https://doi.org/10.47108/jidhealth.Vol7.Iss1.331
Yahyaa B, Al-Rawi RA, Journal of Ideas in Health (2024); 7(1):1020-1025
Journal of Ideas in Health

Patient satisfaction about the primary health care services in Anbar province, Iraq

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Abstract

Background: Patient satisfaction determines care alignment with expectations, encompassing availability, cost, and environment, crucial for service quality. This study aims to investigate key determinants influencing patient satisfaction with Primary Health Care Centers (PHCC) in Anbar province, Iraq.

Methods: A cross-sectional study was carried from 15th November 2022 till 16th March 2023 across six PHCC using multistage sampling technique. Semi-structured questionnaire was recruited to interview patients. Descriptive and bivariate and multiple logistic regression analyses were conducted to identify significant factors affecting patients' satisfaction toward PHCC.

Results: A total of 300 patients were included with mean age of 35.7 (± 4.2), ranged 15-69 years. The PHCC attained an overall satisfaction rate of 64.7%. Patients voiced discontent primarily with waiting times for consultation (67.3%) and appointment scheduling (60.7%). However, 69.3% were content with the proximity to the PHCC. Doctors' conduct was praised by 82.0% of respondents, yet 56.7% noted a lack of health education programs. Management was appreciated by 70.0%, yet laboratory services were received by only 57.7%. Moreover, 75.0% reported essential drug unavailability, and 54.7% mentioned a lack of medical instruments. Factors associated with patients' satisfaction were aged less than 40 years old (OR = 3.54, 95% CI: 2.44 to 5.21), being male (OR = 3.76, 95% CI: 2.68 to 6.15), unmarried (OR = 4.01, 95% CI: 3.06 to 8.4) and low educated OR = 2.77, 95% CI: 2.76 to 7.57).

Conclusion: Patients' satisfaction with PHCC is notably linked to proximity, respectful doctor behavior, privacy during examinations, and efficient management. Dissatisfaction arises from appointment scheduling, follow-up, and the unavailability of health education, instruments, and drugs.

Keywords: Satisfaction, Primary Health Care Centers, Patients, Iraq

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How to cite: Yahyaa BT, Al-Rawi RA. Patient satisfaction about the primary health care services in Anbar province, Iraq. Journal of Ideas in Health. 2024 Feb. 29 ;7(1).1020-1025. DOI: 10.47108/jidhealth.Vol7.Iss1.331

Article Info: (**Original Research**)
Received: 10 February 2024
Accepted: 22 February 2024
Published: 29 February 2024

Journal Home page: https://www.jidhealth.com

e ISSN: 2645-9248

Background

Patient satisfaction reflects the alignment between patient expectations and the care they receive but has limitations in measuring care quality. It encompasses factors like provider availability, cost, and facility environment, directly linked to service quality [1]. Determinants of patient satisfaction encompass healthcare provider traits, socio-psychological factors, health and socioeconomic status, and demographics. Batbaatar et al. [2] reviewed these factors, highlighting continuity, access, and patient characteristics, like age and literacy, as significant. Health access is crucial for overall population well-being [3]. Health access encompasses more than mere service availability; it includes factors like accessibility, affordability, and acceptability. These dimensions impact service utilization, consumer satisfaction, and physician practices within the healthcare system [4]. Healthcare accessibility is vital for population health, extending beyond distance metrics to subjective factors. Issues like longer wait times not only disrupt care continuity but also impact patient outcomes and willingness to seek services [5]. In recent years, patient satisfaction has gained importance in evaluating care delivery. Prolonged wait times have been linked to poorer outcomes and lower satisfaction scores, with modern patients expecting shorter waits and enhanced service. Delays also undermine healthcare efficiency and may deter investment in competitive systems [6]. Longitudinal continuity of care, involving consistent patient-doctor interactions, offers significant benefits, including reduced mortality rates [7]. Hospitals must seek patient feedback to enhance care quality, as satisfaction influences healthcare-seeking behavior, treatment adherence, and provider relationships. Shorter consultation times stem from increased administrative burdens and cost-effectiveness pressures in

