Assess the knowledge and attitude regarding HPV vaccination among women

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***Abstract*—Cervical Cancer is the 4th most frequent malignancy among women, according to the American Cancer Society. 99% of cervical cancers cases are linked to infection with high-risk human Papillomavirus (HPV). HPV vaccination is used to prevent cervical cancer. Three vaccines that prevent infection with disease causing HPV are: Gardasil, Gardasil 9, Cervarix. CERVAVAC vaccine against HPV has been launched in India. A Quantitative and Non-Experimental, Descriptive Research Design was used; 100 women were selected by using Non-Probability, Convenient Sampling from selected rural area (Lana Bhalta, tehsil Pacchad) of district Sirmaur, H.P. was collected using Self Structured Knowledge Questionnaire and Five Points Likert Scale, and analyzed by SPSS. Majority of women i.e. 47% had inadequate knowledge regarding HPV vaccination.45% of them had moderate knowledge. Only 8% of women had adequate knowledge regarding HPV vaccination. Majority of women have positive attitude i.e. 62%. 38% of women have neutral attitude regarding HPV vaccination. No any women having negative attitude regarding HPV vaccination. Mean±SD for knowledge score of women residing in rural area was7.27±2.954 and for attitude it was 63.97±9.99. There was very weak positive co-relation between the knowledge and attitude. The study finding concluded that there was inadequate knowledge among majority of rural women due to lack of information about HPV vaccination. But they have positive attitude towards HPV vaccination. They also wanted to learn more about the disease condition, treatment and prevention. So, it is necessary to conduct educational programme in order to increase the knowledge of the rural women.**

***Index Terms*—HPV vaccination, Knowledge, Attitude, Women, Rural area.**

I. INTRODUCTION

Cervical Cancer is the fourth most frequent malignancy among women, according to the American Cancer Society. According to WHO, In 2020, an estimated 604000 women were diagnosed with cervical cancer worldwide and about 342000 women died from the disease; most of these cases and deaths occurred in low- and middle-income countries.[2] Cervical cancer develops in a woman's cervix (the entrance to the uterus from the vagina). Almost all cervical cancer cases (99%) are linked to infection with high-risk human Papillomavirus (HPV), an extremely common virus transmitted through sexual contact.[3] HPV is a group of more than 200 related viruses, some of which are spread through vaginal, anal, or oral sex. Sexually transmitted HPV types fall into two groups, low risk and high risk. Low risk HPVs – mostly cause no disease. However, a few low-risk HPV types can cause warts on or around the genitals, anus, mouth, or throat. High risk HPVs – Can cause several types of cancers. There are about 14 high risk HPV types including HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 and 68. Two of these, HPV 16 and HPV 18, are responsible for most HPV related cancers.[5] As per the December 2022 WHO position on HPV vaccines, WHO recommends the following schedule: A one or two dose schedule for girls aged 9 – 14. A one or two dose schedule for girls and women aged 15- 20. Two doses with a six-month interval for women older than 21. A minimum of two doses and when feasible three doses remain necessary for those known to be immunocompromised and/or HIV infected.[8] Union Minister Dr. Jitendera Singh announced "CERVAVAC" vaccine for the prevention of cervical cancer developed in India.[10] The Serum Institute of India made a vaccine against cervical cancer, CERVAVAC, launched on 24th January 2023 on the special occasion of National Girl Child Day, available in the market at MRP of Rs. 2000 per vial of two doses.[11] National Technical Advisory Group for Immunization (NTAGI) has recommended introducing the HPV vaccine in the

Universal Immunization Programme (UIP) with one time catch-up for 9-14 years old adolescent girls followed with routine introduction at the age of 9 years. Primarily vaccine would provide through schools to 5th to 10th grade girls. At health facility vaccine would be provided to out-of-school girls.[12]

