Original Research Article

Patient satisfaction in urban primary health centres: case of Lucknow and Prayagraj districts in Uttar Pradesh, India

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ABSTRACT

Background: Patient satisfaction is one of the expected outcomes of healthcare, as it is closely connected to health-care utilization. It reflects patients' views on the quality of healthcare and the responsiveness of the healthcare system. There is a strong correlation that exists between patient's satisfaction and their willingness to seek care at the preferred facility.
Methods: A patient exit interview was carried out among 200 patients attending the urban primary health centre (UPHC) in two rationally selected district of Uttar Pradesh. Information regarding services and atmosphere of the UPHC was gathered using a pre-designed questionnaire during September 2019-December 2019. Binominal logistic regression, both simple and multi-variate were conducted to identify the factors which contribute significantly to patient's satisfaction.
Results: Overall we found that 57 percent of the patients were satisfied with the concerned UPHC and factors like examining authority, availability of medicines, waiting time, convenient opening hours, location of the UPHC and availability of waiting area were significantly associated with the patients' satisfaction. Having found the opening hours convenient and waiting space available were the strongest predictors of patient satisfaction.
Conclusions: In conclusion majority of the patient were satisfied, still there is a need to work upon factors like making adequate space available for the patients to wait and modifying the working hours of the UPHC as per the patients need so as to attain the highest level of patient satisfaction.

Keywords: Patient satisfaction, Urban primary health centre, Uttar Pradesh

INTRODUCTION

Patient satisfaction is one of the expected outcomes of healthcare, as it is closely connected to health-care utilization.[1] It reflects patients' views on the quality of healthcare and the responsiveness of the healthcare system.[2] There is a strong correlation that exists between patient's satisfaction and their willingness to seek care at the preferred facility.[3,4] Previous studies approached patient satisfaction from either a quality of service or a health care delivery system viewpoint.[5,6]

There exists a lack of uniform theoretical framework for determining patient satisfaction.[7] One of the primary causes for this is that the measurement of patient satisfaction is a multidimensional and complicated subject with numerous influencing elements. Majority of research, however, have suggested that it would be viable to measure patient satisfaction by integrating factors from both the provider and the patient side.[8-10] As a result, it would be easier to create a framework that encompasses both the market forces of demand and supply. Recent research has discovered that characteristics such as clinical service quality, health professional conduct, physical infrastructure, and emotional and social support from providers are positively associated with patient satisfaction.[11] Alongside the socio-economic characteristics such as age, gender, marital status and

income level have also been found to be statistically significant under the patient satisfaction score.[2,12]

Considering the case of India then there are number of studies that have looked into the factors associated with patient satisfaction. According to Sudhaya et al some of the characteristics that are strongly related with patient satisfaction, particularly in a private health care facility, include the quality of clinical services, billing time, patients' age, and accessibility of services.[13] Unavailability of services and poor quality of treatment and lesser examination time by the doctor are some of the factors associated with patient discontent in Darjeeling, West Bengal, according to another study.[14] Among the various studies that have been carried, none have focused specifically on a public health institution in an Indian context and the elements that play a critical role in determining patient satisfaction.

India has one of the most comprehensive three-tier health-care infrastructures, with the goal of ensuring universal health coverage at a cost that everyone can afford.[15] Through a network of health care institutions, the Ministry of Health and Family Welfare (MoHFW) plans and administers the public health care delivery system. The public healthcare facility network in India is organized as follows: at the primary level, there are primary health centres (now popularly known as health and wellness centres), at the secondary level, there are community health centres, and at the tertiary level, there are district hospitals and medical colleges.

The purpose of this paper was to assess the satisfaction of out-patients in UPHCs in India. The rationale behind selecting the UPHCs is that they serve as the first point of access to a qualified doctor. These UPHCs selected for the study were located in Uttar Pradesh, which was one of the most populated states and has lately experienced increased urbanization leading to an increased proportion of marginalized urban population. The UPHCs were carefully chosen from two districts, Lucknow and Prayagraj, to provide a realistic picture of the variance in parameters influencing patient satisfaction in the selected locations.

