Effectiveness of Information Booklet on Knowledge of ASHAs regarding Antenatal Care in selected CHC of Kandhamal district ,Odisha.

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Abstract:

Background: Maternal health is a key barometer of functional health system. Maternal health must be addressed as a part of continuum of care that connects essential maternal, newborn and child health services. Globally 293,000 women died in 2013 as a result of pregnancy related conditions. Odisha is one of the poorest states in India having MMR 277 per 100,000 live births which is much higher than the national average & significantly contributing high MMR of the country. Compared to northern (253) &Central division(276), Southern division (311) having higher Maternal Mortality Ratio. Jagatsinghpur has reported the maximum Full ANC coverage of 36.0% while Jajpur the minimum 5.4%. Whereas Kandhamal in Odisha have reported only 25%. In Kandhamal 34.4% pregnant women who received at least three or more antenatal check up & 68.2% had taken at least one T.T injection & only 25.5% had institutional delivery.

Materials and Methods: A pre experimental approach one group pre test post test research design was undertaken among ASHAs of CHC, Raikia ,district Kandhamal, Odisha with the objectives, to assess the effectiveness of information booklet regarding Antenatal Care among ASHAs were selected by using simple random sampling technique. Data were collected by using structured questionnaire. The conceptual framework adopted for the study was based on the general system theory of Ladwig Von Bertanlffy (1968). The reliability was tested by using split half method. (r=0.80) The collected data were analyzed by using descriptive and inferential statistics.

Results: Findings revealed that highest percentage ((36.6%) of ASHAs were belonged to the age group of 26 to 30 years &above years, (53.3%) of ASHAs had secondary level education, 40% of ASHAs had experience of 3-6 years and majority (41.6%) of the ASHAs had under gone training once. The overall mean knowledge score in pre-test was (14.69 \pm 2.05) which is 45.90% whereas in post-test it was (27.97 \pm 1.85) which is 87.40% revealing good knowledge and effectiveness was 41.5% Area wise assessment of knowledge shows during post- test the highest mean percentage score was 90.21% of the maximum score was obtained by the ASHAsfor the area on Antenatal visit, where as lowest mean score was (74.33%) of total score was obtained for the area "Minor ailments during pregnancy" and effectiveness was from 32.67% to 41.66%.

Conclusion: Prior to administration of information booklet the ASHAs had average knowledge(45.90%) on Antenatal Care, whereas after conduction of structured teaching programme (87.40%) the ASHAs had very good knowledge and the difference in mean percentage was 41.5% and it shows the effectiveness of structured teaching programme.

Key Word: Antenatal care, ASHAs, Knowledge, Information booklet.

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I. Introduction

Pregnancy is special events in women 's life .This can be a time of great hope & joyful anticipation .It can also be a time of fear , suffering & even death . It may be natural but that does not mean it is problem free. Women rely on the health service for care and information during this crucial time . Maternal mortality in resource-poor nations has been attributed to the "3 delays": delay in deciding to seek care, delay in reaching care in time, and delay in receiving adequate treatment .. The primary aim of antenatal care is to achieve at the end of pregnancy a healthy mother and a healthy baby. Ideally this care should begin soon after conception and continue throughout preg. Late registration for antenatal care has been recognized as a features of many maternal deaths. Although the current rate of ANC uptake is encouraging, detailed information about the actual quality and effectiveness of ANC in practice is scanty . Women are more likely to give birth with a skilled personnel if they have had at least one antenatal visit .

ASHA is a novel concept to melt the ice in the culture of silence among the various cluster community groups .These village level community health workers would act as a 'bridge' or an interface between the rural people and health service outlets .ASHA is selected through a selection process to fill the gap in the health care delivery system. Her main role is to facilitate pregnant women to avail services of maternal care and arrange referral transport. .

II. Material And Methods

This pre experimental study was carried out on ASHAs CHC of Raikia , Kandhamal district , Odisha. A total of 60ASHAs were used in this study.

Study Design: Pre experimental approach with one group pre-test post-test design **Study Location**: ASHAs working under CHC of Raikia, Kandhamal district, Odisha. **Study Duration**: 15 days.

Sample size: 60 ASHAs were selected by using simple random sampling technique.

Inclusion criteria: The ASHAs who are

- Willing to participate during the data collection.
- Able to read and write Odia.

Variables: In the present study, the independent variable was the "Structured teaching programme" and the dependent variable was knowledge of ASHAs.

