

A Comparative Study On Self Medication Practices With Antimicrobials In Acsr Government Medical College, Nellore.

Lalitha Hanumanthu¹, Penupothu Sree Nagamani²

¹(Assistant Professor, Dept. Of Pharmacology, ACSRGMC, Nellore, Dr. NTRUHS, Andhra Pradesh, India,)

²And Corresponding Author(Assistant Professor, Dept. Of Pharmacology, ACSRGMC, Nellore Dr. NTRUHS, Andhra Pradesh, India.)

Abstract: Background: Self Medication With Antimicrobials Is Common In Medical Undergraduates. There Is A Need To Estimate The Prevalence And Pattern Of Use Of Self Medication With Antimicrobials.

Aim: This Study Was Conducted In Clinical And Paraclinical Students To Compare The Knowledge, Attitude And Practice Of Self Medication With Antimicrobials. **Materials And Methods:** This Is A Questionnaire Based Study In 294 Medical Students Comprising 147 Students In Each Of The Clinical And Paraclinical Batches To Assess Methods Of Self Medication Practice In The Preceding One Year. **Results:** 76 % Of Clinical And 45 % Of Paraclinical Students Self Medicated With Antimicrobials. Students Most Often Self Medicated Based On Old Prescriptions And Text Books For Sore Throat With Fever. Clinical Batch Students Used Multitude Of Antimicrobials Even For Self Limiting Disorders. Most Of The Students From Both The Batches Did Not Comply With The Optimum Duration Of Antimicrobial Use. **Conclusion:** Self Medication With Antimicrobials Was Considerably Higher Among Clinical Batch Students Than In Paraclinical Batch Students. Clinical Batch Students Used Wider Range Of Antimicrobials Compared To Paraclinical Students Who Used Few Groups.

Keywords: Medical Undergraduates, Antibiotics, Pharmacology, Self Medication, Antimicrobial Resistance.

Date of Submission: 24-02-2018

Date of acceptance: 12-03-2018

I. Introduction

The Use Of Medications Without Prior Medical Consultation Regarding Indication, Dosage, And Duration Of Treatment Is Referred To As Self-Medication^[1]. On The Individual Level, Self-Medication Has An Active Role In People's Own Health Care, Especially In Preventing Or Relieving Minor Symptoms Or Conditions; It Is Convenient, Since Medical Consultations Will Be Reduced Or Avoided^[2]. On The Community Level, Self Medication Can Save Scarce Medical Resources From Being Wasted On Minor Conditions, Can Reduce Absenteeism From Work Due To Minor Symptoms And Could Increase The Availability Of Health Care To Populations Living In Rural Or Remote Areas^[2]. Self Medication With Antibiotic Is A Common Phenomenon, Especially In The Developing World^[3]. Self-Prescription With Antibiotics Is Associated With Development Of Resistance, Cross-Resistance, And Treatment Failure^[4]. Antibiotic Resistance Has Been Determined To Be One Of The World's Most Pressing Public Health Problems^[5]. Countries With High Levels Of Community Antimicrobial Resistance Often Have Non-Prescription Antimicrobial Use^[6]. One Of The Most Important Factors Responsible For The Emergence Of Resistance Is Irrational^[7] And Inappropriate Use Of Antimicrobials^[8]. Common Areas Of Misuse Associated With Antibiotics Include (A) Treatment Of Viral Infections And Self Limiting Bacterial Diseases That Do Not Benefit From Use Of Antimicrobials, (B) The Use Of A Broad Spectrum Antimicrobial When A Narrow-Spectrum Agent Would Be Sufficient And (C) Wrong Duration Of Appropriate Antimicrobial Treatment^[8].

Medical Undergraduates Assimilate Knowledge About Antimicrobials From Lectures, Textbooks And Patient Case-Sheets In The Clinical Wards. Medical Students Are Prospective Doctors Who Will Be Required To Prescribe Antimicrobials With Discernment. There Is A Paucity Of Studies On Self Medication Among Medical Students^[9]. Antibiotics Are Different From All Other Drug Groups In That The Effects Of Their Use Extend Far Beyond Individual Patients^[10]. This Study Was Undertaken To Compare The Extent And Mode Of Practice Of Self Medication With Antimicrobials Among Clinical And Paraclinical Batch Students Of ACSR Government Medical College, Nellore. The Results Of This Study Would Serve As Baseline To Design Educational Programmes That Promote Optimal Use Of Antimicrobials In Medical Undergraduates.

