

# The impact of Covid-19 on community and hospital pharmacists: a thematic analysis study

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There are a limited number of studies examining the effects of the pandemic on the daily lives of Turkish community pharmacists, and no research investigating the impact on the lives of Turkish hospital pharmacists has been found. This study aimed to examine the effects of the pandemic on the personal and professional lives of Turkish community pharmacists and hospital pharmacists. In this qualitative study design, a comprehensive set of interviews was conducted with a total of 13 community pharmacists and 7 hospital pharmacists, employing a semi-structured interview guide. Through thematic content analysis of the interviews, four main themes, 1) long-term impacts, 2) dealing strategies, 3) professional life impacts, 4) personal life impacts, have emerged for both community pharmacists and hospital pharmacists. In addition to the psychological impacts and supply chain issues commonly mentioned in the literature, the study revealed ongoing effects such as the inability to sell available products and economic difficulties. Also, the increased demand for over-the-counter products during the pandemic highlights the need for the government to develop policies to address this issue.

**Keywords:** COVID-19. Pandemics. Pharmacist. Health services. Work in health. Workers.

## INTRODUCTION

It is widely acknowledged that since the beginning of the Coronavirus Disease 2019 (COVID-19) pandemic, pharmacists worldwide have played a vital role in minimizing its negative impact (Durand *et al.*, 2022; Gerges *et al.*, 2023). As healthcare professionals, pharmacists have been in direct contact with the community, providing pharmaceutical services to individuals in need of healthcare in community pharmacies, and continuing to play an important role in providing pharmaceutical care to hospitalized patients in hospitals during the COVID-19 period (Visacri, Figueiredo, Lima, 2021). It has been reported that community pharmacists have demonstrated a highly responsible attitude towards adopting protective measures, which has helped to reduce the spread of COVID-19 (Elnaem, Cheema, 2021). They have been responsible for providing patients with

accurate and timely information about COVID-19 and vaccinations, managing the risks associated with COVID-19 transmission in their pharmacies, and implementing new safety protocols (Johnston *et al.*, 2021). Additionally, they contributed to healthcare services by providing patients with scientific information about vaccines (Çalikuşu, Güneş, Özçelikay, 2021).

The COVID-19 pandemic has significantly impacted both community pharmacists and hospital pharmacists. In a study, it was found that only 37% of pharmacists expressed satisfaction with their role and job in managing COVID-19 (Assiri *et al.*, 2021). Community pharmacists have faced increased workload, often serving as the first point of contact for patients with COVID-19 symptoms and experiencing disruptions to medication supply chains (Durand *et al.*, 2022). In the survey study, the primary challenges encountered by community pharmacists during the pandemic were articulated as apprehensions regarding virus transmission, patients' stockpiling of medications, and the closure of doctors' surgeries. The study also illuminated the adverse effects on emotional

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well-being, encompassing stress, anxiety, depression (Bhamra, Parmar, Heinrich, 2021). Elbeddini *et al.* (2020) documented that pharmacists encountered heightened patient caseloads, increased screening and triage responsibilities, expanded provision of COVID-19 information, elevated instances of medication shortages, and a surge in workplace harassment. These additional duties were noted to significantly contribute to elevated levels of stress, burden, and frustration among pharmacists, ultimately exerting a negative impact on their mental health and overall well-being. In another study, pharmacists articulated their concerns and frustrations regarding the challenges within their profession during pandemic. In terms of personal experiences, a majority of participants voiced apprehensions about the demands of balancing work and personal life. They also expressed profound concerns about their mental well-being, describing feelings of stress, overwork, perpetual exposure risk, and the fear of potentially endangering their loved ones (Silva-Suárez *et al.*, 2022). In the investigation conducted by Lange *et al.* (2020), findings revealed that within the surveyed pharmacists, some of them reported noteworthy post-traumatic stress symptoms, whereas others exhibited elevated burnout symptoms. In the study conducted by Alshammari *et al.* (2020), the findings revealed that the COVID-19 pandemic had substantial economic repercussions on community pharmacies. Specifically, it was observed that a majority of these pharmacies experienced losses exceeding 10% during the first month of the pandemic in Saudi Arabia. In a research, psychologically influential factors of the pandemic among community pharmacists were recognized as practical job requirements and emotional demands, including concerns related to infection (Mohammed *et al.*, 2022).

Hospital pharmacists also have been compelled to adapt their practices significantly in order to uphold patient safety and ensure the uninterrupted provision of care. They have grappled with medication shortages, the formulation and implementation of novel medication management protocols, and the provision of crucial support to fellow healthcare practitioners. Additionally, hospital pharmacists, like their counterparts in other settings, were identified as a group at risk for both

infection and psychological stress during the pandemic. Furthermore, pharmacists have voiced apprehensions regarding the economic ramifications stemming from the enduring health crisis (Khadka *et al.*, 2023). In a qualitative study conducted by Flotildes *et al.* (2023), involving hospital pharmacists, the analysis yielded two prominent themes. The first theme pertained to workplace challenges, encompassing issues such as deficient personal communication, a stressful working environment, heightened workloads, potential exposure to viruses, medication shortages, and difficulties in drug supply. The second theme revolved around personal challenges, including concerns about the risk of infection to one's family, work-related obligations, and personal health challenges (Flotildes *et al.*, 2023).

