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RESEARCH ARTICLE

Impact Analysis of Capacity Building Activities Organized for Anganwadi Employees in Chomu Municipality of Jaipur District, Rajasthan

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Abstract

The anganwadi employees are the frontline workers of the ICDS scheme, they are also friends, philosopher and guide to adolescent girls in the area of reproductive health. Building capacity is the most important component in the ICDS Scheme, as the success of the programme goals depends upon the effectiveness of frontline workers in improved delivery of packages under ICDS. The importance of training and continuous capacity building of the ICDS functionaries in ICDS is well recognized as vital for success of the programme. Previous researches highlighted that training programs are conducted for the anganwadi employs but still there is a wide gap in fulfillment of objectives under the scheme launched by ICDS. Hence we took up the present study with an objective to evaluate their knowledge, attitude and practices regarding reproductive health and design an education intervention for building their capacities. The present research was administrated on 300 anganwadi employees working in Chomu pariyojna of rural Jaipur. Subjects of the study were divided in two group i.e. experimental and control. A predesigned self-administered questionnaire was used for data collection. The results of the study highlighted that among the 150 anganwadi workers in each group, most of the subjects in present research were either secondary or higher secondary passes ie. 130 (86.6%) in experimental and 128 (85.3%) in control group. In the pre intervention phase mean score knowledge of both the group was very low i.e. 9.2 in experimental and 8.9 in control group which showed significant improvement in experimental group after the intervention. Similarly attitude regarding various issues related to menstrual hygiene of anganwadi workers were evaluated using a questionnaire and again there was significant improvement in score. Capacity building significantly impacted on the subjects of experimental group although training sessions were organized regularly for anganwadi workers but the present research highlighted that there is need to reinforce trainings regular basis to update and enhance their knowledge and skills associated with different aspects of services provided in Anganwadi Centres.

Keywords: Anganwadi Workers, Attitude and Behaviour Modal, Capacity Building, IEC Approaches, Knowledge, Reproductive Health

Introduction

Capacity is defined as the ability of individuals and organizations to perform functions effectively, efficiently and sustainably. It is a testimony-driven process of developing the abilities of individuals, organizations, and systems to perform core functions continuously, and to continue to improve and develop over time (President's Emergency Plan for AIDS Relief, 2012). Capacity building helps in growing skills, knowledge and focuses on proving training to people and groups which can be distributed via organizations which further helps to create skills, awareness and trust. It also provides assistance, creates the possibility of practical help to allow the increment as well as improvement in existing knowledge levels. Thus training and capacity building are the most crucial elements in Integrated Child Development Services scheme too. ICDS provide a package of services like supplementary nutrition, non- formal education, Health check-ups, referrals etc in collaboration with different ministries. The ICDS team consists of Anganwadi workers (AWW), Anganwadi Helpers, Suervisors, Child development Program Officers (CDPOs) and District Programme Officers (DPOs). AWW is a frontline worker of Anganwadi centres (AWC) (Ayub *et al*., 2017). Nutrition and Reproductive Health Education sessions are organized at the Anganwadi centers for mothers, pregnant women and adolescent girls (Zaryab, 2015). Some studies have shown that the lacuna and inability to perform the tasks and lack knowledge about their duties and services in some parts of the ICDS blocks of India, whereas some studies have shown the dissatisfaction of beneficiaries for the services of AWWs

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(Bhasin *et al.,* 1995; Ray, 2005; Davey *et al.,* 2008; Nair *et al.,* 2009; Kulkarni and Durge, 2011). Proper and regular training have demonstrated the improvement of knowledge of AWWs about the key areas of services (Singh *et al.,* 1999; Davey *et al.,* 2008). Surveys have highlighted that anganwadi workers were familiar with the various services of ICDS but the importance of the programme was not clear to them. The quality of knowledge was one of the neglected features among Anganwadi workers who are the key person promoting the good practices of services related to ICDS to enhance the health status among adolescents (Jena, 2013).They also have a direct impact on the implementation of the programme and health of the people. Although on job training and refresher training under ICDS scheme to improve the knowledge of AWW is regular feature, still several researches have highlighted wide gap in achievement of program objectives implemented in field of health and nutrition. So capacity building is the most crucial element in the integrated child development services scheme, as the achievement of the program goals(Sharma and Jain, 2014). The present study aimed to build capacity of anganwadi employees through a tailor made reproductive health campaign keeping adolescent girls in mind.

