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Descriptive Assessment of Knowledge And Performance of Anganwadi Workers to Promote The Nutritional And Health Issues of Beneficiaries

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#### **Abstract**

For present study 180 anganwadi centers were randomly selected from jaipur district. This study conducted to find out the level of knowledge and practices of anganwadi workers regarding various maternal and child health & nutrition. The knowledge of beneficiaries given by anganwadi workers through counseling in terms of health, nutrition and hygiene was also assessed. The problems faced by anganwadi workers during their job were also assessed. Anganwadi workers has high level of knowledge for breast feeding (73.64%), complementary feeding (71.29%), and diarrhoea management (71.33%) whereas middle level of knowledge for supplementary feeding (65.87%) and growth monitoring (66.66%). It was observed that beneficiary pregnant / lactating women has high level of knowledge for health (80.55%), nutrition (76.66%) and hygiene (76.66%). Beneficiary adolescence girls also have high level of knowledge for health (79.86%), nutrition (75%) and hygiene (74.44%). Inadequate honorarium, excess work load and infrastructure at the centers were main problems faced by them. It can conclude that the quality of knowledge among anganwadi workers for their job profile was sufficient. Anganwadi workers had theoretical knowledge about concept of growth monitoring however in practical skill they were poor. For efficiently working anganwadi workers needs proper infrastructure for anganwadi centers, should be ensued by government or by community.

**Keywords**; Knowledge of anganwadi worker, heath issues of beneficiaries.

#### Introduction:-

The Integrated Child Development Services (ICDS) Scheme was conceived in 1975. The Scheme aims to improve the nutritional and health status of vulnerable groups including preschool children, pregnant women and nursing mothers through a package of services including supplementary nutrition, pre-school education, immunization, health check-up, referral services and nutrition and health education. The program provides an integrated approach for converging basic services through community-based anganwadi workers.

The anganwadi workers (AWWs) are the community based voluntaries frontline workers of the ICDS programme. Selected from the community, she assumes a pivotal role due to close and continuous contacts with the beneficiaries. They represent the concerns of the state within the community or cluster of households.

Anganwadi workers is the central points for the delivery of services at community levels to children below six years of age, pregnant women, nursing mothers and adolescent girls. Anganwadi workers help the children to get into the right from the pre-school age. Anganwadi workers educates to family especially mothers to ensure effective health and nutrition care, early recognition and timely treatment of ailments.

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By virtue of her position in the community, the anganwadi worker has more chances to interact and to educate the mothers. For that the anganwadi worker should have basic knowledge of child care activities. Among all functions of anganwadi workers, growth monitoring and supplementary feeding are directly linked with the prevention and control of malnutrition in children. These two activities are independent activities carried out by the anganwadi worker in relation to promotion of health of the vulnerable group. After about 45 years of work of anganwadi workers, no major change accrued at maternal and child health.

Anganwadi workers play a vital role to enhance the overall development of the infant and women. But after a long period of time in Indian health state of vulnerable group hardly improved. Infant mortality rate, malnourishment, low birth weight, unhygienic living condition, lacking of awareness in beneficiaries are still gigantic issue which are making questions for work credibility of anganwadi workers.

Although anganwadi workers are key player to enhance health and nutritional status at grass root level, but recent studies show that they are less capable of providing recommended Maternal and Child Health (MCH) services to the deprived group of population[Davey T. and Datta 2004]. [Thakare et al 2011]Though government is spending lot of money on ICDS programme, impact is very ineffective. In India nutritional and health status of vulnerable groups are still very deprived after 40 years of ICDS launched.

Most of the study concentrated on the nutritional and health status of the beneficiaries of ICDS. Less focus has been shifted over to assess the knowledge and awareness among Anganwadi workers regarding recommended ICDS programmer, who are actually the main resource person. The output or the ICDS scheme is to a great extent dependant on the profile of the key functionary i,e. the anganwadi workers, her qualification, experience, skills, attitude., training etc. Anganwadi workers form the bedrock on which performance of ICDS programme squarely rests. The anganwadi worker should be self sufficient to deliver these activities in prevention and control of malnutrition, spread awareness among vulnerable at grass root level by providing services at doorstep.

