Al-Baghdadi, M. A. A., Abdul Aziz, S. M., Abobakr, F. M., Abdulrab, A. F. Q., Saeed, S. M. D., Ali, F. A., Mansoor, F. A., Ali, Z., Al-Obaidi, A. A. A., Ali, F. A., Ghalib, M. A. A., Mohammed, M. S., Salem, N. S. S., Hamoud, H. M., Shaif, M. A., Mohsen, A. S.
H.Yemeni J Med Sci. 2025; 19(10):15 -35
https://doi.org/10.20428/yjms.v19i10.3151
https://journals.ust.edu/index.php/yjms

OPEN ACCESS Original Article

Beneficiary Satisfaction with the Quality of Health Services in Primary Health Care Centers in Aden Governorate, Yemen

Mohammed A. A. Al-Baghdadi, [1,2]*, Abdul Aziz Salem Mohammed[1], Faisal Mohammed Abobakr[1], Ala Fawaz Qasem Abdulrab[1], Samia Mazen Darham Saeed[1], Fatima Ahmed Ali[1], Fatima Afif Mansoor[1], Zahra Ali[1], Aisha Ali Abdullah Al-Obaidi[1], Fatima Ahmed Ali[1], Maisa Adnan Abdo Ghalib[1], Mohammed Salah Mohammed[1], Nagma Salem Saeed Salem[1], Hanadi Muhammad Hamoud[1], Marwa Abdulaziz Shaif[1], Amal Salem Hussein Mohsen[1]

[1] *Department of Health Sciences, Faculty of Medicine and Health Sciences, University of Science and Technology, Aden, Yemen.*
[2] *Department of Paraclinical, Faculty of Medicine & Health Sciences, Aden University, Aden, Yemen*

ABSTRACT

Background: Patient satisfaction is a key indicator of healthcare quality and accessibility. Understanding the sociodemographic factors influencing satisfaction can inform improvements in service delivery, particularly in low-resource settings.
Objective: To assess patients' satisfaction with access to primary health care (PHC) services and examine the influence of sociodemographic factors on satisfaction levels.
Methods: A cross-sectional analytic study was conducted among 247 beneficiaries attending PHC centers. Data were collected using structured questionnaires covering service access, satisfaction scores, and financial barriers. Satisfaction was measured across multiple domains, and sociodemographic characteristics were analyzed descriptively.
Results: Overall satisfaction with PHC access was moderate to high, with the highest ratings given for staff cooperation and explanation of treatment. However, dissatisfaction was notable in areas related to medication availability and cost. Most participants were female (72.5%), married (71.3%), and from low socio-economic backgrounds (67.2%). Financial constraints significantly influenced satisfaction, with 45.7% reporting out-of-pocket expenses as a burden and 58.3% unable to purchase prescribed medications due to cost. Urban residents and individuals with lower educational levels generally reported higher satisfaction, whereas employed and higher-educated participants showed more critical assessments of service access.
Conclusion: While patients reported positive experiences with PHC services overall, access inequities remain, particularly regarding medication availability and financial barriers. Sociodemographic factors, especially income and education, play a critical role in shaping patient satisfaction. Policy interventions should address affordability and availability to ensure equitable healthcare access.

Keywords: Primary healthcare (PHC) centers, Aden Governorate, accessibility, availability, satisfaction.

**** Corresponding author address:*** *mohmd235@yahoo.com, m.albaghdadi@ust.edu*

https://doi.org/10.20428/yjms.v19i10.3151
https://journals.ust.edu/index.php/yjms

INTRODUCTION

Primary Health Care (PHC) centers play a crucial role in delivering essential and comprehensive health services to the community. Beneficiary satisfaction is a key indicator of the quality of these services. PHC centers offer continuous and comprehensive health services, including preventive and curative care, which are vital for community health improvement (1). They coordinate various health services, such as women's health, mental health, and child healthcare, ensuring a holistic approach to health management (2).

The following outcomes have been attained by the Yemen Emergency Human Capital Project (EHCP) between 2021 and 2023: facilitated the supply of nutrition and health services to over 11 million individuals, including 5.8 million women and girls, via mobile teams and medical facilities. Expanded access to primary healthcare services in more than 2,200 supported facilities (78% of Yemen's total operational primary healthcare facilities), with 98% of facilities supporting integrated management of childhood illnesses and 99% of facilities capable of managing acute malnutrition. More than 1.3 million children received vaccinations, 180,000 received mental health and psychosocial help, and over 590,000 women received antenatal care services. Restored access to rehabilitated water supply services for 530,000 people, improving their access to WASH (water supply, sanitation, and hygiene) services. Rehabilitated sanitation services were made available to 390,000 persons, 48% of whom were women and girls. Used a network of over 15,000 health workers and volunteers to provide high-quality primary health and nutrition services to the most difficult-to-reach areas. Enhanced availability of inpatient services in 45 district hospitals, 19 interdistrict hospitals, and 26 governorate hospitals. Ninety-seven percent of recipients expressed satisfaction with the services they received (3).

In Saudi Arabia, a study revealed an overall satisfaction score of 4.2 out of 5, with 83.8% of patients expressing satisfaction with PHC services (4). In Lebanon, an impressive 96.66% of patients reported being satisfied or very satisfied with their PHCC services (5). Brazilian users also indicated high satisfaction levels, particularly linked to access and service quality (6).

There is a lack of recent, reliable, and localized research assessing beneficiary perspectives on PHC services in Aden, making this study both timely and necessary. Assessing satisfaction helps determine whether or not PHC facilities meet community requirements, as they are the foundation of any effective and equitable healthcare system. In order to improve service delivery, it is crucial to comprehend beneficiary satisfaction, as it offers important insights into patient-provider interaction, accessibility, responsiveness, and service quality.

This study aims to assess the level of satisfaction among beneficiaries of PHC centers and to identify strengths and weaknesses to enhance the quality of healthcare services in Aden governorate, Yemen.

METHODS

Study Design and Subjects

The subjects of the study were both sexes of adults ≥18 years old who have received services from selected PHC centers in Aden. The area of the study was conducted in Aden Governorate, Yemen. Because of its port and administrative roles, Aden is a major urban hub of strategic importance. The governorate's continuous conflict, displacement, economic instability, and fragmented health system pose serious public health concerns despite its urban setting. The type of study was a cross-sectional analytic survey study, conducted for 2 months from 20 April up to 20 June 2025. The data was collected by direct interviews using a structural, pretested questionnaire that included 3 parts: demographic information, accessibility and availability, and satisfaction with health services.

Sample Size

The sample size was calculated based on a study conducted in Saudi Arabia by (4), as they reported that the prevalence of patients' satisfaction was (83.8%). Use the following formula. The sample size was

$$n = \frac{Z^2 \times P(1-P)}{e^2} = \frac{(1.96)^2 \times 83.8\%(1-83.8\%)}{(0.05)^2}$$
$$= 208.6 \approx 209$$

Where:

- Z = 1.96 for 95% confidence
- p = estimated satisfaction rate (e.g., 0.5 if unknown)

- e = margin of error accepted (e.g., 0.05)

We add 18% (i.e., 38) to reduce sampling error. Finally, the total sample size has been 247.

Ethical Considerations

Ethical approval with the code (MEC/AD091) was obtained from the University's Research Committee at the University of Sciences and Technology, Aden. Participation was voluntary with informed consent, and confidentiality was maintained. The collected data were used solely for research purposes.

