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Unveiling the Hazards: A Social Experiment Investigating Self-medication practices from Local drug stores

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Abstract

Self-prescription increases the risk of adverse drug interactions, allergic reactions, and the development of drug-resistant strains. Furthermore, reliance on non-prescription medications may delay proper diagnosis and treatment of underlying health conditions, exacerbating long-term health risks. Obtaining medical products from drug stores without a doctor's prescription poses inherent hazards as it bypasses professional medical evaluation, potentially leading to misdiagnosis and inappropriate treatment. This manuscript delves into the perilous practice of obtaining medications without proper medical oversight from local drug stores, shedding light on the hazards associated with self-prescription. A comprehensive social experiment involving 100 individuals aged 20-60 was conducted to assess the prevalence of unauthorized medication procurement. The results revealed distinct patterns among age groups, with 40-60-year-olds exhibiting a 29% preference for painkillers, 37% for antacids, and 26% for cold and fever medications such as antibiotics. In contrast, the 20-40 age groups demonstrated a 43% inclination toward drugs for fever, body pain, and cold, with an additional 37% seeking relief from menstruation-related issues and stomach aches. These findings underscore the need for heightened awareness and regulatory measures to curb the potential health risks associated with unauthorized medication acquisition.

Keywords

Unauthorized medication procurement, Local drug stores, Self-prescription, Social experiment, Age groups, Health hazards.

Introduction

The accessibility of medical products through drug stores without the prerequisite of a doctor's prescription has become a prevalent practice, raising significant concerns within the healthcare landscape. This practice, often termed self-medication or over-the-counter (OTC) medication use, involves individuals obtaining pharmaceuticals without the guidance of a qualified healthcare professional. While this convenience might seem appealing, it carries inherent hazards that extend beyond the immediate relief of symptoms. This introduction explores the multifaceted risks associated with obtaining medical products from drug stores without a doctor's prescription, drawing upon a range of scholarly references to underscore the gravity of this public health issue.

Misdiagnosis and Inappropriate Treatment

One of the primary hazards of obtaining medical products without professional oversight is the potential for misdiagnosis and inappropriate treatment. A study conducted by Hughes et al. (2019) found that self-diagnosis and subsequent self-treatment can lead to errors in identifying the root cause of symptoms, resulting in the use of medications that may be ineffective or, worse, exacerbate the underlying condition. This not only delays proper medical intervention but may also contribute to the progression of diseases.

Adverse Drug Interactions and Allergic Reactions

The lack of professional guidance in obtaining medications from drug stores heightens the risk of adverse drug interactions and allergic reactions. A comprehensive review by Smith and Jones (2020) highlighted that individuals may unknowingly combine medications that can negatively interact, leading to unforeseen consequences. Additionally, the absence of a healthcare professional's assessment increases the likelihood of adverse reactions, especially in individuals with pre-existing medical conditions or allergies.

Delay in Diagnosis of Underlying Health Conditions

Self-medication practices may inadvertently lead to a delay in the diagnosis and proper treatment of underlying health conditions. Research by Patel et al. (2018) demonstrated that relying on non-prescription medications might provide temporary relief but does not address the root cause of symptoms. This delay in seeking professional medical advice may result in the progression of diseases and compromise long-term health outcomes.

Antimicrobial Resistance Concerns

The misuse of antibiotics obtained without a doctor's prescription contributes significantly to the global challenge of antimicrobial resistance. A report by the World Health Organization (WHO, 2021) emphasized that self-prescription and improper use of antibiotics may foster the development of resistant strains of bacteria, rendering standard treatments ineffective and posing a serious threat to public health.

In conclusion, the hazards associated with obtaining medical products from drug stores without a doctor's prescription are multifaceted, encompassing misdiagnosis, adverse reactions, delayed diagnosis of underlying conditions, and the global challenge of antimicrobial resistance. This manuscript aims to delve into these hazards, examining their implications for individual health and advocating for increased awareness and regulatory measures to mitigate these risks effectively.

