



Contribution of Medical Education through Role Playing in Community Health Promotion: A Review

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(Received 10 Dec 2022; accepted 19 Mar 2023)

Abstract

Background: Didactic lecture is most commonly used method to teach medical students in Family and Community Medicine. However, considering its demerits and the need to integrate theoretical knowledge into practice, the objective of this paper is to review the contribution of role play in medical education and to propose its applications to deliver healthcare services in community more effectively.

Methods: Research studies on role play were searched in PubMed, Google scholar, Google using terms role play, medical education, community medicine, family medicine, health promotion, awareness during the period between January 2000 up to December 2021 to evaluate the potential and contribution of role play in medical education and health promotion.

Results: Review of role play and related researches were included to analyze the outcome. The outcomes of different studies analyzed were showing several teaching methodologies used in medical field. Several studies have tested role play in other medical specialities and have found it to be a powerful educational tool. However, not many studies have tested its effectiveness to educate students in Family and Community Medicine although it could have immense practical applications like demonstrating and creating awareness in the community about the importance of cancer screening, breast feeding, immunisation, food fortification, genetic screening, premarital counselling, ante natal checkups, danger signs in pregnancy.

Conclusion: Role play simulates real scenarios enabling students to apply their skills and knowledge into practice in real time. It can integrate theory concepts into practice. Hence, it must be introduced in medical curriculum to achieve the objectives of teaching and learning more effectively.

Keywords: Role play; Medical education; Community medicine; Family medicine; Integration

Introduction

Presently most of the medical colleges in the world have been using didactic lectures for teaching (1) their medical students and so is the case with Community and Family Medicine. Didactic lecture is a traditional method, which is teacher, centered teaching method and not a student centered learning approach (2). So, the students learn through didactic lectures in a passive manner (2).

But it has several advantages such as it can be used to teach a large number of students(3), to cover many topics (3) in lesser time and can be easily taken through online mode as well especially in times when the world is facing the brunt of COVID 19 (4). However, the negative aspect of this teaching methodology cannot be overlooked. The students generally do not feel much interest-



ed in lectures owing to its monotonous character and one-way communication (5).

Teachers usually have observed that students sitting towards the end of the lecture hall find it difficult to maintain their concentration all throughout the lecture as the attention span of learners is about 20 minutes (6). Besides this, students find it difficult to retain (7) the lectures for a longer time and reproduce it in their academic exams. Many students feel hesitant to ask their queries during the lecture. Students during the lecture do not realize that the topics being taught to them in 'Community and Family Medicine' have great applications to promote health in the community. Though the medical curriculum mandates it that the medical students and interns get posted in the Primary Health Care Centers (PHCs) but their role is mainly about treating patients having common illnesses prevailing in that area and referring them to higher centers if it requires a tertiary level care. The focus on prevention of diseases and health promotion is somehow suppressed due to the current lacunae in the medical system that does not emphasize much on interactive teaching methodologies and integration of theory into practice.

Thus it was thought of reviewing the potential of role play to serve as interactive teaching method to our medical students so that they can deliver patient care services in the community in an effective manner.

Methods

Scientific research studies published on role play were searched in PubMed, Google scholar, Google using the terms role play, medical education, community medicine, family medicine, health promotion, awareness during the period from January 2000 up to December 2021. Sixty-three studies were reviewed and the abstract of 10 studies found to be relevant and eligible for study. Twenty-two studies were not matched with the objectives of the study and thirty-one reviews had shown duplicity so removed Abstract

of research were read carefully and matched with the objective of the study, relevant studied identified and selected for the further reading. The main inclusion criteria were focused on the role play as a teaching methodology in the medical education and its contribution. Reviews excluded which were not related to the role-play, medical education and health promotion.

Studies were then analysed as to how role play can be used to teach Family and Community medicine to medical student in an effective way so that the community can be served in a relatively better way.

Present study

Reviews were largely discussed on the same issues and the implications of the studies, were showing the similar conclusions and practices. The contribution of role play mainly in the field of family and community medicine was explored in-depth.

Results

Results shown in Table 1 show the important findings of relevant and eligible articles. Review of role play and related researches were included. The outcomes of the review are mixed and showing different teaching methodology used in medical field but study outcome were focused on the contribution and its use in different medical settings. However the implementation of the role play in different medical setting is still less and it has been a very effective teaching strategy for undergraduate and post graduate medical students. Reviews also showing the importance of role play as teaching tool in understanding of doctor –patients relationship, prevention of non-communicable diseases like diabetes, hypertension, counseling of genetic diseases, communication skills and more insight in clinical cases etc. Role play can also be used to teach medical students topics such as medical ethics, breaking bad news, taking informed consent, basic clinical skills and counselling skills.