Setting of the study: The study was conducted at CHC, Raikia block of Kandhamal district. **Population:** In the present study, the populations are all the ASHAs of CHC, Raikia block of Kandhamal district.

Sample: In the present study, simple random sampling technique was used to select the ASHAs of Raikia block of Kandhamal district.

Sample Size: In the present study, the sample size was 60 ASHAs of Raikia block of Kandhamal district.

Sampling technique: Simple random sampling technique was used for the present study.

Description of tool: The tool is being divided in two sections.

Section A: Demographic characteristics of ASHAs consists of four items which includes age, educational status, years of experience ,undergone any special training on ANC.

Section B: A structured questionnaire schedule was prepared consisting of 32 Items on knowledge of ASHAs on ANC. The scoring system for items was one score for correct answer and zero score for wrong answer. The level of knowledge was categorized based on the percentage of score obtained.

Table -1: Scoring process

Level of knowledge	Actual score	Percentage(%)
Poor	1-8	<25
Average	9 -16	28-50
Good	17 -24	53-75
Very good	25-32	Above 75

Validation of the content was done by experts and found the adequacy and relevancy of content. There was 95% agreement of the contents. The Tool after validation is subjected to test for its reliability. The prepared tool was administered to ten ASHAs of other than the sample area and split half method was used to find out the reliability of tool it was found as r = 0.80 The tool was found reliable.

Initially the information booklet was made in English and translated to Odia by experts. The final draft of Information booklet and Structured questionnaire was prepared after incorporating expert suggestions and the testing the validity and reliability of the tools.

A pilot study was carried out at CHC, Bhatakumurada, Ganjam . An administrative approval was obtained from the concern authority to conduct the study.

The investigator found that the language of the tool was simple and practicable and the average time taken to complete the questionnaire was 40 minutes.

Procedure methodology

Prior to data collection written permission was obtained from M.O,I/C,C.H.C. Raikia , Kandhamal. Self-introduction was given and the purpose of the study was explained to the sample.

After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the ASHAs randomly.. The questionnaire included socio-demographic characteristics such as Age, Educational Qualification ,Years of Experience , Has under gone any special training on antenatal care. The questionnaire on

Knowledge of ASHAs on Antenatal care was meaning & aims of antenatal care

,Components of antenatal care ,Antenatal visit,Administration of drugs ,Antenatal counseling on various aspects ,Family welfare programmes related to maternal benefits ,Minor ailments in pregnancy & their prevention.

Data analysis plan

The collected data were organized, tabulated analyzed by using descriptive statistics such as mean, median, SD and inferential statistics include paired 't' test ,chi square test.

A pre-test was conducted to assess the existing knowledge of ASHAs on ANC (Antenatal care) by using the structured questionnaire before administration of information booklet. On the same day information booklet was given them and also informed about the post-test.

Evaluation was done by conducting a post-test after seven days of administration of information booklet by using the same structured questionnaire schedule which was used for the pre-test.

Statistical analysis

Data was analyzed using SPSS version 20 (SPSS Inc., Chicago, IL). Student's t-test was used to ascertain the significance of differences between mean values of two variables and confirmed by parametric test. In addition, paired t-test was used to determine the difference between baseline data. Chi-square tests were performed to test for differences in proportions of categorical variables between two or more groups. The level P < 0.05 was considered as the cut off value or significance.

II. Result

Statistical analysis presents the analysis and interpretation of data gathered from the sample of Sixty ASHAs of Raikia block of district Kandhamal. The present study was designed to assess the effectiveness of Information booklet on knowledge of ASHAs regarding ANC. The data was collected utilizing structured questionnaire schedule. Analysis and interpretation was done as per the objectives of the study.

SECTION-I

Description of demographic characteristics of ASHAs.

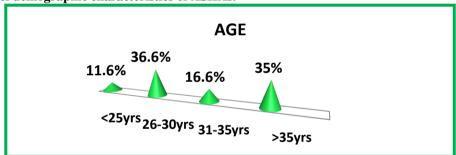


Figure-1: Bar Diagram Showing Percentage Wise Distribution of ASHAs According To Their Age.

Percentage wise distribution of ASHAs according to their age group depicts that, the highest percentage (36.6%) of ASHAs were in the age group of 26to 30yrs where as the other ASHAs were in the age group of >35yrs (23.07%), 31 to 35 yrs (16.6%) & <25yrs (11.6%). It reveals that, highest percentages of them were in the age group of 26 to 30.