The COVID-19 pandemic in Turkey had a profound impact on the personal and professional lives of community and hospital pharmacists who were actively working during this period. There are a limited number of studies examining the effects of the pandemic on the daily lives of Turkish community pharmacists, and no research investigating the impact on the lives of Turkish hospital pharmacists has been found. This study aims to fill the relevant gaps in the literature by examining the effects of the pandemic on the personal and professional lives of Turkish community pharmacists and hospital pharmacists.

## METHODS

### Ethical approval

The research obtained approval from the Atatürk University Clinical Research Ethics Board (Approval No: B.30.2.ATA.0.01.00/520).

### Study design

To focus on gaining a profound understanding of pharmacists' perspectives, a qualitative approach using a constructivist-interpretivist methodology was adopted (Lincoln, Lynham, Guba, 2011). Qualitative analysis helps identify and fill gaps that may not be observed by quantitative methods (Sutton, Austin, 2015).

## Researcher characteristics

The researchers conducting this study comprise individuals aged between 23 and 35 years, residing in Erzurum. They possess academic backgrounds in social pharmacy and qualitative methods. It is important to note that there were no personal acquaintances or prior relationships between the researchers and the study participants. This impartiality aimed to uphold the integrity and objectivity of the study's outcomes, minimizing any potential bias that could arise from pre-existing connections.

## Context

The post-pandemic study aimed to gain valuable insights into the experiences of community and hospital pharmacists working in Erzurum, Turkey, during the intense Covid-19 period. Notably, Erzurum was one of the urban areas in Turkey where the Covid-19 pandemic was most intense, and a dedicated hospital was assigned to treat COVID-19 patients in the city.

## Study setting, sampling, and inclusion criteria

In this qualitative study design, a comprehensive set of interviews was conducted with a total of 13 community pharmacists and 7 hospital pharmacists, employing a semi-structured interview guide. The interviews were meticulously recorded and transcribed verbatim.

The purposive sampling method, aiming to include representatives from both community and hospital pharmacists, employed in this study. In cases where participation was low, a snowball sampling technique was utilized, where current participants recruited future participants from their acquaintances, as an additional method. Participation in the study was entirely voluntary, and the participants' identities were kept confidential.

The targeted participants were pharmacists with at least an undergraduate degree in pharmacy, currently working as community pharmacists in Erzurum, Turkey, and as hospital pharmacists in various public sector hospitals.

## IN-DEPTH FACE-TO-FACE INTERVIEW

Based on a literature review and existing practices, a semi-structured interview guide with 11 open-ended questions (Supplementary File 1) was developed and tested for face and content validity by an expert researcher. Written consent was obtained from participants after providing them with a thorough explanation of the study's objectives. Face-to-face interviews were conducted with participants at their respective workplaces during the period from November 2022 to January 2023. The duration of each interview ranged from approximately 10 to 20 minutes. All interviews were audio-recorded and transcribed word-for-word. Data saturation was reached after conducting 13 interviews with community pharmacists and 7 interviews with hospital pharmacists, leading to the determination of the final sample size for the study.

## Data Analysis

The data were analyzed thematically by delving deeply into the interviews, following the method outlined by Braun and Clarke (2006). This method provides a comprehensible and theoretically flexible approach to analyzing qualitative data. All interviews that were recorded were transcribed verbatim. Grammatical errors were rectified during the data extraction process. The identities of the participants were kept confidential, and the anonymity of their views was ensured through coding by two female researchers (EUD and HSK). Maxqada (Version 22.0.6) was employed to effectively manage and organize the data. The thematic analysis of the data was conducted using a general inductive approach, which involved multiple stages. The data were systematically read and coded, and emerging themes were documented along with supporting quotations within each theme. These themes were then categorized under different headings aligned with the research objectives. To ensure the reliability of the analysis, all authors thoroughly reviewed and reached a consensus on the identified themes.

## RESULTS

### Demographic characteristics of participants

A total of 7 pharmacists (from HP-1 to HP-7) from three different public hospitals and 13 community

pharmacists (from CP-1 to CP-13) were interviewed. The percentages of participants' demographic characteristics are presented in Table I. The participants included pharmacists actively involved in providing services during the COVID-19 pandemic in Erzurum province.

**TABLE I** - Demographic characteristics of study participants

The participant's field of work	Characteristics	Parameters	Frequency (%)
Community pharmacy	Gender	Male	3 (23.08)
		Female	10 (76.92)
	Age	≤ 35 years	6 (46.15)
		> 35 years	7 (53.85)
		≤ 10	4 (30.77)
		>10	9 (69.23)
Hospital pharmacy	Gender	Male	0
		Female	7 (100)
	Age	≤ 35 years	5 (71.43)
		> 35 years	2 (28.57)
	Years in the pharmacy profession	≤ 10	5 (71.43)
		>10	2 (28.57)

### Thematic content analysis

Through thematic content analysis of the interviews, four main themes have emerged for both community pharmacists and hospital pharmacists (Figure 1-2).