METHODS

Study design and sampling

Lucknow and Allahabad districts in Uttar Pradesh were chosen as the focus of our investigation. The KAVAL town concept, which includes Kanpur, Agra, Varanasi, Allahabad and Lucknow, accounted for 23% of the total population living in urban areas and dominates the urban environment, was the rationale for selecting these districts. Because the paper was centered around the service delivery of UPHCs, the sole purpose of which was to cater to the urban population, we concentrated our research on Lucknow and Allahabad, as Lucknow has the largest urban population (28.17 lakhs) in KAVAL towns and Allahabad has the smallest (11.68 lakhs). A comparison of the most

and least densely inhabited districts within a stratum can provide insight into the variances that exist on several parameters. The UPHCs were stratified in a manner so that they give a true representation of the perception of out-patients in the entire study area.

The survey was spread over 10 UPHCs located within Lucknow and Allahabad district. A cross-sectional survey was conducted on the selected out-patients who attended the UPHC using a convenient sampling method. This framework allowed researchers to discover characteristics that influenced patient satisfaction alongside determining patient satisfaction levels with the treatments they received in these chosen facilities. Around 200 out-patients were interviewed in the selected health facilities during September 2019-December 2019.

Data collection

A systematic questionnaire was used to collect the data. Previous research was consulted in order to identify potential contributing elements impacting patient satisfaction. The first section of the questionnaire gathered information on the patients' fundamental socio-demographic characteristics, such as sex, age, marital status, educational level,"occupational background and monthly income. The second section collected data on the potential elements influencing patient satisfaction, such as waiting time, examining authority, availability of medicines, opening hours, location of the facility and frequency of visits.

Data analysis

Appropriate bi-variate and multi-variate analyses was used in the study taking patient satisfaction as the dependent variable which was coded as 1 if satisfied and 0 of not satisfied. Further the binary logistic regression was used to identify the significant predictors of patient satisfaction at the urban primary health centres. The general formula for the regression equation is given as,

$$Logit\ (\pi_i) = \alpha + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + e_i$$

Where β_1 is waiting time, β_2 is examining authority, β_3 is medicines prescribed, β_4 is UPHC location, β_5 is opening hours, β_6 is waiting area, β_7 is frequency of visits, π_i is the probability of ith patient being satisfied with the services of UPHC, α is the intercept, β_i's are the slope parameters and e_i is the error term. Further the analyses were carried out using STATA version 15.[16]

RESULTS

Characteristics of patients

Table 1 presents the socio-economic and demographic characteristics of the sample population. About 64% (95% CI: 55.6-68.9) of the patients visiting the urban

primary health centre to seek care were females. 38% (95% CI: 31.5-44.9) of the patients were in the age group between 26-50 years. Around one-seventh of the out-patients were married (95% CI: 63.0-75.9) and one-third patients did not have any formal education (95% CI: 25.4-38.3). However, around 19 percent patients (95% CI: 14.1-25.1) had higher secondary level education and approximately 15 percent patients (95% CI: 10.6-20.7) had either primary or upper primary level education (95% CI: 10.6-20.7). Around 26 percent patients (95% CI: 19.9-32.0) visiting the health facility were unemployed followed by 22 percent (95% CI: 16.8-28.3) of the patients who were daily wagers. The monthly household income of more than half (95% CI: 43.5-57.4) of participants was reported to be less than Rs. 5000.

Patients' perception in UPHCs

Table 2 shows the distribution of various factors affecting patient's satisfaction in the selected district of Lucknow and Prayagraj. Overall majority patients (55.5%) reported a waiting time of less than 30 minutes with Lucknow reporting a slightly higher proportion of such patients (54.9%) as compared to Prayagraj (45.1%). Around 80.5% patients were such who were able to find an adequate waiting area. There are 61.5% patients who reported of being examined by a qualified doctor followed by 30.5% patients who were examined by the support staff first. However, the proportion of patients in Prayagraj were much higher (56.9%) as compared to Lucknow (43.1%) who were examined by the medical officer first. In both the districts approximately half of the patients were able to find the medicines prescribed free of charge within the health care facility. Overall, most respondents (63.5%) were satisfied with the location of the UPHCs, but the level of satisfaction in this respect was higher among the patients in Prayagraj (57.5%) as compared to Lucknow (42.5%). Majority respondents (55%) were of the opinion that the opening hours of the facility were inconvenient with

Prayagraj having higher share of such respondents (55.5%). In terms of frequency of visits majority patients in our study were first time visitors (28%) followed by patients visiting once in two months (24.5%) and twice a month (19%).

