Assess Impact of Lack of Understanding of Primary Health Care Services the Cause of Not Applying to Family Medicine

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ABSTRACT

Background: Family physicians, as gatekeepers of medical care, play a vital role in optimizing healthcare utilization and reducing costs. Despite their importance, utilization rates for family health centers (FHCs) remain suboptimal, partly due to insufficient public awareness of the services provided. Understanding patient knowledge and preferences is essential for improving primary healthcare access and outcomes.

Methods: This descriptive, cross-sectional study assessed the knowledge of individuals visiting two FHCs about available healthcare services. A structured questionnaire evaluated awareness of services, including preventive care, vaccinations, maternal and infant health, and diagnostic practices. Responses from 165 participants were scored, with a threshold of 70% indicating sufficient knowledge. Statistical analysis explored correlations between knowledge levels and demographic factors, using SPSS version 23.0.

Results: The mean correct response rate was $50.9 \pm 23.8\%$, with only 1.2% of participants achieving full awareness. Knowledge levels varied significantly with demographic factors: women, parents, and individuals with chronic illnesses scored higher ($P < .001$, $P = .025$, and $P = .005$, respectively). Frequent visits to FHCs correlated positively with better knowledge ($P = .019$). Commonly understood services included nursing care (92.7%) and patient referrals (87.9%), while awareness of tuberculosis-related treatments (29.1%) and laboratory testing availability (21.8%) was low.

Conclusion: Public knowledge about FHC services is insufficient, limiting effective utilization. Women, parents, and patients with chronic conditions exhibit higher awareness. Targeted educational initiatives and enhanced communication strategies are needed to raise awareness, promote service utilization, and improve primary care outcomes.

Keywords: preventive care, vaccinations, suboptimal, is insufficient, limiting

INTRODUCTION

Family physicians serve as key figures within the healthcare system, often described as the "gatekeepers" of medical care (1). As the initial point of contact for patients entering the healthcare system, family health centers (FHCs) play a pivotal role. In this setting, family physicians provide guidance on utilizing medical services effectively. Evidence indicates that the gatekeeping role of family physicians can contribute to reducing healthcare system costs (2) and lowering hospitalization rates, particularly at the end of life (3). Additionally, research shows that a significant number of cases presenting to emergency departments could be appropriately managed within family medicine settings (4). Given this context, understanding patient preferences and utilization rates for family medicine is essential for enhancing these services and optimizing healthcare outcomes and costs.

The introduction of family medicine into the healthcare system began in 2005, with nationwide implementation

in 2010 (5). Strengthening this practice is considered critical for improving the management of both non-communicable and communicable diseases. To this end, increasing the utilization of primary care services has been identified as a strategic priority by the Ministry of Health, as outlined in its 2019–2023 plan. One key goal is to raise the average annual family medicine visits per individual to 4.6. However, according to 2019 data, while the average annual visits to health institutions per person were 9.8, only 3.3 of these (34%) involved family physicians (7). These findings highlight that referrals to family medicine remain lower than expected, warranting an investigation into the underlying causes of this discrepancy.

Research exploring family medicine usage suggests that only 16.5% of individuals seek care from their family physicians, with 73.5% opting for secondary or tertiary care institutions for conditions that could often be resolved at the primary care level (8). Another study conducted in 2018 revealed that only 54.1% of participants were satisfied with the family medicine system, while 78.4% of dissatisfied respondents cited insufficient conditions at FHCs as the primary reason (9). A potential contributing factor to these low referral rates and satisfaction levels is the lack of patient awareness regarding the services provided by FHCs.

Study conducted in 2020 revealed that about 93.3% of participants agreed that family physicians can treat non-emergency cases, and it showed most participants trust family physicians (22).

Limited studies have examined the extent of individuals' knowledge about the healthcare services available at FHCs. A study conducted in 2013 found that only 50.1% of participants reported having adequate information about family medicine practices (10). It can be hypothesized that increasing public knowledge about FHC services would lead to greater utilization, improved patient satisfaction, and higher family medicine application rates.

This study aims to assess the knowledge and awareness of individuals visiting FHCs about the healthcare services available in family medicine practices.

METHODS

Study Design
This research employed a descriptive, cross-sectional approach conducted at a single site.

