

Medical Students' Knowledge, Attitudes, and Behaviors Regarding Self-Medication and Rational Drug use

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ABSTRACT

Background: Patients who use drugs in a rational way should get the medicine that is right for them, in the right dose, for the right amount of time, and at the lowest cost to them and their community. In reality, prescribing does not always follow these ideals. Instead, prescribing that is not suitable or logical is what happens most of the time. The study's goals are to find out how common self-medication and legal drug use are among first-year college students in Madinah city so that knowledge in this area can be kept up to date.

Methods: The study used a cross-sectional design and looked at medical students in their first year. The sample size was calculated using the Epi Info program, and the number of students was 357 in Madinah City between September 2022 and September 2023. A poll was sent up in the air. As a result, when participants experienced side effects while taking medication, 28.9% stopped taking it, 28.2% talked to their doctor, 19.6% talked to their pharmacist, 13.2% stopped taking the medication and started a new one that had the same effect, 6.2% talked to their family, and 3.9% did nothing.

Conclusions: Medical students don't really understand, think about, or act on self-medication or drugs, even though more and more of them are taking antibiotics and medications they didn't get given.

KEYWORDS: Rational, drug use, medical students, antibiotics, medications, self-prescription.

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1. INTRODUCTION

The World Health Organization (WHO) says that most drugs are prescribed, distributed, or sold incorrectly, and that half of the patients don't follow their prescriptions. In health care systems around the world, especially in poor countries, pharmaceuticals are often used in ways that are not good for the economy. In order to use pharmaceuticals rationally, patients must be given medicine that is right for their condition in a dose that meets their specific needs for a long enough time at the lowest cost to them and their community (Al-Jamea et al., 2020; Lima et al., 2022).

According to the World Health Organization, self-medication is when a patient takes medications for a known disease or symptom without first talking to a doctor (Hikmiyah et al.,

2022). A lot of bad things can happen when you self-medicate or use medicines that aren't given to you (Curry et al., 2005). Assan et al. (2023) say, these bad effects include allergic reactions, drug tolerance, and hiding other symptoms that could be signs of a major health problem.

The risk is much higher for older people because studies show that over-the-counter drugs are given up to seven times more often than prescription drugs (Tobaiqi et al., 2021). This study looked at how college students self-medicate and found that lifestyle, easy access to medicines, understanding, promotion, and a high level of education are some of the most important factors (Al-Jamea et al., 2020). Self-medication with a range of drugs is covered in this study, which is different from others that have looked at the topic before (Badzi and Ackumey,

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2017), which only looked at antibacterial antibiotics (36.9%). For example, the most recent study results might not be normal because the participants had to self-report, and the sample size of 991 students was small because many pharmacists didn't want to take part (Al-Ghofaili, 2021). People who filled out the questionnaire may not have told the truth about their self-medication practices (Paula-Martins et al., 2002). It was expected that a certain percentage of non-healthcare students in KSA would self-medicate if medical and other health-related classes were taken away. As far as I know, this study has by far the largest group size of any university study that has been done before. The number of people taking antibiotics for themselves has gone down since then, according to this study (Okay and Erdoğan, 2017).

As a result, actions involving medical professionals, medical institutions, educational institutions, non-profits, and the media "in educational programs" were found to be very important in lowering the harmful health effects of drug abuse and self-prescribing (Okay and Erdoğan, 2017). Self-medication is a problem that needs to be fixed. According to study done in Saudi Arabia by Al-Mohamadi et al. (2013), it is common to give out over-the-counter drugs. However, no past studies from the Kingdom have tried to find out how many non-prescription drugs are sold there each year. It's 2021).

In the decades since the 1970s, there has been more study on the idea of "smart drug use." Two-thirds of those who participated knew enough about self-medication (SM) and felt good about it. Also, 50% of those who answered said they had used SM in the last six months, which shows they know how important it is to use SM responsibly. The study from Al-Maarefa University (UM) is very thorough and covers both medical and non-medical students to back up these results. To allow them to practice rational and responsible SM, it is important to fully understand and prepare for their points of view (Gowdar et al., 2021).

