



MEDICAL STUDENTS' PERCEPTION ABOUT ROLE PLAY AS A TEACHING METHOD IN LEARNING APPLIED PHYSIOLOGY

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ABSTRACT

Introduction: Didactic method provide students required theoretical knowledge. However, objectives like role of students as active learners, providing formative feedback inculcating communication skills, deep learning and clinical exposure in preclinical sciences are seldom met. In this regard Role play has to be practised which will be effective in achieving above said objectives.

Method: Total 122 students of first MBBS participated in study where 16 students acted as Role Players and 106 students were Observers. The study explored Perceptions of actors and observers towards Role Play. Most common topics of applied physiology like Nutritional Anaemia, Myocardial Infarction & Peptic Ulcer were chosen for role play. Later on 12 item close ended questionnaires and 6 open ended questions were distributed among all students. and perception of role play was measured by 5-point Likert scale and data was analyzed by using SPSS 16 software.

Result: Majority of students (99.10%) perceived role-play to be interesting, lively (98.30%), helpful in breaking monotony (98.30%) and in visualizing clinical features (98.30%). 96.72% students said the role-play helped them learn attitudes of a doctor while treating patients & 97.54% felt that role-play was useful in learning communication skills. For 95.08% the role-play was realistic, facilitating the transition from classroom to clinical wards (98.30%), and while all (100%) felt appropriate for their level & will be applicable to other undergraduate students (96.72%).

Conclusion: From the perspective of first year medical students, role-plays in Physiology are perceived overwhelmingly positive.

KEYWORDS : role play, medical students, physiology

INTRODUCTION

Role-play (RP) is used as a training tool in medical education to impart knowledge, attitudes & skills in students and gives an opportunity to the medical educators to analyse the learner's reaction and responses in context to real life situations.^[1-4] Teachers often find it difficult to explain & convince 1st MBBS students about the different features and mannerisms associated with clinical disorders. For students it's hard to visualize clinical cases without seeing the real patients in a clinical setup.^[5]

There is ongoing quest for student centered teaching-learning methods in medical education. Role-play is one such method promotes active learning and reflection. It is based on many educational theories like Kolb and Fry's experiential learning theory as learning occurs in all four learning environments "affective (feeling), symbolic (thinking), perceptually oriented (watching) and behaviourally oriented (doing)". Role-play can be used to develop cognitive, psychomotor, affective domains of learning & develop communication skills in medical students and has been shown to induce a level of realism when integrated into technical skill training, leading to improved patient-physician interaction.^[6-9]

Role-play has many benefits & superior to passive learning. It arouses student interest, helps consolidate previous learning & more information is recalled from role-play than lectures.^[10] This simulation helps students experience & understand both physician and patient perspectives and complexity of the physician-patient interview. For role-play fewer resources are required compared to other experimental methods.^[11] Role-play helps students learn to empathize with each other and allows students to have fun while learning.^[3,12]

Syllabus from medical colleges need to be regularly updated with latest advances learning process in order to improve the attitude of medical students. Early clinical exposure, its concomitants ensure well integrated knowledge of the basic sciences & clinical sciences. The Medical Council of India has advocated early clinical exposure for MBBS students, in 'Vision-2015' document and underlined the need for clinical teaching from first year onwards in medical

colleges.^[13-17] With this background the present study was planned to study perception of first MBBS students towards role play (as early clinical exposure) in Physiology as a teaching-learning method in vidarbha region medical college as very few colleges are using this method despite its many advantages and no studies have been carried out so far in vidarbha region.

METHODS:

The study was conducted at Dept of Physiology at Govt Medical College, Akola, Maharashtra. One hundred twenty two, newly admitted 1st MBBS students were recruited as study subjects after taking their informed written consent and IEC approval from institutional ethical committee. All students had been exposed to regular didactic lectures of physiology. Out of 122 participants 16 students acted as Role Players and 106 students were Observers. Three challenging & relevant cases on Nutritional Anaemia, Peptic Ulcer and Myocardial Infarction were chosen and allotted to the role-players who were divided into 3 teams of approx 5-7 members each and some students were common for other role plays. Students of role play teams were guided about the presenting complaints, relevant past history, an outline of the patient interview process and management. The time for each role play was fixed about 15-20 minutes. After the role-playing session is over, next day onward the students (n=122) during their lecture hour were divided into small groups consisting 25 students. They were shown PPT slides and Video clips of Role plays again and discussed the clinical scenario with them as part of debriefing session.

To document the effectiveness of the role-play, after the debriefing of role play session the students of entire batch were given a 12 item validated questionnaire^[5,6] (close ended questions) to elicit their perceptions regarding the role-play using a 5 point Likert scale as a response scale and six open ended^[11] questions regarding other aspects of role play. Students perceptions thus obtained were assessed qualitatively in terms of percentage. Data analysis was done by using SPSS-16 software. Mean and Standard Deviation (SD) and P value represents the level of significance and calculated by applying unpaired student t-test.

