

## Effectiveness of various teaching strategies for promoting breast feeding

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### Objective

To use different teaching tools and study their effectiveness by assessing changes in knowledge, attitude and management skills of fourth year medical students about breast feeding.

### Methods

A six hour course, spread over three days was designed using Guidelines from Breastfeeding Counseling; A Training Course, WHO/CDR 93.3 and UNICEF/NUT 93.1.. Lectures and large group interactive sessions, small group discussions and role playing were used to teach different components of the course. Participants were evaluated by pre and post test of the same set of multiple choice questions. Six questions dealt with contents taught in the form of lectures, four covered small group contents and another four questions evaluated the contents taught in role

playing.

### Results

Out of a total of 80 students, 68 completed the course. Mean score before the course was  $7.86 \pm 2.37$  which increased to  $11.37 \pm 1.26$  after the course. Percentage change in Pre and post test scores for lectures, small group sessions and role playing were 18.34%, 25.5% and 35.75% respectively.

### Conclusion

All teaching strategies were found to be effective in increasing knowledge, changing attitude and providing management skills necessary for promoting breast feeding. Maximum gain was seen with the role playing. (Rawal Med J 2009;34: 226-228).

**Keywords:** Breast Feeding, medical education, small groups.

## INTRODUCTION

Breast feeding not only protects the infant against a wide range of infectious diseases<sup>1</sup> ranging from diarrhea<sup>2</sup> to bacteremia and meningitis<sup>3</sup> but it also decreases incidence of many problems later in life.<sup>4,5</sup> However, enough emphasis is not placed on the importance of breast feeding in medical text books<sup>6,7</sup> and most health professionals feel inadequate in this area.<sup>8</sup> The majority of pediatricians are unfamiliar with the contents of the Baby-Friendly Hospital Initiative, they have not attended a presentation on breastfeeding management and most say they want more education on breastfeeding management.<sup>9</sup> This lack of confidence and level of competence may be the biggest barrier to breast feeding promotion.<sup>10</sup> There is, therefore, a significant educational need in the area of breastfeeding.<sup>11</sup> A course was designed in an attempt to bridge this gap keeping in mind the time constraints on medical students. Educational research has shown that students actively involved in learning will learn more than those who are passive recipients.<sup>12</sup> Active involvement increases students' level of understanding and enables them to

integrate and synthesize the material<sup>13</sup> and therefore, active participation by the student was a major theme of the workshop. The goal of our study was to evaluate the efficacy of interactive lectures, small group discussions and role playing as teaching tools by assessing changes in knowledge, attitude and management skills, of fourth year medical students about breast feeding.

## PATIENTS AND METHODS

We designed a six hour course to be delivered over three days to fourth year medical students using guidelines from Breastfeeding Counseling: A Training Course, designed by WHO/CDR/93.3-6, and UNICEF/NUT/93.1. The actual material (40 hours) was abridged and actual patient visits were deleted due to time constraints. Role playing was introduced to increase students' interest and involvement. The trainers were also selected in accordance with the recommendations. All the trainers (three obstetricians and three pediatricians) were working as consultants and teachers in a "baby friendly hospital" and were actively involved in

promoting breastfeeding. They had prior experience in breastfeeding promotion and had conducted similar courses for nurses and pediatric residents (but not for medical students) multiple times.

Workshops were conducted for two hours daily for three days. First day lectures and large group interactive sessions were used to teach breast anatomy, milk production let down reflex and composition of breast milk. Multimedia, overhead projector and white board were used. The sessions of the second day were small group discussions on advantages of breast feeding, its role in decreasing morbidity and mortality in children and problems associated with bottle feeding. Each group consisted of 10-12 students and one facilitator. Buzz groups were encouraged and a scribe was chosen by the students from among themselves. Flipcharts and white boards were used for the sessions. Last day sessions were role plays on trouble shooting of various actual and perceived problems associated with breast feeding. Students were divided into 5 small groups and each group was given four different scenarios, one each about cracked nipple, concept of "bad milk" (fairly common in Pakistan), excessive cry (perceived decreased milk production) and weaning. Mothers (students) came with problems to the doctor (facilitator). Students took history and tried to solve the problem. Facilitator then took detailed history and explained to the "mother". (No actual examination was done and things were explained with the help of diagrams) while other students listened and case was discussed among the group. Students were encouraged to bring forth any other problem they had heard of.

Students were evaluated by pre and post test of the same set of multiple choice questions. There were a total of 14 multiple choice questions with 5 stems and one correct answer. Six questions dealt with contents taught in the form of lectures, four covered small group contents and another four questions evaluated the contents taught in role playing. Questions were graded; average correct answer for each question and mean value of correct answers and standard deviations for pre and post test questionnaire was calculated by "Optical Mark Reader, Version 2.0".

## RESULTS

Out of a total of 80 students 68 students completed the course. Pre-test questionnaire was administered to 59 students, while all 68 students who completed the course took the post-test questionnaire. Mean score before the course was  $7.86 \pm 2.73$ , which increased to  $11.37 \pm 1.26$  after the course.

**Table 1. Pre and Post Training Scores.**

	Mean Large Group Sessions	Mean Small group session	Mean role play session
Pretest Scores	56.78%	52.12%	59.32%
Posttest Scores	74.02%	77.20%	95.95%
Improvement	17.24%	25%	36.63%

Table 1 gives the percentage correctly answered in the three groups.

Score=x	Pre	Post
$x < 10\%$	1	0
$10 \leq x < 20$	0	0
$20 \leq x < 30$	2	0
$30 \leq x < 40$	3	0
$40 \leq x < 50$	8	0
$50 \leq x < 60$	17	1
$60 \leq x < 70$	12	3
$70 \leq x < 80$	15	35
$80 \leq x < 90$	0	16
$90 \leq x < 100$	0	10
100%	0	3

**Table 2. Distribution of Pre and Post Test Scores**

Aggregate performance for all three groups together is presented in Table 2, which lists the number of students achieving the scores in the indicated percentage range. 30% students had a 50% or less score in the pre training quiz. Nearly all students scored more than 50% in the post training quiz.

## DISCUSSION

The basic theme for our teaching methodology was active learning which refers to techniques where students do more than simply listen to a lecture. Less emphasis is placed on transmitting information and

more on developing students' skills. Students are involved in higher-order thinking (analysis, synthesis, evaluation), and greater emphasis is placed on students' exploration of their own attitudes and values. It is an umbrella term that refers to several models of instruction that focus the responsibility of learning on learners.<sup>14</sup> Interactive lectures provided them with an opportunity to reinforce and revise their learning and increase self confidence. This methodology gave a 17% improvement in the test scores. Small group discussions are known to have a greater level of student participation.<sup>15</sup> They are shown to promote deeper understanding of material, encourage problem solving and develop interpersonal skills<sup>16</sup> and we obtained similar results.

Our students showed a 25 % increase in post test. Level of involvement in role playing was much higher than in any other method of learning. It is, therefore, not surprising that role playing gave us the best results (37% increase). Other researchers have come to a similar conclusion about role playing in a different teaching setting.<sup>17</sup> It was initially difficult to encourage students to participate in the role playing sessions. They felt embarrassed in discussion of breastfeeding as it was a mixed class and gender; segregation is still a norm in many subcultures in Pakistan. With a little encouragement and relaxed environment, students became enthusiastic and participated well.

## CONCLUSION

All teaching strategies were found to be effective in increasing knowledge, changing attitude and providing management skills necessary for promoting breast feeding with role playing giving the best results.

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