Original Article

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Primary Care Service Usage According to the Type of Family Health Centers: Analysis of the Turkish Data of the QUALICOPC Study

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Abstract

Aim: Family health centers (FHCs) are reimbursed for their current expenditures based on a classification of four clusters in Turkey. This study compared the coordination, comprehensiveness, continuity, accessibility, and the first contact of care among different reimbursement FHC groups.

Methods: The data were obtained from the Turkish data of the Quality and Costs of Primary Care in Europe study. Data was collected in provinces from six geographical regions. Physicians and patients from Classes A and B FHCs were called the first group, and others were called the second group.

Results: A total of 296 physicians and 2623 patients were enrolled. According to the reimbursement groups, 593 (22.6%) patients received services from the first group and 2012 (77.4%) patients from the second group. The first contact with care and the admission frequency of 3 or more in the last six months were higher in the first group (respectively, 99.2% vs. 97.7%, p=0.027; 55.4% vs. 49.6%, p=0.015).

Conclusion: The reimbursement classification did not make a difference in coordination, comprehensive care, continuity, accessibility, and being the first contact of care. Therefore, the current classification does not contribute to improving the quality of primary care in terms of service provision.

Keywords: Family practices, organization and administration, comprehensive healthcare, continuity of care, health services administration

Introduction

It is believed that by strengthening primary healthcare services, more cost-effective and equitable healthcare provision can be achieved with better health outcomes (1). Therefore, the World Health Organization (WHO) recommended strengthening primary healthcare services at the 62nd World Health Assembly (2). Coordination, comprehensive care, continuity, accessibility, and being the first point of contact are essential characteristics of primary healthcare services (3,4). In a study estimating the power of primary healthcare services in Europe, the structural characteristics of primary healthcare services, such as primary care management, economic conditions, and human resources, were found to be moderately

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effective in Turkey, while process features of practice such as accessibility, inclusiveness, continuity, and coordination were weak (5).

In Turkey, family health centers (FHCs) have been classified for determining the standards of reimbursement of current expenditures (6). Because of this classification, higher current expense reimbursements are made to Class A and B FHCs (5). The criterion required to be Class A or Class B is summarized in Appendix 1 (6). Due to this classification, standardization among FHCs is provided to some extent, and this can affect service quality; hence, the higher class of FHCs have facilities with higher standards. It can be put forward that the criteria applied in the FHC classification will contribute to primary healthcare services by providing coordination, comprehensive care, continuity, and accessibility, and acting as the first point of reference. For instance, one of the A class FHC criteria is that the FHC must have a web page. This condition can be regarded as an element that will facilitate access to primary health care.

This study compared primary healthcare services of various FHC classes from the physician's and patient's perspectives in terms of coordination, comprehensive care, continuity, accessibility, and being the first point of contact. This assessment, which has not been performed before in the literature, will enable us to examine whether high-standard classes contribute to stronger primary healthcare services at the practical level.

Methods

Compliance with Ethical Standards

Ethical permission for the study was obtained from the Dr. Lutfi Kirdar Training and Research Hospital Observational Research Ethics Committee (dated: 13.09.2011, approval number: 1009/11). Addition, permission was obtained from the Republic of Turkey Ministry of Health to conduct the study, and the research personnel collaborated with the Provincial Public Health Directorate in each region based on this approval (date of approval: 28.10.2011, approval number: 35583). The participants were informed that the data would only be used for scientific purposes. Verbal consent was obtained from all the participants.

Study Design

The Turkish data for this study were obtained from the "Quality and Cost of Primary Care in Europe: QUALICOPC Project". The QAULICOPC research evaluates the quality, cost, and equality elements in primary healthcare services across Europe, and the research methodology was explained in detail elsewhere (7). In this study, the characteristics of coordination, comprehensive care, continuity, accessibility, and being the first point of contact were taken into consideration as the essential functions of primary care services.

