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Over-the-Counter Medicine (OTC) Attitudes and Medication Adherence in Patients with Chronic Diseases: A Structural Equation Modelling Analysis

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ABSTRACT

This study aimed to evaluate over-the-counter medicine (OTC) use, OTC attitudes, and medication adherence (MA) in patients with chronic diseases. Data were collected from May to September 2023, and 276 patients with chronic diseases participated. OTC use, OTC attitudes, and MA were assessed using a questionnaire. One-way ANOVA was used to examine differences in OTC-related parameters and MA. The path analysis method was used to test "H1: OTC attitudes affect MA in patients with chronic diseases." A total of 52.2% of the participants used OTC. More positive OTC attitudes were associated with lower MA scores. The patients who disagreed with the statement "OTC have no side effects or negative effects" had 0.402 times less MA than those who were not sure (t=2.409; p=0.016). Even though the patients had negative attitudes toward OTC in general, they had an optimistic view of being encouraged to use OTC. The results of this study revealed that OTC use is common, and positive attitudes toward OTC decrease MA in patients with chronic diseases. However, patients with high MA are willing to support OTC use. Patients with chronic diseases may need information on OTC. Nurses and other healthcare professionals can take the potential OTC use of patients, drug-drug interactions, or drug-food interactions into account. According to the needs of patients, structured education programs can be implemented in care.

Keywords: Chronic disease, medication adherence, over-the-counter drugs, structural equation modeling

Kronik Hastalığı Olan Hastaların Reçetesiz İlaç (OTC) Kullanım Tutumları ve İlaç Uyumu: Bir Yapısal Eşitlik Modellemesi Analizi

ÖZ

Bu çalışmanın amacı, kronik hastalığı olan hastalarda reçetesiz ilaç (over-the-counter-OTC) kullanımını, OTC tutumlarını ve ilaç uyumunu değerlendirmektir. Çalışmaya kronik hastalığı olan 276 hasta katılmış olup, veriler Mayıs-Eylül 2023 tarihleri arasında toplanmıştır. Çalışmanın verileri OTC kullanımı, OTC tutumları ve ilaç uyumunu sorgulayan bir anket kullanılarak toplanmıştır. OTC ile ilgili ifadeler ve hastaların ilaç uyumu durumları arasındaki fark için tek yönlü ANOVA kullanılmıştır. "H1: Kronik hastalığı olan hastalarda OTC tutumları ilaç uyumunu etkiler" hipotezini test etmek için yol analizi yöntemi kullanılmıştır. Katılımcıların toplam %52,2'si OTC kullanmaktadır. Daha olumlu OTC tutumları daha düşük ilaç uyumu puanı ile ilişkilendirilmiştir. "OTC'nin hiçbir yan etkisi ya da olumsuz etkisi yoktur" ifadesine katılmayan hastalar, emin olmayanlara göre 0,402 kat daha az ilaç uyumuna sahipti (t=2,409; p=0,016). Hastalar genel olarak OTC'ye yönelik olumsuz tutumlara sahip olsalar da OTC kullanımının teşvik edilmesi konusunda iyimser bir görüşe sahiptirler. Bu çalışmanın sonuçları,

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OTC kullanımının yaygın olduğunu ve OTC'ye yönelik olumlu tutumların kronik hastalığı olan hastalarda ilaç uyumunu azalttığını ortaya koymuştur. Bununla birlikte, ilaç uyumu puanları yüksek olan hastalar OTC kullanımını desteklemeye isteklidir. Kronik hastalığı olan hastalar OTC hakkında bilgiye ihtiyaç duyabilir. Hemşireler ve diğer sağlık çalışanları, hastaların potansiyel OTC kullanımını, ilaç-ilaç etkileşimlerini veya ilaç-gıda etkileşimlerini dikkate alabilir. Hastaların ihtiyaçlarına göre, bakımda yapılandırılmış eğitim programları uygulanabilir.

Anahtar Kelimeler: Kronik hastalık, ilaç uyumu, reçetesiz ilaçlar, yapısal eşitlik modeli.

