Antecedents of Purchase Decision of Over-The-Counter (OTC) Medicine from Pharmaceutical Distribution Channels in Jordan

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Abstract

Purpose: The primary purpose of this research is to understand the potential influence of various factors, namely, pharmacies' recommendations, families' and friend recommendations, price, country of origin, and past experience, on the purchasing decision of non-prescription medicines in the Jordanian context. **Research design, data, and methodology**: A survey was conducted among 220 Jordanian consumers through a self-administered questionnaire. Further, the authors utilized the mall intercept method as a convenience sampling technique to recruit the respondents who shop at different pharmacies. The data were analyzed using various statistical techniques, such as frequency and percentage for describing the demographics of the sample, Cronbach's alpha for testing the reliability of the data, skewness and kurtosis to check the normality of data, and further, multiple regression using SPSS version 25 was performed for examining the hypotheses. **Results:** The findings revealed that pharmacists' recommendation, recommendations from friends and family, and price positively influenced consumers' purchase decisions of OTC medicines in Jordan, whereas consumers' past experience and country of origin had no influence on consumers' purchasing decisions of OTC medicines. **Conclusions:** The paper examines the influence of various factors on customers' purchase decisions of OTC medicines, draws conclusions, and makes recommendations. Also, research limitations are mentioned.

Keywords: Marketing, Distribution Channels, Over-The-Counter Medicines, Consumers' Purchase Decision, Jordan

JEL Classification Code: D3, D4, M310

1. Introduction

The consumption of over-the-counter medicines is the most prevalent type of medical product worldwide, and it has seen greater sales growth than that of prescription medicines since 2008 (Temechewu & Gebremedhin, 2020). Further, the demand for OTC medicines is expected to continue expanding in the future for many reasons. The first one is that the self-medication among people is spreading. Secondly, the shift from prescription only to OTC sales is unlikely to stop increasing the number of medicines that can be purchased. Third, there is an opportunity that healthy literacy will rise, particularly as more people turn to the media to get information on self-medication (Temechewu & Gebremedhin, 2020). Statistically, the OCT medicines market has expanded globally by 24.8% (Alarsali & Aghaei, 2022). In addition, scholars indicated that distribution channels contributes to increase the consumers' awareness and perception towards OTC medicines. Medicines play an important role in helping patients avoid various diseases (Covington, 2002). OTC medicines are those that can be

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bought by consumers (patients) without the prescription of physicians (Temechewu & Gebremedhin, 2020). Further, the consumption of OTC medicines is deemed to be the most prevalent form of medical care worldwide (Covington, 2002). Moreover, it is obvious that the sales of OTC medicines are rapidly increasing over those of prescription medicines (Villako et al., 2012). Additionally, literature indicates that patients as consumers are considered a key source of income for the pharmaceutical industry (Pribadi et al., 2020). Thus, it is a great opportunity for the pharmaceutical marketers to focus on how consumers make their purchase decisions of OTC medicines (Srivastava & Wagh, 2020).

In Jordan, consumers purchase most of their medicines directly from the pharmacy without showing a prescription (Yousef et al., 2008). Therefore, this provides an opportunity for the Jordanian pharmaceutical marketers to understand the factors that may influence the purchase of OTC medicines. Furthermore, the literature revealed that very few Jordanian academic studies have been conducted to understand the factors that may influence consumers' purchase decisions of OTC medicines (Habash & Al-Dmour, 2020). Thus, there is a need to conduct further research to understand the Jordanians' purchase decisions for such products. Accordingly, the author conducted the current study to obtain more insights into the key factors that may influence consumers' purchase decisions of OTC medicines in the Jordanian context. Hence, the current study aims to understand the influence of various factors on consumers' purchase decisions of OTC medicines. This objective can be accomplished by asking the main research question:

RQ1. What is the influence of various factors on consumers' purchase decisions of OTC medicines in a Jordanian context?

Thus, this study is aimed to contribute to increasing the body of knowledge by identifying the key factors that influence consumers' decision to buy OTC medicines in the Jordanian context. Moreover, the findings of the study can assist pharmaceutical industry stakeholders in the formulation of marketing strategies to attract more consumers towards OTC medicines. Limitations of the research are also identified and these provide avenues for future research.

