Social Sciences and Business Review **(2023)** 1(1):i–XX
ISSN: XXXX-XXXX | DOI 10.XXX/sXXX-XXX-XXX-X

SOCIAL SCIENCES AND BUSINESS REVIEW

Perceived Reason for Self-Medication: A case study of students of UMT Lahore

Wajahat Ali[1]

How to cite this article:

Wajahat Ali (2023). Perceived Reason for Self-Medication: A case study of students of UMT Lahore. *Social Sciences and Business Review*. 1(1). i–XX.

Received: February 2, 2023/ Accepted: March 8, 2023/ Published: June 30, 2023.

Abstract

Many individuals belonging to lower socioeconomic statuses may resort to SM as a cost-effective alternative, unaware of the potential health hazards. Garg evaluated the effect of health education involvement on antibiotic awareness and perception among market women in Nigeria, suggesting the potential effectiveness of targeted interventions. The accessibility of drugs without a prescription in local pharmacies adds another layer to this complex problem. Although with these concerning realities, there is a notable lack of works addressing SM in Pakistan, and no considerable measures have to be used to tackle the growing problem. This study aims to fill this critical gap by presenting comprehensive insights into students of the University of Management and Technology, Lahore, (UMT). Previous experiences with self-medication, the financial challenge that leads to self-medication, and, the awareness level of UMT youth regarding self-medication.

Keywords: socioeconomic statuses, health education, University of Management and Technology, self-medication.

[1] University name, Lahore, Pakistan
e-mail:

1. Introduction

‘’The term SM is defined as gaining and taking drugs without consulting the physician for diagnosis, recommendation, or tailing of treatment’’. This involves individuals engaging in practice such as acquiring medication without a prescription, resubmitting old prescriptions for new purchases, sharing medications within social circles, and utilizing leftover medicine stored at home. There are two main kinds of medicine: OTC(over-the-counter) and prescription medicine(Rx products) OTC medicines are the ones you can buy without needing a doctor's note and you can get them at places like pharmacies and supermarkets. They are available for everyone because you do not need special permission. On the other hand, Rx medicine needs a prescription from doctors. This means you cannot just go to the store and buy them without the doctor’s note. You have to visit a healthcare professional, as a doctor and they will prescribe for you. This system helps ensure that people are using certain medicines safely (Barrenberg & Garbe, 2017).

World Health Organization defines SM as the ‘’ use of over-the-counter medication (OTC) to treat self-diagnosed symptoms or disorders for the continuous and re-use of prescribed medications for recurrent diseases. The irrational use of drugs has garnered significant public and professional concern globally. Prevalence rates are strikingly high, reaching up to 68% in European countries ((Mehandru et al., 2006). Developing nations including our neighboring countries India 53.57% and Nepal 59% face substantial prevalence rates. Despite limited research on SM in Pakistan, recent studies support that the range of SM ranges from 53% to 61.3%. (Azhar et al, 2021). This is particularly alarming considering the rising trend despite concerted efforts to address the issue.

The issue extends beyond the academic environment, as an examination on broadly marketed medications revealed that most college students used at least one of the promoted goods without consulting their physician. Notably, there is a lack of comprehensive studies in Pakistan assessing SM practices among the youth, despite the obvious challenges in the country’s healthcare system. Velmahos et al. (2019) found a high prevalence of SM among pregnant women in Nigeria, with painkillers and antipyretics being the most frequently used medications. In Pakistan, the accessibility of drugs without a prescription is common across pharmacies, a phenomenon dominant in many developing countries. McManus et al. (2014) discussed the misuse of over-the-counter medicines and nutritional supplements among adults and children in the United States, highlighting the need for regulatory measures. This practice exposes the public, including the youth, to antibiotics and potentially habit-forming medications without appropriate awareness of the potentially lethal effects. The insufficiency of a vigorous primary healthcare system and cost-related prompts individuals to seek alternatives to professional medical assistance. The financial challenges faced by individuals, and couples with a lack of risk linked with self-medication, further worsen the issue.

2. Problem statement

“Treatment of illness or symptoms through self-diagnosis is known as Self-medication.’’ (Helal & Abou-ElWafa, 2017). SM involves obtaining medication without a prescription, renewing an old prescription for the acquisition of new medications distributing medication among family or friends, or utilizing unused medication that has been stored at home (Mehmood et al., 2016).

Some reasons for this include not having enough money, limited access to healthcare, easy availability of drugs, and a strong sense of care and support within communities and families. (Tashima et al., 1999). Despite advancements in healthcare, the phenomenon continues among university students. Despite possessing a comprehensive understanding of the health risks associated with drugs, undergraduate pharmacy students in Pakistan exhibit alarmingly high rates of irresponsible SM with psychoactive stimulants and antidepressants. This phenomenon can be attributed to the intense academic competition and pressure prevalent within their educational

environment. Regardless of their advanced knowledge of pharmacology and its potential consequences, these students yield to the demands of their rigorous coursework and resort to SM as a means to cope with stress and enhance performance. However, this practice not only jeopardizes their own health but also undermines the professional integrity of future pharmacists. Efforts must be made to address the underlying factors contributing to this behavior and promote healthier coping mechanisms within the student community (Mehmood et al., 2016). They are posing a potential risk to their health. The University of Management and Technology Lahore is not safe from this trend, and understanding the perceived reasons behind SM among its students is crucial for planning target interventions. This study aims to find the perceived reasons for SM among the students.

3. Research Questions

The study seeks to tackle the following questions

RQ_1: Is there any correlation between previous experiences of SM and Self-medication?

RQ_2: Is there any relationship between financial problems and Self-medication?

RQ_3: Is there any relationship between lack of awareness regarding SM and Self-medication?

