

Knowledge of Antibiotic Misuse among Patients with Oral Infections in Dental Units of Al-Najaf Primary Health Care Centers(PHCCs)

Ameen Jihad Derweesh Alwaily, M.Sc.^{*}, Prof. Dr. Fatima Wanas Khudair, Ph.D., Nursing. Ph.D.^{**},
Prof. Dr. Zainab Ali Hussein, Ph.D., Parasites. Ph.D.^{***}

Community Nursing, Faculty of Nursing, University of Kufa. ^{*}
community Nursing Branch, Faculty of Nursing, University of Kufa. College of Nursing. ^{**}
Basic Sciences Branch, Faculty of Nursing, University of Kufa. College of Nursing. ^{***}

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Abstract- Background: Antibiotics are active substances that affect the growth of bacteria. The misuse leads to resistance to antibiotics and thus causes consequences for the health of the community. Knowledge of Antibiotic Misuse among Patients with Oral Infections in Dental Units of Al-Najaf Primary Health Care Centers(PHCCs). The misuse of antibiotics has become a societal issue, a major public health issue worldwide. **Methodology:** An analytical descriptive study was conducted in the primary health care centers and the dental specialist center in the city of Najaf from November 2020 to March 2020; the sample was collected using a non-probability (convenience sample) of (450) participants are selected from the primary health center in AL-Najaf AL-Ashraf city in Iraq. The study instrument which is determined through a pilot study the validity is achieved through a panel of (21)experts. These Instruments are demographical data, sources of information, and the knowledge of patients with misuse of antibiotics. **Aim of the study:** The current study aims to assess the level of knowledge of the misuse of antibiotics among patients suffering from stomatitis and to know the relationship between the patient's level of knowledge of antibiotics with demographic and social characteristics. **Results:** The results of the current study reveal that general knowledge about the misuse of antibiotics was good 54.4%, the most influencing source of knowledge was the nurses, while it was one medical visit during the month. **Conclusion:** The study has concluded that the majority of the sample is young and male more than female. The general evaluation for misuse of antibiotics is a good knowledge. And so the significant moral relationship between the general level of knowledge with educational level, professional status, monthly income, and residency. **Recommendations:** The study has recommended the establishment of educational workshops for employees in their workplace, support for nursing staff by setting up educational sessions for the community for their effective impact on community knowledge.

Index Terms- Knowledge, Antibiotic Misuse, Oral Infections, Dental Units, Health Care Centers

I. INTRODUCTION

The term antibiotics are any organic chemical substance that stops or kills microbes. Antibiotics have saved the lives of many people around the world. The misuse of antibiotics in clinical, aquaculture, veterinary medicine, antibiotic pollution as a phenomenon has been recognized around the world.(**Jain&owsal,2013**)Worldwide, at 50%, antibiotics are purchased privately without prescription, pharmacies, and the informal sector. The use of self-medication in the United States and Europe uses antibiotics for upper respiratory symptoms that are often caused by viruses. It is a concern in developing countries for use without medical advice. (Togoobaatar teal 2010) Wrong use of antibiotics is one of the factors that allow resistant bacteria to grow and sensitive bacteria also die as a result of over-prescription and prolonged periods that lead to the proliferation of antibiotic-resistant bacteria and many developing countries have launched campaigns to motivate citizens to reduce the use of antibiotics only when necessary (Abujheisha,etal.2017). Treatment of minor and life-threatening diseases using excessive antibiotics on a large scale leads to the emergence of antibiotic resistance and the result of wrong use has positives, has negative aspects in terms of health, economics and its impact on society .(Oberoi , teal 2015)Antibiotics are widely used and are an important part of the prevention and treatment of diseases, suspected diseases in dentistry, after surgery, and gum infections. The dentist must arrive at the correct diagnosis in order to avoid the wrong use of antibiotics. Studies of antibiotic misuse have been conducted in Western countries, and studies have revealed the wrong and inaccurate use of antibiotics . (Gowri, etal.2015). Dentists have their treatment either by surgery or giving the antibiotics that they depend on for tooth infections, the prescription for experimental dentistry is considered to have several perceptions, recommendations for treatment, expected bacterial resistance or the treatment may be inappropriate, which in turn encourages the increase of bacterial resistance.(González-Martínez, etal.2012). The dentist prescribes antibiotics for preventive reasons as a result of changing natural bacteria into pathogenic as well as preventing endocarditis. Therapeutically in soft and hard tissue diseases in the oral cavity and gums, as well as in surgical cases in the mouth, misuse of antibiotics leads to increased resistance.(