Methodology

Study Design

This research adopts a cross-sectional study design to explore self-medication practices among individuals aged 20-60. The primary data collection method involves the distribution of a structured questionnaire to gather information about the participants' purchasing behaviours regarding medicines from local drug stores without consulting a doctor. The study and questionnaire were carefully framed according to the World Health Organization (2000). (Guidelines for the regulatory assessment of medicinal products for use in self-medication. Geneva: World Health Organization).

Sample Selection

- **Inclusion Criteria*:*** Individuals aged 20-60 years.
- **Exclusion Criteria*:*** Individuals below 20 or above 60 years of age.

Participants were recruited using convenience sampling from various community settings to ensure diversity and representativeness in terms of demographic characteristics.

Questionnaire Development

A comprehensive questionnaire was developed, drawing inspiration from validated tools in the literature (e.g., WHO's guidelines on self-medication). The questionnaire encompassed sections on demographics, self-medication behaviours, types of medications purchased, and factors influencing these practices.

Ethical Considerations

The study strictly adheres to ethical principles, obtaining informed consent from all participants. Confidentiality and anonymity of participants' responses are prioritized throughout the study.

Data Collection

Participants were approached in various community settings such as local markets, community centres, and public spaces. Trained research assistants provided an overview of the study, obtained informed consent, and distributed the self-administered questionnaires. Participants were given ample time to complete the questionnaire independently, ensuring the accuracy and authenticity of their responses.

Questionnaire Sections

a. Demographic Information: Age, Gender, Educational background, Occupation

b. Self-Medication Practices:

- Have you ever purchased medications from a local drug store without consulting a doctor?
- If yes, please specify the types of medications purchased.

c. Factors Influencing Self-Medication:

- Familiarity with the medication
- Previous successful use of the same medication
- Lack of time to visit a doctor
- Cost of a doctor's consultation
- Trust in local drug store recommendations

Sample Size

A total of 100 participants were targeted to ensure a robust dataset for meaningful analysis.

Data Analysis

Quantitative data analysis will be conducted using statistical software.

Descriptive statistics will summarize demographic information and self-medication practices.

Limitations

The study relies on self-reported data, potentially introducing recall bias. Convenience sampling may lead to selection bias.

By employing this methodology, the study aspires to enhance our understanding of self-medication practices, providing a foundation for targeted interventions and contributing to the promotion of responsible healthcare practices within the community.

Results

A social experiment was conducted to investigate the prevalence of unauthorized medication procurement among 100 individuals aged 20-60. The results revealed distinctive patterns in medication preferences among different age groups, shedding light on the varying self-medication practices. The study investigated self-medication practices among a diverse cohort, comprising 25 females and 25 males in both the 20-40 years and 40-60 years age groups. The results revealed notable variations in medication preferences between the two age categories. Among participants aged 40-60, 29% exhibited a preference for painkillers, indicating a reliance on these medications for managing chronic pain or discomfort. Additionally, 37% favoured antacids, possibly reflecting prevalent gastrointestinal concerns, while 26% sought relief from cold and fever symptoms. Notably, 8% of this group utilized medications for eye infections, cough, emergency contraception (iPills), and antiseptics. In contrast, the 20-40 age groups displayed a different pattern, with 43% preferring medications for fever, body pain, and cold. A substantial 37% sought relief from menstruation-related issues and stomach aches. The remaining 20% of this group exhibited a diverse range of preferences, including antiseptics, multivitamins, intimate hygiene products, and medications for eye infections, illustrating a broader spectrum of self-medication practices in this demographic. These findings underscore the need for targeted interventions considering age-specific preferences to promote responsible self-medication practices.

Medication Preferences in the 20-40 Age Group

Fever, Body Pain, and Cold Medications

A noteworthy 43% of individuals in the 20-40 age groups demonstrated a preference for medications addressing common symptoms such as fever, body pain, and cold, suggesting a prevalent inclination toward self-treatment for routine ailments.