Ethical Approval
The study received approval from the Clinical Research Ethics Committee of the Faculty of Medicine at the university, with the approval number dated February 27, 2020/27. The research adhered to the ethical principles outlined in the Declaration of Helsinki and Good Clinical Practice guidelines.

Setting
The study was conducted in two family medicine units within a training-focused family health center (FHC). This region is characterized by low annual application rates to primary care facilities (<30%), despite having a higher ratio of family physicians to population, with one physician for every 2,984 people (11). Investigating patients' awareness of the healthcare services provided by these FHCs is crucial to identifying factors contributing to the low utilization of primary care and improving access and conditions for better healthcare outcomes.

Participants
The study included adults aged 18 to 75 years who visited the selected family medicine units over a one-month period. Exclusion criteria included pediatric patients, individuals seeking emergency care, and those unwilling to participate.

Questionnaire
Participants were asked to complete a questionnaire designed to evaluate their knowledge of services provided at FHCs. The survey questions were based on the roles and responsibilities of family physicians and healthcare staff as defined by the Turkish Family Medicine Practice Regulation, 2013 (12). The questionnaire covered services such as vaccinations, maternal and infant care, health counseling, preventive measures, cancer screenings, nursing services, and diagnostic and treatment practices.

The survey consisted of 24 questions, with responses recorded using a three-point Likert scale: "Yes," "No," or "I don't know." Three questions (22, 23, and 24) were reverse-coded. Correct answers ("Yes" for regular questions and "No" for reverse-coded ones) indicated awareness of available services.

Study Size
A simple random sampling method ensured equal participation opportunities. Sample size calculations, based on a 0.05 type I error, 80% power, and 0.10 sampling error, determined the required sample size to be 186 participants.

Quantitative Variables

The questionnaire responses were scored based on correctness. Each correct answer received 1 point, while incorrect or "I don't know" answers were scored 0. The total possible score was 24, equivalent to 100%. Individual scores were calculated as percentages to determine participants' knowledge levels. The average score of all participants was then computed to assess overall awareness (13). A threshold score of 70% was set as sufficient knowledge, based on the Public Health Education Regulation (14).

Demographic variables, including age, gender, marital status, parenthood, and presence of chronic diseases, were collected alongside FHC application rates and prior service usage. These factors were analyzed in relation to participants' knowledge levels.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 23.0 (IBM, NY, USA). Forms with incomplete or missing responses were excluded. Categorical data were presented as frequencies and percentages, while numerical data were expressed as means and standard deviations.

Normality of the data distribution was assessed using the Kolmogorov–Smirnov test. The Mann–Whitney U test was applied for comparisons between two groups if the data were not normally distributed, while the Kruskal–Wallis test was used for comparisons among three or more groups. Categorical data were analyzed using the chi-squared test, and correlations were assessed with Spearman's test. Post hoc analyses were conducted using Dunnett's T3 test. Statistical significance was set at $P < .05$.

RESULTS

Participants

A total of 183 individuals provided informed consent and participated voluntarily in the study. However, 18 individuals were excluded due to incomplete or blank survey responses. Ultimately, 165 fully completed questionnaires were analyzed.

Descriptive Data

The participants had a mean age of 35.8 ± 12.8 years, with women comprising 47.3% (n = 78) of the sample. Marital status revealed that 35.8% (n = 59) were single, 61.8% (n = 102) were married, and 2.4% (n = 4) were widowed or divorced. Among the respondents, 59.4% (n = 98) had children, and 23.6% (n = 39) reported having chronic illnesses.

Regarding the frequency of visits to family healthcare centers (FHCs), 41.8% (n = 69) reported attending every 2-3 months, while 36.4% (n = 60) stated they visited every 6 months. Furthermore, 72.7% (n = 120) indicated they had utilized the services of the FHC where the study was conducted in the past. A detailed overview of demographic characteristics and FHC visit frequency is shown in Table 1.

Outcome Data

An analysis of FHC referral frequency revealed a positive correlation between older age and more frequent visits ($P = .012$, $r = 0.261$). Statistically significant associations were identified between higher FHC visit frequency and participants who were married, had children, or reported chronic illnesses (Table 1). However, no significant link was observed between gender and prior FHC usage or visit frequency ($P = .301$ and $P = .658$, respectively).