healthcare [8,9]. Shortened ambulatory visit times can diminish both patient and physician satisfaction, as time plays a crucial role in patient-doctor relationships [10]. Physician behavior profoundly impacts patient satisfaction and adherence to medical advice. Patients prioritize good relationships and respectful conduct, crucial for commitment. Disappointment may lead to dissatisfaction and non-compliance. Empathy in healthcare providers correlates with patient satisfaction, emphasizing the importance of enhanced communication skills training [11]. Gender, education, and personality traits also affect health outcomes and satisfaction levels [12]. Satisfied patients tend to establish positive relationships with the healthcare system, resulting in enhanced compliance, care quality, and overall health outcomes, as evidenced in literature [13, 14]. Various studies [11,14-18] in Iraq evaluated patient satisfaction with primary healthcare services, revealing regional differences. Sociodemographic, economic, and other factors contribute to varying satisfaction levels across regions. The study aims to evaluate level of patient satisfaction with primary healthcare in Al Anbar province, Iraq, aiming to identify areas for improvement using patient feedback.

Methods

Study design and participants

Between November 15th, 2022, and March 16th, 2023, a cross-sectional study was undertaken in Al-Anbar Governorate, which is inhabited by approximately two million residents across seven districts (Ana, Fallujah, Haditha, Heet, al-Qaim, Ramadi, and al-Rutba) and shares borders with three countries (Syria, Jordan, and Saudi Arabia). The study utilized a multistage sampling approach for data collection. Initially, three districts (including Al-Ramadi district) were randomly selected, followed by the random choice of two primary healthcare centers from each district.

Inclusion and exclusion criteria

The study included all Iraqi patients aged 15 years and above who visited the primary healthcare centers, of both genders, and expressed willingness to participate. Patients who were seriously ill, declined participation, or provided incomplete data, as well as hospital staff members and individuals involved in medico-legal cases, were excluded. After signing the consent form and receiving full explanation of the purpose of study, interviews were conducted by a proficient team of trained students. These interviewers underwent thorough training on the questionnaire, interviewing techniques, and research ethics.

Samples Size

Previous research conducted in Iraq by Ali Jadoo et al. [11], and Hussien et al. [15] indicated that patient satisfaction with Primary Healthcare Centers (PHC) was around 50.0%. Utilizing a margin of error of ±6%, a confidence level of 95%, and a non-response correction factor of 20%, the sample size calculator determined that a sample size of 317 individuals was necessary, as per the specified formula: $N= [Za^2 \times P\ XQ/(M.E.)^2]$.

Study tool

A semi-structured questionnaire was initially developed in English and later translated into Arabic. To ensure the questionnaire's effectiveness, 10 individuals (comprising 5 males and 5 females) not involved in the study were recruited to pilot test the tool. The first page of the questionnaire included a statement assuring participants of their freedom to participate or withdraw from the study, emphasizing the anonymity and confidentiality of all submitted information and opinions. The questionnaire consisted of two main sections. The first section gathered data on participants' socio-demographic characteristics, encompassing age, gender, marital status, level of education, household monthly income, employment status, place of residence, household composition. The second section aimed to assess participants' satisfaction levels regarding PHC services. This section comprised 12 elements focusing on various aspects such as waiting time, proximity to the health institution, physician-patient relationship, privacy during examination, and scheduling of follow-up appointments. Additionally, questions pertained to the management of PHC, availability of medications, medical instruments, laboratory services, educational programs, and amenities. Responses to questions in this section were provided on a three-point Likert scale: Agree, Agree to Somewhat, and Disagree.

Dependent variables

The dependent variable in the study was the level of patient satisfaction, which was dichotomized into two categories: satisfied (including responses of "agree" and "agree to somewhat") and unsatisfied (including responses of "disagree"). To evaluate internal reliability, Cronbach's alpha was employed, resulting in a coefficient of 0.75, indicating satisfactory internal consistency.

