

## Research Article

# Does Health System Responsiveness Differ between Insured and Uninsured Outpatients in Primary Health Care Facilities in Asagirt District, Ethiopia? A Cross-Sectional Study

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Received 19 July 2022; Revised 22 September 2022; Accepted 6 October 2022; Published 11 November 2022

Academic Editor: Dazhou Li

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**Background.** An effective designation of health facilities improves the facility's ability to respond to patients' legitimate expectations. Limited evidence exists regarding the association between health system responsiveness and financial fairness in Sub-Saharan Africa, particularly in Ethiopia. The purpose of the study was, therefore, to evaluate the health system responsiveness among insured and uninsured outpatients in primary healthcare facilities and determine the association between health insurance and health system responsiveness among outpatients. **Methods.** A facility-based cross-sectional study was conducted between March 30 and April 30, 2021. The study sampled 423 participants using a systematic random sampling technique, and the data was collected with structured and pretested questionnaires administered by interviewers. Responsiveness was measured using the short version of the World Health Organization's multicountry responsiveness survey, which has seven dimensions including autonomy, communication, confidentiality, attention, dignity, choice, and amenities. Using quantile regression, a specific association between health insurance and the health system responsiveness index was examined, adjusting for sociodemographic, quality, and satisfaction-related factors. **Results.** Of a total of 417 outpatients, 70.74% had health insurance. There was no statistical difference in health system responsiveness among insured and uninsured outpatients. Possession of health insurance was not associated with responsiveness (−0.67; 95%CI: −1.59, 0.25). There was a statistically significant negative relationship between age and responsiveness (−1.33; 95% CI: −2.47, −0.19) among 30–39 year olds and (−1.66; 95% CI: −3.02, −0.32) among 40–49 year olds. However, there was a positive statistical association between responsiveness with urban residence (+1.33; 95%CI: 0.37, 2.29), perceived quality of healthcare (+2.96; 95%CI: 1.95, 4.05), and patient satisfaction (3; 95%CI: 1.94, 4.07). **Conclusions.** There was no difference in the responsiveness of the health system between insured and uninsured outpatients. All domains need further improvement, particularly those more closely related to patients' concerns, such as waiting time to get service and choices of healthcare providers. Furthermore, health facility administrators and the government should enhance responsive healthcare services in parallel with quality improvement and patient satisfaction, based on feedback from service users for better performance.

## 1. Background

In the World Health Report 2000, the World Health Organization (WHO) proposed the goals of health systems as achieving good health, being responsive to people's expectations, and establishing fairness in financial contributions

[1]. If healthcare responsiveness has increased, other health outcomes have improved as well [2]. The experience of people's fundamental interactions with the health system, as well as the various elements that shape their interactions, is referred to as health system responsiveness [3, 4]. To determine whether or not the health system has been improved,

it can be assessed as a whole in any type of interaction and come up as responsiveness [2, 5].

It is necessary to provide adequate and efficient healthcare delivery, as well as updated health systems that pay attention to intrinsic values and protect patients' rights [6–8]. This is because, for a better health outcome, fulfilling patient expectations is more crucial than other factors [9]. Social norms, connections, values, and trust within societies to ensure patient-centered and acceptable quality across the continuum of care are basic elements to be considered in any type of healthcare service [10].

Responsiveness has been operationalized into eight domains: dignity; autonomy; confidentiality; prompt attention; quality of care; communication; access to social support networks; and choice [3, 6]. Operationalization of responsiveness in the context of health insurance schemes is also very important [11–13]. Notably, those low and middle-income countries are needed to give attention to equity health access in local and global aspects [14–16].

The expansion of national health insurance can increase access and improve the health status of the population [17]. A cross-sectional study in Thailand on health system's responsiveness for delivery showed that women's having insurance gave a higher rating to the domains of dignity, confidentiality, and choice [18]. Elsewhere, studies in Nigeria [11], South Africa [13], and Egypt [12] revealed that access, autonomy, communication, and prompt attention were identified as very important domains among insured individuals. Additionally, findings from Ghana [19, 20] indicated that there was an insurance effect on health system responsiveness.