Patient satisfaction level and factors influencing patient's perception at UPHCs

Figure 1 shows the overall and the district wise patient's satisfaction level. Overall, 57% (95% CI: 49.5-63.2) of all the respondents were satisfied with the concerned facility they visited and the services received thereof. Considering a district level scenario then 51% respondents (95% CI:41.1-60.8) were satisfied in Lucknow whereas 62% respondents (95% CI:52.0-71.1) were found to be satisfied in Prayagraj with regard to seeking health care at an UPHC.

Table 3 illustrates the results of multivariate logistic regression with the patient satisfaction as dependent variables and patient's perception on variables affecting patient satisfaction as independent variables. The likelihood of patient satisfaction was 96% (AOR: 0.04; 95% CI: 0.00-0.43) lower among those who waited for more one hour as compared to those waited for less than 30 minutes. With respect to examining authority, the patient satisfaction was 67% (AOR: 0.37; 95% CI: 0.14-0.93) lower among those who were examined by the support staff as compared to those whom the medical officer examined. The likelihood of patient satisfaction was 75% (AOR: 0.25; 95% CI: 0.10-0.61) lower among those who found the medicines partially available as compared to those who found the medicines available free of charge. Further the patient satisfaction was 2.9 times (AOR: 2.88; 95% CI: 1.18-7.02) higher among the respondents who found the UPHC easy to locate. Convenient opening hours and availability of waiting area were other factors that were found to be significantly associated with the patient satisfaction level.

Table 1: Sample distribution of study population.

Variables and categories	Lucknow		Prayagraj		Overall	
	Percentage	95% CI	Percentage	95% CI	Percentage	95% CI
Sex						
Male	36.0	(27.1-45.9)	39.0	(29.8-48.9)	36.0	(31.0-44.5)
Female	64.0	(54.0-45.9)	61.0	(51.0-70.1)	64.0	(55.6-68.9)
Age (years)						
5-25	25.0	(17.4-34.5)	22.0	(14.9-31.2)	23.5	(18.1-29.9)
26-50	41.0	(31.8-50.9)	35.0	(26.2-44.9)	38.0	(31.5-44.9)
51-70	20.0	(13.2-29.1)	26.0	(18.3-35.6)	23.0	(17.7-29.3)
≥70	14.0	(8.4-22.4)	17.0	(10.8-25.8)	15.5	(11.1-21.2)
Marital status						
Unmarried	26.0	(18.3-35.5)	19.0	(12.4-28.0)	22.5	(17.2-28.9)
Married	66.0	(56.0-74.6)	74.0	(64.4-81.7)	70.0	(63.0-75.9)
Widow/widower	8.0	(4.0-15.3)	7.0	(3.3-14.1)	7.5	(4.5-12.1)
Education level						
No education	36.0	(27.1-45.9)	27.0	(19.1-36.6)	31.5	(25.4-38.3)
Primary	17.0	(10.8-25.8)	12.0	(6.9-20.1)	14.5	(10.2-20.1)

Continued.

Variables and categories	Lucknow		Prayagraj		Overall	
	Percentage	95% CI	Percentage	95% CI	Percentage	95% CI
Upper primary	14.0	(8.4-22.3)	16.0	(9.9-24.7)	15.0	(10.6-20.7)
Secondary	13.0	(7.6-21.2)	14.0	(8.4-22.4)	13.5	(9.4-19.0)
Higher secondary	12.0	(6.9-20.1)	26.0	(18.3-35.6)	19.0	(14.1-25.1)
Bachelor's degree or above	8.0	(4.0-15.3)	5.0	(2.1-11.6)	6.5	(3.7-10.9)
Occupational background						
Unemployed	29.0	(20.9-38.7)	22.0	(14.8-31.2)	25.5	(19.9-32.0)
Daily wagers	24.0	(16.6-33.4)	20.0	(13.2-29.1)	22.0	(16.8-28.3)
Government employee	4.0	(1.4-10.3)	17.0	(10.8-25.8)	10.5	(6.9-15.6)
Professional	15.0	(9.2-23.5)	19.0	(12.4-28.0)	17.0	(12.3-22.9)
Small scale business	26.0	(18.3-35.6)	10.0	(5.4-17.7)	18.0	(13.2-23.9)
Others	2.0	(0.01-7.7)	12.0	(6.8-20.1)	7.0	(4.2-11.5)
Monthly income						
Less than Rs 5000	57.0	(47.0-66.4)	44.0	(34.5-53.9)	50.5	(43.5-57.4)
Rs 5000-Rs 8000	25.0	(17.4-34.5)	17.0	(10.8-25.8)	21.0	(15.8-27.2)
Rs 8000-Rs 10000	9.0	(4.7-16.5)	16.0	(9.9-24.7)	12.5	(8.5-17.9)
More than Rs 10000	9.0	(4.7-16.5)	23.0	(15.7-32.3)	16.0	(11.5-27.7)

