

Navigating the Medication Maze: A Study on Self-medication Practices among Nurses in Public and Private Hospitals of Multan, Pakistan

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Abstract

The study aimed to analyze gender disparity in self-medication practices among nurses in private and public hospitals across diverse departments and assess personal and professional factors driving self-medication. The study followed a Cross-sectional Quantitative research design. The respondents were male and female nurses aged 18-50 from Public and Private Hospitals in Multan. Using a multistage sampling method, two public and two private hospitals were selected through simple random sampling from a pool of 16 hospitals in Multan City. One hundred fifty respondents were selected using purposive sampling, specifically targeting nurses actively doing their jobs. The data was gathered by survey method using a self-administered structured questionnaire, which included specific constructs measured using a 5-point Likert scale that ranged from strongly agree to disagree strongly. Univariate analysis, i.e., frequencies and percentages, was conducted using SPSS. A bivariate study used an Independent Sample t-test to ascertain the mean difference between two variables, specifically gender and hospital type. As part of the multivariate analysis, Multiple Linear Regression was used to determine the effect of different professional and personal factors on self-medication practice. ANOVA was applied to analyze the variance in self-medication practices among nurses posted at different departments. Most nurses practice self-medication for various diseases, with private hospital nurses being more interested than government nurses, and female nurses practicing self-medication more than males. Professional and personal factors had a significant impact on self-medication practices. Findings suggested that nurses should be

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educated about health literacy, coping methods, and self-medication behaviors to create a supportive environment for open discussions and monitoring procedures.

Keywords: Self-medication, Self-Prescription, Over the Counter Drugs, Nurses

1 Introduction

Self-medication is when people use prescribed or OTC medications to treat their health conditions without medical advice (Baracaldo-Santamaría et al., [2022](#); Ruiz, [2010](#)). It has become a health concern as it poses challenges, particularly the potential adverse effects of improper usage (Sachdev et al., [2022](#)). Many people prefer self-medication as their go-to method for treating health problems due to its simplicity, cost-effectiveness, and time-saving nature (Fereidouni & Kalyani, [2019](#)). Self-medication thrives in countries with limited resources, a lack of healthcare infrastructure, unregulated medication distribution, unequal resource distribution, a shortage of medical professionals, high costs of professional care, and patient perceptions of healthcare providers. Self-medication drives irrational drug use (Bennadi, [2013](#)).

Although the population commonly practices self-medication, healthcare professionals, including nurses, are not immune to this behavior (Okoye et al., [2022](#); Sawair et al., [2007](#)). It is quite common for professionals such as nurses, midwives, and others in the field to engage in self-medication. Numerous studies have examined how doctors, medical students, and other healthcare professionals approach this practice. However, there is a lack of research specific to our region's population. Therefore, it is crucial to investigate the practices of nurses and midwives within our setting. Engaging in self-medication can pose problems that may negatively impact our mental well-being; hence, it should be avoided at all costs (Swopna & Binita, [2016](#)). The reasons behind nurses resorting to self-medication can be complex. It could include factors like medication access, busy work schedules, familiarity with pharmaceuticals, and a desire for quick relief from minor ailments (Chukwuani et al., [2002](#); Zeb et al., [2022](#)).

Nurses' self-medication has increased due to increasing pharmaceutical knowledge, economic status, decreasing physician trust, and a sense of personal autonomy in health decisions (Barros et al., [2009](#); Khan et al., [2023](#)). This behavior is widespread among busy professionals who struggle to disengage outside of work. It is well known that working conditions can increase worker health risks (Oakman et al., [2020](#); Wilkinson and Marmot, [2003](#)). Understanding why nurses self-medicate is important. First, safety and care quality are affected. Self-medicating nurses may unwittingly harm themselves and their patients due to drug combinations, side effects, or inadequate monitoring (Abdulraheem et al., [2010](#); Nagappa, & Naik, [2022](#)). Second, it stresses the need for healthcare organizations and legislators to address the causes of nurse self-medication and ensure ethical healthcare practices.