One problem with the study is that it could only look at the group that was picked because of limited time and money (Okay and Erdoğan, 2017). The purpose of this study is to find out how common self-medication is among unfinished college students in Madinah City and how common RUD-related habits are, since there haven't been many studies or results on this group before.

2. METHODS

Study design

This detailed cross-sectional study looked at medical students in Madinah city who were in their first year.

Study Area/Setting

Almadinah city is where the study took place. As one of Islam's two holiest towns, Medina is a popular place for Hajj and Umrah pilgrims to visit while they are in Saudi Arabia. The city

is built around Al-Masjid a Nabawi, which is also called the Prophet's Mosque. It was built by Prophet Muhammad peace be upon him and is where he is buried. It was thought that 1,488,782 people would live in the city in 2020, making it the fourth most popular city in the country. There are many universities in the city, and two of them have medical schools. The schools that were picked to do this study were Al-Rayan Medical Colleges and Taibah University. Every year, about 300 medical students, both men and women, finish from these schools.

Time period

From September 2022 to September 2023.

Study Population/Subjects

All first-year medical students at Al-Rayan colleges and Taibah University in Madinah city are the focus of the study.

Inclusion criteria

All first-year medical students, both male and female, at Al-Rayan colleges and Taibah University in Madinah city.

Exclusion criteria

Medical students who have finished and medical students who are still in their first year outside of Madinah city.

Sample Size

With a 5% error rate and a 95% confidence interval, the open Epi scientific computer software said it was about 357 students.

Sampling Technique

The study used a method of selection that is not based on chance, called "convenience sampling." The reason this sample method was chosen is because it is easy to use, efficient, and cheap, even though it has a high rate of bias.

Data Collection methods, instruments used, measurements

A true and well-structured questionnaire was sent in. Undergraduate medicine students in Madinah City were sent a structured questionnaire through social media. There are 11 questions on the form. It took about two to three minutes to answer the questions.

Data Management and Analysis Plan

The first step in analyzing data was to look for any missing values. After that, the information was put into SPSS 26. A random sample of the data was chosen to make sure it was correct. After that, descriptive data like frequency and percent were used to show which answer was right and which was wrong for each question. It was decided that a value of 0.05 would be significant.

Ethical Considerations

The study was given the green light by the Al-Rayan ethics committee with the code HA-03-M-122-015. An description of the study with the goal of getting written permission before the

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study starts. The subjects were told what the study's goal was and that their information would only be used for the study. They also knew that they could quit at any time. The study participants' privacy was also protected by giving each one a random answer that did not include their name.

3. RESULTS

The results show how common self-medication is among medical students in Madinah city who have not yet finished, as well as habits linked to RUD. The following are the results of the electronic poll that was sent to the students:

Table 1. Knowledge and attitude towards drug use

Variable	Yes	No	P-value
Do you use someone else medicines or buy medicines from pharmacy without prescription?	283 (73.3%)	103 (26.7%)	0.04
Do you have medicines prescribed without being sick or buy and keep at home in case of need?	179 (46.4%)	207 (53.6%)	0.34
Have you taken any antibiotics in the last 12 months?	219 (56.7%)	167 (43.3%)	0.45
Do you use antibiotics on your own without a physician's examination?	110 (28.5%)	276 (71.5%)	0.53

Table 1 show that (73.30%) of the participants not committed to prescription, (46.40%) have surplus prescribed medications in case of need while (53.60%) are not, (56.70%) have been

taken antibiotics in the last 12 months, (71.50%) use antibiotics without physician consultation.

