Influence of waiting time on the satisfaction of users attended in the facilities of the Ministry of Healthand Social Health Insurance

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Abstract
The objective of the research is to determine the incidence of waiting time for consultation and appointment scheduling on the satisfaction of users of the facilities of the Ministry of Health (MINSA) and Social Health Insurance (ESSALUD). The research methodology is quantitative of causal type, using the Ordered Logit model, with a sample of 3,644 users of the Ministry of Health and 1,211 users of the Social Health Insurance from the National Household Survey (ENAHO). The probability of satisfaction among MINSA users is 82% with an average waiting time of 41 minutes and 0.7 days to schedule an appointment, while for ESSALUD satisfaction is 75% with 56 minutes of waiting time for a consultation and 6.8 days to obtain a medical appointment. The probability of satisfaction in both facilities decreases for every 10 minutes of waiting time for consultation and for every additional day of waiting time to obtain a medical appointment. Dissatisfaction is even worse after 60 minutes, and it is also observed that patients in the extreme poor and non-extreme poor groups reveal greater satisfaction than those in the non-poor groups. Patients spend more time waiting to be attended in the doctor's office and to obtain a medical appointment than consulting with health professionals.
Keywords: Scheduled appointment; medical consultation; health facilities and probability of satisfaction.

Introduction

Waiting time for appointment scheduling or consultation care is a frequent problem in health facilities in the Ministry of Health (MINSA) and Social Health Insurance (ESSALUD), which can trigger user complaints and dissatisfaction. Long patient waits have attracted increasing public attention due to the negative effects of waiting time on patients' satisfaction with medical care (Xie & Or, 2017).

Waiting time is considered an important factor in determining quality of care, which may represent a valuable tool for assessing patient satisfaction (Harajin et al., 2019).

Patient satisfaction is a performance indicator that measures the extent to which the patient is happy and satisfied with the level of care provided by healthcare institutions and providers (Alrasheedi et al., 2019). It is also based on individuals' experiences and needs with respect to

health services, with needs operationalized as expectations, what is important, desirable or what should be in relation to the three dimensions: quality of care, hospital care and waiting time to see the doctor (Christensen et al., 2009).

80% of user satisfaction problems are concentrated in the waiting time to be seen (Mero et al., 2021), of the total waiting time the bottleneck is in the waiting time for consultation (Pandit et al., 2016). Studies show that prolonged waiting time for medical and other specialized care was negatively associated with patient satisfaction (Anderson et al., 2007; Chan et al., 2018; Lee et al., 2020; Nie, 2000; Xie & Or, 2017; Zakare et al., 2020), especially when they have to wait to get an appointment or talk to a doctor (Dansky & Miles, 1997; Xie & Or, 2017).

Long waiting lines are more evident in public hospitals than in private hospitals (Obamiro, 2013). The problem is not foreign in health facilities in Peru, because care is faster in a private clinic or private doctor's office, while waiting time is more acute in specialized care services than in general medicine outpatient consultations. As noted by Harajin et al., (2019), the likelihood of satisfaction in patients who go to family medicine is higher because of the shorter waiting time than those who go to specialized clinics (Harajin et al., 2019). Dissatisfaction is also in emergency services with the care of hospital staff (Napa, 2020).

When public health care is in high demand, patients have to wait up to one hour to see the doctor and further one hour to receive medication (Pillay et al., 2011), which can reach from one hour up to three hours waiting time for outpatient consultation (Oche & Adamu, 2013; Shahzadi & Annayat, 2017).

Increased waiting time causes patient distrust and a lower willingness to return to the hospital (Camacho et al., 2006) and affect clinical outcomes, patient retention and medical malpractice claims (Prakash, 2010). In addition, not only loss of time but stress (Oche & Adamu, 2013).

In contrast, positive satisfaction is associated with education, marital status and job (Alrasheedi et al., 2019), withempathy(Umoke et al., 2020), with public health spending, the number of doctors and nurses and the patient's age (Xesfingi & Vozikis, 2016), of doctor-patient communication skills, receiving good explanation of health status by doctors, respectful treatment, whether the doctor shows interest in the patient's private affairs and possibility to choose the doctor (Chandra et al., 2019; Zawisza et al., 2020). There is also higher patient satisfaction when the physician follows psychosocial expectations presented by patients and when he/she combines professional skills and competencies such as respect, empathy, interest in adults and personal problems (Beck et al., 2002; Zisberg et al., 2015).