The data for the study were collected between February 1 and March 30, 2012, in Turkey. The patients were asked to fill out the questionnaire while waiting for the examination in the waiting room. One FP from each FHC was accepted into the study. Data were obtained from six regions in Turkey, including Izmir, Adana, Kayseri, Ankara, Rize, and Trabzon, Istanbul, based on FHCs throughout the country. In the sample selection, a balanced selection was performed among the provinces that offered short- and long-term family physician (FP)-type services based on the date that the Family Medicine Scheme was introduced in that province (before or after 2010-the year when the Family Medicine Scheme was introduced all over Turkey). The lists of FPs working in the selected provinces were taken from the Directorate of Public Health with which they were affiliated, and 50 FPs were randomly selected (simple systematic sampling) from each study region. The selected FP's approval was obtained to participate in the study. In the case that no consent was given, a new FP was selected from the same FHC systematically (Figure 1).

Questionnaires

In the QUALICOPC study, the same questionnaires were used in all study centers among patients and FPs (8). Thus, the original form was translated from English to Turkish and then back to English and compared. The researchers considered the points where meaning irregularities occurred, and the form was finalized based on the consensus. The patients' questionnaire form consists of 41 questions, and the questionnaire form for physicians consists of 60 questions. Considering the scope of this study, 23 questions from the patients' questionnaire and 19 questions from the FPs' questionnaire were analyzed. Among these questions, coordination was addressed in three questions in the patients' questionnaire form, comprehensive care in six, continuity in eight, accessibility in five, and the first contact with care in one. Additionally, FPs evaluated coordination with three questions, comprehensive care with seven questions, continuity with two questions, accessibility with six questions, and being the first contact with care with one question.

Exclusion Criteria

Patients under 18 and those who could not comprehend or respond to the questions were excluded from the study.

Statistical Analysis

Descriptive statistics such as frequency, percentage, mean, standard deviation, median, and 25^{th} and 75^{th} percentiles were calculated using the SPSS 15.0 program. Additionally, Student's t-test was applied to compare normally distributed continuous variables, and the Mann-

Whitney U test was applied when normal distribution assumptions were not met. Categorical variables were examined with the chi-square test, and p<0.05 values were considered significant in all analyses.

Results

A total of 296 FPs and 2623 patients were included in the study. The regions of FHCs included in the study are shown in Figure 2. According to the FHC groups, 22.6% (593 patients) of the patients received service from the first group of FHCs, and 77.4% (2012 patients) received service from the second group of FHCs. According to the FHC groups, 23.0% (68 FPs) of the FPs participated from the first group of FHCs, and 77.0% (228 FPs) participated from the second group of FHCs. The patients' and FPs' general characteristics that were compared between the groups are summarized in Table 1.

Coordination

From the perspective of the patients, the frequency of "meeting with a specialist doctor for their health problems in the last 12 months" was significantly higher among the patients in the first group, who desired to have additional characteristics (76.4% vs. 72.0%, p=0.035). Conversely, the statements "The FP decides to whom I should go when I am referred" and "It is difficult to get a referral from the FP for a specialist" were more common in the second group (37.0% vs. 45.8%, p<0.001; 7.2% vs. 10.2%, p=0.030, respectively).

FPs were asked about the other healthcare personnel working with them in the FHC. The presence of a medical secretary (69.1% vs. 28.1%, p<0.001), home care nurse (7.4% vs. 1.3%, p=0.018), and laboratory technician (38.2% vs. 13.6%, p<0.001) in FHCs in the first group were significantly different.

