



## THE BENEFITS AND OUTCOMES OF ROLEPLAY AS A CBME EDUCATIONAL TOOL IN UNDERSTANDING THE CONCEPTS OF PHARMACOLOGY AMONG SECOND YEAR MBBS STUDENTS IN A TEACHING HOSPITAL: A PROSPECTIVE CROSSECTIONAL QUESTIONNAIRE BASED STUDY.

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### ABSTRACT

**Background:** Many studies were conducted among MBBS students to assess the implementation of new competency-based medical education (CBME) curriculum. Studies assessing the Roleplay implemented by CBME as an educational tool in Pharmacology theory classes are limited. **Aim and Objectives:** The aim of this study was to assess the benefits and outcomes of Roleplay in understanding the concepts in Pharmacology among II year MBBS students in Government medical college, Kadapa. **Materials and Methods:** In a six weeks period every pharmacology theory class is taught to the II MBBS students by traditional lecture method along with roleplay at the last ten minutes of one hour theory class. Few students were invited to perform Roleplay with prior practice regarding the concerned theory topic. After six weeks, a questionnaire was shared through whatsapp to 2<sup>nd</sup> MBBS students through Google Forms containing ten questions by using likert scale. The students were allowed to answer them and submit. The data was analyzed using Microsoft Excel sheet by SPSS software. **Results:** In four point Likert scale we got an average mean score of “ 3.85 ” showing that above 97% Of the students were in the opinion that the that Roleplay as an educational tool was good and reached to them in a right way. **Conclusion:** From the students’ perspective, the role-play concept was very much appreciated and was considered to be an effective means for learning communication skills.

**KEY WORDS:** Roleplay,; CBME teaching pattern; Pharmacology Theory classes; Questionnaire

## INTRODUCTION

National Medical Commission [NMC]) introduced new competency-based medical education (CBME) curriculum from the academic year 2019–2020<sup>(1)</sup> Medical faculty across medical colleges were trained with the basics of CBME curriculum and its implementation strategies through faculty development programs such as revised basic course workshop, curriculum implementation support program and attitude ethics and communication (AETCOM) modules Among the second MBBS students, pharmacology plays a key role in integrating physiological, pathological, and therapeutic aspects of a disease. In theory and practical classes teaching pattern has changed to assess the acquisition of required skills of the medical students. CBME curriculum introduced Roleplay as one of the teaching and learning method.

Pharmacology being a volatile and hard subject, it is very important to understand the concepts in Pharmacology. In Pharmacology, entire academic year include 255 hours of theory and practical classes. Each theory class is for one hour. These theory classes were taught in the form of Didactic Lectures, self directed learning and small group learning methods.

In this perspective, the present questionnaire-based study was undertaken to assess the benefits and the outcomes of Roleplay in theory classes taught by lecture method in understanding the concepts of Pharmacology among II year MBBS students in Government medical college, Kadapa.

According to the CBME roleplay is explained as a teaching and assessment method where learners take on a specific role or scenario to demonstrate their clinical skills, decision-making, and communication abilities in a simulated environment

## MATERIAL AND METHODS:

This was a cross-sectional, descriptive questionnaire based study conducted among 2<sup>nd</sup> MBBS students who have attended pharmacology theory classes taught by traditional lecture method along with roleplay at the last ten minutes of one hour theory class for a total of six weeks period.. 175 2<sup>nd</sup> year pharmacology MBBS students of Government Medical College, Kadapa participated in the study.

After six weeks a questionnaire containing 10 questions was shared through whatsapp to 2<sup>nd</sup> MBBS students through Google Forms. In this questionnaire ten questions regarding Roleplay as a teaching and learning method were included by using Likert scale <sup>(1)</sup>.

Each participant have to click the link shared in whatsapp and open the google form questionnaire and just give option to each question and finally click the submit button. By submitting the filled up questionnaire, the result will be generated in the email. Data has been analyzed in excel sheet using SPSS software<sup>(2)</sup>. Average has been taken for all the parameters. The final analysis of likert-scale parameters has been done by using LIKERT-SCALE interval.