### **Objective:-**

- 1. To assess the extent of the knowledge of anganwadi workers regarding various maternal and child nutrition and health issues.
- 2. To find out the knowledge of beneficiaries provided by anganwadi workers during counseling in term of health, nutrition and hygiene
- 3. To investigate the problems faced by anganwadi worker during fulfillment of job responsibilities.

#### Methodology:-

**Subject profile and selection:** The present study was conducted in Jaipur district. For present study 9 blocks of Jaipur district were selected. Selection ratio of anganwadi centers was 2:1(rural 2: urban 1), as anganwadi centers number are more concentrated in rural areas. From each rural and urban block 20 anganwadi centers (AWCs) were selected. Total 180 anganwadi centers were selected under which both rural and urban areas were covered. From each anganwadi, anganwadi worker, one beneficiary pregnant woman or lactating mother and one

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adolescent girl was selected randomly. Therefore total 180 anganwadi worker, 180 pregnant women or lactating mother and 180 adolescent girls were studied.

**Data collection:** The study was based on primary data. For the collection of data, which were used interview schedule and observation are major techniques. Data was collected by personal visits made to anganwadi centers. To analyze the data collected from field survey, simple statistical tools as tabulation and percentage method used for the result.

**Description of the tool used:** As pre-designed standardized test for knowledge, assessment used practices and skill assessments were not available. Therefore, separate questionnaires specially constructed for the present study one for AWWs and another for beneficiaries.

Anganwadi workers profile their basic information are collected like her age, education, caste and experience etc. For knowledge assessment, a scoring system was developed.

The knowledge assessment score for each anganwadi workers was calculated which was based on the response to a questionnaire containing 38 questions. The questionnaire was so designed as to contain question on every aspect of services provided through the anganwadi center. It included questions on 5 different aspects of functioning of anganwadi workers regarding maternal and child nutrition practices and physical health (i.e. breast feeding, complementary feeding, supplementary feeding, diarrhoea management and growth monitoring)

One mark was given for a correct response, while no mark was given for a wrong response of unanswered question. The knowledge of anganwadi workers was scored out of 38 questions. Question numbers were very for 5 different aspect of functioning of anganwadi workers. All the correct answers of 180 anganwadi workers for individual aspect were added to find the score of that individually aspect.

The beneficiaries of AWC were also assessed for their knowledge in term of health, nutrition and hygiene. Beneficiary's questionnaire pregnant/ lactating mother in contained 21 questions and adolescent girls (beneficiaries) questionnaire contained 13 questions. All questions were having two answers choice either yes or no, related to their health, nutrition and hygiene practices. One mark was given for a correct response, while no mark was given for a wrong response and unanswered question.

All the correct answers of 180 pregnant/ lactating mother and 180 adolescent girl beneficiaries added separately for finding score.

This score was converted to percentage. These percentages were classified as qualitative classification given [Jain j and Sexena R 2011], to find out the knowledge level of anganwadi worker and beneficiaries. Information about anganwadi workers and beneficiaries were expressed as mean  $\pm$  S.D values or percentage.

### Result Analysis:-

### Socio-demographic profile of AWWs

Table-1 shows the socio-demographic profile of AWWs. It indicates that majority of them was young adults. Mean age of anganwadi workers was 38.27 and  $S.D \pm 2.73$ . It was clear that a majority of the respondents 36.67 percent (66) were in the age group of 31 years to 40 years. A majority of 44 percent (79) respondents were matriculated, 29.44 percent (53)

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respondents were secondary and 15.56 percent (28) respondents were graduates. Only 11.11 percent (20) had post-graduation degree (figure 1). However other cast categories are also present, (table). All the respondents were belongs to the area where the anganwadi centres is located and had a permanent residence in the same area. All the respondents had received job training.

With regard to the mean (years) work experience was 12.011 and  $S.D \pm 5.23$ .majority of the respondents 33.89 percent (61) had more than 15 years (figure 2). There was not any respondent who had more than 40 years of work experience in their career. With regard to all the respondents were belongs to the area where the anganwadi centre is located and had a permanent residence in the same area.

In present study the knowledge of anganwadi workers regarding various aspects of maternal and child nutrition and physical health was assessed to out find the proficiency of anganwadi workers for their job profile.