Independent variables

For the sociodemographic variables, gender was coded as follows: one for females and zero for males. Age was stratified into distinct groups: "less than 20", "20-29", "30-39", "40-49", "50-59", and "60 and above". Subsequently, age was dichotomized into two categories: zero for individuals under 40 years and one for those aged 40 years and older. Marital status was classified as either married or unmarried (including single, divorced, or widowed). Education levels were categorized and coded as follows: zero for higher academic qualifications (college/university degrees, postgraduate degrees) and one for lower education levels (high school or below). Employment status was categorized as zero for employed individuals and one for unemployed individuals (including housewives and retirees). Place of residency was coded as zero for rural areas and one for urban areas. Monthly income (Iraqi Dinar (IQD)1 = United States Dollar (USD) 0.0008, exchange rate as of October 1st, 2023) was divided into four brackets: <USD 200, USD 200 to <400, USD 400 to 1000, and more than USD 1000. The variable "Family members" was categorized as zero for households with less than 7 members and one for households with 7 or more members. The reason for visiting the PHCC was categorized as either a regular visit or a follow-up appointment.

Statistical analysis

The data were organized and analyzed utilizing SPSS-23 (Statistical Packages for Social Sciences - version 23), a commonly used statistical package. Descriptive statistics such as frequency, percentage, mean, and standard deviation were employed to summarize the data. Bivariate analysis was

conducted using the Chi-square test for categorical variables and the independent sample t-test for continuous variables. Additionally, a multiple logistic regression analysis was performed to identify and predict factors associated with patient satisfaction. This method allows for the assessment of the simultaneous influence of multiple independent variables on the dependent variable, patient satisfaction, while controlling for potential confounding factors.

Results

Demographic information

A total of 317 students completed the questionnaire. After excluding 9 respondents because they did not sign the consent form and another eight were withdrawn from the study and the final sample consisted of 300 participants. As shown in Table 1, the mean age (+SD) of respondents was 35.7 (+ 4.2), ranged 15-69 years. Most of the respondents (28.0%) located in the age group (20-29), males (51.0%), married (63.3%), small families (55.7%), low educated (160, 53.3%), employed (63.0%), from the urban region (57.0%). The household income for 176 respondents (58.7%) was below USD 400.

Patient satisfaction with services provided by PHCC

In Table 2, it is evident that the overall satisfaction rate with the PHCC was 64.7%. Notably, a majority of patients expressed dissatisfaction with the waiting time for consultation (67.3%) and the scheduling of appointments for their next visit (60.7%). However, 69.3% of patients reported satisfaction with the distance required to reach the PHCC. Furthermore, a significant proportion of respondents (82.0%) described the behavior of doctors as respectful and sympathetic, while 77.7% found the privacy during examinations to be satisfactory. On the other hand, more than half of the respondents (56.7%) stated that health education programs and 55.0% mentioned hosting educational programs were unavailable at the neighborhood PHCC. In terms of management, 70.0% of respondents acknowledged the effective management of the PHCC, but only 57.7% reported receiving laboratory services. Additionally, 75.0% and 54.7% of respondents reported that essential drugs and medical instruments were unavailable, respectively.

Bivariate analysis of predictors in patient satisfaction

Factors associated with patients' satisfaction toward Primary Healthcare Center (PHCC) were examined through bivariate analysis. The cross-tabulation revealed significant associations between certain demographic variables and high satisfaction toward the PHCC. Specifically, patients aged less than 40 years old exhibited a significant association with high satisfaction ($\chi2 = 23.21$, $p = 0.003$). Additionally, being male was significantly associated with high satisfaction ($\chi2 = 32.50$, $p < 0.001$), as was being single (unmarried, divorced, and widowed) ($\chi2 = 25.27$, $p < 0.001$), and being classified as low educated ($\chi2 = 13.20$, $p = 0.001$). These findings are summarized in Table 3.

Multiple logistic regression

Factors influencing patients' satisfaction with PHCC were explored using multiple logistic regression analysis, as illustrated in Table 4. The analysis revealed several significant associations. Specifically, patients under 40 years old (OR = 3.54, 95% CI: 2.44 to 5.21), male patients (OR = 3.76, 95% CI: 2.68 to 6.15), unmarried individuals (OR = 4.01, 95% CI: 3.06 to 8.4), and those with lower levels of education (OR = 2.77, 95% CI: 2.76 to 7.57) exhibited notably higher levels of satisfaction with PHCC services. The adequacy of the model was confirmed by the Hosmer and Lemeshow test, demonstrating a good fit ($p = 0.310$). Moreover, the overall model showed significance ($p = 0.001$) and explained 46.5% of the variance (Nagelkerke R square = 0.465).