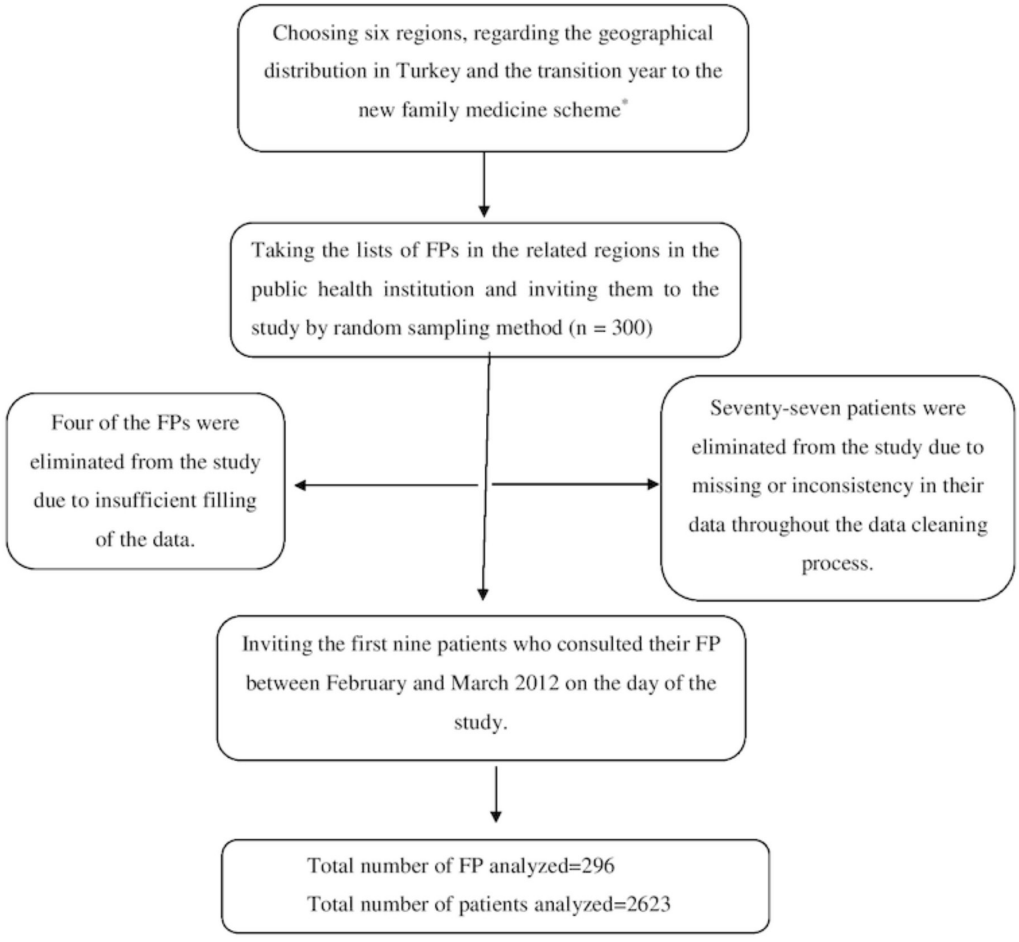

Figure 1. Flow chart of enrollment to the study
*The first zone is Izmir, the second is Adana, the third is Kayseri, the fourth is Ankara, the fifth is Rize and Trabzon, the sixth zone is Istanbul
FP: Family physician

Comprehensive Care

Long-standing chronic disease was significantly more common in patients in the first group (39.8% vs. 28.8%, p<0.001). Additionally, the patients in the first group agreed more significantly with the statement, "The doctor helps me not only with my medical issues but also with my problems and concerns" (51.6% vs 46.3%, p=0.025). In terms of invasive procedures performed in FHC, the incidence of the use of an IV infusion set was significantly higher in the first group (39.7% vs. 26.8%, p=0.049) (Figure 3).

Continuity

The frequency of having an assigned FP was significantly higher in the first group (99.2% vs. 97.7%, p=0.027), and the incidence of informing the specialist physician when being referred was significantly higher among the patients in the second group (34.3% vs. 39.9%, p=0.016). No significant difference was found between the two groups in the areas related to having medical records (p=0.952). According to the FPs' responses, there were no significant differences between the two groups regarding the referral process of the patient to the next higher level (p=0.238). In medical record keeping, the expression "I keep records except for minor complaints" was observed to be significantly higher in the first group (23.9% vs. 12.8%, p=0.030).

