Section: Miscellaneous

Original Research Article

THE CONSEQUENCES OF SELF-MEDICATION SUGGESTED BY PHARMACISTS VERSUS DOCTORS' PRESCRIPTIONS

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Abstract

Self-medication is widespread, particularly in developing countries with limited access to healthcare services. This study compares the effectiveness and risks of self-medication guided by pharmacy salesmen versus medications prescribed by licensed doctors. A cross-sectional survey of 500 participants was conducted to analyse treatment outcomes, adherence levels, and adverse reactions. Results show significant differences in efficacy, safety, and public health implications, underscoring the need for regulatory interventions and public education on safe medication practices. **Background:** Self-medication is a common practice in developing countries, often driven by barriers to accessing professional healthcare services. While pharmacist-recommended treatments may offer convenience, they can lead to risks such as misdiagnosis, incorrect dosages, and adverse drug reactions. This study investigates demographic trends, healthcare behaviours, and the comparative outcomes of self-medication versus treatments prescribed by licensed doctors. The findings aim to guide public health strategies and regulatory measures to promote safe medication practices. **Materials and Methods:** A cross-sectional survey was conducted among 500 participants from urban and rural areas to assess healthcare behaviours and treatment outcomes. Data collected included demographic characteristics, medication practices, treatment adherence, and adverse reactions. Respondents' interactions with doctors and pharmacists were also examined. Analysis focused on evaluating the effectiveness and safety of pharmacist-guided self-medication compared to doctor-prescribed treatments. **Result:** Participants were predominantly male (57%) and aged 51-65 years (30.6%), with high school education (28.2%) being the most common level of education. Occupational status varied, with 25.8% employed and 25% unemployed. Self-medication was frequent, especially for cold and flu medications (29.6%) and antibiotics (23.2%). Pharmacist-recommended treatments were moderately effective (49.8%), but issues such as incorrect diagnosis (30.6%) and side effects (26%) were common. Age significantly influenced healthcare behaviors, with younger participants reporting higher awareness of self-medication risks, while older participants were more likely to consult doctors after pharmacist recommendations. These results highlight the need for targeted public health interventions to promote informed healthcare decisions and ensure medication safety. **Conclusion:** The study highlights the intricate relationship between demographics, healthcare behaviors, and medication practices. Older adults rely more on professional consultations but have lower awareness of self-medication risks, while younger individuals, despite being more informed, face higher adverse effects from pharmacist-recommended treatments. The moderate effectiveness of these medications underscores their role yet points to the need for better diagnostic accuracy and reduced side effects. These findings emphasize the necessity of age-specific interventions to improve awareness and

healthcare outcomes, calling for stronger collaboration among healthcare providers, pharmacists, and public health educators to address self-medication risks effectively.

INTRODUCTION

The ease of obtaining over-the-counter drugs has contributed to the widespread practice of self-medication. While pharmacy salesmen often guide this practice, their recommendations are not always based on thorough medical assessments. In contrast, licensed medical practitioners follow established protocols, considering the patient's history, symptoms, and diagnostic results. This study aims to evaluate the comparative effectiveness, risks, and adherence levels of these two approaches to medication, addressing a critical gap in public health literature.

Self-medication is a widespread practice globally, characterized by individuals using medicines without consulting a healthcare professional. This phenomenon is often influenced by accessibility to over-the-counter drugs, advice from non-medical professionals such as pharmacy salesmen, and socio-economic factors. While self-medication may offer temporary relief and reduce the burden on healthcare facilities, it carries significant risks, including incorrect diagnosis, adverse drug reactions, and antibiotic resistance (World Health Organization, 2020).[1]

Pharmacists play a dual role in healthcare delivery: they act as medication dispensers and as informal advisors for minor ailments. However, their recommendations often lack the diagnostic rigor of a physician's evaluation. Conversely, doctor-prescribed medications are grounded in a systematic diagnostic process, minimizing the risks associated with incorrect treatment. Understanding the consequences of these two approaches is critical for optimizing healthcare delivery and patient safety.

This study aims to investigate and compare the outcomes of self-medication guided by pharmacists versus doctor-prescribed medications. It evaluates their effectiveness, safety, and associated risks to provide insights into improving healthcare practices.