4. Research Objectives

The specific aims of this research are outlined as follows;

RO1: To investigate the correlation between previous experiences of SM and Self-medication.

RO_2: To investigate the correlation between financial problems and Self-medication.

RO_3: To investigate the correlation between lack of awareness regarding SM and Self-medication.

5. Significance of the study

As we see, SM is common in students who are studying at universities. It raises questions about why this is happening. This study becomes essential because it aims to uncover the underlying reasons behind students' decision to self-medicate rather than look for professional medical advice. By examining their previous experience, understanding financial challenges, and addressing the lack of awareness, we aim to paint a clearer picture of the factors that influence these choices.

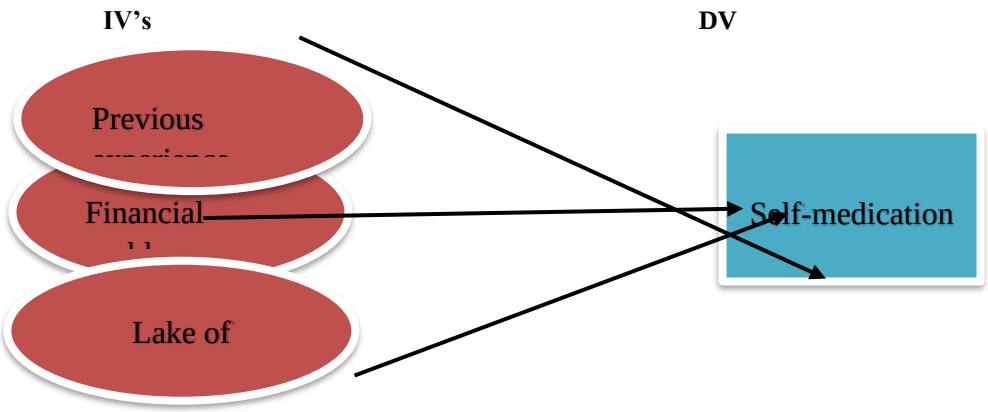
This research is not just about identifying the issues; it is about finding practical solutions. Once we understand what pushes students to self-medication, we can cultivate targeted policies to guide them toward better substitutions. This is not only beneficial for the individuals involved but also essential for the overall well-being of the student community who are studying at the University of Management and Technology.

The study's findings have the potential to trigger positive changes on campus. They could lead to the implementation of improved awareness programs, the formation of stronger support systems, and the development of policies that facilitate easier access to proper healthcare. Ultimately, the goal is to create an environment where students make knowledgeable and healthy adoptions regarding their good fortune contributing to a safer and more health-conscious campus. Various groups stand to benefit from this study, including students, teachers, parents, officials, learners, curriculum developers, the community at large, as well as non-governmental organizations because it gives them knowledge and understanding about SMand why they undergo work in this age. The outcome may assist the administrators to have a better understanding of the reasons behind problem self-medication.

Furthermore, the University of Management and Technology Lahore can leverage these outcomes to arrange workshops and conferences highlighting the significance of eradicating SM among the students. The relationship between SM and variables like previous experience, financial problems, and lack of awareness is significant as it addresses a critical social issue. It can contribute to future policymaking by providing insights into the root causes of SM and helping design targeted interventions.

6. Research framework

A research framework, also referred to as a research methodology, constitutes a collection of principles and assumptions that direct the planning and execution of a research study. It offers a systematic approach to conducting research, playing a crucial role in upholding the validity, reliability, and credibility of the study. This framework outlines the dependent variables, independent variables, and moderators, providing a structured foundation for the research endeavor. In this research, SM is a Dependent variable while previous experience with SM, Financial problems, and lack of awareness are the independent variables.



7. Research Hypothesis

Drawing from the research goals and questions, the subsequent hypotheses have been constructed:

H_1: There is a noteworthy affiliation between previous experience with SM and Self-medication.

H_0: There is no noteworthy affiliation between previous experience with SM and Self-medication

H_2: There is a noteworthy affiliation between financial problems and Self-medication.

H_0: There is no noteworthy affiliation between financial problems and Self-medication.

H_3: There is a noteworthy affiliation between lack of awareness and Self-medication.

H_0: There is no noteworthy affiliation between lack of awareness and Self-medication.

8. Literature Review

The article "SM amongst University students of Karachi: prevalence, knowledge and Attitudes" explores the habits of SM among Pakistani university students in Karachi and is addressed in the publication. It writes the prevalence of SM remains high among the formative years, regardless

of the bulk of people who are aware of its detrimental belongings it is imperative to instruct the youth to promote safe does. Additionally, stringent strategies must be enforced on the promotion and sale of drugs to curb the escalation of the issue. This article digs up how often SM is, what people know about it, and how they react to being taught about the process of SM and not. The relevant points here worth noticing are; the percentage of individuals in the study whose average age was 21 reported using self-medication. According to the article, it was mostly determined by prior experience with similar symptoms. They believed that the issue was minor, the maximum repeated signs that headed to SM were headaches, fever, and flu-like signs; painkillers were the most often utilized drugs, as the article states, the accessibility of more compound drug groups such as antibiotics without instruction is a source of great concern. Through different processes and studies, the study comes down to a conclusion and it found that even while educated youth in Pakistan are aware of the negative effects of SM, the practice is exceedingly dominant among those individuals. According to the article, the prevalence of SM practices amongst educated youth in Pakistan is alarmingly high, with both medical and non-medical students engaging in this behavior despite being aware of its incorrectness. To address this issue and prevent its escalation, a comprehensive approach is recommended. This approach includes:

I. Raising awareness and educating individuals about the associations of SM,

II. Implementing strategies to curb the supply of medicines without prescriptions by pharmacies.

III. Enforcing strict regulations on pharmaceutical advertising

IV. Devising strategies to improve access to healthcare services.

Furthermore, the study suggests that further research in this area is warranted. Highlighting the significance of acknowledging and addressing this real problem.

