

Evaluation of Patients' Willingness to Use and Pay for Pharmaceutical Care Services in Türkiye

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SUMMARY

Pharmacists' consultancy roles, covering many essential tasks such as preventing diseases, monitoring medication, and increasing patient compliance, significantly improve healthcare. Patients' views on pharmaceutical care services should be evaluated to improve these services. Thus, the main objective of this study is to assess patients' willingness to use and pay for pharmacy services provided in community pharmacies. A measurement tool was developed according to relevant literature, including 24 statements, and applied to the patients in Van, Türkiye. Obtained data (n=445) were first subjected to descriptive statistical analysis, and then the exploratory factor analysis (EFA) was applied. Lastly, independent samples t-test and ANOVA tests were conducted using factor scores to test the hypotheses. As a result of the EFA, a three-factor solution was obtained. The factors were labeled as advanced pharmacy services, core pharmacy services, and providing information for usage. Cronbach's Alpha values of the factors are 0.859, 0.883, and 0.691, respectively. It was determined that the participants were more willing to benefit from the services discussed under the core pharmacy services factor. These services were followed by the services in the factors of providing information for usage and advanced pharmacy services. Contrary to this situation, it is seen that the participants are more willing to pay for the services included in the advanced pharmacy services. This paper has put forth that patients were generally willing to use pharmaceutical services but not willing to pay for them.

Key Words: Community Pharmacist, Patient, Pharmaceutical care, Willingness to Pay.

Türkiye'de Hastaların Farmasötik Bakım Hizmetlerini Kullanma ve Ödeme Yapma Gönüllülüklerinin Değerlendirilmesi

ÖZ

Eczacıların hastalıkları önleme, ilaç takibi, hasta uyumunu artırma gibi birçok temel görevi kapsayan danışmanlık rolleri, sağlık hizmetlerini önemli ölçüde geliştirmektedir. Bu hizmetlerin iyileştirilmesi için hastaların farmasötik bakım hizmetlerine yönelik görüşleri ele alınmalıdır. Bu nedenle, bu çalışmanın temel amacı hastaların serbest eczanelerde sunulan farmasötik bakım hizmetlerini kullanma ve bu hizmetlere ödeme yapma gönüllülüklerini değerlendirmektir. İlgili literatüre uygun olarak 24 ifadeyi içeren bir ölçüm aracı geliştirilmiş ve Van'daki hastalara uygulanmıştır. Elde edilen veriler (n=445) öncelikle betimsel istatistiksel analize tabi tutulmuş, daha sonra açıklayıcı faktör analizi (EFA) uygulanmıştır. Son olarak hipotezleri test etmek amacıyla faktör skorları kullanılarak bağımsız örneklem t testi ve ANOVA testleri yapılmıştır. AFA sonucunda üç faktörlü bir çözüm elde edilmiştir. Faktörler ileri eczane hizmetleri, temel eczane hizmetleri ve kullanım ile ilgili bilgi verme olarak adlandırılmıştır. Faktörlerin Cronbach Alfa değerleri 0,859, 0,883 ve 0,691'dir. Katılımcıların temel eczane hizmetleri faktörü altında ele alınan hizmetlerden yararlanmaya daha gönüllü oldukları tespit edilmiştir, Bu hizmetleri kullanım ile ilgili bilgi verme ve ileri eczane hizmetleri faktörlerindeki hizmetler izlemiştir. Bu durumun aksine katılımcıların ileri eczane hizmetleri kapsamındaki hizmetler için ödeme yapmaya daha gönüllü oldukları görülmüştür. Bu makale, hastaların genel olarak farmasötik hizmetlerini kullanmaya gönüllü olduklarını ancak bu hizmetler için ödeme yapmaya gönüllü olmadıklarını ortaya koymuştur.

