

# Knowledge, Attitude and Practices of Antibiotic Resistance among Nurses at Services Hospital Lahore

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## Abstract

Antibiotic acts by attacking the pathogenic bacteria on different levels in the human body. These medicines prevent bacterial infection. Overuse or misuse of antibiotics increases the risk of the spread of resistant strains of bacteria. Antibiotic resistance occurs when bacteria change in some way that eliminates the effects of drugs chemicals which are providing to cure or prevent infections.

**Aim:** This study will help nurses to increase the knowledge, attitude, and practice regarding antibiotics.

**Background:** Examining the knowledge, attitude, and practice of the nurses regarding antibiotic resistance and usage can help us in commendable proper educational involvements for nurses.

**Methods:** This study is done on 105 tests of nurses out of 600 nurses by Colvin's strategy and is conducted by exploiting a cross-sectional method that incorporates a distinctive Likert scale rating

**Results:** Senior staff nurse and generic nurses have a good knowledge regarding antibiotic resistance as compared to diploma nurses.

**Conclusions:** Demoralization is considered to be further investigated for better understanding.

**Keywords:** Antibiotic resistance; knowledge; Attitude; Practice.

Antibiotic resistance occurs when bacteria change in some way that eliminates the effects of drugs chemicals which are providing to cure or prevent infections.

Antibiotics are the most extensively used medication in clinical practices, this differentiated usage of antibiotic resistance is increasing at leaps and bounds and it presents a major challenge to health care facilities.

## Global incidence

Antimicrobial has become a global public health concern. The WHO estimated that this public health concern leads to an increase in mortality rate.

A potential post-antibiotic era threatens current and future medical advances the current worldwide increase in resistant bacteria and, at the same time, the downward trend in the development of new antibiotics has serious consequences.

## National incidence

In Pakistan, there is avoidable use of antibiotics and due to the overuse of these drugs bacteria are developing resistance against the drugs.

Scientific studies from different hospitals situated in different places of Pakistan have reported that bacteria from different infections now becoming gradually resistant to traditional bacteria.

## Problem statement

There is a need to develop strategies to overcome the misuse of antibiotics and reduce the resistance of antibiotics.

Misuse of antibiotics is associated to wrong prescribing behavior amongst physicians. Patient's wrong habits and their insufficient knowledge also stand for another leading cause for antimicrobial resistance.

## Introduction

Antibiotic acts by attacking the pathogenic bacteria on different levels in the human body. These medicines prevent bacterial infection. Overuse or misuse of antibiotics increases the risk of the spread of resistant strains of bacteria.

## Significance

It is significant to empowered the community, apply strict policies on the usage of antibiotics, and bring a change in the behavior of the client and it will promote the proper use of antibiotics.

## Literature Research

It is identified that student starts antibiotics by their self with subsequent reasons such as cold, flu, sore throat, cough, abdominal pain and skin infections. The conclusion to start antibiotics was predisposed by being fulfilled from earlier antibiotics use, test fees, drug store, and surrounding advice [1].

The knowledge regarding how to take and how to store antibiotics insufficient among health care professionals. Results show that neither doctor nor pharmacist advises against consumption of antibiotics [2]

Antibiotics are used to fight bacterial infections and these are not effective against viral infection. Frequent use of antibiotics will lead to resistance and decrease future effectiveness [3].

There is a high need for proper rule of antibiotics control policies restricting the availability of drugs to the public. Educational programmers should make health care practitioners aware including pharmacists/chemists and consumers alike. Safe practices need to be repeated [4].

Antibiotic resistance is a major health problem and it requires great attention. Individuals related to medicine should have great knowledge about antibiotics. Sufficient knowledge should be given to the doctors of the future and the better healthcare system [5].

Health care professionals do not practice what they know. It is significant to create more attentiveness around this issue throughout their students.

Results showed that the students had a fair good knowledge regarding the part of antibiotics their consumptions and the linked adverse reactions [6].