Being the First Contact of Care

When the reasons for the patients' admission to the FHCs were evaluated, there were no differences between the two groups in terms of getting a health check; in contrast, medication prescription was significantly more common in the first group (respectively, p=0.460; 35.9% vs. 27.5%, p<0.001).

Accessibility

From the patients' perspective, there was no significant difference in terms of access parameters to FPs (restricted opening hours, getting an appointment, ease of getting to an appointment, waiting time for the visit, waiting time between arrival and examination at the practice, reaching the doctor out of work, difficulty meeting with the FP out of work) (p=0.526, p=0.062, p=0.738, p=0.075, p=0.911, p=0.145, p=0.135, p=0.643, respectively). The distance between the FHC and the living place (13.1% vs. 8.4%, p=0.001) and the time to reach the FHC from home was more than 20 minutes (16.5% vs. 10.3%, p<0.001) were higher in the first group. When the reasons for not going to the FHC were evaluated, occupational reasons were more common in the first group (50.0% vs. 28.7%, p=0.020), whereas economic reasons were more common in the second group (2.5% vs. 14.8%, p=0.044). There was no significant difference in the number of patients with weekly home visits (p=0.709).

According to the FPs' answers, no significant differences were observed between the two groups in terms of the distance of the FHC from the other primary and secondary health units (p=0.518). In the last three months, the median value of the frequency of FPs being on duty or on duty in the evening on weekdays was 0.0 (0.0-12.0) in the first group and 0.0 (0.0-7.0) in the second

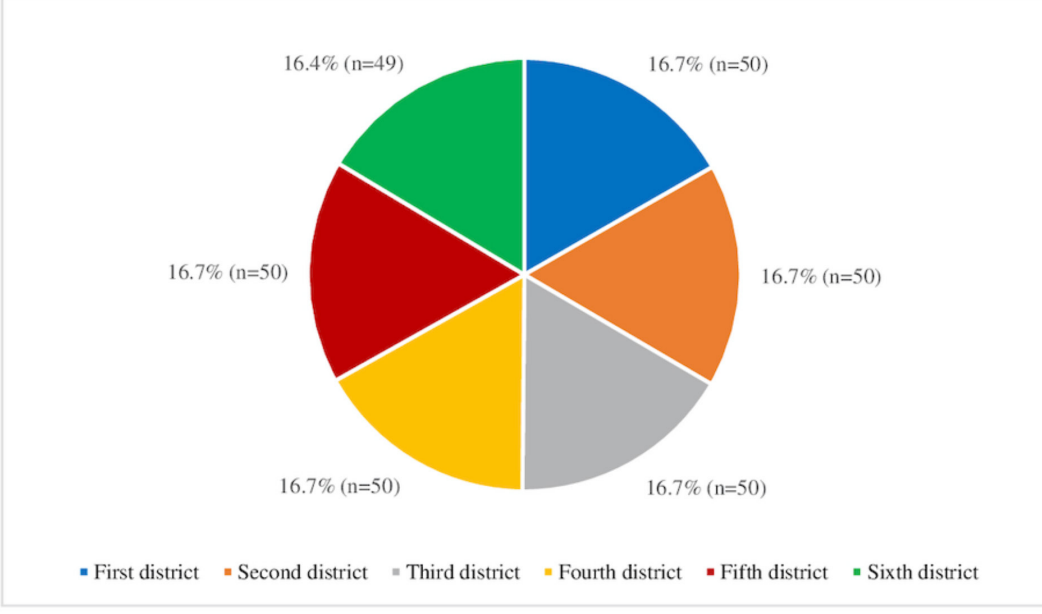

Figure 2. The regions of FHCs included in the study
FHC: Family health centers

group (p<0.001). The median of the percentage of patients examined by FPs with daily appointments was 0.0 in both groups, and there was no significant difference (p=0.117). The opinions of the FPs concerning the availability of health services are summarized in Table 2.