1 Introduction

Over-the-counter medications (OTC) are therapeutic products that can be self-administered for non-serious ailments without consulting a healthcare institution (Ozturk et al., 2019). OTC can be easily obtained from pharmacies for self-treatment. The correct use of OTC has various positive effects such as patient participation in healthcare, access to appropriate and fast treatment, shortened waiting times in health institutions, reduced costs in health services, and increased productivity among health workers (Tripković et al., 2018). However, using OTC is not always safe and beneficial for patients. The irresponsible use of OTC may cause risks such as drug addiction, poisoning, organ failure, and increased hospitalization durations and mortality rates (Niclós et al., 2018). In a study examining the prevalence of OTC use and risky practices, it was emphasized that almost all participants used OTC for reasons such as pain, fever, cough, and cold, and more than 80% of them engaged in risky consumption (Tesfamariam et al., 2019). In the same study, it was reported that education levels and knowledge of OTC were associated with risky OTC use, and individuals with low education levels were 15 times more vulnerable to risk.

Patients with chronic diseases tend to use OTC and prescription medications to relieve their illness or symptoms associated with their chronic condition (Alqifari et al., 2022; Kim et al., 2018). Adherence to long-term treatment is one of the important variables affecting the prognosis of a disease. In other words, medication adherence (MA) in patients with chronic diseases is an important health behavior for the treatment of their disease and the control of their symptoms (Altuntas at al., 2015; Kelly et al., 2014). The literature indicates that patients with high MA have higher quality of life and lower numbers of psychological complaints (Ágh et al., 2015). Low MA indicates worsened health outcomes and may exacerbate patient morbidity and mortality and negatively impact clinical research, the cost-effectiveness of medical care, and clinical decision-making by service providers (Piña et al., 2021). Understanding the attitudes of chronic patients toward OTC and their MA is an important part of healthcare. In the current literature, only limited knowledge has been reached on the OTC attitudes of adults (Sinuraya et al., 2023; El-Gamal et al., 2022; Dulęba et al., 2021). To the best of the study author knowledge, there is no documented study examining the OTC attitudes MA levels in patients with chronic diseases. In this context, this study aimed to examine the OTC use, OTC attitudes and MA in patients with chronic diseases. The following research questions were raised for this study:

- What are the attitudes of patient with chronic diseases on using OTC?
- Do OTC attitudes affect MA in patients with chronic diseases?

2 Methodology

2.1 Ethical Considerations

This study was approved by the Social Sciences and Humanities Ethics Committee of Yozgat Bozok University (Date:18/05/2023 - No: 03/10). The informed consent of the patients was obtained through the checkbox added before filling in the questionnaire. This study conformed with the ethical standards of the Declaration of Helsinki in 2013. Institutional permissions were obtained from the hospital where the study was conducted. The author took precautions to reduce the risk of bias. The data were collected by an interviewer trained in health sciences, and data analyses were performed by an independent statistician.

2.2 Design

This study was designed as a descriptive and cross-sectional study with structural equation modeling to examine the effects of OTC attitudes on MA in patients with chronic diseases. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist was used to report the study.

2.3 Hypothesis

"H_1: OTC attitudes affect MA in patients with chronic diseases" (Figure 1).
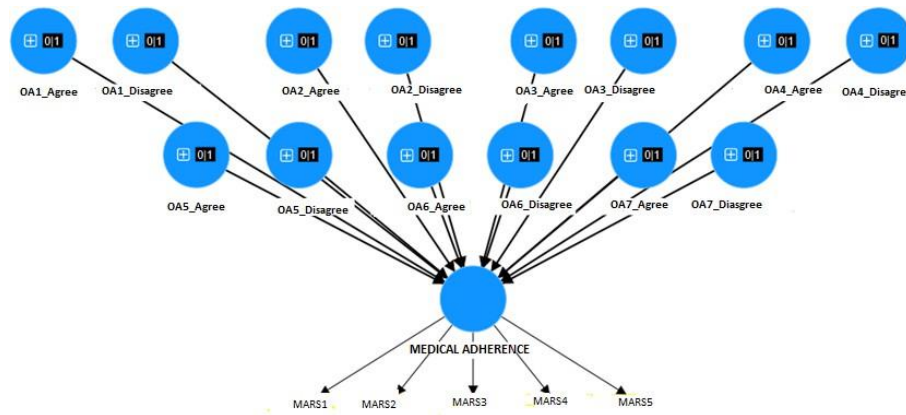