Low compensation and middle wages countries are essential in worldwide response to antimicrobial defiance.

Civilians were conscious of antibiotics. But the usage of specialized concepts of antibiotics was diminished by sectional interpretation like ant-inflammatory medicine [7].

Nurses are the main source of information in healthcare profession. Nurses have good knowledge about antibiotics defiance but some misconceptions were also present [8].

Antibiotic resistance is a major health problem and it requires great attention. Individuals related to medicine should have great knowledge about antibiotics. Sufficient knowledge should be given to the doctors of the future and the better healthcare system [5].

Healthcare-associated infections and antimicrobial resistance are substantial threats to community health and wellbeing. As resistant organisms continue to transpire and grow, and antimicrobial drugs become less effective, infection prevention

and control remain a vigorous characteristic of preserving public health, predominantly amongst susceptible and vulnerable population groups such as older people and young children.

Since the aggregate convolution of healthcare managements and involvements, patients are becoming progressively vulnerable to healthcare-associated infections and resistant organisms [7].

Adult persons in the community use antibiotics to a great extent. A cross sectional study was showed. Adults had lack of knowledge related to antibiotic resistance. More information should be provided to them [9]

Resistance to antibiotics has converted a foremost wellbeing risk universal, and one of the furthestmost vital funding features is the prevalent overdoing of antimicrobials. However, miserable knowledge and awareness among caregivers of children also results in inappropriate demand for antibiotic preparations for their children.

However, insufficient time and funding are superficial to be major come across in the application of such stewardship programs in many centers in the USA [10].

## Methods

### Setting

Descriptive cross-sectional study design was use for this research.

### Research design

Study was directed at services hospital Lahore.

### Population

Population was the diploma nurses, BSN Nurses and Post RN Staff nurses of services hospital.

### Sampling

Respondents' selection was done by convenient sampling method for this study. It is the easiest and the most convenient method, way of recruiting the sources of the primary data for research. There were four sections in questionnaire.

#### Section 1: Demographic Data

It included 4 items (Age, Gender, Qualification, Experience and Marital status)

#### Section 2: Knowledge regarding antibiotic resistance

It included 10 items

#### Section 3: Attitude regarding antibiotic resistance

It included 5 items

#### Section 4: Practice regarding antibiotic resistance

It included include 5 items

## Research instrument

The questionnaire was used as a research tool for researching study participants. There were four sections in the questionnaire.

## Data gathering procedure

A formal letter of permission was used for conducting this research. Consent was taken from all the participants and a free hand was given to the participants to take part in the study or refused to participate, participants were also given the right to mentioned name or not.

Enough information of research was provided to participants with help of full consent and this was achieved via a consent form attached to the questionnaire.

## Methods used to analyze data

Data analysis was done by SPSS version 21. Statistical computer software for data analysis. This was descriptive study and all the descriptive statistics were obtained through the SPSS software. Chi Square test will be implemented for data analysis.

## Study timeline

Data from study participants was collected from 16 April to 10 May 2020

## Ethical Consideration

Consent was taken from all the participants and free hand was given to the participants to take part in the study or refused to participate, participants were also given the right to mentioned name or not.

Enough information of research was provided to participants with help of full consent and this was achieved via a consent form attached to the questionnaire.

Confidentiality was considered by informing participants. The rights of participants were protected by Nuremberg Code of Ethics.

## Results

### Descriptive analysis

#### Age of respondents:

Valid	Frequency	Percent
25-30	57	54.3
30-35	40	38.1
35-40	8	7.6
Total	105	100

**Table 1:** This table representing the age criteria of respondents that 54% nurse were (25-30) 38 % were in (30-35) and 8% were in the age group of (35-40).