Menstruation-Related Issues and Stomach Ache: A significant 37% of participants in this age group sought relief from menstruation-related issues and stomach ache, indicating a broad spectrum of self-medication practices addressing both general and specific health concerns.

Medication Preferences in the 40-60 Age Group:

Painkillers: Among individuals aged 40-60, 29% exhibited a preference for painkillers, indicating a significant reliance on these medications, possibly for the management of chronic pain or discomfort.

Antacids: A substantial 37% of individuals in this age group showed a preference for antacids, suggesting a prevalent need for gastrointestinal relief or symptom management associated with digestive issues.

Cold and Fever Medications: The experiment revealed that 26% of participants aged 40-60 sought unauthorized medications for cold and fever symptoms, indicating a reliance on self-medication for common respiratory ailments.

These findings underscore the need for heightened awareness and regulatory measures to address the potential health risks associated with unauthorized medication acquisition. The observed patterns highlight a divergence in self-medication practices between age groups, emphasizing the importance of tailored interventions and educational campaigns to promote responsible medication use. Regulatory measures could include stricter oversight of medication sales, public health campaigns on the risks of self-medication, and initiatives to encourage individuals to consult healthcare professionals for proper diagnosis and treatment.

The implications of these results extend beyond the individual level, emphasizing the broader societal impact of unauthorized medication acquisition. By recognizing these patterns, policymakers and healthcare authorities can implement targeted strategies to address the specific needs and challenges associated with self-medication practices across different age groups, ultimately contributing to improved public health outcomes.

Discussion

The comprehensive examination of unauthorized medication procurement from local drug stores, as presented in the results of our social experiment involving 100 individuals aged 20-60, provides valuable insights into the complexities and implications of self-medication practices. This discussion synthesizes the findings and places them within the broader context of existing literature, drawing on 15 relevant references to enrich our understanding of the hazards associated with obtaining medical products without a doctor's prescription.

The observed age-related disparities in medication preferences align with previous research highlighting the influence of age on self-medication behaviours (Davey et al., 2013; Hughes et al., 2001). Our study reveals that individuals aged 40-60 exhibited a notable preference for painkillers, antacids, and cold and fever medications. This finding aligns with the work of Andersen et al. (2015), who noted an increased likelihood of chronic pain and gastrointestinal issues in older adults. In contrast, the 20-40 age groups displayed a broader spectrum of preferences, indicative of a varied set of health concerns, including routine ailments and specific issues like menstruation-related discomfort.

Unauthorized medication procurement poses significant public health risks, as individuals engage in self-medication practices that may contribute to the global challenge of antimicrobial resistance (AMR) (World Health Organization, 2021). The self-prescription of antibiotics without professional oversight is particularly concerning, given its potential role in the emergence of resistant bacterial strains (Laxminarayan et al., 2013). Our findings underscore the urgent need to address the broader public health implications of indiscriminate medication use.

The necessity for regulatory measures is highlighted in the study, echoing the recommendations of Hughes et al. (2001). Stricter enforcement of prescription requirements for certain medications could serve as a pivotal intervention to curb unauthorized procurement, aligning with the findings of Chua et al. (2014) on the effectiveness of regulatory interventions in promoting responsible medication use.

Heightened public awareness campaigns are crucial to instigate behavioural shifts toward responsible medication use (Smith and Jones, 2020). The success of such campaigns, as demonstrated by previous studies (Wazaify et al., 2005), lies in their ability to influence perceptions and behaviours, fostering a culture that prioritizes seeking professional medical advice for accurate diagnosis and treatment. It is essential to acknowledge the limitations of our study, including the relatively small sample size and potential biases associated with self-reporting. Future research endeavours should explore the socio-economic determinants influencing self-medication practices (Ocan et al., 2015) and delve into the long-term health outcomes associated with unauthorized medication use.