2. Literature Review

The term "over-the-counter medicines" refers to medicines that can be sold directly to the customers without a prescription from the physician (Yousef et al., 2008). Globally, the consumption of and demand for nonprescription medicines have increased rapidly (Kevrekidis et al., 2018). In this context, several studies have been undertaken in different countries to investigate the factors that may influence consumers' buying behavior of OTC medicines. For instance, in a recent study conducted by Alarsali and Aghaei (2022), who carried out an online survey to understand customers' buying behavior of OTC medicines, they stated that consumer awareness and knowledge are the main factors that motivate consumers to buy OTC medicines. Thus, it is important to focus on increasing the customers' knowledge of such products.

On the other hand, Srivastava and Wagh (2020) reported that consumers' awareness, product promotion, influencers, reliability, and corporate image were found to be the most motivating factors that drive consumers to buy OTC medicines in India. The same authors (Srivastava & Wagh, 2020) reported that the availability of such medicines is the most influencing factor that drives consumers to buy OTC medicines in the Indian market. In a like manner, Carvalho et al. (2016) asserted that the availability is an essential factor that triggered buying OTC medicines. Similarly, Natarajan and Kanagarathinam (2020) argued that promoting OTC medicines using TV advertisements is the key to informing and persuading consumers to buy OTC medicines. They also stated that consumers' attitudes, past experiences, and the influence of others, such as friends and family members, have significant associations with OTC purchasing behavior. Another empirical study done by Shekhar et al. (2019) noted that consumers tried to be well-aware of OTC medicines before buying them. Hence, this leads to an increase in the importance of promotional activities on consumers' buying behavior of OTC medicines. Furthermore, they observed that trust, price, and brand names were found to have influenced consumers' decisions to buy OTC medicines.

Another qualitative research study undertaken in Malaysia using in-depth interviews found that the vast majority of the participants asserted the importance of products' attributes, personal factors, and knowledge about OTC medicines as essential motives in the context of OTC medicine purchasing. Additionally, literature indicates that consumption of OTC medicines is strongly correlated with the product's convenience and other factors. For example, Kevrekidis et al. (2018) discovered that product convenience, pharmacist opinions, and previous consumer experience influenced consumers' purchasing decisions of OTC medicines when they investigated Greeks' purchasing decisions of OTC medicines. Furthermore, prior studies stated that many consumers prefer to purchase OTC medicines due to many reasons, such as the quality of the product and its familiarity. In this regard, Dadhich and Dixit (2017) reported that most of the consumers were aware of OTC medicines and their benefits for treating a number of diseases such as headache, backache, constipation, etc. They

claimed that the quality of the OTC medicines and brand familiarity are the main factors that consumers take into consideration when they buy such products.

The extant literature pointed out that some studies employed the theory of planned behavior (TPB) to predict the consumption of OTC medicines. For instance, Bhowmick and Jha (2017) argued that consumers' attitudes, subjective norms, and perceived behavioral control were found to positively influence their decisions to buy OTC medicines. Similarly, Jinnah et al. (2020) stated that all the elements of the TPB (attitudes, subjective norms, and perceived behavioral control) have a significant influence on consumers' decisions of buying OTC medicines in Malaysia. Another study by Pujari et al. (2017), confirmed that price, social influence, and pharmacists' recommendations are the crucial factors that push customers to buy OTC medicines in the Indian market.

From another perspective, some studies reported that packaging is one of the main drivers of OTC buying behavior (Keverkidis et al., 2018), whereas Pandey and Srivastava (2016) demonstrated that attitudes, price, subjective norms, and trust were the main drivers for buying OTC medicines. In a closely similar way, Nasidi (2016) asserted that culture, social norms, and family roles were the main factors that affected customers' OTC buying decisions, while other studies like Smaoui et al. (2016), confirmed that country of origin (COO) is an effective factor towards buying OTC medicines.

Other studies focused on the importance of personal factors such as how income positively or negatively impacts the buying decision of OTC medicines. Villako et al. (2012) found that personal income strongly influenced people when purchasing OTC medicines. According to Ayub and Mustafa (2017), personal factors like the personal income of individuals affect the purchase decisions of various products, such as OTC medicines. A summary of previous studies is shown in Appendix (A) for detailed illustration.

Thus, it can be concluded that there is a number of factors that could potentially influence consumers' decision to buy OTC medicines worldwide. As previously indicated, due to the little attention that has been paid to studying consumers' purchasing decisions of OTC medicines in the Jordanian context, the existing study was carried out to examine the influence of various factors on the Jordanians' purchase decisions of OTC medicines.