Review of Literature

Prevalence and Drivers of Self-Medication Studies highlight the prevalence of self-medication across various demographics, with convenience and cost-effectiveness being the primary drivers (Alghanim, 2011).[6] A study by Gupta et al. (2020)[7] found that individuals often resort to self-medication for minor ailments such as headaches, colds, and gastrointestinal issues. However, cultural beliefs and trust in pharmacists also contribute to this trend. Risks Associated with Pharmacist-Guided Self-Medication Research indicates that pharmacist-recommended self-medication can lead to misuse of drugs, especially antibiotics, contributing to global health concerns like antimicrobial resistance (Ventola, 2015),[8] Furthermore, a study by Auta et al. (2017)[9] observed that such practices often result in incorrect dosages and inadequate treatment durations, exacerbating health problems rather than resolving them. Comparative Effectiveness of Doctor-Prescribed Medications Doctor-prescribed medications are generally more effective and safer due to their basis in thorough diagnostic evaluations. According to Patel et al. (2018)[10], patients adhering to doctor-prescribed treatments report higher satisfaction and better clinical outcomes. The study also emphasizes the importance of follow-ups, which are often missing in self-medication scenarios. Public Awareness and Education Public awareness campaigns about the risks of self-medication and the importance of consulting healthcare professionals have shown promise. A review by Klemenc-Ketis et al. (2010)[11] stressed the need for stricter regulations on over-the-counter medications and better education for pharmacists to mitigate risks. Regulatory and Ethical Considerations Regulatory policies play a pivotal role in controlling self-medication practices. According to Smith et al. (2019)[12], countries with stringent regulations on drug dispensing experience lower rates of self-medication. Ethical considerations also necessitate that pharmacists prioritize patient safety over profit, ensuring that their recommendations align with established medical guidelines. The existing literature underscores the complexity of self-medication practices and their implications for public health. While pharmacist-guided self-medication offers immediate solutions for minor health issues, its risks often outweigh its benefits. Doctor-prescribed treatments, though more time-consuming and costly, provide safer and more reliable outcomes. This study seeks to bridge the knowledge gap by systematically comparing these two approaches, aiming to enhance patient safety and healthcare efficiency.

MATERIALS AND METHODS

Study Design: A cross-sectional survey using structured questionnaires and interviews.

Population and Sample Size: 500 participants aged 18-60 years from urban and rural regions.

Data Collection: Data were collected through face-to-face interviews and validated questionnaires, focusing on demographic details, medical history, medication practices, and outcomes. Informed consent was obtained from all participants

Data Analysis: Statistical analysis was performed using SPSS to compare the effectiveness, adherence, and adverse reactions between self-medication and doctor-prescribed medication groups.

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RESULTS

Table 1: Demographic Profile.

		Frequency (n)	Percentage (%)
Age	<18	81	16.2
	18-30	87	17.4
	31-50	122	24.4
	51-65	153	30.6
	>65	57	11.4
Gender	Male	285	57.0
	Female	215	43.0
Education	No Formal education	89	17.8
	High School	141	28.2
	UG	128	25.6
	PG	77	15.4
	Others	65	13.0
Occupation	Student	72	14.4
	Employed	129	25.8
	Self Employed	90	18.0
	Unemployed	125	25.0
	Retired	84	16.8

Inference: The demographic data illustrates the distribution of respondents by age, gender, education, and occupation. Age-wise, the majority fall between 51-65 years (30.6%), followed by 31-50 years (24.4%) and 18-30 years (17.4%), with fewer respondents under 18 (16.2%) and above 65 (11.4%). In terms of gender, males constitute a majority (57%), while females account for 43%. Regarding education, the largest group has a high school education (28.2%), followed by undergraduates (25.6%). Notably, 17.8% have no formal education, while 15.4% hold postgraduate degrees, and 13% have other forms of education. Occupationally, the respondents are diverse, with 25.8% employed and 25% unemployed. Self-employed individuals make up 18%, students 14.4%, and retirees 16.8%. This demographic distribution reveals a broad spectrum of age groups, educational backgrounds, and occupational statuses, providing a well-rounded perspective on the study population. The prevalence of older age groups and varying education levels could influence attitudes and behaviours toward healthcare practices, self-medication, and professional consultation.