II. Materials And Methods

This Observational, Cross-Sectional, Descriptive Study Was Carried Out In Medical Students In ACSR Government Medical College, Nellore. A Total Of 294 Medical Undergraduates Of Two Batches Were Selected For The Study. 147 Clinical Batch Students Who Successfully Completed Pharmacology As Part Of II M.B.B.S Examination Conducted By Dr. NTRUHS, The Preceding Year And 147 Paraclinical Students Who Had Not

Yet Appeared For Pharmacology University Examination Were Selected To Evaluate Their Self Medication Practices. This Study Was Done During A Period Of Three Months From December, 2017 To February, 2018. A Prevalidated Questionnaire Was Formulated After Referring The Current Literature. This Study Was Approved By Institutional Ethical Committee, ACSR GMC, Nellore. Students Were Briefly Explained About The Term ‘Self-Medication’ And The Purpose Of The Study. Written Informed Consent Was Obtained From The Students. All The Students Participated On Their Own Volition. The Questionnaire Comprised Of Questions Regarding The Frequency And Type Of Antimicrobials Self Medicated In The Last One Year, Indications For Self Medication, And Sources Of Drug Information. This Questionnaire Was Distributed To Students Who Were Given Ample Time To Fill The Questionnaire. The Duly Filled Questionnaires Were Collected From The Students. Data Was Entered In Microsoft Excel And Analyzed Using SPSS Software Version 18. Results Were Displayed In Terms Of Percentages, Mean, Tables & Figures. Significance And Association Between Two Variables Were Assessed By Using Chi-Square Test.

III. Results

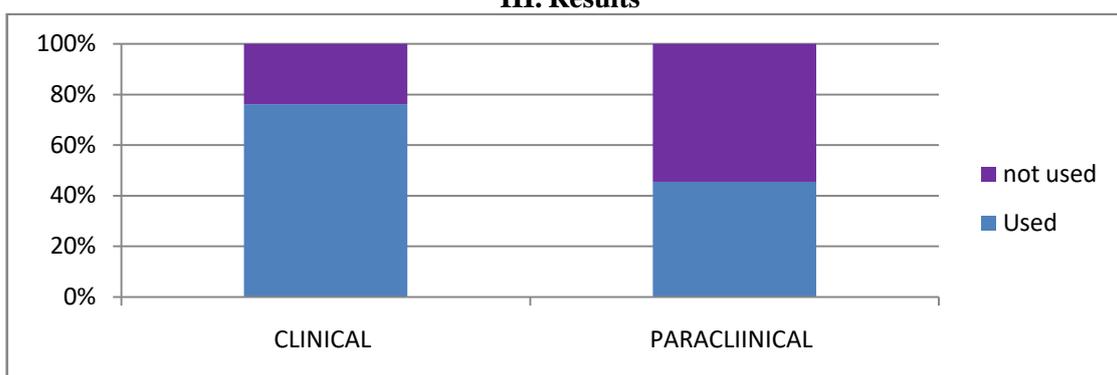


Fig 1: Utilization Of Antimicrobials In Clinical And Paraclinical Students P<0.001 Statistically Significant.

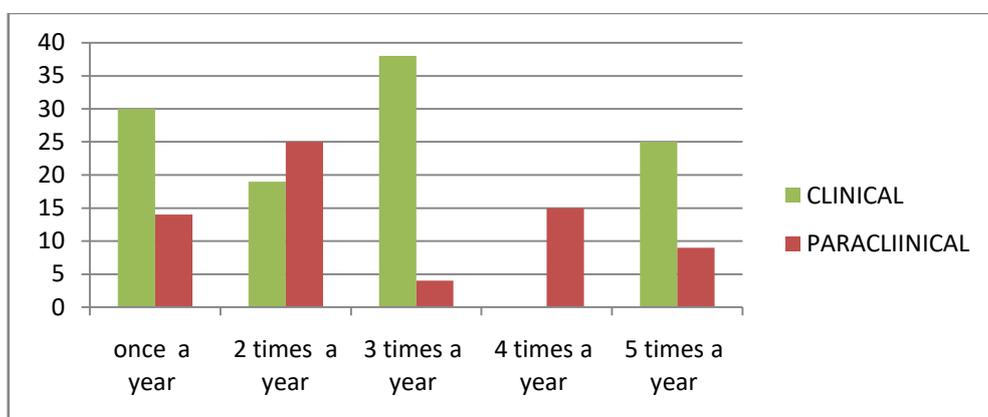


Fig 2: Frequency Of Usage Of Antimicrobials In The Past One Year P<0.001 Statistically Significant.