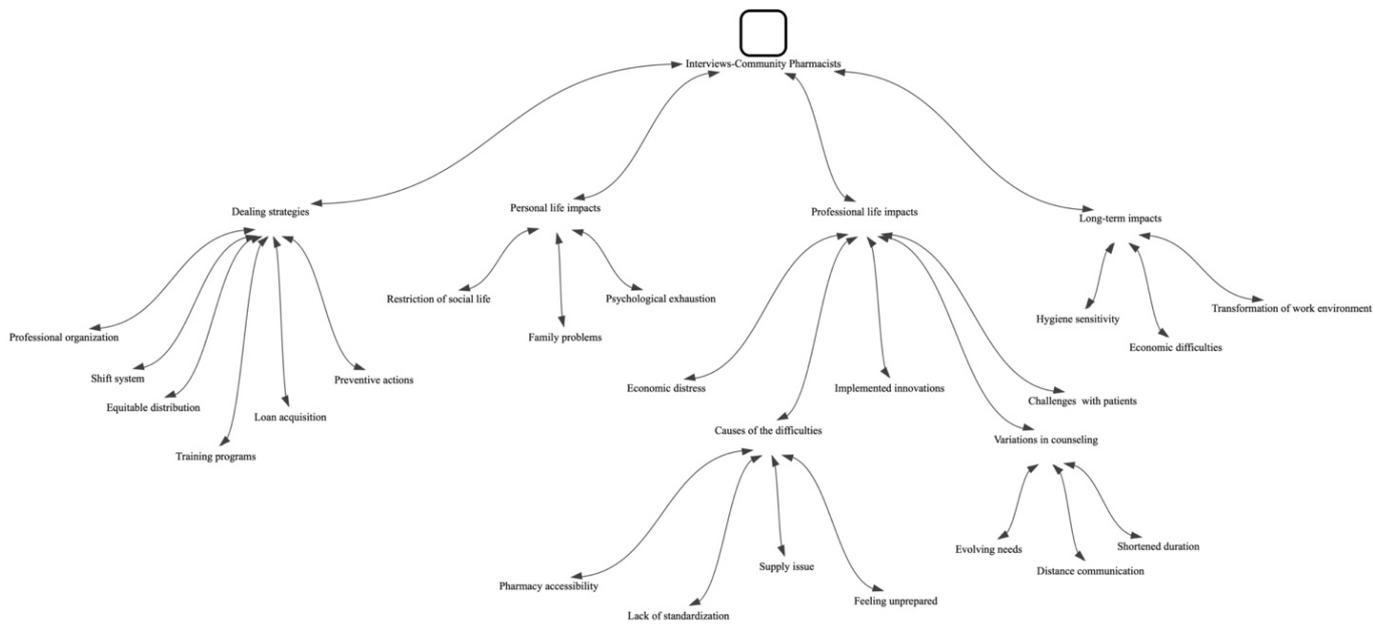


FIGURE 1- Thematic analysis of interviews with community pharmacists

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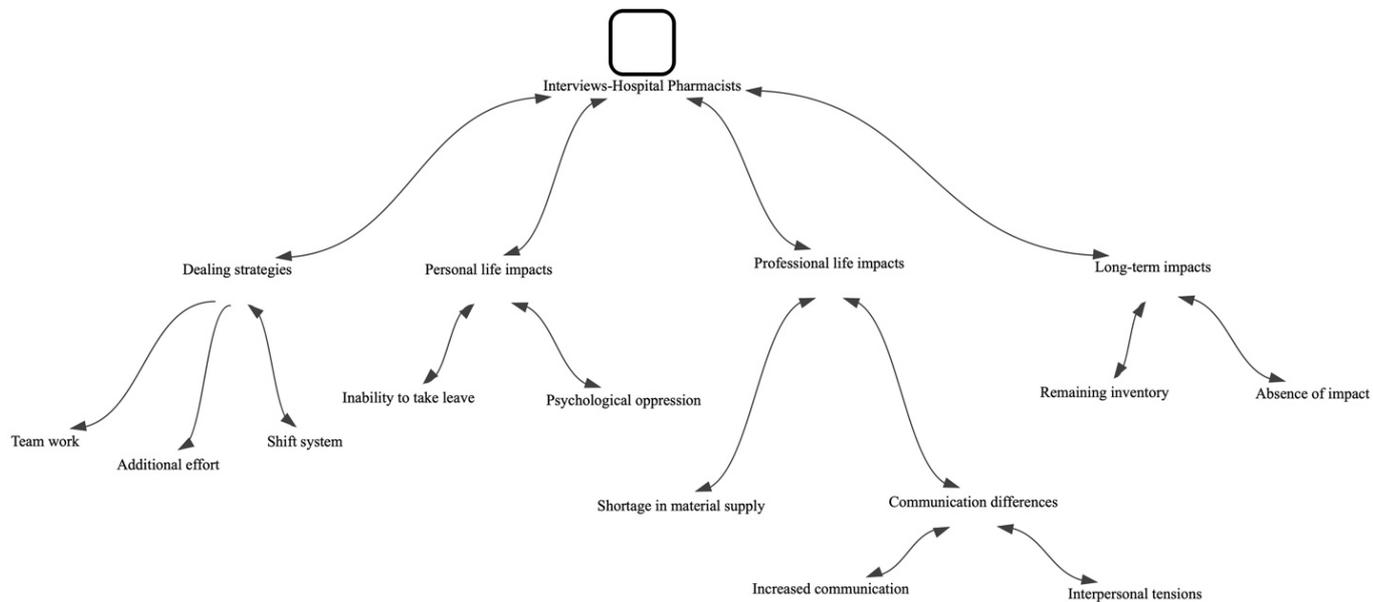


