

DOI: <https://doi.org/10.56936/18290825-1.v19.2025-68>**CONSUMER BEHAVIOR IN ACUTE DIARRHEA TREATMENT:  
ANALYZING TRUST IN PHARMACY EMPLOYEES****NAZARYAN L.G\*, BARSEGHYAN A.B, SIMONYAN M.H.**

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*Received 05.11.2024; Accepted for printing 11.02.2025***ABSTRACT**

*Pharmacy employees play a critical role in managing minor ailments, including acute diarrhea and they are essential to ensuring the safe use of medicines and contribute significantly to public health education.*

*The study aim is to evaluate the role of pharmacy employees in managing minor ailment, with a specific focus on acute diarrhea. The study also explored consumer behavior in seeking treatment for diarrhea, the extent of reliance on pharmacy employees for advice, and the factors influencing consumer trust in community pharmacy services.*

*A survey was conducted between 2019 and the first trimester of 2021, involving 383 pharmacy consumers from various regions of Republic of Armenia, including Yerevan. The study was quantitative and the questionnaire developed based on the World Health Organization's standard guidelines. Data were analyzed using the SPSS statistical software package, employing descriptive statistics and Pearson's correlation coefficient to examine relationships between characteristics.*

*The results of research indicated that a considerable proportion of respondents had doctor-diagnosed health disease, while others reported no such diagnoses despite believing they had various diseases. Frequent community pharmacy visits were common, with a significant number of respondents purchasing medicines multiple times per month. Acute diarrhea and gastrointestinal disorders emerged as some of the most commonly self-managed conditions, often without specialist consultation. Only a small percent of consumers sought advice from pharmacy employees during case of diarrhea, with many relying instead on previous experience or non-professional sources.*

*The study highlighted general reluctance to seek professional advice from pharmacy employees, largely due to mistrust and past negative experiences. This behavior can result in irrational treatment, delayed medical intervention, and the misuse of medicines, particularly antibiotics. The findings underscore the need for enhanced public education and stronger engagement between community pharmacy employees and consumers to promote safer and more informed use of medicines.*

**KEYWORDS:** *pharmacy employee, acute diarrhea, pharmacy consumer, trust***INTRODUCTION**

As the most accessible healthcare professionals, pharmacy employees have significant potential to provide primary healthcare services. The

role of pharmaceutical consultation is becoming increasingly important, especially with the growing prevalence of self-medication, where the phar-

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macy employee often becomes the main healthcare consultant for the patient [Loh, P. et al., 2023].

Diarrhea is one of the most common reasons for visiting a pharmacy, as many patients seek relief through over-the-counter medicines. To ensure optimal patient care and promote the rational use of drugs, it is crucial that pharmacy employees possess the necessary professional knowledge [Sancar M et al., 2015; Watson M et al, 2020]. One of the key responsibilities of pharmaceutical care is to provide consumers with the necessary advice regarding medicines. Within the pharmacist-patient professional framework, pharmacy employees are expected to deliver pharmaceutical care that is grounded in care, trust, communication, collaboration, and shared decision-making [FIP/WHO, 2012].

Many developed countries, such as the United Kingdom, Canada, New Zealand, have successfully integrated pharmacists into various public health programs, including the provision of treatment and counseling for managing minor illnesses [Aly M et al., 2017; Dineen-Griffin S et al., 2020]. In contrast, in developing countries like Armenia, the role of pharmacy employees remains largely confined to the traditional function of dispensing medicines, with public health services rarely being provided. Literature from several countries indicates that many patients are more likely to seek advice from pharmacy employees than from doctors. The primary reasons for this preference are the greater availability of pharmacy services in terms of time and financial affordability, as well as the convenience of local access [Berenbrok L et al., 2020; Berenbrok L et al., 2022; Valliant S et al., 2022]. Studies conducted in various countries suggest that consumers are even willing to pay for pharmacist consultations in the future, underscoring the invaluable role of pharmacy employees in ensuring the safe and effective use of medicines [Lakić D et al., 2017; AlShayban DM et al., 2020]. In this context, pharmacy employees are seen as key qualified professionals who educate consumers on proper medication use, thereby managing the self-medication process [Veiga P et al., 2021].