This article brings the alarmingly high rate of SM into the spotlight among young youth, especially those students who are studying medication and other fields, even, those who are unaware of the fact that the thing they are doing is entirely harmful and wrong, it may have fatal consequences to their health. The above-mentioned quotation points out the importance and necessity of taking a holistic approach to address this problem, one that includes reinforcing strict rules and regulations regarding pharmaceutical advertisements, establishing techniques to prevent pharmacies from supplying medicines and drugs without prescription, and teaching students about the implications of self-medication. Overall, this article emphasizes how urgent it is to take aggressive steps to stop Pakistani students and young adults from taking medicines without prescription and medical supervision. Though it may be a pocket-sized thing, it has devastating and life-threatening effects on a human's body and mental health.

Within the recommendations were the necessity of enforcing stringent regulations on medicine sales and promotion, instructing young people about safe practices, and improving access to healthcare. The results made clear how urgently awareness-raising, preventative measures, and stronger laws must be implemented to address the problems of young SM in Pakistan.

Another article titled "Prevalence and Significances Associated with SM in Our Society: A Global Issue" by (Maria et al). shows a special emphasis on Pakistan. It writes that the use of medication with a prescription from a licensed healthcare provider is known as self-medication. According to the article, she defines SM as ''the practice of medicines without a recommendation from a certified consultant, obtaining medicines based on old prescriptions recommended under different symptoms and circumstances or using medicines already stored at home." It involves purchasing medications based on previous prescriptions, following guidelines

for distinct symptoms, or using medications that are currently kept on hand at home, through the process of surveying one hundred Respondents in Karachi's general area as part of the study. Of these, it was discovered that 68% of people were self-medicating. This is a common practice among 40 medical professionals and 60 non-medical professionals. This article emphasizes that because SM is affordable and easily accessible, it is a popular practice in developing nations like Pakistan. The younger generation is particularly vulnerable due to media exposure and increased pharmaceutical promotion. As it states particularly the younger generation is open to media and the enlarged marketing of medications stances a bigger risk to the undeveloped population" Further it states, "the purpose was to regulate the commonness of SM between mutual sections of civilization and recognize the foundations and details of SM." Additionally, it underscores the dangers of self-medication, including misdiagnosed conditions, overdosing on medicines, abusing them for prolonged periods, and creating drug combinations. This kind of antibiotic overdose or misuse will result in resistance to bacteria, which will eventually make it more difficult to cure successfully. Regarding the misdiagnoses the article states, that a little of the difficulty correlates with SM corresponding to screened analyses, the habit of unnecessary drug quantity, the extended period of use, and drug interaction can develop in a self-medicating person."

"Even though a significant portion of educated youth are conscious of the adverse consequences associated with self-medication, its prevalence remains high. It is imperative to educate young people about the importance of adhering to safe practices. Furthermore, it is essential to enforce stringent policies regarding the promotion and distribution of medications to curb the escalation of this issue."

The next article "Perception and Practices of SM among University Students in Lahore" Pakistan discusses the various methods used in self-medication, which may exacerbate polypharmacy or multiple medications and ultimately result in pathogenic vulnerability. This exposure to pathogens is because of several reasons. As the article mentions, "Engaging in self-treatment without a legitimate justification leads to the squandering of medical resources and encourages vulnerability to pathogens, excessive use of multiple medications, and the occurrence of adverse drug reactions, ultimately leading to hospitalization." A few of the reasons for pathogenic vulnerability are; the first one is inadequate treatment, as SM results in the frequent usage of antibiotics or other prescriptions incompletely. The repetition of infections. Those that are not completely overcome due to insufficient treatment can contribute to the emergence and formation of antibiotic-resistant strains. The second reason is misdiagnosis, which is the result of SM as well where a person utilizes the wrong drug and causes himself with misdiagnosis, which is because of not having competent medical evaluation. Finally, the last reason for pathogenic vulnerability mentioned in the article is the disguising symptoms, as we are well aware of the fact that it may obscure signs of an underlying condition or infection, hence resulting in the postponement of a timely and proper diagnosis and treatment. This halt will facilitate the spread of bacterial infections and it will lead to more serious diseases.

Another aspect thoroughly interpreted in the article is polypharmacy, which is the use of several drugs at a single time without any proper supervision, which culminates in the rise of the possibility of drug interaction and complications. In line with the article "Consumers' decisions regarding self-treatment can be influenced by factors such as the severity of the illness, the type of medications available, the patient's socio-economic status, and cultural factors.." This quote from the article talks about polypharmacy and it suggests that SM and the addiction to SM in any individual are multifaceted and complex, and the financial situation, cultural origin, and access to medications affect it. Fostering safe and ethical SM and such activities require further recognition of such variables. It further clarifies that the individual who self-medicate might be more likely to be inclined to overuse pharmaceuticals. This overuse or abuse of medicines will

eventually result in polypharmacy; extended SM without medical supervision might result in dependence on specific drugs, particularly those with addictive qualities.

9. Self-Medication:

SM involves the use of medicinal products by the patient to treat self-recognized disorders or symptoms. It also includes the selection of a medication for a chronic or recurrent condition by the patient, after an initial diagnosis and prescription by a physician. We may also regard SM as the administration of medicinal products to family members, especially infants, children, or the elderly (Slade et al., 2000).