FIGURE 2- Thematic analysis of interviews with hospital pharmacists

**FIGURE 2** - Thematic analysis of interviews with hospital pharmacists.

## Thematic analysis of interviews with community pharmacists

### Theme 1: Long-term impacts

Some of the pharmacists emphasized that various factors continue to impact the pharmacy environment. They pointed out that measures such as reducing the frequency of visits by sales representatives and maintaining glass protection for social isolation were still being implemented. Additionally, they mentioned that they faced challenges due to having excessive stocks of products used for the treatment or prophylaxis of Covid-19, which became difficult to sell after the pandemic, leading to economic hardships. The pharmacists highlighted their commitment to hygiene practices, mentioning that they diligently wash their hands immediately after any contact with patients and remain extremely sensitive to maintaining high levels of hygiene.

#### Economic difficulties

The majority of pharmacists have reported ongoing economic challenges even after the conclusion of the pandemic. They have indicated a noticeable decline in sales of non-pharmaceutical products compared to previous periods. Furthermore, they reported a decrease in the number of prescriptions, which resulted in difficulties replenishing their stocks of medications and pharmaceutical products.

*“Specifically, due to the widespread familiarity with online platforms, individuals tend to exhibit reduced preference for acquiring certain vitamins from traditional pharmacies. Consequently, it appears that our sales have witnessed a decline following the pandemic.”* (CP5)

#### Hygiene sensitivity

The majority of pharmacists have reported a shift in their cleaning habits, indicating a heightened level of meticulousness. They emphasized that they take utmost care in maintaining hand hygiene and wash their hands immediately, even in the event of the slightest contact with contaminants or potential mistakes.

*“Previously, I paid little attention to the physical contact of my hands with others during interpersonal communication. However, I now find myself inclined to wash my hands frequently. This experience has served as a valuable lesson, highlighting the significance of cleanliness.”* (CP6)

#### Transformation of work environment

The majority of pharmacists have expressed their commitment to maintaining the protective measures within their pharmacies. They have emphasized that the Covid-19 virus has the potential to undergo mutations and may persist in our lives indefinitely. They explained that they implemented several measures to minimize the time patients spend in the pharmacy, such as reducing waiting times and removing existing chairs to discourage lingering. Additionally, they continued to use the protective glass cover they had installed to ensure the safety and well-being of both patients and staff.

*“..... I currently have a glass barrier installed on my counter, and I have no intention of removing it. The COVID-19 pandemic has emphasized the importance of maintaining a physical distance from potentially shape-shifting viruses or similar entities. As a result, I am considering keeping the glass barrier in place indefinitely.”*(CP4)

### Theme 2: Dealing strategies

Pharmacists reported implementing numerous measures during this period to address the challenges posed by the pandemic. These measures included reducing the working hours of staff to prioritize their health and well-being. They also adopted shift work arrangements to ensure a continuous and safe presence of health professionals in the pharmacy. Moreover, they actively participated in training programs aimed at raising awareness about COVID-19, equipping themselves with updated information to better serve their patients and community during this critical time.

### *Training programs*

The majority of pharmacists reported that they actively followed current medical publications and participated in various training programs. They also took the responsibility of helping their staff access up-to-date information and kept them informed about the constantly changing drug protocols related to the ongoing COVID-19 situation.

*“We actively participated in diverse training programs aimed at enhancing our ability to provide better assistance to our patients.”(CP10)*

### *Shift system*

The majority of pharmacists reported implementing a shift system in their pharmacies, which they believe offers enhanced protection for both the staff and patients. This shift system ensures that there is adequate coverage and minimizes the risk of exposure, thereby prioritizing the safety and well-being of everyone involved. Pharmacists also reported working more than in previous periods. They took on additional responsibilities and extended their working hours to meet the increased demands and challenges posed by the COVID-19 pandemic.

*“I personally held a deep concern for the health and well-being of my auxiliary staff working alongside me. In order to mitigate the risks, despite our pharmacies maintaining the same working hours, we implemented a system that involved reducing working hours and introducing shift work for them during certain periods. This approach aimed to prioritize their health and provide necessary rest and relief amidst the challenging circumstances.” (CP8)*

### *Professional organization*

The majority of pharmacists indicated that their respective professional organizations have exhibited notable support regarding the provision of protective equipment such as apron, mask and spectacles.

*“Our professional organization demonstrated support by allocating resources to the chambers, which, in turn, were inclined to provide resource services to*

*pharmacists. For instance, I recall that our chamber distributed protective aprons, masks, and goggles during that period.” (CP7)*

### *Loan acquisition*

The majority of pharmacists expressed their financial challenges and acknowledged resorting to acquiring loans as a means to navigate the economic difficulties they faced.