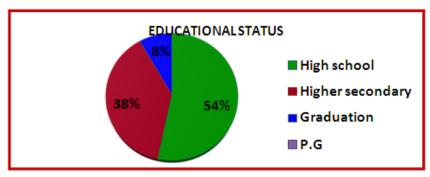


Figure-2: Pie Diagram Showing Percentage Wise Distribution of ASHAs according ToTheir educational status

Percentage wise distribution of ASHAs according to their educational qualification reveals that, highest percentage i.e.53.3% of ASHAs had secondary level education, 38.3% ASHAs had higher secondary education. 8.3% ASHAs had completed graduation .None of them having post graduation level qualification. It reveals that, majority of them were from secondary level education.

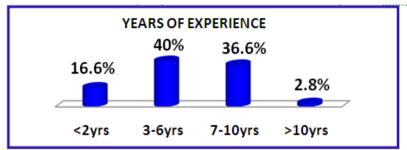


Figure-3: Bar diagram showing Percentage wise distribution of ASHAs according to their Years of Experience

Percentage wise distribution of ASHAs according to their years of experience shows that, 40% of ASHAs had experience of three to six years, 36.6% had seven to ten years of experience and 16.6% had less than two years of experiences only 6.6% had more than ten years of experiences. It reveals that, majority of them had experience of more than three to six years.

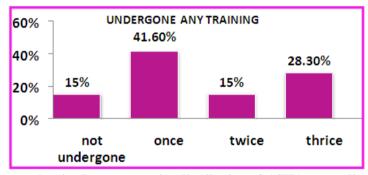


Figure-4: Bar diagram showing Percentage wise distribution of ASHAs according to their training if undergone.

Percentage wise distribution of ASHAs according to their training on ANC. The highest percentage i.e.41.6% of ASHAs had undergone once, 28.3% ASHAs had undergone once. 15% of ASHAs had undergone twice where as the same percentage of ASHAs had not taken any training on ANC.

SECTION-II

Knowledge of ASHAs regarding ANC before administration of Information booklet.

Table-2

Area wise analysis of mean, SD, Mean percentage of Pre-test knowledge score of ASHAs on ANC

		Pre-test			
Sl. No	Area of knowledge	Max. Score	Mean	Standard Deviation	Mean Percentage
1	Concept	3	1.55	0.81	50.00
2	Antenatal visit	23	11.03	1.98	47.95
3	Family welfare service related to maternalhealth	3	0.86	0.59	28.66
4	Minor ailments during pregnancy	3	1.25	0.87	41.66
	Over all total	32	14.69	4.25	45.90

Area wise analysis of mean, SD and mean percentage of pre test KS of ASHAs regarding ANC shows that, during pre test the highest mean score 1.55 ± 0.81 and 11.03 ± 1.98 which were 50% and 47.95% of the maximum scores were obtained for the area of Concept & Antenatal visit. It was also observed that, the overall mean score was (14.69) which was 45.90% of the maximum score reveals that, the ASHAs under this study had average knowledge regarding ANC (**Table -2**)

SECTION-III

Assessment of the effectiveness of Information booklet on Knowledge of ASHAs regarding ANC after administration of Information booklet.

Area wise comparison of mean, SD, Mean percentage of pre-test and post-test knowledge score of ASHAs on Antenatal Care .

Table-3
Area wise Comparison of Pre and Post-test knowledge score of ASHAs

Know	Knowledge score									
		Pre-test				Post-test				
Sl.No Area of knov	Area of knowledge	Max. score	Mean	Stand ard devia tion	Mean perce ntage	Mean	Stand ard devia tion	Mean perce ntage	renceIn mean %	
1	Concept	3	1.55	0.81	50	2.61	0.52	87	37	
2	Antenatal visit	23	11.03	1.98	47.95	20.75	1.68	90.21	42.26	
	Family welfare services related to maternal health	3	0.86	0.59	28.66	2.38	0.61	79.33	50.67	
	Minor ailments during pregnancy	3	1.25	0.87	41.66	2.23	0.72	74.33	32.67	
	Over all total	32	14.69	2.05	45.90	27.97	1.85	87.40	41.5	

Area wise comparison of mean, SD, Mean percentage of pre-test and post-test knowledge score shows that, during post-test the highest mean score was 20.75 ± 1.68 which was 90.21% of the maximum score was obtained for the area of Antenatal visit which was also highest during pre-test (47.95%). Whereas the lowest mean score was 2.23 ± 0.72 which was 74.33% which was (41.66%) during pre-test. However the mean score of Family welfare services related to maternal health was 2.38 ± 0.61 which was 79.33% which was lowest (28.66%) during pre-test.

