

Retrospective Analysis of Patient Records at the Adana City Training and Research Hospital Family Medicine Clinic

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Abstract

Purpose: This study aims to evaluate the contribution of tertiary health services to the specialty training of family medicine residents by retrospectively examining the demographic and clinical characteristics of patients who visited the Family Medicine Clinic at Adana City Training and Research Hospital. The findings aim to provide clinically based recommendations for structuring family medicine residency training in line with tertiary care dynamics.

Methods: This study was designed as a cross-sectional and retrospective study. After obtaining ethical approval, the electronic health records of patients who visited the Family Medicine-1 outpatient clinic at Adana City Training and Research Hospital between January 15, 2024, and October 15, 2024, were reviewed. Data were obtained from the hospital automation program and the Ministry of Health's

platform and analyzed using statistical software.

Results: The mean age of the 6,796 patients who applied was 31.05 ± 14.55 , 58.62% were female, and 41.37% were male; applications were particularly concentrated in the 20-34 age group. 29.3% of the total number of applications were from Syrian origin. Clinically, the most common diagnoses were acute upper respiratory tract infection (19.33%) and iron deficiency anemia (10.88%). The antibiotic prescription rate was 51.27%, which is higher than the provincial (29.39%) and Turkish (20.82%) averages. The average number of medications per prescription was 0.32 in the outpatient clinic, which is below the provincial (0.43) and national (0.53) averages.

Conclusion: The data obtained in the study show that the outpatient clinic focuses on administrative requests such as marriage and employment reports, while preventive health services are limited. High prescription and examination rates also reveal that outpatient services provided at the tertiary level differ from primary care practices. Practical skills related to status reports should be developed in specialty training

Keywords: Family Medicine, Family Medicine Residency Training, Tertiary Care

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Introduction

Background/rationale

Family medicine is a specialty that requires the acquisition of the necessary knowledge, skills, and attitudes to provide contemporary, high-quality, evidence-based healthcare services in accordance with the principles of medical ethics. This includes early diagnosis, treatment, follow-up, and rehabilitation at the primary care level throughout all stages of life and without discrimination, with the aim of contributing to the health of the individual, their family, and the community.(1) Family medicine focuses on comprehensive, continuous, preventive, and curative healthcare services for individuals and the community.(2) Primary care is where these skills (e.g., chronic disease management, preventive medicine, patient-physician relationship) are directly applied.(3,4) In our country, it may not always be possible to fully acquire these competencies in tertiary care providers, where family physicians receive their specialty training. The fact that referrals to tertiary healthcare providers generally focus on specific areas, the lack of long-term follow-up of referral recipients, the inability to implement preventive medicine practices, the frequency of acute complaints, and the abundance of requests for status reports limit the adequacy of family medicine specialty training.

Objectives

This study aims to evaluate the contribution of tertiary healthcare services to the specialty training of family medicine residents by retrospectively examining the demographic and clinical characteristics of patients who visited the Family Medicine Clinic at Adana City Training and Research Hospital. Patient records will be analyzed to examine the impact of outpatient clinic services on residents' skills in acute diagnosis, test management, and reporting. The findings aim to provide clinically based recommendations for structuring family medicine residency training in line with tertiary care dynamics.

Material and Methods

Ethics Statement

The study was conducted after obtaining ethical approval from the Institutional Review Board. (ACTR-2025-291).

Study Design

This study was planned as a cross-sectional study to evaluate the services provided at the family medicine outpatient clinic at Adana City Training and Research Hospital between January 15, 2024, and October 15, 2024.

Setting

Data from the Family Medicine Clinic were included in the analysis. Data obtained from the hospital automation programs AKGUN and SINA platforms were recorded in an office program for appropriate statistical analysis using organized e-forms. The sociodemographic data of the patients who applied, their prescription and medication information, diagnoses, consultations, laboratory and imaging numbers and results, and medical procedures performed were recorded and analyzed. Family medicine clinic patient records were included in the study in their entirety without calculating the sample size. The records of 6796 patients who visited the clinic during the specified study period were examined.

Statistical Methods

Data were reviewed for completeness, coded, and input into SPSS version 22. Descriptive analysis based on frequency and percentage distributions was performed for all variables. All statistical analyses were performed using two-tailed tests. Statistical significance was set at 0.05.