Based on the literature and past studies, the current study utilized five factors as independent variables and one dependent variable, which is the purchase decision. The independent variables are as follows:
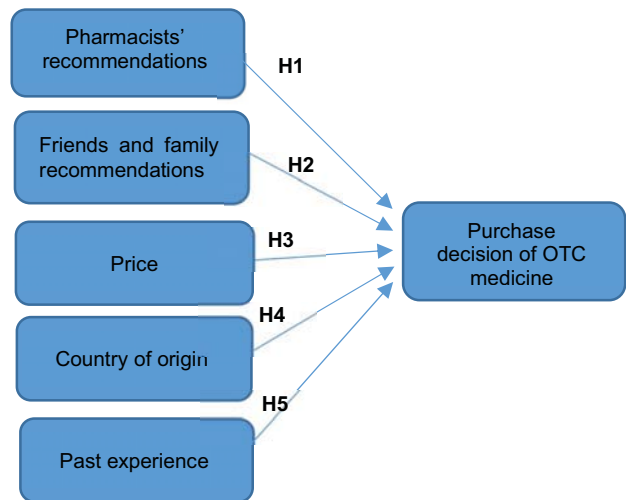- Pharmacists' recommendations
- Social influence (friends and family recommendations)
- Price

- Country of origin
- Past experience

The dependent variable:
- Purchasing decision

Based on the extant literature and past studies, the following conceptual model was developed for the purpose of this study.

Source: Temechewu and Gebremedhin (2020).

Figure 1: The conceptual model

Based on the proposed model, the following hypotheses were formulated to be tested:

H1: The pharmacist's recommendation has a positive influence on consumers' purchasing decisions of OTC medicines.

H2: Family's and friends' recommendations have a positive influence on consumers' purchasing decisions of OTC medicines.

H3: Price has a positive influence on consumers' purchasing decision of OTC medicines.

H4: Country of origin has a positive influence on consumers' purchasing decision of OTC medicines.

H5: Past experience of the consumers has a positive influence on their purchasing decision of OTC medicines.

2.1. Definition of the Variables

2.1.1. Social Influence (family, friends, and pharmacists' recommendations)

In this study, two factors were used to indicate social influence, namely, pharmacists' recommendations and family and friends' recommendations. Social influence can

be defined as "a change in an individual's thinking, feelings, attitudes, or behavior that results from interaction with other individuals or groups" (Mazuki et al., 2013). As discussed, the interaction and intervention of friends and family can be a source of pressure for consumers to buy OTC medicines. It is crucial in determining the attitudes, propensities, and behaviors of consumers. In this study, the recommendations from family members and friends were used as two independent variables that represent social influence.

2.1.2. Price

Price can be defined as "the amount of money that a customer needs to paying order to obtain a product or service" (Ashton et al., 2010). In the current study, price was employed as an independent variable. Furthermore, price is considered to be extremely important because it is the purchaser's first encounter with a certain product (Kotler et al., 2016).

2.1.3. Country of Origin (COO)

COO has been defined as "the country or place of manufacture, production, or growth where a product comes from and which is conveyed through marketing communications messages" (Caemmerer, 2009). Also, this variable was used as an independent variable in this article. Moreover, due to the importance of COO, some scholars such as Khan et al. (2012) argued that COO may not be particularly important for consumers when buying products.

2.1.4. Past Experience

Past experience has been defined as consumers' experience with the service personnel and service organization (Sultan & Wong, 2010). Besides the aforementioned variables, this construct was adopted as an independent variable in this study as well. Despite the fact that this construct is essential for the customers when buying OTC medicines, some other scholars indicated that past experience might not be an important factor in the purchase decision of OTC medicines (Temechewu & Gebremedhin, 2020).

3. Method

This study is quantitative in nature, and data were collected using a questionnaire. The survey was distributed using a self-administered questionnaire to the selected respondents. The first part of the questionnaire comprises questions related to the demographic characteristics of the respondents. As stated by O'Leary (2004) and Brace (2018), any survey research should include questions that describe the respondents' demographic characteristics. Therefore, in

this research, the researcher used some questions to describe the demographic characteristics of the respondents. This included information about the respondents' gender, age, income, education level, and marital status. The second part of the questionnaire includes questions related to the factors that influence consumers' purchasing decisions of OTC medicines. The options provided for the respondents to answer those questions are based on the five-point Likert scale, which includes strongly disagree, disagree, neutral, agree, and strongly agree. Measurement items for the variables are provided in Appendix (B).