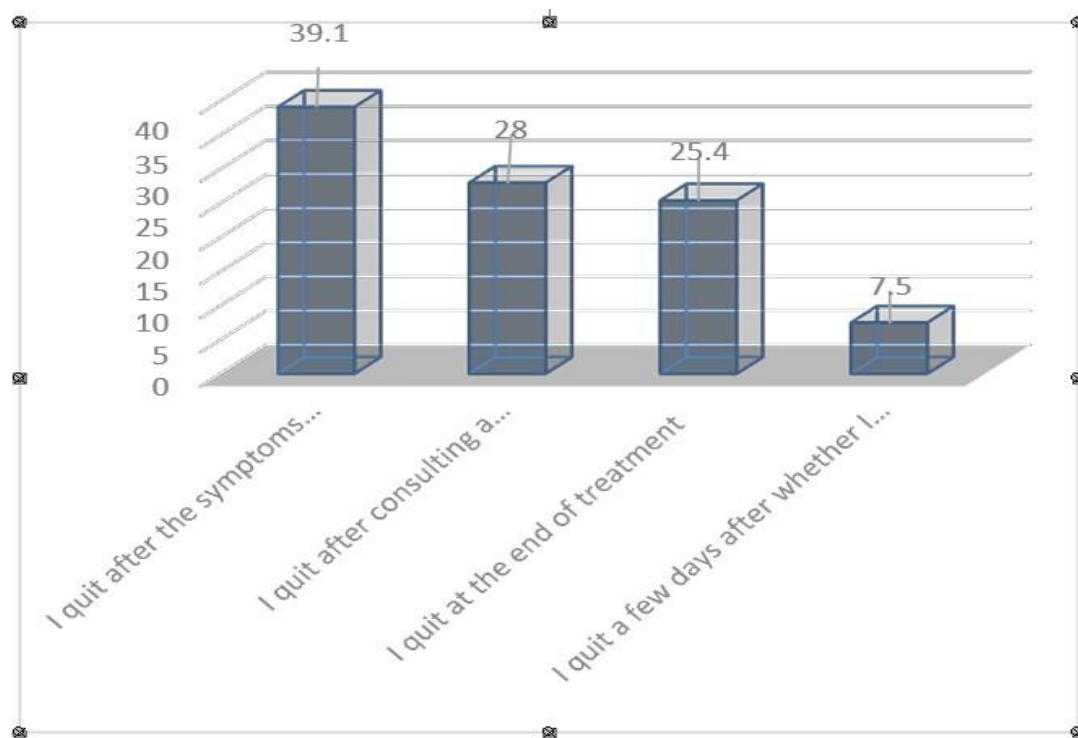


Figure 1 Attitude towards duration of using antibiotics among the participants (P-value 0.13)

Looking at Figure 1, we can see that 39.1% of the subjects did not take their medicine as prescribed, 28% stopped treatment after seeing a doctor, 25.4% stuck to their prescription for the full amount of time, but 7.5% quit a few days later, regardless of whether they got better or not.

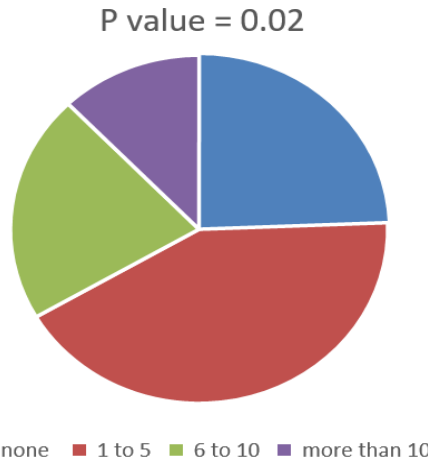


Figure 2 Attitude regarding storage of unused medications (P-value = 0.02)

42.4 percent of the people who took part have between 1 and 5 boxes of useless medicines, 24.3 percent have none, 21.2 percent have between 6 and 10 boxes, and 12.1% have more than 10 boxes. Look at Figure 2.

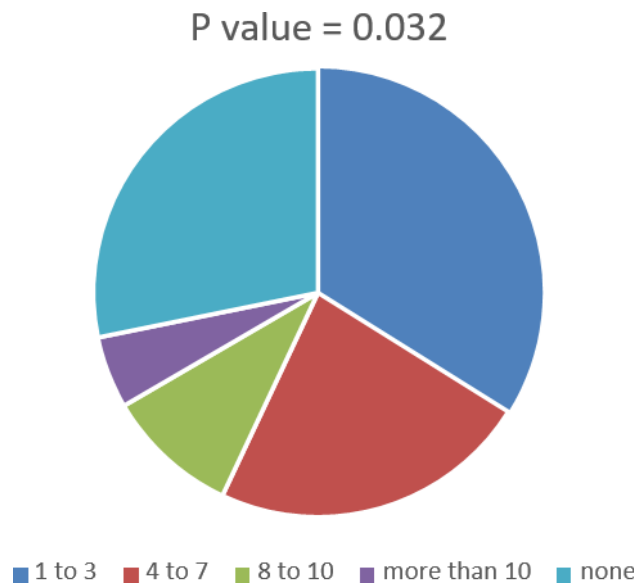


Figure 3 Knowledge regarding disposal of expired drugs without opening the box (P-value = 0.032)

Based on Figure 3, 34.1% of the participants threw away one to three expired, unused medications, while 28.2% did not. Another 23.1% threw away four to seven expired, unused

drugs, and 9.6% threw away eight to ten. Finally, 5.1% of the participants threw away drugs without even opening the box because the expiration date had passed.