Statistical Analysis

Data was entered and coded using SPSS version 22. The quality-of-care measure comprises indicators on the availability of inputs integral to the delivery of primary health services. Descriptive analysis was performed to summarize the socio-demographic data. Inferential statistics (cross-tabulations) were used to determine the distribution pattern in the various groups, and differences were tested using the chi-square test of independence. The overall (average) quality of care scores was calculated using the Likert 6-point scale on patient satisfaction with health services. Analysis of variance was used to find the mean difference between the quality-of-care score across facilities and states. Linear regression was used to assess the association between overall quality scores with socio-demographic and facility-level factors. The model was adjusted with cluster effects of all the three states and socio-demographic variables such as age, gender, education, and occupation. Statistical significance was obtained based on the *p*-value of <0.05 and the 95% confidence interval.

RESULTS

The total number of participants was 247; the mean age was 34.1±12.9 years; and the minimum, the maximum, and the range were 18, 60, and 42 years, respectively. The male and female percentages were 68 (27.5%) and 179 (72.5%), respectively, as shown in Figure 1 below.

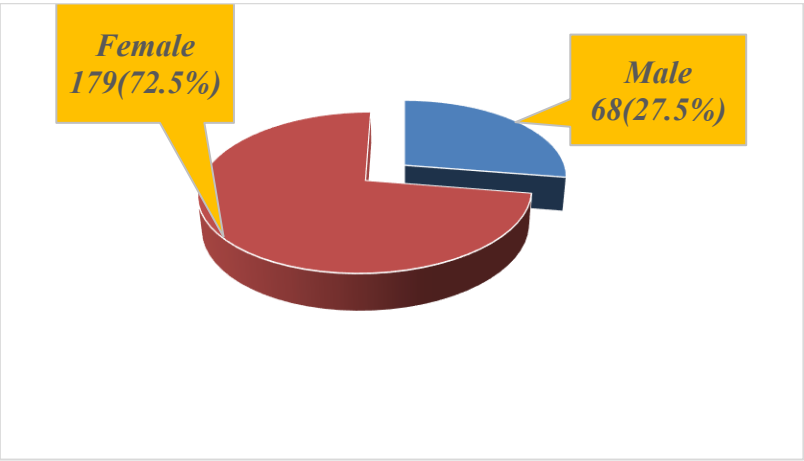

Figure 1: The Frequency & Percentages of Sex

The sociodemographic variables are shown in Table (1). The family income was categorized based on the index of household and how to face the financial challenges.

Table 1: The Sociodemographic Variables, (n=247).

Grouped Age (Years)	**No.**	**%**	**Marital Status**	**No.**	**%**
18 - 30	119	48.2	Single	49	19.8
31 - 40	61	24.7	Married	176	71.3
41 - 50	31	12.6	Divorced	14	5.7
> 50	36	14.6	Widowed	8	3.2
Total	247	100.0	Total	247	100.0
Level of Education	**No.**	**%**	**Occupation**	**No.**	**%**
Illiterate	53	21.5	Employed	53	21.5
Primary	84	34.0	Unemployed	38	15.4
Secondary	60	24.3	Student	26	10.5
University	50	20.2	Housewife	130	52.6
Total	247	100.0	Total	247	100.0
Family Income	**No.**	**%**	**TNOC$**	**No.**	**%**
Low Socio-Economic Category	166	67.2	No Children	55	22.3
Lower Middle Socio-Economic Category	34	13.8	One Child	39	15.8
Upper Middle Socio-Economic Category	40	16.2	2 Children	30	12.1
High Socio-Economic Category	7	2.8	3 Children	37	15.0
Resident	**No.**	**%**	**4 Children**	**30**	**12.1**
Urban	201	81.4	5 Children	24	9.7
Rural	46	18.6	6 Children	11	4.5
Type of Habitation	**No.**	**%**	≥ 7 Children	21	8.5
Owned	146	59.1			
Rented	101	40.9			

$TNOC; Total Number of Children (Particularly ≤ 9 Years).

The types of visits at the time of collected data were shown in Table (2). The number of visits to the PHC centers in the past 6 months is represented in Figure 2. The frequency of visits to the center at the time of collected data was represented in Figure 3, as seen below.

Table 2: The Types of Visits at Time of Data Collection (n=247).

The Types of Visits at Time of Data Collection	**No.**	**%**
General consultation	90	36.4
Maternal/Child care	88	35.6
Chronic disease follow-up	24	9.7
Immunization	17	6.9
Laboratory/Diagnostics	9	3.6
Others	19	7.7
Total	**247**	**100.0**

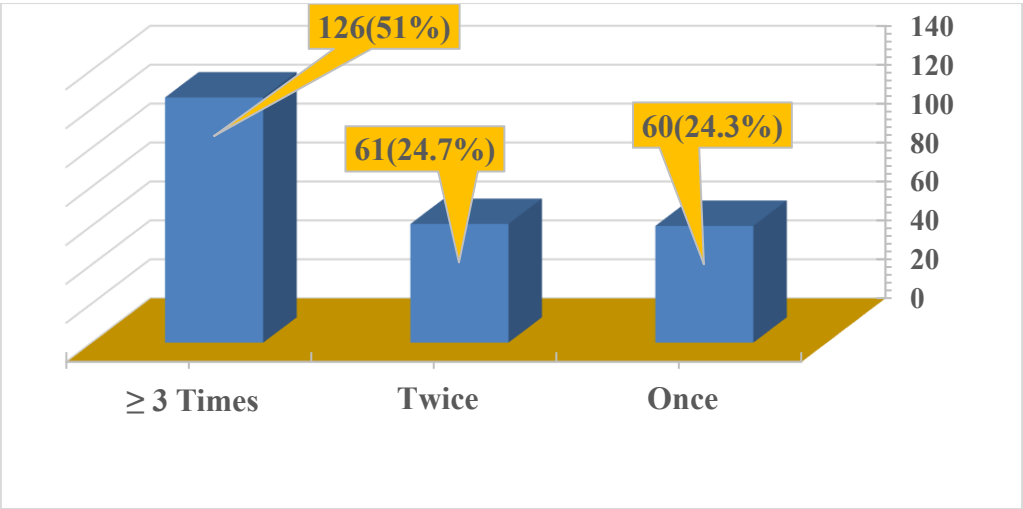

Figure 2: The Frequency & % of Number of visits to the PHC in the Past 6 months

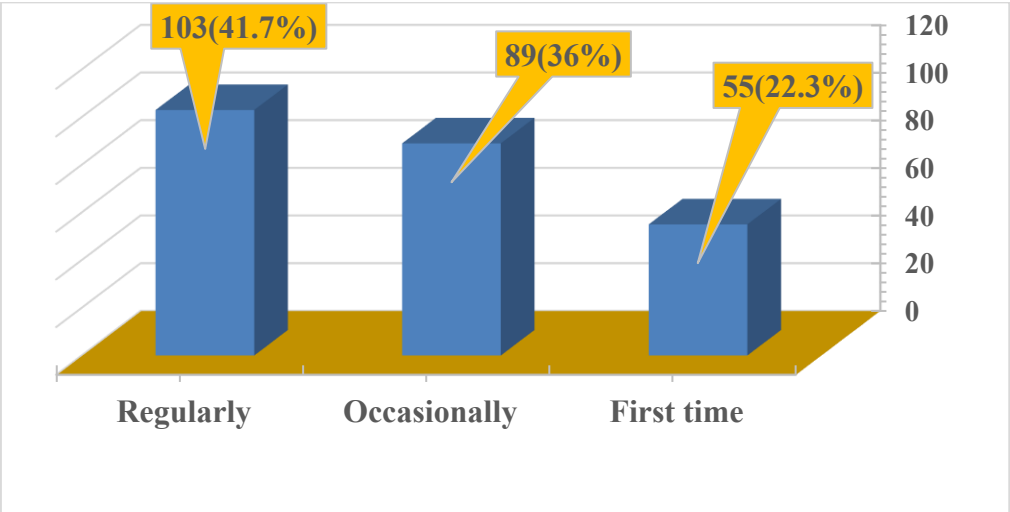

Figure 3: The Frequency & % of Visit to Center at the Time of Collected Data

Accessibility and Availability

The degree to which the location of the health centers is convenient or not, whether the center's opening hours suit the participants' schedules, how easy it is to make an appointment or access services, whether the reception staff is cooperative, whether it is easy to get an appointment, and whether the condition of patients and treatment is explained clearly are shown in the Table (3), below.

https://doi.org/10.20428/yjms.v19i10.3151
https://journals.ust.edu/index.php/yjms

Table 3: The Convenience Based on the Location of Health Centers, (n=247).

