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Roles of community pharmacists in managing negative effects

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Abstract

Background and Aims: The main objective of this study was to examine the negative impacts experienced by community pharmacists in Türkiye and explore their methods for addressing these challenges. By gaining a better understanding of these factors, this study offers valuable insights that can enhance the effectiveness and safety of community pharmacies.

Methods: This study employed a comprehensive survey to gather data from community pharmacists throughout Türkiye. The survey addressed the following key areas: Demographic Information, Medication Errors and Patient Counselling, Stock Management, Financial Management, and intra-pharmaceutical communication. The survey was distributed electronically using Google Forms. The data obtained from the survey was analyzed using SPSS version 22. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were employed to summarize the demographic characteristics of the participants and their responses to the survey questions.

Results: Of the 96 pharmacists who willingly participated in the study, 60.4% were female and 39.6% were male. The analysis revealed no significant differences in medication errors and patient counselling according to gender, responsible management period, or pharmacy location, but a significant difference was found among age groups ($p<0.05$), with higher mean scores for those aged 35 years and below. In stock management, significant differences were observed based on the responsible management period ($p<0.05$), with higher scores for those with 10 years or less experience. Financial management showed significant differences by age and gender ($p<0.05$), with higher scores for those aged 35 years and below and lower scores for females compared to males. In intra-pharmacy communication, significant differences were noted according to pharmacy location and gender ($p<0.05$), with lower scores observed near hospitals and among females.

Conclusion: Community pharmacists can improve their well-being and the quality of their services by effectively mitigating negative effects. Important strategies for managing these challenges include organizing time efficiently, managing stress, joining support groups, continuously engaging in professional development, and staying informed about legal and ethical rights.

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INTRODUCTION

Community pharmacists play a vital role as links between healthcare systems and patients, ensuring the safe and effective use of medications (T.C. Sağlık Bakanlığı, 2019). However, they often encounter challenges such as medication errors, difficulties in patient counselling, stock management issues, financial management difficulties, and communication problems within pharmacies, all of which can impact the quality of care.

The main objective of this study was to examine the negative impacts experienced by community pharmacists in Türkiye and explore their methods for addressing these challenges. By gaining a better understanding of these factors, this study offers valuable insights that can enhance the effectiveness and safety of community pharmacies.

In Türkiye, community pharmacists deal with a range of challenges inherent to their roles. Globally, medication errors are a significant concern, and pharmacists play a crucial role in preventing such errors and maintaining patient safety. According to the World Health Organization (WHO), medication errors can occur at any stage of the medication use process and can cause harm to patients.

Patient counselling is another pivotal area where community pharmacists have a significant impact (WHO, 2006). Effective communication and the provision of accurate medication information are essential to ensure that patients comprehend their treatment regimens and adhere to them. However, pharmacists often face barriers to effective patient counselling, such as time constraints, language barriers, and different levels of health literacy among patients.

Stock management is a vital component of pharmacy operations, as it ensures that the appropriate medications are available when needed. Community pharmacists must strike a balance between maintaining adequate stock levels and risk of overstocking and wastage. This requires efficient inventory management practices and reliable supply chain mechanisms (Yüksel & Duman, 2017).

Community pharmacists face increasing challenges in financial management due to rising medication costs and fluctuating reimbursement rates. It is crucial for pharmacy operations to implement effective financial planning and management to ensure sustainability.

Intra-pharmacy communication plays a vital role in the efficiency and effectiveness of pharmacy services. Effective communication among pharmacy staff is essential for coordinating tasks, managing workflows, and delivering timely and accurate information to patients (Taylor & Harding, 2001).

The evolving role of community pharmacists places greater emphasis on patient-centered care and their integration into broader healthcare teams. Studies emphasize the importance of pharmacists in managing medication therapy, providing patient education, and enhancing health outcomes.