*“We obtained a substantial amount of loans.” (CP1)*

### *Equitable distribution*

*Some pharmacists emphasized the equitable distribution of products to all individuals, highlighting the challenges they faced due to limited resources and high demand. They stressed that they made efforts to manage the sales of their products, especially those in high demand, in a manner that would ensure availability for those in need. By attempting to slow down sales and implementing appropriate measures, they aimed to prevent potential shortages and ensure equitable distribution of essential products during the pandemic.*

*“We placed great importance on ensuring equal distribution of resources. Specifically, if we encountered limited supply and high demand, such as during a shortage of gloves, we adopted a policy of not providing large quantities to individuals requesting excessive amounts. For instance, even if we had hundreds of gloves available, we refrained from fulfilling requests for 10 or 20 packs from a single customer.” (CP4)*

### *Preventive actions*

*The majority of pharmacists reported undertaking several measures to safeguard their pharmacy environment and prioritize the well-being of both staff and patients. These measures encompassed making adjustments to the pharmacy layout, incorporating vitamin supplements, removing non-essential equipment or furniture like the scale to minimize patient waiting time, social distancing,*

receiving vaccinations, diligently adhering to mask usage, and observing proper attire changes.

*“We prioritized the importance of wearing masks and regularly changing our clothing to maintain a safe environment. Additionally, we implemented a daily routine of consuming vitamin C, zinc, and vitamin D supplements.”* (CP13)

### **Theme 3: Professional life impacts**

Pharmacists emphasized that their professional lives were significantly impacted by various factors. These included changes in advice services, as they had to adapt their counseling and guidance to meet the evolving needs of patients during the pandemic. They also reported facing challenges due to a lack of preparedness for such an unprecedented situation, which posed additional burdens on their roles and responsibilities. Economic difficulties were another concern, arising from issues like excessive stocks of certain products that couldn't be sold after the pandemic, and changes in consumer behavior. Interactions with patients became more complex, as they had to address heightened anxieties and concerns related to COVID-19. Moreover, the nature of their job descriptions underwent changes to accommodate new responsibilities and safety protocols required during the pandemic.

#### *Causes of difficulties*

The majority of pharmacists cited various reasons to explain the professional challenges they faced during the pandemic, such as the lack of standardization, inadequate preparedness, and challenges related to pharmacy availability.

#### *Feeling unprepared*

Most pharmacists reported that they were caught unprepared for self-protection measures, and initially, they experienced panic while trying to manage the challenges brought on by the pandemic.

*“One of the foremost challenging aspects of the Covid-19 pandemic was the lack of preparedness,*

*particularly in terms of implementing effective self-protection measures.”* (CP7)

#### *Supply issue*

All pharmacists reported facing supply problems due to the unprecedented high demand for products such as masks and spectacles.

*“Obtaining essential items such as masks and disinfectants, which are crucial for adhering to basic cleaning and protection protocols, proved to be a significant challenge for us.”* (CP7)

#### *Lack of standardization*

Pharmacists voiced their complaints about the absence of a standardized approach for pharmacies, particularly concerning preventive measures. The lack of clear guidelines or protocols made it challenging for them to uniformly implement preventive measures, resulting in inconsistencies in safety practices across different pharmacy settings. This situation added to their burden as they had to navigate through uncertainties while striving to maintain a safe environment for both staff and customers.

*“... in the pharmacy setting, I personally utilized laminated glass in the areas where interactions with patients occur, while observing other pharmacists using PVC or nylon covers. Some pharmacists even employed physical barriers to maintain distance. Therefore, it would have been beneficial to have a standardized approach and prompt action in place for such measures.”*(CP7)

#### *Pharmacy accessibility*

They expressed that the constant accessibility of pharmacies imposed an additional burden on them. They noted that the round-the-clock availability of pharmacies means that they must always be alert and ready to provide essential services, even in challenging situations such as a pandemic.

*“During the pandemic, people faced difficulties in finding masks and medicine, resulting in them approaching pharmacies with complaints. Interestingly, many patients with Covid-19 found it relatively easier to access pharmacies*

*compared to other establishments, which led to increased interactions within the pharmacy setting.” (CP6)*

#### *Variations in counseling*

During the pandemic, a substantial number of pharmacists reported experiencing significant changes in their counseling practices. These changes encompassed several aspects, including a reduction in the time allocated for patient counseling, the adoption of remote communication methods like telepharmacy, and the alteration of the products they recommend.

#### *Evolving needs*

Pharmacists emphasized that there has been a shift in the category of products demanded by patients. They indicated that over-the-counter (OTC) products are in higher demand.

*“Previously, the sale of OTC products such as vitamins and supportive products was relatively challenging. However, as the pandemic progressed, there has been a noticeable shift in consumer behavior, with an increased demand for these products. People have started incorporating these products more into their daily lives and are consuming them at a higher rate.” (CP1)*

#### *Shortened duration*

All pharmacists emphasized the importance of reducing the time spent with patients to minimize contact.

*“Despite our efforts to provide comprehensive counseling, the limitations of the restricted environment posed challenges for conducting extensive consultations. Consequently, we were compelled to focus on concise and simplified counseling sessions. We made concerted efforts to minimize the duration of these sessions while still providing essential information and support.” (CP3)*

#### *Distance communication*

Most pharmacists stated that they have started to communicate with patients remotely, addressing their questions and concerns.

*“For instance, we encountered certain sensitive patients who required extensive counseling. We aimed to assist them without causing any offense. As a result, we would engage in lengthy phone conversations, addressing their concerns and providing them with detailed information. We would discuss various scenarios, potential outcomes, and offer guidance based on their specific circumstances.” (CP6)*

#### *Challenges with patients*

A significant number of pharmacists expressed challenges they encountered while dealing with patients, particularly regarding vaccination, enforcing social distancing measures, and managing patient anxiety or restlessness.

