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Prevalence of self- medication among nursing student in Erbil technical medical institute

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ABSTRACT

Background
Most scientific research has found that inappropriate self-treatment leads to adverse reactions, disease concealment, misdiagnosis of disease, increased rates of disease, drug interactions, antibiotics, and misuse of health resources. Self-medication is performed all over the world, and as such is a major public health concern.

Objectives: The objectives of the study are: 1. The prevalence of self-treatment practice among nursing students at the Medical Technical Institute in Erbil. 2. Identify the important reasons for using self-medication. 3.To identify the common sources and types of self-medication drugs.

Subjects and Methods: A cross-sectional descriptive study was conducted on nursing students at Erbil Medical Technical Institute during the period from December 2020 to January.

The questionnaire included questions about age, gender, and educational level, in addition to questions about the duration, how to use medications, and the types used in self-treatment.

Results: The study found that 65.3% of the participants practiced self-medication, and the use of antibiotics was evident and noticeable by 21 (28%) of the participants, followed by analgesics 13 (17.3%), then coughing and sneezing. Influenza drugs by 11 (14.7%). One of the most important reasons for practicing self-medication is the use of previous medical prescriptions and advice from family members who have previously used any medications to treat some diseases, as well as the advice of a friend.

Conclusion: The research concluded that the practice of self-treatment was evident among the students of the Medical Technical Institute in Erbil.

Key words:(self-medication, prevalence, medical student, drug, prescription).

Introduction

Self-medication means using medications without a health care provider's advice to treat self-diagnosed illnesses. As defined by the World Health Organization, self-medication is the use of medicines to treat self-diagnosed conditions and symptoms or the continuous or intermittent use of prescribed medicines for chronic or recurrent diseases (WHO, 2000), and self-medication can be described as the use of medicines without consulting a doctor to deal with pathological symptoms (Ruiz, 2010), and the practice of self-medication has been recorded to be in a global spread (Verma RK, et al., 2013) The increase in self-treatment has been corroborated by evidence from previous survey publications from different countries (Blinkinsop A - Bradley C, 1996). The great abundance of pharmaceutical products, easy access to medicines, and the increased ability to control certain diseases through self-care have contributed to the growth of self-medication around the world, and previous studies have shown the factors that were affecting the occurrence of self-medication are age, educational level, familial attitudes, drug company advertisements, drug dispensing and sales regulations, previous encounters with symptoms or illness, importance attributable to illness (Pan et al., 2012), and prescribed medications at home and economic status(Klemenc-Ketis Z and Kersnik J, 2010) (Hofmeister EH, et al., 2010).

Self-medication this encompasses a wide variety of illnesses, from common cold or head ache to complex diseases such as cardiovascular or psychoneurological diseases and even cancers. In developing and developed countries, self-medication is a global issue and is affected by many factors such as schooling, family and social economy, regulation, drug availability and advertising exposure. There are many forms of self-medications that vary from culture to culture or nation to country (S. Sarahroodi and A. Arzi, 2009).

Literature review

Self-medication (SM) is a global problem with significant adverse effects on people and populations, including resistance to diseases, hypersensitivity, opioid dependency and economic burden (Bennadi,2014- Albusalih,2017). Self-treatment can create a delay in diagnosis by modifying the clinical manifestations, which can have an impact on the prognosis (Shehnaz, 2013). Self-medication is when a person's caregiver or parents determines which medicine to use and how to take it for a specific ailment without the need for a medical assessment. Self-medication is characterized as sharing prescribed medications with friends and family who have not been prescribed the medication, utilizing leftover medications from earlier prescriptions, or failing to adhere to the recommended medication by expanding the duration of usage or interrupting the dosage (Pfaffenbach et al, 2010). Another definition, the WHO defines self-medication as individuals collecting and using drugs to treat self-identified ailments or symptoms. Self-medication includes buying medicines without a prescription or resubmitting old prescriptions for purchase, sharing medicines with family or friends, using medicines that have been left over at home, or failing to follow instructions. (Hussain S et al, 2010).