A number of factors have been identified in the literature as contributing to difficulties encountered by community pharmacists. For example, Dean et al., (2002) found that prescribing errors in hospital inpatients often resulted from a lack of information about patients' medication histories. Similarly, Knudsen et al., (2007) stressed the importance of effective communication and collaboration between pharmacists and other healthcare providers to reduce medication errors.

Financial challenges have also been well documented. Dinç and Kaya (2008) discussed the financial management practices of small businesses, including pharmacies, and emphasized the significance of financial literacy and planning for business sustainability. Jacobs et al., (2018) conducted a systematic review of workplace stress in community pharmacies and concluded that stress and workload pressures significantly impacted job satisfaction and performance among pharmacists.

The current literature provides a thorough understanding of the difficulties experienced by community pharmacists, emphasizing the necessity for tailored interventions and assistance to tackle these issues. This study aimed to add to this knowledge by investigating the particular adverse scenarios faced by community pharmacists in Türkiye and proposing strategies for managing these challenges effectively.

MATERIALS AND METHODS

This research employed a comprehensive survey to gather data from community pharmacists throughout Türkiye. The sample size required to represent 26,748 pharmacies in Türkiye is 96, with a sampling error of 0.10 and a probability of realization of 0.5. This survey gathered in-depth information about the different adverse scenarios encountered by pharmacists and the approaches they employ to address these challenges. The survey comprised several sections, covering demographic details, medication errors, patient counselling, stock management, financial management, and intra-pharmacy communication.

The survey questions were developed based on a comprehensive literature review and consultations with experts in the field of pharmacy management. The survey aimed to address the following key areas: demographic information (questions about the age, gender, years of experience, and location of the pharmacy), medication errors (questions related to the types and frequencies of medication errors encountered, as well

as strategies used to prevent and manage these errors) and patient counselling (questions assessing the challenges and practices in providing patient counselling, including communication barriers and time constraints), stock management (questions regarding the practices and challenges in managing pharmacy stock, including inventory levels, supply chain issues, and stock tracking systems), financial management (questions focused on financial challenges, including managing public payments, financial planning, and the impact of financial considerations on decision-making), and intra-pharmaceutical communication (questions about communication practices within the pharmacy, including issues related to staff coordination and patient counselling during peak times).

The Ankara University Ethics Committee approved this study (Approval no: 05/27, dated 21.03.2024). Informed consent was obtained from all participants prior to their participation in the survey.

The survey was distributed electronically using Google forms. The survey link was shared through professional networks, community pharmacist-specific social media groups, and the websites of pharmacy associations. This method was selected to maximize outreach and encourage active participation by community pharmacists. Participants were provided with information about the study objectives, the voluntary nature of their involvement, and the confidentiality of their feedback. The survey began with a consent form, allowing participants to indicate their willingness to participate by selecting "Yes" or "No." Only those who agreed to participate were given access to the survey.

The data obtained from the survey was analyzed using SPSS version 22. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were employed to summarize the demographic characteristics of the participants and their responses to the survey questions. In addition, inferential statistics, such as the Independent Samples t-test and One-Way ANOVA, were performed to identify significant differences and correlations among various variables (Alpar, 2006; Yazıcıoğlu & Erdoğan, 2009). The Tukey Post hoc test was employed to identify specific group variations. When the assumptions of parametric tests were satisfied, these tests were used to compare group means.

The survey instrument's reliability was evaluated using Cronbach's alpha coefficient. The overall reliability coefficient was calculated as 0.879, indicating high internal consistency of the survey items (Büyüköztürk et al., 2017). Content validity was established through expert reviews and pilot testing of the survey instrument.