II. NEED FOR THE STUDY

Cervical Cancer is the fourth most frequent malignancy among women, according to the American Cancer Society. According to WHO, In 2020, an estimated 604000 women were diagnosed with cervical cancer worldwide and about 342000 women died from the disease; most of these cases and deaths occurred in low- and middle-income countries.[2] For the period 2020-2030, the World Health Assembly accepted the worldwide plan to accelerate the elimination of cervical cancer as a public health problem, as well as its accompanying goals and targets (WHA73.2). The global effort to eliminate cervical cancer has set the following goals to help speed up the process: 90-70-90 targets must be met by 2030 for countries to be on the path to eliminating cervical cancer as a health crisis. By the age of 15, 90% of females had been fully vaccinated against HPV. By the age 35, 70% of women are examined with high – performance test, and by 45, they are screened again. 90% of pre cancer patients are treated, and 90% of invasive cancer patients are managed.[16] In India cervical cancer is 2nd most frequent cancer among women between the age group of 15-44 years. India has population of women ages 15 years and older about 511.4 million. They are at greater risk to develop cervical cancer. Current estimate indicate that every year about 123907 women are diagnosed with cervical cancer and 77348 died from the disease.[9] A cross- sectional study was conducted on Knowledge and Awareness of Cervical Cancer among Females of Rural and Urban Areas of Haryana, North India. There were 1500 females of age between 18-65 years. Out of 1500 female, 700 females were from urban area and 800 from rural area. In this study a comprehensive self- designed questionnaire used to evaluate their knowledge for cervical cancer and screening, HPV infection and its preventive measure, and symptoms and risk factors. Obtained data was analyzed and interpreted by using simple percentages and bar charts. The majorities of the participants were between the ages of 21 and 30 and had a college education. In comparison to women in urban areas, the majority of women in rural regions had low knowledge about cervical cancer (55%) and its screening (75%) as well as HPV infection (87.5%) and HPV vaccine (95%). In both rural and urban settings, awareness of symptoms and risk factors was extremely poor.[18]

III. REVIEW OF LITERATURE:

A cross-sectional study was conducted in Debre Markos town from February to March 2021 with a total sample of 601 study participants. The study participants were selected using a multistage sampling technique from mothers who have eligible daughters. The data was collected using an interview administration questionnaire method. The results showed that response rate was 100%, in which 47.6% have good knowledge and 77.4% have a positive attitude toward HPV vaccine. It showed that the attitude of mothers toward the HPV vaccine was affected by low knowledge regarding HPV.[21]

A cross-sectional study was done to assess knowledge and attitude regarding HPV and vaccination among Chinese women age 20 to 35 in Fujian Province with a total sample of 100 participants. This study that collected data by using paper-based questionnaire method. The results showed that response rate was 100%, in which 83.7% showed their willingness toward vaccination, 16.3% were not willing. It showed that most of them are having a positive attitude toward HPV vaccination and they have curiosity to know more about HPV.[22]

IV. STATEMENT OF THE PROBLEM

A study to assess the knowledge and attitude regarding HPV vaccination among women of selected rural area of district Sirmaur, Himachal Pradesh.

V. OBJECTIVES

1. To assess the knowledge regarding HPV vaccine among women
2. To assess the attitude regarding HPV vaccine among women's.

3. To find out the association between knowledge and attitude of HPV vaccine among women with selected socio demographic variables.

VI. RESEARCH METHODOLOGY:

A quantitative research technique was adopted for the present study. Non-experimental, Descriptive research design was appropriate for the present study. Research settings: The study was conducted in Lana Bhalta, Tehsil. Pachhad, District Sirmaur, Himachal Pradesh. Total 100 samples were selected for the present study. The target population consists of all the rural women above 18 year of age (Lana Bhalta, Tehsil Pachhad) of district Sirmour, H.P. Convenience sampling technique (non-probability sampling) was adopted for the present study.

Data Collection Tool: Tool 1 Section A (8 items): Socio demographic data sheet

It includes: Age in year, Age at menarche (in years), Marital status, Type of family, educational status, Occupational status, Family income (in rupees), Do you have knowledge regarding HPV vaccine, If yes then mention the source of information.

Tool 2 Section B (20 items): Self-structured knowledge questionnaire on HPV vaccination

It includes: Introduction, Causes, Sign and Symptoms, Diagnostic test, Treatment and Prevention of cervical cancer.