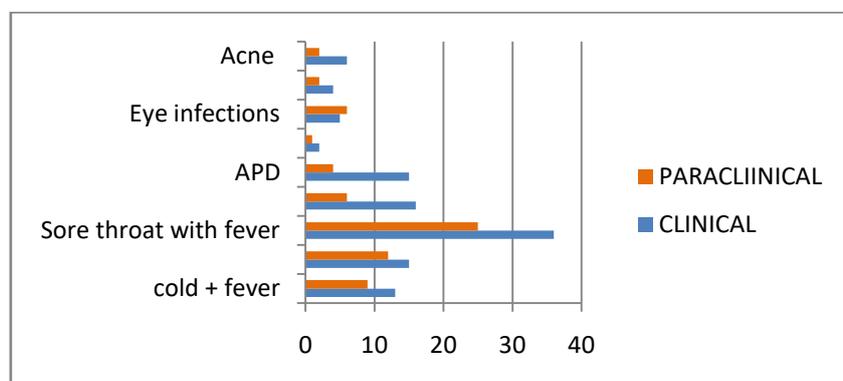


Fig 3: Indications For Antimicrobials Use In Clinical And Paraclinical Students P > 0.001 Statistically Not Significant.

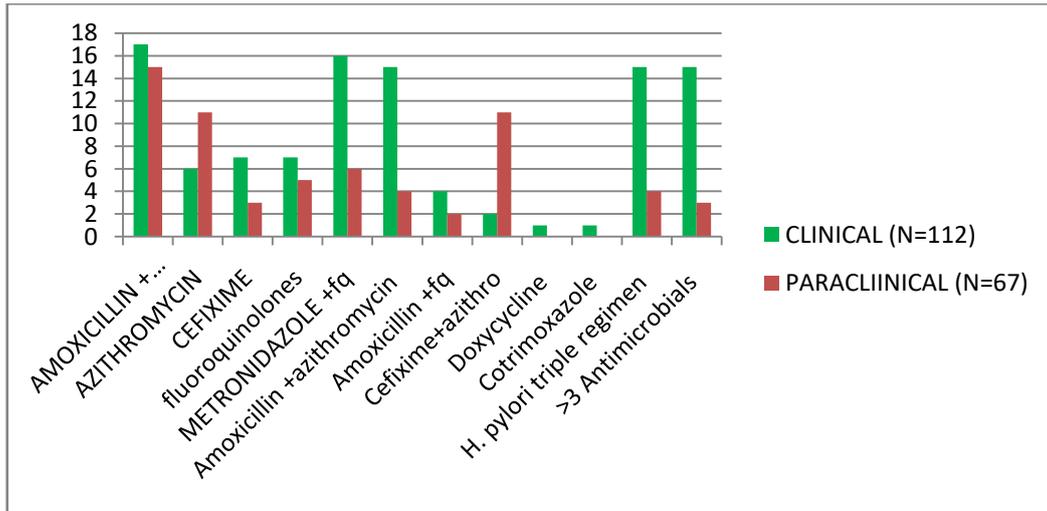


Fig 4: Oral Antimicrobials Used In Clinical And Paraclinical Students P>0.001 Statistically Not Significant.

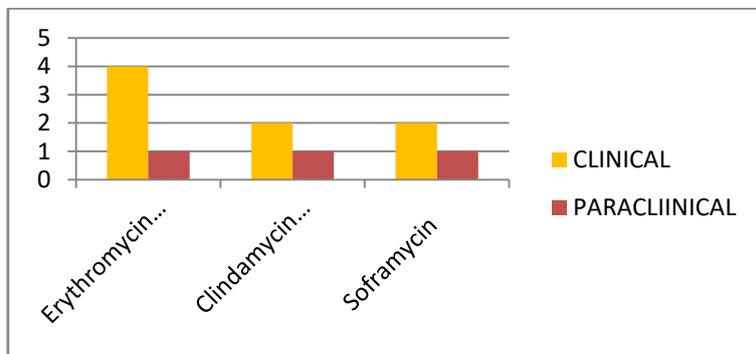


Fig 5: Topical Antimicrobials Used In Clinical And Paraclinical Students P>0.001 Statistically Not Significant.