Figure 1: The hypotheses of the structural equation model

2.4 Sample

This cross-sectional study included individuals visiting the medical outpatient and inpatient clinics of a state hospital in Yozgat. The population consisted of patients (a) aged 18 years or older, (b) with at least one chronic disease, (c) without cognitive or communication disabilities, and (d) receiving inpatient or outpatient treatment. Among these patients, those who volunteered to be included in the study were included in the sample. The review of the relevant literature revealed that the number of participants needed to perform a Structural Equation Modeling (SEM) analysis should be in the range of 200-500 (Kline, 2015). Hence, more than 200 participants were targeted for inclusion in the study, and the sample was finalized when 276 responses to the questionnaire were completed.

2.5 Instruments

Within the scope of the study, an "individual descriptive characteristics form", an " OTC medication use questionnaire", and the "Medication Adherence Report Scale" (MARS) were used to collect data.

Individual Descriptive Characteristics Form: This form was created by reviewing the relevant literature, and it included 14 questions about age, gender, height, weight, marital status, educational status, income, chronic diseases, and OTC use (Abdullah et al., 2022; Algarni et al., 2021; Dulęba et al., 2021; Kim et al., 2018).

OTC Medication Use Questionnaire: A semi-structured questionnaire form was created based on the literature since there was no known reliable and validated scale measuring the OTC attitudes of patients. This questionnaire consisted of seven questions and aimed to evaluate the attitudes of patients with chronic diseases toward OTC use. Attitudes were measured using a three-point Likert-type scale with the following response options: agree, not sure, disagree.

Medication Adherence Report Scale: MARS was developed by Horne and Hankins (2001) to assess medication adherence in chronic diseases and was adapted to Turkish language by Temeloğlu Şen et al. (2019). The scale is composed of five items and has a 5-point Likert-type scoring system (5=never, 4=rarely, 3=sometimes, 2=often, and 1=very often). The total test score is obtained by summing the scores obtained in each item. Scores obtained from the scale vary between 5 and 25. High scores show high levels of medication adherence. The Cronbach's alpha value of the scale was found as 0.85 in this study.

2.6 Data Collection

The sample was selected using the convenience sampling method between May and September 2023. The data were collected in face-to-face interviews by a surveyor experienced in health sciences. Each patient took approximately 10–15 minutes to fill in the data collection tools.

2.7 Data Analysis

The IBM SPSS Version 23.0 and IBM AMOS Version 23.0 statistical programs were used to analyze the data. Normality tests were applied to reveal whether the data were normally distributed, and it was found that the data were normally distributed. Descriptive statistics including percentage, frequency, mean, and standard deviation values were calculated. One-way ANOVA was used to examine the differences in OTC attitudes and MARS scores. The threshold for statistical significance was set as 0.05. Lastly, the path analysis method was used to test "H1: OTC attitudes affect MA in patients with chronic diseases".

3 Results

The mean age of the patients was 57.60±13.31, and 53.6% of the patients were 58 years old or older. More than half of the patients were female (62.0%), and more than half of them had primary education degrees (52.9%). Among the patients, 23.9% were illiterate or did not have a formal degree despite being literate. The mean BMI value of the patients was 29.71±5.01, and 47.1% of them were in the overweight category according to their BMI values (Table 1).