#### Sex of respondents:

Valid	Frequency	Percent
Male	6	5.7
Female	99	94.3
Total	105	100

**Table 2:** This table representing the Sex of respondents that 94.3% were female nurses and 5.7% were male nurses.

#### Education of nurses:

Valid	Frequency	Percent
Diploma	42	40
Post RN BSN	61	58.1
BSN Generic	2	1.9
Total	105	100.0

#### Experience of nurses in the field:

Valid	Frequency	Percent
Less than 5 years	65	61.9
5 years less than 10 years	33	31.4
More than 10 years	7	6.7
Total	105	100

**Table 3:** This table showing the education of nurses that there are 40% are diploma nurses, 58.1% are post RN nurses and 1.9% are BSN Generic.

#### Marital status:

Valid	Frequency	Percent
Single	41	39
Married	64	61
Total	105	100

**Table 4:** This table represents the experience of nurses that there are 61.9% are experienced less than 5 years, 31.4% are experienced 5 years to less than 10 years and 6.6% are experienced more than 10 years.

#### Have you heard of antibiotics before:

Valid	Frequency	Percent
Yes	100	95.2
No	5	4.8
Total	105	100

**Table 5:** This table represents the marital status that there are 39% are single and 61% are married respondents.

**Do you think antibiotics are the same as antipyretics:**

Valid	Frequency	Percent
Yes	2	1.9
No	103	98.1
Total	105	100

**Table 6:** This table describes that 95% of nurses known about antibiotics and 4.7% are unknown about antibiotics.

**Do you think antibiotics are the same as anti- Inflammatory:**

Valid	Frequency	Percent
Yes	18	17.1
No	87	82.9
Total	105	100

**Table 7:** This describes that 98% of nurses known and 1.9% are not known that antibiotics and antipyretics are not the same.

**Should patients follow physician's directions while taking antibiotics:**

Valid	Frequency	Percent
Yes	93	88.6
No	12	11.4
Total	105	100

**Table 8:** This table describes that 82.9% of nurses known that anti-inflammatory and antibiotics are different and 17.1% of nurses known these are the same.

**Is it okay to stop taking an antibiotics regimen if symptoms are improving:**

Valid	Frequency	Percent
Yes	5	4.8
No	100	95.2
Total	105	100

**Table 9:** This table describes that 88% of nurses follow the physician's direction while taking antibiotics and 11.4% of nurses do not follow directions.

**Should flu-like symptoms always be treated with antibiotics:**

Valid	Frequency	Percent
Yes	18	17.1
No	87	82.9
Total	105	100

**Table 10:** It describes that 95.2% of nurses are agreed to not stop taking antibiotics when symptoms relieved and 4.7% agree to stop.

**Should pneumonia always be treated with antibiotics:**

Valid	Frequency	Percent
Yes	82	78.1
No	23	21.9
Total	105	100

**Table 11:** This table describes that there are 82.8% nurses not willing to take antibiotic for flu like symptoms and there are 17.1% nurses who are willing to take antibiotics for flue like symptoms.

**Should you take antibiotics according to the instructions on the package:**

Valid	Frequency	Percent
Yes	82	78.1
No	23	21.9
Total	105	100

**Table 12:** This table describe that 78.1% nurses known that pneumonia treatable with antibiotics and 21.9% nurses known that it should not be treated with antibiotics.

**Do some antibiotics cause adverse effects:**

Valid	Frequency	Percent
Yes	84	80
No	21	20
Total	105	100

**Table 13:** This table describe that 83.8% nurses do not take antibiotics according to instructions on package and 16.1% nurses taking antibiotics according to instruction that is available on package.

**Do you think that it's harmful to follow physician directions while taking:**

Valid	Frequency	Percent
Yes	68	64.8
No	37	35.2
Total	105	100

**Table 14:** This table shown that 80% nurses known that antibiotics cause adverse effects and 20% nurses do not know that antibiotics has adverse effects.