The research findings on nurses' self-medication reveal a severe shortcoming, primarily related to the poor understanding of the underlying causes that drive this behavior and the resulting consequences on healthcare delivery. There is substantial evidence indicating the prevalence of self-medication among the general population. However, there is a scarcity of research that focuses explicitly on nurses. Nurses face distinctive challenges and professional limitations that are frequently disregarded in contemporary research. Montgomery ([2011](#)) conducted a study on the practice of physicians self-administering medication (Vanwesemael et al., [2020](#)). There is a lack of comprehension of the cultural, organizational, and personal factors that impact nurses' ability to self-administer medical drugs. In addition, Janatolmakan et al. ([2022](#)) did a qualitative study to investigate the effects of self-medication on nurses. Nevertheless, the study failed to consider the structural and organizational factors contributing to nurses' self-medication. Soroush et al. ([2018](#)) examined other factors related to self-medication among nurses. However, they did not consider

the differentiation between public and private institutions. Giovanni & Greco's (2021) descriptive study offered a chance for more in-depth research in a similar vein.

The empirical and population research gap for self-medication among nurses poses a substantial obstacle in designing targeted treatments and policies to promote safe pharmaceutical practices. Additional research is required to examine the psychological, social, and environmental factors that contribute to self-medication among nurses and the potential impact of this practice on patient care and nurses' well-being. Filling this gap will enhance our comprehension and yield valuable insights for devising strategies to mitigate the hazards linked to self-medication. Consequently, this would enhance health outcomes for nurses and their patients.

The present study is centered on Multan, a city in the Punjab province of Pakistan. Multan has a healthcare landscape with both private hospitals. We chose to investigate self-medication practices among nurses in private healthcare settings because we recognize that healthcare delivery can differ significantly between these sectors, which may impact how nurses self-medicate. By comparing practices in these institutions, our goal is to understand self-medication patterns among nurses in Multan and the associated factors.

1.1 Objectives

The study's primary objectives were:

1. To examine the disparity in self-medication practices concerning gender.
2. To investigate the distinction in self-medication practices between nurses in private and public hospitals.
3. To analyze the variance in self-medication practices among nurses assigned to diverse departments.
4. To evaluate the personal and professional determinants that drive nurses to engage in self-medication.

2 Methodology

The study utilized a cross-sectional quantitative research methodology, employing multi-stage sampling techniques. Out of 16 hospitals, four hospitals in Multan City were selected in the first phase. These included two public hospitals, namely Chuhdary Pervaiz Elahi Institute of Cardiology and Nishtar Medical University & Hospital Multan, and two private hospitals, Bakhtawar Amin Hospital and Ibn-e-Sina Hospital, which were selected using a simple random sampling technique. In the second phase, 150 participants were chosen from each institution, comprising male and female nurses between 18 and 50. Using purposive sampling ensured that the selected respondents were actively working and knowledgeable, providing important insights. The sampling distribution was proportionate to each institution. This approach leveraged the advantages of random and non-random sampling to improve representativeness and relevance while adhering to practical limitations.

The survey method used a self-administered structured questionnaire to gather data. The theoretical constructs identified from the literature review included self-medication-related experiences, factors facilitating self-medication, perceived consequences, and self-medication for various disorders and diseases. Items related to each construct were gathered together. The experts evaluated each construct using the Content Validity Index (CVI). A pilot study was conducted for feedback, and based on this feedback, revisions were made. Cronbach's alpha showed that each questionnaire construct was over 0.7, indicating good reliability.

The participants' responses were recorded using a 5-point Likert scale to assess their degree of agreement with a statement, which ranged from strongly agree to disagree strongly. SPSS calculated frequencies and percentages for univariate analysis. A bivariate analysis of gender and

hospital-type differences in self-medication habits was performed using an independent sample t-test. The study examined self-medication practices among nurses in different departments using multivariate analysis of variance (ANOVA). Using multiple linear regression, the researcher examined personal and professional factors affecting nurses' self-medication.