Main Results

Table 2 summarizes the participants' questionnaire responses. The mean correct answer score was 50.9 ± 23.8. Only two participants answered all questions correctly, indicating full awareness of the available FHC services. The lowest rates of correct responses were associated with questions about tuberculosis-related drug administration (29.1%, n = 48) and the availability of comprehensive laboratory testing (21.8%, n = 36). The highest rates of correct responses were for questions regarding nursing services, such as injections and dressings (92.7%, n = 153), and patient referrals to higher-level institutions (87.9%, n = 145).

When comparing participants' knowledge levels with demographic factors, women had a higher correct response rate (58.7%) than men (44.1%), a statistically significant difference ($P < .001$). Participants with children demonstrated a higher correct response rate (54.6%) compared to those without children (45.8%), which was also significant ($P = .025$). Marital status alone did not significantly influence the response accuracy ($P = .193$), and no significant differences were observed for individuals who were married but childless ($P = .306$).

A significant association was found between the frequency of FHC visits and correct response rates ($P = .019$). Post hoc analysis indicated a significant difference between individuals visiting monthly versus those visiting every six months ($P = .013$). Respondents with chronic illnesses had a higher correct response rate (60.6%)

compared to those without chronic conditions (48%), a statistically significant finding (P = .005). However, whether participants had previously accessed services at the FHC did not significantly impact knowledge levels (P = .300).

Table 1. Relationship of Demographic Characteristics and Application Data of Participants with Frequency of Application and Knowledge Level.

Characteristic	N (%)	FHC Application Frequency (P)	Knowledge Levels (P)
Gender			
Female	78 (47.3)	.301*	< .001‡
Male	87 (52.7)		
Marital Status			
Married	102 (61.8)	< .001*	.193‡
Single	59 (35.8)		
Widowed	4 (2.4)		
Having Children			
Yes	98 (59.4)	< .001*	.025‡
No	67 (40.6)		
Presence of Chronic Illness			
Yes	39 (23.6)	< .001*	.005‡
No	126 (76.4)		
Earlier Service from FHC			
Yes	120 (72.7)	.658*	.300‡
No	45 (27.3)		
Frequent Reference to FHC			
Once in a week	7 (4.2)		.019†
Once in a month	29 (17.6)		
Once in 2–3 months	69 (41.8)		
Once in 6 months–1 year	60 (36.4)		
Advanced Age		.012†	.559†

*Chi-squared test; †Kruskal–Wallis test; ‡Mann–Whitney U test.

FHC: Family Health Center.

Table 2. Survey Questions and Correct Answer Rates

Question	Correct Answer Rate
1. In the family health center, I can have my newborn baby and children vaccinated free of charge in the routine vaccination schedule of the Ministry of Health.	65.5% (n = 108)
2. In the family health center, when necessary, I can have vaccinations for adults, such as tetanus, rabies, and hepatitis B, free of charge.	59.4% (n = 98)
3. Iron and vitamin D preparations are given free of charge to pregnant women in the family health center.	52.1% (n = 86)
4. Baby heart sounds of pregnant women can be listened to by fetal hand Doppler in the family health center.	40% (n = 66)
5. In the family health center, blood and urine tests are performed at each follow-up.	52.1% (n = 86)
6. I can get counseling services about prenatal and postnatal issues from my family physician and family health worker.	54.5% (n = 90)
7. I can get condoms and protective pills free of charge as sexual contraception from my family doctor or family health worker.	31.5% (n = 52)
8. I can get sexual health counseling services from my family doctor.	33.3% (n = 55)
9. In the family health center, I can have breast cancer, cervical cancer, and colon (bowel) cancer screenings free of charge.	39.4% (n = 65)
10. If I have a chronic disease such as hypertension or diabetes, I can have my family doctor follow up for my chronic disease.	57.6% (n = 95)
11. In the family health center, iron and vitamin D preparations are given free	49.1% (n = 81)