Table 1: *The characteristics of the participants*

Variables	n	%	Variables	n	%
Age ($X\pm$SD)	57.60±13.31		**Number of daily medicines**		
58 below	128	46.4	5 and below	219	79.4
Age 58 and above	148	53.6	Above 5	57	20.6
Gender			**Regular health check-ups**		
Male	105	38.0	Yes	215	77.9
Female	171	62.0	No	61	22.1
Education status			**OTC usage**		
Not literacy	52	18.8	Yes	144	52.2
Literacy	14	5.1	No	132	47.8
Primary	146	52.9	**Conditions required OTC usage**		
Secondary	45	16.3	Headache	127	46.0
Bachelor and above	19	6.9	Stomachache	65	23.6
Marital status			Common cold	41	14.9
Married	248	89.9	Musculoskeletal pains	40	14.5
Single	28	10.1	Fever	22	8.0
Financial status			Oral and dental problems	22	8.0
Income less than expenses	46	16.7	Diarrhea	13	4.7
Income matches expenses	171	62.0	Digestive disorders	8	2.9
Income more than expenses	59	21.4	Skin disorders	8	2.9
BMI† ($X\pm$SS)	29.71±5.01		Other conditions§	7	2.2
Normal Weight	44	15.9	Constipation	5	1.8
Overweight	130	47.1	Respiratory disorders	2	0.7
1. degree obese	68	24.6	**Status of reading the instructions for use¶**		
2. degree obese	18	6.5	Completely	49	34.6
3.degree (morbid) obese	16	5.8	Partial	60	42.6
Chronic Disease			None	32	22.8
Hypertension	145	52.5	**OTC information source+**		
Diabetes Mellitus	123	44.6	Doctor	46	34.4
Asthma	38	13.8	Nurse	18	13.4
COPD	28	10.1	Pharmacist	36	26.9
Heart failure	28	10.1	Scientific articles	3	2.2
Kidney failure	18	6.5	Social media	6	4.4
Rheumatoid arthritis	52	18.8	Friends, relatives etc.	25	18.7
Other chronic diseases‡	151	54.7			

† BMI: Body mass index; ‡ Other chronic diseases: Lumber disc hernia, hypo or hyperthyroidism and etc.; § Other conditions: Urinary infections, sleep deprivation etc.; ¶: Only patients who use OTC was calculated.

Hypertension (52.5%) and diabetes mellitus (44.6%) were the most common chronic diseases among the patients. The majority of the patients (77.9%) stated that they attended regular health check-ups. It was found that 79.4% of the patients used five or fewer medications per day, and 52.2% stated that they used OTC. Headache, stomachache, the common cold, and musculoskeletal pains were the most common conditions for which the patients used OTC (Table 1). Only 34.6% of the patients who used OTC stated that they read the instructions for use, and 22.8% never read the instructions for use. The information sources of the patients about the use of these medications were doctors (34.4%), pharmacists (26.9%), and friends/relatives (18.7%). While analgesics (56.2%) were the most commonly used OTC, previous experience of the same disease (26.1%) and wanting a fast recovery (19.9%) were common reasons for using OTC (Figures 2 and 3).
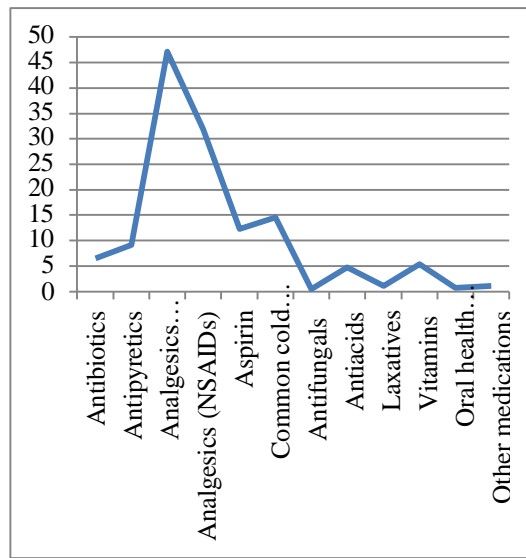

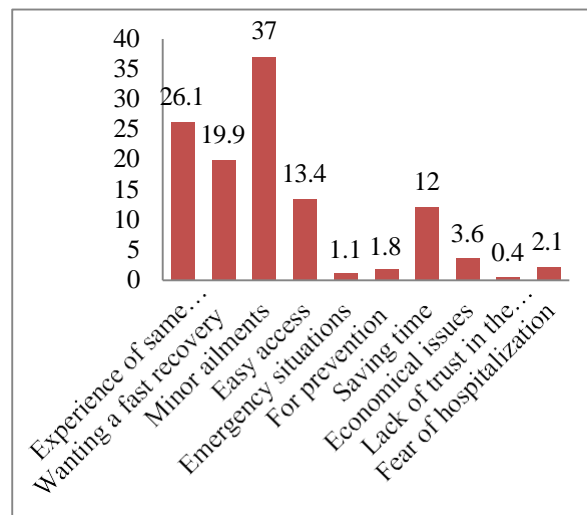**Figure 2:** Frequency of OTC medications