3 Results

Table 1: Demographic Profile of the Respondents

| Sr. No. | Variables | Categories | Frequency | Percentage |
|---------|--------------------|------------------------|-----------|------------|
| 01 | Gender | Male | 74 | 49.3 |
| | | Female | 76 | 50.7 |
| 02 | Age | 18-25 years | 74 | 49.3 |
| | | 26-33 years | 40 | 26.7 |
| | | 34-41 years | 36 | 24.0 |
| 03 | Hospital type | Private Hospital Nurse | 82 | 54.7 |
| | | Public Hospital Nurse | 67 | 44.7 |
| 04 | Nursing Experience | 1-5 Years | 40 | 26.7 |
| | | 6-10 Years | 71 | 47.3 |
| | | 11-15 Years | 39 | 26.0 |
| 05 | Department | Emergency | 32 | 21.3 |
| | | Ward | 56 | 37.3 |
| | | OPD | 29 | 19.3 |
| | | OT | 33 | 22.0 |

In Table No. 1, an overview of the demographics of the study is displayed. When it comes to gender, there was a representation of male (49.3%) and female (50.7%) respondents, indicating a well-balanced gender distribution within the study. The age distribution showed that participants belonged to age groups. A significant portion fell into the 18- 25 years category (49.3%), followed by percentages in the 26- 33 years (26.7%) and 34 41 years (24.0%) categories, suggesting a range of ages among the participants. Where respondents worked, it was observed that the majority were employed in hospitals (54.7%), with a representation in public hospitals (44.7%). The nursing experience varied across different time frames: 1 5 years (26.7%), 6 10 years (47.3%), and 11 15 years (26%). For the departments, respondents were distributed across Emergency (21.3%), Ward (37), OPD (19), and OT (22).

Table 2: Statistical representation of respondent’s w.r.t. Self-medication-related practices

| Sr.No. | Section A: Self-Medication Related Experiences | SDA % | DA % | N % | A % | SA % |
|---|--|-------|------|------|------|------|
| 01 | Did you practice self-medication? | 18 | 16.7 | 15.3 | 16.7 | 33.3 |
| 02 | Did you prescribe medicine to your family, too? | 30.7 | 6.7 | 22.7 | 8.7 | 31.3 |
| 03 | Did you self-prescribe medicine for non-serious illness? | 30 | 18 | 18 | 8 | 26 |
| 04 | Self-medication was done only for emergency use? | 31.3 | 3.3 | 15.3 | 8.7 | 41.3 |
| 05 | Are you still using old medicine without consulting again? | 33.3 | 4 | 14.7 | 4.7 | 43.3 |
| 06 | Is there any medicine you take regularly because you think you are addicted? | 36.7 | 16 | 11.3 | 6 | 30 |
| 07 | Did you practice self-medication before becoming a nurse? | 6 | 30 | 11.3 | 26.7 | 26.7 |
| 08 | Is the habit of self-prescription reinforced after becoming a nurse? | 12 | 16 | 24 | 22 | 26 |
| 09 | Does your self-prescription effectively treat your problem? | 20 | 13.3 | 21.3 | 6.7 | 38.7 |
| 10 | You did not face any adverse effects by self-prescribing? | 20 | 32.7 | 13.3 | 17.3 | 16.7 |
| Section B: Factors Promoting Self-Medication | | | | | | |
| 11 | Is self-medication harmless? | 0.0 | 16 | 37.3 | 25.3 | 21.3 |
| 12 | Over-the-counter drugs make it easy to self-prescribe. | 0.0 | 24.7 | 15.3 | 22 | 38 |
| 13 | You self-prescribed medication because it was cost-effective? | 0.0 | 20.7 | 24.7 | 7.3 | 47.3 |
| 14 | Do you self-prescribe because you lack time? | 7.3 | 24 | 37.3 | 25.3 | 6 |
| 15 | Do you self-prescribe because your fellow nurses do the same? | 10.7 | 24.7 | 38 | 21.3 | 5.3 |
| 16 | Does work pressure lead towards self-medication? | 10.7 | 26.7 | 37.3 | 20 | 5.3 |
| 17 | Your information sources for self-medication are advice from a pharmacist. | 10.7 | 26.7 | 37.3 | 20 | 5.3 |
| 18 | Do electronic or print media encourage you to practice self-medication? | 0.0 | 0.0 | 52 | 27.3 | 20.7 |
| 19 | The internet makes it super easy to self-diagnose and prescribe. | 0.0 | 1.3 | 50.7 | 27.3 | 20.7 |
| 20 | Does pharmaceutical advertising provoke self-medication? | 0.0 | 0.0 | 52 | 27.3 | 20.7 |