Acute diarrhea is a common condition in the Republic of Armenia, and in some cases, it can be

effectively managed with the advice of a pharmacy employee. It is critical to assess whether pharmacy staff are adequately prepared to manage such cases. Pharmacists play a vital role in treating acute diarrhea and providing appropriate counseling, particularly in developing countries where resources are limited, and patients often prefer free medical consultations and obtaining medicines without visiting a doctor.

Raising public awareness that minor illnesses can be effectively managed in pharmacies with over-the-counter drugs and proper counseling is essential, as is increasing consumer confidence in pharmacy employees [Aly M et al., 2017; Tew M et al., 2023]. Properly managed pharmacy care is emphasized and even encouraged for some minor illnesses, as it can lead to optimal resource use, reduced healthcare costs, increased patient empowerment, greater consumer satisfaction, and overall improved healthcare outcomes.

In some countries, the management of minor illnesses by pharmacy staff is included in government policies, enhancing access to primary care, reducing the demand on general practitioners and emergency services for minor conditions [Paudyal V et al., 2018; Dineen-Griffin S et al., 2020; Tew M et al., 2023]. These programs enable pharmacy staff to provide basic primary care services in a structured manner, offering necessary counseling, treatment, or referral to a physician when needed. This approach increases access to health services, promotes rational workforce utilization, and places a strong emphasis on self-medication [Dineen-Griffin S et al., 2020]. Therefore, in resource-limited settings, the management of minor illnesses by pharmacy staff is considered valuable and has the potential to reduce primary care costs [Yusuff KB et al., 2021; Nazaryan L et al., 2024].

The aim of this study is to evaluate the role of pharmacy employees in managing minor ailment, with a specific focus on acute diarrhea. The study also explored consumer behavior in seeking treatment for diarrhea, the extent of reliance on pharmacy employees for advice, and the factors influencing consumer trust in community pharmacy services.

## MATERIAL AND METHODS

From 2019 through the first trimester of 2021, the Department of Pharmaceutical Management at YSMU conducted a comprehensive survey aimed at understanding consumer behavior related to the treatment of minor ailments, particularly acute diarrhea, in the Republic of Armenia. The survey explored key areas including medicine selection, consumer satisfaction and the role of community pharmacy employees in guiding treatment choices.

The study involved 383 pharmacy consumers across various regions of the Republic of Armenia, including Yerevan. The sample size was determined using The Survey System Version 11.0, with parameters set for a reliability coefficient of  $t=1.96$ , the first type error is with 5% probability ( $\alpha = 0, 05$ ) and the evaluation accuracy is 3% ( $\Delta = 3\%$ ). We considered the worst case scenario -  $P = 0.5$ , since the results of similar studies conducted in the Republic of Armenia were not found. The questionnaires were based on standard WHO survey instruments and adapted to address the specific context of the Armenian health-care system [WHO, 2006].

Given the breadth of the survey, four distinct questionnaires were developed—Pharm Test A, Pharm Test B, Pharm Test C, and Pharm Test D—each focusing on different aspects of consumer behavior and community pharmacy interaction [Avagyan et al., 2019]. These questionnaires were approved by the YSMU Ethics Committee and were administered during consumer visits to pharmacies across the Republic of Armenia.

The survey focused on several key areas:

- Consumer demographics, including age, education level place of residence
- Presence of medically diagnosed health conditions and frequency of community pharmacy visits
- Sources of advice consulted for treating diarrhea and other minor ailments
- The role of community pharmacy employees in providing advice and recommendations for treatment
- Reasons for consumer trust or distrust in community pharmacy employees, particularly in relation to medicine purchases

The data collected were analyzed using the SPSS

statistical software package (version 23.0). Descriptive statistics (frequencies and percentages) were used to summarize consumer characteristics and behaviors. Pearson's correlation coefficient was applied to assess relationships between characteristics.