Figure 3: Reasons for using OTC

Table 2 presents the relationships between the OTC attitudes and MARS scores of the patients. As seen in Table 2, the MARS scores of the patients who responded as "not sure" or "disagree" to the statement "Someone with a chronic disease can use OTC without a prescription" were higher than the score of those who responded as "agree" (F: 13.743; p=0.000). The MARS scores of the patients who responded as "agree" to the statement "It is normal for patients with chronic diseases to experience symptoms associated with other diseases" were higher than those who responded as "not sure" (F: 4.733; p=0.010). According to the responses of the patients to the statement "OTC use by patients with chronic diseases should be encouraged", it was seen that the medication adherence levels of the patients who marked "agree" and those who marked

"disagree" were significantly different (F: 7.755; p=0.001). The patients who replied they "disagreed" with the statements "OTC have no side effects or negative effects", "People who sell OTC are competent in providing the right medicine and the right information", and "Someone with a chronic disease can adjust the dose of an OTC themselves" had significantly higher medication adherence levels (p<0.05) (Table 2).

Table 2: *Comparison of MARS scores according to OTC medicine attitudes questions*

Items	Statement†	MARS‡ Mean±SD	F§	p value	Bonferroni
1. Someone with a chronic disease can use OTCs without a prescription.	Agree	19.69±4.14	13.743	**0.000**	**2>1, 3>1**
	Not sure	23.00±2.53			
	Disagree	22.91±3.07			
2. It is normal for patients with chronic diseases to experience symptoms associated with other diseases.	Agree	23.06±2.46	4.733	**0.010**	**1>2**
	Not sure	21.78±3.91			
	Disagree	22.98±2.91			
3. OTC use by patients with chronic diseases should be encouraged.	Agree	23.26±2.10	7.755	**0.001**	**1>2, 3>2**
	Not sure	21.40±4.03			
	Disagree	22.87±3.09			
4. In case of illness, I would rather heal myself than be examined in a hospital.	Agree	22.52±3.39	0.149	0.861	-
	Not sure	22.77±2.85			
	Disagree	22.64±3.17			
5. OTC medicines have no side effects or negative effects.	Agree	20.58±4.15	4.810	**0.009**	**2>1, 3>1**
	Not sure	22.98±2.44			
	Disagree	22.66±3.35			
6. OTC medicines sellers are competent in providing the right medicine and the right information.	Agree	19.88±4.51	10.675	**0.000**	**3>1, 3>2, 2>1**
	Not sure	22.21±3.21			
	Disagree	23.20±2.74			
7. Someone with a chronic disease can adjust the dose of an OTC medicine themselves.	Agree	19.69±3.74	12.186	**0.000**	**3>1, 3>2, 2>1**
	Not sure	21.89±3.51			
	Disagree	23.13±2.78			

† Statement: Agree (1), Not sure (2), Disagree (3); p<0.05; ‡ Medication Adherence Report Scale; § One-way variance analysis

Path analysis of hypothetical model

In this study, SEM was constructed to determine the effects of OTC attitudes on MA. The model was created using the path analysis method. The examined fit indices revealed that the path model showed a satisfactory fit to the data. The Cronbach's alpha value of MARS was 0.832, its composite reliability coefficients were rho_a= 0.864 and rho_c= 0.883, and the average variance extracted (AVE) value was 0.605. CR values should be above 0.70 (Hair et al., 2011: 145), and AVE values should be 0.50 or above (Hair et al., 2019: 9). The satisfaction of these conditions indicates that the examined scale is adequately reliable. An AVE values above 0.50 indicate the convergent validity of the scale is ensured. Cronbach's alpha and rho_a values greater than 0.70 indicate that the scale is reliable. According to the results of the analyses in this study, the internal consistency of the scale used in the study was good. According to the R^2 coefficients obtained in the analyses, it was seen that 19.5% of the total variance in MA was explained by OTC attitudes (R^2=0.236; Adjusted R^2=0.195).

