Assessment of knowledge of Medical Students about Reproductive and Child Health Programme of India by Using Simple Intervention

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ABSTRACT

Introduction: Understanding Reproductive and Child Health Programme (RCH) is necessary for medical students not only because it is a part of medical curriculum, but also training of medical as well as paramedical students is urgently needed for effective implementation of programme in India. Present study was conducted to assess an effectiveness of simple intervention in the form of ‘Role Play’ on knowledge of medical students about RCH programme of India. Material and Methods: A cross sectional study where all 144 undergraduate 7th semester medical students from one of the randomly selected medical colleges in Western Maharashtra, participated in role play competition and completed pre and post intervention questionnaire. Each completed questionnaire was assigned marking system. The data was analysed by using ‘Paired t test’. Results: Significant improvement in knowledge was found after role play competition (Pre test mean marks: 6.19, post test mean marks: 16.01, t = 46.85, p < 0.001). The pre-intervention score of students was found to be poor regarding certain aspects of child health like IMNCI, period of Pulse Polio Immunization in India and Programme of Government of India for the welfare of sick newborn etc. Conclusions: Present study showed significant improvement in medical student’s knowledge regarding all aspects of child component of Reproductive and Child Health Programme from pre to post-intervention as a result of role play method. It indicates that even a simple intervention like role playing can make significant change in knowledge of medical students about Reproductive and Child Health Programme of India.

KEYWORDS: Knowledge, Medical students, Reproductive and child health programme, Role play.

INTRODUCTION

Reproductive and Child Health (RCH) Programme is one of the most important national health programmes of India, as it emphasizes on addressing unmet needs of contraception, health care infrastructure, health personnel and provision of holistic reproductive and child health care [1]. RCH programme is taught to undergraduate MBBS medical students in Community Medicine subject. Understanding RCH programme is necessary for medical students not only because it is a part of medical curriculum, but also training of medical as well as paramedical students is urgently needed for effective implementation of programme in India [1]. One of the challenges for teachers is to make the students understand the concept and practical aspect of the programme [1]. Role-play is used as a training method to acquire knowledge, attitudes and skills in a range of disciplines and with learners of different ages, cross-cultural training, business and human resources etc [2]. Several studies have shown that planned and structured role plays can be used to deliver components of the curriculum of medical programme. [3,4]. Role play is a simulation technique which can potentially strengthen knowledge that will lead to improved expertise. Despite of an effectiveness of role play in providing medical education, it’s use in educating medical students is limited [5]. The present study was undertaken to assess an effectiveness of simple intervention in the form of ‘Role Play’ on knowledge of undergraduate MBBS medical students of one of the medical colleges in Western Maharashtra regarding RCH programme of India.
MATERIALS AND METHODS

Participants

This was a cross-sectional study consisting of pre and post test intervention conducted at one of the randomly selected medical colleges of Western Maharashtra State. The inclusion criteria were all 144 undergraduate medical students from seventh semester who were present on the day of an intervention. The exclusion criteria consisted of those who did not attend the class on the day of an intervention. Written permission was obtained from participants after explaining the purpose of study to them.

Data Collection and Procedure: Entire methodology was divided into three phases.

Pre-intervention Phase

Prior to an intervention, all students were given detailed information and instructions about an intervention 15 days before so that they could get sufficient time for preparation. All students were divided into small groups of 10-12 students. Each group was named as group 1 to 12 and one student from each group was identified as a coordinator. They were mainly instructed to include all essential child health related components of RCH programme like Immunization and Cold Chain, IMNCI, Childhood illnesses, Government programmes for child welfare, Breast feeding, Nutrition etc. in their role plays. During preparation period, Necessary guidance was given to students regarding ‘how to write down the script’, ‘dialogue delivery’, ‘voice modulation’, ‘how to incorporate technical information in role play’ by experienced and trained facilitators.

On the day of an intervention, a standard set of questionnaire was distributed and filled by the students. It consisted of 20 close ended questions. A questionnaire included two major sections. First part collected general characteristics of the students and second part included questions on knowledge about child component of RCH programme. The students were allowed 20 minutes to complete questionnaire under strict supervision. Anonymity of students was guaranteed but they were asked to write a similar code on pre and post intervention questionnaire so that the data could be linked.

Intervention Phase

There were 152 seventh semester students, of which 144 students were present on the day of an intervention. An intervention used for present study was ‘Role Play Competition.’ One by one, all 12 groups were allowed to perform seven minutes ‘Role Play’ based on various child health related components of RCH programme. Two of the trained and experienced faculty members were appointed as a ‘Judges’ to evaluate ‘Role Plays’ performed by students. The parameters used by judges for evaluation of role plays were ‘Script Writing’, ‘Voice Quality’, ‘Delivery of technical information’ and ‘Overall quality of presentation.’ At the end of each role play, feedback about role play, especially about technical information was given by judges as well as experienced facilitators before all the students. The total duration of an intervention was about two hours.

Post-intervention Phase

At the end of programme, the same questionnaire was distributed to all students and responses were collected. It was followed by prize distribution for winner team and runner up teams.

Data Analysis

The marking system for each complete question was assigned for pre and post intervention. Statistical analysis was done using Microsoft Office Excel Sheet. A p value of less than 0.05 was considered significant. Paired t-test was used to compare pre and post intervention knowledge of students.