The population of this study can be defined as the individuals, people, or consumers who buy various types of medicine from different pharmacies for their household, are 18 years of age or older, and reside in southern Jordan. A convenience sampling method was employed by approaching the primary buyers who purchase several kinds of medicines and are 18 years of age or older. To reach the appropriate respondents, a convenience sampling method using the mall intercept method is the most appropriate method. In this regard, literature indicates that in marketing research, the mall intercept method enables rapid data collection and limits the possibility of respondents misunderstanding questions (Zikmund et al., 2013). Further, the mall intercept method can be classified as convenience sampling and is widely used in marketing research and consumer studies (Rice & Hancock, 2005; Zikmund et al., 2013; Bruschi et al., 2015). Accordingly, mall intercept was adopted in the current study. Based on this method, the researcher intercepted and invited consumers exiting from the various pharmacies located in south Jordan to participate in the survey. Many consumers declined to be surveyed due to a lack of time. Other consumers were happy to participate in the survey. The time frame of data collection was from June 12 to July 26, 2022.

In relation to sample size, there is a debate regarding the number of respondents needed to participate in the survey. For instance, Kline (2015) argues that the researcher may employ the general rule of thumb, which is 20:1. This means that the researcher may use 20 respondents for each variable in the model. On the other hand, Hair et al. (2010) claim that the researchers may use a ratio of 5 to 10 respondents for each item on the scale. Other researchers, such as Kline (2011), discovered that 200 cases as a sample size is adequate. The existing study used six variables and 18 items. Thus, based on the aforementioned discussion, the study should involve 90, 120, 180, or 200 participants. The sample size of this study was 220 respondents, which exceeded the required sample size. Hence, the sample size used in the current study is sufficient. The author employed SPSS software version 25. For analyzing demographic data, frequency and percentage were used. To ensure the reliability of the data, Cronbach's alpha was utilized. In

terms of Cronbach's alpha, Hair et al. (2010) contend that an alpha of 0.6 or higher is acceptable. In order to check the normality of the data, skewness and kurtosis were employed.

To ensure the normality of the data, the value of skewness should be 2 or less, and the value of kurtosis should be 7 or lower (Kim, 2013). To test the hypotheses, regression was also used in order to accept or reject the relevant hypotheses. Tables (1), (2), and (3) illustrate the results of the current study.

4. Results

After analyzing the data, the results indicate that a total of approximately 51% of the respondents were males and around 49% were females. Also, as shown in Table (1), respondents were divided according to their age into one of the following age groups: between 18 and 27 years (19%), between 28 and 37 years (31%), between 38 and 47 years (23%), between 48 and 57 years (17%), and 58 years or more (10%). As indicated in Table (1), the largest percentage (82%) was for those whose monthly income ranges between 200 and 800 JD, while the lowest percentage (18%) was for those whose monthly income is800 JD or more.

Table 1: Respondents' demographic characteristics

Characteristic	Frequency	Percentage
Gender		
Male	112	51
Female	108	49
Age group		
18-27	42	19
28-37	68	31
38-47	50	23
48-57	38	17
58 and more	22	10
Income		
200-400 JD	72	33
401-600 JD	59	27
601-800 JD	48	22
More than 800 JD	41	18

In the second stage of analysis, the author started the analysis by ensuring the normality of the data. This can be done using two key statistical techniques, namely skewness and kurtosis (Kline, 2011). As argued by Kim (2013), if the value of skewness is 2 or less and the value of kurtosis is 7 or less, the data will be normally distributed. After checking the value of those statistical methods, the author ensured that all the data are normally distributed. Table (2) indicates that all the values of skewness and kurtosis are in line with the above statement. In relation to the reliability of the data, Cronbach's alpha (α) was performed to ensure that the data

used in this study are reliable. Scholars argue that the value of (α) needs to be at least 0.6 (Hair et al., 2010). Table (2) confirms that all the data were reliable and the value of (α) for each variable is greater than 0.6.

Table 2: Normality and reliability of the data

Construct	Cronbach's alpha	Skewness	Kurtosis
Pharmacist's recommendation	0.851	-.269	1.630
Family's and friends' recommendation	0.752	--.013	-.918
Price	0.690	-.246	-.614
Country of origin	0.883	-.175	-.871
Past experience	0.776	-.452	.043
Purchase decision	0.825	-.481	-.405

To test the stated hypotheses, multiple regression analysis was used. Regression can be performed to examine the casual effects between the variables (Mardani et al., 2017). Table (3) reports the results of the hypotheses' examination.