Discussion

In this study, the characteristics of coordination, comprehensive care, continuity, accessibility, and the first contact with care of primary healthcare services in different classes of FHCs were explored from the patients' and FPs' perspectives. A total of 22.6% of patients and 77.0% of the FPs were from Class A and B FHCs; 77.4% of patients and 23.0% of FPs were from other classes of FHCs. In our study, it was determined that patients in Class A and B FHCs had FPs that they could consult for any health problem, and the frequency of going to a FHC in the last six months was higher. Nevertheless, according to both the patient and the FP, the FHC classification did not make a difference in terms of coordination, comprehensive care, continuity, accessibility, and being the first point of reference, which are the principal features of primary health care.

One of the essential qualities of primary health care is coordination (3,4). There is a lack of integration between primary healthcare services (horizontal) and steps in health service delivery (vertical) in Turkey (9). In a study, while there was no significant difference between FHC groups related to the management of patients needing referral, in contrast, the coordination of information exchange with other specialties and health institutions was high in Class A FHCs (10). Nevertheless, the appointment-based referral of patients to higher-level health institutions was lower in Class A and B FHCs (10). In our study, when the coordination feature of primary care was evaluated from the patients' perspective, the frequency of patients seeing a specialist physician for any health problem was high in Class A and B FHCs. This may be due to the predominant evaluation of chronic disease follow-up in A and B class FHCs and acute problems in FHCs other than the A and B classes. However, the frequency of patients referring to a specialist doctor for any health problem and the difficulty in getting a referral from the FP to a specialist were higher in other classes of FHC patients than in class A and B FHC patients. In our study, when FPs evaluated the team characteristics, the presence of a medical secretary, a

Table 1. General characteristics of the patients and FPs enrolled to the study among the groups and the differences of these characteristics between groups

Characteristics of patients				
	First group	**Second group**		
	Mean±SD	**Mean±SD**	**p***	
Patient age (years)	43.2±15.3	40.6±14.5	<0.001	
	n (%)	**n (%)**	**p****	**χ^2**
Gender of the patients Male Female	 215 (36.3%) 378 (63.7%)	 795 (39.5%) 1217 (60.5%)	 0.164	 2.046
Do you have an FP that you consult first when you have a health problem? No Yes	 5 (0.8%) 587 (99.2%)	 46 (2.3%) 1964 (97.7%)	 0.027	 4.962
Frequency of admission to FP in the last six months ≤ Twice ≥ 3 times	 264 (44.6%) 328 (55.4%)	 1012 (50.4%) 998 (49.6%)	 0.015	 6.058
Characteristics of FPs				
	First group	**Second group**	**p***	
	Mean±SD	**Mean±SD**		
FPs age (years)	43.5±6.3	44.2±6.4	0.437	
Number of registered patients	3710.5±375.2	3708.1±742.2	0.979	
Number of patients per day (face to face)	61.1±15.1	62.0±16.9	0.672	
	n (%)	**n (%)**	**p****	**χ^2**
Gender of FPs Male Female	 48 (70.6%) 20 (29.4%)	 156 (68.7%) 71 (31.3%)	 0.881	 0.085
Specialist training of FPs None Yes	 53 (77.9%) 15 (22.1%)	 214 (93.9%) 14 (6.1%)	 <0.001	 15.019

*Student t-test, **Chi-square test. Some data are missing due to the lack of answers to questions. FPs: Family physicians, SD: Standard deviation

home care nurse, and a laboratory technician were higher in Class A and B FHCs. In the current FP implementation, each core team in the FHCs consists of the FP and a nurse or midwife (9). Nevertheless, in Class A and B FHCs, one of the additional features is that a midwife, nurses, emergency medical technicians, health officers, or medical secretaries must work an extra 10 hours per week for each FP. Therefore, the presence of a medical secretary, home care nurse, and laboratory technician may be higher in A and B class FHCs than in other FHCs. All these results show that the reimbursement classification has no effect on the coordination features of the primary healthcare system. The most important reason for this situation may be the absence of gatekeeping in primary healthcare services in our country. In a report by the WHO, strengthening the gatekeeping role and improving the coordination role of FPs in our country are recommended actions (11).