Table 3: *Path coefficients for research variables*

Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation	t Statistics (IO/STDEV)	p values
OA1_Disagree → MARS	-0.085	-0.079	0.130	0.655	0.513
OA 1_Agree → MARS	-0.734	-0.761	0.341	2.152	**0.031**
OA 2_ Disagree → MARS	0.153	0.168	0.214	0.718	0.473
OT2_ Agree → MARS	0.241	0.239	0.211	1.143	0.253
OA 3_ Disagree → MARS	0.295	0.270	0.252	1.173	0.241
OA 3_ Agree → MARS	0.474	0.469	0.221	2.144	**0.032**
OA 4_ Disagree → MARS	-0.061	-0.066	0.182	0.336	0.737
OA 4_ Agree → MARS	-0.262	-0.268	0.196	1.332	0.183
OA 5_ Disagree → MARS	-0.402	-0.382	0.167	2.409	**0.016**
OA 5_ Agree → MARS	-0.567	-0.577	0.438	1.293	0.196
OA 6_ Disagree → MARS	0.212	0.206	0.175	1.216	0.224
OA 6_ Agree → MARS	-0.375	-0.391	0.490	0.766	0.444
OA 7_ Disagree → MARS	0.252	0.246	0.175	1.435	0.151
OA 7_ Agree → MARS	-0.509	-0.528	0.463	1.098	0.272

OA: OTC attitudes; MARS: Medication Adherence Report Scale

The path coefficients of the variables are shown in Table 3. It is seen that the MA of the patients who "agreed" with the statement "Someone with a chronic disease can use OTC without a prescription" was 0.734 times less than the MA of those who were "not sure" (t=2.152; p=0.031). The patients who agreed with the statement "OTC use by patients with chronic diseases should be encouraged" had 0.474 times higher MA than those who were "not sure" (t=2.144; p=0.032). Lastly, the patients who "disagreed" with the statement "OTC have no side effects or negative effects" had 0.402 times less MA than those who were "not sure" (t=2.409; p=0.016).

4 Discussion

The patients who agreed with the statements "Someone with a chronic disease can use OTC without a prescription" and "OTC have no side effects or negative effects" had low levels of MA. Agreement with the statements that included "People who sell OTC are competent in providing the right medicine and the right information" and "Someone with a chronic disease can adjust the dose of an OTC themselves" was found to be associated with lower MA. The MA of those who agreed with the statement "OTC use by patients with chronic diseases should be encouraged" was found to be significantly higher. Based on the findings of this study, the MA of the patients who had positive attitudes toward OTC was significantly lower. On the other hand, it was observed that the patients had positive views about supporting the use of OTC. This was interpreted as that the patients with chronic diseases were open to the use of OTC, although they had negative attitudes toward OTC use. The patients may have wanted to increase disease self-management, previously experienced similar conditions, considered their conditions for using OTC minor ailments, and desired rapid recovery and easy access. The use of OTC by more than half of the patients in our study may support this interpretation. In line with our study, another study conducted with adults revealed that adults had positive attitudes toward OTC, and as their positive attituded increased, their OTC practice scores increased (Sinuraya et al., 2023). In

accordance with the findings, the H_1 hypothesis "There is a relationship between OTC attitudes and MA in patients with chronic diseases" was accepted. The SEM analysis revealed that OTC attitudes had a significant effect on MA in patients with chronic diseases.

A systematic review reported that the use of OTC was quite prevalent in adults (Algarni, 2021). In this study, more than half of the patients stated that they used OTC. According to the statements of the patients, minor ailments, previous experience of the same disease, wanting a fast recovery, and easy access were their reasons for using OTC. This result was consistent with previous studies where the respondents reported minor ailments and saving time as reasons for using OTC (Abddullah et al., 2022). In a study conducted in patients with chronic diseases, the rate of OTC use was determined as 64% (Kim et al., 2022). Moreover, the majority of the patients were taking daily medications, and one fifth of the patients had polypharmacy. The fact that the patients who participated in this study had chronic disease, had comorbid conditions, experienced polypharmacy, and half of them were in the elderly age group may point to their vulnerability in terms of OTC misuse.