In Europe, there is growing recognition of the potential benefits of responsible SM in alleviating the financial strain on healthcare systems. A notable study conducted by the association of the European SM industry in 2004 underscored the significant cost-saving potential of self-care practices. By analyzing data from seven European countries, researchers estimated that transferring just 5% of prescribed medications to non-prescription status could yield an impressive annual savings of over EUR 16 billion. Thus findings highlight the considerable impact that self-care can have on reducing the economic burden on healthcare systems across Europe.

Despite the availability of various heartburn medications for self-care, there remains a scarcity of research examining the cost and benefits associated with these treatments. Addressing this gap, Mansfield and Callahan conducted a study aimed at quantifying the potential cost savings associated with the non-prescription use of heartburn medications. Their investigations revealed compelling insights into the economic advantages of self-care in managing heartburn.

One key finding of the study indicated that patients relying on prescription heartburn drugs tended to visit their doctors more frequently to discuss their symptoms compared to those using non-prescription alternatives. Especially patients using prescription medications were found to schedule 1.62 more physician appointments on average. Extrapolating this data, it was projected that if patients were not utilizing non-prescription heartburn medications, the number of physician visits would surge by 6 million. With the average cost of a physician visit estimated at USD 121, this increase would translate to a substantial rise of USD 757 million in healthcare expenditures. From the perspective of individual patients, the benefits of self-care were evident in the form of considerable cost savings. Patients who opted for SM experienced an approximate annual saving of USD 174 in reduced physician visit expenses and USD 160 on medication costs. These findings underscore the tangible financial advantages of empowering the individual to take charge of their healthcare needs through responsible SM practice.

In summary, the study by Mansfield and Callahan sheds light on the potential economic benefits of self-care, particularly in the context of managing common ailments such as heartburn. By promoting access to non-prescription medication and encouraging responsible self-medication, healthcare systems stand to realize substantial cost savings while empowering individuals to proactively manage their health concerns.

10. Previous experience

Previous experience with SM means, practicing taking medicines without consulting physicians with positive outcomes experienced in past usage. ‘’SM occurs due to several reasons, such as ease of access, unwillingness to see the doctor, availability of leftover prescription medications of a friend or relative and in some cases, availability of prescription drugs over the counter’’ (Abbas et al., 2015). About 37.2% took their advice or that of friends, family members, or the media. (Muhammad et al January 2023). Several researchers propose that self-medication (SM) serves as an individual's initial response to addressing early symptoms of illness. It is considered

a primary approach for managing minor ailments that do not require a visit to a doctor. Research also indicates that in situations where access to healthcare facilities is limited or unavailable to the general population, self-medication is often resorted to for treating serious illnesses as well.'' (Almasdy et al., 2011).

11. Financial problem

''The low-income countries are facing several difficulties. The load of diseases is very high and appropriate medical services are lacking resulting in SM for most of the illnesses''. (Sclafer.et al 1997). Necessary medications are planned to be available unsuitably effective health systems at proposed times, in adequate amounts, in the proper dosage forms, in certain quality and suitable information, and at prices the individual and the community can afford'' (Kanny, 2019).

12. Research Methodology

This section is commonly known as the research development process, while 'method' refers to the specific approach employed by the research person. This chapter will deliver an in-depth discussion of the research design, as well as an explanation of the target population, a specification of the unit of analysis and sampling methods employed, as well an elucidation of the data collection sources utilized in the study.

12.1. Research design

The research design employed for this research project adopts a quantitative methodology, indicating an approach that highlights the use of numerical data and statistical analysis to drive insights and inducement of conclusions.

12.2. Quantitative method:

The quantitative method involves the collection and analysis of statistical data to determine tendencies, associations, and forms. It commonly uses a designed methodology, incorporating pre-defined variables, hypotheses, and statistical analysis as essential components of the research process. In quantitative research, there is an involvement of a structured approach of collecting and interpreting the numerical patterns using statistical methods to understand, describe, explain, and predict phenomena. We utilize statistical tests and mathematical models to collect and analyze numerical data by focusing on finding patterns, associations, and trends among various variables (Linden et al., 2006).

The researcher used Quantitative research for this project because there were pre-defined variables, such as previous experience with self-medication, financial problems, and lack of awareness regards SM. By utilizing a quantitative research method for the project, the researcher can methodically measure. The study of the perceived reason for self-medication, conducting demanding statistical analyses, making meaningful comparisons, and deriving objective conclusions. This approach proves well-suited for understanding the reasons behind SM among the students of the University of Management And Technology, Lahore, providing a structured and numerical foundation to explore and interpret the phenomenon.

12.3. Tools

In this research study, the researcher used precisely designed survey questionnaires as a strong tool for systematically collecting authentic and fact-based data. The survey questionnaire was attentively created to understand the research variables, guaranteeing the gaining of detailed and reliable information. This methodological approach aimed to gather insights from the Respondents, providing a rich datasheet that forms the foundation for difficult analysis and meaningful interpretation within the study's analytical framework.

12.4. Data collection methods

The research project relies on quantitative methodology, drawing data from the most important sources such as (survey questionnaires and secondary sources including research articles and reports.)

12.5. Data Analysis

The researcher applied IBM SPSS Statistics (Statistical Package for the Social Sciences) a software tool for statistical data analysis, in this research project.

12.6. Population of the study

The population under investigation in this study comprises students enrolled at the University of Management and Technology, located in Lahore. As per Creswell (2013), a population is delineated by individuals who differentiate themselves from other groups under their distinct characteristics.

12.7. Sample size

Sample size is a critical factor in statistical research as it directly impacts the accuracy and reliability of the study's findings. A larger sample size typically yields more precise results, enhancing the representativeness of the data. Conversely, a smaller sample size increases the likelihood of sampling error, which can lead to findings that do not accurately reflect the characteristics of the population being studied.