Results

Main Results

Of the 6,796 individuals who visited the family medicine clinic, 1,082 (15.95%) were

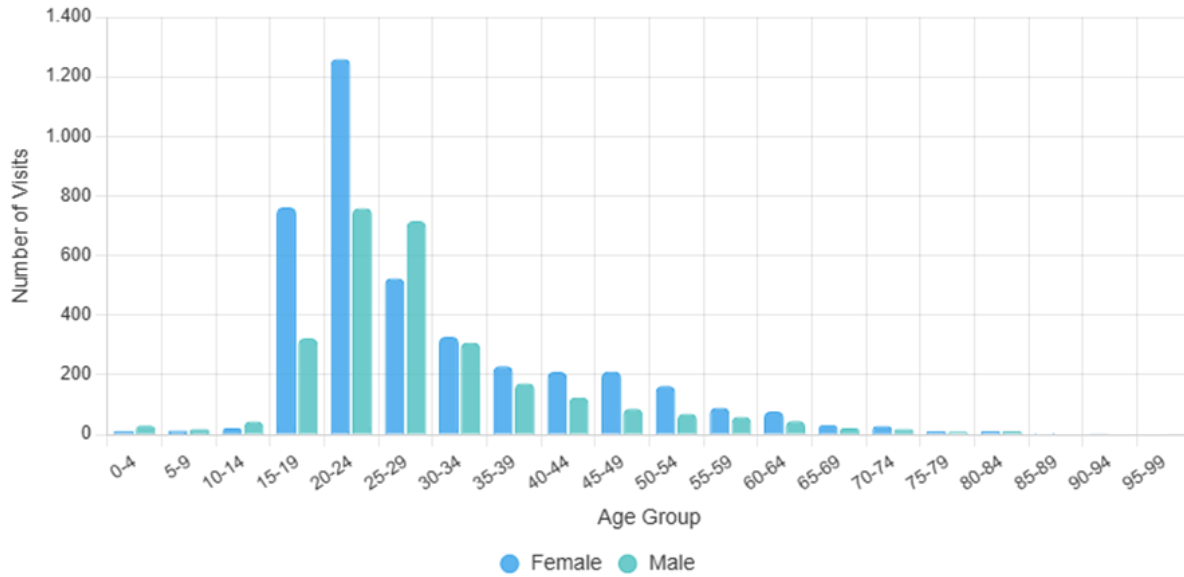


Figure 1. Number of Outpatient Clinic Visits by Age Group and Gender

aged 15-19, and 2,019 (29.71%) were aged 20-24. 0.62% were in the 0-4 age group. The total percentage of patients aged 65 and over who applied was 2.07%. Overall, 58.62% of applicants were female, while 41.37% were male. The average age of patients visiting the outpatient clinic was 31.05±14.55 years, with visits concentrated in the 20-34 age range. (Figure 1) The highest prescription rate was 13.81% for patients aged 30-34. This was followed by patients aged 25-29, with a prescription rate of 13.32%. The age group with the lowest prescription rate was 10-14 years old. The prescription rate for the 10-14 age group was found to be 1.18%.

Acute Upper Respiratory Tract Infection and iron deficiency are the most frequently diagnosed conditions. The number of reports submitted was determined to be 4181. Report submissions constitute 61.56% of all submissions. Marriage reports constituted 59.84% of report applications and 36.81% of all applications. Job entry, internship, and career applications constituted 38.26% of report applications and 23.54% of all applications.

When examining applications from foreign patients, it is observed that the highest

number of applications to our outpatient clinic are from Syrian patients. According to data obtained from the hospital system, 1,962 (29.3%) of the 6,796 patients who applied were Syrian nationals. The percentage of individuals applying from countries such as Iraq, Iran, Afghanistan, Somalia, Azerbaijan, and Turkmenistan remained below 1%. (Figure 2)

According to residents working in outpatient clinics, the most common reason for visits was marriage report, with 90.9% of respondents citing this. This was followed by employment health reports, with 81.8% of respondents citing this reason.