Source: Survey data

**Table 2: Factors affecting patients satisfaction in Lucknow and Prayagraj.**

Variables and categories	Lucknow		Prayagraj		Overall (n=200)	
	N	%	N	%	N	%
Waiting time						
Less than 30 minutes	61	54.9	50	45.1	111	55.5
30 minutes	17	45.9	20	54.1	37	18.5
1 hour	14	46.7	16	53.3	30	15.0
More than 1 hour	8	36.4	14	63.6	22	11.0
Waiting area						
Available	74	45.9	87	54.1	161	80.5
Unavailable	26	72.2	13	27.8	36	18.0
Examining authority						
Medical officer	53	43.1	70	56.9	123	61.5
Auxiliary nurse midwife	5	31.2	11	68.8	16	8.0
Support staff	42	68.9	19	31.1	61	30.5
Medicines prescribed						
Available free of charge	50	50.5	49	49.5	99	49.5
Partially available	28	73.4	10	26.3	38	19.0
Unavailable	22	34.9	41	65.1	63	31.5
UPHC location						
Easy to locate	54	42.5	73	57.5	127	63.5
Not easy to locate	46	63.1	27	36.9	73	36.5
Facility opening hours						
Convenient	51	56.7	39	43.3	90	45.0
Inconvenient	49	45.5	61	55.5	110	55.0
Frequency of visit						
Once in two months	22	44.9	27	55.1	49	24.5
Once a month	13	56.5	10	43.5	23	11.5
Twice a month	19	50.0	19	50.0	38	19.0
More than twice	16	48.5	17	51.5	33	16.5
First visit	30	52.5	27	47.4	57	28.0

Source: survey data.

Table 3: Factors influencing patients' satisfaction from logistic regression with odds ratio and 95% confidence intervals.

Variables (1) and categories (2)	Dependent variable: patient satisfaction	
	Adjusted odds ratio	95% CI
Waiting time		
Less than 30 minutes®		
30 minutes	0.12***	(0.40-0.38)
1 hour	0.28*	(0.09-0.91)
More than 1 hour	0.04**	(0.00-0.43)
Examining authority		
Medical officer®		
Auxiliary nurse midwife	0.05**	(0.01-0.47)
Support staff	0.37*	(0.14-0.933)
Medicines prescribed		
Available free of charge®		
Partially available	0.25***	(0.10-0.61)
Unavailable	0.37	(0.11-1.33)
UPHC location		
Not easy to locate®		
Easy to locate	2.88*	(1.18-7.02)
Facility opening hours		
Inconvenient®		
Convenient	2.97**	(1.31-6.72)
Waiting area		
Unavailable®		
Unavailable	10.41**	(2.38-45.61)
Frequency of visit		
Once in two months®		
Once a month	0.45	(0.12-1.78)
Twice a month	0.27*	(0.78-0.94)
More than twice	0.58	(0.16-2.10)
First visit	1.43	(0.51-4.02)

Source: Authors calculation. Note: *p<0.05, **p<0.01 and ***p<0.005, ®reference category. The model is adjusted for place of residence
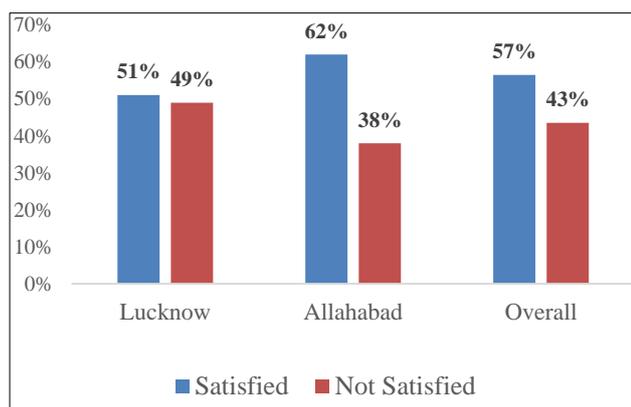
Satisfaction level of patients in percentage (district wise).
Source: Primary data.