During post test in areas like "Concept", "Antenatal visit" have more or less similar mean scores were 2.61 ,20.75 which were 87 % and 90.21% of the maximum scores and having very good knowledge.

Further over pre test mean score was 14.69 ± 2.05 which is 45.90 % of maximum score and average knowledge whereas it was 27.97 ± 1.85 during post-test showing a difference of 41.5% of effectiveness and having a very good knowledge. It was also observed that, difference between the pre and post-test area wise mean score values vary from 19.14 % to 34.2%. Hence, it can be interpreted that, information booklet was effective both area wise and overall (**Table. 3**).

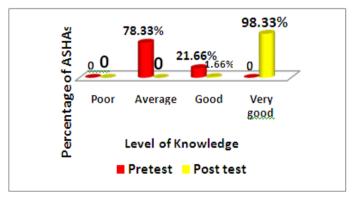


Figure-5: Bar diagram showing the comparison between pre and post knowledgescore of ASHAs

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 (78.33%) of ASHAs had average Knowledge regarding ANC and a very least number one (21.66%) had good knowledge regarding it. Whereas during post test highest percentage (98.33%) of them having a very good knowledge. Similarly, 1.66% of ASHAs having good knowledge during post test . Hence it can be interpreted that, the STP was effective in improving knowledge of ASHAs regarding ANC.

SECTION-IV

Assessment of effectiveness of Information booklet with demographic variable of ASHAs. Comparison of pretest and post test KS of ASHAs with their demographic variables.

Table 4:
Comparison of mean, SD and mean percentage of pre test and post test KS of the ASHAs according to their age.

					9			
Age in	No. of	f Pre test	Pre test				Differenceinmean	
years	ASHAs	Mean	SD	Mean %	Mean	SD	Mean %	 %
<25	7	13.42	2.43	41.8	28	1.52	87.5	45.7
26-30	22	14.59	1.94	45.3	27.59	2.30	85.9	40.6
						1.66		
31-35	10	15.4	1.26	48.1	27.9		87.1	39
>35	21	14.90	2.25	46.5	28.42	1.50	88.7	42.2
OverallTotal	60	14.7	2.05	45.9	27.97	1.85	87.40	41.5

Comparison of mean, SD and mean percentage of pre and post test KS of the ASHAs regarding ANC according to their age shows that during post test the highest mean score (28.42 ± 1.50) which is 88.7% of the total score was obtained by the ASHAs in the age group of >35 years. The lowest mean score (27.59 ± 2.30) which is 85.9% of total score was obtained for 26 - 30 years age group which was (45.3%) during pre test. However difference in mean percentage varies from 34.06% to 45.7%. It seems that the information booklet was effective for all age groups (**Table:4**).

Table 5 : Comparison of mean, SD and mean percentage of pre test and post test KS of the ASHAs according to their educational status.

		CI.	icii cuu	cutional	status.			
Educationalstatus	No. of	Pre test			Post test		Differenceinmean	
	ASHAs	Mean	SD Mean %		Mean	Mean SD		%
10th	32	14.37	1.72	44.6	27.5	1.72	85.9	41.3
Higher secondary	23	14.78	1.80	45.9	28.69	1.89	89.3	43.4
Graduation P.G	5	15.8	2.77	49.3	27.6	2.07	86.2	36.9
Overall Total	60	14.7	2.05	45.9	27.97	1.85	87.40	41.5

Comparison of mean, SD and mean percentage of pre and post test KS of the ASHAs regarding ANC according to their educational status shows that during post test the highest mean score (28.69 ± 1.89) which is 89.3% of the total score was obtained by the ASHAs in higher secondary qualification. The lowest mean score (27.5 ± 1.72) which is 85.9% of total score was obtained for ASHAs having 10^{th} qualification ,which was also lowest (44.6%) during pre test. However difference in mean percentage varies from 36.9% to 43.4%. It seems that the information booklet was effective for all ASHAs . (**Table:5**)

Table 6: Comparison of mean, SD and mean percentage of pre test and post test KS of the ASHAs according to their years of experience .