Anahtar Kelimeler: Serbest eczacı, Hasta, Farmasötik Bakım, Ödeme Gönüllülüğü

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INTRODUCTION

Pharmacists' consultancy roles, covering many essential tasks such as preventing diseases, monitoring medication, and increasing patient compliance, significantly improve healthcare. In this context, community pharmacists are described as the closest and most accessible healthcare professionals. Pharmacists are responsible for ensuring that patients receive the information they need about the drug treatment to ensure rational drug usage (Berger, 2009). This responsibility is also emphasized in many national and international legal regulations. Sancar et al. (2013) stated that most community pharmacists (97.3%) want to provide pharmaceutical care services, and 83.5% of them think that this service is one of the duties of pharmacists. Tecen-Yucel et al. (2023) found that pharmacists have positive attitudes toward providing pharmaceutical care; in contrast, they do not very intend to provide these services. From a different point of view, there are some studies evaluating pharmaceutical care services on patients' health status in Türkiye. The results of these studies put forth that pharmacist consultancy has a positive effect on patient outcomes (Pehlivanli et al., 2021; Ayhan and Sancar, 2023).

On the other hand, patients' attitudes, views, and willingness for pharmaceutical care services should be evaluated to improve these services. In the literature, some studies investigate pharmaceutical care services from the patients' perspectives for different chronic diseases. Brown et al. (2017) revealed that patients are most willing to benefit from "how to use prescribed drugs" and "to provide more appropriate generic drug" services. Waszyk-Nowaczyk et al. (2023) evaluated diabetic patients' needs and opinions on implementing pharmaceutical care services. They put forth that patients are especially willing to use 'new drug' services, including getting information for newly prescribed medicines and medication reviews by pharmacists. According to Jaber et al. (2019), most participants exhibited a positive attitude toward pharmaceutical care services in Jordan, and 96% be-

lieved pharmacists should be more committed to the consulting role. Gül et al. (2023) evaluated patient satisfaction with services provided in community pharmacies in Türkiye and put forth that patients' satisfaction levels were above medium.

Hill and Dowse (2007) stated reimbursement and compensation as the most critical barriers to providing pharmaceutical care services by pharmacists. Thus, evaluating individuals' willingness to pay for these services is another critical issue. Willingness to pay (WTP) is the maximum amount of money individuals can contribute to compensate for a change in benefits or receive extra services or treatment (Suh, 2000). Payment volunteerism or willingness to pay is essential in evaluating health benefits and medication programs. Measuring WTP for medicines and pharmaceutical services can be assessed by asking individuals how much they will be willing to pay for products or certain health services (Soodi et al., 2023). The American Pharmaceutical Association National Survey (1983) states that between 13% and 57% of individuals are willing to pay, depending on the pharmacy's service types. Gore and Madhavan (1994) found that patients are more willing to pay for pharmacists' prescription advice than for over-the-counter (OTC) drug consultancy. Still, the general tendency to pay is not very favorable. According to Larson (2000), 56% of consumers were willing to pay for pharmaceutical care, and \$50 was considered reasonable for a one-time consultation, first visit, and 1-year follow-up. Additionally, AlShayban et al. (2020) stated that individuals' level of satisfaction with the services they received from the pharmacy was directly proportional to their willingness to pay.

Pharmaceutical care services are still in their infancy in some developing countries. Türkiye is one of them, and pharmacists' consultation services are being provided free of charge. Although there is an increasing trend in providing pharmaceutical care services, studies in this area are limited. In this regard, this study's motivation comes from conducting a study that considers the willingness to benefit from

and pay for pharmacy services to fill the literature gap. To the best of the authors' knowledge, this is the first study that comprehensively investigates the mentioned issues in Türkiye.

MATERIAL AND METHODS

Measurement tool

This study aims to evaluate patients' willingness to use and pay for pharmacy services. For this aim, a measurement tool was developed according to relevant literature.

The measurement tool includes six demographic questions and 24 expressions prepared with a 4-point Likert scale (1-lowest, 4-highest) in Turkish to evaluate patients' willingness to use pharmaceutical care services. Patients are also asked whether they are willing to pay for these services. The statements in the questionnaire were prepared by the research team based on the relevant literature (Suh, 2000; Sancar et al., 2013; Brown et al., 2017).

Sample size and data collection

This study's population consists of individuals between 18-65 who apply to community pharmacies at least once a year in Van, Türkiye. It was impossible to determine the number of units in the main population. The minimum sample size was calculated as 385; on 0.05 significance level, $z = 1.96$, d (sensitivity)= 0.05, and p and q values being 0.5. To increase the reliability, it was tried to reach the maximum number of individuals that could be reached.