In this research project, the researcher followed the guidelines proposed by Krejcie and Morgan (1970) to determine the appropriate sample size for the quantitative data. According to these guidelines, if the targeted population falls within a certain range, a specific sample size should be selected to ensure adequate representation. In the case of this study, with a targeted population of 27000 individuals, the recommended sample size according to the Krejci and Morgan table is 379. Therefore, the researcher chose a sample size of 379 to ensure the study's findings are statistically healthy and reliable.

13. Ethical consideration

The researcher adhered to ethical considerations when conducting the research and gathering information from various sources. This involved ensuring proper illustration and referencing to elude plagiarism. Furthermore, the researcher prioritized moral, traditional, and communal norms throughout the study process.

14. Results and Findings

14.1. Cronbach Alpha

Cronbach Alpha, introduced by Lee Cronbach in 1951, is a widely utilized numerical indicator in psychometrics. It is employed to evaluate the reliability of a series of questions or items on a test or survey, measuring the consistency with which they assess the same underlying construct. The coefficients range from zero to one, with higher scores indicating greater reliability and internal consistency among the items. In essence, Cronbach Alpha provides researchers with a valuable tool to assess the trustworthiness and coherence of the measurement instrument used in their study.

14.2. Reliability and validity

Table 4.1

Items	Cronbach's Alpha
SM	.937
PE	.936
FP	.936
LA	.937

14.3. Response rate

The data was collected from the University of Management and Technology, Lahore. The 220 questionnaires were distributed physically among the students of UMT, Lahore. The remaining 164 questionnaires were filled out online by sending the link generated in Google form through various social media means, i.e. WhatsApp groups of students and individually too, Facebook Messenger. 12 questions were incomplete and 8 questions were not answered. 364 were usable for data analysis.

14.4. Questionnaire Details

Table 4.2

Number of Responses collected	379
Response rate ratio	100%
Number of incomplete Responses	15
The response rate of partially filled responses	3.95%
Number of final usable responses	364
The Response rate of valid responses	96.05%

Table 4.3

Variables	*No. of missing values*

Self-medication	3
Previous experience	3
Financial problem	4
Lack of awareness	5
Total	**15**

14.5. Missing Values

The above table shows that there were 03 values of Self-Medication, 03 values of previous experience, 04 values of financial problems, and 05 values of lack of awareness. The total number of 15 questionnaires was incomplete.

14.6. Descriptive statics

During this phase, the researcher proceeds to import the collected data into SPSS software, facilitating its analysis. The primary objective is to employ various methods to describe and comprehend the fundamental features of the dataset. These methodologies involve the computation of central tendency indicators, which include the median, mode, and mean, as well as measures of dispersion like variance, range, and standard deviation. Moreover, graphical representations such as histograms and box plots are employed to visually present the data distribution and variability. are utilized to further aid in the interpretation and comprehension of data. This comprehensive approach ensures a thorough exploration and understanding of the dataset's properties, laying the groundwork for subsequent analyses and insights (IBM Corp, 2019)

14.7. Respondent Profile

Table 4.4

Demography	Indicator	Frequency	Percentage
Gender	Male	260	71.4%
	Female	104	28.6%
Age	18-25	247	67.9%
	26-35	52	14.3%
	36-45	26	7.1%

	Above 45	39	10.7%
Education	Bachelor's	208	57.1%
	Master's	55	17.9%
	M-Phil	39	10.7%
	PHD	52	14.3%

14.8. Gender

Table 4.5

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	260	71.4	71.4	71.4
	Female	104	28.6	28.6	100.0
	Total	364	100.0	100.0	

The table indicates that 71.4% of respondents were male, with 260 males out of 364 respondents, additionally, 28.6% of respondents were female, totaling 104 females out of the same 364 respondents.