In managing interactions, client satisfactions with the health system and the quality of care are critical [2] and continuous evaluation of healthcare is needed [18, 21–23]. In general, advancing responsiveness and increasing investment level in a low-income context is necessary [24, 25]. Patient satisfaction with the healthcare they offered, as well as the perceived level of care concerning the services they received [26] was positively associated with the responsiveness of the healthcare system.

Ethiopia has set a goal of achieving universal health coverage by 2035 through enhancing basic healthcare services. The country is in the process of implementing the Health Sector Transformation Plan II (HSTP-II), in which patients' legitimate expectations and financial fairness are incorporated as key priority agendas [27, 28]. To encourage fairness in financial contributions, the Ethiopian government implemented the community-based health insurance (CBHI) program in 2011 as an emerging and promising concept, which addresses healthcare challenges faced in particular by the poor individuals [29]. In the CBHI program, members regularly pay small premiums into a collective fund which is then used to pay for health services that they require [30].

Even though there are some important research conducted on responsiveness in Ethiopia [26, 31, 32], none of them addressed the role of health insurance in health system responsiveness. To the best of the investigators' knowledge, this is the first research in Ethiopia that tried to assess whether there is a difference or not in the responsiveness of

health systems among insured and uninsured outpatients. This research will initiate other researchers to conduct more investigations into the subject. Moreover, the finding contributes relevant knowledge to improve the performance of the healthcare system for outpatients. Therefore the study aimed to determine the responsiveness of the healthcare services among insured and uninsured outpatients in Ethiopia and to explore the association between health insurance and responsiveness.

## 2. Methods

*2.1. Study Design, Population, and Setting.* An institutional-based cross-sectional study was conducted among outpatients. The source population for this study was all outpatients who obtained healthcare services at primary healthcare facilities in the district. The study included patients who received healthcare services as an outpatient at the primary healthcare facilities. On the other hand, patients under the age of 18 and all outpatients who visited the health posts were excluded from the study. Primary healthcare (PHC) has always existed as it is the description of the point of first contact between patients and the healthcare system [33] and is the most accessible service-delivery point where basic healthcare is provided to users [34]. Ethiopia's health system is organized in a PHC-oriented system and operated to guarantee the highest attainable level of health as the main goal [35]. In 2018, the new Declaration of Astana renewed PHC as a cornerstone of achieving a sustainable health system to ensure universal health coverage (UHC) and health-related sustainable development goals (SDGs) [36]. As a result, the Ethiopian government also introduced a 20-year strategic health sector roadmap in 2015 to achieve UHC using the PHC approach by 2035 [37].

The study was conducted in the Asagirt district in Ethiopia. The district is 125.5 kilometers from the Ethiopian capital city (Addis Ababa). The district has 15 kebeles (a small administrative unit in Ethiopia). In 2020, the projected population of the district was 57,320. Of whom 30,240 (53%) were males. The district has 20 functional health facilities: five primary healthcare facilities (three health centers and two clinics), and 15 health posts (community-level health facilities providing basic preventive and medical care). During the year 2021, the district was served by 52 health professionals and 23 health extension workers. According to the district health managers' report, 1700 adult ( $\geq 18$  years) outpatients visited available health facilities per month, and 65 percent of the population had health insurance.

*2.2. Sample Size, Sampling, and Participant Selection.* For this study, a single population proportion formula was used to determine the sample size for outpatients [38], with an assumption of a 50.0% proportion (there was no local data available on the subject for outpatients and to get a maximum sample size), a 95% confidence level ( $Z_{\alpha/2} = 1.96$ ), margin of error = 5%. After adding a 10% nonresponse rate, the total sample size was estimated to be 423 clients. Computed as  $n = (Z_{\alpha/2})^2 \times P(1 - P)/d^2$

$$\begin{aligned}
 n &= \frac{(1.96)^2 \times 0.5(1 - 0.5)}{(0.05)^2} \\
 &= 384.16, \\
 n &= 384.16 + 38.416 = 423.
 \end{aligned}
 \tag{1}$$

A proportional allocation of the sample for each health facility was employed based on their previous month's outpatient flow service reports. The computed sample size was determined using a systematic random sampling technique from all five primary healthcare facilities (from three health centers and two clinics). Then at every  $K^{\text{th}}$  interval ( $K = N/n$ ) where  $N =$  total clients who have received healthcare services within the study period,  $n =$  required sample size, thus  $K = 1700/423 = 4$ . Then, the first patient was randomly identified among the 4 by the lottery method. Then every 4<sup>th</sup> patient was taken into the study until the required number of study participants for each facility in the outpatient department was reached. The data collectors collected the data systematically after the patients received the services on their way home (exit interview).