Peedikayil,2011). In the twentieth century, the greatest invention was the invention of antibiotics, due to the high mortality from infectious diseases and diseases worldwide. Misuse of antibiotics is a large number of buying them without a prescription, especially for developing countries, and that excess of them quickly became resistant to antibiotics is an important issue in India. (Agarwal, etal 2015). Antimicrobial resistance (AMR) affects millions of people and threatens human health Increased use of antibiotics. The resistance will evolve, amplify, and necessary Facing (AMR) challenges at the national and global political level and developing a global action plan Any (AMR) increase would have broad implications. Australia has realized reducing the misuse of antibiotics is essential to promoting health care. (Degeling, etal.2018).

Objectives of the Study:

1. Evaluate the level of antibiotic misuse knowledge among patients with oral infection .
2. Find out the relationship between antibiotic misuse among patients with oral infections and their demographic data.

II. METHODOLOGY:

Design of the Study

Across-sectional descriptive analytic design is adopted to achieve the study objective , Misuse among Patients with Oral Infections in Dental Units of Primary Health Care Centers(PHCCs)

Setting of the Study

A study was conducted in the Primary Health Centers AL Najaf Al Ashraf city in Iraq. These center are (AL-razwah. AL-Ansari. Al-Quds .AL- Nasser. Dr. Khawla Zween. AL-Mukarramah. Justice. Al-Faw . center 15 Shaaban. Health center in the military . University health center . health center in Orouba. Martyr Nasser Specialist Center of Dentistry) within the Najaf Health Directorate.

Sample of the Study

Probability sampling technique (comfort sample) from (450) accidental participants attending the dental units in the primary health centers in the city of Najaf.

Statistical analysis

The data are analysis through application data of descriptive and information statistical analysis methods

Descriptive statistical:

1. Frequency and percentage table.
2. Mean and stander deviation
3. Sum of scores to derided the patient knowledge in to the levels (high ,fair, low).
4. Bar chart.

A- Information statistical :

1. Chi-square. To test the association between the study variable .
2. One way (ANOVA).
3. Independent sample t-test.

III. RESULTS

Table (4-1) Study Sample Demographic Data

Demographic data	Rating and intervals	Frequency	Percent
Age / Years	19 and less	32	7.1
	20- 29	168	37.4
	30- 39	114	25.3
	40- 49	78	17.3
	50 and more	58	12.9
	Total	450	100
Gender	Male	232	51.6
	Female	218	48.4
	Total	450	100
Levels of Education	Doesn't read and write	9	2
	Read and write	18	4
	Primary school	69	15.3
	Intermediate school	127	28.2
	Secondary school	65	14.4
	Diploma	61	13.6
	College	94	20.9
	Post-graduate	7	1.6
	Total	450	100
Occupational status	Jobless	80	17.8
	Employee	100	22.2

	Free job	154	34.2
	Housewife	116	25.8
	Total	450	100
Monthly Income	Sufficient	120	26.6
	Insufficient	196	43.6
	Barley sufficient	134	29.8
	Total	450	100
Residency	Urban	328	72.9
	Rural	122	27.1
	Total	450	100
Smoking	Yes	105	23.3
	No	345	76.7
	Total	450	100

This reveals that the (37.4%) of the study subjects are (20-29) years old and (51.6%) of them are male. Regarding levels of education, the study results indicated that (28.2%) with intermediate school graduated in addition. The study results show that (34.2%) are of free job, (43.6%) exhibit insufficient monthly income, (72.9%) are urban residents, and (79.7%) are non-smoking persons.