**Would you follow the physician's direction about antibiotic use:**

Valid	Frequency	Percent
Yes	91	86.7
No	13	12.4
Total	104	99



**Table 24:** This table describes that 79.05% nurses will follow the physician instruction and 20.9% nurses will not follow the physician instruction while taking antibiotics.

**Decrease without consultation:**

Valid	Frequency	Percent
Yes	9	8.6
No	96	91.4
Total	105	100

**Table 25:** This table describes that 90.4% nurses do not stop antibiotics without consultation and 9.5% nurses will stop antibiotics without consultation.

**Take the medicine irregularly:**

Valid	Frequency	Percent
Yes	4	3.8
No	101	96.2
Total	105	100

**Table 26:** This table describes that 90% will not decrease antibiotics without consultation and 8.5% will decrease the dosage.

**If ill with flu-like symptoms and the doctor does not prescribe antibiotics, what would you do? visit another doctor for antibiotics:**

Valid	Frequency	Percent
Yes	11	10.5
No	94	89.5
Total	105	100

**Table 27:** This table shows that 96.1% nurses take medicine regularly and 3.8% nurses think that they can take medicine irregularly.

**Buy antibiotics elsewhere:**

Valid	Frequency	Percent
Yes	13	12.4
No	92	87.6
Total	105	100

**Table 28:** This table describes that 89% of nurses will not follow another doctor for antibiotics and 10.4% will follow another doctor.

**Not be concerned:**

Valid	Frequency	Percent
Yes	35	33.3
No	70	66.7
Total	105	100

**Table 29:** This table represents that 87% nurses will not buy antibiotics elsewhere if physicians not prescribed and 12% of nurses will buy antibiotics from elsewhere.

**Request that the doctor prescribe antibiotics:**

Valid	Frequency	Percent
Yes	20	19
No	85	81
Total	105	100

**Table 30:** This table describes that 80.9% of nurses will not request the doctor to prescribe antibiotics and 19.05% will request the doctor to prescribe antibiotics.

## Discussion

This study provides useful information regarding the knowledge, practice and attitudes among nurses towards antibiotics resistance and usage. Results showed the bulk of the nurses questioned had good knowledge about the role of antibiotics, their consumption, and therefore the related adverse reactions. Most of the sample answered correctly to any or all the things administered. Indeed, around most junior nurses sample was not aware of the use of antimicrobial drugs, antipyretic and anti-inflammatory. These results established by current studies on this subject. A survey performed in Services Hospital Lahore how most the nurses interviewed were aware that inappropriate use of antimicrobials could harm patients and cause antibiotic resistance. Regardless of the fair good level of data, high rates of incorrect behaviors were observed. Hence, it looks as if despite having a sufficient hypothetical background; School of nursing students does not practice what they learn. Indeed, 9% of the sample declared to prevent taking antibiotics when symptoms improve and to use leftover antibiotics without consulting a doctor. A mainstream always consulted a doctor before starting on an antibiotic and most of always completed the total course of the prescribed treatment. Previous studies have shown high rates of self-medication amongst nurses concerning antibiotics.

## Limitations

There were several limitations to this study. Firstly, the sample size was small, cross-sectional study sample should be large to get the accurate findings of results from participants of the study. Second, the self-report questions for young nurses was another limitation in this study, it mostly affects the study with biasness. The too much small sample size of this study cannot be generalized to the whole population.

## Conclusion

It demonstrates that almost all of the scholars were tuned in to the antimicrobial resistance, its consequences, and its usage.

The sole concern was their unpremeditated attitude about antibiotic use. The extent of data about antibiotics were quite high amongst experienced and well-educated nurses but some attitudes and practices are still incorrect mostly in junior nurses. Further educational interventions are necessary to boost their understanding and perceptions of antibiotic resistance, also as their attitude towards antibiotic use. Since the nurses are going to be a behavioral model for citizens and patients and, it's important to make more awareness on this subject during the courses. It might be advisable to introduce a selected course and training on antibiotics within the core curriculum of the varsity of Nursing.

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