The most effective way to meet health needs and cope with increasing costs in fighting multimorbidity and chronic diseases is to strengthen primary healthcare services (12). In our study, the presence of chronic diseases and the frequency of helping patients with their problems and concerns were higher among patients who applied to Class A and B FHCs. The high frequency of chronic diseases in Class A and B FHCs may be due to the high frequency of specialist FPs in this group. According to the Social Security Institution reimbursement regulations in our country, drugs used in treating some chronic diseases can only be reported by specialist FPs and specialist physicians. With this report, patients can get medication for a longer term

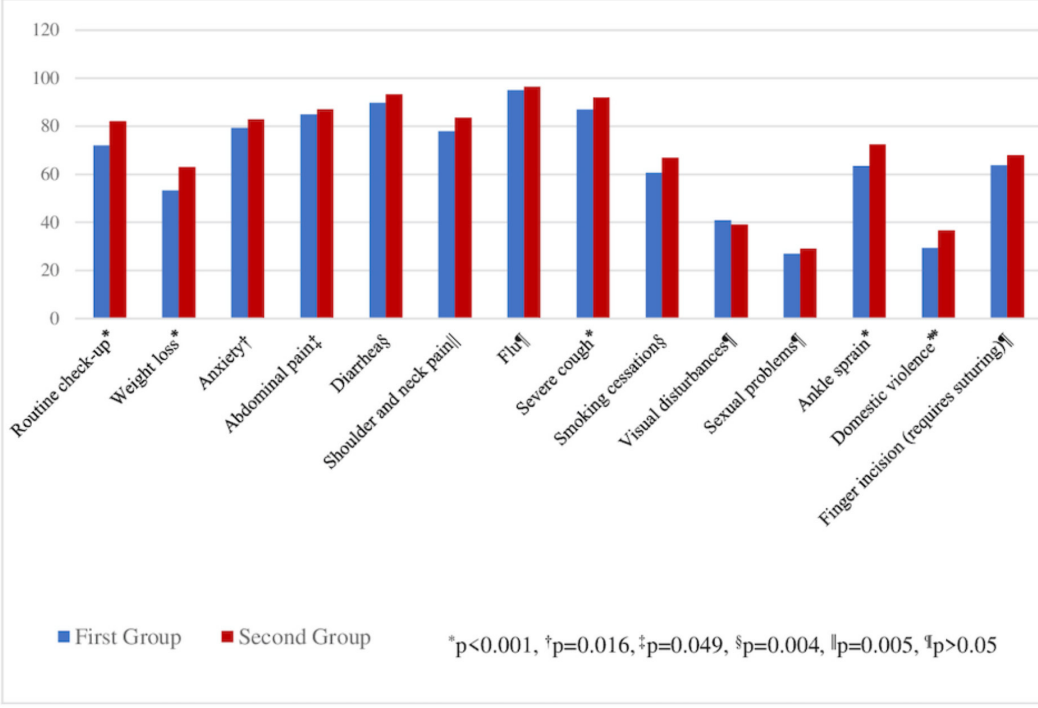

Figure 3. The frequencies of patients' preferences for consulting with the FP regarding their complaints in terms of FHC groups
FHC: Family health centers, FP: Family physician