**2.3. Data Collection Tool and Variables.** A closed-ended interviewer-administered questionnaire adapted from WHO health system responsiveness and from different related literature, was used for data collection [2, 24, 39, 40]. The health system responsiveness of outpatient healthcare services was the dependent variable. Whereas, the socio-demographic variables (age, sex, educational status, marital status, occupation, and household's monthly income), perceived quality of healthcare, and perceived satisfaction were independent variables included in the questionnaire. The questionnaire was prepared in English first, then translated to Amharic (local language), and then retranslated back to the English language to check its consistency.

Health system responsiveness was assessed by seven short versions of the WHO questionnaire used in multi-country studies and from the report of Ethiopia's health sector transformation plan (HSTP II) [31, 40]. Using the four answer categories (1 = very poor, 2 = poor, 3 = good, 4 = very good), we determined the level of responsiveness for each of the seven domains having one question: communication, confidentiality, quality of basic amenities, dignity, choice, prompt attention, and autonomy. The eighth domain (access to social support network) was not assessed since it is used for assessing inpatients (hospitalization) only [13, 41]. The results for each dimension were combined to create a responsiveness index that ranged from seven, representing the lowest score, and 28 indicating the highest score. This means that the corresponding code for "poor" response for each domain was 1 multiplied by 7 (the number of domains) that produced the sum of seven. Similarly, the corresponding code for "very good" was four multiplied by 7 domains, which produced 28.

Patients' health insurance status was determined using a "Yes/No" question that asked if they had health insurance (community-based or social health insurance). The

individuals were asked to show their health insurance cards (all did).

Patient satisfaction was measured, using 5 questions on a five-point Likert scale with five response categories (1 "very dissatisfied" to 5 "very satisfied") [31]. Perceived quality of care was assessed by 12 questions about the clients' perceptions of the services they offered, the professionalism of the provider, as well as the patient values and interests in the services [26, 31]. Finally, perceived satisfaction and perceived quality of care were categorized by using the median cutoff scores. Since both of them were nonnormal distributions. Accordingly, including the median and above, were considered satisfied and high, and otherwise dissatisfied and low, respectively, for perceived satisfaction and perceived quality of care. A cutoff point of 20 was used for perceived satisfaction and 49 for perceived quality of care.

**2.4. Data Quality Assurance.** Five B.Sc. health officers and two supervisors collected the data after being trained on how to do so. Furthermore, to minimize the social desirability bias, the facility staff was not permitted to see or hear the responses of each outpatient. This means that each outpatient was interviewed in a separate room. The data collectors conducted detailed practice and pretest the questions on 21 (5%) participants before starting the real data collection. Based on the findings and experiences gathered from the pretest, the data collection instrument was modified (the Likert scale for the response categories for the outcome variable was modified from five to four options). Every day, the investigator discussed problems with the supervisor and made adjustments as needed.

**2.5. Data Processing and Analysis.** The data were checked for accuracy before being entered into the Epi-data version 4.6 Software Package. The data was then cleaned, coded, and analyzed using Stata version 14 statistical software. Frequency, percentage, mean, and standard deviation were used to describe descriptive data. The health system responsiveness dimensions were compared using the Chi-square test based on whether or not the participants had health insurance. Because the index had a nonnormal distribution, median quantile regression (50th percentile) was used to investigate the particular association of the responsiveness index with health insurance ownership through adjusting other variables (the sociodemographic characteristics, perceived quality of healthcare and patient satisfaction). The adjusted model incorporated statistically significant variables ( $p$ -value  $\leq 0.05$ ) from the crude model.