Table-1 Socio-demographic profile of AWWs

Socio-demographic	details of Anganwadi	Anganwadi workers	Anganwadi workers
workers		(numbers) S.D	(percentage)
Age (year)	Mean age	Mean S.D (± 2.73)	
	<b>38.27</b> (year)	year	
Age group	20-30 years	± 38	21.11%
	31-40 years	± 66	36.67%
三	41-50 years	± 55	30.55%
SIS	51-60 years	± 21	11.67%
3		/	
<b>Educational status</b>	Illiterate	-	-
	1-9 class	± 53	29.44%
	10-12 class	± 79	43.89%
	Graduate	± 28	15.56%
	Post Graduate	± 20	11.11%
	100	24	
Caste	Scheduled Caste	± 30	16.67%
	Scheduled Tribe	± 15	8.33%
	Other backward Caste	± 50	27.78%
	General	± 75	41.66%
	Minority	± 10	5.56%
Training Status	Trained	± 180	100%
	Untrained	-	-
Work Experienc	e 12.01 years	( ± <b>5.23</b> )	
Mean (years)			
Work experience	1-5 years	± 41	22.78%
	6-10years	± 50	27.78%

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	11-15years	± 28	15.56%
	More than 15years	± 61	33.89%
Residence status	Anganwadi centers	± 180	100%
	area		
	Outside anganwadi	-	-
	centers area		

### Socio-demographic profile of AWWs

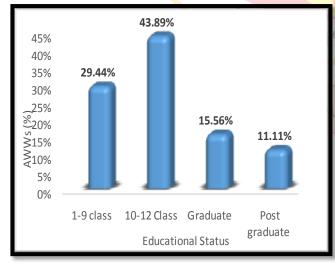
Table-1 shows the socio-demographic profile of AWWs. It indicates that majority of them was young adults. Mean age of anganwadi workers was 38.27 and  $S.D \pm 2.73$ . It was clear that a majority of the respondents 36.67 percent (66) were in the age group of 31 years to 40 years. A majority of 44 percent (79) respondents were matriculated, 29.44 percent (53) respondents were secondary and 15.56 percent (28) respondents were graduates. Only 11.11percent (20) had post-graduation degree (figure 1). However other cast categories are also present, (table). All the respondents were belongs to the area where the anganwadi centres is located and had a permanent residence in the same area. All the respondents had received job training.

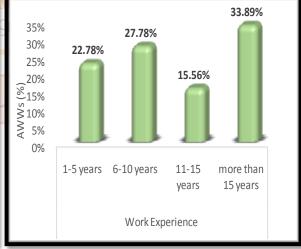
With regard to the mean (years) work experience was 12.011 and  $S.D \pm 5.23$ .majority of the respondents 33.89 percent (61) had more than 15 years (figure 2). There was not any respondent who had more than 40 years of work experience in their career. With regard to all the respondents were belongs to the area where the anganwadi centre is located and had a permanent residence in the same area.

In present study the knowledge of anganwadi workers regarding various aspects of maternal and child nutrition and physical health was assessed to out find the proficiency of anganwadi workers for their job profile.

Fig 1: Education status of AWWs

Fig 2: Work experience of AWWs





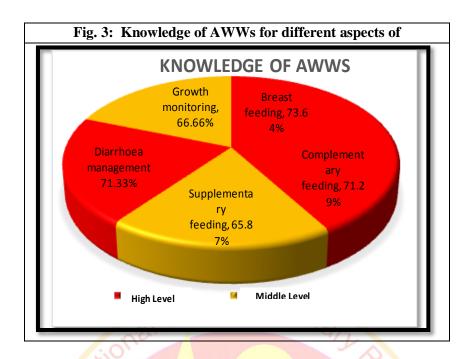


Table-2 Details of knowledge of AWWs regarding 6 aspect of maternal & child Nutrition and physical health

Total no. of correct	Percentage (%)	Knowledge level
responses	knowledge	우
1193	73.64	High level
770	71.29	High level
		2
830	65.87	Middle level
1284	71.33.	High level
		<del>(1)</del>
720	66.66	Middle level
4797	70.13	High level
	responses  1193 770  830  1284  720	responses         knowledge           1193         73.64           770         71.29           830         65.87           1284         71.33.           720         66.66