Likewise, when patients are informed in advance about the time they must stay in the waiting room until the medical consultation, keeping them busy while waiting and providing clear instructions through public information systems there is greater satisfaction than in the uninformed (Dansky & Miles, 1997; Fontova et al., 2015; Levesque et al., 2000; Oermann et al., 2003). Studies indicate that comfortable and pleasant waiting rooms, interpersonal interactions with the patient and when the physician spends more time with the patient were implemented to mitigate dissatisfaction (Leddy et al., 2003; Lin et al., 2001).

The causes of dissatisfaction is commonly identified to include inadequate staffing, limited resources, high demand due to seasonal illnesses, and unnecessary visits to medical facilities (Xie & Or, 2017). When nurses are inadequately trained in triage (French et al., 2014) and because of inefficiency and mismanagement of resources (Ndukwe et al., 2011).

In Peru, there is patient dissatisfaction in the health facilities of the Ministry of Health and Social Security Health. Because patients often spend more time waiting to be seen than consulting with health professionals, and the dissatisfaction is mainly related to the waiting time for consultation and the waiting time in scheduling the appointment. In some cases, the patient faces discourteous treatment to get the appointment and ask for information, as Febres and Mercado (2020) point out there is dissatisfaction in the patient not only in the waiting time but also in the attention modules and in the respectful and kind treatment.

Some studies in Peru point out that for every 10 minutes of waiting time, it is inversely associated with patient satisfaction, and satisfaction is higher when the waiting time is within 90 minutes (Alarcon et al., 2019), dissatisfaction being higher in men than women (La Torre et al., 2018).

Satisfaction levels in Peruvian health facilities was 73.9% in 2016. While satisfaction in users affiliated to the Comprehensive Health Insurance and Social Security Health Insurance are those with the lowest percentage of satisfaction (67.6% and 67.2% in 2016). Besides, the median waiting time for care is 60 minutes (Murillo et al., 2019). Another subsequent study shows that the satisfaction of good and very good of the external user in health facilities in Peru was 74.3% at the national level, also suffering from a chronic disease, having a native mother tongue and living in populations greater than 2000 people were associated with lower satisfaction (Hernandez et al., 2019).

In order to consult a disease, symptom or discomfort, patients often do not go to the health facility because it takes too long to be attended, preferring to seek a private office, private clinic or home treatment. There is mistrust and dissatisfaction in the patient, affecting access to quality and satisfaction in the health system.

Considering the above, the objective of the research is to determine the incidence of waiting time for consultation and appointment scheduling on the satisfaction of users attended in the facilities of the Peruvian Ministry of Health and Social Security.

Methodology

The research methodology is quantitative and the research design is causal or explanatory. A sample of 3,644 users attended in the health facilities of the Ministry of Health and 1,211 users attended over 18 years of age of the Social Health Insurance from the National Household Survey (ENAHO) of the National Institute of Statistics and Informatics (INEI) of the year 2019 of Peru, the modules used characteristics of household members (module 200), education (module 300), health (module 400) and governance, democracy and transparency (module 85).

Data analysis was performed with STATA 15 software.

The model

The study uses the ordered Logit model to estimate the effect of the explanatory variables on the explained variable. In the model the probabilities are assigned by the unobservable latent variable (y^*) and the threshold variables (μ_j).

$$Satisfaction = y^* = X^{'}\delta + \varepsilon$$

Likewise, $X^{'}\delta = \delta_0 + \delta_1 Waiting\_time + \delta_2 Medical + \delta_3 DiseC + \delta_4 Prof\_attended + \delta_5 EDU + \delta_6 Edad + \delta_7 Poverty$

Where, $Waiting\_time$ represents the time the user must wait from the time of registration to the time the consultation begins (in minutes), $Medical$ is equal to the waiting time to schedule the medical appointment, the time that elapses from the time the appointment is requested to the time of care, $DiseC$ indicates whether the user suffers from a chronic disease (=1 and 0), $Prof\_attended$ represents the type of professional who attended the scheduled appointment, EDU is the level of education, Age is the patient's years of age, and $Poverty$indicates whether the patient is in the extreme poor, non-extreme poor and non-poor groups.