Strongly Agree=SA, agree=A, Neutral=N, disagree=DA, Strongly Disagree=SDA

Table No. 2 gives a statistical representation of respondent’s w.r.t. Self-medication-related practices. This table is further divided into two sections. In section A, we can gain insights into the participants' experiences regarding self-medication. When asked if they practiced self-

the following responses were obtained: 18.0% strongly disagreed, 16.7% disagreed, 15.3% were undecided, 16.7% agreed, and 33.3% strongly agreed. In response to whether they prescribed medicine to their family? 30.7% were in strong disagreement, 6.7% disagreed with it, 22.7% were not sure, 8.7% agreed, and 31.3% had a strong agreement. Regarding self-prescribing medicine for serious illnesses, 30% strongly disagreed, 18% disagreed, 18 % were neutral, 8% agreed; and 26% strongly agreed. When asked if self-medication was only done for an emergency? 3.0% disagreed with it, 15% were not sure;8% agreed, and 41% strongly agreed. For those who answered whether they still used medicine without consulting again? ;33% shown a strong disagreement ;4% were disagreed ;14% were neutral ;4% agreed ;43%, strongly agree.

In response to the question, "Do you regularly take any medicine because you believe you are addicted?" 36.7% strongly disagreed with it, 16.0% disagreed, 11.3% were unsure, 6.0% agreed, and 30.0% strongly agreed. Participants were also asked if they had practiced self-medication before becoming a nurse. The responses included 6.0% of respondents agreeing, 30.0% strongly

agreeing, 11.3% not sure, and 26.7% agreeing and strongly agreeing, respectively. Another question inquired whether the habit of self-prescription was reinforced after becoming a nurse. The responses revealed that 12.0% strongly disagreed, 16.0% disagreed, 24.0% were neutral, 22.0% agreed, and another 26.0% strongly agreed with this statement. When participants were asked if their self-prescribed treatments effectively addressed their problems? The results showed that opinions varied, with 20.0 % strongly disagreeing, 13.3 % disagreeing, 21.3 % remaining neutral, 6.7 % agreeing, and the highest percentage at 38.7% strongly agreeing with this statement. Finally, participants were asked if they faced any effects due to self-prescribing. Responses indicated that 20.00 %strongly disagreed, 32.7% disagreed,13.3 %remained, while17.3 %agreed, and 16.7%strongly agreed with this statement. Based on these findings, it can be concluded that self-medication practices are widespread among individuals; however, their effectiveness and safety vary from person to person.

In section B, we can observe factors that contribute to self-medication. For the statement "Is self-medication harmless?" The responses were as follows: 16.0% disagreed, 37.3% were neutral 25.3%. 21.3% strongly agreed. Regarding "Do over-the-counter drugs make it easy to self-prescribe?" the responses were 24.7% disagreed, 15.3% were neutral, 22.0% agreed, and 38.0% strongly agreed. We also asked participants if they self-prescribed medication because it was cost-effective. The results showed that 20.7% disagreed 24.7% were neutral 7.3%. A significant portion of respondents (47.3%) strongly agreed. Up is the statement, "Do you self-prescribe because you lack time?" Here are the responses: A small percentage (7.3%) strongly disagreed; another portion (24%) disagreed; a considerable number (37.3%) remained neutral; while some (25%) agreed; and a minority (6%) strongly agreed. When asked whether participants engage in self-prescription because their fellow nurses do the same, the answers varied with some disagreement (10%), disagreement from others (24%), neutrality from 38%), agreement from a significant number (21%), and only a few strong agreements (5%).

