Effect of Video-Assisted Teaching Module (VATM) on Knowledge of ASHAs regarding RNTCP in Kuchinda Block of Sambalpur (Odisha)

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Abstract

Infectious disease is a major public health issue for both developed and developing countries. Among infectious diseases, tuberculosis (TB) is most prevalent in the developing countries. India is the highest TB burden country in the world and accounts for nearly one fifth (20%) of global burden of tuberculosis. A pre-experimental design where pre- and post-test without control group with experimental approach was undertaken in Kuchinda block of Sambalpur district (Odisha) with the objectives to assess effectiveness of Video-assisted Teaching Module (VATM) on knowledge of Accredited Social Health Activists (ASHAs) regarding Revised National Tuberculosis Control Programme (RNTCP). Data were collected from 52 ASHAs, selected by systematic random sampling technique through structured questionnaire. The overall mean score in pre-test was 23.31±3.07 which is 58.27 percent of maximum score and good knowledge whereas it was 34.35±3.56 while post-test it was 85.87 percent of maximum score during post-test showing a difference of 27.6 percent effectiveness. Highly significant (p<0.01) difference was found between pre- and post-test knowledge score and no significant (>0.05) association was found between post-test knowledge score when compared to all the demographic variables of ASHAs.

Need for the study

Tuberculosis is one of the three primary diseases of poverty along with AIDS and malaria. Tuberculosis remains a worldwide public health problem since many years. According to WHO (2008) about one third of the current population of world is affected asymptomatically with tuberculosis. It is estimated that about 98 percent of the tuberculosis deaths occur in developing countries. India is the highest TB burden country in the world and accounts for nearly one fifth (20%) of global burden of tuberculosis (Hemlata & Susama, 2010). Tuberculosis kills about 0.32 million people every year. Any person once infected has 10 percent lifetime risk of developing TB. Two out of every five Indians are infected with TB bacillus. Nearly one third of the female infertility is caused by tuberculosis. India has had an ongoing National TB Control Programme (NTCP) since 1962. Programme reviews showed that only 30 percent of estimated tuberculosis patients were diagnosed and among them only 30 percent of those were treated successfully. In 1992, the GOI evolved a revised strategy and launched the Revised National Tuberculosis Control Programme (RNTCP) in the country. ASHA workers could serve as the DOTS provider in their village. They have also a key role in motivating the patient to complete the treatment and prevent them from stopping midway or drop out.

Objectives

The objectives of the study were to:
- Assess the effectiveness of VATM (Video-ass-
sisted teaching module) on knowledge of ASHAs regarding RNTCP (Revised National Tuberculosis Control Programme)

- Find out association between post-test knowledge score of ASHAs with their selected demographic variables.

**Hypothesis**

**Ho:** There will be no significant difference between pre- and post-test knowledge score regarding RNTCP among ASHAs.

**Ho:** There will be no significant association between post-test knowledge score of ASHAs with their selected demographic variables.

**Review of literature**

Bobby R (2011) stated that DOTS provider can play a significant role in reducing TB burden in the country. ASHA worker can be a DOTS provider under RNTCP. Since the treatment is of long duration, the ASHA worker has a key role in motivating the patient to complete the treatment and prevent them stopping midway dropout.

Hemlata, et al (2010) in their study on implementation of RNTCP for the community of Dadu Majra Colony, UT Chandigarh, revealed that the overall implementation of the programme in Dadu Majra Colony was satisfactory except few disparities for which more supervision is required from district level supervisors to ensure better performance of the programme.

Kaur A, et al (2012) conducted a study on knowledge and attitude of DOTS providers about TB and its treatment in tuberculosis unit of Patiala found that the knowledge about treatment schedule between trained and untrained DOT providers was highly significant. The study highlights the need for training and reorientation courses for DOT providers regarding TB. Constant monitoring and supervision is required by trained staff in Tuberculosis Unit.

Bapweya (2010) in a study on health workers knowledge, attitude and practices of TB-DOT in Grootfontein district of Otjozondjupa region in Namibia found that in terms of the research objective of ascertaining knowledge, attitudes and practices, 57 percent of respondents had not been trained in TB management. Despite a lack of training in TB-DOT, 70 percent of all respondents demonstrated an understanding of the meaning of TB-DOT, while 76 percent indicated an understanding of the meaning of DOT supporter. However, no statistically significant difference was found between health workers’ training and TB management.

**Methodology**

A pre–experimental design with one group pre-test – post-test design with experimental approach was selected to conduct study on effectiveness of VATM on knowledge of ASHAs regarding RNTCP at Kuchinda block of Sambalpur district (Odisha) by using Systematic random sampling technique. The populations are all the ASHAs of Kuchinda block of Sambalpur district & samples are the selected ASHAs by systematic random sampling. 52 ASHAs are selected for the samples. A structured questionnaires was used to collect the data having two parts - Part A containing demographic characteristics of the ASHA and Part-B consisting of 40 multiple choice items pertaining to knowledge about RNTCP. A VATM was prepared which consist of meaning, causes and risk factors, signs and symptoms diagnostic tests, management, prevention RNTCP, role of ASHAs in RNTCP. The data was collected by the investigator herself by pre-test, administering VATM and post-test from 22 to 30 April 2013 after testing validity & reliability of the tool.

**Data Analysis & Interpretation**

The collected data were organised, tabulated and analysed by using descriptive statistics such as mean, median SD inferential statistics including paired ‘t’ test and chi square test.