Table 2: Health Practices and Medication Sources & Awareness and Preferences

		Frequency (n)	Percentage (%)
Consult Doctor	Always	54	10.8
	Frequently	111	22.2
	Occasionally	128	25.6
	Rarely	106	21.2
	Never	101	20.2
Medication Advice – Pharmacy Staff	Always	130	26
	Frequently	131	26.2
	Occasionally	122	24.4
	Rarely	66	13.2
	Never	51	10.2
Without Prescription – type of medicine taken	Painkiller	90	18
	Antibiotics	116	23.2
	Cold and flu medications	148	29.6
	Vitamins or supplements	112	22.4
	Others	34	6.8
Experienced- medications recommended by pharmacists	Yes	249	49.8
	No	251	50.2
Ever felt consult a doctor after using medications by a pharmacist	Yes	289	57.8
	No	211	42.2
Effect in relieving your symptoms recommended by a pharmacist	Very Effective	88	17.6
	Somewhat effective	139	27.8
	Neutral	111	22.2
	Ineffective	107	21.4
	Very ineffective	55	11.0
challenges faced with pharmacist-recommended medications	Wrong dosage	64	12.8
	Side effects	130	26.0
	Incorrect diagnosis of symptoms	153	30.6
	Drug interactions	97	19.4
	Others	56	11.2
Satisfaction with doctor-prescribed treatments compared	Very satisfied	31	6.2
	Satisfied	120	24.0

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to pharmacy-recommended medications	Neutral	131	26.2
	Dissatisfied	88	17.6
	Very dissatisfied	130	26.0
Aware of the potential risks associated with self-medication	Yes	209	41.8
	No	291	58.2
Factors influence decision to opt for pharmacist-recommended medication over consulting a doctor	Cost	69	13.8
	Convenience	111	22.2
	Lack of time	100	20.0
	Trust in pharmacist's advice	67	13.4
	Accessibility of clinics/hospitals	97	19.4
	Others	56	11.2
Choice of prefer	Pharmacist recommended self-medication	127	25.4
	Doctor-prescribed medication	217	43.4
	A combination of both	156	31.2

Inference: The data highlights the behaviour, preferences, and challenges related to consulting doctors, pharmacists, and self-medication practices. Among respondents, only 10.8% always consult a doctor, while a majority engage with medical professionals occasionally (25.6%) or frequently (22.2%). Pharmacy staff are a common source for medication advice, with 26.2% seeking their counsel frequently. Self-medication practices show a preference for cold and flu medications (29.6%) and antibiotics (23.2%), with painkillers also being common (18%). While 49.8% reported experiencing effective results from pharmacist-recommended medications, 57.8% later felt the need to consult a doctor. Issues such as incorrect diagnosis (30.6%) and side effects (26%) are significant concerns with pharmacist-recommended drugs. Satisfaction with doctor-prescribed treatments is mixed, with only 6.2% being very satisfied compared to 26% being very dissatisfied. Awareness of the risks of self-medication is low, with 58.2% unaware of the potential hazards. Cost (13.8%), convenience (22.2%), and accessibility (19.4%) strongly influence the preference for pharmacist-recommended medications. However, 43.4% still favour doctor-prescribed treatments, while 31.2% opt for a combination of both. Overall, the findings underscore the need for improved education on medication safety and accessibility to healthcare services.

Table 3: Association of Demographic Variable with Health Practices and Medication Sources & Awareness and Preferences

		Yes	No	Chi-square value	p value
Experienced adverse effects from medications recommended by pharmacists					
Age	<18	54	27	34.555	<0.001*
	18-30	23	64		
	31-50	60	62		
	51-65	89	64		
	>65	23	34		
Ever felt the need to consult a doctor after using medications recommended by a pharmacist					
Age	<18	62	19	72.365	0.019*
	18-30	64	23		
	31-50	41	81		
	51-65	104	49		
	>65	18	39		
Aware of the potential risks associated with self-medication					
Age	<18	58	23	89.258	0.008*
	18-30	46	41		
	31-50	32	90		
	51-65	73	80		
	>65	0	57		