### Knowledge assessment of AWWs regarding maternal & child nutrition and physical health

Knowledge is very essential for implementation of ICDS program in a better way. Table-2 and figure 3 shows the details of knowledge of anganwadi workers regarding different 6 aspects of maternal & child nutrition and physical health. By good knowledge of these 6 aspects of maternal &child nutrition and physical health only then an anganwadi workers can work efficiently. It was observed that they high have level of knowledge for breast feeding (73.64%), complementary feeding (71.29%), and diarrhoea management (71.33%). In present investigation it was found that AWWs had middle level of knowledge for supplementary feeding (65.87%) and growth monitoring (66.66%). Overall anganwadi workers scored 70.13% in knowledge assessment regarding 6 aspect of maternal & child nutrition and physical health

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To make aware beneficiaries their food, normal health, nutrition and hygiene etc, is a major part of job responsibilities of anganwadi workers. Therefore the present study knowledge of beneficiaries were also assessed which was given by anganwadi workers during counselling at anganwadi centres.

Table-3 Details of knowledge assessment of beneficiary in term of health, Nutrition and hygiene.

Types of service	Total no. of	Percent (%)	Knowledge level
	correct	knowledge	
	responses		
Knowledge of beneficiary pregnant / lactating women			omen
Health	870	80.55	High level
Hygiene	690	76.66	High level
Nutrition	1300	72.22	High level
Knowledge of beneficiary adolescence girls			
Health	575	79.86	High level
Hygiene	540	75	High level
Nutrition /	670	74.44	High level
Total	4645	75.58	High level

### Knowledge assessment of beneficiary

Table-3 shows the details knowledge in term of health, nutrition and hygiene. By good knowledge of health, nutrition and hygiene helps beneficiaries to keep their self health, can live hygienically and maintain normal nutrition statue.

It was observed that beneficiary pregnant/lactating women have high level of knowledge for health (80.55%), nutrition (76.66%) and hygiene (76.66%). Beneficiary adolescence girls also have high level of knowledge for health (79.86%), nutrition (75%) and hygiene (74.44%). Overall beneficiaries scored 75.58% in knowledge assessment regarding health, nutrition and hygiene.

# Problems faced by anganwadi workers 2349-6381

While performing different types of functions it was obvious that anganwadi workers supposed to face variety of problems. Table-4 and figure 4 show the problems faced by anganwadi workers. 80 percent respondents were complained of inadequate honorarium, they had the problem of getting honorarium at proper time. 50 percent respondents were complained of excessive record maintenance and mostly all respondents (70%) were complained of work overload as they have to assist for other health programs apart from their anganwadi related work like in pulse polio program etc. Only 40 percent complained of lack of help and support from beneficiaries' family and from community.30 percent respondents were complained inadequate supervision and 50 percent respondents were complained about ration supply that ration was not directly supply at their anganwadi centers.30 percent respondents were complained about other problems like Furniture, toys, weighing machine, inch tape, utensils,

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iodine checks kit, black board, thermometer and IEC material etc were not found at all centres. Such materials are not found in required quantity at 30% centres. At 40% centres these material were present but not in working condition and efficiency of anganwadi workers was reduced.

Table-4 problems faced by anganwadi workers		Fig. 4: Problem faced by AWWs	
Type of problems	Percentage (%) of AWWs	PERCENTAGE	
Inadequate honorarium	80	Other problems, 30% Inadequate	
Excessive record maintenance	50	Infrastructure related, 80%  Excessive record	
Work overload	70	Ration supply maintenance, 5	
Lack of support from community	40	related, 50%  Inadequate	
Inadequate supervision	30	comunity, 40	
Ration supply related	50		
Infrastructure related	80		
Other problems	30		

### Discussion:-

The Integrated Child Development Services (ICDS) scheme is the largest programme for promotion of maternal and child health and nutrition not only in India in but in the whole world.