Table 3: Multiple regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	(t) value	Sig
	B	Std. Error	Beta		
Recommendation of pharmacists	.215	.027	.206	7.878	.000
Family's and friends' recommendation	.389	.040	.427	9.632	.000
Price	.368	.062	.394	5.928	.000
Country of origin	.068	.035	.001	1.750	.125
Past experience	.074	.024	.012	1.868	.157
Dependent variable: Purchase decision					

As demonstrated in the conceptual model, the first hypothesis examines the influence of a pharmacist's recommendation on consumers' purchase decisions of OTC medicines. As reported in Table (3), the results show that the pharmacist's recommendation construct significantly influenced consumers' purchase decisions of OTC medicines (the p value was significant at <0.000 level ***). In addition, the path coefficient (β) was 0.215 with a critical ratio (t-value) of 7.878. Thus, an increase in one unit of the pharmacist's recommendation construct would lead to an increase in the purchase decision by 0.215. Therefore, this hypothesis was supported. Moreover, this result is consistent with the study of Temechewu and Gebremedhin (2020), who argued that recommendations from the pharmacists play an important role in motivating the customers to buy OTC medicines. Also, this result is in line with Kevrekidis (2018), who stated that many clients wouldn't purchase OTC medicines until the pharmacists make a recommendation.

The second hypothesis was formulated to examine the influence of family and friends' recommendations on consumers' purchase decisions of OTC medicines. The regression analysis revealed that family and friends' recommendation construct had a significant influence on consumers' purchase decisions of OTC medicines (the p value was significant at the 0.000 level ***). In addition, the path coefficient (β) was 0.389 with a critical ratio (t-value) of 9.632. Thus, an increase in one unit of the family's and friends' recommendation construct would lead to an increase in the purchase decision by 0.389. Therefore, this hypothesis was supported.

Regarding the third hypothesis, after performing regression analysis, the results revealed that price has a positive and significant influence on consumers' purchase decisions of OTC medicines. As shown in Table (3), the p value was significant at <0.000 level ***. Further, the path coefficient (β) was 0.368 with a critical ratio (t-value) of 5.928. Hence, an increase in one unit of the price construct would lead to an increase in the purchase decision of OTC medicines by 0.368. Therefore, this hypothesis was supported. In this regard, the results of the previous studies confirmed this finding. For instance, Temechewu and Gebremedhin (2020) argued that price is an essential factor for motivating customers' OTC purchase behavior. Likewise, Shekhar et al. (2019) reported that price is deemed one of the motives that influence customers to choose and buy OTC. Thus, the results of the current study are in line with past studies.

5. Discussion

The findings of the current study are in line with the existing literature. In relation to the pharmacists' recommendations, past studies confirm that a great number of consumers take the opinions of pharmacists into consideration when buying OTC medicines. In this regard, literature indicates that pharmacists' recommendations strongly influence consumers to buy such products (Pujari et al. (2017). Further, Kevrekidis (2018) asserts that the recommendations of pharmacists play a vital role in buying OTC medicines. Kevrekidis (2018) also reported that consumers use the opinion of the pharmacist to obtain information about different forms of OTC medicines. In addition, Dadhich and Dixit (2017) revealed that pharmacists play a key role in pushing and providing information about OTC brand.

Furthermore, this result is supported by the study of Natarajan and Kanagarathinam (2020), who indicated that the customers are strongly influenced by their social relations regarding the purchase of OTC medicines. They reported that family and friends positively impacted the

customers' choice of OTC medicines, and this could happen through the recommendations and advice they provide to them.

The fourth hypothesis seeks to investigate the impact of country of origin (COO) on OTC medicine purchase decisions by consumers. The findings show that the country of origin construct has no significant influence on OTC medicine purchase decisions by consumers. Table (3) shows that the p value was 0.125, which is greater than the value of 0.05. Thus, H4 was rejected. This result was asserted by previous research undertaken by Smaoui et al. (2016), who indicated that COO only influenced customers' perceptions towards OTC medicines but did not influence their purchase decisions. Hence, these findings are in line with past studies.

Finally, the fifth hypothesis, which examines the influence of past experiences on consumers' purchase decisions, also has no significant influence on consumers' decisions. The regression analysis indicates that the p value was 0.157. Thus, the H5 was rejected. In this context, this result is consistent with prior studies. For instance, Ting et al. (2019) investigated the purchase behavior of pharmaceutical products in Malaysia. They revealed that the consumers' past experiences only impacted their perception towards OTC medicines but did not impact their buying decisions of such products.