*“Changing ingrained habits proved to be challenging for patients. In the pharmacy setting, explaining the concept of social distancing and encouraging its practice posed difficulties.” (CP13)*

#### *Implemented innovations*

During the pandemic, some pharmacists highlighted the adoption of innovative practices that were previously unexplored in their pharmacies. One notable example is the production of disinfectants by sourcing alcohol supplies.

*“Indeed, there was a concerning shortage of disinfectants during the pandemic, which led to an unexpected situation. In response to this scarcity, the Turkish Pharmacist Association (TPA) implemented a procedure allowing pharmacies to produce their own disinfectants. Pharmacies were authorized to procure alcohol and manufacture, package, and sell disinfectants to meet the increased demand.” (CP4)*

#### *Economic distress*

Some pharmacists reported facing economic difficulties during the pandemic, primarily due to a decline in the number of prescriptions. Additionally, a majority of pharmacists expressed that their sales had significantly declined, leading to a notable decrease in business volume compared to the pre-pandemic period.

*“During certain periods, we experienced complete cessation of sales in the pharmacy. Our primary focus shifted towards providing masks, specifically the ones distributed by the state, to our customers.”* (CP6)

#### **Theme 4: Personal life impacts**

Most pharmacists reported that their personal lives were significantly affected during the pandemic. They experienced prolonged periods of being unable to see their families and friends, had to constantly use masks and disinfectants, and endured psychological exhaustion as a result.

##### **Family problems**

The majority of pharmacists expressed that they encountered facing significant challenges in childcare and fulfilling their parents’ responsibilities.

*“I personally experienced significant challenges during the Covid-19 period as a parent of three children. With the unavailability of caregivers and the limitations on outside assistance during this time, I had to balance my work responsibilities with the full-time care of my children.”* (CP6)

##### **Restriction social life**

All pharmacists unanimously reported that their social lives were severely restricted during the pandemic, and they faced significant challenges in meeting with their families even in cases of necessity such as death or illness. The strict measures implemented to control the spread of the virus, including limitations on gatherings and travel restrictions, prevented them from being physically present and providing support to their families in times of need.

*“Our social life became primarily centered around the home environment, with limited external engagement except in obligatory circumstances.”* (CP12)

*“During the pandemic, it became difficult for me to go to my family’s place due to the heightened risk of transmission and the need to maintain strict personal contact measures.”* (CP2)

##### **Psychological exhaustion**

They stated that they experienced psychological exhaustion due to the above-mentioned reasons, such as the restriction of social life, the implementation of permanent protection measures, and the constant worry of falling ill.

*“Given the constant interaction with patients, I found it mentally draining to exercise increased vigilance in safeguarding the household.”* (CP12)

#### **Thematic analysis of interviews with hospital pharmacists**

##### **Theme 1: Long-term impacts**

Some pharmacists claimed that the effect did not persist, indicating that the challenges they faced during the pandemic were temporary and eventually subsided. However, the majority of them mentioned that they were not able to deplete their stocks of certain products.

##### **Absence of impact**

Several pharmacists have reported that the enduring impact of Covid-19 was not significant.

*“In my opinion, the enduring impact of Covid-19 appears to have diminished. We have reached a state of normalization where individuals no longer pay significant attention to it. The observance of preventive measures such as wearing masks has significantly declined among the general population.”* (HP5)

##### **Remaining inventory**

According to the accounts of all pharmacists, there was a prevalent consensus that an excessive amount of supplies were ordered during the initial phase of the pandemic. Subsequently, as the impact of the pandemic subsided, these pharmacists found themselves in possession of surplus purchased products.

*“We are currently engaged in vigorous endeavors to redistribute pharmaceuticals that were previously in high demand during the pandemic but have subsequently*

*experienced reduced consumption. These medications include methylprednisolone, enoxaparin injections, vitamin C, and colchicine tablets. Our aim is to transfer these drugs to other hospitals where there may be a greater need for them.”* (HP7)

## **Theme 2: Dealing strategies**

Most pharmacists reported that they were able to manage the challenges of the pandemic effectively through teamwork, implementing a shift system, and putting in extra effort. Working collaboratively, adopting flexible shifts, and going the extra mile allowed them to navigate the difficulties and maintain a level of service despite the unprecedented circumstances.

### *Team work*

Pharmacists unanimously emphasized the importance of teamwork and collaboration in enhancing their resilience and effectively coping with the challenges posed by the pandemic. Also, they highlighted that the collective effort of working as a team, rather than being isolated individuals, instilled a sense of strength and unity among them.

*“The significance of collaborative teamwork cannot be overstated within our pharmacy environment. Specifically, my colleague played a pivotal role in promoting effective communication and offering unwavering support. Although there were other individuals working with us, the connection and assistance between my colleague and myself were unparalleled.”* (HP2)

### *Additional effort*

Several pharmacists reported that they made additional endeavors, with the backing of their respective organizations, to acquire essential supplies that were particularly required.

*“During this process, we encountered challenges in procuring materials. However, we managed to overcome these obstacles by exerting additional efforts, such as reaching out to companies that claimed to have no*

*available materials or utilizing our established bilateral relationships.”* (HP6)

### *Shift system*

Several pharmacists emphasized the utilization of a shift system as a means to decrease overcrowding and subsequently minimize the risk of transmission. Also they stated that by implementing this approach, they aimed to create a more controlled and organized environment within the pharmacy.