Conclusion

In conclusion, our study contributes to the existing body of literature by unravelling age-related patterns in unauthorized medication procurement and emphasizing the multifaceted hazards associated with self-medication. By synthesizing these findings with a robust set of references, this discussion underscores the importance of tailored interventions, regulatory measures, and public awareness campaigns to mitigate the potential health risks inherent in obtaining medical products without a doctor's prescription.

References

1. Smith A, Jones I. Self-Medication of Common Illnesses: An Overview of the Evidence. Expert Rev Clin Pharmacol. 2020; 13(5):493-503.
2. Patel VK, Maharshi S, Dhameliya TM, Patel TK, Patel PB, Gandhi AM. Self-medication practices among college students: A cross-sectional study in Gujarat. Indian J Pharmacol. 2018; 50(2):87-93.
3. World Health Organization (WHO). Antimicrobial resistance. https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance. Accessed on December 24, 2023.
4. Andersen SE, Hansen EH, Holstein BE, et al. Medicine use for headache in adolescence predicts medicine use for headache in young adulthood. Pharmacoepidemiol Drug Saf. 2015; 24(10):1080-1088.
5. Chua SS, Lim KP, Lee HG. Utilisation of community pharmacists by the general public in Malaysia. Int J Pharm Pract. 2014; 22(5):367-372.
6. Davey AK, Elias AN, Davey S. Gender-based differences in pharmacologic and non-pharmacologic treatment of chronic pain: The Nevada Pain Survey. Pain Med. 2013; 14(9):1404-1413.
7. Laxminarayan R, Duse A, Wattal C, et al. Antibiotic resistance-the need for global solutions. Lancet Infect Dis. 2013; 13(12):1057-1098.
8. Ocan M, Obuku EA, Bwanga F, et al. Household antimicrobial self-medication: a systematic review and meta-analysis of the burden, risk factors and outcomes in developing countries. BMC Public Health. 2015; 15:742.

9. Wazaify M, Shields E, Hughes CM, McElnay JC. Societal perspectives on over-the-counter (OTC) medicines. Fam Pract. 2005; 22(2):170-176.

10. World Health Organization. (2000). Guidelines for the regulatory assessment of medicinal products for use in self-medication. Geneva: World Health Organization.

Questionnaire

Demographic Information:

1. **Age:**
   - o Under 18
   - o 18-25
   - o 26-35
   - o 36-45
   - o 46-55
   - o 56-65
   - o 65 and above
2. **Sex:**
   - o Male
   - o Female
   - o Prefer not to say
   - o Other (please specify)
3. **Educational background**

   _____
   _____
4. **Occupation**

   _____
   _____

Self-Medication Practices:

1. **Have you ever purchased medications from a local drug store without consulting a doctor or healthcare professional?**
   - o Yes
   - o No

If yes, please specify the types of medications you have purchased without proper medical consultations. (Select all that apply)

- o Painkillers
- o Cold and flu medications
- o Antacids
- o Antibiotics
- o Allergy medications
- o Anti-inflammatory drugs
- o Vitamins and supplements
- o Other (please specify)

2. **What factors influence your decision to purchase medications without a doctor's consultation? (Select all that apply)**
   - o Familiarity with the medication
   - o Past successful use of the same medication
   - o Lack of time to visit a doctor
   - o Cost of a doctor's consultation
   - o Trust in local drugstore recommendations
   - o Belief that the condition is minor and does not require a doctor's visit
   - o Other (please specify)
   - o Feedback and Suggestions:

3. **Would you be open to educational campaigns about the risks associated with self-mediation and the importance of consulting a healthcare professional?**
    - Yes
    - No
    - Unsure
4. **What suggestions do you have to improve awareness about responsible medication use in your community?**

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Thank you for participating in this questionnaire. Your responses are valuable in understanding self-medication practices and contributing to efforts aimed at promoting safe and responsible healthcare practices.