Table 1: Included studies

<i>Reference No.</i>	<i>Year</i>	<i>Country</i>	<i>Type of study/Study designs</i>	<i>Methodology/Study population/Sample size</i>	<i>Outcomes</i>
(8)	2019	Norway	An Integrative review	Integrative review of literature of both quantitative and qualitative research	Role playing promote insight among students in patients and therapist role in mental health.
(26)	2014	India	Pre and post intervention study	Study was done on 24 final year medical students under three domains: Affective, Cognitive and Psychomotor.	Role-plays can be considered as effective teaching strategy for medical students
(27)	2022	Sweden	Review of different teaching methods	Included 75 reviews screened using web of science	Focused on tension between context and generalization of teaching methods.
(28)	2010	United Kingdom(UK)	Review of literatures	Review of literatures	Role play bridging the gap between teaching and Learning.
(29)	2008	Canada	A review of the literature	Analyzed 72 articles after screening with terms like role play, simulation and standardized patients	Simulated and standardized patients useful in the teaching under and post-graduate students.
(30)	2018	France	Pre and post study design	Data were analysed before and after role play /206 students participated	Role play in simulation based medical education (SBME) seems to be effective and promising as a teaching methodology.
(31)	2019	Tunisia	Repetitive cross sectional evaluation study	Assessed the impact of role play in genetic counselling	Concluded that the role play is effective strategy in genetic counseling for resident doctors.
(32)	2014	USA	Pre and post study design	Simulated medical students role play a patient	Role play of the students as a patients will help students to patients behavior and doctors reactions.
(33)	2015	Australia	Meta-analysis	The systematic review was focused on four healthy eating outcomes: Reduce food consumption, increase fruit , increase sugar and increase nutritional awareness	Role play could the one the teaching methodology to promote health promotion of non-communicable diseases as primordial prevention.
(34)	2006	Australia	Descriptive article	Discussed 12 tips for successful role play	Planned and structured role pay can be helpful in delivering the medical curriculum and 12 tips for the students can make it more effective and successful.

Discussion

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. This would encourage students to actively participate (8) in the topic when compared to the passive learning through didactic lectures (2). This develops students' ability to work as team and improves their communication skills (8) which they would require while dealing with their patients. Several research studies have tested role play in other medical specialties and have found it to be a powerful educational tool. However, not many studies have tested its effectiveness to educate students in Family and Community Medicine although it could have immense practical applications in Community and Family Medicine.

Applications of role play in Community and Family Medicine

- (i) Role play can be used to engage medical students to demonstrate the importance of breast feeding in the community for proper development of babies. This would create more awareness amongst the mothers in the community who are negligent about the breast feeding.
- (ii) Role play can be used by the students to create awareness about screening the breast cancer in women in the community (9).
- (iii) Role play can be an effective tool to make people aware that smoking can lead to lung cancer and chronic bronchitis
- (iv) Role play can be used to educate community about using food items fortified with certain minerals and vitamins to prevent occurrence of certain nutritional diseases such as goiter, pellagra, beri beri, rickets (10) and protein energy malnutrition.
- (v) Role play can be used to educate community about importance of immunizing

their children by vaccines and where they can get them free of cost through governmental organizations.

- (vi) Role play can help creating awareness on genetic diseases such as thalassemia and that premarital screening and counseling (11) is available to the couples planning to marry.
- (vii) Role play can be used to educate the community about the newer vaccines that have now come up for treating certain medical problems. For example, young girls and reproductively active women can be educated about vaccines available against cervical cancer.
- (viii) The medical students must be taught about how to break a bad news to the patients through role play (12,13) so that they can do that in a confident and empathic way in real situation in clinical settings.
- (ix) The medical students must be taught about medical ethics (14) and professionalism through role plays so that it can help them while working in their profession in a respectful and moral way.
- (x) Role plays should be used to teach medical students' counseling skills (15) so that it can help them to counsel their patients in certain chronic diseases like diabetes, hypertension, asthma and some well-known malignancies.
- (xi) Role play can be used to demonstrate certain basic clinical skills such as recording blood pressure, proper way of using inhalers, injecting insulin subcutaneously, and the proper way to examine a case of jaundice or anemia etc.
- (xii) Role play can be used to teach students about to how to take an 'informed patient's consent' (16) before proceeding to clinically examine them or for planning surgery.
- (xiii) Role play can be used by medical students to create awareness about ante natal checkups, danger signs during

pregnancy, importance of tetanus vaccine and iron folic acid supplements during pregnancy.