In present study i.e. workers 66 (36.67%) were in the age group of 31-40 yrs. Programme Evaluation Officer (PEO) Study [PEO 1982] on the integrated child development services project found that 82% of the anganwadi workers belonged to the age group 18-25 years. [Khan Z, and Hasan J, 1992]. Reported that 50% of anganwadi workers were more than 35 years of age, [Seema TN 2001] Also reported that critical assessment of anganwadi centres observed that 32% of anganwadi workers were below 30 yrs age. Three decades of ICDS, a comprehensive assessment of the programme at national level undertaken by National Institute of Public cooperation and Child Development (NIPCCD) [ hauz khas 2008] made an observation that 30% of AWWs were in age group of 25-35 years. A study was conducted [Thakare et al 2011], to assess the knowledge of anganwadi workers and their problems faced an urban block of ICDS. It was found that Maximum number of workers, 11(39.28%) were in the age group of 41-50 years, 7(25%) each in the age group of 31-40 years and more than 50 years. Lowest number i.e., 3 (10.7%) belonged to the age group of 20-30 years, similar age group of anganwadi workers was found in present study.

In present study, 43.89% of anganwadi workers educational levels were between matriculate which is consistent with many other studies. A study was conducted by [Thakare et al 2011], to assess the knowledge of anganwadi workers and their problems faced an urban block of ICD. In this study Almost half (53.57%) of anganwadi workers were matriculate.16.5% anganwadi workers were intermediate only 3.57% anganwadi workers were post- graduate.

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World Food Programme, India, a pilot Project Funded by USAID [WFP 2011] observed wide variations in respect of educational level of anganwadi workers. While 25% were educated below Standard V. 5% were graduates; the modal educational level being Standard VIII. These studies support present study and it concluded that maximum anganwadi workers were at least matriculate.

With regard to the work experience majority of the respondents 33.89 percent (61) had more than 15 years of experience. A similar study conducted by [Thakare et al 2011], shows that maximum number of workers (82.14%) had an experience of more than 10 years.

As per the findings of present study, anganwadi workers have high knowledge about breast feeding, complementary feeding and diarrhoea management where as for supplementary feeding and growth monitoring had middle level of knowledge. Overall anganwadi workers scored 70.13% in knowledge assessment. Similarly [Thakare et al 2011], investigate that anganwadi workers have best knowledge about the component of nutrition and health education (77.14%) while least about supplementary nutrition (29.46%).

Another study made in Purmandal block shows that in spite of the fact that most (92.5%) of the Anganwadi workers were trained, it was found that performance as well as awareness among Anganwadi workers regarding the importance of growth charts and growth monitoring was not satisfactory [Manhas,et al 2012].

A study was conduct by [Chattopadhyay, D 2009], Found that only 11.8% Anganwadi workers could define fever. More than 90% workers correctly knew about the stages related to vitamin A deficiency and dosage schedule for children;' 59% knew the total number of IFA (Iron, Folic Acid) tablets to be given to a pregnant mother.

Present study revealed that all beneficiaries (pregnant / lactating women and adolescence girl) have high level of knowledge for health, nutrition and hygiene. Overall beneficiaries scored 75.58% knowledge in knowledge assessment regarding health, nutrition and hygiene. It indicated that anganwadi workers were timely gave the health education and making aware to beneficiaries.

This was an important work of anganwadi workers to provide health and nutrition education to beneficiaries and anganwadi workers were doing well at their level. On the basis of result of present study it can be concluded that anganwadi workers were effectively counselled their beneficiaries of respective areas. Majority of them were aware, had knowledge about their health, hygiene and nutrition statue. Beneficiaries were accepting that AWWs timely updated their knowledge about various aspects, providing those facilities through anganwadi centres and thus help them to living in good state.

Similarly another study "Quick Review of Working of ICDS in Rajasthant" was conducted by [hauz khas, 2005] to assess the Awareness among beneficiaries' women. For this a questionnaire was developed. The questionnaire was actually a test of awareness of basic healthcare facts that a registered woman should learn at anganwadi centres. One of the main jobs of AWW is to disseminate essential healthcare and child care and nutrition related information, including home management of diseases. All women as were administered the test of awareness. For each correct answer one mark was given and the total score was compiled for each woman and AWW. The mean score for total sample of women (250 beneficiaries) comes to 46.67%.

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These score vary from district to district. Ajmer scored the highest score 50.96% and lowest score was achieved by women in Jaisalmer (43.82%).