Some symptoms may drive patients to use prescription medicines or OTC. Headache, stomachache, the common cold, and musculoskeletal pains were the most common conditions thought to require OTC usage by the patients in this study. Additionally, analgesics (paracetamol and NSAIDs) were commonly used by the patients in the study. In the literature reported, the most commonly used OTC have been reported as antipyretics, analgesics, and anti-inflammatory drugs (Abdullah et al., 2022; Kaya, 2022; Kim et al., 2022; Sinuraya et al.,2023). Sinuraya et al. (2023) revealed that public knowledge of NSAIDs was lower than that of paracetamol. NSAIDs have a wide side effect profile and can cause serious adverse effects that may result in mortality. Availability without a prescription and frequent use by patients for self-medication underline the importance of the rational use of analgesics. According to a systematic review conducted by Roberts et al. (2016), the risk of hospitalizations for gastrointestinal adverse events significantly increased when higher doses of analgesics were used, or paracetamol and NSAIDs were combined. Ensuring appropriate dosage is imperative to prevent potential liver damage associated with excessive paracetamol consumption and gastrointestinal complications correlated with excessive NSAID usage. Although the knowledge levels of patients could not be assessed in this study, when patients were asked about their status of reading OTC package leaflets, more than half of them stated that they partially read them or did not read them at all. Furthermore, most of the patients had primary education levels or had never attended school. In this regard, the patients may be at risk of drug-drug interactions, inappropriate drug use, and the side effects of analgesics. According to a study conducted by Alghamdi et al. (2024), 85.4% of respondents reported reading the package leaflet of OTC; however, 22.6% of them stated that they found the package leaflet difficult to understand and they only read the indications section. Improving the understanding of patients regarding functional health literacy by helping them use the information in package leaflets more often and adopting plain language is important.

5 Conclusion

The results of this study revealed that OTC use was common in chronic patients, and positive OTC attitudes reduced medication adherence. Additionally, the patients with high medication adherence showed more positive attitudes toward supporting OTC use. This may have meant that chronic patients need information about OTC. This study contributes to the existing literature by emphasizing the relationship between OTC attitudes and medication adherence in the chronic patient population. There is a need for a validated and reliable tool to measure the OTC attitudes of chronic patients. Patient-centered care can be maintained in both clinical environments and the community. Nurses and other healthcare professionals should be aware of the potential misuse of drugs among patients. By implementing a holistic perspective toward medicine adherence, health professionals can prevent patients with chronic diseases from taking part in any potential OTC misuse, drug-drug interactions, and drug-food interactions. Future studies should validate these findings in larger and more diverse cohorts, employing validated tools and exploring additional factors which could influence OTC attitudes and medication adherence. Furthermore, it is recommended that future studies consider assessing the educational needs of patients regarding the increasing use of OTC.

6 Declarations

6.1 Study Limitations

This study had some limitations. First, the sample of the study was limited to patients with chronic diseases visiting a single hospital. Second, the majority of the sample consisted of patients low education levels. Therefore, the results of the study may not reflect the OTC attitudes and medication adherence levels of individuals with higher education levels.

6.2 Acknowledgement

The author thanks all patients for their voluntary participation. This study would not have been possible without their participation and responses. I confirm all patient identifiers have been removed or disguised so the patients described are not identifiable and cannot be identified through the details of the article. There is no person or institution contributing to this research other than the authors.

6.3 Funding source

No financial support was received for this research.

6.4 Competing Interests

There is no conflict of interest in this study.

6.5 Authors' Contributions

Define the contribution of each researcher named in the paper to the paper.

Corresponding Author Canan KARADAS: Contribution to the article. (Developing ideas or hypotheses for the research and/or article, planning the materials and methods to reach the results, taking responsibility for the experiments, organizing and reporting the data, taking responsibility for the explanation and presentation of the results, taking responsibility for the literature review during the research, taking responsibility for the creation of the entire manuscript or the main part, reworking not only in terms of spelling and grammar but also intellectual content or other contributions…)

7 Human and Animal Related Study

If the work involves the use of human/animal subjects, each manuscript should contain the following subheadings under this section.

7.1 Ethical Approval

This study was approved by the Social Sciences and Humanities Ethics Committee of Yozgat Bozok University (Date:18/05/2023 - No: 03/10).

7.2 Informed Consent

Informed consent form was obtained from all participants for the study that they agreed to participate in the study.

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