RESULTS

Of the 96 pharmacists who willingly participated in the study, 60.4% were female and 39.6% were male. The majority of participants (39.3%, fell within the 36-45 age range. Those aged 35 years and below comprised 33.0% of the participants, while 22.0% were between the ages of 46 and 55, and 6.6% were between the ages of 56 and above. When considering the duration of their experience as responsible managers, the study revealed that 34.8% had 10 years of experience or less, 23.2% had 11-20 years of experience, 26.4% had 21-30 years of experience, and 15.6% had 31 years of experience or more. In terms of pharmacy location, 30.4% of the participants owned a pharmacy near a hospital, 32.2% owned a pharmacy near a Family Health Centre (FHC), and 37.4% owned a pharmacy not in close proximity to a health institution. The descriptive information about the participating pharmacists is detailed in Table 1.

Table 1. Demographic information about the participants

	Frequency	Percentage
Gender		
Female	58	60.4
Male	38	39.6
Age (Years)		
35 and below	21	21.9
36-45	25	26.0
46-55	24	25.0
56 and above	26	27.1
Years as a responsible manager		
10 and below	21	21.9
11-20	24	25.0
21-30	31	32.3
31 and above	20	20.8
Pharmacy location		
Near a hospital	33	34.4
Near a FHC	32	33.3
Not close to a health institution	31	32.3
Total	96	100.0

Medication Errors and Patient Counselling

In the analysis conducted to identify differences between groups in the questionnaire designed to assess medication errors and patient counselling, no significant differences were found in terms of gender, the period of responsible management, or pharmacy location. However, a significant difference was observed among age groups ($p<0.05$). The results of the ANOVA test conducted to determine the difference between

age groups in medication errors and patient counselling are presented in Table 2.

Table 2. Differences in medication errors between age groups on medication errors and patient counselling

Source of variance	Sum of squares	df	Mean square	F	*p*	Significant difference
Between groups	472.730	3	157.577	3.371	0.022	35 and below - 46-55, 56 and above
Within groups	4300.603	92	46.746			
Total	4773.333	95				

Based on the findings of the Tukey test, the mean scores for medication errors and patient counselling were notably higher in the 35-year-old group than in the 46-55 and 56-year-old and older groups.

Stock Management

In the analysis conducted to identify differences between groups in the questionnaire designed to assess stock management, no significant differences were found in terms of gender, age, or pharmacy location. However, a significant difference was observed during responsible management (*p*<0.05). The results of the ANOVA test conducted to determine the difference between the periods of responsible management of stock management are presented in Table 3.

Table 3. ANOVA for the difference between the periods of responsible management and stock management

Source of variance	Sum of squares	df	Mean square	F	*p*	Significant difference
Between groups	227.460	3	75.820	3.064	0.032	10 and below – 11-20
Within groups	2276.373	92	24.743			
Total	2503.833	95				

Based on the findings of the Tukey test, it was observed that the mean scores for stock management were notably higher in the group of years of responsible management of 10 and below, in comparison to the group of 11-20.

Financial Management

In the analysis conducted to identify differences between groups in the questionnaire designed to assess financial management, no significant differences were found in terms of the period of responsible management or pharmacy location. However, a significant difference was observed between age groups and gender (*p*<0.05). The results of the ANOVA test conducted to determine the difference between age groups in financial management are presented in Table 4, while the results of the Independent Samples T-test conducted to

determine the difference between genders in financial management are provided in Table 5.

Table 4. ANOVA for differences in financial management between age groups

Source of variance	Sum of squares	df	Mean square	F	*p*	Significant difference
Between groups	129.400	3	43.133	2.854	0.041	35 and below - 36-45, 56 and above
Within groups	1390.589	92	15.115			
Total	1519.990	95				

Table 5. Independent samples T-test results for gender differences in financial management

Group	N	$\bar{x}$	S_x	Mean difference	t	sd	*p*
Female	58	17.000	3.65629	2.079	−2.562	94	0.012
Male	38	19.079	4.21953				

Based on the findings of the Tukey test, the mean scores for financial management were notably higher in the age group of 35 and below, in comparison to the age groups of 36-45 and 56 and above.

The results of the independent samples t-test revealed a significant difference in financial management between genders, with female participants demonstrating notably lower mean scores than their male counterparts.