The Location of the Health Center is Convenient	**No.**	**%**	**Mean±SD**
Strongly agree	101	40.9	2.0±1.05
Agree	93	37.7	
Neutral	23	9.3	
Disagree	23	9.3	
Strongly disagree	7	2.8	
Total	**247**	**100.0**	
The Center's Opening Hours Suit My Schedule	**No.**	**%**	**Mean±SD**
Strongly agree	93	37.7	2.0±0.90
Agree	114	46.2	
Neutral	21	8.5	
Disagree	16	6.5	
Strongly disagree	3	1.2	
Total	**247**	**100.0**	
It is Easy to Make an Appointment or Access Services	**No.**	**%**	**Mean±SD**
Strongly agree	80	32.4	2.04±1.02
Agree	115	46.6	
Neutral	20	8.1	
Disagree	26	10.5	
Strongly disagree	6	2.4	
Total	**247**	**100.0**	
Was the Reception Staff Cooperative?	**No.**	**%**	**Mean±SD**
Very satisfied	103	41.7	1.72±0.71
Satisfied	115	46.6	
Dissatisfied	25	10.1	
Very dissatisfied	4	1.6	
Total	**247**	**100.0**	
Was It Easy to Get an Appointment?	**No.**	**%**	**Mean±SD**
Very satisfied	80	32.4	2.0±0.74
Satisfied	122	49.4	
Dissatisfied	41	16.6	
Very dissatisfied	4	1.6	
Total	**247**	**100.0**	
Was Your Condition and Treatment Explained Clearly?	**No.**	**%**	**Mean±SD**
Very satisfied	89	36.0	1.56±0.60
Satisfied	145	58.7	
Dissatisfied	13	5.3	
Total	**247**	**100.0**	

The cooperativeness of the reception staff, the ease of getting an appointment, the doctor listening to the participant's complaint, the condition and treatment explained clearly, the waiting time to see the doctor, the cleanliness of the center, the degree of clear directional signs in the center, did you receive all prescribed medications? What was your interaction with the pharmacist? What was the overall quality of services at the center? And finally, will you visit the center again if needed? All such asked questions are shown in Table (4), below. The methods of paying for

health care costs and the financial barriers to accessing PHC are shown in Tables 5 and 6, below.

Table 4: The Scores of Satisfaction with Health Services (n=237).

Waiting Time to See the Doctor	**No.**	**%**	**Mean±SD**
Very satisfied	65	26.3	2.0±0.8
Satisfied	112	45.3	
Dissatisfied	62	25.1	
Very dissatisfied	8	3.2	
Total	**247**	**100.0**	
Cleanliness of the Center	**No.**	**%**	**Mean±SD**
Very satisfied	107	43.3	1.7±0.7
Satisfied	114	46.2	
Dissatisfied	21	8.5	
Very dissatisfied	5	2.0	
Total	**247**	**100.0**	
Are there Clear Directional Signs in the Center?	**No.**	**%**	**Mean±SD**
Very satisfied	81	32.8	1.8±0.7
Satisfied	132	53.4	
Dissatisfied	30	12.1	
Very dissatisfied	4	1.6	
Total	**247**	**100.0**	
Did You Receive All Prescribed Medications?	**No.**	**%**	**Mean±SD**
Very satisfied	28	11.3	2.5±0.8
Satisfied	86	34.8	
Dissatisfied	117	47.4	
Very dissatisfied	16	6.5	
Total	**247**	**100.0**	
Interaction with the Pharmacist	**No.**	**%**	**Mean±SD**
Very satisfied	51	20.6	2.1±0.8
Satisfied	120	48.6	
Dissatisfied	71	28.7	
Very dissatisfied	5	2.0	
Total	**247**	**100.0**	
Overall Quality of Services at the Center	**No.**	**%**	**Mean±SD**
Excellent	80	32.4	2.0±0.8
Good	91	36.8	
Fair	72	29.1	
Poor	4	1.6	
Total	**247**	**100.0**	
Will You Visit the Center Again if Needed	**No.**	**%**	**Mean±SD**
Yes	221	89.5	1.11±0.3
No	26	10.5	
Total	**247**	**100.0**	

Table 5: The Methods of Paying for Health Care Costs.

Health Care Payment Methods	No.	%
Completely free of charge	59	23.9
Catch at the point of service	162	65.6
Full coverage by insurer	1	.4
Mandatory co-payment	25	10.1
Total	**247**	**100.0**

Table 6: The Financial Barriers to Accessing Primary Health Care.

Work Sectors and Working Conditions	No.	%
Government sector	204	82.6
Private sector	28	11.3
Charity sector	15	6.1
Total	**247**	**100.0**
Have You Ever Avoided Going to a PHC Center because of Consultation Fees?	**No.**	**%**
Yes	76	30.8
No	171	69.2
Total	**247**	**100.0**
Are the medical services at the PHC center affordable for you?	**No.**	**%**
Yes	163	66.0
No	62	25.1
Not sure	22	8.9
Total	**247**	**100.0**
How Often Do You Delay or Skip Medical Care Due to Cost?	**No.**	**%**
Never	124	50.2
Rarely	72	29.1
Sometimes	38	15.4
Often	10	4.0
Always	3	1.2
Total	**247**	**100.0**
Have You been Unable to Purchase Prescribed Medications Due to Cost?	**No.**	**%**
Yes	144	58.3
No	103	41.7
Total	**247**	**100.0**
Do You Think the Cost of Medications at PHC Centers is Reasonable	**No.**	**%**
Strongly Agree	52	21.1
Agree	105	42.5
Neutral	60	24.3
Disagree	22	8.9
Strongly Disagree	8	3.2
Total	**247**	**100.0**
Transportation to PHC Center Cost in Yemeni Rial (YR)	**No.**	**%**
No Cost	90	36.4
200 - 800 YR	107	43.3
1000 - 1500 YR	37	15.0
2000 - 3000 YR	11	4.5
> 3000 YR	2	.8
Total	**247**	**100.0**

Have You Ever Missed a Medical Visit Due to Transportation Expenses?	**No.**	**%**
Yes	36	14.6
No	211	85.4
Total	**247**	**100.0**
Does the Price of Missing Work to Attend HC Impact Your Access to Care	**No.**	**%**
Yes	48	19.4
No	178	72.1
Sometimes	21	8.5
Total	**247**	**100.0**
The Amount of Pay Out of Pocket when Visit PHC	**No.**	**%**
Not Pay Any Money	39	15.8
400 - 1000 YR	28	11.3
1100 - 4000 YR	67	27.1
4500 - 10000 YR	86	34.8
≥ 11000 YR	27	10.9
Total	**247**	**100.0**
Do You Think Out-of-Pocket Expenses for PHC are a Burden on Your Household Finances?	**No.**	**%**
Yes	113	45.7
No	96	38.9
Sometimes	38	15.4
Total	**247**	**100.0**
What Financial Challenges do you Face when Trying to Access Care at the PHC Center?	**No.**	**%**
No Comment	215	87.0
Drugs are expensive	1	.4
Financial cost	1	.4
High cost	4	1.6
Just transport	1	.4
Lack of money	1	.4
The salary is low	1	.4
There are no challenges	17	6.9
Transportation cost	3	1.2
Transports	1	.4
Transports and family living conditions	1	.4
Worried about the high cost	1	.4
Total	**247**	**100.0**
What Suggestions Do You Have to Reduce the Financial Burden of Using PHC Services?	**No.**	**%**
No Comment	215	87.0
Free drugs and treatment	1	.4
Providing all essential drugs	6	2.4
Providing free drugs	3	1.2
Reducing medical fees	1	.4
Services should be free	1	.4
There is no suggestion	20	8.1
Total	**247**	**100.0**

https://doi.org/10.20428/yjms.v19i10.3151
https://journals.ust.edu/index.php/yjms

Study of the Associations

Table 7: The association between the Sex with the Number of Visits to PHC Centers in the Past 6 months (n=247).

