Patient Preference and Adherence

Dovepress
Taylor & Francis Group

Open Access Full Text Article

ORIGINAL RESEARCH

Knowledge and Perception of Consumers Towards Generic Medicines in Saudi Arabia: A Prospective Cross-Sectional Survey

Monira Alwhaibi[1], Mashael Alshammari[1], Noha Al Aloola[1], Nouf Aloudah[1], Aliyah Almomen[2], Tariq M Alhawassi[1]

[1]Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia; [2]Department of Pharmaceutical Chemistry, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

Correspondence: Monira Alwhaibi, Department of Clinical Pharmacy, King Saud University, School of Pharmacy, Riyadh, 11149, Saudi Arabia, Tel +966535384152, Email malwhaibi@ksu.edu.sa

Background: Brand-to-generic medicine substitution has been a common practice worldwide as one of the strategies to reduce pharmaceutical expenditure and sustain health care systems. The perspective of patients as end-users of these medicines is one of crucial factors in enhancing generic medicines' utilization. Therefore, this study aimed to evaluate the consumers' knowledge, perception, and current use of generic medicines in Saudi Arabia.

Methods: A prospective cross-sectional study using a purposive sampling technique was conducted among adults aged 18 years and above in Saudi Arabia from December 2023 to January 2024. The study participants comprised the adult population aged 18 years and above living in Saudi Arabia. Descriptive statistics was used to describe the data, and all statistical analyses were carried out using SPSS.

Results: In total, 691 adults participated in this study. About fifty percent of the participants had used generic medications and knew what generic medications meant (41.0%). There was a relatively positive perception towards generic medication in only about one-third of the participants; they either perceive that generics relieve symptoms as brand medication, generics would provide significant savings, or the physicians should always prescribe a generic medication if it's available.

Conclusions: While there was some knowledge of generic medications' cost advantages, still significant gaps in knowledge and trust might hinder their widespread adoption. Addressing these challenges through targeted educational and policy interventions is crucial to promote the use of generic medications. By doing so, we can ensure that consumers have the information and confidence they need to make informed decisions about their medications.

Keywords: knowledge, perception, generic medicines, adult consumers

Introduction

Globally, the growing demand for medicines to treat communicable or non-communicable diseases has increased the pharmaceutical consumption over the decades. Global use of medications is expected to further grow by 12% through 2028, bringing yearly consumption to 3.8 trillion defined daily doses.[1] In 2021, pharmaceutical costs accounted for one-sixth of all healthcare expenditures.[2] The increase in pharmaceutical costs has a significant clinical impact, such as reduced healthcare services and staffing, delayed infrastructure investment, and reduced affordability and patient adherence.[3,4] As a result, care availability or quality may be compromised, leading to adverse health outcomes. Therefore, efforts for cost-saving strategies such as identifying alternative therapies and pursuing generic substitution are important when possible.[5] Generic medications are typically 20–90% less expensive than their brand-name counterparts. In 2023, generic and biosimilar drugs saved the US healthcare system $445 billion.[6] Nowadays, the number of pharmaceutical products utilized globally comprises over fifty percent of generic medicines; most countries routinely consume more generic pharmaceuticals than innovator drugs, making them one of the most widely used healthcare products globally.[7] In Saudi Arabia, the healthcare

Received: 25 May 2025
Accepted: 15 July 2025
Published: 22 July 2025

system has undergone rapid transformation, including centralized pharmaceutical procurement through the National Unified Procurement Company (NUPCO), which aims to promote cost-effectiveness and facilitate the use of generic medicines.

The World Health Organization defines generic medication as "a pharmaceutical product, usually intended to be interchangeable with an innovator product manufactured without a license from the innovator company and marketed after the patent's expiry date or other exclusive rights".[8] Generic substitution is the process of substituting a prescribed branded medicine with a different medicine with the same active substances.[9] Using a cheaper generic equivalent can generate substantial cost savings and improve patient access without compromising patient benefits. Consequently, several European countries have implemented a variety of approaches to encourage generic use.[2,9,10] Yet, the generics utilization rate is still impacted by healthcare policies, educational initiatives, and patient-related factors such as knowledge and perceptions.[11–15] Generic medication adoption is influenced by multiple stakeholders including physicians, pharmacists, regulatory authorities, and pharmaceutical manufacturers, each playing a critical role in shaping public awareness and trust. Globally, the adoption of generic medicines varies widely. In the United States, generic medicines account for approximately 90% of prescriptions dispensed.[6] Some European countries have adoption rates exceeding 80%.[16] In contrast, Saudi Arabia's current adoption rate made up 39% of the total Saudi drug market.[17]