*“During our work in a hospital setting and while living with our families, our greatest concern was the potential risk of infecting them. Consequently, in accordance with the guidelines provided by the ministry, we implemented a division system. Due to the high number of personnel, we split into two groups and alternated our schedules, working on specific days.”* (HP5)

## **Theme 3: Professional life impacts**

Most pharmacists reported experiencing differences in communication, both among themselves and with other health professionals. They mentioned that at times, there were tension, while other times, there was more understanding and collaboration. Additionally, they faced significant difficulties with product supply, which posed challenges in meeting the demand for certain medications and healthcare products during the pandemic.

### *Communication differences*

The majority of pharmacists highlighted variations in their communication with other individuals. They placed particular emphasis on occasional tension that arose, but also noted an overall increase in communication due to a heightened mutual dependence.

### *Interpersonal tension*

Some of the pharmacists stated that tension arose, particularly due to difficulties in the supply of materials.

*“During a time when we couldn't understand each other, and people's psychology was already turned upside*

*down, it was challenging for us to meet the increasing expectations. There were also tension during periods when we couldn't fulfill them.” (HP2)*

#### *Increased communication*

Some of the pharmacists stated that their communication, especially with physicians, has increased compared to the past.

*“Due to the inevitable occurrence of differences in communication, our level of sharing increased.” (HP2)*

*“Of course, our communication with other physicians and nurses working in the hospital has become more frequent. During the pandemic, ..... we were in contact with the physicians to obtain the necessary approvals, and after receiving the approval, we could provide the medicine to the patients in need.” (HP5)*

#### *Shortage in material supply*

The majority of pharmacists reported that during this period, they were tasked with distributing basic consumables such as surgical masks, disinfectant coveralls, and gowns, which had not been part of their previous responsibilities. They also encountered challenges in obtaining the necessary supplies.

*“.....We provided all the necessary personal protective equipment throughout the entire pandemic, but encountered significant difficulties in securing adequate supplies at times.” (HP6)*

#### **Theme 4: Personal life impacts**

The majority of pharmacists reported that their personal lives had been significantly affected, particularly due to the inability to take leave and the psychological pressure caused by the pandemic.

#### *Inability to take leave*

The majority of pharmacists reported that they were unable to take time off, which had a negative impact on their social lives.

*“Permits and resignations were revoked, prohibiting us from leaving the city, and we were unable to take any leave for nearly a year. Consequently, we encountered significant challenges.” (HP5)*

#### *Psychological oppression*

The majority of pharmacists underscored the psychological pressure they experienced in ensuring the safety of both themselves and others from the virus.

*“In our personal lives, like many others, we experienced immense anxiety and fear. At the time, I already had a child and was employed in a hospital, working in a high-risk environment where new cases were constantly emerging. As a result, the likelihood of bringing the virus home was significantly increased, despite all the precautions we took and discussions we had. The psychological burden weighed heavily on me for an extended period.” (HP2)*

## **DISCUSSION**

In our qualitative study, we investigated the impact of COVID-19 on the personal and professional lives of both community and hospital pharmacists. Our findings revealed not only similar themes to those reported in the existing literature, but also unique themes specific to our study.

Khadka *et al.* (2023) conducted a qualitative study to explore the perceptions and preparedness of pharmacists working in public sector hospitals in Pakistan during the COVID-19 pandemic. The study utilized thematic content analysis and identified four key themes: management issues, lifestyle changes, and psychological issues. In our study, we identified common themes that relate to dealing strategies, the impact on professional life, and psychological oppression.

The literature contains a substantial number of studies that explore the psychological effects of these phenomena, particularly in the context of professional life. Investigating psychological influences is crucial for enhancing the mental well-being of pharmacists and improving health outcomes. In a study, as many as 35% of pharmacists have reported experiencing

psychological disturbances (Lange *et al.*, 2020). The results of a survey revealed that the fear of catching the virus and transmitting it to others (78%) and psychological effects such as stress, anxiety, and depression (76%) were among the main concerns. (Bhamra, Parmar, Heinrich, 2021) As frontline healthcare workers, pharmacists have experienced a significant increase in their workload during the COVID-19 pandemic. This has led to an increase in stress, strain, and frustration felt by pharmacists, which can have a negative impact on their mental health and well-being (Elbeddini *et al.*, 2020). Yel (2022) found that pharmacists experienced significant levels of stress and fatigue, and had concerns about contracting COVID-19 due to the need for continuous service provision. In a study, 44.8% of pharmacists experienced depression, 53.2% experienced anxiety, and 25.4% experienced stress (AlKudsi *et al.*, 2022). According to a study conducted by Jovičić-Bata *et al.* (2021), 68.9% of pharmacists expressed concerns about their own health and the health of their families. According to a study, the majority of respondents reported experiencing increased levels of stress and anxiety during the pandemic (Hedima *et al.*, 2022).