Sex	Number of visits to the PHC centers in the past 6 months			Total	p-value
	Once	Twice	> Twice		
Male	22(32.4%)	14(20.6%)	32(47.1%)	68(100%)	0.18
Female	38(21.2%)	47(26.3%)	94(52.5%)	179(100%)	
Total	**60(24.3%)**	**61(24.7%)**	**126(51.0%)**	**247(100%)**	

Table 8: The association between the Sex with the Type of Visits at Time of Research (n=247).

Sex	Type of Visits at Time of Research						Total	p-value
	GC	M/C-Care	CDFUp	Immunization	L/D	Others		
Male	23(33.8%)	18(26.5%)	12(17.6%)	2(2.9%)	5(7.4%)	8(11.8%)	68(100%)	0.006
Female	67(37.4%)	70(39.1%)	12(6.7%)	15(8.4%)	4(2.2%)	11(6.1%)	179(100%)	
Total	90(36.4%)	88(35.6%)	24(9.7%)	17(6.9%)	9(3.6%)	19(7.7%)	247(100%)	

GC; General consultation, M/C-Care; Maternal/Child care, CDF-Up; Chronic disease follow-up, L/D; Laboratory/Diagnostics.

Comparison of the Mean Score of Patient Satisfaction per Marital Status Using One-Way-ANOVA Test

Test of Homogeneity of Variances (Levene's Test): Every dimension satisfied the assumption of equal variances,
with the exception of "Doctor Listening" ($p > 0.05$).
ANOVA results for "Doctor Listening" should be interpreted with caution because it displayed unequal variances (Levene's $p = 0.000$) (Table 9).

Table 9: Test of Homogeneity of Variances

Accessibility and Availability	Levene Statistic	df1	df2	Sig.
The location of the health center is convenient	0.872	3	243	0.456
The center's opening hours suit my schedule	2.322	3	243	0.076
It is easy to make an appointment or access services	0.415	3	243	0.743
Was the reception staff cooperative?	1.671	3	243	0.174
Was it easy to get an appointment?	0.669	3	243	0.572
Did the doctor listen to your complaints?	6.399	3	243	0.000

ANOVA Results (Significance of Differences): Only "Doctor Listening" showed statistically significant differences between marital groups ($F = 2.929$, $p = 0.034$). All other dimensions (e.g., location, appointment ease) had $p > 0.05$, indicating no significant differences by marital status (Table 10).

Table 10: One-Way ANOVA Results for Patient Satisfaction by Marital Status (n=247).

Accessibility and Availability		Sum of Squares	df	Mean Square	F	Sig.
The location of the health center is convenient	Between Groups	3.501	3	1.167	1.169	0.322
	Within Groups	242.499	243	0.998		
The center's opening hours suit my schedule	Between Groups	3.268	3	1.089	1.091	0.354
	Within Groups	242.732	243	0.999		
It is easy to make an appointment or access services	Between Groups	4.037	3	1.346	1.351	0.258
	Within Groups	241.963	243	.996		
Was the reception staff cooperative?	Between Groups	2.313	3	.771	0.769	0.512
	Within Groups	243.687	243	1.003		
Was it easy to get an appointment?	Between Groups	3.049	3	1.016	1.017	0.386
	Within Groups	242.951	243	1.000		
Did the doctor listen to your complaints?	Between Groups	8.584	3	2.861	2.929	0.034
	Within Groups	237.416	243	.977		

The Robust Test Welch's ANOVA was Used to Confirm ANOVA: The only one with significant differences was "Doctor Listening" (Welch's p = 0.043). The assumption that marital status has no effect on overall satisfaction which was further supported by the fact that other factors remained non-significant (p > 0.05) (Table 11).

Table 11: Robust Tests (Welch's ANOVA) of Equality of Means

Accessibility and Availability		Statistic[a]	df1	df2	Sig.
The location of the health center is convenient	Welch	1.884	3	24.402	0.159
The center's opening hours suit my schedule	Welch	1.469	3	24.302	0.248
It is easy to make an appointment or access services	Welch	1.177	3	23.043	0.340
Was the reception staff cooperative?	Welch	.966	3	24.175	0.425
Was it easy to get an appointment?	Welch	.826	3	22.788	0.493
Did the doctor listen to your complaints?	Welch	3.167	3	23.484	**0.043**

[a] Asymptotically F distributed.

DISCUSSION

Due to Yemen's limited resources for the health system and research, research activities must be prioritized in order to better optimize the community's health advantages (7). Primary health care facilities in Aden governorate, Yemen, are providing basic services efficiently and with great user satisfaction in areas like communication, cleanliness, and accessibility. The current study assessed beneficiary satisfaction with PHC services through a cross-sectional analytic survey of 247 participants. The majority of participants were aged 18–30 (48.2%), and females constituted 72.5% of the sample, reflecting higher utilization of PHC services by women. Many studies reported that women are far more likely than males to use PHC services. The rise in utilization is frequently attributed to women's higher morbidity burden and unique reproductive health care requirements. The causes of this discrepancy, however, can be multifaceted and include both socially determined standards for gender and biological variables. A similar study was conducted in Brazil, as 79.3% of women reported having access to PHC services, compared to 74.6% of

all people (8). Despite access difficulties for both sexes, women in Pakistan sought PHC services more frequently than men due to higher health requirements (9).

Participants in our study were urban residents, suggesting better access to PHC centers compared to rural areas (81.4% vs. 18.6%). Rural populations, particularly those with poor health literacy, may find it more difficult to get health information due to systemic challenges like a lack of specialized physicians and insufficient media exposure. One study disagreed with our study conducted in China, in which patients from township health centers/rural health stations (THCs/RHSs) settings in the rural area reported better primary care experience in four domains, including first contact, accessibility, ongoing care, and community orientation (10).

The vast majority of our research participants in the Aden Governorate, Yemen, were found to be from low-income households (67.2%). This corresponds to Yemen's general situation, in which a significant section of the population lives below the poverty level. The family income was categorized based on the index of household and how to face the financial challenges (11). The socio-economic categories are as follows: Low Socio-Economic Category: Households with an index between 0 and 0.25, often struggling to meet basic needs. Lower Middle Socio-Economic Category: Households with an index from 0.25 to 0.50, experiencing moderate financial challenges. Upper Middle Socio-Economic Category: Households with an index from 0.50 to 0.75, generally more stable but still vulnerable. High Socio-Economic Category: Households with an index from 0.75 to 1, typically enjoying financial security and access to resources (11).

The marital status was mostly married (71.3%), and the occupation of participants was housewives (52.6%). The large proportion of married women suggests a stable family structure, but it also suggests that access to contemporary forms of contraception is restricted (12). Housewives make up 52.6% of the population, which is indicative of conventional gender roles that can restrict women's access to health care and economic independence (13). The most common reasons for visits were general consultation (36.4%) and maternal/child care (35.6%), both together accounting for 72% of all visits. This implies that basic healthcare requirements
and reproductive/child health services were the mai n uses of PHC clinics.