The dependent variable (y^*) is an ordered categorical variable, which expresses the satisfaction of the external user attended in the Ministry of Health (MINSA) and Social Security (ESSALUD) establishments, the hierarchy ranges from very bad, bad, good to very good, represented by the literal j = 0, 1, 2 and 3. X' represents the explanatory variables and μ_j the cut-off points between categories.

Usually, y^* is not observable, what is observed are the probabilities for:

$$y^* = 0\ (Very\ bad)\ \ si \leq\ y$$
$$y^* = 1\ (Bad)\ \ si\ \ \mu_0 < y^* \leq \mu_1 (cut1)$$
$$y^* = 2\ (Good)\ si\ \mu_1 < y^* \leq \mu_2\ (cut2)$$
$$y^* = 3\ (Very\ good)\ \ si\ \mu_3 (cut3) \leq y^*$$

The coefficients μ (cut=1,2 and 3) are the parameters that are estimated at the same time that δ. Therefore, the estimation of probabilities for the four categories is:

$$Prob(MINSA, ESALUD = Very\ bad|x) = \Lambda\left(cut1 - \sum_{k=1}^{K=7} \bar{X}_k \hat{\delta}_k\right)$$

$$Prob(MINSA, ESALUD = Bad|x) = \Lambda\left(cut2 - \sum_{k=1}^{K=7} \bar{X}_k \hat{\delta}_k\right) - \Lambda\left(cut1 - \sum_{k=1}^{K=7} \bar{X}_k \hat{\delta}_k\right)$$

$$Prob(MINSA, ESALUD = Good|x) = \Lambda\left(cut3 - \sum_{k=1}^{K=7} \bar{X}_k \hat{\delta}_k\right) - \Lambda\left(cut2 - \sum_{k=1}^{K=7} \bar{X}_k \hat{\delta}_k\right)$$

$$Prob(MINSA, ESALUD = Very\ good|x) = 1 - \Lambda\left(cut3 - \sum_{k=1}^{K=7} \bar{X}_k \hat{\delta}_k\right)$$

Where, $\Lambda\,(.)$ is the logistic distribution function. Likewise, the marginal effect of the ordered logit allows to calculate the effect of the explanatory variables on the degree of qualification of the health service, which is expressed as follows:

$$\frac{\partial \Pr(Y = j)}{\partial X_k} = \frac{\partial F\left(\hat{\tau}_j - \bar{X}_k \hat{\delta}_k\right)}{\partial X_k} - \frac{\partial F\left(\hat{\tau}_{j-1} - \bar{X}_k \hat{\delta}_k\right)}{\partial X_k}$$

Where τ represents the cut-off points of the changes between categories, and $j = 0, 1, 2\ y\ 3$.

Results and discussion

The average waiting time (in minutes) of the patient to be seen in the consultation and the average waiting time (in days) from the appointment request to the time the patient was scheduled for care, allows to know the patient's perception of the quality of care in the health

facilities of the Ministry of Health (MINSA) and Social Health Insurance (ESSALUD) and, based on this, to evaluate the level of satisfaction.

The results show that ESSALUD patients wait an average of 56.3 minutes to be seen at the consultation from the time they arrive at the health facility (time of registration at the module), while at MINSA patients wait an average of 41.2 minutes (Table 1). It can be seen that ESSALUD patients wait longer than MINSA patients with a difference of 15.2 minutes.

Likewise, the average waiting time (in days) for patients from the time they request health care to the date the service is provided (scheduled appointment) in ESSALUD is 6.9 days, and for MINSA it is 0.69 days on average; similarly, ESSALUD users waited more days to be seen, while in MINSA they only waited an average of 0.69 days. It can be seen that MINSA's health service is more efficient than ESSALUD.

Table 1: Waiting time for consultation and to get a scheduled appointment

	Description	Average	Std. Err.	[95% Conf. Interval]	[95% Conf.
MINSA	Waiting time for consultation (in Min.)	41.160	0.975	39.250	43.071
	Waiting time for scheduled appointment (in days)	0.687	0.087	0.517	0.857
	N	3,644			
ESALUD	Waiting time for consultation (in Min.)	56.341	1.738	52.932	59.750
	Waiting time for scheduled appointment (in days)	6.866	0.450	5.983	7.749
	N	1,211			

Satisfaction is measured (rated) by the patient's perception of the care received in MINSA and ESSALUD health facilities (hospitals, health centers, medical posts, polyclinics, etc.) in consultations or appointments. The results of the Ordered Logit show that at the national level the probability of patient satisfaction in MINSA between good and very good was 82.1% and the probability of dissatisfaction between bad and very bad was 17.9% (Table 2).