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of Van-Bitlis-Hakkari Chamber of Pharmacists. In line with the World Medical Association Declaration of Helsinki, Ethical Principles for Medical Research on Human Volunteers, researchers administered questionnaires face-to-face between 15.03.2020 and 15.06.2020. After getting informed consent from patients, the questionnaire was applied at randomly selected ten community pharmacies in the city center of Van.

The hypothesis of the study

H₁: Gender affects patients' willingness to use the services offered in pharmacies.

H₂: Age affects patients' willingness to use the services offered in pharmacies.

H₃: Education level affects patients' willingness to use the services offered in pharmacies.

H₄: Income affects patients' willingness to use the services offered in pharmacies.

H₅: Having a chronic disease affects patients' willingness to use the services offered in pharmacies.

Data analysis

The data obtained were first subjected to descriptive statistical analysis with the IBM SPSS Statistics 22.0 package program, and then the exploratory factor analysis (EFA) was applied. Lastly, independent samples *t*-test and ANOVA tests were conducted using factor scores to test the hypothesis.

RESULTS AND DISCUSSION

In this study, data was obtained from 445 individuals. The demographic characteristics of the participants are given in Table 1.

Table 1. Characteristics of the participants

Characteristics of the participants	Frequency (%)
<i>Gender</i>	
Female	62.50
Male	37.50
<i>Age</i>	
<25	36.00
25-50	57.50
>50	6.50
<i>Education level</i>	
Primary school	6.70
High school	24.50
Undergraduate	60.20
Graduate	8.50
<i>Income</i>	
<2500 TL	58.20
2500-5000 TL	30.60
>5000 TL	11.20
<i>Having a chronic disease</i>	
Yes	15.30
No	84.70

The mean and standard deviation values of patients' responses to the statements to evaluate their willingness to use the services offered in the pharmacy

are presented in Table 2. In addition, the study evaluated whether the patients were willing to pay for these services, and obtained data are also given in Table 2.

Table 2. Frequencies of patients' willingness to pay for services provided by pharmacists

Services provided from pharmacies	Mean	Std deviation	Willingness to pay	
			Yes	No
Evaluation of the suitability of drugs	3.26	0.864	48	397
Evaluation of the efficacy of drugs	3.26	0.925	48	397
Evaluation of the safety of drugs	3.34	0.846	48	397
Evaluation of drug-drug interactions	3.21	0.871	45	400
Evaluation of drug-nutrient interactions	3.27	0.846	47	398
Evaluation of drug-related side effects	3.26	0.889	49	406
Informing about how to use my medical device	3.20	0.854	50	395
Informing about how to use my medicines	3.30	0.829	49	396
Providing solutions to complaints about the medicines I use	3.12	0.938	53	392
Informing about how to use medical supplies	2.97	0.865	53	392
Counseling for immunization	2.88	0.896	50	395
Counseling for nutritional supplements	3.01	0.905	55	390
Counseling for weight loss products	2.89	0.985	64	381
Counseling for smoking cessation	2.81	0.962	73	372
Counseling for mother-baby health	2.93	0.948	75	370
Counseling for cosmetics	2.95	0.989	84	361
Counseling for family planning	2.71	0.985	63	382
Counseling for alternative and traditional treatment methods	2.86	0.865	48	397

In light of the findings in Table 2, the participants generally want to benefit from the determined services. While the service the participants wanted to benefit from the most was drug safety evaluation, the least preferred service was the consultancy service for family planning. It is seen that the vast majority of patients are not willing to pay for the services provided. 18.9% of the participants stated that they might be willing to pay for counseling on cosmetics, followed by counseling on mother-baby health and smoking cessation, with 16.9% and 16.4%.