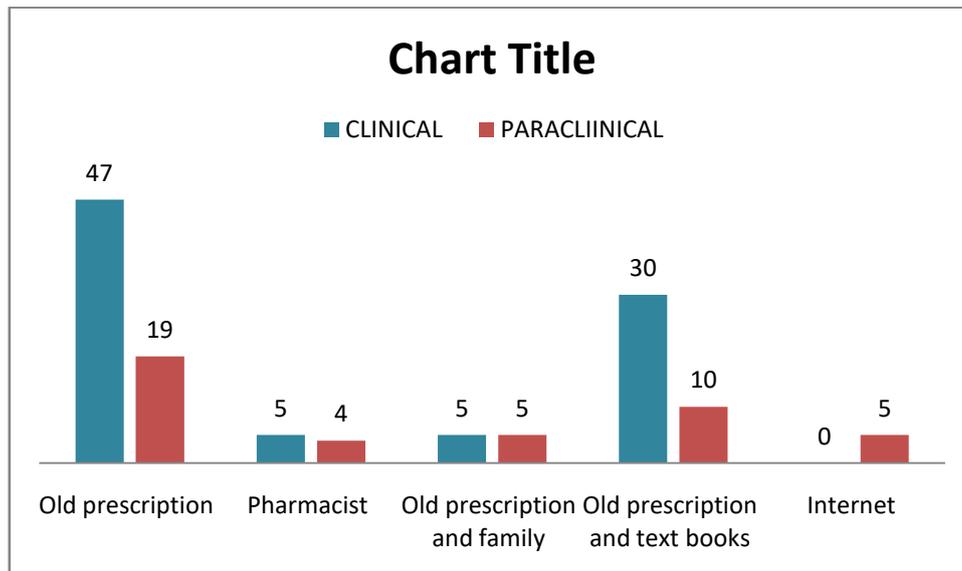


Fig 6: Source Of Drug Information In Clinical And Paraclinical Students P<0.001 Statistically Significant.

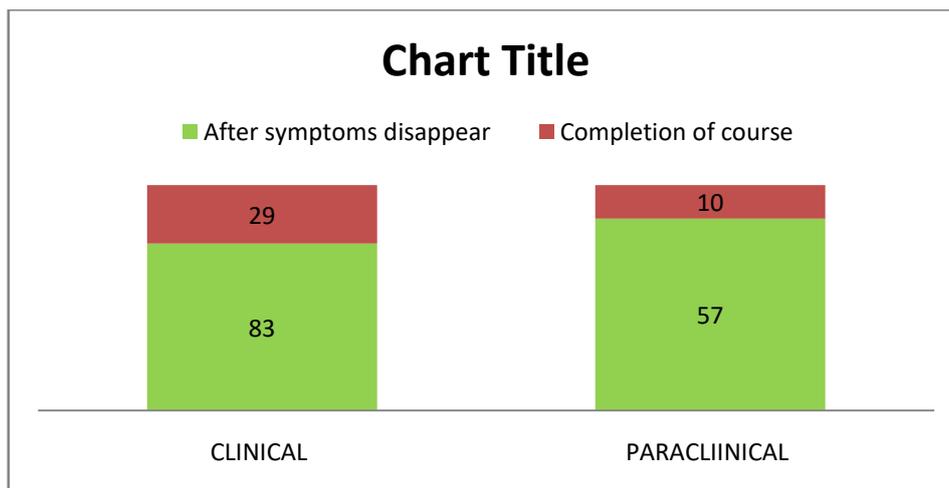


Fig 7: Time Of Discontinuation Of Antimicrobials In Clinical And Paraclinical Students P>0.001 Statistically Not Significant.

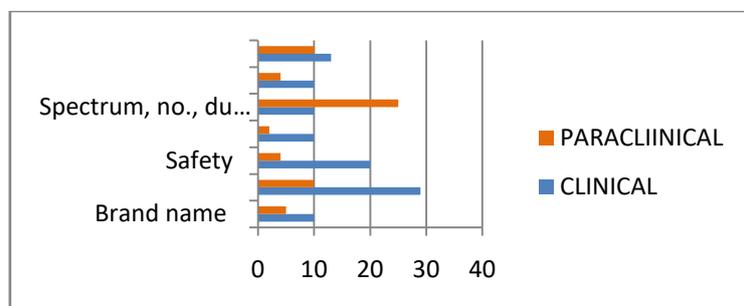


Fig 8: Factors Taken Into Consideration For Selection Of Antimicrobials In Clinical And Paraclinical Students P<0.001 Statistically Significant.