Materials and Methods

The present study was done on the 300 anganwadi employees working with the Chomu rural pariyojna of Jaipur district. Under the ICDS scheme twenty pariyojana (15 rural and 5 urban) are ongoing in Jaipur district and under each pariyojna there are 150 anganwadi centers. It purposively selected Chomu pariyojna as the researcher was well acquainted with the study area. There were 150 anganwadi centres with two workers each (Anganwadi worker and Anganwadi helper) who formed the target group. In each centre there were 1 AWW & AWH hence the sample size in present research ranged up to 300. The enlisted AWW and AWHs were first 150 were randomly put under experimental category and 150 in control category.

The study objectives were explained to them and every subject was personally interviewed using a pretested interview schedule which consisted of questions related to reproductive health of adolescent girls like onset of puberty, family planning etc. The questionnaire was prepared considering the Knowledge-Attitude-Behavioral Model (KABM). It stresses that a gain in new knowledge leads to changes in attitude which in turn results in improved behavior or practices. Knowledge provided must be motivational to bring change in attitude and behaviour. Pilot study was conducted on 10% of total subjects before undertaking the major study to test the interview schedule and to assess any constraints that could arise and would need to be addressed during this study. Also, the approximate time taken for completing the self administered questionnaire was identified during the pilot study. Following the pilot study, the questionnaire was finalized and made ready for use. The information was obtained by following procedures:

a) **Initial assessment stage**: Knowledge and Attitude of the anganwadi employee about the reproductive health of adolescent girls was assessed using pretested questionnaire followed by personal interview of the study subjects. Questionnaires were translated to local language from english during the data collection or interviewing of the subjects. Thereafter Capacity Building sessions were kept for experimental category.

b) **Capacity building:** It emphasized on improving existing knowledge and attitude about reproductive health in experimental group. Capacity building sessions were organised by lecture, group discussion and IEC material like charts, posters, booklet, pamphlet, power point presentations etc. Simultaneously the education material was distributed in the control group so they can read those daily while educational sessions were not given to them. The duration of educational intervention was of 2 months. Health Education practice covered the following topics namely, Information about Puberty, Reproductive system, Family planning, Sexually transmitted disease, Menstrual hygiene etc.

c) **Evaluation stage**: A post-test was done after two months using the same tool initially used for pre-testing. The pre and post test scores were calculated and statistically compared. The questions covered aspects of services provided by AWWs. The knowledge assessment score was calculated based on the responses to a questionnaire containing 37 multiple choice questions in which only one option was correct. Each question carried one mark with no negative markings. So the individual knowledge score varied from 0 to 37. The categorization was done accordingly <10 poor, 10-19 average, 20-29 good and > 30 excellent. Attitude questionnaires had ten question and every question had five options like strongly agree 5 marks, agree 4 marks, neither agree nor disagree 3 marks and negative attitude such as strongly disagree and disagree were given "1" and "2" marks respectively. Category of anganwadi workers was done accordingly 1-20 poor , 21-40 good , score between >40 excellent.

All the codes corresponding to the responses were entered in Statistical Package for Social Sciences version 20 (SPSS-20). The analysis was done and displayed as Mean, SD, Frequency For the test of significance, paired t-test was used (P<0.05).