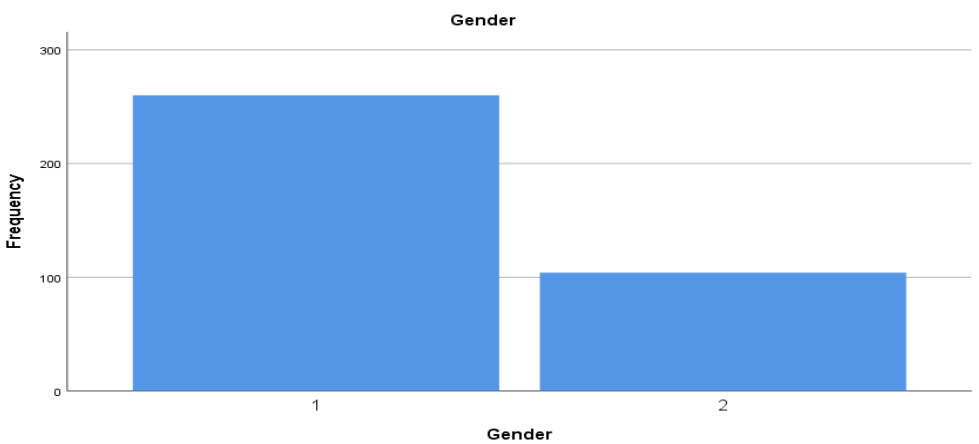


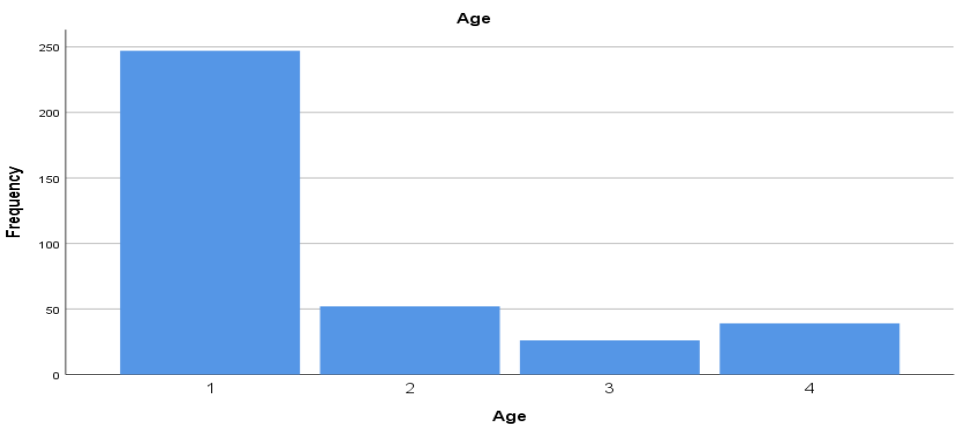
Figure 4.1

14.9. Age

Table 4.6

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	247	67.9	67.9	67.9
	26-35	52	14.3	14.3	82.1
	36-45	26	7.1	7.1	89.3
	Above 45	39	10.7	10.7	100.0
	Total	364	100.0	100.0	

The table displays the age of the respondents. The outcomes show that 67.9% of respondents were 18-25 years old, 14.3% of respondents were 26-35 years old, 7.1% of Respondents were 36-45 years old, and 10.7% of respondents were above 45. The total frequency of respondents is 364.



Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelors	208	57.1	57.1	57.1
	Masters	65	17.9	17.9	75.0

	M-Phil	39	10.7	10.7	85.7
	PHD	52	14.3	14.3	100.0
	Total	364	100.0	100.0	

Figure 4.2

14.10. Education

Table 4.7

The above tables show the education of participants. The results show 57.1% are doing a Bachelor's, 17.9% are doing a Master's, 10.7 % are doing an M-Phil, and 14.3% are doing a Ph.D. from UMT, Lahore.

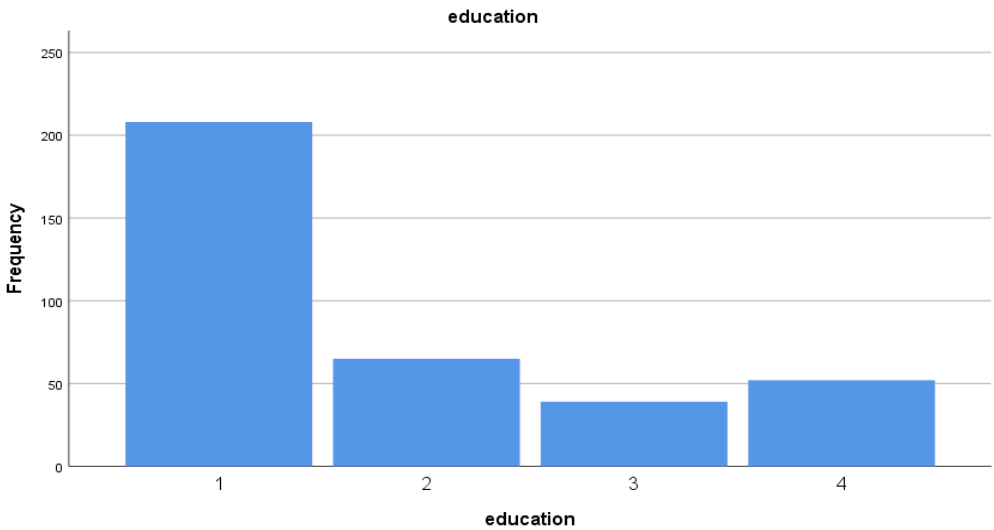


Figure 4.3

14.11. Regression

In linear regression analysis, researchers employ different types depending on the variables involved.

- Simple Regression: One independent variable is used to predict one dependent variable.
- Multiple Regression: Two or more independent variables are utilized to predict one dependent variable.

Interpreting the results of linear regression involves understanding four key values

1. R-Square: this value explains the proportion of variation in the dependent variable that is explained by the independent variables in the model. For instance, an R-squared value of 0.55 implies that 55% of the variation in the dependent variable is accounted for by the independent variables.
2. F-Statistic: The F-statistic assesses the overall fitness of the regression model. It

indicates the level of significance or importance of the model.

3. Beta (β) coefficient: Beta values indicate the change in the dependent variable for a one-unit change in the independent variable. It quantifies the relationship between the independent and dependent variables.
4. T- T-statistic: T-statistics are used in T-tests to determine whether to accept or reject the null hypothesis. Significant T-values suggest supporting the alternative Hypothesis or rejecting the null hypothesis.

15. Modal Summary

Table 4.8

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.734[a]	.539	.531	.5266
a. Predictors: (Constant), LA, Gender, education, Age, PE, FP				

As shown in the table no. 4.8, the R-square value is 0.539, which shows that independent variables i.e. Previous experience, lack of awareness, and financial problem causes a 53.9% variation in DV i.e. Self-medication.

16. ANOVA

Table 4.9

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	115.697	6	19.283	69.543	.000[b]
	Residual	98.989	357	.277		
	Total	214.686	363			
a. Dependent Variable: SM						
b. Predictors: (Constant), LA, Gender, education, Age, PE, FP						

Table 4.9 shows the result of ANOVA. The value of P is 0.000, which is smaller than 0.05, verifying a statistically significant relationship between the independent variables, i.e. lack of awareness, financial problem, and previous experience, and DV i.e. Self-medication.