The quantile regression method is used to estimate quantile (percentile) functions [42, 43]. Median quantile regression permits a more complete description of the conditional distribution. For example, we can describe how regressor variables affect the median or perhaps the 90th or 10th percentiles of response variables. Furthermore, since quantile regression does not require strong distribution assumptions, it provides a robust way of modeling relationships [42]. Symmetric weights are used for the median

TABLE 1: Respondents' sociodemographic characteristics ( $n = 417$ ).

Variables categories	Frequencies ( $n$ )	Percentage (%)
<i>Sex</i>		
Male	226	54.2
Female	191	45.8
<i>Age (years)</i>		
18–29	170	40.8
30–39	89	21.3
40–49	54	13.0
50 and above	104	24.9
<i>Residence</i>		
Rural	288	69.6
Urban	129	30.4
<i>Religion</i>		
Orthodox	387	92.8
Muslim	30	7.2
<i>Occupational status</i>		
Farmer	254	60.9
Government employee	53	12.7
Merchant	45	10.8
Others*	65	15.6
<i>Current marital status</i>		
Married	255	61.1
Not married**	162	38.9
<i>Educational status</i>		
No formal education	175	42.0
Primary (grade 1–8)	135	32.4
High school and above	107	25.6
<i>Health insurance ownership</i>		
yes	295	70.74
No	122	29.26

\*Student, private employee, daily laborer \*\*Single, divorced, windowed.

(quantile = 0.5). The median quantile regression is not limited to describing the dependent variables by the mean. It can be applied to explain the factors of the dependent variable at the median of its distribution [42, 43].

### 3. Results

#### 3.1. Background Characteristics of the Study Participants.

In this study, a total of 417 outpatients were interviewed with a response rate of 98.6%. The median age of the study participants was 19 (IQR: 25–49) years. Similarly, more than half (54.2%) of the participants were males. About 40.8% of participants were aged 18–29 years. Of the study participants, three-fifths (61.1%) were currently married. More than two-thirds (69.6%) of the participants were rural dwellers. Most (70.74%) of the participants were insured. The majority (92.8%) were Orthodox Christian followers of religion (Table 1).

3.2. *Patient-Related Characteristics.* More than half (53.96%) of the respondents were dissatisfied with the healthcare they offered. Furthermore, half (49.88%) of the outpatients reported high perceived healthcare quality (Table 2).

TABLE 2: Patient-related characteristics of the study participants ( $n = 417$ ).

Variables	Categories	Frequency ( $n$ )	Percentage (%)
<i>Perceived satisfaction</i>	Satisfied	192	46.04
	Dissatisfied	225	53.96
<i>Perceived healthcare quality</i>	High	208	49.88
	Low	209	50.12

3.3. *Performance of Responsiveness Domains by Health Insurance.* The experience of outpatients regarding the seven health system responsiveness domains based on insurance status was analyzed. In general, good responsiveness (very good and good) across all domains was reported by both insured and uninsured outpatients. But two domains namely prompt attention and choice of healthcare provider had below 50% in the good responsiveness. For prompt attention, only 46.1% of insured and 45.09% of uninsured outpatients reported good responsiveness. Likewise, in the choice domain, 49.49% and 44.26% of insured and uninsured outpatients were reported the health system as good and responsive, respectively.

Of the participants, 77.28% of insured and 69.67% of uninsured outpatients reported the communication (clarity of provider explanations) domain as good and responsive. Similarly, freedom to talk privately was reported by 78.3% and 71.31% of insured and uninsured outpatients as good or very good responsiveness, respectively. Ultimately, there was no statistical difference in health system responsiveness between insured and uninsured outpatients for each domain (Table 3).

3.4. *Median Quantile Regression Analyses.* As shown in Table 4 the median quantile regression was used to estimate the association between health insurance and outpatients' overall health system responsiveness. The results of the crude and adjusted regression models showed no statistical association between health insurance and responsiveness (0; 95%CI: -0.93, 0.93) and (-0.67; 95%CI: -1.59, 0.25), respectively.