Tool 3 Section C (18 items): Five points Likert Scale

It includes: Positive and Negative attitude statements towards HPV vaccination.

Permission for the pilot study and then for main study was taken from the Principal of Akal College of nursing, Eternal University, Baru Sahib. Permission for the main study was taken from Panchayat Pradhan of Nohradhar, Tehsil Sangrah, District Sirmaur, H.P. Permission for the main study was taken from Panchayat Pradhan of Lana Bhalta, Tehsil Pachhad of district Sirmaur H.P. Informed consent for the study was taken from the participants. Privacy of the Participants information is maintained. Data was collected through offline mode. Investigators went to the area and collected data from the willing participants of the area. After going to the area, data was collected by sending a link of Google form on the mail of the participants. In case participants did not have any mail id then link was sent to one of their family members and responses were collected. It took 3 days to collect the data from 100 samples.

VII. ANALYSIS

TABLE NO- 4.1: SHOWS THE DISTRIBUTION OF THE WOMEN OF RURAL AREA ON THE BASIS OF THEIR DEMOGRAPHIC VARIABLE **N=100**

Sr. No.	Variables	Options	Percentage (%)	Frequency(f)
1.	Age in years	18-28 years	53%	53
		29-38 years	18%	18
		39-48 years	24%	24
		49 year and above	5%	5
2.	Age at menarche (in years)	8-11 years	1%	1
		12-13 years	24%	24
		14-15 years	51%	51
		16 years and above	24%	24
3.	Marital status	Single	39%	39
		Married	56%	56
		Divorced	2%	2
		Widowed	3%	3
4.	Type of family	Joint family	54%	54
		Nuclear family	42%	42
		Extended family	4%	4

		Step family	0%	0
5.	Educational status	Illiterate	6%	6
		Primary education	10%	10
		Secondary education	27%	27
		Higher secondary education and above	57%	57
6.	Occupational status	Private	25%	25
		Government	13%	13
		Self employed	16%	16
		Home maker	46%	46
7.	Monthly family income in rupees	<Rs 10,000	17%	17
		Rs 10,001-15,000	23%	23
		Rs 15001-20,000	28%	28
		>Rs 20,000	32%	32
8.	If yes what is the source of information?	Mass media	34%	34
		Peer group	11%	11
		Physician	18%	18
		Other	27%	27

FIGURE NO.-4.1: Conical Shaped diagram showing the percentage distribution according to their Age in years.

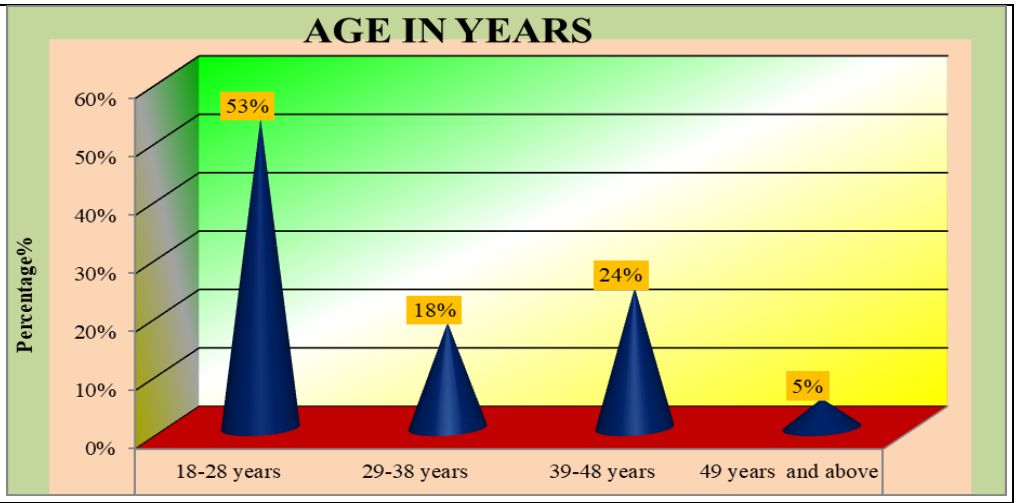


FIGURE NO.-4.2: Conical Shaped diagram showing the percentage distribution according to their Age at menarche (in years).