According to the survey results, there were varying opinions on the relationship between work pressure and self-medication. A small percentage strongly disagreed, while a larger percentage disagreed or remained neutral. On the hand, a significant proportion. I strongly agree with this connection. Similar patterns emerged when it comes to seeking advice from pharmacists as an information source for self-medication. Some strongly. Disagreed, while others remained neutral or agreed. The influence of print media in encouraging self-medication was met with responses. A majority remained neutral. A significant number agreed or strongly agreed. The ease of self-diagnosing and prescribing through the internet also garnered opinions. While a small percentage disagreed, many were neutral about this aspect—however, a considerable number. They were strongly agreed with the statement. Lastly, when it came to pharmaceutical advertising's impact on provoking self-medication again, there were responses. The majority maintained a stance. A significant proportion still agreed or strongly agreed. Overall, these findings, from Table No. 2 suggest that multiple factors contribute to promoting self-medication among the participants.

Table 3: Independent Samples t-test contrasting self-medication practices among Public and Private Hospital Nurses

| Variable | Hospital Type | N | Mean | S. D | T | P | Finding |
|--------------------------|----------------|----|-------|-------|--------|-------|------------------------|
| Self-medication practice | Private Nurses | 82 | 36.77 | 7.909 | 12.506 | 0.000 | Significant Difference |

(* $p < 0.01$)

In Table No. 3 we can observe the outcomes of a sample t-test that compares the self-medication practices of nurses working in private hospitals. The study involves 82 nurses from hospitals. 68 nurses, from government hospitals. The average self-medication score for nurses in hospitals is

36.77 while for those in government hospitals, it is 24.01. Private hospital nurses have a deviation of 7.909 whereas government hospital nurses have a deviation of 4.342. The t value is calculated to be 12.506 indicating a difference between the self-medication practices of these two groups of nurses with a low p value of 0.000. This implies that there exists a disparity in self-medication practices, between private and government hospital nurses based on this test's findings.

Table 4: Independent Samples t-test contrasting self-medication practices among male and female nurses

| Variable | Gender | N | Mean | S. D | T | P | Finding |
|--------------------------|--------|----|-------|-------|--------|-------|------------------------|
| Self-medication practice | Male | 74 | 24.00 | 4.268 | 14.273 | 0.000 | Significant Difference |

(*p<0.01)

The data presented in Table No. 4 showcases the outcomes of a sample t-test that aimed to compare the practice of self-medication, between female nurses. The study included 74 nurses and 76 female nurses. Male nurses had a self-medication score of 24.00 while female nurses had an average score of 37.79. The standard deviation for nurses was found to be 4.268 whereas for nurses it was slightly higher at 7.226. The calculated t value was recorded as 14.273 indicating a difference in self-medication practices between female nurses. This is further supported by the p-value of 0.000 signifying a highly significant difference in self-medication practices between the two groups. In conclusion, it can be inferred from these findings that there is a disparity in self-medication practices among male and female nurses with women generally engaging in this practice to a greater extent, than their male counterparts.

Table 5: Multiple Linear Regression analyzing the impact of profession-related factors on self-medication practices

| D.V | I.V/ Predictor | B | Std. Error | β | T | P | R ² | Finding |
|--------------------------|----------------|--------|------------|--------|--------|-------|----------------|--------------------|
| Self-medication practice | (Constant) | 11.333 | 3.246 | | 3.491 | 0.001 | 0.408 | Significant Impact |
| | NP | 2.195 | 0.244 | 0.589 | 8.989 | 0.000 | | |
| | CA | 1.511 | 0.589 | 0.338 | 2.565 | 0.011 | | |
| | WE | -1.178 | 0.544 | -0.282 | -2.167 | 0.032 | | |

D.V, Dependent Variable, I.V, Independent variable, NP, Nursing Profession, CA, Colleague advice, WE, Work environment (*p<0.05)