But there was a negative statistical association between age and responsiveness. Accordingly, the increase in age decreased the probability of reporting better responsiveness by 1.33 units (-1.33; 95%CI: -2.47, -0.19) among 30–39 years and by 1.66 units (-1.66; 95%CI: -3.02, -0.32) among 40–49 years than younger age outpatients. However, there was a positive statistical association of urban residence, perceived quality of healthcare and patient satisfaction with the health system's responsiveness. The responsiveness perceived by an urban residents was 1.33 units higher (+1.33; 95%CI: 0.37, 2.29) than that of rural residents.

Higher responsiveness was positively associated with a high perceived quality of healthcare (+2.96; 95%CI: 1.95, 4.05). The responsiveness perceived by satisfied outpatients was 3 unit (+3; 95%CI: 1.94, 4.07) higher than that of dissatisfied outpatients.

TABLE 3: Health system responsiveness among outpatients by health insurance status in primary health facilities, Ethiopia, 2021.

How would you rate the following?	Insured		Not insured		<i>p</i> -value
	<i>n</i> = 295	%	<i>n</i> = 122	%	
<i>Time waited before being attended to care</i>					
Very poor	87	29.49	26	21.31	0.182
Poor	72	24.41	41	33.61	
Good	105	35.59	43	35.25	
Very good	31	10.51	12	9.84	
<i>Respected by health professional</i>					
Very poor	14	4.75	8	6.56	0.681
Poor	52	17.63	26	21.31	
Good	130	44.07	50	40.98	
Very good	99	33.56	38	31.15	
<i>Clarity of explanations by providers</i>					
Very poor	10	3.39	7	5.74	0.215
Poor	57	19.32	30	24.59	
Good	154	52.2	51	41.80	
Very good	74	25.08	34	27.87	
<i>Involvement in deciding treatment</i>					
Very poor	42	14.24	18	14.75	0.700
Poor	84	28.47	39	31.97	
Good	120	40.68	50	40.98	
Very good	49	16.61	15	12.30	
<i>Freedom to talk privately with the physician</i>					
Very poor	20	6.78	9	7.38	0.191
Poor	44	14.92	26	21.31	
Good	143	48.47	46	37.7	
Very good	88	29.83	41	33.61	
<i>Freedom to choose a healthcare provider</i>					
Very poor	117	39.66	56	45.90	0.706
Poor	32	10.85	12	9.84	
Good	88	29.83	33	27.05	
Very good	58	19.66	21	17.21	
<i>Cleanliness of the health facility inside the environment</i>					
Very poor	32	10.85	9	7.38	0.660
Poor	44	14.92	24	19.67	
Good	84	28.47	35	28.69	
Very good	135	45.76	54	44.27	

## 4. Discussion

This study looks at the responsiveness of primary healthcare services based on insurance status in Ethiopia. The study also assessed the association between sociodemographic factors and perceived quality of care with responsiveness performance. In this section, we discussed the performance of each domain, the difference in perceived health system responsiveness among insured and uninsured outpatients, and factors associated with health system responsiveness, respectively.

**4.1. Responsiveness Performance.** According to our findings, both insured and uninsured individuals reported good responsiveness (very good and good  $\geq 50$  percent) except for choice and prompt attention. As compared to other domains, these two domains were poorly performed.

Domains such as autonomy (right to access medical information and make informed decisions), confidentiality (privacy), dignity (respect), communication (clarity in

explanations), and basic amenities performed better than others. Two studies conducted in Iran support this finding [44, 45]. In Tanzania, the confidentiality and dignity domains had the highest scores of responsiveness [22]. This might be because users of healthcare services expect a high level of privacy and safeguarding of their personal information by health professionals [46].

However, our findings revealed that patients' expectations were not fulfilled in the choice and prompt attention (timeliness of care and due attention) domains. These findings are in line with studies conducted in Iran [44], Brazil [41], South Africa [47], and Nigeria [11] where the choice was a poorly performed responsiveness domain. Whereas studies in other African countries like South Africa [13], Tanzania [48], and Nigeria [11] revealed that the prompt attention domain was poorly performed. The concern for these domains might be due to factors such as overcrowding, understaffing, delays in reception, inaccessibility to recommended medicines, provider attitudes, and poor healthcare management that could probably contribute to low responsiveness [11, 49].