Chronic disease follow-up (9.7%) and immunization (6.9%) were less frequent, this suggesting that preventive or specialized services might be less accessible or underused. Laboratory/Diagnostics (3.6%) had the lowest representation, which indicates a lack of medical services or a desire for outside diagnostic facilities. Most beneficiaries utilize PHC centers frequently; 51% of them visited more than twice in the previous six months, which may indicate that PHC centers are good at satisfying long-term medical needs or that there aren't many other options. The infrequent users may be people who were 24.3% unable to access services or were looking for one-time services. A study conducted by (14) reported that many frequent users have chronic diseases, necessitating regular visits for management. Furthermore, one study similar to our finding showed that approximately 24.3% of infrequent users reported being unable to access services, indicating systemic barriers (15). Some people would only seek care for urgent problems, which would result in infrequent visits rather than consistent PHC participation. Regular use of PHC facilities can be a sign of satisfactory service delivery, but it can also be a sign of a lack of options, which emphasizes the need for better patient options and access to healthcare (16).

The significance of PHC centers for ongoing care is highlighted by the high number of regular visitors, which was 41.7%. As a sign of a strong patient-provider connection, frequent visitors frequently use PHC for preventive care, chronic conditions, and routine checkups (17). The high rate of follow-up visits indicates that PHC facilities are successful in managing chronic conditions, which lessens the demand on secondary and tertiary care (18). In addition, the results showed those who attended the PHC occasionally (36%), suggesting intermittent use, perhaps for non-urgent or acute problems. There is a need for education on chronic disease management and preventative care because intermittent users may come for non-urgent concerns (19).

The current study's analysis included 22.3% of visitors who were first-time, which could have included new patients or those seeking care for urgent, specialized requirements. The success of PHC

systems may be challenged by the fact that some patients may still prefer secondary care for specialized or perceived higher quality treatments, even though the data highlights the significance of PHC centers in handling both immediate and continuing health requirements (20). Six criteria were evaluated for PHC services' availability and accessibility in our study: The health center's convenient location, appropriate hours of operation, ease of scheduling appointments and accessing services, helpful reception staff, ease of scheduling an appointment, and, lastly, a clear explanation of your illness and course of treatment. Good geographic accessibility was shown by the 78.6% of respondents who agreed or strongly agreed that PHC centers were conveniently located. The overall patients' satisfaction score was around 2.0±1.05 SD out of 5 (78.6%). Our study was less than that registered by (4) in Saudi Arabia, in which the overall patients' satisfaction score was around 4.2 out of 5 (83.8%).

The suitability of opening hours was appropriate (83.9%). The overall surveyed thought appointment access was 79%. Enhancing the efficiency of appointment systems could lead to increased service usage, particularly in rural areas where access may be more challenging (21). As evidenced by Saudi Arabia's mobile health clinics, which revealed high satisfaction but also noted scheduling challenges, targeted outreach in remote communities can assist in increasing awareness and encouraging use of available services (22). Regarding the reception staff cooperation, we found the participants were very satisfied (88.3%), dissatisfied or very dissatisfied (11.7%), and the mean ± SD was 1.72±0.71 (close to "Satisfied" on a 4-point scale). Reception staff cooperation is seen positively by most users, with the lowest dissatisfaction rate so far, indicating good interpersonal interaction at entry points. According to observations made in a hospital context, patients regularly asked for help, underscoring the reception's influence on how well services are perceived overall (23). Whenever staff cooperation is generally appreciated, problems like misunderstandings can still occur and can impact the experiences of customers. Sustaining high levels of satisfaction across service sectors requires constant training and adjustment to user needs (24).

The ease of getting an appointment was 81.8% (including both very satisfied and satisfied), while dissatisfied plus very dissatisfied was 18.2%, and the mean ± SD was 2.0 ± 0.74. The clarity in the explanation of the condition/treatment was as follows:very satisfied + satisfied: 94.7%; the dissatisfied was 5.3%; and mean ± SD: 1.56 ± 0.60 (closest to "very satisfied"). This item has the highest satisfaction rate, showing excellent communication between providers and patients, which is critical for patient-centered care. According to studies, using efficient appointment scheduling platforms like "Mawid" can increase patient satisfaction to 94.3% (25). At Suhar Hospital, 83% of patients reported satisfaction with afternoon clinics, highlighting the importance of flexible scheduling (26). This study assessed the degree of beneficiary satisfaction with a primary health center's healthcare service in a number of different areas. Participants' evaluations of waiting time, cleanliness, signs, medicine availability, pharmacy interaction, overall quality, and likelihood of returning. The overall waiting time to see the doctor (very satisfied + satisfied) was 71.6%, while 28.3% expressed dissatisfaction, and the mean ± SD was 2.0±0.8, indicating moderate satisfaction. However, the majority of patients expressed satisfaction with the waiting period; over one-third did not, indicating a possible scheduling or service flow constraint.

In a study conducted in Northern Nigeria, 55% of patients reported satisfaction despite long waiting times, suggesting that service quality can mitigate dissatisfaction (27). Conversely, a study in Lafia, Nigeria, found that 61.7% of patients waited over an hour, with 33% expressing dissatisfaction due to factors like inadequate personnel and poor record-keeping (28).

According to studies, lengthy wait times can have a d etrimental effect on patient satisfaction ratings and r educe outcomes (29). Wait times that are too long can have an impact on patient care and patients' propensity to seek PHC centers. The overall patients were mainly dissatisfied with wait times (30). Furthermore, the current findings show the clear directional signs in which the most participants (86.2%) were satisfied with the directional signage in the center, reporting a mean satisfaction score of 1.8±0.7. While these results are positive, the presence of 13.7% dissatisfaction suggests room for improvements in

the visibility, language clarity, or accessibility of signage, particularly for elderly or first-time visitors. In order to accommodate individuals who have different physical abilities and guarantee that all users can find attractions and services with ease, signage must follow universal design principles (30). Larger fonts, simpler language, and careful placement are some aspects that can greatly enhance elderly persons' wayfinding (32). Out of 247 of the people who were surveyed, 53.9% expressed dissatisfaction with obtaining all prescribed medications, whereas only 46.1% expressed satisfaction. However, with the highest mean score (2.5±0.8) and the lowest satisfaction, this component indicated a serious problem. Stockouts of medications, delays in procurement, or administrative inefficiencies are a few potential contributing factors. Since the availability of medications is a key factor in determining treatment success and patient trust, this issue must be addressed. According to a study of a Peruvian population-based survey, patients who have trouble getting their prescription drugs report far higher levels of discontent, and odds ratios demonstrate a strong relationship between contentment and access (33).

The mean for the interaction with the pharmacist was 2.1±0.8, with 69.2% of respondents expressing satisfaction and 30.7% expressing dissatisfaction. Despite the fact that the majority of respondents valued their interactions with the pharmacist, about one-third (30.7%) expressed dissatisfaction, maybe as a result of poor communication or subpar service. One study conducted by (34) shows that patient satisfaction was greatly impacted by inadequate communication, especially when it comes to drug side effects and health counseling; scores for general health advice can be as low as 2.39±1.2. The respondents' rating of the services, i.e., the overall quality of services at the centers, was 69.2% as excellent or good and 30.7% as fair or bad, with a mean ± SD of 2.0±0.8. This indicates a generally positive awareness, and efforts could continue to improve service timeliness, comprehensiveness, and reliability of services. These factors are also crucial in determining how customers view the health services; one study shows that assurance and service quality are positively correlated (35).