Intra-Pharmacy Communication

In the analysis conducted to identify differences between groups in the questionnaire designed to assess intra-pharmacy communication, no significant difference was found in terms of the period of responsible management or age group. However, a significant difference was observed between pharmacy location and gender (*p*<0.05). The results of the ANOVA test conducted to determine the difference between the location of the pharmacy in intra-pharmacy communication are presented in Table 6, while the results of the Independent Samples T-test conducted to determine the difference between genders in intra-pharmacy communication are provided in Table 7.

Table 6. ANOVA results for different pharmacy locations in intra-pharmacy communication

Source of variance	Sum of squares	df	Mean square	F	*p*	Significant difference
Between groups	53.780	2	26.890	8.559	0.000	Near a hospital-Near an FHC, Not close to a health institution
Within groups	292.178	93	3.142			
Total	345.958	95				

Table 7. Independent samples T-test results for gender differences in intra-pharmacy communication

Group	N	x̄	Sₓ	Mean Difference	t	sd	p
Female	58	18.121	1.77781	0.905	−2.326	94	0.022
Male	38	19.026	1.99305				

Based on the findings of the Tukey test, the mean scores for intra-pharmacy communication were notably lower in participants near the hospital in comparison to participants near an FHC and participants not close to a health institution.

The results of the independent samples t-test revealed a significant difference in intra-pharmacy communication between genders, with female participants demonstrating notably lower mean scores than their male counterparts.

DISCUSSION

Pharmacies operate at the intersection of healthcare and business, and as such, they are involved in various areas such as financial responsibilities and pharmacy accounting. The main areas of focus include drug counselling and adverse drug reactions, identifying and addressing the causes of medication errors, pharmacist communication with staff, patients, and colleagues, addressing drug supply issues, financial management strategies, and addressing negative aspects such as stress, violence, harassment, and occupational accidents in the pharmacy (Alnahas et al., 2020; Alodan et al., 2020; Dorj et al., 2022).

Female pharmacists may face greater challenges in managing the finances of pharmacies than their male counterparts. A study on personal financial literacy among university students found that female students generally displayed higher levels of financial literacy (Huang & Kisgen, 2013). Additionally, another study reported that businesses led by female managers had lower rates of purchasing and lending transactions than those led by male managers (Chen & Volpe, 1998).

Numerous studies examining the impact of gender on communication skills have suggested that women tend to engage in more communication than men during problem-solving (Adrianson, 2011; Jefferson et al., 2013). Additionally, while workplace overwork contributes to stress for both genders, it appears to have a more pronounced effect on women. This results in challenges for female pharmacists in communicating effectively within pharmacies due to workload and stress (Lee et al., 2017).

Pharmacies located near hospitals encounter more challenges in in-pharmacy communication than those near alternative service models (ASMs) or not in close proximity to any health institution. According to a study on patients' pharmacy preferences, it can be inferred that the location of the pharmacy is the most influential factor for patients, accounting for 84% of the impact. Furthermore, considering the high hospital occupancy rate, patients leaving the hospital are likely to visit the nearest pharmacies (Barua, 2020).

Pharmacists with less than 10 years of experience as community pharmacy managers typically find stock management less challenging than those with 11-20 years of experience. This is partly due to the prevalence of provisioning systems in stock management and the observation that younger pharmacists are more skilled at using these systems. As a result, less experienced pharmacists generally have easier time with stock management compared to their more seasoned counterparts (Ali, 2011). On the other hand, a separate study has revealed that seasoned entrepreneurs possess a heightened ability to discern and capitalize on business opportunities compared to inexperienced entrepreneurs (Westhead et al., 2009).

CONCLUSION

Community pharmacists can improve their well-being and the quality of services they offer by effectively managing any negative effects they may encounter. Key strategies for managing negative effects in community pharmacies include time and stress management, seeking support from groups, pursuing professional training and development and being aware of legal and ethical rights.

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