed	5276	1314 (24.9)	3962 (75.1)	
Health insurance ownership				
Uninsured	1813	546 (30.1)	1267 (69.9)	<0.001
Government-run	7855	1634 (20.8)	6221 (79.2)	
Private-run	51	22 (43.1)	29 (56.9)	
Government-run and private-run	127	35 (27.6)	92 (72.4)	
Socioeconomic status				
Poor	4328	940 (21.7)	3388 (78.3)	<0.001
Middle	1925	399 (20.7)	1526 (79.3)	
Rich	3593	895 (24.9)	2698 (75.1)	
Total	9846	2235 (22.7)	7611 (77.3)	

CSI: Customer Satisfaction Index.

3.4. Multivariable logistics regression model

From Table 4, it can be seen that not all characteristics of FHFS service users are included in the model. The characteristics included in the logistic regression model are marital status, occupation, education, health insurance ownership, and economic status. In marital status, the never married category is the reference. The table shows that the divorced/widowed is significant, with an aOR value of 1.48 (95% CI 1.19-1.83), which means that respondents who are divorced are more satisfied than those who are married and

unmarried. For the employment status of FSHS service users, those who are unemployed are those used as references. The employed category has an aOR value of 0.77 (95% CI 0.70-0.85). The reference is primary education in the education category, and the higher education category has an aOR value of 0.82 (95% CI 0.68-0.98). The characteristics of FHFS service users in health insurance ownership are divided into four categories. The reference category is FHFS service users who do not have health insurance. However, only one category has a P-value less than 0.05, namely the type with government-run insurance. The aOR value for this category is 1.61 (95% CI 1.43-1.80). The economic status category is divided into three categories. The poor category is used as a reference and there is only one category with a P-value less than 0.05, namely the rich category. This category has an aOR value of 0.82 (95% CI 0.73-0.92).

Table 4. Multivariate logistic regression analysis for individual characteristics related to the Customer Satisfaction Index.

Characteristics	aOR	Confidence interval 95%		P-value
		Lower bound	Upper bound	
Marital status				
Never married	Ref.	-	-	-
Married	1.16	0.98	1.38	0.078
Divorced/widowed	1.48	1.17	1.87	<0.001
Employment status				
Unemployed	Ref.	-	-	-
Employed	0.77	0.70	0.86	<0.001
Education level				
Primary	Ref.	-	-	-
Secondary	0.92	0.81	1.03	0.163
Higher	0.82	0.67	0.99	0.044
Health insurance				
Uninsured	Ref.	-	-	-
Government-run	1.61	1.42	1.80	<0.001
Private-run	0.60	0.32	1.11	0.101
Government-run and private-run	1.18	0.76	1.84	0.459
Socioeconomic status				
Poor	Ref.	-	-	-
Middle	1.04	0.90	1.21	0.557
Rich	0.82	0.73	0.92	<0.001

This article changes the Customer Satisfaction Index (CSI method) that produces the total CSI value to CSI per individual.

4. Discussion

Our findings show that insurance ownership is associated with satisfaction levels, both in bivariate and multivariate outcomes. Owners of health insurance are more satisfied with first-rate health services, while users of private health insurance are in the same condition as respondents without insurance. The community's health insurance through the National Health Insurance program is a form of UHC. Health insurance participation targets all Indonesian residents, regardless of their economic level. The number of residents

registered in this health insurance continues to increase from year to year and is spread across all provinces, so there were 187982949 participants in 2017 and 208054199 in 2018[22].

Services received at FHFS when using health insurance include outpatient and inpatient care and are comprehensive (promotive, preventive, curative, and rehabilitative) based on the patient's medical needs[4]. The services provided include treating everyday problems such as the flu to chronic illnesses requiring severe treatment, such as heart surgery, dialysis, and chemotherapy. The insured participant only needs to follow the established procedure and show a membership card to get the health services needed at the primary facility during the treatment period. The system is easy to do. Customers are generally considered satisfied when they get more benefits than costs[23]. Health insurance users naturally expect access to quality care and financial protection[24].

Our results showing that social insurance users are more satisfied with the quality of service are in line with the findings in Ghana and Iran[25,26], where a higher proportion of insured patients are satisfied with the overall quality of care compared to the uninsured. The authors identified waiting time, staff friendliness, and satisfaction with the consulting process as the main predictors of overall satisfaction[25]. However, our results are different from other findings. Findings in Vietnam show that having health insurance can lead to a patient's negative perception of health care quality, implying that insured people rate the quality of medical care lower than uninsured people[27]. In India, there is no significant difference in the level of satisfaction between inpatients who use insurance and do not use insurance. The authors note that for both the insured and the uninsured groups, the main reasons for satisfaction were treatment outcomes-"curing" and availability of doctors and medicines[28].