Those who desired to revisit the center were 89.5%, while 10.5% were undesired, with a mean ± SD being (1.11±0.3). A very high intention to return to the health services centers indicates trust and positive experiences, acting as a strong indicator of loyalty and service acceptability. One study conducted by (36) reported that the entire visitor experience is shaped by elements including perceived value, environmental quality, and service quality, all of which have a direct impact on patronage and plans to return. The current findings outline how individuals pay for healthcare services among the surveyed population (N=247). The majority (65.6%) pay directly when receiving care, indicating limited prepayment mechanisms like insurance. A significant portion accesses services without payment, likely through government or charity programs (23.9%). Few use systems where partial payment is required (10.1%). Insurance coverage is nearly absent; only 0.4% have full insurance coverage. Financial vulnerability is demonstrated by the use of out-of-pocket payments (co-payments and point-of-service fees), which can discourage care-seeking because of the immediate financial costs they represent. The absence of medical insurance exacerbates financial vulnerability, as individuals face high out-of-pocket costs for care (37, 38).

The current results explore financial challenges faced by respondents when accessing primary healthcare (PHC). Most respondents were government employees (82.6%), who may have better access to subsidized care. The other work sectors and working conditions were the private (11.3%) and charity (6.1%) sectors. Employment in the public sector may be a somewhat steady source of income, but there are still major obstacles to care. In one study conducted in Ethiopia, 37.1% of households experienced catastrophic health expenditures, indicating a widespread issue of financial hardship in accessing healthcare (39). Sixty-nine percent of government workers said they had to pay for their own healthcare, which put a strain on their finances and made it harder for them to get high-quality care (40). 30.8% avoided going to a PHC center because the consultation fees were too high, indicating cost-related care delays, and 69.2% did not avoid care, but this may reflect varying income levels or access to free services. Regarding the affordability of services: 66% find PHC affordable, but 25.1% do not, and 8.9%

are unsure, revealing disparities in financial capacity. Delaying/Skipping Care due to cost: 50.2% never delay care, but 49.8% do so rarely to always, with 20.6% (sometimes/often/always) frequently affected by costs. Medication Costs: 58.3% couldn't afford prescribed medications, a critical barrier to treatment adherence, and 63.6% agree/strongly agree medication costs are reasonable, but 12.1% disagree, showing mixed perceptions. Regarding Transportation Costs: 43.3% pay 200–800 YR, and 19.8% pay ≥1000 YR, which may deter low-income individuals, and 14.6% missed visits due to transport costs, highlighting accessibility issues. Out-of-Pocket (OOP) Expenses: 34.8% pay 4500–10,000 YR per visit, 10.9% pay ≥11,000 YR, and significant sums for many, and 45.7% view OOP as a burden, while 38.9% do not, reflecting income inequality. Suggestions for Improvement: 87% gave no comment, possibly due to lack of awareness or engagement. Notable suggestions: free drugs/treatment (2.4%), reducing fees (0.4%), indicating demand for cost relief.

Studies have shown a significant correlation between financial harm and delayed care, with those with less income and insurance knowledge encountering more obstacles (41). Many respondents had to deal with expensive co-pays and deductibles as well, which are particularly costly for those with low incomes and make their financial difficulties worse (42). According to Global Benchmarks (World Health Organization/Universal Health Coverage WHO/UHC Data), over 50% of low-income countries (LICs) (such as Afghanistan and Haiti) rely on out-of-pocket (OOP) payments. Middle-income countries (MICs): OOP averages 30–40% (e.g., India: 62%, Egypt: 55%). High-income countries (HICs): OOP was typically <20% (e.g., UK: 10%, Germany: 13%) (43). Insurance Coverage: >90% for HICs (e.g., 99% in France). LICs: less than 10% (Yemen has one of the lowest rates in the world at 0.4%). National Context (Yemen): Yemen's OOP of 65.6% was comparable to that of states characterized by violence (e.g., Syria: ≈70%). Free care (23.9%) probably refers to humanitarian assistance (e.g., clinics financed by WHO/UNICEF). Financial vulnerability is made worse by Yemen's almost nonexistent insurance coverage (0.4% vs. 10% LIC average) (44, 45).

A chi-square test ($\chi 2$) was used to evaluate the association between sex and number of visits to PHC Centers. Higher proportion of one-time visits in males (32.4% vs. 21.2% for females) but more frequent visits (>2 times: 47.1% vs. 52.5%) for males vs. females, respectively. Females: More likely to visit twice (26.3% vs. 20.6% for males). However, there is no statistically significant association ($p = 0.18$). According to (46), there are disparities between the sexes in visit patterns related to frequent visits. Females tend to return for care more frequently, which may be a reflection of proactive health management methods or higher morbidity burdens (46). The findings that women tend to use preventive care services more frequently are consistent with the overall higher visit rates among females (47).

The current results represented the association between sex and type of visits. Males were more likely to seek chronic disease follow-up (17.6% vs. 6.7% for females) and general consultations (33.8% vs. 37.4%). Females dominated maternal/child care visits (39.1% vs. 26.5% for males) and immunizations (8.4% vs. 2.9%), and there is a highly statistically significant association ($p = 0.006$). A possible difference in health priorities or disease prevalence may be reflected in the sex variations in healthcare consumption, with a higher percentage of men seeking follow-up care for chronic conditions than women (46). Women take a proactive attitude to preventative care, as seen by the much higher immunization rates for females compared to males (48). In addition, men are more likely than women to seek general consultations, indicating a wider use of medical services for a range of ailments (47). The higher number of maternal/child care visits among women than among men highlights the social roles that women frequently play in managing family health (49).

The current findings compared the mean scores of patient satisfaction per marital status using a one-way ANOVA. the majority of patient satisfaction factors related to health care availability and access—such as convenience, appointment scheduling, access to services, reception staff cooperation, and the ease of getting an appointment—were not significantly impacted by marital status. But when it came to whether the doctor paid attention to the patients'

complaints, there was a noticeable difference. This suggests that various marital groups might view doctors' communication or empathy differently—possibly as a result of differences in expectations, social support dynamics, or communication styles among people who are single, married, divorced, or widowed. Due to being accompanied or having greater confidence to advocate for themselves, married patients might anticipate or receive more attentive medical care. In medical consultations, persons who are widowed or single may feel less forceful or heard during medical sessions. Variations in patient expression and expectations or implicit provider bias may potentially be the cause of differences. According to studies, married individuals frequently have higher expectations for healthcare practitioners' empathy and communication, maybe as a result of their social support networks (50). In a study from Saudi Arabia, married patients reported higher satisfaction levels across various domains, including communication, compared to singles (4). On the other hand, when taking into account more general criteria like socioeconomic position and health needs, some research indicates that there may not be a substantial difference in overall satisfaction with healthcare services between marital statuses. This suggests that although marital status is important, patient experiences may also be greatly impacted by other factors (51).

CONCLUSION

Overall, beneficiaries expressed moderate to high satisfaction with Primary Health Care (PHC) services in Aden Governorate. Highest satisfaction scores were related to staff cooperation, treatment explanation, and cleanliness of centers. Significant dissatisfaction was noted in the availability and affordability of prescribed medications and the waiting time to see doctors. Financial barriers such as out-of-pocket (OOP) expenses, consultation fees, and transportation costs negatively impacted access to care for a substantial portion of participants. Low socioeconomic status, especially among women and housewives, was prevalent and closely associated with higher utilization but lower satisfaction in certain domains. Urban residents reported better access than rural dwellers, but rural patients remain disadvantaged in availability and affordability. Sociodemographic factors such as education, employment, and marital status influenced satisfaction with doctor communication and perceived service quality.