Studies have shown that general people often have lower knowledge and negative perceptions of generics, viewing them as less effective and of inferior quality compared to branded medication.[18–20] For instance, a study in India showed that nearly 30% were familiar with the term generic medicine, and 50% had a good perception of the generic medicine.[21] Similarly, a study in Lebanon among 385 adults reported a deficiency of knowledge and misunderstandings about generic medicines.[20] In Saudi Arabia, a cross-sectional survey among 450 participants showed that around two-thirds preferred using brand medicines, and one-third of respondents perceived that generic medicines have more side effects and lower efficiency than brand.[22] Given the limited research in Saudi Arabia on consumers' knowledge, perceptions, and use of generic medicines, this study potentially holds significant implications for policy-making. Therefore, the study aimed to assess consumers' knowledge, perception, and use of generic medicine, and evaluate factors affecting the use of generic medicines, with the potential to shape future policies in the healthcare sector to improve generic medicines use.

Methods

Study Design and Population

A cross-sectional study using an online-based survey methodology was conducted from December 2023 through January 2024 in Saudi Arabia. A purposive sampling strategy was employed, targeting adults residing across the five major regions of Saudi Arabia using online distribution channels. The study participants comprised adults aged 18 years and above how are welling to complete the study survey. Informed consent was used and indicated the purpose of the study and the right of the participants to withdraw at any time before proceeding to submit and complete the anonymous survey, without any obligation towards the study team. Participants' data confidentiality was ensured through several measures, and no patient identifiers were collected or presented in the study data.

Development of the Questionnaire

The study questionnaire was constructed after an extensive review of the relevant published studies to identify existing tools (Appendix I). The initial draft of the questionnaire was comprised of 1) demographics, 2) knowledge about generic medicines, 3) perception of generic medicines, and 4) current use and experience with the use of generic medicines. After questionnaire development, a group of investigators (n = 6) reviewed the survey instruments for content and clarity, and face validity. The survey was then translated into the Arabic language to allow non-English speaker the chance to participate in this study. The Institutional Review Board (IRB) approved the study protocol. After the IRB approval, the survey was pilot-tested, and content validity was assessed by conducting cognitive interviews among a purposive sample of diverse ages (N = 25). Minor (typos and edits) modifications to the survey were completed in response to the interviews appropriately.

Procedures

The survey was distributed online and hosted on Google Forms (a web-based survey administration software), and the researchers sent the survey link via Email and social media platforms. Each eligible participant was asked to complete an informed consent form explaining the study's purpose and voluntary participation before completing anonymously the study online survey.

Measures

Measures included demographics, consumers' knowledge, perception, and use of generic medicine. Demographic factors included age, gender, nationality (Saudi, Non-Saudi), region of residence in Saudi Arabia (North, East, Middle, South, and West regions), marital status, education (Less than high school, High school, Undergraduate, and Postgraduate), occupation (seeking work/not working, working (full time), working (part-time)), income (less than $5000, $5000-$15,000, and greater than $15,000), insurance (insured/uninsured). Chronic diseases were measured by asking participants, "Do you have any chronic disease (for example, diabetes, hypertension, etc.)? Four questions evaluated knowledge about generic medicines. The researchers developed a scale of nine items to evaluate the perception of generic medicines; participants were asked to rate their beliefs about generic medications on a 5-point Likert scale: one was "strongly disagree", and five was "strongly agree". A mean belief score ranges from 9 to 45, with a higher score indicating higher beliefs about generic medicines. Current use and experience of generic medications were measured by asking participants three close-ended questions.

Statistical Analysis

Reliability and Construct Validity (Cronbach's alpha for measuring the internal consistency) were conducted for the perception scale, the value for Cronbach's Alpha for the perception scale was $\alpha = 0.80$. Frequency and percentage were used to describe categorical variables. All statistical analyses were carried out using the SPSS software version 21.0, and all statistical tests were conducted at an a priori significance level of $P < 0.05$.