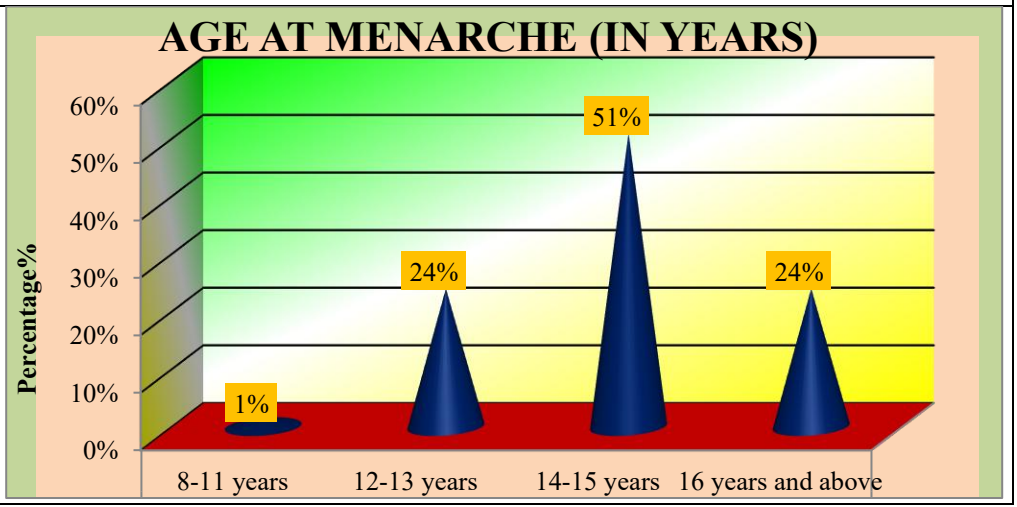


FIGURE NO.-4.3: Conical Shaped diagram showing the percentage distribution according to their Marital Status.

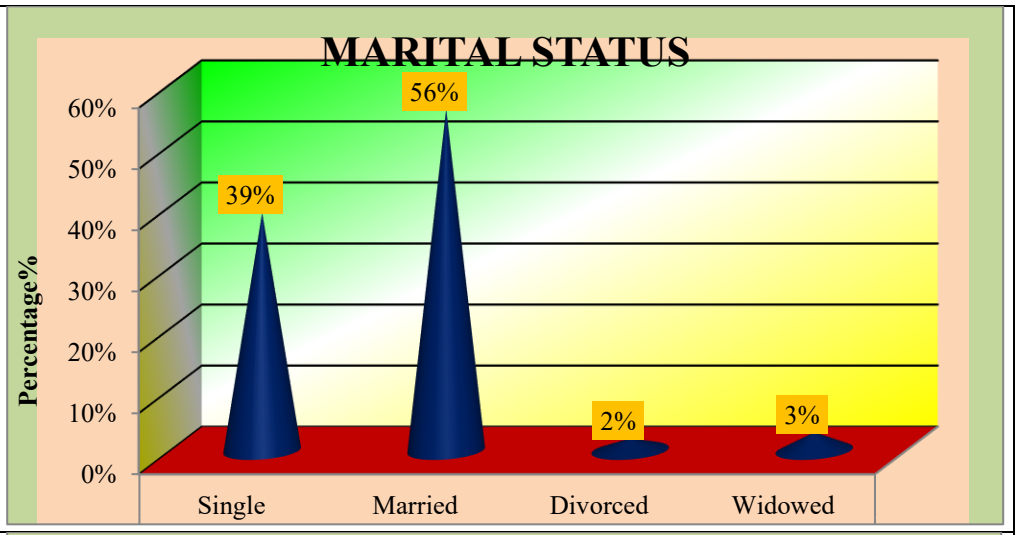


FIGURE NO.-4.4: Conical Shaped diagram showing the percentage distribution according to their Type of family.