Results and Discussion

Table 1. Demographic profile of anganwadi workers

Age	Experimental	Control
	N(%)	N(%)
25-35	95 (63.3%)	85(56.6%)
35-45	43 (28.6%)	39 (26%)
45-60	18 (12%)	20 (13.3%)
Education level		
8-10th std	5(3.3%)	3(2%)
10-12th std	130(86.6%)	128 (85.3%)
Graduate	15 (10%)	19 (12.6%)
Monthly family income		
10,000-14,999	12 (8%)	13 (8.6)
15,000-19,999	98 (65.3%)	87 (58%)
20,000-25,000	52 (34.6%)	38 (25.3%)
Work experience		
Up to 5	17 (11.3%)	23 (15.3%)
5-10	76 (50.6%)	81 (54%)
10-15	41(27.3%)	35 (23.3%)
Above 15	16 (10.6%)	11 (7.3%)

Table 1 illustrated the demographic profile of the anganwadi employees that majority of the subjects were in the age group of 25-35 years, 63.3% subjects in experimental group and 56.6% in control group. Information on family profile highlighted that majority of the subjects ie 137(91.3%) in experimental and 132(88%) in the control group were living in a joint family. Most of the subjects in present research were either secondary or higher secondary passes ie. 130(86.6%) in experimental and 128 (85.3%) in control group. Around 65% in experiment and 58% in control group replied that their family income ranged between 15,000 to 19,000. In majority of family set up it was noticed that there were two earning members i.e. Anganwadi worker herself and her husband (87.3% in experiment and 84.6% in control group). It was also noted that majority of the subjects i.e. 76(50.6%) in experimental and 81(54%) in control had an experience of 5-10 years. Similar results are exposed in a research involving 110 AWWs from Srinagar district, 77% had experience in the range of 5-20 years with 29.1% had done graduation and post graduation (Ayub *et al.*, 2017). While in the another study which was carried out at three urban health centres (Ramnagar, Ashoknagar, Rukmininagar) indicated that Out of 76 anganawadi workers, 33 (43.4%) were in the age group of 31-40 years, 37 (48.7%) anganawadi workers had studied up to secondary school and 34 (44.7%) had experience less than 5 years (Baliga *et al.,* 2017) In the present study all the anganwadi workers in both the group reported that they had lack of facilities like adequate space, proper lighting , ventilation in the room at their anganwadi centre. Fifty four percent subjects in the experimental group said that anganwadi building was made up of brick wall and cement/tin roof. A similar study was done in Mandi, Himachal by Thakur *et al.*, 2015 which reported that 75% workers complained of inadequate honorarium. While only 14.28% complained of lack of help from community. Other problems complained by 32.14% workers were infrastructure related due to inadequate space for displaying NFPSE (Non Formal Pre School Education) posters or other posters related to nutrition and health education, space was not available for conducting recreational activities like outdoor activities, nuisance by animals entering into AWC. The same results reported by Patil and Doibale, 2013 in their study that the majority of the subjects also had a big problem of inadequate honorarium and Work overload complained by 30(61.2%) as their work involves daily home visits, a lot of record maintenance.

Table 2 showed the comparison between pre and post intervention phase about the knowledge level related to reproductive health. During the pre intervention phase it was reported that among 150 subjects in each group, 52(34.7%) in experimental and 49(32.7%) in the control group thought that the initiation of menstruation is called menarche however all the subjects of experimental group correctly answered after the intervention. None of the subjects in both the group had information that pituitary gland is the master gland of the body although 94% subjects of experimental group were able to answer correctly in the post intervention phase with no change in the control group.

Majority of the subjects in both the group had the poor knowledge about the site of fertilization in the human body as only 2(1.3%) subjects abruptly answered the correct option was fallopian tube. However in the post intervention phase 92% subjects were able to answer correctly and no improvement was observed in control group. Around 86% subjects had incorrect information that the implantation of fertilized ovum occurs in ovary whereas 13.3% subjects in experimental and 12.7% in control group knew the correct answer was uterus however after the education sessions knowledge level was significantly improved in the all the subjects of experimental group. Forty six percent subjects in experimental and 39.3% in the control group had right information that umbilical cord connects the embryo to the mother. In the post intervention everybody answered correctly while there was no change in the control group.