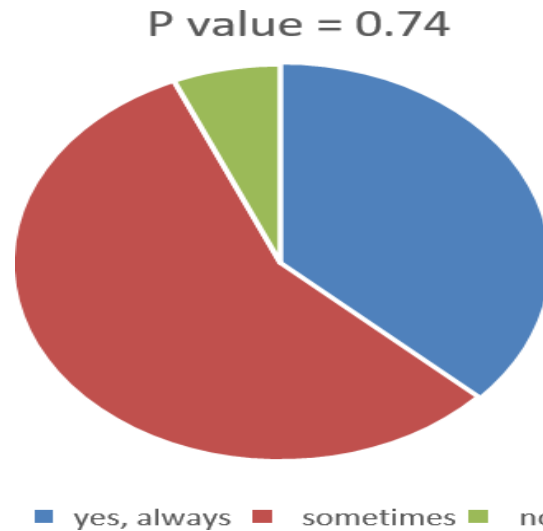


Figure 4 Knowledge and perception towards reading the instruction of the medication they are using (P-value = 0.74)

In Figure 4, it can be seen that 56.8% of the subjects sometimes follow the directions in the medication brochure, 36.7% have always checked, and 6.5% do not.

Table 2 displays the answers to three questions that were meant to find out how much people knew, felt, and did about self-medication and reasonable drug use.

In terms of how well the participants understood the information in the drug's prospectus, 47.2% fully understood it, 46.6% partly understood it, and 6.2% did not understand it at all.

Regarding what the participants did when they had side effects while taking medication, 28.9% stopped taking it, 28.2% talked to their doctor, 19.6% talked to the pharmacist, 13.2% stopped taking the medication and started a new one that had the same effect, 6.2% talked to their family, and 3.9% did nothing.

About knowing what "rational drug use" and "rational drug use of antibiotics" mean: 66.6 percent of the people who took the survey had never heard of these terms before, while 33.1% knew what they meant.

Table 2. Knowledge and practice of self-medication and rational drug use

Variable		No	%	P-value
Do you understand about the information in the prospectus of the drug you are using?	I understand fully	182	47.2	0.002
	I partially understand	180	46.6	
	No, I understand nothing	24	6.2	
What do you do if you experience any side effects while taking medication?	I quit the medication	112	28.9	0.04
	I quit the medicine and start a new one with the same effect	51	13.2	
	I consult to a pharmacist	76	19.6	
	I consult to a physician	109	28.2	
	I consult to my family	24	6.2	
Have you heard the expression of rational drug use and rational use of antibiotics before?	I do nothing	15	3.9	0.52
	Yes	128	33.3	
	No	258	66.6	

DISCUSSION

The main goal of the study is to find out what medical students in Madinah city know, think, and do about self-medication and their drug use habits. The results showed that people who self-prescribe medicines need to be more aware of their activities and have their medication use supervised (Rolita and Freedman, 2008). According to the results of this study, 47.2 percent of medical students fully understood the information in the drug's prospectus, 46.6% partially understood, and only 6.2 percent

said they couldn't understand it. In a study done in Turkey in 2017 (Memişoğlu and Bilen, 2021) on rational drug use among medical students, 22.4 percent fully understood the information in the drug's prospectus.

In this study, there isn't a big difference between the people who fully and partially understand the medication prospectus. However, in the Turkish study, there is a big difference (51% difference) between the people who fully and partially understand the medication prospectus. This could be because of

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big differences that affect both communities. A study of what college students in Zunyi City, China, knew about drug use in a healthy way in 2022 According to Fakeye et al. (2010), 50.7% of students thought that it was important to spread information about responsible drug use on school. On the other hand, only 1.8% said it was completely useless.