RESULTS

Of 152 medical students, eight were excluded from study since they were not present on the day of an intervention. In present study, of 144 students, 62(43.05%) were males and 82 (56.94%) were females. All (100%) students were in age bracket of 20-24 years. Role play competition was conducted separately on maternal and child component of RCH programme. The present study included only child component where various aspects of child health like Immunization and Cold Chain, Integrated Management of Neonatal and Childhood Illness (IMNCI), Breast Feeding, Nutrition etc. were included in role play competition.

Present study showed significant improvement in knowledge of medical students about all child components of RCH programme from pre to post intervention as a result of ‘Role Play Competition’ (t = 47.85, p < 0.001) (Table 1). Statistically significant difference was observed for all twenty questions.

However before an intervention, students reported poor level of knowledge regarding certain aspects of child health like period of Pulse Polio Immunization in India, Programme of Government of India for the welfare of sick newborn, IMNCI etc. (Table 2).

Table 1: Mean marks of students (n = 144)

<table>
<thead>
<tr>
<th></th>
<th>Mean marks (out of 20)</th>
<th>S.D.</th>
<th>t value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre intervention</td>
<td>6.19</td>
<td>2.15</td>
<td>47.85</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Post intervention</td>
<td>16.01</td>
<td>1.31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION

Role play is a form of simulation which has been used for a variety of purposes in medical education. A number of benefits were noted by the medical students from various geographical areas. This method has been as a teaching strategy in Pakistan in Community Medicine subject [6]. P.Ravi Shankar et al. [5] also in his study reported positive feedback of medical students about the use of role plays in MH module in a medical school in a developing country. Mann BD et al. [4] in his study also stated that role playing facilitates the discussion of psychosocial issues and aptly demonstrates to students the need for a multidisciplinary approach to cancer treatment. In a Malaysian medical school, role plays have been used to teach communication skills in primary care medicine [7]. At the University of Heidelberg, Germany, introducing role plays augmented the realism of technical training and improved doctor-patient communication and to teach students to obtain a sexual history and discuss sexual health issues [8].

The present study also showed that simple intervention like ‘Role Play Competition’ did help in improving the knowledge of medical students about child component of RCH programme.

In order to reduce maternal and infant mortality in India, Government of India launched three major programmes namely Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK) and Navjat Shishu Suraksha Karyakram (NSSK) etc. JSSK provides completely free and cashless services including transport facility to pregnant women and sick new born up to 30 days after birth. During pre intervention, only 6 (4.16%) students could mention JSSK programme but after the role play, 85(59.02%) students could correctly stated JSSK programme. Observed difference was found to be statistically significant (t = 12.67, p = 0.001).

Government of India conducts Pulse Polio Immunization (PPI) rounds about 4-6 weeks apart during low transmission season of polio i.e. between December – January. None of the students was aware of this fact before the role play but after the role play, around 12(8.33%) students became aware of period of PPI rounds. The difference was found be to statistically significant (t = 12.67, p < 0.001).

World Health Organisation (WHO) recommends exclusive breast feeding for 6 months. During pre-intervention phase, this fact was rightly pointed out by 127 (88.19%) students. A study conducted by Doaa Abdel-Hady et al.[9] reported that out of 373 medical students, 232 (62.2%) said that exclusive breast feeding is to be continued till 4-6 months of an age. However, in present study, in post-intervention phase, all 144 (100%) students agreed on the fact that exclusive breast feeding is to be continued till 4-6 months of age. However, in present study, in post-intervention phase, all 144 (100%) students agreed on the fact that exclusive breast feeding is to be continued till 4-6 months of an age. However, in present study, in post-intervention phase, all 144 (100%) students agreed on the fact that exclusive breast feeding is to be continued till 4-6 months of an age.

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However this method has been proved to be effective in imparting knowledge about other aspects of medical education [7, 8].

For improving student’s learning experiences, reliable and easy-to use assessment tools that measure student’s understanding are required [7]. Role-play method can be a valuable additional tool for undergraduate medical education, requiring few resources and allowing students to look at the material they are learning in a new light. As RCH programme of India is very complex programme, it may be difficult for medical students to understand various aspects of it. Rather than using traditional didactic lecture method, use of different approach in the form of role play to sensitize medical students about various aspects of RCH, could be the better platform to strengthen their knowledge about RCH. This approach can also be expanded to cover other national health programmes of India.

Didactic lecture for delivering information need to be replaced by methodologies like role play, demonstration, question- answer session, Socratic method of communication, setting up various examples film show, printed handouts, Posters, Group Discussion etc, for better understanding of medical students in the field of medical education.

Limitations
We cannot definitively conclude that the post-intervention significant differences, that we found are attributable to an intervention only. Second limitation was small sample size in present study. Various similar multicentric studies in larger samples are required for generalisation of findings.

CONCLUSION
Present study showed significant improvement in medical student’s knowledge regarding all aspects of child component of RCH programme from pre to post-intervention as a result of role play method. It indicates that even a simple intervention like role playing can make significant change in knowledge of medical students about RCH programme of India.

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DECLARATION OF INTEREST
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