Table 2. Comparison between pre and post knowledge about reproductive health of adolescents among anganwadi workers

S.no	Questions		Experimental N(%)		P value	Control N(%)		P value
			Pre	Post		Pre	Post	
1	Attainment of first menstruation	Maturity	13(8.7)	-	.000	20(13.3)	20(13.3)	-
		Menarche	52(34.7)	150(100)		49 (32.7)	49 (32.7)	
		Puberty	85(56.7)	-		81(54)	81(54)	
2	Menstruation involves shedding of inner lining of which organ	Ovary	52(34.7)	-	.000	49(32.7)	49(32.7)	-
		Utrerus	98(65.3)	150(100)		101(67.3)	101(67.3)	
3	The site of fertilization in human	Ovary	78(52)	-	.000	85(56.7)	85(56.7)	-
		Uterus	70(46.7)	12(8)		65(43.3)	65(43.3)	
		Fallopian tube	2(1.3)	138(92)		-		
4	Implantation of fertilized ovum	Ovary	130(86.7)	-	.000	131(87.3)	131(87.3)	-
		Uterus	20(13.3)	150(100)		19(12.7)	19(12.7)	
5	Umbilical cord connects the embryo to the	Amniotic sac (amnion)	80(53.3)	-	.000	91(60.7)	91(60.7)	-
		Mother	70(46.7)	150(100)		59(39.3)	59(39.3)	
6	Birth spacing should be of years	2-3 years	138(92)	-	.000	142(94.7)	146(97.3)	.045
		1 year	12(8)	150(100)		8(5.3)	4(2.7)	
7	Mechanism of controlling birth using oral contraceptive involves	Killing sperms	135(90)	-	.000	131(87.3)	131(87.3)	
		Preventing ovulation	15(10)	150(100)		19(12.7)	19(12.7)	
8	Age group which has the highest incidence of STD infection	25-35 years	67(44.7)	-	.000	73(48.6)	65(43.3)	
		35-50 years	44(29.3)	-		51(34)	59(39.3)	
		All age group	39(29)	150(100)		26(17.3)	26(17.3)	
9	AIDS affects	Brain	81(54)	-	.000	65(43.3)	65(43.3)	-
		Digestive system	17(11.3)	-		21(14)	21(14)	
		None	52(34.7)	-		64(42.7)	64(42.7)	
		Immunity	-	150(100)		-	-	
10	Mode of transmission of HIV virus is	Saliva	93(62)	150(100)	.000	90 (60)	99 (66)	.002
		Human bite	41(27.3)	-		35(23.3)	21(14)	
		Urine	16(10.6)	-		25(16.7)	30(20)	
11	Result of flushing sanitary napkin	Prevent bacteria growth	25(16.7)	-	.000	32(21.3)	32(21.3)	-
		Clog sewage line	17(11.3)	-		12(8)	12(8)	
		All of these	108(72)	150(100)		106(70.7)	106(70.7)	
12	Prolonged use of sanitary napkins (>5 hrs) can lead to development of?	Bacteria growth	92(61.3)	150(100)	.000	89(59.3)	89(59.3)	-
		Germs	32(21.3)	-		26(17.3)	26(17.3)	
		Smell	26(17.3)	-		35(23.3)	35(23.3)	

Table 3. Categorical division of anganwadi workers on the basis of knowledge scores

Category	Experimental N(%)		Control N(%)	
	Pre	Post	Pre	Post
Excellent (>30)	-	34.09 ± 1.44	-	-
Good (20-29)	-	29.19 ±.65	-	-
Average (10-19)	10.76± .85	-	11.02 ±76	11.06 ±.74
Poor (<10)	7.03± 1.08	-	7.01 ± 1.23	7.07 ±1.21