## RESULTS

The study involved the participation of 383 pharmacy consumers. Their characteristics are summarized in Table 1. The majority of participants were in the 51 to 60 age group, with the lowest level of involvement of those aged 18 to 29. Among the participants, 58% were from the capital and 42% were from rural areas. The majority of participants (38.7%) held postgraduate degrees.

The survey revealed that 45% of participants had various health problems diagnosed by a physician, including cardiovascular problems, gastrointestinal disorders, nervous system problems, endocrine disorders, oncological diseases.

Among the respondents, 55% reported not having any health problems diagnosed by a physician. However, some of these individuals believed they had various diseases. Additionally, 28% of respondents reported making purchases at the community pharmacy three or more times in the last month, 25%

**TABLE 1**  
Demographics of pharmacy consumers (N = 383)

Variable	Groups	Frequency (%)
Age (years) (N = 383)	18–29	63 (16.4)
	30–40	70 (18.3)
	41–50	76 (19.8)
	51–60	91 (23.7)
	>61	83 (21.6)
Level of education (N = 383)	None	0
	High school	84 (22%)
	Postgraduate degree	148 (38.7%)
	Undergraduate degree	151 (39.3%)
Place of Residence (N = 383)	Central city	222 (58%)
	Rural areas	161 (42%)

**NOTES:** Response rate = 100%, N- The number of respondents completing the item



shopped twice, and 28% shopped once (Fig. 1).

In the course of the work, the most frequently self-medicated conditions were identified, where patients often relied on the advice of a pharmacy employee. The most common conditions were acute respiratory disorders of the upper respiratory tract, which accounted for 30.7% of cases, gastrointestinal disorders, including diarrhea, constipation, heartburn, and flatulence, were the second most common at 26.5%. Pain symptoms (21.8%) and various nervous system problems (21.1%) were next commonly self-medicated.

The survey revealed that most consumers use medicines in case of diarrhea independently, without any consultation, 19% use medicines according to the pharmacy employee consultation, 11% apply to hospital physician, 10% apply to primary care physician, 4% use internet resources and only 1% use advertising source. In fact, it turns out that when it is required to take a medicine in case of acute diarrhea, most consumers resort not to the pharmacy employee but decide what medicines must be taken by themselves, so they use self-medication. And this fact indicates that the self-medication process is not controlled, as only direct consultation with community pharmacists provides efficient professional guidance for safe and appropriate OTC use. It turns out that more than half (55%) of participants use medicines without specialist consultation.

The study found that 59.8% of consumers never agree to buy drugs on the advice of a pharmacy em-

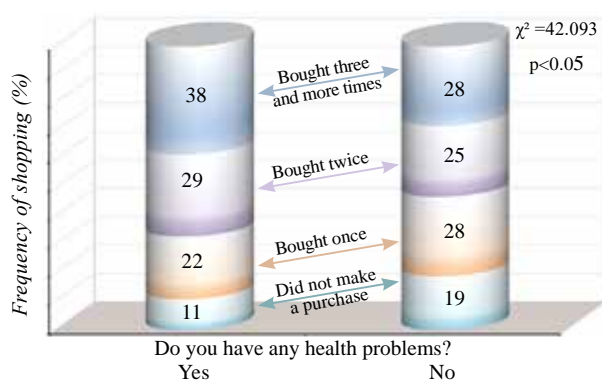
ployees and the main reasons for such behavior for consumers were: their previous unsuccessful experience (37.8%), not trusting the pharmacy employee (30.6%), the pharmacological group of the recommended drug (15.3%), the price of the drug (16.3%)

## DISCUSSION

The management of minor ailments, particularly symptoms like acute diarrhea, is greatly influenced by consumer behavior and their interactions with pharmacy services. Interestingly, while 55% of participants did not report having doctor-diagnosed health problems, many believed they were suffering from various diseases. This perception, combined with frequent community pharmacy visits (with 28% shopping three or more times a month), suggests a tendency towards self-diagnosis and self-management of health problems. This behavior can have serious consequences, as consumers may misinterpret symptoms, leading to irrational treatment or delays in seeking necessary medical intervention. Pharmacy employees play an important role in this scenario. Given the high frequency of consumer interaction with community pharmacies, these employees are in a unique position to guide consumers effectively. It is imperative that pharmacy employees engage with consumers to clarify their health concerns through targeted questions about their problem, provide appropriate advice, and, importantly, refer them to a doctor when necessary. This approach can help mitigate the risks associated with self-diagnosis and ensure that consumers receive the professional care about need.