RESULTS:

Majority of students (99.10%) perceived role-play to be interesting, lively (98.30%), helpful in breaking monotony (98.30%) and in visualizing clinical features (98.30%). 96.72% felt that the role-play helped them learn attitudes of a doctor while treating patients and 97.54% felt that role-play was useful in learning communication skills, (CHART-IA)

CHART- IA; Responses of all students to individual items of questionnaire.

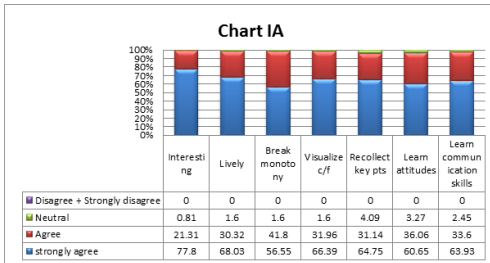


TABLE-I Responses of Role players and Observers to individual items of Questionnaire

Sr. No	Variable	Response scores of Role-players (in percentage) N=16					Response scores of Observers (in percentage) N=106				
		Strongly Agree	Agree	Total	Neutral	D+ SD	Strongly Agree	Agree	Total	Neutral	D + SD
1	Interesting	81.25	12.5	93.75	6.25	0	77.0	20.7	98.0	2.0	0
2	Lively	81.25	12.5	93.75	6.25	0	66.0	33.0	99.0	1.0	0
3	Break monotony	81.25	18.75	100	0	0	52.83	45.28	98.1	1.88	0
4	Visualize C/F	81.25	18.75	100	0	0	64.15	33.96	98.1	1.88	0
5	Recollect key points	93.75	6.25	100	0	0	60.37	34.9	95.27	4.73	0
6	Learn attitudes	87.5	12.5	100	0	0	56.6	39.62	96.2	3.78	0
7	Learn communication skill	87.5	12.5	100	0	0	60.37	36.8	97.17	2.83	0
8	Cases realistic	75.0	25.0	100	0	0	58.49	36.8	95.29	4.71	0
9	Smooth transition to wards	87.5	12.5	100	0	0	53.77	44.33	98.1	1.9	0
10	Appropriate for my level	87.5	12.5	100	0	0	64.16	34.9	99.0	1.0	0
11	Adopted by other UG students	93.75	6.25	100	0	0	60.37	35.84	96.21	3.79	0
12	Useful debriefing session	87.5	12.5	100	0	0	57.54	40.56	99.1	1.9	0

There was no overall significant difference in perceptions on the use of role-play between observers and role-players for individual questionnaire, but the role-players perceiving almost all variables more positively than the observers.

TABLE II Comparison Of total Scores of observers and role players

S.N.	Observers(N=106)		Role Players(N=16)		P Value
	Mean	S.D	Mean	S.D	
	55.03	3.029	58.062	3.355	0.0004*

Results are expressed as mean and standard deviation of the total scores to the 12 item questionnaire (Max= 60) using a five point Likert scale. Significance (p value) obtained using an unpaired t test.

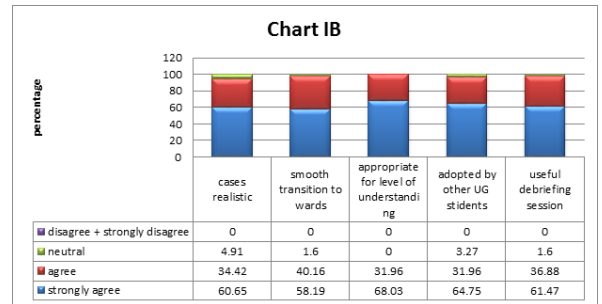
Comparison of the total questionnaire scores showed significant difference in perception between the role-players and the observers. (TABLE 2). Maximum role players (14 out of 16) had perception score max. i.e; 57-60 while 33 Observers (out of 106) had score in range of 57-60 and rest of 73 observers scored in range of 48-56 making overall less mean value ie 55.03 compared to role players.

TABLEV Students Feedback For Open Ended Questions.

What liked in RP?	Acting of role players, Enthusiasm, addition of power point slides, regional language used, Creation of scenes. script of drama, good pace, manner how to deal with patient in actual clinical setup
Attention span better	Yes=98% N=2%
Time allocation proper	Yes=97% N=3%

The role-play was considered to be realistic (95.08%), facilitating the transition from classroom to clinical wards (98.30%), and while being appropriate for their level (100%), was also felt to be applicable to other undergraduate students(96.72%). They perceived debriefing session (98.30%) also very useful. (CHART-IB)

CHART- IB: Responses of all students to individual items of questionnaire.