Table 1: Social and demographic characteristics of the study participants (n=300)

Variables	Category	Number (%)
Age	Mean +: 35.2 (5.7)	Range:15-67
Age group	Less than 20	33 (11.0)
	20-29	84 (28.0)
	30-39	60 (20.0)
	40-49	67 (22.3)
	50-59	33(11.0)
	60 and more	23(7.7)
Gender	Female	147 (49.0)
	Male	153 (51.0)
Marital status	Married	190(63.3)
	Unmarried (single, divorced, widow)	110(36.7)
Family Members	Less than 7	167 (55.7)
	More than 7	133(44.3)
Education	Illiterate	14 (4.7)
	Read and write	13 (4.3)
	Primary	40 (13.3)
	Intermediate	29 (9.7)
	Secondary	64 (21.3)
	College/higher education	140 (46.7)
Area of Residence	Urban	171 (57.0)
	Rural	129 (43.0)
Employment	Employed	189 (63.0)
	Unemployed (retired, housefe)	111(37.0)
Level of income	<US $400	176 (58.7)
	>US$400	124 (41.3)

Table 2: Patient satisfaction with services provided by primary health centers (n=300)

Aspects of care	Satisfied N (%)	Fairly Satisfied N (%)	Unsatisfied N (%)
Waiting time for consultation	79 (26.3)	19 (6.3)	202 (67.3)
Distance from residence to the center	201 (67.0)	7 (2.3)	92 (30.7)
Appointments for next visit	87 (29.0)	31(10.3)	182 (60.7)
Doctor deals with respect and sympathy	232 (77.3)	14 (4.7)	54(18.0)
Availability of health education materials	103 (34.3)	27 (9.0)	170 (56.7)
Privacy during examination	176 (58.7)	57 (19.0)	67 (22.3)
Availability of essential drugs	54 (18.0)	20 (6.7)	225 (75.0)
Availability of instruments and devices	76 (25.3)	60 (20.0)	164 (54.7)
hosting educational programs	93 (31.0)	42 (14.0)	165 (55.0)
Laboratory services	152 (50.7)	21 (7.0)	127 (42.3)
Center management	174 (58.0)	36 (12.0)	90 (30.0)
Overall satisfaction	173(57.7)	21 (7.0)	106 (35.3)

Table 3: Bivariate analysis of predictors in patient satisfaction (n=300)

Variables	Category	Number (%)	Satisfied 194(64.7)	Unsatisfied 106(35.3)	$\chi 2$	p-value
Age group	Less than 40 years	177 (59.0)	109(61.6)	68(38.4)		0.003
	40 years and above	123 (41.0)	85(69.1)	38(30.9)		
Gender	Female	147 (49.0)	92(62.6)	55(37.4)		0.000
	Male	153 (51.0)	102(66.7)	51(33.3)		
Marital status	Married	190(63.3)	115(60.5)	75(39.5)		0.000
	Unmarried (single, divorced, widow)	110(36.7)	79(71.8)	31(28.2)		
Family Members	Less than 7	167 (55.7)	105(62.9)	62(37.1)		1.102
	More than 7	133(44.3)	89(66.9)	44(33.1)		
Education	Low	160 (53.3)	112(70.0)	48(30.0)		0.001
	High	140 (46.7)	82(58.6)	58(41.4)		
Area Residence	Urban	171 (57.0)	100(58.5)	71(41.5)		0.231
	Rural	129 (43.0)	94(72.9)	35(27.1)		
Employment	Employed	189 (63.0)	126(66.7)	63(33.3)		0.063
	Unemployed (retired, housefe)	111(37.0)	68(61.3)	43(38.7)		
Level of income	<US $400	176 (58.7)	119(67.6)	57(32.4)		0.126
	>US$400	124 (41.3)	75(60.5)	49(39.5)		

Table 4: Factors associated with patient satisfaction toward PHCC in multiple logistic regression (n=300)