In the second step of the analysis, EFA was conducted using principal component analysis with Varimax rotation. Factors were created according to the

Kaiser criterion and the scree plot. Items were removed due to low factor loadings, which are under 0.50. As a result, a three-factor solution was obtained, which explained 57.3 % of the variance. The Kaiser-Meyer-Olkin (KMO) value was calculated as 0.904. The obtained factors were labeled as *advanced pharmacy services (APS)*, *core pharmacy services (CPS)*, and *providing information for usage (PIU)*; Cronbach's Alpha values of the factors are 0.859, 0.883, and 0.691, respectively. This value shows a high level of reliability of the factors according to the existing literature. The factor loadings of the obtained factors and the expressions in the factors are given in Table 3.

Table 3. Factors and factor loadings

Items	Factors		
	APS	CPS	PIU
Counseling for smoking cessation	0.737		
Counseling for cosmetics	0.736		
Counseling for weight loss products	0.732		
Counseling for family planning	0.723		
Counseling for mother-baby health	0.711		
Counseling for nutritional supplements	0.618		
Counseling for alternative and traditional treatment methods	0.518		
Counseling for immunization	0.486		
Evaluation of the suitability of drugs		0.824	
Evaluation of the efficacy of drugs		0.800	
Evaluation of the safety of drugs		0.770	
Evaluation of drug-drug interactions		0.765	
Evaluation of drug-nutrient interactions		0.690	
Evaluation of drug-related side effects		0.633	
Informing about how to use my medical device			0.767
Informing about how to use my medicines			0.713
Providing solutions to complaints about the medicines I use			0.537
Informing about how to use medical supplies			0.511

As a result of the EFA, six services were included under the CPS. The average response rates for these services varied between 3.21 and 3.34. As a result of the drug and disease monitor study conducted by community pharmacists on diabetes patients by Abduelkarem and Sackville (2008), it was revealed that this program increases the quality of service received

from pharmacies and the quality of life of the patient, reduces the drug treatment and diabetes complications of the patient. Accordingly, it has been observed that the patients are willing to use them. Furthermore, Adekunle et al. (2023) stated that nearly half of the patients were willing to accept medication management services provided in pharmacies.

According to Table 2 and Table 3, 4 services were evaluated under the *PIU*, and it was revealed that the participants were generally willing to benefit from these services. Parallel to Jaber et al. (2019), most participants were willing for the pharmacist to provide a pharmaceutical care service that could reduce medication-related problems. Addressing the issue specifically for patients using ACEIs, Sancar et al. (2011) revealed that individuals are willing to consult pharmacies to find solutions to their complaints about dry cough and get results. In another study, Adekunle et al. (2023) point out that patients were “definitely willing” to accept drug information (68.3%) from pharmacies. Similarly, Brown et al. (2017) revealed one of the services that patients are most willing to “provide services on how to use prescribed drugs.”

As a result of the EFA, eight services were considered under the *APS*, and it was revealed that the participants wanted to benefit from these services at least. Contrary to the findings of this study, Gore and Madhavan (1994) stated that patients are willing to benefit from the non-prescription product consultancy offered by pharmacists. Brewer et al. (2018) demonstrated that most patients are willing to be screened for HCV in community pharmacies and that pharmacists have the opportunity to address this. Einarson et al. (1988) found that the participants were positive about their cholesterol and potassium blood levels being monitored by pharmacists. Condino et al. (2015) showed that smoking cessation programs can be effectively implemented in community pharmacies in Portugal.

Lastly, independent samples *t*-tests and ANOVA tests were used to evaluate the effects of demographic characteristics on factor scores. As a result of the *t*-test, gender did not significantly affect the 95% confidence interval, while individuals with chronic diseases had a higher mean in all factors. In other words, individuals with chronic diseases were statistically more willing to benefit from pharmacy services. This study also compared the effects of age, education, and income levels on willingness to benefit from pharma-

cy services. A one-way ANOVA revealed a significant effect of age on *core pharmacy services*, $p < 0.05$. Tukey post hoc test showed that the patients under the age of 25 scored significantly less than those between the ages of 25-50 and over 50 years old ($p < 0.05$). So, with the increase in age, the willingness to benefit from services has also increased. There was no statistically significant difference between patients' educational levels ($p < 0.05$).

Moreover, a one-way ANOVA was performed to compare the effect of income levels on willingness to benefit from services. As a result, the two groups had a statistically significant difference in *advanced pharmacy services*. Tukey post hoc test revealed that patients with income under 2500 TL scored significantly higher than those between 2500-5000 TL ($p < 0.05$).