With regards to social influence, the literature stated that social influence from friends and family members positively influences consumers to buy OTC medicines. In this context, Natarajan and Kanagarathinam (2020) asserted that consumers are influenced by their social relationships with relatives and friends when purchasing OTC medicines. Thus, the findings of this study are in line with the literature.

Besides, based on the literature review, it can be argued that price is one of the influential motives in consumers' purchase behavior of OTC medicines. Much empirical research has been conducted on the relationship between OTC medicine prices and purchase decisions. For example, Srivastava and Wagh (2020) argued that price is an essential factor in the context of OTC medicine purchases. Likewise, Kevrekidis et al. (2018) reported that consumers believe that price is one of the considerations taken into regarding the context of purchasing OTC medicines.

As indicated in the literature, country of origin (COO) and past experiences of consumers have an influence on consumers' purchase decisions for OTC medicines. Conversely, the current study found that the two factors, namely country of origin and consumers' past experiences have no significant influence on consumers' purchase decisions of OTC medicines in the Jordanian context. This finding is supported by other scholars. For instance, Smaoui et al. (2016) found that country of origin has no significant influence on customers' intention to buy medicines. They

indicated that country of origin influences only consumers' perceptions of medicines but not their decisions to buy them.

The current study found that the past experience construct has no significant influence on consumers' decisions to buy OTC medicines in Jordan. In this regard, past literature supports this result. For instance, Reisenwitz et al. (1998) argued in this context that because some of the elderly people were not involved in OTC medicines purchase; that is, past experience of the consumers had no influence on their purchase decisions of OTC medicines. Similarly, Ting et al. (2019) claimed that unfavorable attitudes and past experiences may lead to a negative perception of OTC medicine.

6. Conclusion

This study was conducted to ascertain the impact of a number of variables, including price, country of origin (COO), past experience, pharmacist recommendations, and family and friend recommendations, on OTC purchasing decisions from various pharmaceutical distribution channels in the Jordanian context. To accomplish the goal of the study and answer the research question, this paper used a quantitative research approach. The findings showed that the customers' purchase decisions for over-the-counter (OTC) medications were positively influenced by pharmacist recommendations, recommendations from family and friends, and price, whereas past experience and COO were found to have no significant influence. This study provides a contribution to both theory and practice by offering more insights into the main factors that influence consumers to buy OTC in Jordan; thus, the findings of this study would be beneficial to those who seek to understand consumers' purchase behavior towards such products. In addition, marketers, retailers (pharmacies) in different distribution channels, and other practitioners may use the results of this study to know and understand the reasons that make consumers willing to buy OTC; thus, they may adopt the findings of the current study to be able to attract more consumers in the future. Moreover, this study provided some suggestions for future researchers in addition to showing the study limitations.

7. Contribution and Implications of the Study

This article has made a number of contributions to both practice and the body of knowledge. First, because there has been a lack of research undertaken in Jordan to understand how consumers buy over-the-counter medicines, the current study has been conducted to fill up some of the gaps in the literature by highlighting the possible impact of several variables on OTC medicine purchases in Jordan. Second, the results of the current study may also serve as a reference for future research. Moreover, by identifying the key factors that influence Jordanian consumers to purchase such products, the study's findings could be useful to stakeholders working in the pharmaceutical industry. They could be incorporated into marketing policies and strategies to encourage more people to buy similar products.

8. Limitations and Future Research Direction

This study offers a succinct overview of the study's limitations and makes some recommendations for future research. First, the generalizability of the findings is the first limitation of scientific research. The present study is, therefore, not an exception. The current study has been carried out in the south of Jordan; future research in other Jordanian regions is therefore necessary to increase the validity of the findings. Second, while the sample size used in this study was adequate, future researchers may choose to employ a larger sample to increase the reliability of their results. Further, future research might be performed to look into issues that were not included in this article such as the impact of quality and store attributes in the context of the pharmaceutical sector. Additionally, even though this article concentrated on Jordanian customers, future research may look into motives for people in other developing countries to buy over-the-counter medicines. Besides, future research may also conduct a qualitative study to learn more about how and why consumers buy over-the-counter medicines.