Table (4-4) Overall evaluation of patients' knowledge regarding antibiotics misuse

Main studied domain	Levels	Freq.	%
Overall evaluation of patients' knowledge	High	245	54.4
	Fair	201	44.7
	Low	4	.9
	Total	450	100

N (450), high (sum of scores 62-79), fair (sum of scores 44-61), low (sum of scores 26-43)

This table depicts that more than half of the sample has a high level of knowledge regarding antibiotic misuse (54%).

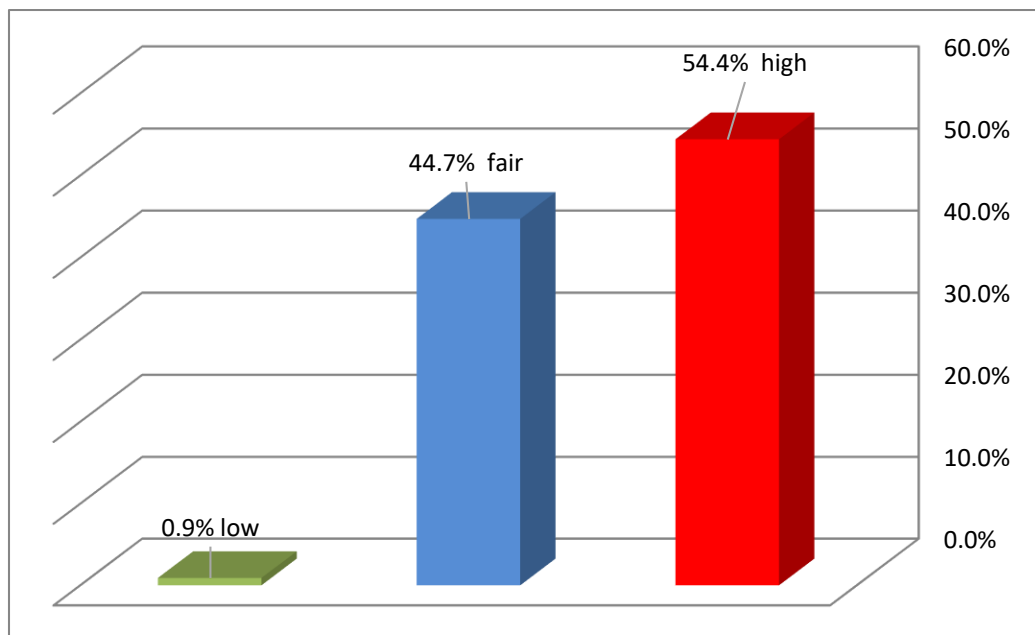


Figure (1) Overall evaluation of patients' knowledge regarding antibiotics misuse

Table (4-6) Analysis of variance (ANOVA) of patients' knowledge according to their educational levels, occupation and monthly income

Demographic data	Rating and interval	N	Mean	Std. Deviation	F	p-value
Levels of education	Doesn't read and write	9	1.9573	.12078	7.608	0.001 HS
	Read and write	18	2.2650	.22769		
	Primary school	69	2.2603	.28102		
	Intermediate school	127	2.2925	.28222		
	Secondary school	65	2.2941	.23752		
	Institute	61	2.4836	.22200		
	College	94	2.3822	.28990		
	Post-graduate	7	2.4615	.19231		
	Total	450	2.3273	.27818		
Occupation	Jobless	80	2.2192	.26558	12.919	.001 HS
	Employee	100	2.3265	.27078		
	Free job	154	2.4256	.24376		
	Housewife	116	2.2719	.29557		
	Total	450	2.3273	.27818		
Monthly income	Sufficient	120	2.3769	.24298	8.468	.0001 HS
	In sufficient	196	2.2669	.29589		
	Barley sufficient	134	2.3711	.26556		
	Total	450	2.3273	.27818		

Table(6) shows that there is a high – significant difference between the patient knowledge based on the levels of education, occupation and monthly income.