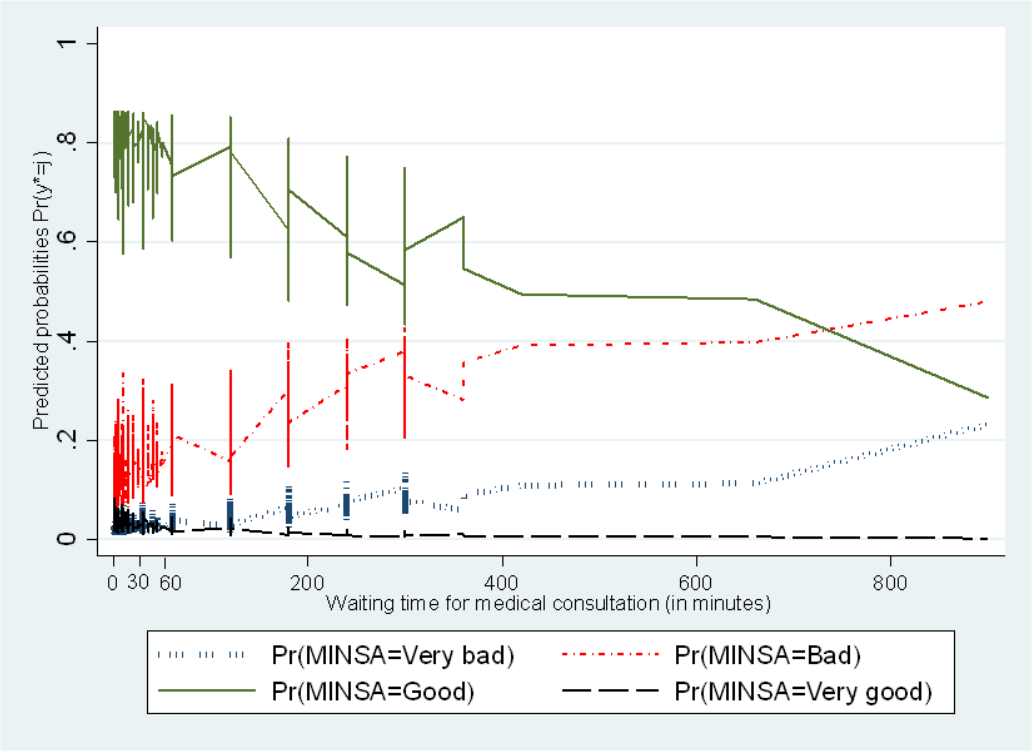

Figure 1. Changes in the probability ($\Pr(Y = j)$) of user satisfaction as a function of waiting time for consultation (in minutes) in MINSA health facilities.

The probability of very bad satisfaction increases with prolonged waiting time for consultation (from 1.9% to 23.2%); the probability of bad satisfaction first increases (from 11.6% to 48.0%) and reaches its maximum at approximately 900 minutes; while the rating of good decreases the longer the user waits (from 83.1% to 28.5%); and the satisfaction of very good decreases from 3.3% to 0.02%. It can be observed that the satisfaction of very good and good decreases more after 30 minutes, after 60 minutes the dissatisfaction is even worse (Figure 1).

Figure 2 shows the same information as Figure 1, but in this case the areas are the cumulative probabilities for each category, it can be seen that as the waiting time for the consultation increases: first the probability of being rated as very bad and bad increases, then as the waiting time for the medical consultation decreases the chances of being rated as good increase notably, but the rating of very good is very low.