DISCUSSION

Patient satisfaction is an important measure of the quality of care provided. Our study discovered that while 57 percent patients were satisfied with the quality of care received at the concerned UPHC, the degree of satisfaction varied when the district level analysis was taken into account. Because there is a paucity of literature in this area, comparing the current study to other studies in Uttar Pradesh is challenging. As a result, our research may be beneficial in identifying and addressing existing gaps, particularly in certain districts of Uttar Pradesh.

In terms of important determinants of patient satisfaction, our study discovered a negative relationship between waiting time and patient satisfaction, which is consistent with previous literature.[8,18] In other words, patients are dissatisfied with health-care services when they have to wait longer than necessary. This is attributable to the fact that patients are generally worried, fatigued, and agitated while waiting to see a doctor, which leads to dissatisfaction. Previous studies in this context have suggested that waiting time is not just a component of patient satisfaction but it is also an important component of quality care, which is crucial in order to compete and retain clientele.[19] We discovered that the examining authority was strongly related to patient satisfaction, as those who were examined

by a medical officer or a trained doctor were more satisfied than those who were examined by other health professionals. This is due to the physiological notion that medical officers have more experience and exposure than other health personnel. However, none of the research we cited looked at how patient satisfaction is affected by this factor.

Patient satisfaction is heavily influenced by the availability of medicines, as the majority of patients who visit the health facility were either unemployed or earn less than Rs. 5000 per month. In such a case, having the doctor's prescribed medications available free of charge on the premises makes the patients feel more at ease, as it reduces out-of-pocket spending as well. Previous research has claimed that patient satisfaction was low in situations where they were either compelled to pay for the prescribed medications or perceived the supply of drugs to be insufficient.[20] Our study finds the opening hours to be another significant predictor affecting patient's satisfaction. As already reported among the working group majority participants were daily wagers. In many situations, the opening hours' overlap with the working hours, leaving the health searchers torn between choosing health or work. Similar revelations have been made by Noemi et al where there was a greater satisfaction among non-working patients with the opening hours compared to those who were employed.[21] In this context the demand for evening OPD can be an important finding so as to make the urban primary health centres more user friendly Our findings on the frequency of visits corroborate Kersnik's findings, which found a significant link between increased frequency of health facility visits and patient satisfaction.[22] Increased frequency is assumed to represent a patient's chance of receiving services on a regular basis.

Overall, we find that majority of patients were satisfied with the services received at the UPHC which is consistent with the study conducted in North India by Goel et al.[23] Majority of our study's participants (64 percent) are females, which may be ascribed to the fact that urban health centres have a provision for special care in the context of women. For example, the institution has a specific day each month that is dedicated to educating women about the need of basic hygiene habits. This also plays a significant role in educating females about the health services offered at the centre, since they are encouraged to visit the health facility to learn about health and hygiene habits. The findings are comparable with a similar study conducted in government health facilities of Haryana, where the majority of healthcare users were females (53.5 percent).[17] The age of the study population in our survey is maximally distributed between 26-50 years (38 percent) which is close with a study conducted by Sudhaya et al in 2018 looking at the factors associated with the patient satisfaction.[13]

The current study has certain limitations. We have limited ourselves to general patients seeking treatment for minor injuries, common flu, and seasonal illnesses at UPHCs. We purposefully excluded the maternal and new-born cases because they need a more in-depth understanding of a variety of other factors that were hard to capture in a single study. It is just cross-sectional research that captures the patient's perception only when they visit the centre to seek care; it could not compare the patient's perception before and after the visit. As we have collected the self-reported satisfaction from the patients it is susceptible to psychological bias as patients might have given responses to please the healthcare providers, rather than expressing their own satisfaction.

CONCLUSION

To conclude, our study found majority of the patients to be satisfied with the services received at the concerned UPHC. However, the satisfaction of the patients is dependent upon numerous factors including waiting time, examining authority, convenient opening hours, location of the UPHC, availability of free drugs and waiting area. Our study suggests that the patient satisfaction can be improved by focusing upon determinants like availability of waiting area, location of the UPHC and convenient opening hours as they have shown a statically significant association with patient's satisfaction. However, there is a need for future study to build a more complete and complex-based method to assess patient satisfaction.