17. Coefficient

Table 4.10

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.648	.226		2.861	.004
	Gender	.051	.066	.030	.766	.444
	Age	.158	.035	.208	4.479	.000
	education	.126	.027	.181	4.714	.000
	PE	.523	.059	.550	8.826	.000
	FP	.134	.063	.144	2.130	.034
	LA	.150	.074	.142	2.039	.042
a. Dependent Variable: SM						

The table 4.10 shows the results of the coefficients. As shown, the first beta value is .550, which means if one unit change occurs in PE then it will bring out a .550-unit change in Self Medication. The second beta value is .144, which means if one unit change occurs in FP then it will bring out a .144-unit change in self-medication. The third beta value is .142 which means if one unit change occurs in LA then it will bring out a .142-unit change in self-medication. Furthermore, the beta values are positive, showing a positive relationship between DV (self-medication) and IV (PE, FP, LA).

18. Hypothesis Result

H_1: It has been hypothesized in the study that previous experience has a significant impact on SM (β = .523, t=8.826, Sig=0.000).

H_2: The results (β = .134, t= 2.130, Sig- 0.034) indicate that a significant relationship exists between financial problems and Self-medication.

H_3: It has been hypothesized in the study that has a significant impact of Lack of awareness on SM (β = .150, t=2.039, Sig=0.042).

19. Conclusion

This chapter has presented the results from the study through five separate parts: Cronbach Alpha, demographic data of respondents, Descriptive Statistics, Descriptive analysis, and hypothesis test and results. The forthcoming chapter will describe the conclusion and recommendation of the research study.

20. Conclusion and Recommendations

20.1. Conclusion

The present study investigates the perceived reason for SM among the students at the University of Management and Technology, Lahore. Through conducting an online survey, we explored the interconnection between SM and factors such as previous experiences, financial problems, and

the lack of awareness. Based on findings and results as discussed previous chapter it is concluded that previous experience, financial problems, and lack of awareness play an important role in starting self-medication. Based on the research findings and results, the following conclusion can be made.

The research study's findings showed a significant relationship between self-medication, previous experience, financial problems, and lack of awareness. From the findings, we get that the previous experience of SM involved students in SM. They get medicine without a physician's recommendation with a positive earlier experience and also used-to by looking at their elders, friends, and relatives using non-prescribe medicines. Repetition of symptoms also motivates them to do SM. Further, financial problems also lead students to do SM. Students think that it is cheaper to do SM rather than to visit physicians. Most commonly, the inclusion of SM is a common illness. Most of the students prefer SM for a common illness. Lack of awareness is also a main problem for the practicing of SM among the students; it is very disappointing to see that our educated youth is unaware of the potential risks of practicing SM. It is very alarming for us that the educated population does not consider or has no knowledge about the medication and its potential risks. Then what is the condition of uneducated people in our country?

Overall, the study shed light on SM and its potential risks. Highlights the factors that influence students doing SM in UMT, Lahore.

20.2. Recommendations

Based on the results, the following recommendations are made.

Our study underscores the prevalence of SM among university students, despite the awareness of its inherent risks. In light of these findings, we propose a comprehensive approach to mitigate this issue. This approach encompasses:

20.2.1. Educational Initiatives:

Should be implementing awareness and education programs to enlighten students about the potential consequences of self-medication. Arranging seminars in colleges, prioritizing them in the academic curriculum, and engaging students in self-help and motivational co-curricular activities might boost students' confidence in countering self-help matters. Offer workshops, seminars, and awareness campaigns to educate students about the importance of seeking professional medical advice and the potential dangers associated with self-diagnosis and medication.

20.2.2. Aware government of the Regulation of Pharmacy Practices:

Establishing strategies to control the dispensing of medicines without a valid prescription by enforcing strict guidelines within pharmacies. So that students could avoid using drugs and other prescriptions without proper consultation with the physician, which also declines the drug consumption ratio factor. Enforcing and empowering pharmaceutical rules could keep students away from obtaining side effects of the medicines too. Implement peer education programs where students are trained to educate their peers about responsible health practices, emphasizing the importance of consulting healthcare professionals.

20.2.3. Stringent Control on Pharmaceutical Advertising:

Enforcing strict regulations on pharmaceutical advertising to prevent misleading promotions that may encourage self-medication. Promotion of medicines and prescriptions should be kept to the targeted circle, instead of advertising it to the public, students specifically. Normalizing such things helps with the usage of prescriptions without dire requirements. Consider implementing

prescription-required medications to encourage students to consult healthcare professionals before obtaining specific drugs.

20.2.4. Facilitation of Accessible Healthcare:

Developing strategies to streamline and enhance access to healthcare services, aiming to make seeking professional medical advice more convenient. Further educational institutes should promote normalizing mental and physical issues at campuses with designated specialists to counter matters before they get out of hand. Students should also be motivated to break the taboo of keeping self-help issues to themselves instead of consulting a specialist.

20.2.5. Collaboration with Healthcare Providers

Foster collaborations with local healthcare providers to ensure easy access to medical consultations for students. Establish on-campus clinics or partnerships with nearby healthcare facilities to provide convenient and affordable healthcare services. Collaborate with pharmaceutical companies to organize informational sessions on responsible medication use and the potential risks associated with misuse.

20.2.6. Promote Mental Health Awareness

Recognize the link between mental health issues and self-medication. Implement mental health awareness campaigns to reduce stigma and encourage students to seek professional help for psychological well-being.

20.2.7. Online Resources and Information

Develop and maintain online resources providing accurate information about common health issues, emphasizing the importance of professional medical advice, and debunking myths around self-medication.

20.2.8. Regular Health Check-ups

Encourage and facilitate regular health check-ups for students through health fairs or on-campus clinics. Routine check-ups can identify health issues early and promote preventive care. Timely dealing with problems that might get out of hand later.

20.2.9. Feedback Mechanism

Establish a feedback mechanism for students to report instances of SM anonymously. Use this information to tailor educational initiatives and improve support services. It could help with the fear of peer pressure that students express while countering the issue.