Another study, this one in India in 2020 (Al-Ghofaili, 2021), looked at medical students and found that 8.8% of them didn't understand the term "rational drug use," while 84.8 % knew something about it and only 6.3% knew everything there was to know about it. This study is for medical students, and the last one showed that only 33.3% of those who answered correctly knew the expression for rational use of antibiotics before rational drug use. The other 86.6 % did not know the expression.

Even though the studies were done in different parts of the world, they all show how important it is to learn more about the phrase "rational drug use." The study asked medical students what they should do if they have any side affects from taking a medication. Here are the results: Around (28.9%) said they wouldn't take the medicine as prescribed, 13.2% said they would stop taking it and start taking a different one, 19.6% said they were going to talk to a pharmacist, 28.2% said they were going to talk to a doctor, and 6.2% said they were going to talk to a family member. Only 3.9% said they weren't going to make any changes.

Another study from 2017 in Turkey (Al-Jamea et al., 2020) compared the results of asking medical students what to do if they experience any side effects from a drug. The results showed that About 32% said they wouldn't take the medicine as prescribed, 2% said they would stop taking it and start taking a different one, 4.8% said they would talk to a pharmacist, 61.4% said they would talk to a doctor, 4.2% said they would talk to a family member, and 2.2% said they wouldn't make any changes.

If you look at the percentages of both studies, you can see that people in Turkey are more aware of the risk of side effects because most of them would either stop taking the medicine right away or talk to their doctor, while in this study, only about half of the participants would talk to their doctor or stop taking the medicine. This could be because the two groups have different ways of life or learning. A lot of research has been done on drug use that makes sense, but not many on medical students. In this study, a lot of students (73.3%) don't follow the rules for legal drug use by taking other people's medications.

A study similar to this one was done in 2017 at JN Medical College in Belgaum with second-year medical students (Rutter, 2015). More than half of the students (65.6% of the total) bought over-the-counter medicines, while the other half used medicines from doctors' samples, leftover prescriptions, or a friend's medicine. This is because these medicines can be

obtained without a prescription, and medical students think they know enough about them to make good decisions.

In another study about self-medication knowledge, perspective, and behavior among students in the second academic year of medical college in India in 2013 (Curry et al., 2005), 38.1% of the participants talked about past prescriptions, 43.3% said they didn't need to see a doctor, and 26.8% did it to get better quickly, and 7.2% did it because they were sure they knew enough about medicines. However, their study had a flaw in that it only looked at 97 second-year students, which is a small sample size.

This study found that 71.5 percent of people have not used antibiotics without first talking to a doctor. These results don't match up with another study that looked at how pharmacy and medical students in Iran understood, thought about, and used self-medication in 2021, where 74.4 percent did. This is because of the rules and guidelines that are used in Saudi Arabia for giving out antibiotics without a prescription. Another result from this study is that 56.7% of people have used antibiotics in the last year. This matches up with another study that looked at the knowledge, attitudes, practices, and opinions of first-year college students in Riyadh in 2021.

46% of the people surveyed by Amoako et al. (2003) have used antibiotics in the last six months. These changes are because this study looked at a longer time period—one year. However, the results still show that more than half of the students overuse antibiotics, even though there are rules about how to use them.

CONCLUSION

The study results show that medical students at Taibah University and Al-Rayan Medical Colleges don't fully understand, think about, or act on their drug and self-medication habits. They also use more self-prescribed medicines and antibiotics without knowing or caring about the possible bad effects. To keep the numbers from going up, both medical and nonmedical students need to be educated.

Recommendations

To help people learn more about rational drug use and change how they think about and use drugs, the writers suggest:

Building up capacity: Support education about responsible drug use and the bad effects of abusing drugs, and support setting up classes, seminars, and training programs to help students learn more, especially medical students about the bad effects of self-prescribing drugs.

Laws, rules, and procedures: Advice to put more rules and limits on "over the counter" medicines to cut down on the rising number of people who prescribe their own medicines for no good reason.

Help with research: To make up for the lack of data in this area, more studies on RUD should be promoted in different areas by giving them the tools they need and running workshops where

they can learn.

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