Experience	No. of ASHAs	Pre test			Post test		Differenceinmean %	
Experience	1511115	Mean	SD	Mean %	Mean	SD	Mean %	70
<2yrs	10	15.2	1.75	47.5	27.3	1.56	85.3	37.8
3-6 yrs	24	13.62	2.06	42.5	27.29	5.70	85	42.5
7-10 yrs	22	15.68	1.83	48.7	27.72	1.98	86.5	37.8
>10 yrs	4	14.75	0.95	45.9	28.75	1.25	89.6	43.7
Overall Total	60	14.7	2.05	45.9	27.97	1.85	87.40	41.5

Comparison of mean, SD and mean percentage of pre and post test KS of the ASHAs regarding ANC according to their experience shows that during post test the highest mean score (28.75 ± 1.25) which is 89.6 % of the total score was obtained by the ASHAs in >10 years of experience. The lowest mean score (27.29 ± 5.70) which is 85% of total score was obtained for 3 - 6 years of experience which was also lowest

(13.62%) during pre test. However difference in mean percentage varies from 37.8% to 43.7%. It seems that the information booklet was effective for all ASHAs. (**Table:6**)

Table 7: Comparison of mean, SD and mean percentage of pre test and post test KS of the ASHAs according to their training under gone on ANC.

Under gone any		of Pre test			Post test			Differenceinmean
training onANC	ASHAS	Mean	SD	Mean %	Mean	SD	Mean %	%
Not undergone	9	15.11	1.61	47.1	27.33	1.73	85.3	38.2
Once	25	14	2.34	43.7	27.8	1.55	86.8	43.1
Twice	9	15.33	1.80	47.8	28.88	2.57	90	42,2
Thrice	17	14.94	1.85	46.66	28	1.80	87.54	40.9
Overall Total	60	14.7	2.05	45.9	27.97	1.85	87.40	41.5

Comparison of mean, SD and mean percentage of pre and post test KS of the ASHAs regarding ANC according to their training under gone on ANC shows that during post test the highest mean score (28.88 ± 2.57) which is 90% of the total score was obtained by the ASHAs who had under gone twice training on ANC. The lowest mean score (27.33 ± 1.73) which is 85.3% of total score was obtained for the ASHAs who had not under gone any training on ANC. During pre test the lowest mean score (14 ± 2.34) was obtained for those who had under gone training for only once on ANC and highest mean score(15.33 ± 1.80) for those who had under gone training twice. However difference in mean percentage varies from 38.4% to 43.1%. It seems that the information booklet was effective for all ASHAs(**Table:7**).

SECTION-V

HYPOTHESIS TESTING

To assess the effectiveness of Information booklet on Knowledge of ASHAs regarding ANC by using paired't' test and chi square (x^2) test. Paired't' test was calculated to assess the significance difference in pre and post-test KS and chi square (x^2) test was calculated to assess the significant association of selected demographic variable of ASHAs with their post-test KS regarding ANC

Ho1: There is no significant difference between pre and post-test knowledge scores of ASHAs regarding ANC Ho2: There is no significant association between the pre-test knowledge scores of the ASHAs regarding ANC

with their selected demographic variables

Table-8: Paired't' value of pre and post-test KS of ASHAs regarding ANC

Sl No.	Area	't' value	Remarks
1	Concept of Antenatal Care	10.6	Highly significant
2	Antenatal Visit	31.35	Highly Significant
3	Family welfare programmes related to maternal health	15.2	Highly significant
4	Minor ailments & their prevention	9.8	Highly significant

The Table value 2.00(99% level of significance) df-59(p value <0.01) level is highly significant.

Paired 't' test was calculated to assess the significant difference between pre and post-test knowledge score shows that significant difference was found in all areas like- Concept of Antenatal Care, Antenatal Visit, Family welfare programmes related to maternal health, Minor ailments & their prevention . Thus the difference in mean score value related to the above mentioned area were true difference. As the calculated value is higher than the table value hence it states that, null hypothesis was rejected and statistical hypothesis was accepted (Table-8).

Table-9
Association between of post-test KS of ASHAs with their selected demographic variables

Sl. No.	Demographic variables	x ² value	df	Table value	Level of significance
1	Age	0.23	1	3.84	Not significant
2	Educational status	1.95	1	3.84	Not significant
3	Years of Experience	0.38	1	3.84	Not significant
4	Any training on ANC	2.24	1	3.84	Not significant

Chi square (x^2) was calculated to assess the significant association of selected demographic variable of ASHAs with their post-test KS regarding ANC reveals that, no significant association was found between post-test KS when compared to age, educational status, Years of experience and any training on ANC. The calculated value is less than the table value. Hence it can be interpreted that, the difference in mean score related to their demographic variables were not true difference and only by chance. So, the null hypothesis was accepted and statistical hypothesis was accepted (**Table-9**).