Inference: The chi-square analysis reveals significant associations between age and various healthcare-related behaviours. Experienced Adverse Effects from Pharmacist-Recommended Medications, the relationship between age and adverse effects is significant ($\chi^2 = 34.555$, $p < 0.001$). Younger respondents (<18) reported the highest incidence of adverse effects (54 yes vs. 27 no). Conversely, older groups (31-65 years) experienced relatively balanced proportions of adverse effects, while those >65 reported fewer adverse events. Felt the Need to Consult a Doctor After Using Pharmacist-Recommended Medications, a significant association exists between age and the inclination to consult a doctor ($\chi^2 = 72.365$, $p = 0.019$). Older adults (51-65) frequently felt this need (104 yes vs. 49 no), while younger groups (<18 and 18-30) also exhibited higher yes responses. In contrast, the 31-50 group more often reported no need to consult a doctor. Awareness of Risks Associated with Self-Medication, age significantly influences awareness of self-medication risks ($\chi^2 = 89.258$, $p = 0.008$). Younger respondents (<18 and 18-30) show greater awareness, while the 31-50 group and older adults (51-65 and >65) are less aware, with the >65 group reporting no awareness at all. These results underscore age-specific patterns in healthcare behaviour, emphasizing the need for targeted

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interventions to address adverse effects, promote informed decision-making, and raise awareness of self-medication risks across different age groups.

DISCUSSION

The findings of this study align with previous research highlighting age-related differences in healthcare behaviours and medication use. Similar studies have reported that younger individuals experience higher adverse effects from medications, potentially due to differences in metabolism, adherence issues, or lack of experience in managing side effects (Smith et al., 2021).[12] In contrast, older adults tend to report fewer adverse effects, which may be attributed to more cautious medication use and physician oversight (Jones & Brown, 2020).[4] The observed tendency of older adults (51-65) to seek medical consultation after using pharmacist-recommended medications is consistent with prior research indicating that older populations are more likely to consult healthcare providers due to concerns about chronic conditions and drug interactions (Choonara et al., 2019).[20] However, the 31-50 age group's lower inclination to consult a doctor may reflect confidence in self-management, as seen in studies on middle-aged adults' healthcare autonomy (Garofalo et al., 2020).[23] Regarding self-medication awareness, the greater awareness among younger respondents (<18, 18-30) aligns with studies showing that digital health literacy and internet access contribute to increased knowledge of medication risks among younger generations (Ghosh,, 2021).[24] Conversely, the lack of awareness among older adults (>65) mirrors findings from previous studies indicating lower digital literacy and reduced access to updated health information (Wazaify et al., 2006).[36] These findings underscore the importance of targeted interventions, such as digital health education for older adults and medication safety campaigns for younger populations, to bridge awareness gaps and improve health outcomes across age groups.

Summary

The study provides insights into healthcare behaviours and demographics of respondents, revealing a predominance of older adults (51-65 years) and males (57%). High school education (28.2%) and diverse occupations characterize the population. Self-medication practices are common, with a preference for cold and flu medications and antibiotics. Pharmacist-recommended medications are moderately effective, but issues like incorrect diagnoses and side effects remain challenges. Chi-square analysis indicates significant age-based differences in adverse effects, the tendency to consult doctors, and awareness of self-medication risks. Younger respondents (<18 and 18-30 years) exhibit greater awareness, while older adults (>65 years) show minimal awareness. These results underscore the need for educational initiatives on medication safety and healthcare accessibility.

CONCLUSION

The findings underscore the complex interplay between demographics, healthcare behaviours, and medication practices. Older adults exhibit higher reliance on professional healthcare consultation but lower awareness of self-medication risks. Younger populations, while more informed, are also more prone to adverse effects from pharmacist-recommended treatments. The moderate effectiveness of pharmacist-recommended medications highlights their role but also signals the importance of improving diagnostic accuracy and reducing side effects. The results call for targeted age-specific interventions to enhance awareness, address self-medication risks, and improve healthcare outcomes, emphasizing the need for collaborative efforts between healthcare providers, pharmacists, and public health educators.

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