The least common reasons were routine examinations/screenings and consultations, with 9.1% of respondents citing these. When residents were asked if they had prior knowledge about the reports issued at the outpatient clinic, 54.5% responded that they did not have any knowledge, while 45.5% responded that they had partial knowledge. When residents on duty were asked for their suggestions regarding the operation of the outpatient clinic, participants expressed the need for more flexible working hours, longer examination times, and not exceeding the

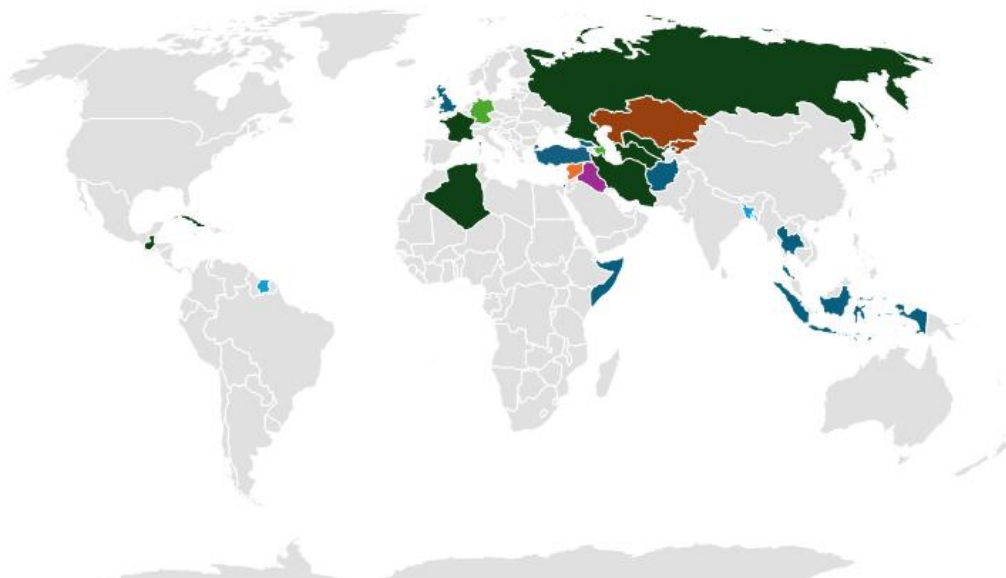


Figure 2. Geographic distribution of patients examined at the family medicine outpatient clinic

daily patient quota. In addition, the lack of secretarial support in the outpatient clinic was considered a factor that increased the workload, and the need for a secretary was indicated.

Discussion

This study retrospectively examined the demographic and clinical characteristics of 6,796 patients who applied to the Family Medicine Outpatient Clinic of Adana City Training and Research Hospital between January 15, 2024, and October 15, 2024, and evaluated the contributions of tertiary health services to family medicine residency. The average age of patients applying was 31.05 ± 14.55 years, with applications concentrated particularly in the 20-34 age range. Female patients (58.62%) had a higher application rate than males (41.37%). Status reports accounted for 61.56% of outpatient clinic applications, of which 59.84% were marriage reports and 38.26% were employment/internship/career reports. The most common clinical diagnoses were acute upper respiratory tract infection (19.33%) and iron deficiency anemia (10.88%). The antibiotic prescription rate

was 51.27%, which is above the provincial (29.39%) and national (20.82%) averages.

Consultation requests accounted for 9.39% of cases, most frequently directed to radiology (46.59%) and hematology (12.24%) departments. The average number of medications per application was 0.32, below the provincial (0.43) and national (0.53) averages. Furthermore, Syrian refugee patients accounted for 29.3% of outpatient clinic applications. 54.5% of residents stated that they did not have sufficient knowledge about report preparation; 90.9% identified marriage reports as the most common reason for application.

Interpretation

The fact that most outpatient clinic visits consist of administrative requests such as marriage and employment reports indicates that the outpatient clinic is perceived more as a report preparation center. This situation causes preventive health services (chronic disease monitoring, screening, immunization), one of the fundamental goals of family medicine practice, to take a back role. The high antibiotic prescription rate

(51.27%) can be attributed to the frequent occurrence of acute upper respiratory tract infections; however, this rate is above the provincial and national averages, highlighting the need to raise awareness about the rational use of antibiotics. The focus of consultation requests on radiology and hematology stems from the legal requirements for necessary tests (e.g., chest X-ray and thalassemia screening) for marriage and employment reports. The high prevalence of thalassemia, particularly in the Mediterranean Region such as Adana, explains the frequency of hematology consultations. The high referral rate of Syrian patients (29.3%) can be attributed to the difficulties faced by the refugee population in accessing healthcare services and the lack of integration into family health centers. The lack of knowledge among residents regarding report writing indicates the need for a more structured curriculum in this area in specialist training.

