

Impact of an Audiovisual Quiz on Knowledge of Medical Students about Reproductive and Child Health Programme of India



Medical Science

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ABSTRACT

Background: 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 RCH programme in India. Present study attempted to assess an effectiveness of an audiovisual quiz on knowledge of undergraduate MBBS medical students about RCH programme. Methods: All 152 undergraduate 7th semester medical students from Bharati Vidyapeeth Medical College, Pune participated in audiovisual quiz and completed pre and post intervention questionnaire. The data was analysed by using 'Paired t test'. Results: Significant improvement in knowledge was found after quiz (Pre test mean marks: 6.17, post test mean marks: 16.01, $t = 46.95$, $p < 0.001$). Conclusion: Present study showed significant improvement in medical student's knowledge regarding all aspects of child component of RCH programme from pre-test to post-test as a result of audiovisual quiz.

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

Among the several methods of learning and teaching, quizzes are considered one of the most effective.² Programs like quiz may be regarded as a form of assessment which can potentially strengthen knowledge that will lead to improved expertise.² Quizzes are also considered an effective formative assessment tool that augments conventional teaching.³ Studies have also shown that voluntary participation opportunities in academic activities such as quizzes provide a platform for learning and self-assessment for students.²

The present study attempted to assess an effectiveness of simple intervention in the form of audiovisual quiz on knowledge of undergraduate MBBS medical students about RCH programme of India.

Methods

Participants

A study with pre and post intervention was conducted at Bharati Vidyapeeth Deemed University Medical College, Pune. A total of 152 undergraduate MBBS medical students belonging to seventh semester participated in study. Written permission was obtained from participants after explaining the purpose of study and also anonymity of participants was guaranteed.

Materials & Procedure

Pre-intervention Phase

A Structured pretested self administered questionnaire consisting of 20 questions was distributed to all 152 students. It consisted of 17 open ended questions and remaining 3 were close ended type. They were allowed 20 minutes to complete pretest questionnaire under strict supervision.

Intervention Phase

Five teams were selected on voluntary basis as participant teams. Each team consisted of one male and one female student.

Remaining students participated as target audience. Quiz competition was conducted by trained facilitators subsequently for selected teams. One of the students from target audience was appointed to assign score of teams.

Total 70 questions including 20 questions of pretest were covered during quiz. Four rounds were conducted in quiz. They were based on 'Correct option selection', 'Answer in one word', 'Visual round' and 'Rapid fire response'. At the end of each round, correct as well as incorrect answers were highlighted and discussed before all the participants and audience.

The marking system assigned for all four rounds was, one mark for correct answer and zero mark for incorrect answer. One extra mark was awarded for the team who gave correct answer for passed question in quiz competition. Audience was also involved actively. A separate set of questions was asked to them and immediate gift was given for those who answered the questions correctly. The total duration for intervention phase was 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 all winner teams and runner up teams.

The marking system for each complete question was assigned for pretest and post-test. The data was entered in Microsoft Office Excel Sheet and analysed by using 'Paired t test'.

Results

In present study, of 152 students, 66(43.42%) were boys and 86 (56.57%) were girls. All (100%) students were in age bracket of 20-24 years.

Quiz was conducted separately on maternal and child component of RCH programme. The present study included only child component where essential aspects of it, like Integrated Management of Childhood Illness (IMNCI), Immunization and Cold Chain, Breast Feeding, Nutrition etc.were incorporated in quiz.

Table 1
Mean marks of students (n = 152)

	Mean marks (out of 20)	S.D.	t value	p-value
Pre test	6.17	2.28	46.95	<0.001
Post test	16.01	1.32		

Present study showed significant improvement in student's knowledge regarding child component of RCH programme from pre-test to post-test as a result of audiovisual quiz. ($t = 46.95$, $p < 0.001$) (Table 1).

Table 2
Pre and Post test questions with correct response (n = 152)

Question	Correct Response
Age criteria for 'Young infant' in IMNCI	Up to 2 months
Breast Feeding Week in India	1-7 th August
Earliest clinical sign of Vit.A deficiency	Conjunctival Xerosis
Period of Pulse Polio Immunization in India	December-January
FRU stands for	First referral unit
Full form of VPD in relation to immunization	Vaccine preventable disease
First natural immunization for newborn baby	Colostrum
Programme launched by Govt. of India to provide free treatment to sick newborn baby up to 30 days	Janani Shishu Suraksha Karyakram (JSSK)
ASHA stands for	Accredited Social Health Activist
Preferred IV fluid to treat severe dehydration	Ringer Lactate
Highest Vit.A content is seen in	Fish liver oils
Syringe used to administer BCG vaccine	Tuberculin syringe
Salk vaccine is of which type	Killed
In IMNCI, colour code is used to denote 'Urgent Referral'	Pink
No of doses of Measles vaccine in National Immunization schedule of India	Two
Ideal time for Apgar Score	1 minute and 5 minutes after birth
AEFI stands for	Adverse events following immunization
Recommended daily dose of Zinc for infants under 6 months of an age	10 mg
Vaccine to be stored in freezer compartment	Measles vaccine
WHO recommends exclusive breast feeding for	6 months

However pre test knowledge regarding certain aspects of child health like age criteria of young infant, period of Pulse Polio Immunization in India, Programme of Government of India for the welfare of sick newborn, AEFI, IMNCI etc. was poor amongst participants.(Table 2)

Discussion

To address maternal and infant mortality in India, Government of India launched three major programmes namely Ja-

nani 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 test, only 6 (3.95%) students knew about JSSK programme but after the quiz, 91(59.87%) students could correctly answer about JSSK programme. Observed difference was found to be statistically significant. ($t = 13.33$, $p < 0.001$)

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 were aware of this fact before quiz but after the quiz around 8.55% of students knew the period of PPI rounds. The difference was found to be statistically significant. ($t = 3.75$, $p < 0.001$)

In pre-intervention phase, 66(43.42%) students had correct knowledge about storage of vaccines but comparatively poor knowledge was observed in medical students in Gujarat ⁴ where R.C.Shah and R.C.Shah reported that only 4 (1.2%) students were aware of storage of vaccines. However, in present study after quiz, percentage of correct response was increased from 43.42% to 91.44%.

The present study may provide preliminary evidence for learning effects of the quiz in preference to Reproductive and Child Health Programme. However quiz method was found to be effective in imparting knowledge about other aspects of medical education² As RCH programme is very complex programme, it may be difficult for medical students to understand various aspects of it.

Rather than using traditional didactic lecture method for delivering information, use of different approach to sensitize medical students about various aspects of RCH i.e. 'Audiovisual Quiz' could be better platform to strengthen their knowledge about RCH.

Conclusions

Present study showed significant improvement in medical student's knowledge regarding all aspects of child component of RCH programme from pretest to post-test as a result of audiovisual quiz. It indicates that even a simple intervention like quiz can make significant change in knowledge of medical students about RCH programme.

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Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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