Recommendations

Improve Medication Availability: Ensure a regular stock of essential drugs in PHC centers to enhance treatment adherence and patient trust. Reduce Financial Barriers: Introduce or expand subsidized healthcare programs and health insurance coverage to lower the burden of OOP payments. Enhance Appointment Systems: Streamline and digitalize appointment scheduling to reduce waiting time and improve service flow. Train Healthcare Providers: Continue staff training, especially in patient communication and empathy, to improve patient-provider interactions. Promote Community-Based Outreach: Extend PHC services to rural areas through mobile units or satellite clinics to reduce geographic inequities. Implement Signage and Accessibility Improvements: Improve internal signage and patient navigation systems, especially for elderly or first-time visitors. Monitor and Evaluate Satisfaction: Establish regular feedback mechanisms and satisfaction surveys to guide ongoing quality improvement. Engage in Health Education: Educate the community on preventive care and appropriate utilization of PHC services to increase health system efficiency.

Conflict of Interest

The authors declare that there is no conflict of interest.

REFERENCES

[1] Alnaser, F. A. Primary Health Care Is the Foundation of Health Services. Int J Fam Med Prim Care. 23 January 2025; 2 (2). 2021;1037.https://doi.org/10.5772/intechopen.1006812.

[2] Ribeiro FC, Pereira KF, de Assis César ÂR. Primary Care-A brief summary that every Cephaliatrist should know. Headache Medicine. 2023 Dec 31;14(4):176-83. https://doi.org/10.48208/HeadacheMed.2023.32.

[3] World Bank Group. Yemen: Building and Preserving Human Capital During Prolonged Conflict. Results Briefs April 19, 2024. https://www.worldbank.org/en/results/2024/04/19/-yemen-building-and-preserving-human-capital-during-prolonged-conflict

[4] Alhajri SM, Aljehani NM, El Dalatony MM, Alsuwayt SS, Alhumaidany TM, Aldossary MS, Aljehani N, Abd M, Alsuwayt S, Alhumaidany T. Patients' satisfaction with the quality of services at primary healthcare centers in Saudi Arabia. Cureus. 2023 Sep 11;15(9).https://doi.org/10.3389/fpubh.2022.1077147.

[5] Hemadeh R, Hammoud R, Kdouh O, Jaber T, Ammar L. Patient satisfaction with primary healthcare services in Lebanon. The international journal of health planning and management. 2019 Jan;34(1):e423-35. https://doi.org/10.1002/hpm.2659.

[6] Cantalino JL, Scherer MD, Soratto J, Schäfer AA, Anjos DS. User satisfaction in relation to Primary Health Care services in Brazil. Revista de saude publica. 2021 May 17;55:22. https://doi.org/10.11606/s1518-8787.2021055002533.

[7] Abdul-Ghani R. Malaria research priorities in Yemen: paving the way for malaria elimination. Yemeni J Med Sci. 2015 Dec 17;9(1):10-20428. http://dx.doi.org/10.20428/YJMS.9.1.E .

[8] Martins MM, Prado NM, Vilasbôas AL, Aquino R. Usual source of care and Brazilian adolescent access to Primary Health Care (PHC) services. Ciência & Saúde Coletiva. 2024 May 13;29:e11232023. https://doi.org/10.1590/1413-81232024295.11232023.

[9] Panezai S, Ahmad MM, Saqib SE. Factors affecting access to primary health care services in Pakistan: a gender-based analysis. Development in practice. 2017 Aug 18;27(6):813-27. https://doi.org/10.1080/09614524.2017.1344188.

[10] Chen A, Feng S, Zhang L, Shi L. Comparison of patients' perceived quality of primary care between urban and rural community health centers in Guangdong, China. International journal of environmental research and public health. 2020 Jul;17(13):4898. https://doi.org/10.3390/ijerph17134898.

[11] Dameus A, Bien-Aimé R. Socio-economic categorization of households: a new methodological approach in quantitative research: une nouvelle approche méthodologique en recherche quantitative. RELACult-Revista Latino-Americana de Estudos em Cultura e Sociedade. 2022 Nov 26;8(2). https://orcid.org/0000-0002-3664-1139.

[12] Boah M, Adokiya MN, Hyzam D. Prevalence and factors associated with the utilization of modern contraceptive methods among married women of childbearing age in Yemen: a secondary analysis of national survey data. BMJ open. 2023 Jun 1;13(6):e071936. https://bmjopen.bmj.com/content/13/6/e071936.abstract.

[13] Malik MA, Dahiru T. Anemia and Underweight among Married Women in Yemen; Evidence from Yemen Demographic Health Survey (YDHS-2013). Journal of Nutrition and Food Security. 2023 Jul 30. https://doi.org/10.18502/jnfs.v8i3.13286.

[14] Acosta AM, Lima MA. Frequent users of emergency services: associated factors and reasons for seeking care. Revista Latino-americana de enfermagem. 2015 Feb;23:337-44. http://hdl.handle.net/10183/86839.

[15] Sivanandan A, Kumar SG, Krishnamoorthy Y. Awareness and preference in utilizing primary health-care services from rural health center as first point-of-care: A community-based cross-sectional study in South India. Journal of Education and Health Promotion. 2020 Jan 1;9(1):85. https://doi.org/10.4103/jehp.jehp_593_19.

[16] Zhang W, Ung CO, Lin G, Liu J, Li W, Hu H, Xi X. Factors contributing to patients' preferences for primary health care institutions in China: a qualitative study. Frontiers in public health. 2020 Aug 18;8:414. https://doi.org/10.3389/fpubh.2020.00414.

[17] Parvin, R. Primary Health Care. J. Gen. Pract. 2013 January 07, 1:1; 1000e101. DOI: 10.4172/2329-9126.1000e101.

[18] Galanakos SP, Bablekos GD, Tzavara C, Karakousis ND, Sigalos E, Bablekos G. Primary health care: our experience from an urban primary health care center in Greece. Cureus. 2023 Feb 20;15(2). https://doi.org/10.7759/cureus.35241.

[19] Mohapatra SC, Mohapatra A. Utilization pattern and perception of OPD attendees of primary health centres on medical care: an exit poll assessment. The Journal of Community Health Management. 2015;2(1):29-32. https://www.jchm.in/article-details/379.

[20] Vayalambron, L. Performance of primary health centres: a study with reference to vadakara phc. ShodhKosh Journal of Visual and Performing Arts. April 2024 5(4), 927–931. https://doi.org/10.29121/shodhkosh.v5.i4.2024.3448.

[21] Silva AM, Fausto MC, Gonçalves MJ. Care accessibility and availability for hypertensive patients in primary health care in a remote rural municipality in the state of Amazonas, Brazil, 2019. Cadernos de Saúde Pública. 2023 Feb 6;39:e00163722. https://doi.org/10.1590/0102-311XPT163722.

[22] Balharith M, Alghalyini B, Al-Mansour K, Tantawy MH, Alonezi MA, Almasud A, Zaidi AR. Physical accessibility, availability, financial affordability, and acceptability of mobile health clinics in remote areas of Saudi Arabia. Journal of Family Medicine and Primary Care. 2023 Sep 1;12(9):1947-56. https://doi.org/10.4103/jfmpc.jfmpc_567_23.

[23] Sommer D, Greiler T, Fischer S, Wilhelm S, Hanninger LM, Wahl F. Investigating user requirements: A participant observation study to define the information needs at a hospital reception. International Conference on Human-Computer Interaction 2023 Jul 9 (pp. 157-166). Cham: Springer Nature Switzerland. https://link.springer.com/chapter/10.1007/978-3-031-35992-7_23.

[24] Putri NF, Arsyad AW, Dwivayani KD, Boer KM. Analisis kualitas komunikasi interpersonal customer service dalam meningkatkan loyalitas nasabah bank PT. BPD Kaltim Kaltara kantor cabang

utama Samarinda. Jurnal Indonesia: Manajemen Informatika dan Komunikasi. 2024 May 10;5(2):1695-703. https://doi.org/10.35870/jimik.v5i2.743.