Comparison with Previous Studies

The mean age identified in our study (31.05±14.55) is lower than that reported in other tertiary family medicine clinic studies in the literature. For example, the mean age in the study conducted by Şencan(5) at Başakşehir Training and Research Hospital was 35.7, while it was reported as 47.11 in the study by Küçükerdem et al.(6). This difference can be explained by the focus of applications at our outpatient clinic among young adults and the predominance of requests for reports. The high rate of female applications (58.62%) is consistent with the rates found in the study by Yılmaz et al. (7) in Düzce (58.3%) and the study by Şensoy et al. (8) (62.1%). However, Oktay et al.'s study found a higher rate of male visits (65.5%), reflecting regional demographic differences. (9)

The high rate of antibiotic prescribing (51.27%) is more striking when compared to the 31.7% rate in Şencan's study. (5) This situation can be attributed to the high number of acute infection cases at our outpatient clinic and the fact that tertiary healthcare institutions serve patients with

more complex profiles. Although the focus of consultation requests in radiology differs from the prominence of dietitian consultations in Şencan's study, both studies show that legal requirements shape consultation requests. (5) Iron deficiency anemia and acute upper respiratory tract infection diagnoses are also among the frequently seen diagnoses in the studies by Öztekin, Şensoy, and Fidancı, supporting the existence of similar clinical profiles in primary and tertiary family medicine practices.(8,10,11)

Limitations

The study was conducted only at the Family Medicine Clinic of Adana City Education and Research Hospital, and the generalizability of the results may be limited due to regional and institutional differences. The retrospective design may lead to data missing or recording errors; for example, some patients' demographic information or laboratory results may not have been fully recorded. The 29.3% referral rate among Syrian patients may have created difficulties in data collection and interpretation due to language barriers and cultural differences. The study period (January 15, 2024-October 15, 2024) may not fully reflect seasonal effects; in particular, the increase in upper respiratory tract infections during the winter months may affect the distribution of diagnoses and referrals. The recommendations and professional experiences of residents are based on subjective responses and may vary according to their level of experience. The clinical necessity of laboratory tests and their impact on patient management have not been evaluated in detail. Furthermore, the fact that the majority of outpatient visits were for administrative requests may have limited the analysis of clinical diagnosis and treatment processes.

Generalizability

The low average age and high frequency of report requests at our outpatient clinic indicate that tertiary family medicine clinics focus on administrative functions; this

situation can be generalized to other teaching and research hospitals in Turkey. The high rate of female applicants reflects the impact of gender roles on healthcare utilization, and similar trends can be expected in primary and tertiary healthcare institutions throughout Turkey. The high rate of antibiotic prescribing reveals a lack of awareness regarding rational drug use, a problem that is prevalent throughout Turkey and even globally (12). Although the high rate of Syrian patients is a unique finding for regions with a high refugee population, such as Adana, the problem of access to refugee health services may also be observed in other large cities. The lack of knowledge among residents regarding report writing indicates the need for standardization of family medicine residency, a finding that can be generalized to other teaching hospitals in Turkey. The limitations of the outpatient clinic in preventive health services can be considered a common problem in tertiary family medicine outpatient clinics and emphasizes the need for a structure more in line with primary care principles.

Suggestions

Future studies should use long-term designs to more comprehensively evaluate the functioning of family medicine clinics and their contributions to specialty training. This may provide a better understanding of seasonal and annual changes in patient referral trends. Family medicine clinics in different regions and health systems should be compared to highlight regional differences.

The family medicine specialty training curriculum should be updated to include structured modules on preparing administrative procedures such as marriage and employment reports, evaluating examinations, and legal requirements. In addition, practical training programs should be developed to address resident's lack of knowledge in report writing, and more field experience should be encouraged in family health centers. To improve services for Syrian refugee patients, who account for 29.3% of outpatient clinic visits, continuous

interpreter support should be provided and cultural sensitivity training should be organized. Referral mechanisms should be established to facilitate the integration of the refugee population into family medicine units.

To optimize outpatient clinic operations, appointment systems should be used more effectively, working hours should be made more flexible, and administrative processes should be accelerated by increasing secretarial support.

Conclusion

These findings indicate that the outpatient clinic's focus is on administrative demands, while preventive health services remain limited. The high rate of antibiotic prescriptions points to a lack of awareness regarding rational drug use; this situation is particularly evident in the 30-34 age group. The focus of consultation requests in radiology and hematology reveals that legal requirements shape outpatient clinic operations. The lack of knowledge among residents regarding report writing indicates the need for greater focus on this area in specialty training. Aligning outpatient services more closely with primary care principles, strengthening preventive health services, and ensuring easy access for refugee patients will increase the effectiveness of family medicine residency training.

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