TABLE 4: Results of crude and adjusted median quantile models for responsiveness to health care services in primary healthcare facilities, in Ethiopia ( $n = 417$ ).

Characteristics	Health system responsiveness	
	Crude model $\beta$ (95%CI)	Adjusted model $\beta$ (95%CI)
<i>Health insurance</i>		
No	1	1
Yes	0 (-0.93, 0.93)	-0.67 (-1.59, 0.25)
<i>Age in years</i>		
18-29	1	1
30-39	1 (-3.48, -0.52)	-1.33 (-2.47, -0.19)*
40-49	-2 (-2.77, 0.77)	-1.66 (-3.02, -0.32)*
50 and above	-1 (-3.41, -0.58)	-0.33 (-1.43, 0.76)
<i>Residence</i>		
Rural	1	1
Urban	2 (1.07, 2.92)	1.33 (0.37, 2.29)*
<i>Educational status</i>		
No formal education	1	1
Primary (Grade 1-8)	-1 (-2.15, 0.15)	-0.66 (-1.65, 0.32)
High school and above	1 (-0.23, 2.23)	0.33 (-0.83, 1.49)
<i>Sex</i>		
Male	1	1
Female	0 (-0.91, 0.91)	0.66 (-0.16, 1.49)
<i>Patient health quality</i>		
Low	1	1
High	5 (3.88, 6.11)	2.96 (1.95, 4.05)*
<i>Patient satisfaction</i>		
Dissatisfied	1	1
Satisfied	5 (4.22, 5.77)	3 (1.94, 4.07)*

\*Significant at  $p < 0.05$  \*

#### 4.2. Insured versus Uninsured Responsiveness Performances.

In our study, outpatients who were insured and uninsured had no significant difference in perceptions of health system responsiveness. This implies patients from the insured and uninsured groups rated the health system responsiveness equally, or if differences were observed, they were due to errors, chances or occurred randomly ( $p \geq 0.05$ ). The finding is in line with a study conducted in Nigeria [11, 50], and Burkina Faso [51] where the health system responsiveness among insured and uninsured patients was not different.

On the contrary, elsewhere studies in Tanzania [48] and Ghana [19] revealed that uninsured patients reported better responsiveness than insured individuals. The difference for the result might be the approaches in the inquiry and analysis of the data. For instance, the study participants for our study were outpatients, whereas in Ghana and Tanzania the study participants were elderly individuals. Moreover, the tool used for this study was the short version of the WHO multicountry survey questionnaires from the facility's visited outpatients, whereas in Tanzania it was a community based among elderly individuals, the same is true in Ghana.

4.3. *Factors Associated with Responsiveness.* Among the independent variables, older age had a negative statistical association with responsiveness. The finding contradicts previous research from Ghana [52], and South Africa [47] in which the older reported better responsiveness. The negative

association might be that people who get older might decline functional capacity and the likelihood of developing more complex health problems, such as multiple chronic conditions [53, 54] and are poor self-perceived health [55], which makes them a high probability to report the health system responsiveness as poor. This may need further investigation.

From the findings of our study, urban residents tended to be positively associated with perceived responsiveness. The possible reason might be that urban residents have better access to healthcare, whereas rural residents have encounter, transportation, economic, and time difficulties. In which all the aforementioned factors made an impact on their psychology. This in turn affects their evaluation of health system responsiveness [56]. The finding implies an ongoing health facility reform intending to address non-clinical aspects of rural patients.

The findings of this study revealed that higher health system responsiveness was reported among outpatients who had a higher perceived quality of healthcare than their counterparts. Elsewhere, studies in Ethiopia also suggested similar findings [26, 31]. Evidences indicated that in every healthcare setting the quality of the service is a critical component [57, 58]. This has an implication that healthcare institutions and providers must enhance the level of professionalism (expertise), understanding of their patient's psychological and physical conditions. Clients should receive treatment that is appropriate for their needs. Aside from that, a healthcare system and providers, in particular, should not fail to consider the concerns of their clients and

provide the care as mandated in order to achieve a higher rating for perceived quality of care.