Table (4-7) Mean difference (independent sample t-test) of patients' knowledge according to their residency

Main studied domains	Residency	N	Mean	Std. Deviation	t-value	d.f.	p-value
Overall patients' knowledge	Urban	328	2.4445	.26394	5.637	448	0.0001 HS
	Rural	122	2.2837	.27100			

Table(7) shows that there is a high – significance different between the patient knowledge according to their residency .

Table (4-10) Mean difference (independent sample t-test) of patients' knowledge according to times the patients use of antibiotics

Main studied domains	Misuse AB	N	Mean	Std. Deviation	t-value	d.f.	p-value
Overall patients' knowledge	Always	87	2.2378	.30778	3.377	448	.001 HS
	Rarely	363	2.3487	.26664			

Table(10) shows that there is a high – significant different between the patient knowledge and the frequency of antibiotic misuse

Desiccation

Table (1) Study Sample Demographic Data

This reveals that the (37.4%)of the study subjects are (20-29) years old and (51.6%) table them are meal . regarding levels of education , the study results indicated that (28.2%) with intermediate school graduated in addition . The study results shows that (34.2%) are of free job, (43.6%) exhibit insufficient monthly income, (72.9%) are urban residents , and (79.7%)are non

smoking persons. These results tally with the study by Kadhim & Khudair, 2019

Table (4) Overall evaluation of patients' knowledge regarding antibiotics misuse

N (450), high (sum of scores 62-79), fair (sum of scores 44-61), low (sum of scores 26-43)

This table depicts that more than half of sample with high level of knowledge regarding antibiotic misuse (54%). previous studies match the current study as André et al. 2010 in Sweden, and Kim et al ., 2011 in South Korea

Table (6) Analysis of variance (ANOVA) of patients' knowledge according to their educational levels, occupation and monthly income .

Table(6) shows that there is a high – significant difference between the patient knowledge based on the levels of education, occupation and monthly income. These result agree with Chang et al., 2019.how have found that there is relationship between monthly income ,education level and residency with knowledge

Table (7) Mean difference (independent sample t-test) of patients' knowledge according to their residency

Table(7) shows that there is a high – significance different between the patient knowledge according to their residency

Table (10) Mean difference (independent sample t-test) of patients' knowledge according to times the patients use of antibiotics

Table(10) shows that there is a high – significant different between the patient knowledge and the frequency of antibiotic misuse

IV. CONCLUSIONS

- 1.We conclude that those people have a good amount of knowledge regarding the misuse of antibiotics, and this knowledge is affected by their level of education, occupation and residence.
- 2.This level of knowledge makes them less use of antibiotics.
- 3.The people under investigation have a weakness in a preventive sense and that their visits are limited.

V. RECOMMENDATIONS

On the basis of the conclusions reached in the current study, the following is recommended

1. Conducting studies in this regard must be on a wider range of the sample.
2. Increasing public awareness about antibiotics use and misuse by means of social media must be consolidated

3. Developing a system that limits the sale of antibiotics to the prescription should be continued only by doctor's
4. Dentists should be obligated to prescribe the antibiotic after mouth smear.

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AUTHORS

First Author – Ameen Jihad Derweesh Alwaily, M.Sc, Community Nursing, Faculty of Nursing, University of Kufa
Second Author – Prof. Dr. Fatima Wanas Khudair, Ph.D., Nursing. Ph.D, Community Nursing Branch, Faculty of Nursing, University of Kufa. College of Nursing
Third Author – Prof. Dr. Zainab Ali Hussein, Ph.D., Parasites. Ph.D, Basic Sciences Branch, Faculty of Nursing, University of Kufa. College of Nursing.