A CROSS SECTIONAL STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE OF FOOD SAFETY AMONG ANGANWADI WORKERS IN CHENNAI, TAMIL NADU - 2016

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Abstract: BACKGROUND - Food Handlers play a major role in transmitting pathogens passively from the contaminated source of hands and fingers to food to be eaten. They may also shed food borne pathogens such as E-coli and Non-Typhoidal salmonella during diarrhea. The Anganwadi workers have an important role in supervising the Anganwadi helper who cooks and serves food for children attending the ICDS centers. So, an Anganwadi worker should have the right knowledge regarding food safety to reduce the morbidity and mortality due to food poisoning and food borne illness.

OBJECTIVE - To determine the knowledge and practice of food safety among Anganwadi workers.

MATERIALS AND METHODS - Cross sectional study was conducted among randomly selected 117 Anganwadi Workers belonging to the selected project area in Chennai. RESULTS - Out of the total 117 Anganwadi workers, 70 percentage of them were in the age group of 20-40 years, majority were studied 10th standard. Nearly 74 percentage of them had the correct knowledge regarding food safety and 89 percentage of them were practicing the correct methods in assuring food safety to the beneficiaries.

CONCLUSION - The study subjects had an overall better awareness regarding food safety.

Keyword: Anganwadi Workers, Food Safety

INTRODUCTION

The children are future citizen of our country. They constitute the greatest resource of the nation. They are also vulnerable to malnutrition and diarrhea. Therefore government of India adopted a resolution on national policy for children on 22nd Aug 1974 for the welfare of the children. In pursuance of the national policy for children Government of India launched a scheme called Integrated Child Development Service on 2nd Oct 1975. It is not only for children but also for mothers. The beneficiaries under this scheme are children of 0-6 yrs of age group, expectant mothers, lactating mothers during first 6 month and women of reproductive age group (15-45yrs). The services given by ICDS scheme are supplementary nutrition, growth monitoring, immunization, health checkup, medical referral services and non-formal preschool education between the ages of 3-6 years. UNICEF measures, under-5 mortality is the best single indicator of social development and wellbeing. Reduction in under-5 mortality combined with fertility rate in many regions and countries have decreased the burden of under 5 death from 12 million in 1990 to an estimated 6.9 million in 2011. Mortality rates among under-5 children fell globally by 41% between 1990 (Base year for millennium developmental goal) and 2011. In 2011 there were 6.9 million deaths in children under 5 years of age group. Almost 2/3 (64%) of these deaths were caused by infectious disease and the conditions such as pneumonia diarrhea, malaria, meningitis, tetanus, HIV and measles. Around forty percentage of all under 5 deaths were occurred in neonatal period. Globally more than half of the under 5 deaths can be attributed to under nutrition. The leading cause of death globally among children under 5 includes diarrhea which is 9% among other cause of death. Anganwadi Centers can be focal point for imparting food safety. Food safety means assurance that food is acceptable for human consumption according to intended use. Care in handling of food and water is prerequisite to prevent food borne illnesses. There is need to improve access to portable water, sanitation and cooking fuel and spreading awareness about checking of food labels and reporting to health authorities in case of labeling defect and food poisoning. Every year millions of people die and many are hospitalized due to food borne disease as a result of food stored, prepared, served and consumed in unhygienic environment without sufficient knowledge and training in hygiene and sanitation. They are using unclear water, inefficient storage, and lack of cleaning and mixing of chemical with food stuff. Food can be mishandled at many places during storage, preparation and distribution. Several studies indicate that food producers and consumers do not have adequate knowledge about prevention and control of food borne illness. This involves both local preparation and storage. Anganwadi Workers should have basic knowledge on food safety, hygiene and sanitation as they have very important role in serving for the children in Anganwadi Centers and also they are very close and continuous contact with the community. In Chennai there are 1440 ICDS centers and more than 1 lakhs children are attending ICDS. The Anganwadi Centers are maintained by Anganwadi workers and helpers. The beneficiaries are 0-6 years old children and among them the 3-6 years old children are provided supplementary nutrition in the centre itself. Anganwadi workers impart hygiene practices in preparation and handling of food to the helper and the mothers. The children are also taught basic hygiene practices. There are not many studies that are available in India on the knowledge and practices being adopted by Anganwadi workers. Hence, this study was taken up to assess the knowledge and practice on food safety among the Anganwadi workers. The awareness and attitude were 80% respectively.
MATERIALS AND METHODS:
The present study was a cross sectional study conducted over a period of three months from December to February 2016 among Anganwadi workers. The sample size was calculated based on the study conducted in Mandya district of UP regarding the food safety knowledge in Anganwadi, where the prevalence of knowledge was 80%. Considering a confidence level of 95% with a relative precision of 10% with 10% non-response, the sample size derived was 117 using the formula
\[ N = \frac{Z^2 \cdot p \cdot q}{d^2} \]
All the Anganwadi workers in the selected project and willing to participate in this study were included. Workers who were not present on the day of study were excluded.

Sampling Method:
ICDS in Chennai is divided into twelve projects. One project was selected by lot method by simple random sampling method and 117 Anganwadi workers of the selected project were enrolled in the study.