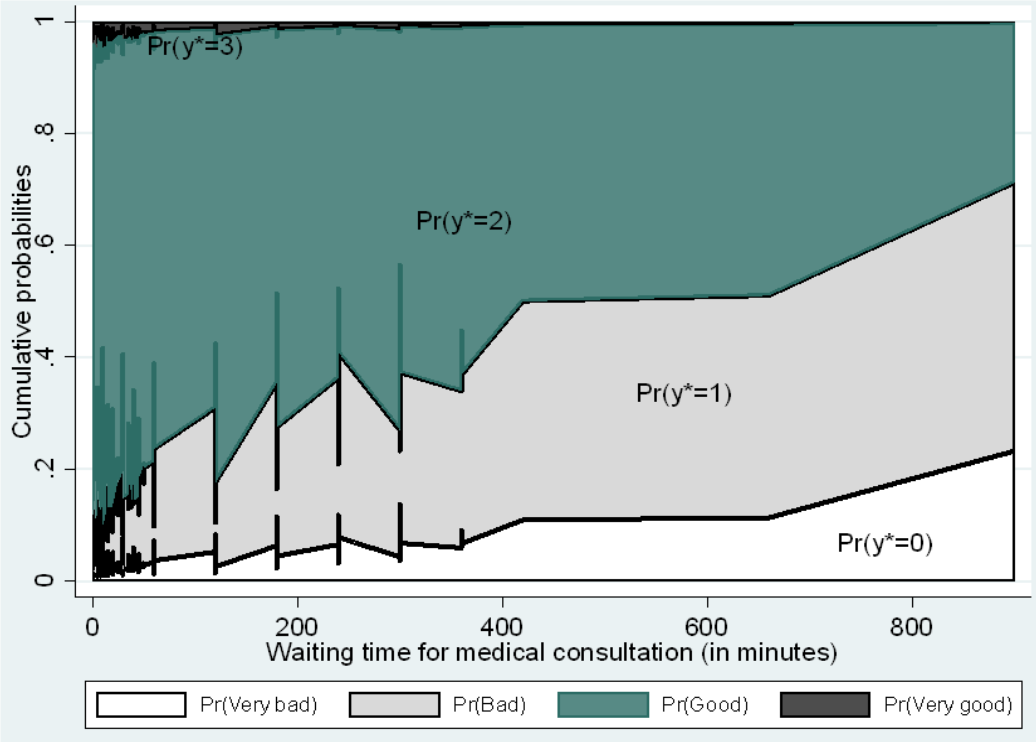

Figure 2. Changes in cumulative probabilities of user satisfaction as a function of waiting time for consultation (in minutes) in MINSA health facilities.

First, the results of the Ordered Logit model and marginal effects for MINSA users are shown in Table 2.

It can be observed that, for each additional 10 minutes of waiting time for consultation, the probability of patient satisfaction decreases by 0.5% between good and very good, while dissatisfaction increases by 0.5% between very bad and bad, with Odds Ratio of 0.996 (Table 2).

Likewise, when the user waits an additional day to schedule an appointment or consultation, the probability of patient satisfaction decreases by 1.4% between good and very good with an Odds Ratio of 0.908. It can be seen that patient dissatisfaction in MINSA is higher in the waiting time to schedule an appointment as opposed to the waiting time for the consultation.

Table 2: Results of the Ordered Logit model and marginal effects of satisfaction among users in MINSA health facilities.

Variable	(1) Orderedlogit	(2) Odds Ratios	(3) Verybad - $\partial y_0^* / \partial X$	(4) Bad - $\partial y_1^* / \partial X$	(5) Good - $\partial y_2^* / \partial X$	(6) Verygood - $\partial y_3^* / \partial X$
Probability if Pr(y=0,1,2 and 3)*			2.7	15.2	79.3	2.8
Waiting time	-0.003***	0.996***	0.0001	0.0004	-0.0004	-0.0001

forconsultation						
	(-4.96)	(-4.96)				
Waiting time for scheduled appointment	-0.096***	0.908***	0.0023	0.0113	-0.0112	-0.0024
	(-4.42)	(-4.42)				
Chronicdisease	-0.166*	0.846*	0.0040	0.0195	-0.0193	-0.0041
	(-1.71)	(-1.71)				
Professional whoattended	-0.037+	0.963+	0.0009	0.0044	-0.0043	-0.0009
	(-1.00)	(-1.00)				
Educationlevel	-0.059+	0.942+	0.0014	0.0070	-0.0070	-0.0015
	(-1.18)	(-1.18)				
Age	0.009**	1.009**	-0.0002	-0.0011	0.0011	0.0002
	(3.24)	(3.24)				
i.Poverty						
• *2=Not extreme poor*	-0.187+	0.829+	0.0034	0.0183	-0.0156	-0.0062
	(-0.75)	(-0.75)				
• *3=Notpoor*	-0.454	0.635	0.0094	0.0485	-0.0447	-0.0132
	(-0.90)**	(-0.90)**				
Cut1	-3.730	-3.730				
Cut2	-1.628	-1.628				
Cut3	3.586	3.586				
N	3644	3644				

"z" statisticwithinparentheses
+ p>0.11, * p<0.10, ** p<0.05, *** p<0.001
p: significancelevel
Note. dy/dx is the marginal effect of the Ordered Logit model.