## Ethical Committee Permission

The protocol was approved by the Institutional Ethics Committee before the commencement of the study.

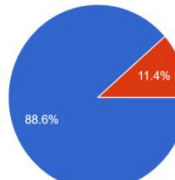
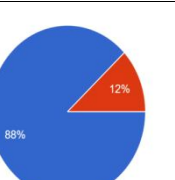
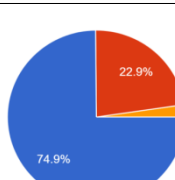
## Statistical Analysis

The data was analyzed using Microsoft Excel sheet by SPSS software<sup>(5)</sup> The results were expressed as percentage(%) responses.

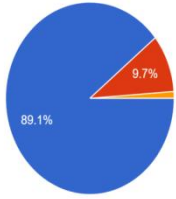
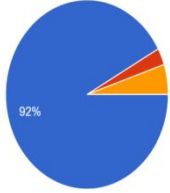
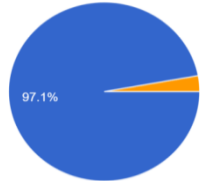
## RESULTS

The participant's opinion on Roleplay as an educational tool is reflected in **Table 1**

**Table -1**

S. No	QUESTION	Mean	Likert scale interval	Pie diagrams
1	I consider that Roleplay helped me in understanding the concepts better	3.87	Strongly agree	
2	I consider that taking Roleplay as an educational tool in Pharmacology is valid	3.89	Strongly agree	
3	The concept of roleplay is innovative and worthwhile in understanding the concepts	3.88	Strongly agree	
4	I appreciate the classes which were included with roleplay	3.87	Strongly agree	
5	Roleplay helps me in remembering information more than traditional lecture method	3.81	Strongly agree	
6	I enjoyed participating in roleplay performance with my classmates	3.73	Strongly agree	
7	Through roleplay the students were better able to communicate their ideas in academics.	3.84	Strongly agree	

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8	I prefer to have more such classes including roleplay in my next academic years	3.88	Strongly agree	
9	Roleplay increased enthusiasm and interest in me regarding the topic taught to us	3.90	Strongly agree	
10	Overall I am satisfied with the use of roleplay in teaching concepts in Pharmacology	3.92	Strongly agree	

**Pictures of students performing Roleplay in Pharmacology theory classes in GMC, Kadapa**



**Table2: Students responses to the questionnaire (n=175) LIKERT-SCALE PARAMETERS**

S. N	QUESTION	Strongly agree	Partially agree	Partially disagree	Completely disagree
1	I consider that Roleplay helped me in understanding the concepts better	161	13	1	0
2	I consider that taking Roleplay as an educational tool in Pharmacology is valid	158	16	1	0
3	The concept of roleplay is innovative and worthwhile in understanding the concepts	155	20	0	0
4	I appreciate the classes which were included with roleplay	154	21	0	0
5	Roleplay helps me in remembering information more than traditional lecture method	144	30	1	0
6	I enjoyed participating in roleplay performance with my classmates	132	39	4	0
7	Through roleplay the students were better able to communicate their ideas in academics.	152	20	2	1
8	I prefer to have more such classes including roleplay in my next academic years	156	17	2	0
9	Roleplay increased enthusiasm and interest in me regarding the topic taught to us	165	6	1	3
10	Overall I am satisfied with the use of roleplay in teaching concepts in Pharmacology	169	0	5	1

#### Four-point likert scale is considered as interval scale

SCORE- INTERVAL	EVALUATON CRITERIA
1.00 - 1.74	Strongly disagree
1.75 -2.49	Partially disagree
2.50-3.24	Partially agree
3.25 – 4.00	Strongly agree

In four point Likert scale we got an average mean score of “ 3.8 ” showing that above 97% Of the students were in the opinion that Roleplay as an educational tool was good and reached to them in a right way.