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Appendix (A): A summary of previous studies

Author Year	Title of Study	Objectives	Methodology	Results
Yousef et al. (2008)	Self-Medication Patterns in Amman, Jordan	To gather baseline information on the level of self-medication among Jordanians and to assess potential risk factors.	A pre-piloted questionnaire was used in a cross-sectional observational study. In order to determine the prevalence of self-medication and provide a rationale, over 800 customers who visited the pharmacies over a period of 4 months were questioned, and their non-prescription drug request patterns were documented.	The study found that recommendations from pharmacists and friends positively impacted the patients' (customers') to buy medicines. Further, the study found that age and price were key factors when buying medicines.
Kevrekidis et al. (2018)	Community pharmacy customer segmentation based on factors influencing their selection of pharmacy and over-the-counter medicines	To examine consumers' preferences on the selection of pharmacy and OTC medicines and figure out customer segments in relation to these preferences.	A convenience sample was chosen, and a questionnaire was distributed to 300 customers in Greece.	The research findings showed that customers' buying decision is determined by convenience, previous experience, and the pharmacist's opinion.
Alarsali & Aghaei (2022)	Effective Determinants of Consumer Buying Decision on OTC Medications: Digital Marketing, Brand Experience, and Reference Groups	To analyze the effect of developing pharmaceutical marketing on consumer buying decisions for OTC medicines.	To collect the data an empirical online survey was undertaken based on a self-administrated questionnaire.	The results indicated that brand experience and reference groups were the essential factors that influenced consumers' decisions to buy OTC medicines.
Temechewu & Gebremedhin (2020)	Factors Affecting Consumers' Purchase Decision of Over-The-Counter (OTC) Medicines: Empirical Evidences from Community Pharmacies in Ethiopia	To examine factors influencing consumers' purchase decision of over-the-counter (OTC) medicines from community pharmacies in Ethiopia.	A quantitative research design was used to test the impact of various factors on OTC medicine purchase decisions by consumers.	The paper indicated that a pharmacist's recommendation, price, and country of origin of OTC medicines have positive and significant influences on consumers' purchase behavior of OTC medicines. Although prior experience and recommendations from family and friends have a positive influence on OTC medicine purchase decisions, this is not statistically significant.
Srivastava & Wagh (2020)	Factors impacting consumer purchase behavior for pharmaceutical products	To determine the factors impacting consumer purchase behavior for pharmaceutical products.	A questionnaire was used to collect primary data from 300 respondents.	Results stated that reliability and safety, trust, and corporate image were the main motives that push consumers to buy OTC medicines.
Natarajan & Kanagarathinam (2020)	A Study on Factors Influencing Purchase of OTC analgesic drugs	The aim of this paper is to predict the factors influencing the purchase of nonprescription medicines among Indian consumers.	450 questionnaires were distributed to gather data from the respondents.	Results revealed that advertising, attitudes, subjective norms, and past experiences were the most important factors when buying OTC medicines. .
Shekhar et al. (2019)	Consumer buying behavior and attitude towards pharmaceuticals	to describe the Indian consumer's purchasing behavior for pharmaceuticals.	The authors employed a systematic review to highlight the main factors that consumers take into consideration while buying pharmaceuticals.	Research indicated price, trust, and brand name were the key factors when buying pharmaceuticals.