Results

Characteristics of the Study Sample

In total, 691 adults participated in this study. The socio-demographic characteristics of the study sample are presented in Table 1. The majority of the sample were young (76.0%), aged 18–29 years, women (84.2%), from the western region

Table 1 Characteristics of the Study Sample

Variables	N	%
Total	691	100
Age Group		
18-29	525	76.0
30-39	93	13.5
40-49	51	7.4
>50	23	3.2
Gender		
Female	582	84.2
Male	109	15.8
Nationality		
Saudi	609	88.1
Non-Saudi	82	11.9

(*Continued*)

https://doi.org/10.2147/PPA.S532513

Table 1 (Continued).

Variables	N	%
Residence Region		
North	18	2.6
East	69	10.0
Middle	169	24.5
South	41	5.9
West	394	57.0
Marital Status		
Married	193	27.9
Non-married	498	72.1
Education Level		
< High school	9	1.3
High School	70	10.1
Undergraduate	567	82.1
Postgraduate	45	6.5
Medical Field Worker		
Yes	37	5.4
No	654	94.6
Employment		
Seeking work/Not-Working	540	78.1
Working (full time)	33	4.8
Working (part-time)	118	17.1
Monthly Income		
<5000	567	82.1
5000–15,000	101	14.6
>15.000	23	3.3
Chronic Conditions		
Yes	86	12.4
No	605	87.6

(57.0%), and had undergraduate degrees (82.1%). Around 95% indicated that they do not work in the medical field. Almost two-thirds of the sample were unemployed, and around 12% had chronic health conditions.

Current Use and Experience of Generic Medicines

Answers to the questions about the use of generic medicines are shown in Table 2. About fifty percent of the participants had used generic medications. Around one-third of the sample had purchased generic medicines because of the price and received information about the generic medicines. Only around 23.0% would choose a generic drug over a branded drug.

Table 2 Current Use and Experience of Generic Medicines

	Yes		No	
	N	%	N	%
1. Did you take generic medication?	341	49.3	350	50.7
1. Did you purchase generic medication because of the price?	228	33.0	463	67.0
1. Would you choose a generic drug over a branded drug?	157	22.7	534	77.3
1. Did you receive information about the generic medication before?	246	35.6	445	64.4

Table 3 Knowledge About Generic Medicines

	Yes		No	
	N	%	N	%
1. I know what generic medications are	283	41.0	408	59.0
1. No difference between generics and brand medications	250	36.2	441	63.8
1. Brand and generic medication contain the same active substance	240	34.7	451	65.3
1. The price of generic medications is lower than brand medications	383	55.4	308	44.6

Table 4 Perception About Generic Medicines

	1= Strongly Disagree		2= Disagree		3= Neutral		4= Agree		5= Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
1. Generics medication relieves symptoms as brand medication	56	8.1	75	10.9	300	43.4	213	30.8	47	6.8
1. Generic medication is as effective as brand medication	53	7.7	137	19.8	285	41.2	174	25.2	42	6.1
1. The safety of generic and brand medications is the same	65	9.4	161	23.3	269	38.9	151	21.9	45	6.5
1. Generic medications have less side effects than brand medication	84	12.2	169	24.5	317	45.9	101	14.6	20	2.9
1. The quality of generic and brand medications is the same	89	12.9	193	27.9	268	38.8	108	15.6	33	4.8
1. Using generic medication would provide significant savings to me	77	11.1	94	13.6	249	36.0	200	28.9	71	10.3
1. The doctor should always prescribe a generic medication if its available	64	9.3	97	14.0	237	34.3	203	29.4	90	13.0
1. Greater knowledge about generic medication will increase it's use	50	7.2	56	8.1	206	29.8	259	37.5	120	17.4
1. Consumers should have the option of choosing between generic and brand medication	47	6.8	46	6.7	200	28.9	244	35.3	154	22.3

Knowledge of Generic Medicines

Answers to generic medicines' knowledge questions are displayed in Table 3. About forty percent of the participants knew what generic medications are. Around a third of the sample answered yes to "No difference between generics and brand medications" and that "brand and generic medications contain the same active substance". Around half of the participants knew that "the price of generic medications is lower than brand medications".

Perception of Generic Medicines

Participants' perception of generic medicines is displayed in Table 4. There was relatively a marked trust towards generic medications in about one-third of the participants; they either perceive that generics relieve symptoms as brand medications (30.8%), generics would provide significant savings (28.9%), the doctor should always prescribe a generic medication if it's available (29.4%), or patients should have the option of choosing between generic and brand medications (35.3%). However, one-third of the participants disagree that the generics have fewer side effects than brand medications and that the quality of generic and brand medications is the same. Around 50% believe that patients should have the option of choosing between generic and brand medications.