The results showed that divorced/widowed FHFS users were more satisfied with FSHS services than never married FHFS users. In addition, FHFS users who are married also have the same tendency as those who are divorced/widowed, although it has a significant level higher than 0.05. These results show that FHFS users who have been married tend to be more satisfied with the existing FHFS services. Research conducted by Maharloei *et al.* regarding the satisfaction of service users in health services concluded that marital status is one of the determinants of satisfaction of health service users[26]. Research conducted by Park *et al.* also yielded the same conclusion, namely that residence and marital status are important determinants of satisfaction with health service users[29].

The study results inform that employed users tend to be less satisfied than unemployed service users. It can also be interpreted that changes in the job status of FHFS service users can change the level of satisfaction of these users. A study conducted by Ahmad *et al.* informed that the job category of users of health care facilities is related to the level of satisfaction on the cost dimension[30], so that

means that people who work tend to have higher expectations of service compared to people who do not work. The results are also in line with the research results conducted by Jadoo *et al.*, which assert that people who do not work are five times more satisfied with the services they receive at health facilities than people who work[31].

The characteristics of the education level of FHFS service users are divided into three categories, where the low level of education is used as a comparison/reference for other categories. Participants with higher education level tend to be have less satisfactory than those with primary education. Likewise, Papanikolaou *et al.*, in their article on perceptions of service quality in primary health centers, also concludes that the level of education of health service users is related to the five dimensions of Servqual satisfaction[32]. It could be argued that people with higher education levels may feel more accomplished and, therefore, set higher standards for the level of quality they perceive as satisfactory. In the same survey conducted in Nigeria in 2017, higher education was identified as a predictor of patient satisfaction[33].

This study informs that economic status has a significant relationship with satisfaction with health services in FHFS. The poor group tends to be more satisfied with the quality of service than the rich group. This finding is in line with the results of research on satisfaction with healthcare systems in Iran, Saudi Arabia, and Turkey, which states that users with low economic status are significantly more satisfied when compared to those with middle or high economic status[26,34]. The better the economic status, the more dissatisfied the respondents with the health system. However, this result contradicts a study at a primary health care center in Hong Kong that informed that those with high/rich incomes were significantly more satisfied with the primary health care they received than people with the lowest income[35]. The condition is because those with high economic status prefer to use health services at non-government health centers, even though they have to pay through their payment method (out of pocket)[35]. Differences may influence this difference in results in the organization of health service providers (government or non-government), the health financing system, and the standards of primary health care that apply in a country. Two previous studies on the accessibility of families with low economic status in the National Health Insurance era to health services were found to have increased utilization after receiving subsidized health contributions from the government[36–38].

The study's strength was using large amounts of data for national representation and standard instruments are used to assess quality. On the other hand, this study analyzes secondary data from surveys that have been carried out previously so that the variables processed are limited from the accepted variables. The study's limitation is that service quality is only subjective to service recipients; objective measures of quality are not available. Several variables found in

previous studies related to patient satisfaction could not be analyzed, including the type of service and the type of disease.

In conclusion, our research shows that, in general, community satisfaction with FHFS is high, though there is part for improvement. And demographic factors, such as marital status, employment status, education level, insurance ownership, and economic status, are still significantly related to satisfaction assessment. The government can use these findings to continue assessing service quality in accordance with standards. From the perspective of the service recipient community, the government must continue to disseminate information about the service standards of primary facilities to all levels of society in the hope that service satisfaction can be assessed uniformly and consistently by all people without exception.

Conflict of interest statement

The authors declare that they have no competing interests

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Data availability statement

The author cannot publicly share the data because a third party and authors who own the data do not have permission to share the data. The survey data set requested from the National Institute of Health Research and Development of the Indonesia Ministry of Health is available via <https://www.litbang.kemkes.go.id/layanan-permintaan-data-riset/> for researchers who meet the criteria for access to confidential data.

Authors' contributions

ZKN and RM developed the proposal, analyzed, and interpreted the patient data. AYK and LI were significant contributors in conducting the study, interpreting the data, and writing the manuscript. AP, DH, and ADL were substantial contributors in conducting the study, analyzing the data, and writing the manuscript. All authors read and approved the final manuscript.

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