In a research conducted by Abahasin and Al-Fulaiti, it was found that self-medication is widespread among university students, ranging from 68 percent to 98 percent (Abahasin, 2005- Al-Fulaiti, 2014). Self-medication is highly prevalent in the population of developing countries (Kagashe, 2004- Aljadhey, 2015). Quick relief, treatment of minor ailments, and availability of medicines are the most common reasons for practicing self-medication. However, unfettered access to medicines from pharmacies without consulting a doctor poses a great danger to individuals. (Kasulkar,2015) For their protection and to ensure proper use of the self-drug medication, education of the general public, particularly university students on the reasonable use of self-medication is required (WHO,2003- Al-Ameri, 2015). The proper use of drugs by the general population will be assured by evaluating the prevalence of self-medication and recognizing its origin (Aljadhey, 2015).

Appropriate self-medication can cure diseases, save time and resources to visit hospitals, and even save a patient's life in acute cases Often, however, excessive self-medication causes patients and even society a lot of problems, and self-treatment with antibiotics may have Adverse effects on the population, such as antibiotic resistance (Sarahroodi et al., 2010). (Sarahroodi et al., 2010).

Antibiotic resistance is undoubtedly a global public health concern, as the rate of antibiotic development is likely to outpace the prevalence of antibiotic resistance and the ineffective and excessive use of antibiotics is a major contributor to the formation and selection of resistant microbes (Mandomando I, et al, 2010; Sigauque B, et al, 2009; Roca A, et al, 2009), and this is one of the most prevalent public health and patient safety issues worldwide (Sigauque B, et al, 2009;

Alumran A, et al, 2013; Sheldon AT Jr, 2003), and antibiotic resistance not only makes bacterial infections more difficult to treat, it also poses a serious public health risk, increases health care costs by requiring stronger antibiotic use, and increases morbidity and mortality, particularly in low- and middle-income countries (LMICs) (B. Sigaque - E. Sevene, 2015). Authorities in LMICs are concerned about the indiscriminate use of antibiotics and the growing activities of antibiotic SM because of ongoing issues like weakened health systems, inadequate antibiotic surveillance and control, documented prescribing procedures, inadequate dispensing by medical staff, and a failure to adhere to antibiotic. (Aryee A and Price N, 2015). According to a World Health Organization report, about 80% of antibiotics are used by residents of low- and middle-income countries. Vitality is from 20% to 50% of those drugs (WHO, 2014).

The Sustainable Development Goals (SDGs) emphasize the need for capacity building, and when it comes to early warning, risk reduction and management of national and global health concerns they are invested in all countries with a special focus on poor countries (United Nations, 2015). Antibiotic overuse, increasing healthcare costs, self-treatment and consequent resistance to bacteria, as well as negative side effects, all could jeopardize the achievement of this goal (Francisco Napolitano et al, 2013).

A requirement for rational use of medicines is that patients receive medicines based on their clinical needs and in doses that meet their requirements for an appropriate period of time and at the lowest possible cost" (WHO, 1987).

Irrational drug use is a major global concern, the impact of excessive drug use on the economies of industrialized countries is enormous, and irrational drug use and self-treatment have serious health consequences as well as financial burdens (Karata et al, 2012).

A group of researchers conducted recent research and found that NSAIDs and antibiotics are the most common forms of self-medication (Lukovic et al., 2014; Ibrahim et al., 2015; Zhu et al., 2016; Nayir et al., 2016), and the abuse of painkillers is harmful. the health of the individual due to its toxic and bad side effects (Ibrahim et al., 2015). Self-medication with antibiotics is the other most prevalent type of irrational drug use worldwide, and can work to mask symptoms, treatment failure and development of drug resistance (Zhu et al., 2016).

Since there are a variety of reasons to advocate rational use of medication, including health and economic concerns, physicians bear a large part of the guilt, so physicians' efforts against rational use of medication on their own are insufficient and must be supplemented with patient participation (Basaran and Akici, 2012) , and many researches looking at rational drug use and related properties have found that self-treatment habits and irrational drug use are associated with education levels, with people with higher education participating in treatment at a higher rate (Carrasco-Garrido et al., 2008; Foroutan & Foroutan.,2014; Garofalo, Di Giuseppe & Angelillo, 2015; Nayir

et al., 2016) is also considered one of the best tools to use when a person has common health difficulties that do not require a doctor's visit and one of the first options for treating Early disease symptoms (Jones R, BMJ, 2000) (WSMI, 2008). According to studies conducted by a number of researchers, it was found that women are more likely than men to self-medicate (Kelly JP et al, 2005; Stjernberg J et al, 2006; Carrasco-Garrido P et al, 2008). Women are seen as playing the most important role in the family when it comes to dealing with family members' health difficulties, and they also use health care more frequently than men (Bertakis KD, et al., 2000). On the other hand, self-care is usually associated with age, with people over 65 years of age using it more regularly (Messerer M et al., 2001).

In terms of different influences on their health-related decisions, adolescents and young adults are the most vulnerable population groups, and students in particular are a large group of patients about whom we do not know much when it comes to health-related issues and the use of health care including self-treatment (Lipnickey, 1988).

Parents are the primary source of pharmaceutical knowledge for students, but the media and the Internet also encourage self-medicine for several reasons and have a significant impact on them (Sawalha, 2008), and due to the difficulty of assessing the validity of media content, young people at risk are regularly exposed to information that has not been scientifically proven (Aba -Hossein et al, 2005), and it appears that over-the-counter pharmaceuticals, herbal or nutritional supplements, and other over-the-counter medicines are frequently used by students from different countries (Sawalha AF, 2008; Gardiner P et al, 2007; Burak LJ , Damico A, 2000; Stasio MJ et al, 2008).

According to studies, a range of variables influence self-medication, among them a scarcity of time to see a doctor, trust in the safety of pharmaceuticals, the collection and storage of old drugs at home, and the sale of medicines without a prescription (Alghanim et al, 2011). Self-medication leads to bacterial resistance, delayed diagnosis, inadequate care, substance abuse, drug reactions, un intentional poisoning, liver and renal problems, and a reduced quality of life (Amani et al, 2011; Ansari et al, 2011; Sawalha, 2007).

According to the World Health Organization, medicine prices represent about 40% of total medical spending (Yousefi et al, 2012) and the overuse of medicines leads to self-treatment, which is a serious problem worldwide, and more than half of medicines are supplied, transferred or promoted It is illegal, and half of the patients take inappropriately prescribed medications (WHO, 2002), and self-medication was found to be common among Palestinian, Slovenian, Iranian, and Pakistani students, at 98%, 92.3%, 83%, and 80.4%, respectively, are self-administered (Sawalha, 2007; Amani et al., 2011).

The practice of self-medication among students, especially medical students, is a serious problem with far-reaching consequences in many cases and it is wrong to think that because medical students are familiar with pharmaceutical drugs, they are less likely to self-medicate, and this perspective encourages people to self-medicate (da Silva et al, 2012). Moreover, medical students' use of social media can have a significant impact on self-medication, on the other hand self-medication is described as buying and taking medications without contacting a physician for the purposes of diagnosis, prescription or care (Monstastruc JL et al, 1997).

Studying self-medication among students is important because they represent a well-educated segment of the population that has better access to health care information. Self-medication research in medical student groups is critical because they will be the generation responsible for prescribing and working on health education in the future. Furthermore, as with prescribing anti-inflammatory drugs, their opinions regarding pharmacotherapy may influence how they prescribe drugs in the future (Epstein AM, et al., 1984).

Previous research has shown that medical students and healthcare workers experience challenges while seeking health treatments for themselves (Brimstone R et al, 2007; Roberts LW et al, 2001; Chew-Graham CA, Rogers A, Yassin N et al, 2003). Partly due to the competitive environment in which they operate, where punctuality and attention in learning or working, as well as excellent health, are required.

"Rx to OTC Switch" is a growing trend. "Switching from Rx to OTC" indicates when over-the-counter (OTC) medications are available. The most common type of new treatment is a prescription drug, after a reasonable period of time has passed in which the drug has been used by many patients and the full experience and scientific information has been gathered, then the manufacturer may choose to apply to the regulatory authorities for the status of the over-the-counter drug (WSMI, 2012).

Why is self-medication used by people?