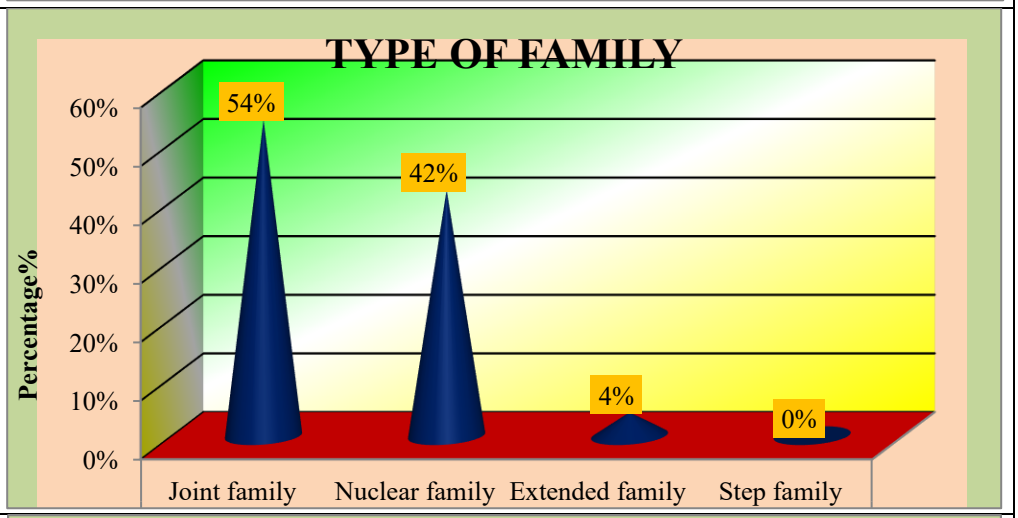


FIGURE NO.-4.5: Conical Shaped diagram showing the percentage distribution according to their Educational status

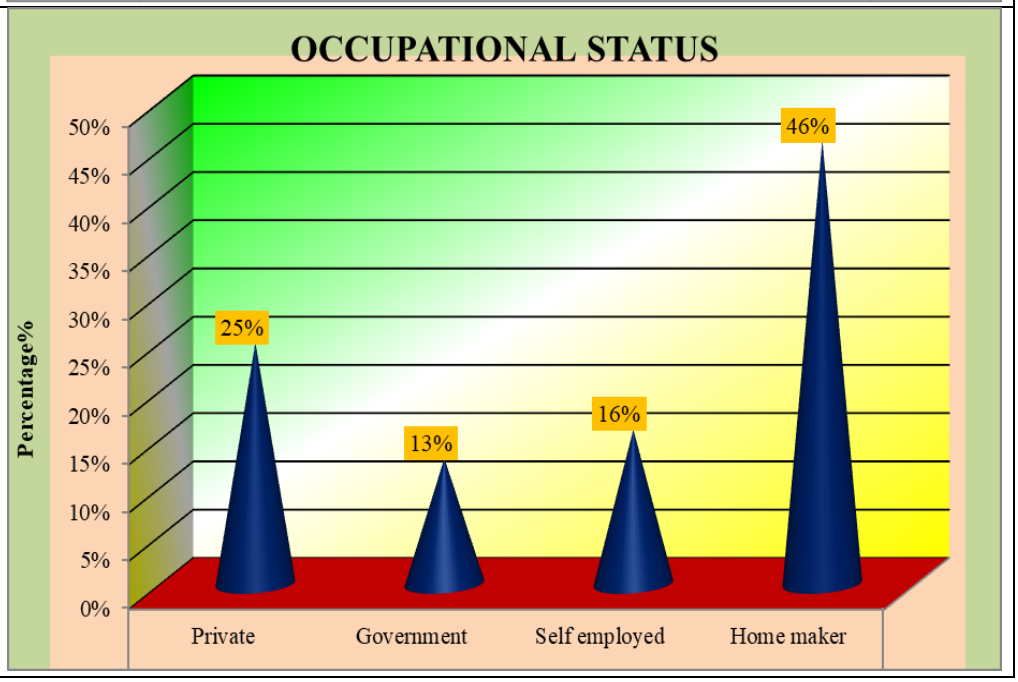


FIGURE NO.-4.6: Conical Shaped diagram showing the percentage distribution according to their Occupational status.