Opinion about RP	Very Much helpful, wonderful Learning with fun, arousing curiosity in subject, live demos of doctor-patient made more impact regarding clinical disorder compared to passively reading book, visual impression is lasting longer than merely listening lect., expressing willingness to act in RP
Should it be included on regular basis in curriculum?	Yes=100%, weekly basis or every month end
What topics to cover	Thyroid Disorder, DM, Asthma, Hemiplegia, Sickle Cell Anemia
Suggestions for improvement	Nil, it's a perfect blend of Fun element, Emotion, Drama And Knowledge

DISCUSSION

The present study is done to determine the perceptions of first year medical students towards the use of role-play in Physiology as a teaching-learning method. In the present study majority of students (99.1%) perceived Role Play more interesting, lively(98.3%), helpful to recollect key points(95.9%) & to break monotony(98.3%) and visualizing clinical features(98.3%) more positively what they read in text book (Chart- IA). Similar study on role play in first MBBS students was conducted by Raju Suresh et al^[5] & Suzane MD et al^[6] and found same results. The results of study conducted by Iram Manzoor et al^[1] on third & fourth year MBBS in community medicine, showed that 90.8% of participants found role-plays as an interesting mode of information transfer. 78.5% students admitted improved their knowledge about the subject. 89.4% found role-plays interesting. This is in agreement with De Neve and Heppner's observation that role-play when used

effectively arouses student interest and helps consolidate previous learning.^[10]

In the present study majority (96.72%) of students felt role play helped them learn attitude & communication skill. 95.08% found all the cases were realistic and 98.3% felt it facilitated transition from classroom to wards (Chart- IA & IB). In the study of Iram Manzoor et al^[11] 84.6% students agreed, role play helped them in their clinical performance & 88.9% agreed it improved their communication skills. In the study of Suzane MD et al^[6] majority of students agreed role-play helped them learn attitudes of a doctor while treating patients. Majority (97.54%) of our students felt that role-play was useful in learning communication skills, as did students in other studies. Their study also revealed that the majority of students felt Role-play cases were realistic and would facilitate the transition from classroom to clinical wards.^[6,9,11]

The majority (61.47%) of our students felt that the debriefing session with group discussion and feedback after reviewing the video recording of the role-play helped them learn more from the role-play (Chart-IB). The guidelines for maximizing benefits of role play set out by Nestel and Tierney^[8] are similar to Joyner and Young's^[18] tips for successful role-play, the additional guideline advised being to use audio-visual recording devices for play back. The results of our study are similar with the study done by Suzane MD et al.^[6] The results of our study differed from those of Stevenson and Sander^[19], all the participants of our study suggested that role play could be adopted by other undergraduate students and also was appropriate for their level of understanding, (these findings are similar to study of Raju Suresh et al)^[5], useful in their future practice, many studies also recommended the use of role-plays as an essential element to be incorporated in curriculum of medical education.^[1,6,11,18,20,21]

Responses of role players and observers to individual Questionnaire ; There was no overall significant difference in perceptions on the use of role-play between observers and role-players for individual questionnaire, but the role-players perceiving almost all variables more positively than the observers (TABLE-I).

Comparison of the total questionnaire scores showed a significant difference between the role-players and the observers (TABLE-II), reason may be the active involvement of the role-players in the process of learning & role players were actively involved in drama practice session, collecting all theoretical and practical things about skits.

In response to open ended questionnaire students liked most in role play was: Acting of role players, their enthusiasm, addition of power point slides in role play, regional language & humour used for Creation of scenes, script of case scenario and manner how to deal with patients in actual clinical setup. They felt better Attention span and proper allocation time for each clinical case, role play very much helpful, fantastic, wonderful learning with fun, arousing curiosity in subject, live demos of doctor patient made more impact regarding clinical disorder compared to passively reading from book, visual impression is lasting longer than merely listening lecture, should be included on regular basis in curriculum either on weekly basis or every month end And other topics, case scenarios, applied aspects related with physiology, medicine & surgery should be incorporated.

CONCLUSION

The overall perception of the students for the role-play was overwhelmingly positive & if properly designed and implemented proves the effectiveness of the role play. The students found this role play as a Teaching Learning method to be very interesting, breaks the monotony helps them to recollect information of subject apart from the routine didactic lectures in physiology, where they understand only the theoretical aspects without any live visual impact. Students feedback says that visual impression lasts longer

and by means of role play topics helps them to retain & recollect the important features of specific clinical abnormalities. This T-L method helped students be more active and understand the case scenarios in more meaningful way and helped them to improve communication skills.

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