The study identified the most frequently self-managed diseases, with gastrointestinal disorders, including diarrhea, being the second most common, following acute respiratory disorders of the upper respiratory tract. During diarrhea symptoms, a significant percent of respondents admitted that they independently decide what medicine to take, relying on their previous experience and only 9.7% consulted hospital doctors, even fewer relied on the internet or advertising as information sources. Notably, only 16.8% of consumers sought advice from a pharmacy employee when experiencing diarrhea symptoms.

It is important to note that gastrointestinal disorders, including diarrhea, are classified as minor ailment for which the WHO encourages self-man-



**FIGURE 1.** Relationship between consumers having health problems and frequency of shopping at a pharmacy (N=383)

agement if done under the advice and supervision of a pharmacy employee. However, the majority of respondents use medicines without consulting a specialist, often relying on non-specialist sources during diarrhea symptoms. This is concerning because it can lead to complications, delayed detection of serious conditions requiring immediate medical intervention, irrational drug pairings, and other health risks. A lack of consultation with community pharmacy employees can also contribute to the overuse and misuse of antibiotics, a problem observed in many other studies. Research in other countries has shown that consumers often have misconceptions about antibiotic use, believing that antibiotics should be initiated as soon as possible during acute diarrheal symptoms, without understanding that antibiotics should be avoided or discontinued if a viral infection is confirmed [Leelakanok N et al., 2021].

To make the research more comprehensive, we also examined the reasons why consumers choose to manage their health problem without consulting a pharmacy employee. It was found that 59.8% of consumers never agree to purchase medicines based on the advice of a pharmacy employee. The primary reasons for this behavior were previous negative experiences and a lack of trust in community pharmacy employees. As a result, there is irrational drug use among pharmacy consumers, leading to various health problems.

There is a weak pharmacist-consumer relationship, characterized by mistrust and misconceptions about the pharmacist's role. Improving pharmaceutical care and enhancing consumer education in managing acute diarrhea symptoms can prevent unnecessary and irrational drug use, unwanted combinations, overdosing, and other risks.

Pharmacy employees need to be actively involved in public education to disseminate reliable, authoritative information and guide rational decision-making during diarrhea symptoms. The effectiveness of public education efforts depends heavily on public trust in community pharmacy

employees. It is crucial to elevate the role of pharmacy employees in managing minor ailments. The study's results also confirm the need for a reliable, professional, publicly accessible source of information that enables them to manage their treatment process effectively, even when they cannot wait in long queues at the community pharmacy. Such an information system would empower consumers to be more informed and involved in their healthcare decisions about minor ailments.

### CONCLUSION

This study provides valuable insights into the behaviors and attitudes of pharmacy consumers, particularly in the context of managing minor ailment such as acute diarrhea. The findings highlight a significant reliance on self-management and a general reluctance to seek professional advice from community pharmacy employees, driven by factors such as mistrust and past negative experiences. Despite the critical role that community pharmacy staff can play in guiding appropriate treatment, a large proportion of consumers continue to rely on non-professional sources or their own judgment, which can lead to irrational or delayed treatment. The study underscores the need for enhanced public education and stronger engagement between community pharmacy employees (pharmacist/pharmacy technician) and consumers. By improving the level of trust and communication, community pharmacies can become more effective partners in health management, ensuring safer and more informed use of medicines. Additionally, the development of accessible, reliable information source could support consumers in making better health decisions, particularly when direct access to healthcare professionals is limited.

Overall, this research calls for a concerted effort to bridge the gap between consumers and community pharmacy professionals, thereby improving health outcomes and promoting rational drug use in the management of minor ailments.

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