Author Year	Title of Study	Objectives	Methodology	Results
Kevrekidis et al. (2018)	Community pharmacy customer segmentation based on factors influencing their selection of pharmacy and over-the-counter medicines	To investigate the consumers' preferences regarding the selection of pharmacy and over-the-counter (OTC) medicines.	A cross-sectional study was done on a convenient quota sample of 300 respondents recruited in the metropolitan area of Thessaloniki, Greece.	Results indicated that convenience, past experience, and the pharmacist's opinion were the main factors affecting consumers' decisions to purchase OTC medicines.
Dadhich & Dixit (2017)	Consumer selection and buying behavior towards over the Counter (OTC) Medicine in Jaipur city	To investigate consumer perception and behavior towards the selection of OTC medicine.	A cross-sectional study was carried out with 100 consumers to collect data.	The findings reported that consumers were aware of OTC medicines, and factors such as familiarity and brand name were the main factors affecting the choice of OTC medicines.
Bhowmick & Jha (2017)	A study of consumer behavior towards over the counter allopathic medicines using integrated behavioral model.	The study aimed to determine factors that affect consumer buying motivations for OTC medicines.	A qualitative study was undertaken using the focus group technique with 14 participants.	The study found that price, availability, advertising, social influence (family and friends), and social media were important motives to buy OTC medicines.
Jinnah et al. (2020)	Consumer Behavior Towards Over-The-Counter Medicine Purchase: The Extended Theory of Planned Behaviour.	The goal of this study was to look into the impact of various factors on the purchase of OTC medications.	This study employed a quantitative research approach. Data were gathered from 308 respondents using a questionnaire.	According to the findings, attitudes, subjective norms, and perceived behavioral control were the most influential factors in OTC medicine purchase decisions, while the perceived risk was not significant.
Pujari et al. (2017)	Study of Consumer's Pharmaceutical Buying Behavior Towards Prescription and Non-Prescription Drugs	To find out about factors influencing the customer's choice of prescription & non-prescription medicines.	Questionnaire was employed to collect data from the respondents.	The findings revealed that social factors, cultural factors, psychological factors, and personal factors all had a significant impact on the choice of OTC medications.
Smaoui et al. (2016)	Country-of-origin versus brand: consumers' dilemma when choosing between generic and branded drugs in emerging countries	To investigate consumers' preferences for over-the-counter (OTC) medicines.	A mixed method approach was adopted to gather and analyze the needed data.	The research findings indicated that country of origin positively influenced consumers' decisions to buy medicines. Furthermore, consumers' trust in and perception of the quality of medicines are influenced by the country of origin.
Villako et al. (2012)	Factors influencing purchase of and counseling about prescription and OTC medicines at community pharmacies in Tallinn, Estonia	To better understand the factors influencing prescription and over-the-counter medicine purchases in Tallinn.	To collect data, 1820 respondents were given a questionnaire.	The outcomes of the study revealed that pragmatics' recommendations, prices, and promotional campaigns were found to have an impact on consumers' choices of OTC medicines. Furthermore, a demographic variable influences the purchase decision for such a product.

Appendix (B): Measurement of the variables

Variable	Item	Source
Pharmacist's recommendation	(PR1) I repeat that I purchased a medicine that the pharmacist described to me and that gave me good results.	Temechewu and Gebremedhin (2020)
	(PR2) I have been buying an over-the-counter medicine according to the pharmacist's recommendation.	Alarsali and Aghaei (2022)
	(PR3) I would only purchase OTC medications that I am familiar with or that the pharmacist recommends.	Alarsali and Aghaei (2022)
Friends' and family's recommendations	(FFR1) I have been buying over-the-counter medicine about which I have heard from my friend and/or my family.	Temechewu and Gebremedhin (2020)
	(FFR2) I would buy the OTC brand recommended by my friends.	Alarsali and Aghaei (2022)
	(FFR3) I would be embarrassed if my friends or family found out I purchased OTC medicines.	Alarsali and Aghaei (2022)
Price	(PR1) I am very concerned about the price of the over-the-counter medicine.	Temechewu and Gebremedhin (2020)
	(PR2) I will switch to another brand of over-the-counter medicine if the price is increased.	Temechewu and Gebremedhin (2020)
	(PR3) I'll buy the cheapest over-the-counter medication I can find.	Temechewu and Gebremedhin (2020)
Past experience	(PE1) I would put my confidence in the OTC brand since I have only had positive experiences with it.	Alarsali and Aghaei (2022)
	(PE2) I would be willing to pay extra for an over-the-counter brand with which I have had positive experiences.	Alarsali and Aghaei (2022)
	(PE3) Based on my previous experience, I would buy the OTC brand that will solve my health problems.	Alarsali and Aghaei (2022)
Country-of-origin	(COO1) I take into consideration of the country of origin while I purchase an OTC medicine.	Temechewu and Gebremedhin (2020)
	(COO2) I use country of origin as a reference to evaluate the quality of an OTC medicine among different brands.	Temechewu and Gebremedhin (2020)
	(COO3) I will purchase an OTC medicine, if it is from a country of origin that I like.	Temechewu and Gebremedhin (2020)
Purchasing decision	(PD1) I decide to purchase an OTC medicine upon pharmacist's recommendation.	Temechewu and Gebremedhin (2020)
	(PD2) I decide to purchase an OTC medicine upon my family's and friends' recommendations.	Temechewu and Gebremedhin (2020)
	(PD3) I decide to buy an OTC medicine based on my own experience.	Temechewu and Gebremedhin (2020)
	(PD4) I decide to purchase an OTC medicine by considering its country of origin.	Temechewu and Gebremedhin (2020)
	(PD5) I decide to purchase over-the-counter medication based on the price.	Temechewu and Gebremedhin (2020)