Table 4. Comparison of Pre and post knowledge scores on the basis of aspects of Reproductive health

Aspects of Reproductive health	Experimental N(%)			Control N(%)		
	Pre score (Mean±SD)	Post score (Mean±SD)	P value	Pre score (Mean±SD)	Post score (Mean±SD)	P value
Information about Puberty (n=8)	3.08± .61	6.27 ±1.31	.000	3.00± .66	3.02 ±.64	.158
Reproductive system (n=10)	3.56 ±.59	7.43 ±1.23	.000	3.34 ± .45	3.33±.45	.112
Family planning (n=8)	2.78± .49	6.87± .89	.000	2.86 ±.42	2.88 ±.42	.122
Sexually transmitted disease (n=7)	3.76± .54	5.98± .56	.000	3.54± .42	3.67 ±.38	.134
Menstrual hygiene (n=4)	2.03 ±.42	3.09± .60	.000	2.18 ±.36	2.21±.33	.127

Majority of the subjects i.e. 92% in experimental and 94.7% in the control group had better knowledge that birth spacing between two children should be 2-3 years however 8% subjects in experimental and 5.3% in the control group mentioned 1 year. Before the intervention only 10% in experimental and 12.7% in the control group knew that mechanism of controlling birth using oral contraceptive involves in preventing ovulation while after the intervention all the subjects of experimental group correctly responded but there was no change in the control group.

Approximately 67(44.7%) subjects in experimental and 73(48.7%) in the control group thought that 25-35 years of the people are on highest risk of STDs. Only 29% subjects knew that STDs can occur in any age group. The anganwadi workers had no idea that AIDS affects immunity of the individual however the knowledge level were significantly improved in all the subjects of experimental group in the post intervention phase as reflected by their scores. The above findings are in collaboration with the earlier study done on 200 Anganwadi workers in Rajasthan, study findings depicted that AWW scored 90.5, 86.7, and 86.62 percent in general reproductive awareness, maternal health care and child health care respectively. However, their knowledge score in family planning and HIV/AIDS were lower (64.16%) in comparison to maternal and child health care (Karol and Pattaniak, 2014). In the present study during the pre intervention phase majority of the subjects i.e. 72% in experimental and 70.7% in the control group thought that flushing used napkins prevents bacterial infection, smell and clog sewage line. Only 11.3% subjects in experimental and 12% in the control group knew that flushing sanitary napkin clogs sewage line which can cause other health related problem and approximately 61.3% subjects in experimental and 59.3% in control category correctly responded that prolong use of sanitary napkin (>5hours) can lead to bacterial growth. However the education intervention was highly significant in all the subjects of experimental group as their knowledge score showed improvement while the control group was still the same. A similar research of Kashmir done by Manzoor and Khurshid in 2014, reported that anganwadi workers had the best knowledge about the supplementary nutrition i.e. 70%, while 30% knew how to implement nutrition and health education campaigns. It has been found during the study that AWW's have less awareness about new health trends and issues that they were supposed to provide to beneficiaries. Another study conducted on 30 anganwadi workers in Barnala district reported that majority of the subjects have inadequate knowledge about nutrition and health education components (Kulkar, 2014). Dixit *et al.,* 2010 reported in their study that it is essential to optimize involvement of AWWs in the scheme, by formation of social networking groups and providing a comprehensive package of health services to the women and adolescent girls.