On the other hand, the probability of user satisfaction in MINSA facilities is lower (by 2.34%) when the user suffers from a chronic disease (such as arthritis, hypertension, asthma, rheumatism, diabetes, tuberculosis, HIV, cholesterol, etc.). In contrast, the probability of patient satisfaction is positively associated with adult patients (by 0.13%).
Similarly, the probability of dissatisfaction is lower in patients who are considered to be in the extreme poor and non-extreme poor groups as opposed to patients in the non-poor group. This indicates that patients with low economic resources (or low economic income) value public health services more than the non-poor. While the variables "professional who attended" the consultation, which refers to whether the patient was attended by a doctor, nurse, health worker, promoter or other professional, and the education variable were not as significant.

Second, the results of the Ordered Logit model and marginal effects for ESSALUD users are shown in Table 3 and Figure 3.

The results of the Ordered Logit show that at the national level the probability of patient satisfaction in ESSALUD between good and very good was 75% and the probability of dissatisfaction between bad and very bad was 25%. It can be observed that dissatisfaction is higher in ESSALUD patients than in MINSA patients.

Likewise, the probability of very bad satisfaction increases with longer waiting time in minutes (from 9.2% to 42.9%); on the other hand, the probability of bad satisfaction increases (from 42.9% to 51.8%) and reaches its maximum at 540 minutes; the probability of good rating decreases from 46.7% to 30.4% and finally the probability of very good satisfaction decreases from 1.2% to 0.6%, as in MINSA, satisfaction decreases more from 30 and 60 minutes of waiting (Figure 3).

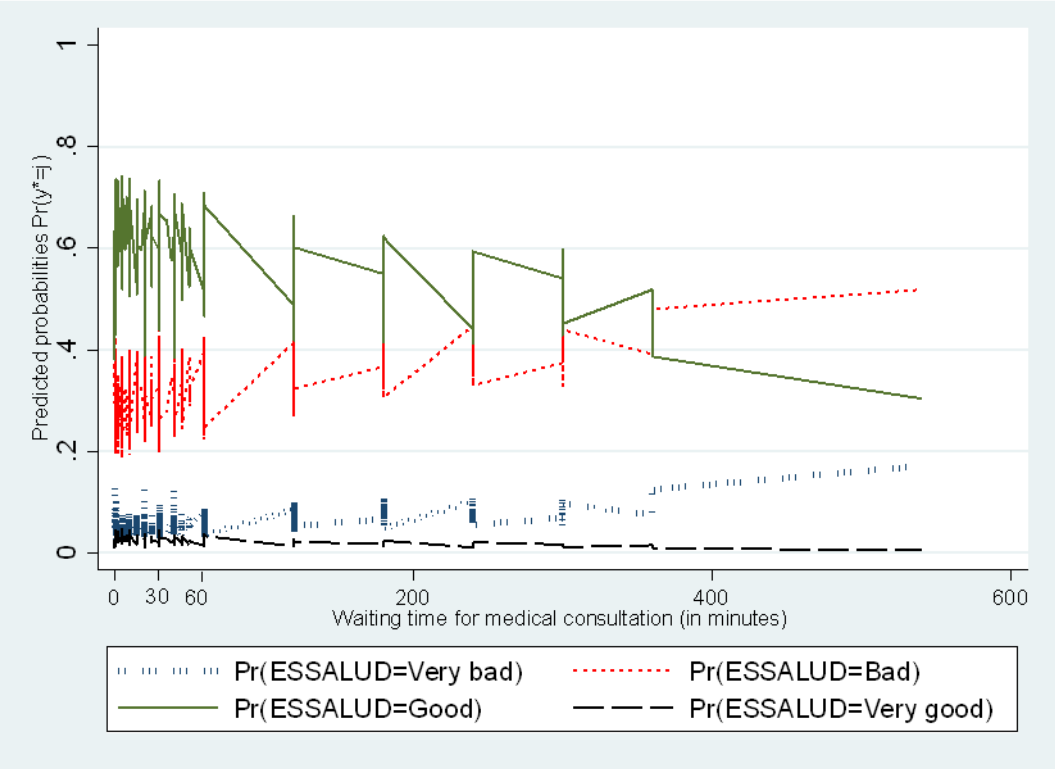

Figure 3. Changes in the probability ($\Pr(Y = j)$) of user satisfaction as a function of waiting time for consultation (in minutes) in ESSALUD health facilities.