When the five main hypotheses discussed in this study are evaluated, it is seen that the first hypothesis of the study, “ H_1 : Gender affects patients' willingness to benefit from the services offered in pharmacies.” is rejected. The study determined that gender did not make a statistically significant difference across service groups. Contrary to this study, Brown et al. (2017) revealed that women accepted medication management services offered by pharmacists at a higher rate.

The study's second hypothesis discussed the effect of patients' ages on their willingness to benefit from pharmacy services. The study determined that age affected *CPS* but did not affect other services. It has been shown that increasing age increases the level of willingness in pharmaceutical consultancy services, and this result parallels Suh (2000). In contrast, Brown et al. (2017) stated that the desire to benefit from consultancy services decreases as age increases.

In the third hypothesis discussed in the study, the effect of education level was evaluated, and this hypothesis was rejected. Studies in the literature generally state that there is a relationship between education level and the desire to benefit from pharmacy services. Brown et al. (2017) revealed that individuals with lower education levels benefitted more from ser-

vices. According to the results obtained in the study of Ünal and Bilgener (2019), as the education level of patients increases, they benefit from services, and satisfaction with the quality of care increases. Nielsen et al. (2008) found in their study that more meaningful results were achieved in patients with a lower education level than in patients with a higher education level.

As Cheng et al. (2013) mentioned, cultural differences, language barriers, low literacy, and low income can cause health disparities. Thus, in this study, factor scores were also evaluated to see the effect of income on the willingness to use pharmaceutical services. About the fourth hypothesis, which is that patients' income level affects their willingness to benefit from the services offered in pharmacies, it has been determined that income levels make a difference only in APS. In parallel with Brown et al. (2017), this study determined that low-income individuals were more willing to use these services.

Following Fernandez-Lazaro et al. (2019), managing their conditions is vital for patients with chronic diseases to improve their health outcomes. Therefore, to see the difference between patients with chronic disease and others, the fifth hypothesis of the study was conducted. This hypothesis was accepted, and individuals with chronic diseases were found to be more willing to use pharmacy services as expected.

CONCLUSION

Within the scope of this study, the services offered by pharmacists in community pharmacies in Türkiye and the willingness of patients to use and pay for these services are discussed. In the study, services provided by community pharmacists were evaluated under three primary structures: *advanced pharmacy services*, *core pharmacy services*, and *providing information for usage*. As a result of the study, it was revealed that the participants were generally willing to benefit from the determined 24 services but not willing to pay for them. While the service the participants most wanted to benefit from was drug safety evaluation, the consultancy service for family planning was the least pre-

ferred one. When sorting as a service group, it is seen that the participants mostly want to benefit from CPS, followed by PIU and APS, respectively. In contrast, it is seen that the participants are more willing to pay for the services included in the APS.

From the research that has been carried out, it is possible to conclude that patients are willing to use pharmaceutical care services without any payment. This study is of great importance for developing pharmacy services in Türkiye. Additionally, demographic factors such as gender, age, income, and educational level were not found statistically effective on the factor scores. On the other hand, it is seen that patients with chronic diseases are more willing to use pharmaceutical services, so it can be said that focusing on some of the most common chronic diseases seems logical to improve these services. In this regard, the results of this study give essential clues for pharmacists and pharmacy policymakers to extend provided services in community pharmacies.

There are also several limitations in this study. The first limitation is about the data collection process. Since the survey conduction process coincided with the period when COVID-19 cases started to be seen in Türkiye and, therefore, there were many restrictions, the rate of conducting face-to-face surveys was lower than expected. However, since the study's sample size was above the required minimum, it did not negatively impact the analysis results. The second limitation of the study is that participants were only asked whether they would be willing to pay for services but not how much they would be willing to pay. So, future research will address how much they would be willing to pay for pharmaceutical care services.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest

AUTHOR CONTRIBUTION STATEMENT

Concept: MA; Design: ZA, MA; Data Collection or Processing: ZA; Analysis or Interpretation: MA; Literature Search: ZA, MA; Writing: ZA, MA.

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