Table 2. FPs' opinions concerning the accessibility of healthcare services				
	First group	**Second group**	**p**	**χ^2**
Ability to receive healthcare service in time off from FHC After work Weekend	 33 (48.5) 6 (8.8)	 12 (5.3) 5 (2.2)	 <0.001 0.035	 76,169 6,704
For non-emergency health services during weekdays; "My patients can always reach me" "Depending on the rotation status of a group FP, they can get service from me" "They can't get service from me, but they can get it from other FPs" "Other non-FP physicians provide services at afterhours"	 15 (22.1) 4 (5.9) 1 (1.5) 11 (16.2)	 79 (34.7) 2 (0.9) 1 (0.4) 34 (14.9)	 0.081 0.024 0.423 0.622	 5,016 7,442 1,721 0.950
Chi-square test. Data are presented as n (%)				

without any co-payment. In contrast, FPs who have not received specialist training can prescribe these drugs by using such a report as a reference. Consequently, chronic disease treatment and follow-up become somewhat difficult, particularly in primary healthcare services provided by FPs lacking vocational training.

Significant increases were found in some preventive health services, such as cholesterol control, routine antenatal care, child vaccination, and child follow-up, in primary care services in Turkey from 1993 to 2012, whereas decreases in blood pressure measurements and alcohol dependence intervention were noted (9). In the same study, there was no change observed in the frequency of smoking cessation or dietary recommendations (9). Additionally, significant increases were found in the inclusion of FPs in treating some chronic diseases such as COPD, peptic ulcers, diabetes mellitus, depression, rheumatoid arthritis, congestive heart failure, and Parkinson's disease from 1993 to 2012 (9). In our study, patients who consulted at FHCs other than Classes A and B stated that they would prefer to be advised by the FP more frequently regarding their weight loss, abdominal pain, anxiety, shoulder and neck pain, diarrhea, routine check-up, smoking cessation, severe cough, and ankle sprain complaints. Our study results suggest that Class A and B FHCs come to the fore in this regard when primary care has a more significant role in the management of chronic diseases than in the past. However, it is observed that FHCs other than Classes A and B cope with more acute problems than Class A and B FHCs. In addition, while there is a tendency for decreased interventional procedures in primary care (9), it is interesting to see that the use of IV infusion sets is significantly higher in Class A and B FHCs.

Although one of the most important principles of family medicine is continuity (4), FPs are not perceived by the community as continuous care providers in Turkey (3). In our study, the incidence of informing the specialist physician when being referred was lower in class A and B FHCs. However, there was no difference between the two groups in relation to having medical records. In addition, there were no differences between the two groups regarding the referral process of the patient to secondary care, according to the FPs' opinions. Considering all these findings, it is clear that the classification of FHCs did not have a positive impact on the continuity of primary care services. The most important reason for this may be the lack of gatekeeping in Turkey.

According to the Annual Health Statistics of the Ministry of Health of Turkey, the share of primary healthcare services in the total annual outpatient clinic visits in primary healthcare institutions was 36% in 2002, while this rate was 34% in 2018 (13,14). Moreover, the frequency of referrals to a physician per capita, which was 9.5% in 2018, was 3.2% in primary healthcare services and 6.3% in secondary and tertiary healthcare services (14). These results indicate that patients bypass their FPs and apply for secondary and tertiary healthcare services. As a result, primary care services cannot adequately fulfill the gatekeeper role (9). As long as the first contact of care is considered, the only medication prescription was higher in A and B-class FHCs than other FHCs. In Turkey, people with chronic diseases consult primary healthcare services to renew their prescriptions (15). Only a specialist physician is authorized to start some of the drug groups used to treat chronic diseases for free pharmacological treatment. The higher frequency of FPs with vocational training in Class A and B FHCs compared with other FHCs may explain the high frequency of drug prescriptions in the first group.