Data Collection
Data collection was done in the Anganwadi Centers after obtaining permission from The Director, Institute of Community Medicine. Director of ICDS and Institutional EthicsCommittee of Madras Medical College. After explaining the purpose of the study, informed consent was obtained from the selected participants and strict confidentiality was maintained.

Tools:
A pretested semi-structured questionnaire was distributed to the selected participants in their local language and collected on the same day. The participants were asked to complete the questionnaire without leaving any question incomplete. 3 questions were asked to assess the knowledge of the Anganwadi Worker on food safety. Includes questions on personal hygiene, cleanliness of kitchen and surrounding, covering of food during preparation and after preparation, importance of hand washing the knowledge level had been scored into two categories viz adequate knowledge (1-6) and inadequate knowledge (7-11). Questions like washing of vegetables and fruits in tap water to prevent food poisoning, having long finger nails could contaminate food and food handlers should be medically examined every six months were assessed attitude towards food safety. Practice was evaluated by asking, washing their hands with soap and water before preparing food, washing their hand with soap & water after using the bathroom. Data was entered in Microsoft Excel and analysis of descriptive and inferential statistics was done by using SPSS Version, the level of statistical significance was definable as a twosided p – value 0.05.

RESULTS
The mean age of the study is 38 years (SD 7.3 yrs) the socio-demographic profile of respondents is given in Table 1.

Table 1: Socio-demographic profile of Anganwadi Workers

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Age and Educational Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Participants</td>
<td>Category (years)</td>
</tr>
<tr>
<td>20-40</td>
<td>62</td>
</tr>
<tr>
<td>40-60</td>
<td>35</td>
</tr>
<tr>
<td>10-12th Std</td>
<td>105</td>
</tr>
<tr>
<td>Graduate</td>
<td>12</td>
</tr>
</tbody>
</table>

Knowledge
Among the 117 participants 75% of them had adequate knowledge. Almost all the participants knew that food poisoning is caused by pathogenic microbes, eating raw or half cooked food can cause food poisoning and that food handlers with unhygienic practice could be the source of food poisoning. About 85% participants knew that eating cooked food left uncovered at room temperature for more than 6 hours is risky.

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Practice
The response of the participants to the practice questions are presented in Table 2. More than 95% of the Anganwadi workers washed their hands with soap and water before eating, handling food and also after using the toilet. Washing vegetables and fruits before cooking and ensuring the cleanliness of food contact surfaces before and after cooking was high. About two thirds of the workers continued to work at times of diarrhoea, when the chances of spreading the infection was high (Table 2).

Facilities Available In The Anganwadi Center:
Toilets were available in all centres, but only about half (57.3%) these centres had regular supply of water in the toilets. Water supply in the washing area was also found to be lacking with only three fourths of the centres having regular supply of water.

DISCUSSION
The ICDS is nationwide program of Government of India offering nutrition services to the most disadvantaged population of the country. As the Anganwadi workers are the key persons in the program, her education level and knowledge of food safety plays an important role in the prevention of infection among children. The district of Mandya, University of Women and Child Development, dated 24th December 2013 issued operational guidelines for food safety and hygiene in ICDS[1]. It focuses on guidelines for food safety, hygiene and sanitation in Anganwadi centers. They guide food handling practices and safety measures for hot cooked meal and morning snacks, food handling and safety measures. The participants’ overall knowledge on food safety was high with a percentage of 74% They had good knowledge regarding unhygienic food, food borne diseases, appropriate temperature for food storage and sources of food contamination. The increased knowledge level may be attributed to the training given to Anganwadi workers on the operational guidelines for food safety and hygiene Food Safety officials of the Government of TamilNadu[2]. The knowledge regarding eating raw or half cooked meat causes food poisoning in this study 97.4% was similar to the studies conducted by the National Institute of Nutrition, Hyderabad[4] and the study from Mandya district. There is a need to focus on the issue cited in Times of India on April 9, 2012 stating that 16 Anganwadi children suffered from food poisoning following consumption of sweets prepared in Anganwadi Centres. Unhygienic storage was cited as the reason for contamination of sweets fed to the children[5]. In general the overall good hygienic practices was 83%. This corresponds to overall good practice in the study done in Mandya district. In this study the practice level for questions washing hands with soap and water before handling food is 98% and washing hands with soap and water before eating meal is 95% and their hands with soap and water after using toilet is 90%. The practice level is 100% in study in Mandya district due to the reason that Anganwadi worker are trained regularly. The
Food safety guidelines issued by government of India also focuses on hand washing for Anganwadi workers, helpers and children. These guidelines were followed by sensitization programs on food safety conducted by Food Safety Officers and Designated Officers in Tamil Nadu.

RECOMMENDATION:
Food safety in Anganwadi Centers needs to be monitored on a continuous basis. Food safety education should receive high priority in the ongoing programs for improving maternal and child health.

CONCLUSION:
The level of knowledge and practice among Anganwadi workers on food safety was found to be high. Further improvements in the facilities at the centres can help the workers to implement greater hygienic practices to reduce morbidity among the children attending the ICDS centres.

LIMITATIONS
In this study the Helpers who cook and clean in and around the Anganwadi centers and the beneficiaries such as mothers were not involved.

REFERENCES: