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Assessment of Nursing Students' Knowledge about The Random Use of Antibiotics at College of Nursing in Al-Qadisiyah University

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Abstract. Antibiotics are either made from microorganisms or created in a lab. They work by killing or slowing down the growth of living organisms. to assess knowledge about the random use of antibiotics among nursing students at nursing College in Al- Al-Qadisiyah University. A quantitative Research was conducted to evaluate understanding and awareness regarding the random use of antibiotics. Between January 13, 2021, and May 20, 2021, both study and control groups were formed. A random sample of 170 participants, consisting of both males and females, was chosen. using Antibiotics among nursing students at nursing College in Al- Qadisiyah university . Data were collected during period (13th of January to 6 July) Using interview Technique. Data analyzed by using spss Ver23. The result of study showed that highest proportion Of the participants in the study, 51% were aged between 18 and 20. Among them, 85% were female and 15% were male. Additionally, 83% resided in urban areas, while 87.64% had a good understanding of the random use of antibiotics. A Useful assertion found in this study was that most of students practiced reading drug labels for composition and expiry dates. Most common source of information was pharmacology It was found that second-stage nursing students and read the prescription provided with the medicine carefully. Although antibiotics are generally considered safe, they have been associated with There are many different negative effects, and the side effects can be many and diverse.

Highlights:

1- Most nursing students (87.6%) demonstrated good knowledge regarding the random use of antibiotics.
2- Significant associations were found between students' knowledge and demographic factors such as residence and age.

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3- Pharmacology courses and reading drug labels were the main sources of antibiotic knowledge among students.

Keywords: Assessment , Nursing Students' ,Knowledge , Random Use of Antibiotic.

Introduction

Antibiotics are medications designed to combat infections driven by particular germs, such as various parasites and certain bacteria. However, they are ineffective against viral infections such as the common cold or influenza (1). Typically, Antibiotics should be used only for serious bacterial infections because many minor illnesses get better without treatment. It is crucial to use antibiotics correctly, as improper use can lead to antibiotic resistance, a condition where germs adapt and become less responsive to treatment (2).

Antibiotics can be administered in various ways, such as orally, througth an using an IV injection or by rinsing a surgical area with saline solution that contains antibiotics, which helps in preventing and treating infections. While these drugs are essential for saving lives and preventing infectious diseases, the threat of bacteria quickly developing resistance is concerning and can result in treatment failures (3,4).

The misuse of antibiotics has led to a significant rise in antimicrobial resistance globally. Incorrectly prescribed for TB, malaria, pneumonia, and small children's illnesses, almost two-thirds of all oral antibiotics are distributed over-the-count (5).

Major contributors to the rise of antimicrobial resistance include improper prescriptions, misuse, and overuse of these drugs, along with various social and cultural influences. Such resistance threatens the effectiveness of antibiotics, potentially leading to increased treatment failures, worse illnesses, and an increase in death rates (6). To tackle the issue of prescribing antimicrobials, it's important to modify how future doctors prescribe these medications. Training the next generation of medical professionals will play a key role. Before creating or improving

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any training program, it is vital to have clear evidence regarding the current knowledge, attitudes, and practices concerning antibiotics (7,8).

This study is significant because it reveals an important issue regarding how nursing students at the College of nursing especially understand the haphazard use of antibiotics (9). This research is significant because it addresses the gap created by the absence of medical and statistical studies regarding antibiotic use among nursing students at the College of nursing in Al-Diwaniyah, Iraq .

Methodology

Quantitative design descriptive study was carried out among male and female nursing students at Qadisiyah University to evaluate their awareness and knowledge regarding the random use of antibiotics. in a nursing collage to Identify the relationships Between the demographic information and the use of antibiotics starting from 13th of January of 2021 to 20 may 2021.the sample of study was not probability (A selected group) of 170 students from the College of Nursing at Al-Qadisiyah University. **Selective critera for sampling** acording to :

Inclusion criteria: Are included 170 students who participated in this study from the College of Nursing in Al-Qadisiyah University .

Exclusion criteria: Students excluded from this study are those in the first year since pharmacology is not part of the curriculum at this level.

The purpose of research was to evaluate the knowledge regarding the casual use of antibiotics among nursing students in the Al Qadisiyah University to determine the relationship between demographic information and use antibiotics. the questionnaire was designed to benefit from previous Studies and divided to two main parts

Part one: demographics characteristics - It consisted of 3 factors : gender, age and residence.

Part Two: Evaluation of Understanding and Awareness about Using of antibiotics: -It consisted of 20 elements, which are designed as brief questions that students responded to with either "yes" or "no."

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The interview method was used to gather data for this study between January 28 and February 11, 2021, during which we recorded The questionnaire according to the objective of present study among These students . After completing the collection of samples , a statistician sorted the questionnaire and analyzed the data using spss ver23.

Result of study

Table (1): The study sample was distributed based on personal data.

Demographic characteristics		
Age groups		
	F	**P**
18- 20	87	51%
21-23	72	42%
24-26	8	5%
26-27	3	2%
Total	170	100%
Gender		
Male	25	15%
Female	145	85%
Total	170	100%
Residents		
City	142	83%
Rural	28	17%
Total	170	100%

Table 1 shows the demographic data of the nurses participating in the study. The number of participants was 170 nurses. The largest group of participants was female, at 85%. The highest group of participants was within the 18-20 age group, at 51%. At the end of the table, the results showed that 83% were city residents.

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Table (2): Acquired Knowledge on Antibiotic Random Dosage by Nursing Students

Level of Knowledge	**N**	**P**
Poor(< 5)	0	0%
Moderate (6-10)	21	12.36%
Good (11 and over)	149	87.64%
Total	170	100%

Table (2) shows the overall assessment of Knowledge on Antibiotic Random Dosage by Nursing Students. Out of 170 nurses, 87.64% reported a good level of knowledge, and the remaining percentage (12.36%) reported an average level.Table (2) shows the overall assessment of Knowledge on Antibiotic Random Dosage by Nursing Students. Out of 170 nurses, 87.64% reported a good level of knowledge, and the remaining percentage (12.36%) reported an average level.

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Table (3): relationships between demographic data and random use of antibiotics.

Variables	DF	R.	Sig.
Gender	2	0.158	0.59 NS
Residency	2	0.195	0.09 Sig.
Age	4	0.21	0.00 Sig

Table 3 shows the relationship between nurses' knowledge about the random use of antibiotics and demographic data. The results showed a relationship between the level of knowledge and (gender and residence) with a statistical significance of less than 0.05, while there was no relationship with age with a statistical significance of more than 0.05.

Discussion

This study assesses knowledge about the random use of antibiotics among nursing students at Nursing College in Al- Al-Qadisiyah University. An antibiotic can be described as a substance made by one microorganism that stops the growth of another. Additionally, synthetic antibiotics, which are chemically similar to natural ones, have been developed to perform similar functions. [10].

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The introduction of antibiotics has greatly benefited society, helping to save lives by stopping and curing widespread infections across the globe. Yet, the excessive use of these drugs has led to antibiotic resistance, posing a serious global health threat through bacterial infections like pneumonia, tuberculosis, and sepsis. These infections can become hard, or sometimes even impossible, to treat due to antibiotic resistance. Thus, the role of nurses in promoting health is crucial to reduce unnecessary antibiotic use. This is why the current study aims to enhance understanding by examining nursing students' knowledge about antibiotic usage. [11]

Throughout of data analysis table number (1)The results of our study indicate that most participants (51%) were aged between 18 and 20 years Result of the study is compatible with(12)

Throughout the data analysis the table number (1), shows that the study sample consisted of 170 that the most of the study sample they are female (85%) and male (15%) the result of the study is compatible with (13)

Table (1) shows the division of the research sample According to gender female (145) and male (25) the result of this table (1) shows that the majority of study sample (83%) of them were living in city area but only (17%) of the study simple they were living in rural area.The result of the study is compatible with (14) . Table 2 also show the division of the research sample According to housing of them (142) were living in city area but only (28) of the study simple they were living in rural area .

Throughout the data analysis the table number (2) reveals that a large portion of the study sample, specifically 87.64%, demonstrated a good understanding of the random use of antibiotics ,of study participants were highly knowledge regarding antibiotics use and side effects and resistance. The findings of this research do not align with those of Mohammed (2011)(15), who indicated that the general understanding of antibiotic classes among students is merely average. A lack of proper knowledge regarding medication can lead to both overuse and noncompliance by patients, potentially causing serious issues. Furthermore, the study reveals that only 12.36% of students possess fair level about the random use of antibiotics.

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This result contrasts with Andrea (2019) (16) findings, which showed that students' awareness of antibiotics is quite low.

Anther study shows that the random use of antibiotics among nursing students The study sample showed that 87.64% had a good understanding of the random use of antibiotics. In contrast, only 12.36% demonstrated moderate knowledge. This high level of understanding about antibiotic use can be attributed to study pharmacology while studying at college, due to the curricula that may include information about antibiotics so more aware they are more knowing everything before using. They have information about antibiotics through the Internet, scientific journals, textbooks and articles or to be familiar with frequent prescriptions or training and practice in pharmacies, or read the booklet also included in the package for any medications that may interact with this specific type of antibiotic.

Throughout the data analysis the result of this table (3) shows gender 0.83 NS, residency 0.01 sig and age 0.01 sig our study show that there is a close relationship between knowing the students of the College of Nursing and their demographic information. The result not compatible (17) , The findings of his research revealed that there were non-significant association between knowledge and Their demographic characteristics, In our study there is a statistically significant relationship between the demographic information of nursing students, because the majority of students who live in the city are more up to date with information through the information network, Sin addition, there are many pharmacies and health centers in the city, unlike the countryside, which helps them train and educate them about the use of antibiotics, also social media and its videos and Informational brochures about medications and health topics, or campaigns led by students or the government, can help raise awareness about the dangers of overusing antibiotics ,these results are consistent with studies.(18,19)

Conclusion

Further educational interventions are necessary to improve students understanding on antibiotic resistance, and to correct some wring behaviors related to antibiotic use. It should be emphasized that antibiotics be used only on medical prescription, for a defined period time to

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treat specific medical conditions students most common source of information was previous Experience or family, friends and media etc .

Recommendations:

The current study recommends the following;

• Raise awareness among nursing students about the problem of antibiotics resistance and its use.

• To evaluate the effectiveness of the pharmacology and microbiology courses provided to students during the undergraduate nursing curriculum.

• Read the prescription provided with the medicine carefully. Although antibiotics are generally considered safe, they have been associated with a wide range of adverse effects, and side effects are numerous and varied.

• It is anticipated that the findings from this study will assist in designing an intervention to modify students' knowledge and skills regarding antibiotic resistance and use.

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