Table 5. Comparison between pre and post attitude about reproductive health of adolescents among anganwadi workers

S. no	Statements		Experimental N(%)		P value	Control N(%)		P value
			Pre	Post		Pre	Post	
1	Age of menarche should be recorded.	SA	51(34)	86(57.3)	.000	43(28.7)	39(26)	0.45
		A	66(44)	64(42.7)		78(52)	82(54.6)	
		NA/ND	33(22)			29(19.3)	29(19.3)	
2	Blood loss during menstruation should be asked.	SA	5(3.3)	44(29.3)	.000	9(6)	11(7.3)	.011
		A	80(53.3)	106(70.7)		78(52)	75(50)	
		NA/ND	39(26)			44(29.3)	52(34.7)	
		D	26(17.3)			19(12.7)	12(8)	
3	Birth spacing knowledge is really important for adolescent girls.	SA	39(26)	134(89.3)	.000	22(14.7)	31(20.6)	.002
		A	111(74)	16(10.7)		128(85.3)	119(79.3)	
4	Experts should check their menstrual health.	SA	12(8)	15(10)	.000	21(14)	27(18)	0.16
		A	86(57.3)	135(90)		115(76.7)	113(75.3)	
		NA/ND	52(34.7)			14(9.3)	10(6.7)	
5	Girls can do household activities during menstruation.	SA	15(10)	44(29.3)	.000	21(14)	10(6.7)	.042
		A	70(46.7)	106(70.7)		78(52)	78(52)	
		NA/ND	39(26)			44(29.3)	41(27.3)	
		D	26(17.3)			19(12.7)	21(14)	
6	Monthly assessment of hemoglobin is important.	SA	9(6)	55(36.7)	.000	11(7.3)	18(12)	.021
		A	65(43.3)	95(63.3)		76(50.6)	71(47.3)	
		NA/ND	20(13.3)			44(29.3)	49(32.7)	
		D	56(37.3)			19(12.7)	12(8)	
7	Monitoring of personal hygiene in adolescent is important.	SA	21(14)	115(76.7)	.000	26(17.3)	32(21.3)	.012
		A	129(86)	35(23.3)		124(82.6)	118(78.7)	
8	Awareness related to regular cleaning /washing of vaginal area to prevent infection is vital.	SA	52(34.7)	114(76)	.000	45(30)	42(28)	.016
		A	98(65.3)	36(24)		105(70)	108(72)	
9	Menstrual pattern (regular/irregular) should be recorded.	SA	12(8)	98(65.3)	.000	9(6)	13(8.7)	.12
		A	91(60.7)	52(33.7)		101(67.3)	110(73.3)	
		NA/ND	47(33.3)			40 (26.7)	27(18)	
10	Adolescent girls should change sanitary napkins at regular intervals.	SA	34(22.7)	107(71.3)	.000	28(18.7)	31(20.7)	.015
		A	116(77.3)	43(28.7)		122(81.3)	119(79.3)	

Table 6. Categorical division of anganwadi workers on the basis of attitude scores

Category	Experimental N(%)		Control N(%)	
	Pre	Post	Pre	Post
Excellent (>40)	41.31± 1.34	46.32 ±1.82	42.65± 1.32	42.54± 1.26
Good (21-40)	37.22 ±1.07	-	37.89± .88	37.85 ±.87
Poor (1-20)	-	-	-	-

All knowledge question related to reproductive health were assigned score of "1" for right answer and "0" for wrong answer. The knowledge score of anganwadi workers was categorized as poor (<10), average (10-19), good (20-29) and excellent (>30). It was obsereved (Table 3) that during pre intervention phase almost all anganwadi were having either average and poor knowledge however post intervention they falled in either excellent or good category as per knowledge scores however no improvement was observed in control group.

Table no 4 described the comparison between pre and post knowledge scores on the basis of the aspects of

reproductive health. In the pre intervention phase subjects were having mean score 3.08 in experimental group and 3.00 in the control group out of 8 marks about the information of puberty. Regarding the knowledge of reproductive system mean score in the experimental group and control group was 3.56 and 3.34 respectively out of 10 marks. Pre mean scores regarding the information about family planning and sexually transmitted diseases were also poor in experimental (2.78 out of 8 and 3.76 out of 7) and control group (2.86 out of 8 and 3.54 out of 7). Before the intervention knowledge about menstrual hygiene was not adequate as the mean score was 2.03 in experimental and 2.18 in the control group out of 4). However after the education intervention knowledge mean scores in experimental group were significantly improved ($p<0.05$) in each aspects of reductive health information: information of puberty (6.27), information of puberty (7.43), family planning(6.87) , sexually transmitted diseases (5.98) and menstrual hygiene (3.09). On the other hand control group was still the same.