of charge to babies up to the age of one.	
12. My family physician will perform a hip dislocation examination and eye examination (with red reflex test) if I have a newborn baby.	38.2% (n = 63)
13. In the family health center, all newborns' heel blood scans are done on the third–fifth days.	48.5% (n = 80)
14. If I have a baby or child, my family doctor will evaluate them for autism and hyperactivity.	32.7% (n = 54)
15. If I have a baby or child, my family physician will evaluate and follow up their developmental assessment, such as height, weight, and head circumference.	69.7% (n = 115)
16. If I have a school-age child, my family physician evaluates my child in terms of obesity.	55.2% (n = 91)
17. My family physician can prepare single physician reports such as military service examinations, employment reports, and marriage reports.	72.1% (n = 119)
18. I can receive breastfeeding counseling and nutrition counseling from my family doctor and family healthcare provider.	55.2% (n = 91)
19. I can get services such as dressing, wound care, and injection from the family health center.	92.7% (n = 153)
20. The family physician can refer the patient to a higher level if he/she deems it necessary.	87.9% (n = 145)
21. Tuberculosis patients take the doses of the drugs they use under the supervision of their family doctor.	29.1% (n = 48)
22.* I can have all laboratory tests done in the family health center.	24.8% (n = 41)
23.* My family doctor is not authorized to perform emergency interventions in cases of emergency.	30.3% (n = 50)
24.* My family doctor can prescribe all medications.	22.4% (n = 37)

*Reversely coded questions.

DISCUSSION

This research explored patient awareness of healthcare services available at Family Health Centers (FHCs). The findings revealed that the participants' overall knowledge of these services was limited, with only 51% of questions being answered correctly. This outcome highlights the limited understanding of FHC services, even though family medicine has been serving communities for a decade, emphasizing the need for better dissemination of information regarding FHC offerings.

Examining the characteristics of participants with higher rates of correct responses showed that women, individuals with children, those with chronic conditions, and those visiting FHCs more frequently were more likely to have greater awareness of the available services. Conversely, variables such as age, marital status, and prior use of FHC services did not significantly impact awareness levels.

In a study conducted across the United States, 75%–91% of patients reported seeking care at primary healthcare centers for initial health concerns (15). Similarly, in India, only 25% of individuals bypassed primary care services (16). However, in this context, the primary care utilization rate was found to be only 34% (11), reflecting a much lower reliance on primary health institutions compared to the other countries. This disparity may be attributed to differences in healthcare systems and insurance policies, including referral pathways.

In a qualitative study assessing patient satisfaction, barriers to utilizing family medicine included perceptions that family physicians address only minor health issues and that FHC services are limited and less personalized (17). Another study found that patients predominantly sought care at secondary or tertiary institutions for check-ups, chronic disease management, and prenatal care, perceiving FHCs as inadequate for these needs (18). Enhancing awareness of FHC services could significantly improve patient satisfaction with family medicine.

Further research comparing patients visiting secondary and tertiary family medicine clinics with those attending FHCs revealed that patient preferences were influenced by differences in service types (19). This underscores the public's ability to distinguish between primary and higher-level healthcare services, though confusion still exists.

In another investigation, patients attending family medicine clinics at university hospitals showed a tendency to use FHCs mainly for obtaining prescriptions, with only 24.6% seeking treatment there first and 11.9% reporting they had never visited an FHC (20).

An additional study examined the treatment and healthcare needs of patients with chronic illnesses at FHCs. It found that these centers were often seen as facilities primarily for prescription refills, with patients perceiving the follow-up and treatment services as insufficient (21). These findings align with the present study, indicating that patient knowledge of the range and quality of services at FHCs is lacking. Increasing awareness could help address these misconceptions and encourage greater utilization of FHCs.

Study Limitations

This study has several limitations. It was conducted at a single site, and differences in patient demographics and behaviors at other FHCs could lead to varying results. Additionally, the FHC in this study operates as part of an educational framework, which might have influenced the findings. The research focused exclusively on patients attending the FHC, excluding individuals who sought care elsewhere or did not seek care at all. Lastly, the study's cross-sectional design and the lack of validation for the questionnaire assessing participant knowledge may limit the generalizability and reliability of the findings.

In conclusion, the findings suggest that awareness and knowledge regarding FHC services remain insufficient among patients. This limited understanding may contribute to the underutilization of FHCs. Addressing this gap requires targeted initiatives to improve public awareness about the scope and quality of services available at FHCs.

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