Role play is likely to be an effective teaching tool because of following reasons:

Role play projects real life situations (17) in the form of a playful act. This develops interest in the subject amongst students thereby enhancing their active learning process (18). These role plays can help students to apply these concepts in a more spontaneous and smooth way when they face such clinical situation in real time. The retention of a topic through role play is more long lasting than what is taught through PowerPoint slides in the didactic lectures (19). The concept can be better retained through role plays than just reading up the textbooks. Gaining information through textbook or from lectures cannot ensure that the student would be able to apply effectively that information in their clinical practice. However, teaching and learning through role play seems to be more motivational strategy to help students apply these concepts and ideas into their practice. The students are likely to get much more motivated towards self-directed learning through role plays.

Theories and concepts on adult learning

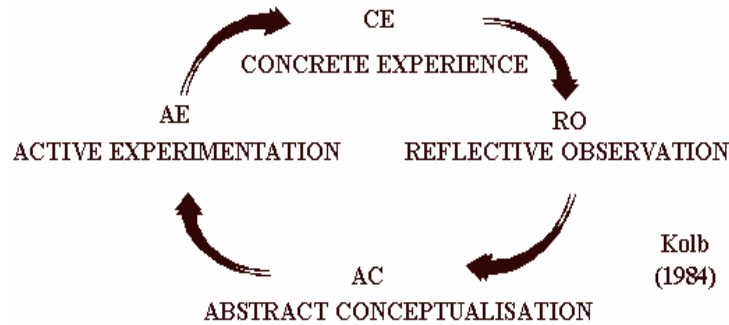
Knowles has described the principles of adult learning (20). Adult learning process is driven by internal drive and the need to know attitude (21). Adults do not learn like children in a passive way. Adult learning process is driven by conviction about having the need to know about a topic and its utility in their practical lives.

Cranton has given two concepts to understand the level of adult learning through role play that is learning by experience and reflection. These two elements remain integral elements of adult learning process and education (22).

Role play is based on experiential learning theory. The main learning goal in role play for the students is to learn the knowledge and ability required to approach or deal with a specific situation. The learner gains this knowledge and ability by acting out the situation in a controlled environment, and by reflecting upon that experience. Role play provides better learning opportunity in both affective domain and the cognitive domain. Emotional and values are involved in affective domain whereas experiences are analyzed in cognitive domain (23).

The process of learning whereby knowledge is created through the transformation of experience". The concept of experiential learning based on the four-stage learning cycle (24) as depicted in the diagram given below:

- 1. Concrete Experience** - a new experience or situation is encountered, or a re-interpretation of existing experience.
- 2. Reflective Observation of the New Experience** - of particular importance are any inconsistencies between experience and understanding.
- 3. Abstract Conceptualization** reflection gives rise to a new idea, or a modification of an existing abstract concept (the person has learned from their experience).
- 4. Active Experimentation** - the learner applies their idea(s) to the world around them to see what happens.



The 'Cone Experience' is a model that incorporates several theories related to learning process. Dale concluded that learners retain more information by what they “do” as opposed to what is “heard”, “read” or “observed”. In today’s times this “learning by doing” has come to be known as “experiential learning or action” (25)

Requirements to design a role play

A skilled facilitator who could choose an appropriate topic and design the script for the role play to be executed by the students plays a key role in the success of guided role play in meeting the objectives of role play. Besides this, assigning marks to the students for such role play activities would further make students more serious about the learning the concepts of Community and Family Medicine.

Limitations of role play

Role play cannot be used to teach all the topics of Community and Family Medicine as the syllabus of medical program is huge and has to be taught in the assigned number of hours. However, some important topics can be taught through role plays as described above in the applications. Role play can have many more number of applications in the field of Community and Family Medicine however, it is not possible to describe all of them here.

Conclusion

Role play is an interactive teaching methodology that can have immense applications in the field of

Family and Community Medicine to educate medical students and promote health in the community more effectively. Role play simulates real life scenarios and can help students apply their skills and knowledge acquired through role plays into practice when faced with similar situation in the community and clinical set ups. Role play can integrate theory concepts into practice. Hence, role plays must be introduced into the medical curriculum to achieve the objectives of teaching and learning more effectively.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Acknowledgements

No funding was required.

Conflict of interest

There is no conflict of interest.

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