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REFERENCES

1. Raghunath E, Vijayalakshmi S, Sathagurunath PA, Mail ID. A study of outpatient satisfaction at primary health centers in Puducherry. Health. 2013;1(4):118-21.
2. Adhikary G, Shawon MS, Ali MW, Shamsuzzaman M, Ahmed S, Shackelford KA, et al. Factors influencing patients' satisfaction at different levels of health facilities in Bangladesh: Results from patient exit interviews. PloS One. 2018;13(5):e0196643.
3. Pascoe GC. Patient satisfaction in primary health care: a literature review and analysis. Evaluation and program planning. 1983;6(3-4):185-210.
4. Margolis SA, Al-Marzouqi S, Revel T, Reed RL. Patient satisfaction with primary health care services in the United Arab Emirates. Int J Qual Health Care. 2003;15(3):241-9.
5. Rameshan P, Singh S. Quality of service of primary health centres: Insights from a field study. Vikalpa. 2004;29(3):71-82.

6. Sriram S. Availability of infrastructure and manpower for primary health centers in a district in Andhra Pradesh, India. J Fam Med Prim Care. 2018;7(6):1256.

7. Quyen BT, Ha NT, Van Minh H. Outpatient satisfaction with primary health care services in Vietnam: Multilevel analysis results from The Vietnam Health Facilities Assessment 2015. Health Psychol Open. 2021;8(1):20551029211015117.

8. Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: a systematic review. Perspectives Public Health. 2017;137(2):89-101.

9. Donabedian A. The Lichfield Lecture. Quality assurance in health care: consumers' role. Quality in Health care. 1992;1(4):247.

10. Majumder A, Upadhyay V. An analysis of the primary health care system in India with focus on reproductive health care services. Artha Beekshan. 2004;12(4):29-38.

11. Sodani PR, Kumar RK, Srivastava J, Sharma L. Measuring patient satisfaction: A case study to improve quality of care at public health facilities. Indian J Comm Med. 2010;35(1):52.

12. Fang J, Liu L, Fang P. What is the most important factor affecting patient satisfaction–A study based on gamma coefficient. Patient preference and adherence. 2019;13:515.

13. Vinodkumar S, Varghese BG, Setia MS. Factors associated with patient satisfaction in a private health care setting in India: A cross-sectional analysis. J Hospital Admin. 2018;7(4):44-51.

14. Chakraborty SN, Bhattacherjee S, Rahaman MA. A cross-sectional study on patient satisfaction in an urban health care centre of Siliguri Municipal Corporation, Darjeeling, West Bengal. Med J Dr. DY Patil University. 2016;9(3):325.

15. Bhola N, Kumari R, Nidha T. Utilization of the health care delivery system in a district of North India. East Afr J Public Health. 2008;5(3):147-53.

16. LLC S. StataCorp Stata statistical software: release 15.1. College Station, TX. 2017.

17. Arvind K, Birakta D, Anup S, Kuldeep K. S. Level of Satisfaction in Patients attending Government Health Facilities of AIIMS, New Delhi, Outreach Outpatient Department, Badsa, Jhajjar, Haryana, India. Int J Res Found Hospital Healthcare Admin. 2018;6(1):22-30.

18. Alarcon-Ruiz CA, Heredia P, Taype-Rondan A. Association of waiting and consultation time with patient satisfaction: secondary-data analysis of a national survey in Peruvian ambulatory care facilities. BMC Health Services Res. 2019;19(1):1-9.

19. Bleustein C, Rothschild DB, Valen A, Valatis E, Schweitzer L, Jones R. Wait times, patient satisfaction scores, and the perception of care. Am J Managed Care. 2014;20(5):393-400.

20. Assefa F, Mosse A. Assessment of clients' satisfaction with health service deliveries at Jimma University specialized hospital. Ethiopian J Health Sci. 2011;21(2):101-10.

21. Martínez-López-de-Castro N, Álvarez-Payero M, Martín-Vila A, Samartín-Ucha M, Iglesias-Neiro P, Gayoso-Rey M, et al. Factors associated with patient satisfaction in an outpatient hospital pharmacy. Eur J Hospital Pharm. 2018;25(4):183-8.

22. Kersnik J. Determinants of customer satisfaction with the health care system, with the possibility to choose a personal physician and with a family doctor in a transition country. Health Policy. 2001;57(2):155-64.

23. Goel S, Sharma D, Bahuguna P, Raj S, Singh A. Predictors of patient satisfaction in three tiers of health care facilities of North India. J Community Med Health Educ S. 2014;2:2161-711.