[25] Mahfouz MS, Ryani MA, Shubair AA, Somili SY, Majrashi AA, Zalah HA, Khubrani AA, Dabsh MI, Maashi AM, Mahfouz M, Somili S. Evaluation of Patient Satisfaction with the New Web-Based Medical Appointment Systems "Mawid" at Primary Health Care Level in Southwest Saudi Arabia: A Cross-Sectional Study. Cureus. 2023 Jan 21;15(1). https://doi.org/10.7759/cureus.34038.

[26] Al Reesi A, Al Maqbali T, Al Saadi H, Al Balushi T, Al Reesi H. Afternoon Clinics at Suhar Hospital: Assessment of Patient's Satisfaction and Perceptions. European Journal of Medical and Health Research. 2023 Sep 1;1(2):90-7. https://orcid.org/0000-0002-1595-7775.

[27] Umar I, Oche MO, Umar AS. Patient waiting time in a tertiary health institution in Northern Nigeria. Journal of Public Health and Epidemiology. 2011 Feb 28;3(2):78-82. http://www.academicjournals.org/jphe.

[28] AA L, IA B, SI S, SO B. Waiting Time and Clients Satisfaction: An Assessment of Quality of Care in Lafia Nasarawa State Nigeria. Nigerian Journal of Health Sciences. 2021 Jan 1;21(1). ISSN 1596-4078. DOI: 10.4103/njhs.njhs_11_21.

[29] Anderson RT, Camacho FT, Balkrishnan R. Willing to wait? the influence of patient wait time on satisfaction with primary care. BMC health services research. 2007 Feb 28;7(1):31. https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-7-31.

[30] Alrasheedi KF, Al-Mohaithef M, Edrees HH, Chandramohan S. The association between wait times and patient satisfaction: findings from primary health centers in the Kingdom of Saudi Arabia. Health services research and managerial epidemiology. 2019 Jul 8;6:2333392819861246. https://doi.org/10.1177/2333392819861246.

[31] Wan YK. Accessibility of tourist signage at heritage sites: An application of the universal design principles. Tourism Recreation Research. 2024 Jul 3;49(4):757-71. https://doi.org/10.1080/02508281.2022.2106099.

[32] Deng L, Zhang B, Shi G, Zhang C. Elderly users' perceptions of signage systems from tertiary hospitals in Guangzhou. Heliyon. 2024 Feb 15;10(3). https://www.cell.com/heliyon/fulltext/S2405-8440(24)01034-X.

[33] Olivera-Molina VG, Maita-Durand JC, Alarco JJ. Access to medicines and patient satisfaction in healthcare facilities: A cross-sectional study of a Peruvian population-based survey. Medwave. 2024 Dec 23;24(11):e3004. https://doi.org/10.5867/medwave.2024.11.3004.

[34] Al Zaidan M, Mohammed AM, Mohamed Ibrahim MI, Al Mahmoud M, Al Abdulla S, Al-Kuwari MG. Pharmaceutical care service at primary health care centers: an insight on patient satisfaction. International journal of clinical practice. 2022;2022(1):6170062. https://doi.org/10.1155/2022/6170062.

[35] Djusar S, Sadar M, Asril E. Analisa Kualitas Layanan Sistem Smart Unilak Menggunakan Servqual Method. Digital

Zone: Jurnal Teknologi Informasi Dan Komunikasi. 2020 Nov 21;11(2):278-90. https://doi.org/10.31849/DIGITALZONE.V11I2.5331.

[36] Xiang, J. C., Xu, L. H., & Zhong, L. A Study of the Effect of Tourist Experience Quality on Loyalty and Revisit Intention in Tourist Destinations. Applied Mathematics and Nonlinear Sciences, 2024 Nov 07; 9(1), 1-19. https://doi.org/10.2478/amns-2024-3103.

[37] Lave, J. R., & Peele, P. B. Health Care Financing. Republished in Wiley Stats Ref: Statistics Reference Online, 2014. https://doi.org/10.1002/9781118445112.STAT05315.

[38] World Health Organization. Financing of health care from government and compulsory health insurance schemes. Health at a Glance: Asia/Pacific. 2020 Nov 27. Measuring Progress Towards Universal Health Coverage. Organization for Economic Co-operation and Development (OECD)-eBook, 1-146. https://www.oecd.org/en/publications/health-at-a-glance-asia-pacific-2020_26b007cd-en.html.

[39] Tsega Y, Tsega G, Taddesse G, Getaneh G. Leaving no one behind in health: financial hardship to access health care in Ethiopia. PLoS One. 2023 Mar 13;18(3):e0282561. https://doi.org/10.1371/journal.pone.0282561.

[40] Oyibo PG. Out-of-pocket payment for health services: constraints and implications for government employees in Abakaliki, Ebonyi State, south east Nigeria. African health sciences. 2011;11(3). https://www.ajol.info/index.php/ahs/article/view/73419.

[41] Smith KT, Monti D, Mir N, Peters E, Tipirneni R, Politi MC. Access is necessary but not sufficient: factors influencing delay and avoidance of health care services. MDM policy & practice. 2018 Mar;3(1):2381468318760298. https://doi.org/10.1177/2381468318760298.

[42] Neugebauer J. Economic barriers as a large part of the problem with access to healthcare. In3rd proceedings of the open scientific conference 2024 (Vol. 2024, pp. 41-50). DOI: 10.52950/4OSC-Athens.2024.8.004.

[43] World Health Organization. Tracking universal health coverage: 2023 global monitoring report. World Health Organization; 2023 Nov 7. https://openknowledge.worldbank.org/handle/10986/40348.

[44] Gavlak D. Health system in Yemen close to collapse. World Health Organization. Bulletin of the World Health Organization. 2015 Oct 1;93(10):670. http://dx.doi.org/10.2471/BLT.15.021015.

[45] Alraimi AA, Shelke A. Strengthening Health Systems in Conflict: Evidence-Based Policies for Quality Care in Yemen. Journal of Cardiovascular and Cardiology. 2024 Mar 11;2(1):1-4. https://doi.org/10.61440/JCC.2024.v2.10.

[46] Carretero MT, Calderón-Larrañaga A, Poblador-Plou B, Prados-Torres A. Primary health care use from the perspective of gender and morbidity burden. BMC women's health. 2014 Nov 30;14(1):145. https://link.springer.com/article/10.1186/s12905-014-0145-2.

[47] Hing E, Albert M. State variation in preventive care visits, by patient

characteristics, 2012. US Department of Health & Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2016 Jan 1. https://www.cdc.gov/nchs/data/databriefs/db234.pdf.

[48] Agrawal, A., & Ashokan, V. Influence of gender inequalities in curative and preventive health care use among children between 2 months to 5 years of age and its impact on changing sex ratio of the community. International Journal of Community Medicine and Public Health. 2023 Mar;10(3):1119-1123. DOI: 10.18203/2394-6040.ijcmph20230626.

[49] Kastor A, Shrestha KP. Reassessing the gender differences in type and place of health care utilization in India: does the gender gap no longer exist?. Journal of Public Health. 2018 Jun;26(3):361-71. https://doi.org/10.1007/S10389-017-0862-8.

[50] Cherkasov SN, Martirosov AV, Fedyaeva AV, Kudryashova LV. Marital status of a patient in the formation of his attitude to the organization of medical care provided on an outpatient basis. Vestnik medicinskogo instituta «REAVIZ». Reabilitacija, vrach i zdorov'e. 2023;13(4):175-80. https://doi.org/10.20340/vmi-rvz.2023.4.ozoz.1.

[51] Kamra V, Singh H, Kumar De K. Factors affecting patient satisfaction: an exploratory study for quality management in the health-care sector. Total Quality Management & Business Excellence. 2016 Sep 2;27(9-10):1013-27. https://doi.org/10.1080/14783363.2015.1057488.