The findings, in Table No. 5 display the outcomes of a linear regression analysis that examined the influence of factors related to one's profession on self-medication practices. The predictor variables, which were investigated for their impact on self-medication practices include "Nursing Profession" and "Colleague Advice ". Work Environment." Each predictor variable has a corresponding B coefficient indicating its estimated effect on self-medication. Specifically, the coefficient for "Nursing Profession" is 2.195, for "Friends Advice" it is 1.511 and for "Work Environment" it is 1.178. Additionally, the beta (β) values stand as coefficients that allow us to compare the importance of each predictor variable. In this case "Nursing Profession" has a value of 0.589 "Friends Advice" has a value of 0.338 and "Work Environment" has a beta value of 0.282. Furthermore, the t value indicates how errors away, from zero the coefficient stand. Higher absolute t values suggest an impact. In this case the t value, for the "Nursing Profession" is 8.989, the t value for "Colleague Advice" is 2.565 and the t value for "Work Environment" is 2.167. The p-values associated with these factors are 0.000, 0.011, and 0.032 respectively. Based on an R-value of 0.408 it can be inferred that 40.8% of the variation in self-medication practices can be attributed to these factors related to one's profession. From a standpoint, it can be concluded that both the "Nursing Profession" and the "Work Environment" have an impact on self-medication practices due to their low p values, high t values, and respective beta values. Although, to an extent, it should also be noted that "Friends Advice" has an impact.

Table 6: Multiple Linear Regression analyzing the impact of personal factors on the practice of self-medication

| D.V | I.V/ Predictor | B | Std. Error | β | T | P | R ² | Finding |
|--------------------------|----------------|-------|------------|---------|-------|-------|----------------|--------------------|
| | (Constant) | 0.724 | 3.859 | | 0.188 | 0.851 | | |
| Self-medication practice | CE | 1.584 | 0.241 | 0.439 | 6.577 | 0.000 | 0.363 | Significant Impact |
| | MI | 0.499 | 0.248 | 0.131 | 2.009 | 0.046 | | |
| | A | 1.370 | 0.284 | 0.321 | 4.817 | 0.000 | | |

*D.V, Dependent Variable, I.V, Independent variable, CE, Cost Effectiveness, MI, Media Influence, A, Addiction (*p<0.05)*

Table No.6 displays the findings of a study that used regression to explore how personal factors influence self-medication practices. In this analysis, we examined three predictor variables; "Cost Effectiveness," "Media Influence," and "Addiction." The B coefficient represents the estimated impact of each predictor, on self-medication behavior. For "Cost Effectiveness" the coefficient is 1.584; for "Media Influence," it is 0.499; For "Addiction," it is 1.370. The beta (β) value indicates the coefficients allowing us to compare the importance of each predictor variable. Specifically, "Cost Effectiveness" has a beta of 0.439 "Media Influence" has a beta of 0.131. "Addiction" has a beta of 0.321.

The t value measures how far each coefficient deviates from zero, in terms of errors, a higher absolute t value suggests a significant impact. In our case "Cost Effectiveness" has a t value of 6.577 "Media Influence" has a t value of 2.009. "Addiction" has a t value of 4.817. Regarding the topic of "Cost Effectiveness," the statistical analysis reveals a p-value of 0.000 while for "Media Influence" it stands at 0.046, and for "Addiction," it is also recorded as 0.000. The R-squared value serves as an indicator of how the predictor variables explain the variation observed in the variable. In this case, the R squared value amounts to 0.363 suggesting that 36.3% of the variance in self-medication practices can be attributed to these personal factors. Based on these findings we can conclude that both "Cost Effectiveness" and "Addiction" significantly influence self-medication practices as evidenced by their p values and high t values. However, it is worth noting that while "Media Influence" does have an impact on self-medication practices its influence is comparatively lesser, in magnitude.