In present investigation problems felt by AWWs were mainly inadequate honorarium (80%), work overload (70%), infrastructure (80%), and ration supply related (50%). Similar problems felt by AWWs in the study of [Thakare et al 2011]. In this study mainly problems were inadequate honorarium (75%) and excessive record maintenance. A study was conduct by [Jena P,2013], has similar result that 56.7% are complained of inadequate salary while only 16.7% complained of lack of logistic supply related problems. About half of the Anganwadi workers complained that they have Infrastructure related problem like inadequate space for displaying Non-Formal Preschool Education (NFPSE) 13 posters or other posters related to nutrition and health education, space is not available for conducting recreational activities like outdoor activities, irritation by animals entering into Anganwadi centres. Forty three percent of workers not happy because of overload of work. And 40% of the workers complained for excessive record maintenance as they have to assist for other health programmes apart from their Anganwadi related work like in pulse polio programme, vitamin A distribution programme conducted by Municipal Corporation.

#### Conclusion:-

- Most of the selected anganwadi workers were from age group 31-40 yrs., intermediate, trained, experienced, having knowledge of 70.13% in their daily functions at anganwadi centres.
- The quality of knowledge among anganwadi workers for their job profile was sufficient. Their knowledge regarding some components of childcare, maternal care and diarrhoea management was mostly adequate as they do what they have learnt and their knowledge was retained.
- Along with previous studies and on the basis of present finding it concluded that anganwadi workers had theoretical knowledge about concept of growth monitoring however in practical skill they were poor. This indicate that they might be facing a lot of problem in maintain growth charts. Anganwadi workers were not aware of the importance of growth chart instead they were maintaining the growth charts as per the requirement of their job profile only.
- Present study revealed that all beneficiaries (pregnant / lactating women and adolescence girl) have high level of knowledge score for health, nutrition and hygiene. Overall beneficiaries scored 75.58% of knowledge score in knowledge assessment. It indicated that anganwadi workers were timely gave the health education and making aware to beneficiaries. Majority of beneficiaries were aware, had knowledge about their health, hygiene and nutrition statue. Thus anganwadi workers help them to live in good state.
- Problems felt by them were mainly due to inadequate honorarium and excess work load
  and infrastructure. Therefore, timely increments in honorarium should be considered.
  Functioning of anganwadi centres were also depends on infrastructure of centres.
  Therefore a proper infrastructure for anganwadi centres should be ensued by government
  or by community.

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#### Referance:-

- 1. Davey T.; Datta A; the functioning of anganwadi centres in urban slums of delhi. Delhi: National Institute of Health and Family Welfare 2004.
- 2. Thakare MM, Kuril BM, Doibale MK, and Goel NK; knowledge of anganwadi workers and their problems in an urban ICDS block, Journal of Medical College Chandigarh, 2011; 1 (1); 15-19.
- 3. Jain j, Sexena R; dissertation pre service teacher education programme-a review study regarding the utility of microdessection study of trainee's aptitude, MJRP collage jaipur, 2011, 33.
- 4. Programme evaluation organization, planning commission, (PEO); study evaluation report on the integrated child development services project, govt. of India, 1982.12
- 5. Khan Z, Hasan J; a profile of anganwadi workers in Jawan, block of district aligarh, uttar pradesh; Indian Journal of Community Medicine, 1992; 58-62.
- 6. Seema TN; dissertations performance of anganwadi centers in keral; an evaluation to develop a model centre with community participation kerala research programmers on local level development studies, Tiruvananthapuram; 2001, 81-87621-30-3.
- 7. Three decades of ICDS an appraisal; report national institute of public cooperation and child development, 5, siri institutional area, hauz khas, new Delhi; 2008.
- 8. World food programme; report the food aid arm of the united nations; adolescent girls in tribal integrated child development services; a pilot project funded by USAIDI; india; 2011.
- 9. Manhas, Shashi, Annpurna Dogra and Seema; reflection of integrated child development services (ICDS) in implementation of services at bishnah and purmandal block, Jammu, Studies on Home and Community Science, (2012) 6(1): 27-32.
- 10. Chattopadhyay, D; knowledge and skills of anganwadi workers in hooghly district, west bengal, Indian Journal of Community Medicine; 2004-09.
- 11. Quick review of working of ICDS in rajasthant; report national institute of public cooperation and child development 5, siri institutional area, hauz khas, new delhi; 2005.
- 12. Jena P; dissertation knowledge of anganwadi worker about integrated child development services (ICDS) a study of urban blocks in sundargarh district of odisha; 2013.