Self-treatment is very prevalent and can occur for a variety of reasons (Solomon W.& Abebe G.M,2003) The increasing trend of self-medication is due to desire for private care, lack of sanitation, financial constraints, apathy, misinformation, and the spread of propaganda, and availability of drugs in locations other than drug stores (VD Phalke et al, 2006).

Advantages that can be gained

- Participate in his medical treatment.

- Education opportunities about specific health issues and for example, help with smoking cessation and heartburn treatment.

- Comfort in the prevention or relief of mild symptoms or conditions.

- Cost-effectiveness, as it will cut or eliminate physician consultations.

Self-medication may have various benefits at the community level, such as:

- preventing the wasting of scarce medical resources on minor ailments

- minimizing the costs of community-sponsored health care services

Hazards that could occur

- Improper self-diagnosis

- Inability to seek prompt medical counsel• Inadequate therapy range

- Failure to address particular pharmacological dangers

- Rare yet substantial side effects

- Failure to understand contraindications, experiences, alerts, and precautions, or self-diagnosis

- Failure to recognize that the same active medicine is being taken under a different name;

- Failure to inform the prescribing physician about current self-medication (double medication/harmful interaction)

- Non-recognition or reporting of adverse drug reactions Interaction between food and drugs (WHO,2000).

Prevention of self-medication-related possible risks

Function of the professional health profession

Health care providers may be able to assist patients in avoiding the risks of self-medication, because he is the one who, in his daily practice, focuses on three fundamental therapeutic characteristics of professionalism: knowledge, therapeutic direction, and education. (Hernandez-Juyol M and Job-Quesada JR, 2002).

Information

When a health practitioner dispenses medicine, he can provide sound advice and explain what is being recommended so that the patient understands and can make his own decisions. The material should be delivered at the patient's level of understanding so that they can better understand how to deal with it. (Hernandez-Juyol M and Job-Quesada JR. 2002).

Pharmacist's Role

In order to achieve optimal patient outcomes and quality of life, pharmacists perform an important and vital function in diagnosing, treating, and avoiding drug-related problems, the Outpatient pharmacists have the authority and responsibility to ensure that all pharmaceuticals are used in a safe, appropriate, efficient, and cost-effective manner, particularly patient-selective therapy Before taking any drug on their own and the pharmacists should advise their customers to consult with a doctor. (Wilbur K et al, 2010; WHO,2010; WHO,2011).

Subjects and Methods

Research design: A cross-sectional descriptive study was conducted on a group of Erbil Medical Technical Institute students, and a questionnaire was developed consisting of questions about demographic characteristics such as age, gender, and stage of study, as well as questions included the type of self-treatment purchased, drug information sources, causes of self-medication, and symptoms or disease that the drug was used for it.

Data collection: A Data was collected over the months of December 2020 and January 2021.

Participants in the research: The questionnaire was given to a total of 75 nursing students, and the participants were selected with ease. Participants in this study were given a 15-minute overview of the objectives of the study and instructions on the questionnaire items. The paragraphs of the questionnaire were simplified by translating it into Kurdish language .

Results

Totally 75 students answered the questionnaire. The majority of them was males (58.7%), while the age groups were similar, table 1. We asked them do you use medication without prescription, (26, 34.7%), they don't use any medications, while the most of them 49, 65.3% used self- medications. Table 2.

Table 3: presented the association of using self-medications between males and females. Self-medication is used by about equal numbers of men and women, albeit the link was not statistically significant.

Table 1: Shows the demographic characteristics of the participants.

Variable	Frequency n=75	%
Age groups		
18-19	37	49.3
20-21	38	50.7
Sex		
Male	44	58.7
Female	31	41.3

Table 2: Prevalence self –medication.

Answer	Frequency n=75	%
Yes	49	65.3
No	26	34.7
Total	75	100

Table 3: The relationship between gender and self-medication. (chi square).

Variable	Use of Self-medication		Total	P value
	Yes (%)	No (%)		
Sex				0.9
Male	29 (65.9)	15(34.1)	44(100)	
Female	20(64.5)	11(35.5)	31(100)	

With regard to the using of the medications among students their answer a small percentage of them use antibiotics, same thing a little of them use analgesic, only 12% of the participants use antispasmodic drugs. Additionally, 14.7 % of the students consumed cough suppressing drugs, and very small proportion of them used sedatives table 4.

