

## A KAP study regarding Anti Microbial Resistance among Nursing students in South India

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### Abstract:

**Introduction:** Antimicrobial resistance or drug resistance is the ability of a microorganism (like bacteria, viruses and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. Irrational use of medicines is a major problem worldwide. As nursing students can play a vital role in the Health Education of patients, the present study was under taken with the objectives to study the Knowledge, Attitude and Practice (KAP) associated with Anti Microbial Resistance (AMR) among them.

**Methodology:** Dr. C. Sobhanadri Siddhartha College of Nursing is the selected Nursing College. It is located in Gannavaram, Andhrapradesh, India. Sample size of 100 nursing students were chosen randomly for this study.

**Results:** Out of the 100 participants, Majority of the participants (93%) of study participants had knowledge of Anti Microbial Resistance (AMR) but only 83% of study participants consulted doctor and 76% purchased and taken full course of antibiotics during their last episode of sickness. Students preferred parents & relatives (72%) than patients(64%) regarding health education of AMR. **Conclusions:** Nursing students should first change their attitude regarding consultation of a qualified doctor and should practice taking of antimicrobials as per the norms. As nursing students are easily approachable in comparison with medical students, patients can be educated easily regarding AMR.

**KEY words:** Anti Microbial Resistance, KAP study, Nursing Students, South India.

### I. Introduction

Antimicrobial resistance (AMR) is an increasingly serious threat to global public health. AMR develops when a microorganism (bacteria, fungus, virus or parasite) no longer responds to a drug to which it was originally sensitive<sup>1</sup>. Antimicrobial resistance problem is challenging in low-income countries because of high prevalence of infection, irrational uses of antimicrobials, over-the-counter availability of antibiotics and lack of clinical microbiology laboratories for antimicrobial susceptibility testing<sup>2</sup>. Self-medication is not only prevalent in general population but is also common among the health care providers<sup>3</sup>. Among health workers, there are factors related to the working environment and conditions and access to medication. Nursing workers handle several types of medications in their daily practice and the easy access can favor self-prescription and self-medication<sup>4</sup>. Nurses play a vital role in health promotion including education of responsible, informed self-medication, so steps should be taken to make them more aware about the pros and cons of self-medication, and the importance of responsible self-medication. Self-medication is an old, universal problem of large proportions. Although it is very difficult to eliminate such a practice, it is necessary to provide guidance to the population in general about the use of medications in order to discourage unbridled consumption<sup>4</sup>. There is need for urgent action; Every one can play a part. The complex problem of AMR requires collective action<sup>5</sup>. Apart from general consumer/public or patients, medical health care professionals are major determinant in this regard so their own knowledge in depth is very much necessary for use of rational antimicrobial therapy and their ability to spread the right message in community as a whole<sup>6</sup>. According to the study conducted by the author majority of non teaching staff working in a tertiary care center lack knowledge regarding AMR and surprisingly Medical students unable to deliver it. Hence the study was conducted to know whether the Nursing Students familiar with AMR and if they so what was their attitude towards taking Antimicrobials and their practice of educating both parents and patients.

### Objectives

1. To assess the knowledge of Nursing students regarding AMR.
2. To study the attitude and practice of Nursing students in seeking health services from qualified doctor and in taking full course of antibiotics
3. To know whether Nursing students health educating their parents and patients regarding AMR.

## II. Methodology

**Study area:** This cross-sectional study was undertaken in Dr.C.Sobhanadri Siddhartha College of Nursing for girl students, Gannavaram, Andhrapradesh, India, with approval from the Institutional Ethical Committee.

**Study design and population:** The study population consisted of nursing students from second to final year. Students were selected for the study by a simple random sampling method. The participants were briefed about the nature of the study, consent was taken and a pre-tested structured questionnaire administered to them.

**Data collection and analysis:** A structured interview questionnaire was designed as data collection instrument . Questionnaire was submitted for institutional ethical committee approval. Other necessary permission sought from the higher authorities. The objectives of the study, confidentiality of the research and other ethical considerations mentioned in the interview guidelines were explained for every interviewee. After explaining these, every respondent was asked for his or her willingness to participate in the study. This process helped in the standardization and uniformity of the data collection.

Data entered into the Statistical package for social sciences (SPSS) software and analyzed using this software. Results represented in the form of percentages, Z - test.

## III. Results

**Table-1: Demographic profile of Nursing students**

Native	Frequency	Percent
Rural	46	46
Urban	54	54
Head of the family	Frequency	Percent
Educated	85	85
Uneducated	15	15
<b>Total</b>	<b>100</b>	<b>100</b>

Majority of the nursing students are residents of urban areas and their parents are educated.

**Table 2: Attitude of nursing students during sickness regarding consultation and practice of antimicrobial usage**

Response in last episode of Sickness	Frequency	Percent
<b>Doctor</b>	83	83
<b>Pharmacy</b>	9	9
<b>Wait and watch policy</b>	8	8
Generally Consults		
<b>Allopathi Doctor</b>	86	86
<b>RMP / PMP</b>	6	6
<b>Homeopathy / Ayurveda / Other</b>	8	8
Pharmacy approach		
<b>Old prescription</b>	46	46
<b>Own knowledge</b>	3	3
<b>Seniors / Friends</b>	7	7
<b>Pharmacist</b>	44	44
Anti microbials		
<b>Purchased and taken full course</b>	76	76
<b>Purchased but not taken full course</b>	16	16
<b>Purchased partially</b>	5	5
<b>Not purchased</b>	3	3
<b>Total</b>	<b>100</b>	<b>100</b>

Majority of nursing students approached qualified doctor during last episode of illness (83%) and took full course of Antimicrobials (76%). In general 46% used old prescription and 44% followed pharmacist advise.

**Table-3: Nursing students with knowledge and sharing information regarding AMR**

Knowledge on AMR	Frequency	Percent
Yes	93	93
No	7	7
Sharing information to Parents	Frequency	Percent
Yes	72	72
No	28	28
Sharing information to Patients	Frequency	Percent

Yes	64	64
No	36	36
<b>Total</b>	<b>150</b>	<b>100</b>

In spite of having (93%) knowledge of AMR 72% of nursing students shared it with their parents and only 64% educated patients regarding it.

#### **IV. Discussion**

There were many studies regarding self medication patterns in medical and non-medical cohorts but very few studied regarding Knowledge, Attitude and Practice (KAP) of Antimicrobial usage. When compared with the study conducted by the author 31.3 % of medical students took advice of seniors and was significant ( $Z=4.3$ ,  $P < 0.01$ , 7% of Nursing Students took seniors advise), 24.7% of Medical students purchased Antimicrobials on their own and it was found significant ( $Z=4.48$ ,  $P < 0.01$ , 3% of Nursing students tried on their own), more number of students in both groups used old prescription. Almost equal no. of students discussed with their parents about AMR but only 31% Medical students explained it to the patients and it was significant ( $Z=4.67$ ,  $P < 0.01$ , 64% of Nursing students explained it to patients).

#### **V. Conclusion**

The study identified gaps between Knowledge and Attitude & Practice among Nursing Students regarding AMR. Nursing students play a vital role in health promotion including education of public regarding approach to qualified Doctor and adverse effects of self-medication, so steps should be taken to make them more aware about the pros and cons of self-medication, and the importance of Anti Microbial Resistance.

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