Variables	Category	*B*	SE	Wald	p-value	OR	95% CI
Age group	Less than 40 years	0.976	0.372	14.61	0.001	3.54	2. 44–5.21
	40 years and above					Reference	
Gender	Male	1.552	0.337	17.16	0.000	3.76	2.68–6.15
	Female					Reference	
Marital status	Unmarried (single, divorced, widow)	1.724	0.219	13.90	0.000	4.01	3.06–8.34
	Married					Reference	
Education	Low education	1.485	0.215	11.42	0.003	2.77	2.76–7.57
	High education					Reference	

Discussion

In this study, we sought to assess patient satisfaction with Primary Health Care Centers (PHCC) services in Anbar province, Iraq. The satisfaction level was notably high at 64.7%, surpassing previous reports in Iraq [15]. However, it falls below satisfaction rates in neighboring countries like Saudi Arabia (81.7%) [19] and Turkey (78.7%) [20]. The elevated satisfaction levels stem from positive relationships between healthcare providers and patients, coupled with respectful and attentive care. A majority of patients (82.0%) expressed satisfaction with doctors' respectful and sympathetic demeanor during visits, while 77.7% reported satisfactory privacy during examinations. Doctor-patient interaction stands as a pivotal factor influencing patient satisfaction outcomes. Additionally, the abundance of PHCCs in Anbar province serves a relatively small patient population, enabling providers to deliver satisfactory services. This intimate setting fosters strong bonds between providers and patients. In terms of sociodemographic factors, male patients exhibited higher satisfaction levels with the services offered at PHC centers compared to females. This contrasts with findings from Mehmet et al. [20], where both genders reported similar satisfaction levels. Interestingly, in Saudia Arabia, females expressed greater

satisfaction with family physicians than males [21]. The reason can be attributed to the dedication of work, the low work burden due to the increase in the numbers of female doctors in Iraq and the experience in the field of health care. In our study, unmarried individuals exhibited higher satisfaction levels compared to married counterparts. This consistency suggests a potential trend in the influence of marital status on satisfaction across different healthcare settings. In line with our results, Bahrampour et al. [22] found education as a determinant of satisfaction, with higher dissatisfaction among highly educated individuals. Conversely, Alsayali et al. [23] disagreed, observing no significant contrast in satisfaction levels between highly educated and less educated patients, diverging from our findings and emphasizing the complexity of educational influences on satisfaction in healthcare settings. In alignment with our research indicating 67.3% dissatisfaction with waiting times, Abdulsalam & Khan [24] noted patients' dissatisfaction with consultation waiting times in hospitals. Med et al. [25] emphasized that consultation duration significantly influenced patient satisfaction which might be the main key factor influencing overall satisfaction. The study has limitations stemming from its small sample size and interviews conducted by medical students, potentially introducing bias. Being cross-sectional, causal inferences are limited. Self-reports from respondents may introduce surrogate bias, and recall bias might arise due to varying experiences recalled over time.

Conclusion

In summary, the study revealed that approximately two-thirds (64.7%) of surveyed individuals expressed satisfaction with primary healthcare services in Anbar province, Iraq. However, dissatisfaction was notable regarding waiting times and follow-up visits, while distance to reach PHCC was generally acceptable. Concerns were raised about the availability of drugs and instruments. Nevertheless, the doctor-patient relationship was commendable, and the PHCC administration was acknowledged. Furthermore, individuals under 40, males, unmarried, and those with lower education levels reported higher satisfaction levels with PHCC services.

Abbreviation

PHCC: Primary Health Care Centers; OR: Odds Ratio; IQD: Iraqi Dinar; USD: United States Dollar

Declaration

Acknowledgment

None

Funding

The authors received no financial support for their research, authorship, and/or publication of this article.

Availability of data and materials

Data will be available by emailing med.badeaa.thamir@uoanbar.edu.iq

Authors' contributions

All authors equally conceived and designed the study, analyzed and interpreted the data; drafted the manuscript; and revised the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

We conducted the research following the declaration of Helsinki. The ethical approval was obtained from the Ethics Review Committee, College of Medicine, Anbar University, Anbar, Iraq (Ref No: 638-2022). Informed consent was obtained from the participants before filling out the survey questionnaire.

Consent for publication

Not applicable

Competing interest

The authors declare that they have no competing interests.

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