Discussion

This study which included a considerable sample from different regions in Saudi Arabia shed the light on significantly important health-related topic where the findings in the study data reveal critical insights into the knowledge, perceptions, and usage of generic medications among adult participants. In this study, approximately only half of the participants reported using generic medications where lower price was identified as a driving factor for about one-third of participants who purchased generics, reflecting the role of affordability in decision-making. In fact, generic medications are 20–90% less expensive than their original counterparts.[23] Besides, only about quarters of study sample would choose a generic drug over a branded one, underscoring lingering doubts about their trustworthiness and superiority. Limited access to information was also evident, as

only one-third had received prior information about generics. This finding is in consistent with results of published studies in other countries,[24] as around one-half of the study participants knew what generic medications. This finding indicates a significant knowledge gap, highlighting a need for educational efforts targeting consumers and patients in Saudi Arabia. For example, only one-third understand that generics and branded medications have the same active substances and that no significant difference exists between them. This therefore flag an important gap for healthcare providers and stockholders to provide more targeted education for consumers and patients to correct the misperception that generic medicines are inferior to brand name medicines. Generic medicines are required to demonstrate bioequivalence with innovator drugs, ensuring that they have the same active pharmaceutical ingredients (APIs), dosage forms, strength, route of administration, and intended use. Differences may exist in excipients, which rarely affect therapeutic outcomes. Current estimates suggest that generic medicine utilization in Saudi Arabia remains around 39%,[17] significantly lower than in many developed countries, underscoring the need for policy-level interventions.

Moreover, this study finding reported not only a misconception about the effectiveness, however, the safety and composition of generics as well. About one-third only perceive that generics relieve symptoms as well as branded medications. At the same time, one-fourth only agrees that safety is the same. Moreover, about one-third of the participants disagree that generics have fewer side effects or comparable quality, reflecting distrust. In a systematic review of fifty-three published studies, several studies have documented patients' negative perception toward generic medications.[25] These negative perceptions of patients are likely to be a barrier to a broader acceptance of using generics.[18] On the other hand, in countries with longer experience with the use of generic medicines, many patients believe that generic medications are just as safe, effective, and have the same side effects as their name-brand equivalents.[26] This lack of information among patients in Saudi Arabia could contribute to the lower perception towards generic medications. Additionally, cultural beliefs and lack of consistent messaging from healthcare providers may be associated with lower patients' perceptions.

However, this study showed a higher percentage (one-half) knew that generics are priced lower than branded medications, which reflects a stronger awareness of the economic benefits compared to the clinical equivalence awareness of generics. This cost-saving potential can be a significant benefit for patients, especially those with chronic conditions in terms of affordability and therefore adherence. In addition, nearly one-third of participants believe doctors should always prescribe generics when available and agree that providing greater knowledge about generics would increase their usage. This demonstrates a demand for greater trust in medical advice and reinforces the importance of awareness campaigns.

Implications

The findings of this study indicate the critical need to educate the public about the equivalence of generics and branded medications, particularly in terms of active substances, safety, quality and cost-effectiveness which can be all reflected on consumers and patients accessibility and therefore adherence to their medications. Physicians and pharmacists can play a crucial role in improving trust and providing information about generics to patients. Policy initiatives and campaigns emphasizing on cost savings and providing transparent information about generic medication could enhance consumer confidence in generics and increase the use of generic medicines.[27,28] Generic medications have undeniable economic benefits, and their adoption is crucial in many nations to keep healthcare costs under control.[23] It is also essential to consider consumer preferences by encouraging informed decision-making. This approach empowers patients to take an active role in their healthcare by offering choices between generics and branded options based on scientifically balanced information regarding generic and branded medicines. Further, it is important to assess the role of healthcare professionals in shaping consumer perceptions to identify collaborative strategies for promoting generic medicines' use.