A significant improvement was discovered in the subheadings linked to accessibility criteria, such as getting an easy appointment in primary healthcare services and waiting time in the waiting room, from 2010 to 2012 (16). In our study, according to the patients' perception, the distance between the FHC and the patient's place of residence was significantly greater for Class A and B FHCs, suggesting that patients continue to prefer Class A and B FHCs despite the distance. Apart from this, there was no difference between the Class A and B FHCs and the others in the limitations of FHC working hours, the features associated with making appointments, or the interview or examination waiting times. Surprisingly, there was no significant difference between the two groups regarding the limitation of FHC working hours. Since in the FHC grouping, flexible working hours are a condition that validates Class A and B FHCs (6). It is possible that the awareness level of patients regarding the flexibility of working hours is low. In rural areas where healthcare access is challenging, mobile healthcare services are performed by primary care workers (17). In a previous study, no difference was found between the FHC groups in the frequency of home follow-up for patients' chronic conditions (10). In our study, there was no difference observed between the A and B-class FHCs from the patients' perspective and the others in meeting the need for home visits. This result may be because FPs and patients were participating in the study, mostly from the provincial centers.

Study Limitations

Although our study reached 296 FPs and 2623 patients, it may not reflect Turkey's complete situation, as only participants from some chosen provinces were recruited, which is a limitation of our study. Thus, regions were chosen based on geographical distribution

to mitigate the problem of generalizability and the time required to implement the FP scheme. The participants were randomly recruited from these regions. This was the first study to evaluate the structural features of primary health care services when the FP scheme was introduced all over Turkey. Therefore, results are important as a benchmark in the case of further research on the improvement of primary care service provision in Turkey. In addition, questions for this study were prepared based on the PHAMEU study (18), an internationally accepted European framework for evaluating primary care services.

Conclusion

The reimbursement classification did not make a difference in coordination, comprehensive care, continuity, accessibility, or being the first contact with care. Therefore, the current classification does not contribute to improving the quality of primary care in terms of service provision. It is suggested that gatekeeping be implemented to improve coordination, the first point of contact for care, and continuity. To enhance the quality of primary health care, it is recommended that primary care facility classifications be based on the criteria developed from primary care's fundamental functions. Linking reimbursement initiatives of current expenditures to such a criterion can work as an external motivation for enhancing primary care to gain strength.

Ethics

Ethics Committee Approval: Ethical permission for the study was obtained from the Dr. Lutfi Kirdar Training and Research Hospital Observational Research Ethics Committee (dated: 13.09.2011, approval number: 1009/11).

Informed Consent: Verbal consent was obtained from all the participants.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.A., M.S., I.U., Concept: S.T., M.A., R.D., M.S., S.K., Design: S.T., M.A., R.D., I.U., S.K., Data Collection or Processing: M.A., R.D., M.S., S.K., Analysis or Interpretation: S.T., M.A., M.S., I.U., S.K., Literature Search: S.T., R.D., S.K., Writing: S.T., R.D., I.U.

Conflict of Interest: No conflict of interest was declared by the authors.

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Appendix 1. Additional features required in Class A and B FHCs
1. The electronic queue tracking system should guide patient applications
2. The examination room should be at least 14 m^2
3. To carry out pregnancy follow-up and family planning services, a "pregnant monitoring and family planning room" of at least 10 m^2 should be established
4. In the FHC, intrauterine device application and follow-up should be performed for family planning, and their records should be kept in an electronic environment
5. There should be an independent breastfeeding room of at least 5 m^2 ready for use
6. A defibrillator (manual or automatic external defibrillator) should be available
7. The FHC should have one independent intervention room for every three physicians
8. One of the midwives, nurses, emergency medical technicians, health officers (community health), or medical secretaries should work an additional 10 hours per week for each FP
9. At least 14 hours'/week flexible working hours should be applied in FHCs where more than one FP works
10. There must be an active web page for the FHC
11. Toilets designed for the disabled should be functional
12. Toilets should have an emergency call button in service
FHC: Family health centers, FP: Family physician