Among ESSALUD users, when waiting time increases by 10 minutes, the probability of patient satisfaction also decreases by 0.5% between good and very good, with an Odds Ratio of 0.998 (Table 3). While the probability of patient satisfaction decreases by 1.16% when the patient waits an additional day to schedule an appointment.

ESSALUD patients do take into account the type of health professional who attended them (doctor, nurse, or other), unlike MINSA patients.

Likewise, the probability of satisfaction decreases as the patient's level of education increases by 3.5% between good and very good.

Variables such as chronic disease, age and poverty were not significant. The insignificance of the poverty variable is due to the fact that 97% of the patients are not poor, therefore the assessment by this group does not influence satisfaction.

Table 3: Results of the Ordered Logit model and marginal effects of user satisfaction in ESSALUD health facilities.

Variable	(1) Orderedlogit	(2) Odds Ratios	(3) Verybad - $\partial y_0^* / \partial X$	(4) Bad - $\partial y_1^* / \partial X$	(5) Good - $\partial y_2^* / \partial X$	(6) Verygood - $\partial y_3^* / \partial X$
Probability if Pr(y=0,1,2 and 3)*			4.1	20.9	73.1	1.8
Waiting time forconsultation	-0.002**	0.998**	0.0001	0.0004	-0.0005	-0.0000
	(-2.26)	(-2.26)				
Waiting time for scheduled appointment	-0.049**	0.952**	0.0025	0.0091	-0.0105	-0.0011
	(-2.75)	(-2.75)				
Chronicdisease	-0.083	0.920	0.0042	0.0153	-0.0177	-0.0018
	(-0.56)	(-0.56)				
Professional whoattended	0.137+	1.147+	-0.0069	-0.0253	0.0292	0.0030
	(1.58)	(1.58)				
Educationlevel	-0.150**	0.861**	0.0075	0.0277	-0.0320	-0.0032
	(-2.91)	(-2.91)				
Age	-0.001	0.999	0.0000	0.0002	-0.0002	0.0000
	(-0.21)	(-0.21)				
i.Poverty						
• *2=Not extreme poor*	0.758	2.133	-0.0436	-0.1375	0.1664	0.0146
	(0.56)	(0.56)				
• *3=Notpoor*	0.509	1.664	-0.0323	-0.0923	0.1160	0.0086
	(0.39)	(0.39)				
Cut1	-2.394	-2.394				
Cut2	-0.019	-0.019				
Cut3	4.282	4.282				
N	1211	1211				

"z" statisticwithinparentheses
+ p> 0.11, * p<0.10, ** p<0.05, *** p<0.001
p: significancelevel

Note. dy/dx is the marginal effect of the Ordered Logit model.

Discussion

The satisfaction of users attended in health facilities was higher in the case of the Ministry of Health (MINSA) as opposed to the Social Health Insurance (ESSALUD) with 82% and 75% respectively. These results are higher than the study of Murillo et al (2019), who obtained a satisfaction of 67.6% and 67.2% for users affiliated with Seguro Integral de Salud and Seguro Social de Salud, carried out in 2016, and the result is also higher than the study of Hernandez et al (2019). The reason for the improvement in patient satisfaction is due to the fact that the country has been implementing continuous quality improvement policies in health facilities such as: improving care in outpatient clinics, adoption of competent human resources, information to external users, as well as decreasing the waiting time of users of outpatient clinics and implementation of the complaints and suggestions management system among other policies.