Highest percentages (30.76%) of ASHAs belonged to the age group of 31 to 35 years. Highest percentage (69.23%) of ASHAs had secondary level education. Majority of ASHAs (73.07%) got information through health personnel. All the ASHAs (100%) had undergone special training on tuberculosis. However out of them 50 percent had two times training and 50 percent had undergone more than two time training. Highest percentage (73.07%) of ASHAs had experience of more than three years in caring tuberculosis client.

Prior to implementation of VATM, the ASHAs had average knowledge 58.27 on Revised National Tuberculosis Control Programme; whereas during post-test it was 85.87 percent showing a difference of 27.6 percent of effectiveness and having a very good knowledge. It was also observed that the difference between the pre- and post-test area wise mean score values vary from 19.14 percent to 34.2 percent. Hence, it can be interpreted that VATM was effective both area wise and overall (Table 1).

Percentage wise distribution of pre- and post-test knowledge score of ASHAs according to their level of knowledge shows that during pre-test the
highest percentage (71.15%) of ASHAs had average knowledge regarding RNTCP and a very least number one (1.92%) had poor knowledge regarding it. Whereas during post-test highest percentage (67.30) of them had a very good knowledge. Similarly, 26.92 percent of ASHAs having good knowledge during pre-test whereas during post-test 32.69 percent of them were in this category. Hence it can be interpreted that the VATM was effective in improving knowledge of ASHAs regarding RNTCP (Fig. 1).

The mean and median plotted on line graph shows that during the pretest mean and median score values were 22 and 22.4 respectively, whereas during the posttest the values were 33 and 33.6 respectively showing effectiveness of module (Fig. 2).

O-give curve drawn to find out the effectiveness of video shows that post-test score was higher in entire graph when compared to pre-test showing the effectiveness. In the pre-test 25th, 50th and 75th percentile score was 19.21.5 and 23.5 whereas it was 31, 34 and 36 in post-test respectively. It shows that the difference of lower extremes of the two scores of knowledge is more when compared to the middle and upper extremes revealing the effectiveness of video among ASHAs on RNTCP (Fig. 3).

Paired t-test was done to find out the effectiveness of video which depict that highly significant difference was found between pre- and post-test KS of the ASHAs in all areas such as tuberculosis and its causes, type, sign symptoms and diagnostic tests, prevention, treatment and side effects & components of RNTCP role of ASHAs showing effectiveness of module (Table 2).

Chi-square analysis was done to find out Association between post-test knowledge of ASHAs with the demographic variables (Table 3). No significant association was found between post-test KS when compared to age, education, previous source of information, special training on tuberculosis and years of experience.

Discussion & Conclusion
The ASHAs had average knowledge (58.28%) before implementation of VATM whereas it increased to 85.87 percent after implementation of VATM revealing a very good knowledge which is supported by Kaur et al (2012). In their study on knowledge and attitude of DOTS providers about TB and its treatment, they found that majority of DOTS provider had a very good knowledge regarding symptoms, type and diagnostic tests for TB. This was also supported by Bapweya (2010). In his study on health workers’ knowledge, attitude and practice regarding DOTS he found that very high percentage knew the full form of DOTS. Area wise assessment shows that during post-test the highest mean score (92.66%) was obtained for the area "symptoms, type

### Table 1: Area wise Comparison of Pre- and Post-test knowledge score of ASHAs

<table>
<thead>
<tr>
<th>S. No</th>
<th>Area of knowledge</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Max. score</td>
<td>Mean</td>
</tr>
<tr>
<td>1</td>
<td>Tuberculosis and its causes</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td>2</td>
<td>Type, sign symptoms &amp;diagnostic tests</td>
<td>9</td>
<td>6.59</td>
</tr>
<tr>
<td>3</td>
<td>Prevention, treatment &amp; side effects</td>
<td>7</td>
<td>5.12</td>
</tr>
<tr>
<td>4</td>
<td>Components of revised National Tuberculosis Control Programme: role of ASHAs</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Over all total</td>
<td>40</td>
<td>23.31</td>
<td>3.07</td>
</tr>
</tbody>
</table>

Figure 1: Comparison between pre- and post test knowledge of ASHAs

Figure 2: Pre-test and post-test difference in knowledge score

Line graph drawn to assess the difference between pre- and post-test knowledge score (KS) shows that the lowest score of pre-test was 13 to 16 whereas in post-test it ranged between 25 to 28. Similarly highest score of pre-test was between 33 to 36 whereas, in post-test it was between 37 to 40.
and diagnostic tests" and lowest mean score (79.2%) was in the area components of RNTCP and role of ASHAs revealing less knowledge; this is supported by Sagare et al (2012) that there is a gap in the knowledge of ASHAs regarding RNTCP and role of ASHAs.

**Implications**

- The content of the VATM will help the nursing professionals working in the hospital and community to educate the ASHAs, AWW, 4th grade staff and also community people regarding Revised National Tuberculosis Control Programme.
- The VATM can encourage the nurse researcher to conduct more study for grass root level workers like AWW, ASHA, ANM etc.
- The findings of the study can be utilised for conducting further research to assess the actual practice of ASHAs on tuberculosis.

**Recommendations**

Similar study can be conducted on larger sample to generalise the study findings. Similar study can be conducted with (a) control group, (b) on other DOTS providers like AWW, ANM etc.

**References**

5. Govt. of India TB India (2010). RNTCP Status Report, Central TB division, Ministry of Health and Family Welfare, New Delhi, Pubmed search