Study Strengths and Limitations

There are some limitations in this study. First, we used a cross-sectional study design, and thus, we could not measure the causal relationship. Besides, we have not evaluated the type and severity of chronic illnesses, which has been shown to affect the consumer's knowledge and perception; according to research, participants were more willing to change to generic medication for a minor ailment than a serious one.[24] The data are also self-reported; therefore, we could not

exclude recall bias. The study sample predominantly included young, unemployed females, which may not fully reflect the broader Saudi adult population. This demographic profile may influence the generalizability of findings, particularly regarding medicine purchasing behavior, which could be influenced by other household decision-makers. While the current study did not distinguish between branded and unbranded generics, this is a limitation worth noting. Future studies should consider distinguishing between branded and unbranded generics, as perceptions and usage patterns may vary significantly between the two categories. Yet, this study has included a large sample of participants from different regions in Saudi Arabia using a purposefully designed and tested questionnaire. Additionally, this study tried to answer a significantly important health-related topic in Saudi Arabia where the healthcare system is changing in a rapid pace, particularly the pharmaceutical healthcare system known as the National Unified Procurement Company which is a value-driven and centralized healthcare procurement for pharmaceuticals in Saudi Arabia. This should carry potential for future larger national strategies that should target generic medicines underuse secondary to consumers and patients limited knowledge and misconceptions.

Conclusions

In conclusion, while there is some awareness of generic medications' cost advantages, significant gaps in knowledge and trust hinder their widespread adoption. Addressing these challenges through targeted educational and policy interventions is crucial to promoting the use of generic medications. Educational strategies can include launching national awareness campaigns through social media and community outreach and encouraging pharmacists and physicians to proactively discuss generic options during consultations. It's important to emphasize that these interventions should focus on addressing the knowledge gaps, misconceptions and trust issues identified in the study. By doing so, we can ensure that patients have the information and confidence they need to make informed decisions about their medications.

Data Sharing Statement

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Ethics Approval and Informed Consent

This study involved a social media collected data. All data collected adhered to the terms of service and data use policies of this platform. No private or identifiable user information was collected, and only anonymized, aggregate data were analyzed. According to the platform's policies at the time of data collection, additional user or platform permissions were not required for the use of publicly accessible data for academic research purposes. Ethics approval for this project was obtained from the Institutional Review Board of King Saud University (Approval No. 21/0904). Written informed consent has been obtained from the patient(s) to publish this paper. This study was conducted in accordance with the principles outlined in the Declaration of Helsinki.

Acknowledgments

We extend our appreciation to the Ongoing Research Funding Program, (ORF-2025-1128), King Saud University, Riyadh, Saudi Arabia.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Funding

This research was supported by the Ongoing Research Funding Program, (ORF-2025-1128), King Saud University, Riyadh, Saudi Arabia.

Disclosure

The authors declare that they have no competing interests related to this work.