Likewise, the time the user has to wait for consultation and to schedule an appointment in ESSALUD facilities is approximately 56 minutes and 6.8 days successively, which is greater in contrast to MINSA, where users only wait 41 minutes for consultation and 0.7 days to schedule an appointment. The average waiting time for the two entities is lower than the results of Murillo et al (2019), despite the fact that in ESSALUD they schedule the appointment time, patients still have to wait to see the doctor or other health professional. The average waiting time in some countries abroad is longer, for example, a national study of public hospitals in Malaysia showed that the average waiting time for patients, from registration to receiving the prescription, was more than 2 hours (they must wait approximately one hour, and another hour to receive their medication), while the average time spent consulting medical staff was only 15 minutes (Pillay et al., 2011)**.** A subsequent study in a US tertiary hospital showed that 61% of patients waited 90-180 minutes in the outpatient department, while 36.1% spent less than 5 minutes with the physician in the consultation room (Oche & Adamu, 2013; Shahzadi & Annayat, 2017).

But the average time of care is still high compared to developed countries. As for example in Germany the average time for consultation is 13.7 minutes (Weissenstein et al., 2011), Mexico 30 minutes (Sauceda et al., 2010) and USA 21 minutes (Anderson et al., 2007).

The results also show that for each additional 10 minutes of waiting time for outpatient consultation and for each additional day to schedule an appointment, both in MINSA and ESSALUD, the satisfaction of the user attended decreases; but dissatisfaction is higher in ESSALUD patients as a result of prolonged waiting time for medical consultation, which is even worse after 30 and 60 minutes. Studies show the case, where satisfaction starts to decrease after 30 minutes and even worse after 90 minutes (Alarcon et al., 2019; Muath, 2006). Likewise studies point out that prolonged time for medical care in outpatient visits is negatively related to patient satisfaction (Chan et al., 2018; Lee et al., 2020; Nie, 2000; Xie & Or, 2017; Zakare et al., 2020).

Thus, waiting time for medical consultation is a factor that has influenced the satisfaction of external users of MINSA and ESSALUD. As mentioned by Fontova et al.(2015), the perception of waiting time is a determinant of overall patient satisfaction from nursing care to

the medical visit. Satisfaction also has to do with waiting time to receive medicines and other services, as noted by Susanto and Chalidyanto(2020).

To schedule an appointment, it should not only be by telephone as in ESSALUD and in the MINSA service module, but also through the institution's web page. As mentioned by Cayirli and Vral(2009) and Hoot and Aronsky(2008), a strategy to reduce waiting time and improve satisfaction with care is to include the renovation of scheduling systems and better workforce management.

The reduction of waiting time, not only saves time for the patient, but there will be a willingness of the patient to continue receiving health services, often due to delays users opt for private clinics or private offices, and even resort to self-medication, as well as triggering stress (Oche & Adamu, 2013).

Improving patient satisfaction should be a strategic priority in the health system, therefore health policies should be aimed at strengthening interpersonal skills, communication and empathy between patient and health personnel from the time of registration to the end of the appointment and receipt of medicines; because users feel more satisfied when the orientation starts from the guardianship staff (Mero et al., 2021); as well as providing information on waiting time, orienting budgetary programs to the quality of care. Because the implementation of these strategies as in Suva, Nigeria, Israel among other countries, despite the fact that public health care is in high demand, there is outpatient satisfaction (Chandra et al., 2019; Obamiro, 2013; Zisberg et al., 2015). It is also because of the same responsiveness to patients.

Conclusion

ESSALUD users have to wait longer for a consultation (on average 56 min) and to schedule a medical appointment they have to wait up to 6.8 days on average, while Ministry of Health users wait 41 minutes for a consultation and 0.7 days to schedule an appointment. This implies that patients spend more time waiting to be seen and to get an appointment than consulting with health professionals. On the other hand, the probability of user satisfaction at both health facilities decreases for each additional 10 minutes of waiting time for consultation and for each additional day of waiting time from the time the appointment was requested to the time the patient was scheduled for an appointment. Likewise, satisfaction is even worse after 60 minutes as a result of the waiting time for the consultation. It has also been observed that the negative effect of waiting time is greater in ESSALUD users. A negative relationship with satisfaction was also observed in users of the Ministry of Health when users suffer from a chronic disease and a positive relationship with age and poverty level, with patients in the extreme poor and non-extreme poor groups showing greater satisfaction than those in the non-poor groups. In ESSALUD, the level of poverty was not significant, but the type of professional who attended them was taken into account, and finally, the highest level of education was inversely associated with satisfaction.

Scheduling an appointment should not only be done at the service modules or via phone call, but also via the institution's web page. It is also recommended as a strategy to prioritize the reduction of waiting times for consultation and scheduling an appointment in the health system.

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