Table 7: ANOVA analyzing self-medication practice among nurses posted in different Departments

| Variable | Station | N | M | Group Dynamics | Sum of Squares | Df | Mean Square | F | P | Finding |
|--------------------------|---------|----|------|----------------|----------------|----|-------------|-------|-------|------------------------|
| Self-medication practice | E. R | 32 | 5.38 | BWG | 55.175 | 3 | 18.392 | 3.440 | 0.019 | Significant Difference |
| | W | 56 | 6.82 | | | | | | | |
| | OPD | 29 | 5.93 | WIG | 780.485 | 14 | 5.346 | | | |
| | OT | 33 | 6.82 | | | 6 | | | | |

*E.R, Emergency room, W ward, OPD outpatient dept., OT operation theatre, BWG, Between Groups, WIG, Within Groups(*p<0.05)*

In Table No. 7, we can see the findings of a study that examined how nurses in departments practice self-medication. The departments mentioned include "E, Emergency," "W, Ward," "OPD" (Outpatient Department), and "OT" (Operating Theatre). The mean score for self-medication among nurses in the "Emergency" department is 5.38, while it is 5.93 for nurses in the "OPD" department. On the other hand, nurses in the "Ward" and "OT" departments have mean scores of 6.82. The Sum of Squares helps us understand how much these scores differ. The term "Df" represents degrees of freedom associated with variations between and within groups. In this analysis, there are 3 degrees of freedom for variations between groups and 146 degrees for variations within groups. The mean square indicates the variation in self-medication practice scores. We use the F statistic to determine whether there is a difference among the means of these departments, which measures the ratio between variation among groups and variation within

groups. In this case, the F statistic is calculated as 3.440. The p-value (0.019) linked to the F statistic determines if the differences observed are statistically significant. When the p-value is less than 0.05) it suggests a noteworthy distinction in self-medication practices among the departments. The statistical findings indicate a “difference” in self-medication practices across departments. This conclusion is drawn from the p-value (0.019) and the significant F statistic (3.440), which implies that at least one department stands out significantly from others regarding self-medication practices.

4 Discussion

The statistical analyses performed in this study offer valuable insights into the phenomenon of nurses self-medicating and its relationship to previous research. These findings emphasize the significance of self-medication practices and the diverse factors contributing to this behavior. An intriguing discovery is that a substantial proportion of nurses, specifically 33.3%, ardently endorse the concept of self-medication, as indicated by Sharma's (2020) study. This highlights the extensive prevalence of this practice in the nursing community. It is important to emphasize that self-medication is not limited to nurses; it also applies to the general population. According to research, cost-effectiveness, peer influence, and media exposure influence self-medication. These results match Fereidouni and Kalyani (2019) and Hamid et al. (2012). It is essential to recognize that some nurses support self-medication, and others oppose it.

An intriguing discovery is the existence of disparities in self-medication practices among nurses employed in private hospitals versus those employed in government hospitals. It appears that nurses in hospitals may be able to obtain medications, which could increase self-medication rates. This observation implies that the healthcare industry itself impacts the decisions made by healthcare professionals regarding self-medication. This conclusion is corroborated by Hanumaiah and Manjunath (2018). Another fascinating finding is the variation in self-medication practices between genders, with female nurses exhibiting higher scores than their male counterparts. The statistical analysis offers evidence of a gender-based disparity, suggesting that gender plays a role in decisions related to self-medication. This finding is supported by a prior study by Lukovic et al. (2014). This phenomenon may be attributed to variations in healthcare-seeking behaviors, attitudes towards self-care, or other gender-related factors that necessitate further investigation.

The multiple linear regression analysis, which specifically examines the factors associated with one's occupation, highlights the influence of being a nurse on the practice of self-medication. Nurses frequently perceive a high level of autonomy in managing medication usage as a result of their professional responsibilities, which may lead them to engage in self-administration of medication. Linear regression analysis reveals that nurses' resort to self-medication due to its cost-effectiveness and occasionally develop addiction to specific substances. This finding is corroborated by a previous study conducted by Fereidouni and Kalyani (2019). Therefore, it is crucial to consider cost-effectiveness as a significant factor when supporting self-medication. Furthermore, the ANOVA results unambiguously demonstrate that a nurse's department or area of specialization can influence the frequency of self-medication. This finding aligns with a study by Hanumaiah and Manjunath (2018). This discovery is significant considering the departmental and specialization factors in creating customized interventions. Further investigation is necessary to understand the reasons behind and outcomes of healthcare professionals engaging in self-medication.