## DISCUSSION

Implementation of new CBME teaching pattern for the academic year 2024-2025 was done by NTRUHS. The present study is first of its kind to provide an insight into the experiences and the challenges faced by the 2<sup>nd</sup> year MBBS students in Government medical college, Kadapa. Several studies were conducted among medical students to assess the implementation of new competency-based medical education (CBME) curriculum. Studies assessing the Roleplay as a teaching and learning method implemented by CBME were limited.

Pharmacology is a compelling subject that follows students into their further clinical academic years.

Since last few years so many studies were done to investigate the most effective teaching and learning methods in the medical undergraduate curriculum. Different teaching methods have been discovered including small group learning, video recording, review and rehearsal etc.,<sup>(3)</sup> Among them Roleplay is a powerful tool to make students learn communication skills, in order to deal with clinical situations that require communication<sup>(4)</sup>.

Role play is a method through which the teachers or a group of students can present a topic related to health promotion or disease prevention in the form of a drama to the remaining students<sup>(5)</sup> This



would encourage students to actively participate in the topic when compared to the passive learning from didactic lectures. This develops students ability to work as a team and improves their communication skills which they would need while dealing with patients<sup>(6)</sup>

The present study evaluated the benefits of the roleplay in teaching communication skills for undergraduate medical students. MBBS undergraduate students usually end up learning the affective domain from their teachers and seniors. Role play is an active teaching and learning method to train students to face clinical situations requiring communication skills, counseling, empathy and breaking bad news. Roleplay in a simulated scenario gives students a chance to develop their affective domain. It can also be used as an opportunity for feedback and correction of their mistakes. Good communication skills can be taught to students through roleplay. In addition, role-plays help the students to develop empathy toward patients<sup>(7,8,9)</sup>.

To meet the increasing requirement of improving societal health and demands, a paradigm shift in medical education requires to integrate the curriculum with more emphasis on Teaching and learning activities like "ability to do and perform" rather than "ability to only know".<sup>(10,11)</sup>

Observational learning is an important part of behavioral science. Researchers have suggested that "behavioral change can occur through observation, even when such observation is incidental, occurring in the circumstances of other activities"<sup>(12,13)</sup>

The role play concept with hypothetical scenarios was employed during the pharmacology teaching classes as a means of achieving learning objectives to develop student and patient communication relationships for effective prescription writing. Studies have shown that role play models are superior instead of being passive spectators because it helps students to be constructive and allows them to actively participate in improving professional and interpersonal behaviors.<sup>(14,15)</sup>

Role play has emerged as a powerful tool in providing the training required in communication skills, applying theoretical knowledge to practice, increasing the attention span and retentive power of the students to increase interaction<sup>(16)</sup>

Learning through experience has more impact on students. Learning by doing is now known as "Experiential learning". it has 4 stages- concrete experience, reflective observation of new experience, abstract conceptualization and active experimentation. This proves that learners retain more knowledge by what they "do" than what they hear and read<sup>(17,18)</sup>

### **Limitations**

Role-play has its own limitations. Few challenges faced by us were the initial disinclination among few students towards participation and restrictions of time. Integrating sessions during regular practical classes solved the issues of time. By encouraging the students to play at least one role in the sessions and allowing them to choose cases of their interests, witnessing enthusiasm and counseling from teaching faculty revived the interests in unwilling students<sup>(19)</sup> In our study, students suggested to include more scenarios in future sessions, as we included only few classes with roleplay.

### **CONCLUSION**

From the students' perspective, the role-play concept was very much appreciated and was considered to be an effective means for learning communication skills<sup>(20)</sup> Most of the students were in opinion that the Roleplay as an educational tool was good and reached to them in a right way. This study offers a realistic basis for the use of role-play in undergraduate pharmacology students

for acquisition of communication skills regarding drug therapy. It is time to seriously consider incorporation of role-play in the current medical curriculum to foster active learning.

## ACKNOWLEDGMENTS

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