III. Discussion

A pre experimental approach one group pre test post test research design was undertaken among ASHAs at Raikia block of Kandhamal , Odisha from $23^{\rm rd}$ March to $7^{\rm th}$ April 2015. Data were collected from 60 ASHAs , selected by simple random sampling technique through structured questionnaire schedule to assess the effectiveness of Structured teaching programme on knowledge of ASHAs regarding Antenatal care . The collected data were organized, tabulated, evaluated by using descriptive and inferential statistics include.

I. Description of demographic characteristics of ASHAs.

Percentage wise distribution of ASHAs according to their age group depicts that, the highest percentage (36.6%) of ASHAs were in the age group of 26to 30yrs, 53.3% of ASHAs had secondary level education. It reveals that, majority of them were from secondary level education .About 40 % of ASHAs had experience of three to six years and 41.6% of ASHAs had undergone training on ANC once,

II. Assessment of knowledge of the ASHAs regarding Antenatal Care prior to the conduction of Structured teaching programme.

Area wise analysis of mean, SD, and mean percentage of pre-test KS of ASHAs regarding Antenatal Care shows that overall mean score was (14.69 ± 2.05) which is 45.90% of the total score reveals that the ASHAs under this study had an average knowledge on Antenatal Care . Highest mean score (11.03 ± 1.98) , which is 47.95% of the total score was obtained for the area on Antenatal Visit .

III. Area wise comparison of pre-test and post-test KS of ASHAs regarding Antenatal Care.

Area wise comparison of mean, SD, and mean percentage pre and post-test KS shows that overall pre-test mean score was (14.69 ± 2.05) which is 45.90% of maximum score and average knowledge whereas it was (27.97 ± 1.85) which is 87.40% during post-test showing a difference of 41.5% of effectiveness and having a very good knowledge.

Assessment of effectiveness of stp with demographic variable of ASHAs.

ASHAs KS regarding ANC according to their age shows that during post test the highest mean score (28.42 ± 1.50) which is 88.7% of the total score was obtained by the ASHAs in the age group of >35 years. However difference in mean percentage varies from 34.06% to 45.7% for all age groups. According to their educational status shows that during post test the highest mean score (28.69 ± 1.89) which is 89.3% of the total score was obtained by the ASHAs in higher secondary qualification. However difference in mean percentage varies from 36.9% to 43.4%. As per their experience shows that during post test the highest mean score (28.75 ± 1.25) which is 89.6% of the total score was obtained by the ASHAs in >10 years of experience. However difference in mean percentage varies from 37.8% to 43.7% and in their training under gone on ANC shows that during post test the highest mean score (28.88 ± 2.57) which is 90% of the total score was obtained by the ASHAs who had under gone twice training on ANC. However difference in mean percentage varies from 38.4% to 43.1%. It seems that the information booklet was effective for all ASHAs .

IV. Hypothesis Testing.

a) Difference between pre-test and post-test knowledge scores

Highly significance was found between pre and post-test KS of the ASHAs in all areas like- Concept of Antenatal Care, Antenatal Visit, Family welfare programmes related to maternal health , Minor ailments & their prevention (P < 0.01). The stated null hypothesis is rejected and statistical hypothesis was accepted and it indicated that information booklet was effective.

b) Association of demographic variables of the ASHAs with their pre-test knowledge score.

Chi-square was calculated to find out the association between the pre-test KS of the ASHAs with their demographic variables regarding Antenatal care reveals that, no significant association was found between pre- test KS when compared to age, educational status, and years of experience, undergone any training on ANC. Hence it can be interpreted that, information booklet is effective for all the staff nurses irrespective of their demographic variables.

V. Conclusion

From the findings of the present study it can be concluded that, highest percentage (36.6%) of staff nurses were belonged to the age group of 26-30 years. High percentage (53.3%) of ASHAs had secondary level education . Highest percentage 40% of ASHAs had experience of 3- 6 years. Majority (41.6%) of the ASHAs had under gone once training. Prior to conduction of information booklet the ASHAs had average knowledge(45.90%) on Antenatal Care , whereas after conduction of information booklet (87.40%) the ASHAs had very good knowledge and the difference in mean percentage was 41.5% and it shows the effectiveness of information booklet

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