4.1 Practical and Theoretical Implications

These findings have multiple theoretical and practical implications. To effectively address the issue of self-medication among nurses and develop appropriate interventions to promote safe medication practices, it is critical first to understand its prevalence and the factors that influence it. Individualized approaches may be required to address the differences in needs and behaviors

between male and female nurses. Furthermore, the rising prevalence of self-medication in hospitals highlights the need for stricter medication control regulations as well as increased awareness of the negative consequences of self-medication.

Theoretically, these findings add to the literature on healthcare professional behaviors and decision-making processes. This study's findings support existing hypotheses about how gender and occupational factors influence health behaviors. Furthermore, evidence that nurses self-medicate because they believe they have control over their treatment and because it is cost-effective helps us understand the underlying motivations for this behavior. The findings can be linked to the Self-Determination Theory, which emphasizes the importance of autonomy and competence in influencing health behaviors Ryan and Vansteenkiste (2023).

Nurses' perception of having authority over medication use because of their professional expertise is consistent with this theory, which proposes that improving their understanding of the risks associated with self-medication may lead to changes in these practices. These findings can also be interpreted using Social Cognitive Theory. Individual environmental and behavioral factors influence an individual's behavior, according to Bandura's (2001) theory of behavior (Saari et al., 2021). Gender, social relationships, and the workplace affect self-medication, according to the study. Understanding what drives healthcare professionals' self-medication allows for broad, multifaceted approaches.

4.2 Conclusion

This study investigated the practice of nurses self-administering medication and offered valuable insights into this prevalent occurrence. This practice is prevalent, as 33.33% of research participants strongly endorsed self-medication. The statistics gathered from the research also indicate the presence of a gender disparity. Female nurses exhibit a higher prevalence of self-medication (37.79%) compared to male nurses (24.00%). The former individual may hold unconventional healthcare beliefs and engage in unorthodox practices, which could potentially account for this discrepancy. The study also examines the impact of nursing factors on self-treatment. A contributing factor is the extensive pharmacological knowledge possessed by nurses. The study indicates that nurses prefer drugs that they have prior experience with. Some personal factors also influence the decision to self-medicate, such as avoiding the additional cost of seeing a doctor and an addiction to specific drugs.

The current study provides essential data and significant information in uncovering different behavioral patterns associated with the practice of self-medication among nurses. His study examines factors that directly impact the decision-making process regarding self-medication in nursing departments. It also identifies specific characteristics of these departments that should be considered. The research findings indicate that various factors, which affect both personal and professional aspects, significantly influence the decision of healthcare professionals to engage in self-medication. The results and analysis also indicate that professional factors significantly influence self-medication more than personal factors. The healthcare profession significantly shapes the practice of self-medication. The statistics above, findings, and discussion indicate the need for structural changes and the development and enforcement of appropriate policies. The current study and other similar studies may be beneficial in addressing these issues.

4.3 Limitations of the Research

The use of self-administered questionnaires can lead to possible bias in the respondents' responses, where the nurses might over-report or underreport the self-medication behaviors for different reasons. Similarly, the cross-sectional design of the research limits the possibility of proving the causal relationship between independent and dependent variables. For the casual relationship, a longitudinal study is appropriate. Future researchers can use qualitative approaches and

longitudinal research designs to investigate this practice and offer an in-depth understanding of it.

4.4 Suggestions

In the context of the given findings, policymakers can consider making the following structural reforms:

1. Educating the medical staff through awareness seminars or programs and making effective interventions based on gender differences.
2. Programs should be started to promote health literacy and make the participants aware of the risks of self-treatment.
3. Raising awareness about various coping mechanisms to discourage self-medication.
4. Fostering a conducive environment for the nurses and other healthcare professionals to talk about their diseases and ailments with the physicians freely.
5. Implement programs to monitor and assess self-medication behaviors among the medical staff.

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