By adopting a holistic approach, that combines education, support services, and policy measures, universities can create an environment that promotes responsible healthcare practices and minimizes the prevalence of SM among students. Our recommendations emphasize the importance of a holistic response to prevent the escalation of SM practices among university students. Furthermore, this study serves as a catalyst for future research in this area, highlighting the urgency of addressing this real and pressing concern within the academic community.

21. References

Abbas, A., Rizvi, S. A., Hasan, R., Aqeel, N., Khan, M., Bhutto, A., Khan, Z., & Mannan, Z. (2015, April 20). The prevalence of depression and its perceptions among undergraduate pharmacy students. https://pharmacyeducation.fip.org/pharmacyeducation/article/view/358

Almasdy, D., Sharrif, A., Author, C., Prof, A., & Sarriff, A. (2011). Self-Medication Practice with Nonprescription Medication among University Students: a review of the literature. Archives of Pharmacy Practice, 2(Vol. 2, Issue 3, 2011).

https://archivepp.com/storage/models/article/zPkRwR4alID3ivrVpgn7fT174z4ZbSgyzi2U2bsMlOQFJY9EwxQEjFrK1ZK3/self-medication-practice-with-nonprescription-medication-among-university-students-a-review-of-the.pdf

Barrenberg, E., & Garbe, E. (2017). From prescription-only (Rx) to over-the-counter (OTC) status in Germany 2006–2015: pharmacological perspectives on regulatory decisions. European Journal of Clinical Pharmacology, 73(7), 901–910. https://doi.org/10.1007/s00228-017-2240-4

Garg, A., Vickerstaff, V., Nathwani, N., Garway-Heath, D., Konstantakopoulou, E., Ambler, G., Bunce, C., Wormald, R., Barton, K., Gazzard, G., & Glaucoma, L. I. (2020). Efficacy of Repeat Selective Laser Trabeculoplasty in Medication-Naive Open-Angle Glaucoma and Ocular Hypertension during the LiGHT Trial. Ophthalmology, 127(4), 467–476. https://doi.org/10.1016/j.ophtha.2019.10.023

Hamna Azhar, Ambreen Tauseef, Tahir Usman, Yousra Azhar, Momna Ahmed, Khadija Umer, M. Shoaib. (n.d.). https://pjmhsonline.com/published-issues/2021/may/902

Helal, R. M., & Abou-ElWafa, H. S. (2017). Self-Medication in University Students from the City of Mansoura, Egypt. Journal of Environmental and Public Health, 2017, 1–7. https://doi.org/10.1155/2017/9145193

Kanny, D. (2019). Racial/Ethnic Disparities in HIV Preexposure Prophylaxis Among Men Who Have Sex with Men — 23 Urban Areas, 2017. Morbidity and Mortality Weekly Report, 68(37), 801–806. https://doi.org/10.15585/mmwr.mm6837a2

Linden, A., Trochim, W. M. K., & Adams, J. (2006). Evaluating program effectiveness using the regression point displacement design. Evaluation & the Health Professions, 29(4), 407–423. https://doi.org/10.1177/0163278706293402

McManus, R. J., Mant, J., Haque, M., Bray, E., Bryan, S., Greenfield, S., Jones, M. A., Jowett, S., Little, P., Peñaloza, C., Schwartz, C., Shackleford, H., Shovelton, C., Varghese, J. S., Williams, B., & Hobbs, R. (2014). Effect of self-monitoring and medication self-titration on systolic blood pressure in hypertensive patients at high risk of cardiovascular disease. JAMA, 312(8), 799. https://doi.org/10.1001/jama.2014.10057

Mehandru, S., Poles, M. A., Tenner-Rácz, K., Jean-Pierre, P., Manuelli, V., Lopez, P., Shet, A., Low, A., Mohri, H., Boden, D., Rácz, P., & Markowitz, M. (2006). Lack of Mucosal Immune Reconstitution during Prolonged Treatment of Acute and Early HIV-1 Infection. PLoS Medicine, 3(12), e484. https://doi.org/10.1371/journal.pmed.0030484

Mehmood, A., Rehman, A. U., Zaman, M., Iqbal, J., & Hassan, S. S. U. (2016). Self medication: an emerging trend. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3527398

Sclafer, J., Slamet, L., & De Visscher, G. (1997). Appropriateness of self-medication: method development and testing in urban Indonesia. Journal of Clinical Pharmacy and Therapeutics, 22(4), 261–272. https://doi.org/10.1046/j.1365-2710.1997.10075100.x

Slade, G. D., Offenbacher, S., Beck, J. D., Heiss, G., & Pankow, J. S. (2000). Acute-phase inflammatory response to periodontal disease in the US population. Journal of Dental Research, 79(1), 49–57. https://doi.org/10.1177/00220345000790010701

Tashima, K. T., Caliendo, A. M., Ahmad, M., Gormley, J., Fiske, W. D., Brennan, J., & Flanigan, T. P. (1999). Cerebrospinal fluid human immunodeficiency virus

type 1 (HIV-1) suppression and efavirenz drug concentrations in HIV-1–Infected patients receiving combination therapy. ˜ the œJournal of Infectious Diseases (Online. University of Chicago Press)/˜ the œJournal of Infectious Diseases, 180(3), 862–864. https://doi.org/10.1086/314945

Velmahos, C., Herrera-Escobar, J. P., Rafai, S. S. A., Fat, S. C., Kaafarani, H. M., Nehra, D., Kasotakis, G., Salim, A., & Haider, A. H. (2019). It still hurts! Persistent pain and use of pain medication one year after injury. ˜ the œAmerican Journal of Surgery, 218(5), 864–868. https://doi.org/10.1016/j.amjsurg.2019.03.022