IV. Discussion

In Our Study, Self Medication With Antimicrobials Was Greater In Clinical Batch Students (76%) Than In Paraclinical Students (45%). According To Joseph O. Fadare And Igbiks Tamuno, 38.8% Of The Medical Students Admitted To The Practice And There Was No Statistically Significant Difference Among The Different Levels Of Medical Education ^[11]. In Our Study, Frequency Of Usage Of Antimicrobials Was Significantly Higher Among Clinical Batch As Seen In Fig 2. The Most Common Indication For Antimicrobial Use In Our Students Was Sore Throat With Fever In Clinical (32%) And Paraclinical (37%) Students. According To Ausra Berzanskyte, Antibiotics Were Mainly Self-Administered For Respiratory Symptoms, Particularly For Tonsillitis/Sore Throat (17.3%), Bronchitis/Cough (13.8%) And Upper Respiratory Infections (13.8%) ^[12]. Usage Of Antimicrobials For Diarrhoea (14%) And Anti-Helicobacter Pylori Regimen For Peptic Ulcer (13%) Was High Among Clinical Batch Of Our College. Antimicrobial Most Commonly Used Was Amoxicillin With Clavulanic Acid In Clinical (15%) And Paraclinical (22%) Students. According To Biplab Pal Et Al, The Most Common Antibiotic Used By The Medical Students Was Amoxicillin (74.6%) ^[13]. According To Abdulrahman Al Rasheed Et Al, It Is Reported That Amoxicillin Is The Most Used Self-Prescribed Antibiotic Of The Study Respondents ^[4]. According To A Study By Pramood Kumar Gupta And Presenjit Raut, The Most Common Antibiotic That Was Used By The Students Was Azithromycin, Second Most Common Antibiotic Was Ofloxacin/Ciprofloxacin ^[14]. Clinical Students In Our Institution Used A Wide Array Of Antimicrobials While Paraclinical Students Used Limited Classes Of Drugs As Seen In Fig 4. Usage Of Topical Antimicrobials, Especially For Acne, Was Higher In Clinical Students Of Our College Than In Paraclinical Students As Seen In Fig 5. In Our Study, Source Of Drug Information Regarding Dosage Was Mainly Old Prescription (42% In Clinical Batch And 28% In Paraclinical Batch). 27% Of Clinical And 15 % Of Paraclinical Students Used Text Books In Addition To Old Prescriptions To Verify The Dosage And Duration Of Use Of Antimicrobials. According To Nunez Et Al, 30% Used Prior Medical Prescriptions ^[15]. In Our Study, 7% Of Paraclinical Students Additionally Browsed Internet For This Purpose. A Disturbing Trend Noticed Was That 74% Students Of Clinical Batch And 85% Of Paraclinical Batch Discontinued The Usage Of Antimicrobials Immediately After The Symptoms Disappeared Without Completing The Stipulated Course As Seen In Fig7. According To Mohamed F. Ghaieth Et Al, About 14% Of Students Did Not Complete Their Antibiotics Course ^[16]. In Our Study Only 26% Of Clinical Students And 15% Of Paraclinical Students

Completed The Entire Course Of Antimicrobial. According To Nalini .G.K, Only 26.8% Of Antibiotic Users Completed The Course^[17].

Regarding The Factors Taken Into Consideration For Selection Of Antimicrobials, Clinical Students Gave Importance To Spectrum (25%) And Safety (17%) Of Antimicrobials Whereas Paraclinical Students Prioritised Spectrum, Frequency Of Drug Administration And Duration Of Course (37%) As Seen In Fig 8.

V. Conclusion

This Study Brings To Light The Practice Of Using Antimicrobials For Suboptimal Duration By Medical Students. According To X.Zhu Et Al, Though Students Had Rather Good Antibiotic Knowledge, They Had Poor Self Medication Practices With Antibiotics; Even Medical Education Did Not Improve Their Practices^[18]. There Is An Urgent Need To Create Awareness Of Dangers Of The Rising Magnitude Of Antimicrobial Resistance. Empirical Use Of AMA For Trivial Conditions Should Be Discouraged. Complete Course Of Antimicrobials Should Be Used To Minimize Antimicrobial Resistance. We Intend To Plan Intensive Academic Sessions And Education Programs To Induct Judicious Use Of Antimicrobials Among Medical Students.

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Lalitha Hanumanthu "A Comparative Study On Self Medication Practices With Antimicrobials In Acsr Government Medical College, Nellore."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 3, 2018, pp 63-67