References

1. IQVIA. The global use of medicines 2024: outlook to 2028. 2024. Available from: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/the-global-use-of-medicines-2024-outlook-to-2028. Accessed July 16, 2025.
2. Organisation for Economic Co-operation and Development (OECD). Generics and biosimilars. 2023.
3. Iuga AO, McGuire MJ. Adherence and health care costs. *Risk Manag Healthcare Policy*. 2014;7:35–44. doi:10.2147/RMHP.S19801
4. Vincent Rajkumar S. The high cost of prescription drugs: causes and solutions. *Blood Cancer J*. 2020;10(6):71. doi:10.1038/s41408-020-0338-x
5. Musich S, Cheng Y, Wang SS, Hommer CE, Hawkins K, Yeh CS. Pharmaceutical cost-saving strategies and their association with medication adherence in a medicare supplement population. *J Gen Intern Med*. 2015;30(8):1208–1214. doi:10.1007/s11606-015-3196-7
6. Association for Accessible Medicines. The U.S. generic & biosimilar medicines savings report. 2024. Available from: https://accessiblemeds.org/wp-content/uploads/2025/01/AAM-2024-Generic-Biosimilar-Medicines-Savings-Report.pdf. Accessed July 16, 2025.
7. Wouters OJ, Kanavos PG, Mc KM. Comparing generic drug markets in Europe and the United States: prices, volumes, and spending. *Milbank Q*. 2017;95(3):554–601. doi:10.1111/1468-0009.12279
8. Alfonso-Cristancho R, Andia T, Barbosa T, Watanabe JH. Definition and classification of generic drugs across the world. *Appl Health Econ Health Policy*. 2015;1(Suppl 1):014–0146.
9. Posner J, Griffin JP. Generic substitution. *Br J Clin Pharmacol*. 2011;72(5):731–732. doi:10.1111/j.1365-2125.2011.03920.x
10. Simoens S, De Coster S. Sustaining generic medicines markets in Europe. *J Generic Med*. 2006;3(4):257–268. doi:10.1057/palgrave.jgm.4940128
11. Cheng Y, Raisch DW, Borrego ME, Gupchup GV. Economic, clinical, and humanistic outcomes (ECHOs) of pharmaceutical care services for minority patients: a literature review. *Res Social Administrative Pharm*. 2013;9(3):311–329. doi:10.1016/j.sapharm.2012.05.004
12. Toverud EL, Hartmann K, Håkonsen H. A systematic review of physicians' and pharmacists' perspectives on generic drug use: what are the global challenges? *Appl Health Econ Health Policy*. 2015;1(Suppl 1):014–0145.
13. Wajid S, Al-Arifi M, Nomay HAA, Mousa YNA, Babelghaith SD. Knowledge and perception of community pharmacists towards generic medicines in Saudi Arabia. *Biomed Res-Tokyo*. 2015;26:800–806.
14. Alghasham AA. Generic drug prescribing in central Saudi Arabia: perceptions and attitudes of physicians. *Ann Saudi Med*. 2009;29(1):24–29. doi:10.4103/0256-4947.51819
15. Howard JN, Harris I, Frank G, Kiptanui Z, Qian J, Hansen R. Influencers of generic drug utilization: a systematic review. *Res Social Administrative Pharm*. 2018;14(7):619–627. doi:10.1016/j.sapharm.2017.08.001
16. IQVIA Institute for Human Data Science. Beneath the surface: unravelling the true value of generic medicines. 2024. Available from: https://www.iqvia.com/-/media/iqvia/pdfs/library/white-papers/iqvia-true-value-of-generic-medicines-04-24-forweb.pdf. Accessed July 16, 2025.
17. Fitch Solutions BMI. Saudi Arabia pharmaceuticals report. 2023. Available from: https://store.fitchsolutions.com/pharmaceuticals-healthcare/saudi-arabia-pharmaceuticals-report. Accessed July 16, 2025.
18. Colgan S, Faasse K, Martin LR, Stephens MH, Grey A, Petrie KJ. Perceptions of generic medication in the general population, doctors and pharmacists: a systematic review. *BMJ Open*. 2015;5(12):2015–008915. doi:10.1136/bmjopen-2015-008915
19. Dunne S, Shannon B, Dunne C, Cullen W. Patient perceptions of generic medicines: a mixed-methods study. *Patient - Patient-Centered Outcomes Res*. 2014;7(2):177–185. doi:10.1007/s40271-013-0042-z
20. Hatem G, Itani R, Ajrouche R, et al. Knowledge, perception and acceptance of generic drugs in the general Lebanese population: a cross-sectional survey among adults. *J Med Access*. 2023;7:27550834221147789. doi:10.1177/27550834221147789
21. De Freitas L, Basdeo D, Wang H-I. Patient reported outcomes in two hospital based outpatient clinics in Trinidad and Tobago: a cross sectional study. Available at SSRN 4509969.
22. Albarraq A. Consumers′ perceptions on generic medicines in Taif city, Saudi Arabia. *Saudi J Health Sci*. 2013;2(1):18. doi:10.4103/2278-0521.112626
23. Dunne S, Shannon B, Dunne C, Cullen W. A review of the differences and similarities between generic drugs and their originator counterparts, including economic benefits associated with usage of generic medicines, using Ireland as a case study. *BMC Pharmacol Toxicol*. 2013;14(1):1. doi:10.1186/2050-6511-14-1
24. Babar Z-U-D, Stewart J, Reddy S, et al. An evaluation of consumers' knowledge, perceptions and attitudes regarding generic medicines in Auckland. *Pharm World Sci*. 2010;32(4):440–448. doi:10.1007/s11096-010-9402-0
25. Alrasheedy AA, Hassali MA, Stewart K, et al. Patient knowledge, perceptions, and acceptance of generic medicines: a comprehensive review of the current literature. *Patient Intelligence*. 2014;6(null):1–29.
26. Kesselheim AS, Gagne JJ, Franklin JM, et al. Variations in patients' perceptions and use of generic drugs: results of a national survey. *J Gen Intern Med*. 2016;31(6):609–614. doi:10.1007/s11606-016-3612-7
27. Dylst P, Vulto A, Simoens S. Demand-side policies to encourage the use of generic medicines: an overview. *Expert Rev Pharmacoecon Outcomes Res*. 2013;13(1):59–72. doi:10.1586/erp.12.83
28. Kaplan WA, Ritz LS, Vitello M, Wirtz VJ. Policies to promote use of generic medicines in low and middle income countries: a review of published literature, 2000–2010. *Health Policy*. 2012;106(3):211–224. doi:10.1016/j.healthpol.2012.04.015