According to a questionnaire-based study conducted by Koster, Philbert and Bouvy (2021), 44.2% of pharmacists reported that they performed the majority of their drug evaluations via telephone. In a study conducted in Saudi Arabia, changes in pharmacy workflow were reported, which included a significant rise in the utilization of telehealth services and telephone calls for patient care, rather than face-to-face visits to the clinic (Thorakkattil *et al.*, 2021). Weir *et al.* (2022) conducted a study which found that the COVID-19 pandemic had a significant impact on the daily activities of pharmacists, with a decrease in face-to-face interactions with patients and an increase in telephone calls. Likewise, our study revealed a theme of distance communication, wherein it was observed that the majority of patient communication occurred over the telephone.

In a study conducted by Hatem *et al.* (2023), it was found that most of the respondents (95.8%) experienced a shortage of medicines during the pandemic. Cadogan and Hughes (2021) observed that pharmacists have a critical role in maintaining the balance between supply and demand. A survey involving 206 pharmacists

from England, Northern Ireland, Scotland, and Wales was conducted to assess the impact of the COVID-19 pandemic on community pharmacists in England. The study found that 99% of pharmacists experienced drug shortages, with 38% reporting mild shortages and 26% reporting severe shortages. Furthermore, 26% of the respondents reported that the severe drug shortages caused disruption beyond over-the-counter medicines (Zaidi, Hasan, 2021). A study was conducted to investigate the impact of the COVID-19 pandemic on the working conditions of community pharmacists in Vojvodina. The results revealed that a significant majority (90.8%) of pharmacists experienced an increased workload due to the pandemic, primarily driven by the heightened demand for safety equipment, antiseptics, disinfectants, dietary products and medicines (Jovičić-Bata *et al.*, 2021). In a study conducted in Malaysia, in addition to their usual responsibilities, pharmacists were also involved in supplying personal protective equipment and providing medicines that required special approval from the Ministry of Health (Thong *et al.*, 2021). Another study conducted to investigate the knowledge, attitudes, and practices of hospital pharmacists in Lebanon towards the COVID-19 pandemic revealed that pharmacists were concerned about their own health and that of their families due to the risks of being affected by the pandemic. The study found that pharmacists reported negative impacts of the pandemic on their professional duties as well as their family and staff relationships. Additionally, pharmacists reported experiencing shortages of supplies such as masks, gloves, and hand sanitizers (Zeenny *et al.*, 2020). In our study, hospital pharmacists frequently cited the challenge of product unavailability as a significant professional difficulty.

In the study by Hatem *et al.* (2023), it was found that the majority of participants (71.7%) reported an increase in income during the pandemic, while 60% reported a decrease in working hours. Conversely, the results defining the theme of economic distress in our study indicate a decline in the income of community pharmacists.

The management of COVID-19 patients in hospitals, after discharge, or as outpatients is a complex process that requires a multidisciplinary team of specialists, including pharmacists. As patients and doctors turn to virtual

telehealth visits, pharmacies remain open and provide face-to-face access to a critical frontline healthcare provider, the pharmacist. This is particularly important in the context of COVID-19, where pharmacists can play a vital role in helping patients manage their symptoms, providing advice on medication use and interactions, and ensuring continuity of care (Goff *et al.*, 2020). Our study found that community pharmacists reported the accessibility of the pharmacy as a significant professional challenge.

Perceptions between hospital pharmacists and community pharmacists may differ due to various factors, including working conditions, service delivery processes, and professional expectations. In Turkey, hospital pharmacists are professionals who work in hospital settings and are not directly involved in patient care. They closely collaborate with doctors, nurses, and other healthcare professionals (Kara, Demirkan, Ünal, 2020). On the other hand, community pharmacists work in pharmacies, where they dispense both prescription and non-prescription medicines and provide counseling services. Unlike hospital pharmacists, they serve a more diverse patient population and encounter a broader range of health conditions (Toklu *et al.*, 2010). These differences in perception between hospital and community pharmacists can stem from their distinct patient interactions, the scope of their responsibilities, and their individual professional experiences. However, it's essential to note that these differences are subjective and may vary between individuals based on their unique experiences and perspectives rather than being universal generalizations. So, in our study, the shift system as a common code was identified in both work areas. However, other codes differed significantly due to the distinct nature of the two work areas.

## CONCLUSION

The study examined the effects of COVID-19 on the professional and personal lives of Turkish community and hospital pharmacists. In addition to the psychological impacts and supply chain issues commonly mentioned in the literature, the study revealed ongoing effects such as the inability to sell available products and economic difficulties. Also, the increased demand for over-the-

counter (OTC) products during the pandemic highlights the need for the government to develop policies to address this issue. Furthermore, considering the findings, it is imperative to investigate the extent to which pharmacists in direct contact with patients during the pandemic receive training on this crucial aspect of their profession prior to graduation.

## Limitations

This study exhibits several limitations that need to be acknowledged. First and foremost, the limited number of participants in this research restricts the generalizability of the reported findings. Additionally, as participants self-reported their experiences, there is a possibility of overrepresentation of certain findings and potential bias in the data. Furthermore, due to the qualitative nature of the study, it becomes challenging to ascribe definitive significance or importance to specific findings. However, it is essential to note that the study was deliberately designed to capture a diverse range of experiences and perspectives of community and hospital pharmacists in one city in Turkey. For future studies, it is highly recommended to conduct further research to delve into the relative significance of the experiences and viewpoints highlighted in this study. By doing so, a more nuanced understanding of the subject matter can be attained.

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## DECLARATION OF COMPETING INTEREST

The authors declare no conflicts of interest.

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