Several researches have reported that only 7.1% AWWs in urban areas received induction training before joining their jobs formally. It has been documented that proper training improves AWWs performances and inadequate training of AWWs may be the reason for poor performance AWCs (Haldar *et al.,* 2001; Datta *et al.,* 2010)

Table 5 indicated the perception towards reproductive health in pre and post intervention phase. Pre intervention data revealed that 51(34%) subjects in experimental and 43(28.7%) in the control group strongly agreed that age should be recorded when girls attained menarche. According to previous researches it was reported that there is an increased incidence of non-communicable diseases such as hypertension, diabetes mellitus, coronary heart disease and breast cancer among the women due to earlier age of menarche (Brinton *et al.,* 1988; key *et al.,* 2001; Remsberg *et al.,* 2005; Lakshman *et al.,* 2009; Feng *et al.,* 2008). More than half of the subjects in both the group stated that blood loss during menstruation should also be asked to assess their health status. In post intervention approximately 70.7% agreed on the same point and in control group there was no change. Approximately 57.3% subjects in experimental and 76.7% control group stated that girl's menstrual health should be regularly checked by experts. However in the post intervention phase it was observed that educational intervention improved their perception to 90% in the experimental group with no significant improvement in the control group. Before the intervention 46% in experimental and 52% in the control group agreed that girls can do household activities during menstruation while after the intervention the number of subjects raised to 70.7% in the experimental category while there was no change in the control group. In pre intervention phase 86% subjects in experimental and 82.6% in the control group agreed that monitoring of personal hygiene in adolescent is important. Around 34% subjects in experimental group and 30% subjects in the control group strongly agreed that awareness related to regular cleaning /washing of vaginal area to prevent infection. However in the post intervention phase it was increased to 76% in the experimental but no change was observed in the control group. Approximately 33.3% subjects in experimental and 26.7% in the control group were not sure that menstrual pattern of the girls should be recorded while only 8% subjects in experimental group strongly agreed with it which was increased to 65.3% after the intervention. This pre intervention data indicated that over all perception towards reproductive health was good but there was still need of improvement and in post intervention phase statistically significant improvement was observed their scores. The similar study done by Reddy *et al.,* 2016 in Bhubaneshwar city , it showed that out of a150 subjects, 27 (20.8%) of the individuals said that adolescent girls need to be monitored regarding the personal hygiene and health issues. Another study done by Kulkar, 2014 in Punjab, also proved that among 30 subjects a high majority (66%) of the AWWs were not sure about referral services.

The attitude score of anganwadi workers was categorized as poor(1-20), good(21-40) and excellent (>40). It was observed (Table 6) that during pre intervention phase, anganwadi workers having either excellent or good score however post intervention all anganwadi workers were in excellent category.

Conclusion

The results of present study highlighted that reinforcement of training sessions and organizing workshops for health workers in order to update their knowledge and help in effectively achieving the objective of the integrated child development services scheme is an essential to ensure success of integrated child development services scheme. Although job and refresher trainings are provided to all the anganwadi workers under ICDS but the same was not being reflected in the knowledge and attitude scores obtained by Anganwadi workers in the present study. Thus, it is recommended that the knowledge and efficiency of anganwadi workers regarding reproductive health should be enhanced through frequent trainings and organizing workshops. Evaluation of trainings and workshops is equally important as then we come to know the impact of entire campaign and it also provides direction for future planning.

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