The findings of this research revealed that patient satisfaction tended to be positively associated with perceived responsiveness. Other studies conducted in Ghana and Ethiopia [25, 26, 31] showed the same result. Furthermore, the World Health Organization reported that satisfaction was positively and significantly associated with the domains of responsiveness [59]. When clients become dissatisfied, they will report low responsiveness mean sum scores. The same is true for the reverse [5, 60]. If patients are satisfied with the nonmedical component of care, they may become more willing and aware of all interactions and outcomes [61]. As a result, healthcare executives should look for a better strategy to improve patient satisfaction scores as quickly and effectively as possible via patient feedback.

## 5. Strengths and Limitations

The data was collected on the same day as the patient gets healthcare services, in which case recall bias is minimized. The study employed responsiveness questions from the WHO multicountry responsiveness survey for consistency and to permit comparison with other studies. Although our sample size was large, generalizing the results to other sections of the country should be done with caution. Due to the self-reported response, we also acknowledge the response bias, to reduce this bias, short and interval questionnaires were employed. This short and interval questionnaire may be easier to remember, but it has its own limitation of being difficult to compare the results with other studies that have used the WHO survey and the original 5-Likert scale. With regard to age, as age increases, the risk of developing a chronic disease also increases. Sometimes, continuity of the care relationship is important in such situations. Some individuals may have multiple diseases that need to be treated daily, these data collection and analysis did not take into account respondents' need for treatment. Data was collected only from the patient's perspective or did not include the perspective of the health professionals. It would be preferable if the study used a mixed-method approach. Finally, we were unable to determine which type of health insurance individuals had, which may have influenced their perceptions of responsiveness domains.

## 6. Conclusions

In conclusion, there was no significant difference in responsiveness between insured and uninsured outpatients. The finding of this study suggests that service providers should consider outpatients' needs, values, and preferences to improve the performance of health system responsiveness on the prompt attention and choice of healthcare providers. Policymakers and health facility administrators should give emphasis and need to make an effort on the quality of healthcare to be responsive for the district population. Furthermore, healthcare administrators and/or managers

can better improve patient satisfaction by incorporating feedback from service users. Further research could be worthwhile to understand how the uninsured and insured perceive the responsiveness of healthcare systems more compressively.

## Abbreviations

CBHI:	Community-based health insurance
CI:	Confidence intervals
FMOH:	Federal ministry of health
HIS:	Health insurance scheme
HSR:	Health system responsiveness
MCSS:	Multicountry survey study
NHIS:	National health insurance scheme
PHQ:	Patient health quality
SHI:	Social health insurance
UHC:	Universal health coverage
WHO:	World Health Organization.

## Data Availability

The data are available on a reasonable request from the corresponding author.

## Ethical Approval

This study was approved by the Institutional Review Board (IRB) of the University of Gondar, College of Medicine and Health Sciences, Institute of Public Health (Ref. No. IPH/1408/2013). In the same manner, a letter of support was obtained from the District Administration Health Office. The interviewees were told that to respond freely knowing that the answers given will not affect his or her treatment now or in the future. There was no personal identification on the questionnaires, and confidentiality was maintained by using codes instead of names. All the methods of this study were done according to the Helsinki declaration.

## Consent

Participants' informed consent was obtained after a brief explanation of the study's purpose. It was explained to participants that participation was voluntary and that they could discontinue at any time.

## Disclosure

The earlier version of the manuscript has been presented as a preprint paper in Research Square. It has no role in the decision of manuscript preparation or publication.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## Authors' Contributions

WDN conceived and designed the research and performed the analysis, and then, CTT and AA were advisors in the

proposal and thesis writing. WDN and DBA prepared the draft manuscript, and then, CTT and AA revised the final drafts of the paper. All authors read and approved the final manuscript for publication.

## Acknowledgments

The authors acknowledge the University of Gondar. The authors are also grateful to the data collectors, district managers, and study participants. The University of Gondar sponsored this study.

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