Table 4: The frequency with which the subjects used medicines.

Drugs	Frequency		
	Yes (%)	No (%)	
Antibiotics	21(28)	54(72)	
Analgesics	13(17.3)	62(82.7)	
Antispasmodics	9(12)	66(88)	
Cough, flu	11(14.7)	64(85.3)	
Sedative	4(5.3)	71(94.7)	

In the table 5 we reported why students used medications without any prescriptions. The most of them used drugs because their family and friends recommended the same drug which is 17.3%, while only 4% of the students believe the pharmacist.

Table 5: Reasons behind self-medication usage.

Variable	Frequency	%
No trust of doctor	5	6.7
Read in net or social media	8	10.7
Previous prescription	8	10.7
By pharmacist	3	4
Use by other family members or friends	13	17.3

As mentioned before same result has been obtained by the source of information. The majority of the students take information by their family and friends. While only 4% of the students take information by the pharmacist, table number 6 presented that.

Table 6: Source of information.

Source of information	Frequency	%
Pharmacist	3	4
Physician	8	10.7
Family and Friends	18	24
Internet	15	20

Discussion

The research was conducted on nursing students at the Medical Technical Institute in Erbil, and self-medication was very common (65.3%), and this percentage was greater than the results of a research conducted on incidence of self-medication on medical students at Ain Shams University in Egypt by (55%) (Al-Ezz 2011), and it was greater than the results of a similar study conducted on students of colleges of pharmacy and medicine at the University of Dammam, Kingdom of Saudi Arabia (49.3%) (WHO, 2003), and it was higher than another study conducted to find out the prevalence of self-medication among medical students in Gulf Medical University (GMU) (65%) (Binady, 2014)(Abay, 2010), but it was less than the results of a study on the rate of self-medication conducted among medical students at Kuwait University, which amounted to (97.8%). (Al-Hussaini, 2014). In a study (Hilal, 2017) it was shown that self-treatment in males is much greater than in females, which can be attributed to the fact that females are more susceptible to stress and anxiety (Ahmed, 2007). The results of the current research showed that antibiotics were the most common self-treatment for common symptoms by participants, which is consistent with the results of a study conducted in Egypt where 41.5% of students used antibiotics as self-treatment (El-Ezz, 2011), as well as with a study conducted in the UAE. United States, where 32% of medical students at the University of Sharjah use antibiotics as self-treatment (Sharif, 2012). The results of the current study showing that antibiotics are the most commonly used self-medication while other studies have shown otherwise, such as those conducted in Saudi Arabia and Serbia, show that analgesics are the most commonly used self-medication (Bennadi, 2014, Lukovic, 2014). This may be due to differences in community attitudes, demographic education, legislation, and drug dispensing restrictions.

People in Iraq can easily obtain medicines and antibiotics without a prescription, which is very worrying due to the many dangerous side effects of antibiotics and the difficulties of bacterial resistance. The results of the study showed that 5.3% of the students used sedative medications, which indicates that they were dealing with stressful situations in their lives, and one of the most important reasons for practicing self-medication was its use by family members or other friends, on the other hand,

other research revealed that medical students They used self-medication because they were familiar with these medicines (Al-Fulaiti, 2014).

Conclusion

At the Erbil Technical Medical Institute, the results of the research showed the widespread prevalence of self-medication among nursing students, with a statistical relationship between male gender and self-treatment, and the study showed the use of antibiotics in a large way in self-treatment, which has become a major concern as a result of side effects and bacteria resistance.

Recommendations

Self-medication is a common problem. In the current study, antibiotics were among the most commonly used drugs for self-medication, and the World Health Organization documented alarming levels of antibiotic resistance in Member States; This study focused on the self-medication of the drug, its use, and the reasons for its use. People who practice self-medication must have good information about the doses, when to take them, and the harmful effects of overdose in order to be safe, but a lack of knowledge can lead to disastrous repercussions such as antibiotic resistance. As a result, the study recommends a comprehensive approach to preventing this problem, which includes proper knowledge of self-medication and education. Health practitioners should educate patients about self-medication, and better understanding and knowledge of self-medication leads to more rational use and, as a consequence, reduced resistance to germs.

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