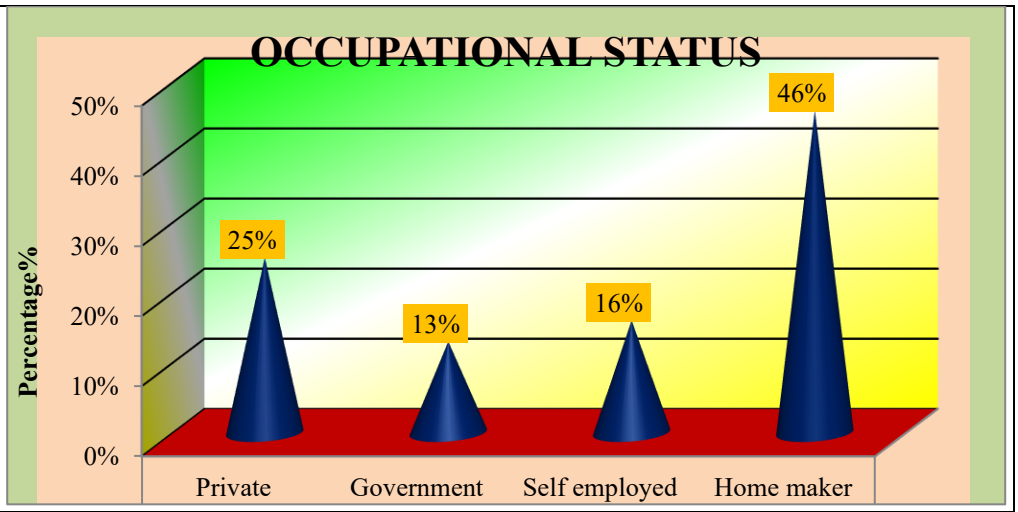


FIGURE NO.-4.7: Conical Shaped diagram showing the percentage distribution according to their Monthly family income in rupees.

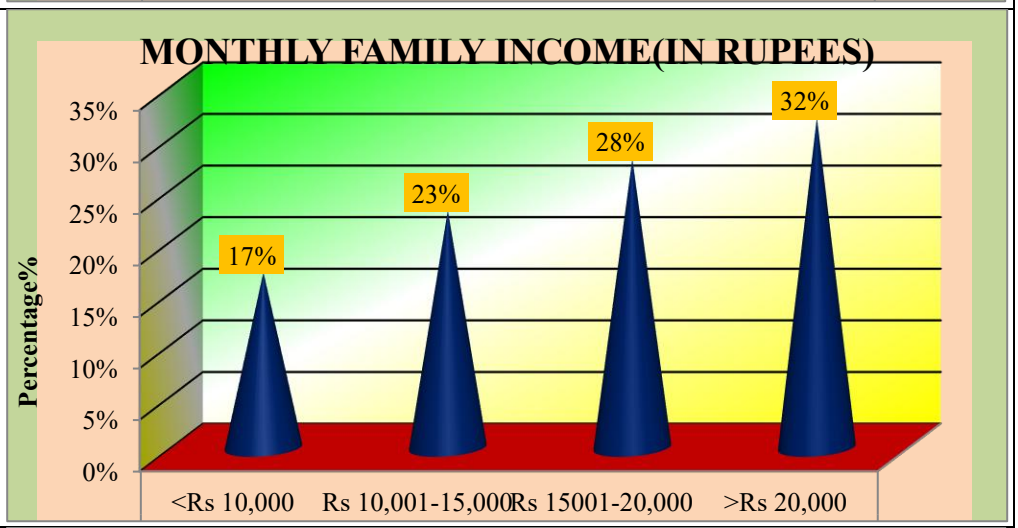


FIGURE NO.-4.8: Conical Shaped diagram showing the percentage distribution according to their If yes what is the source of information?

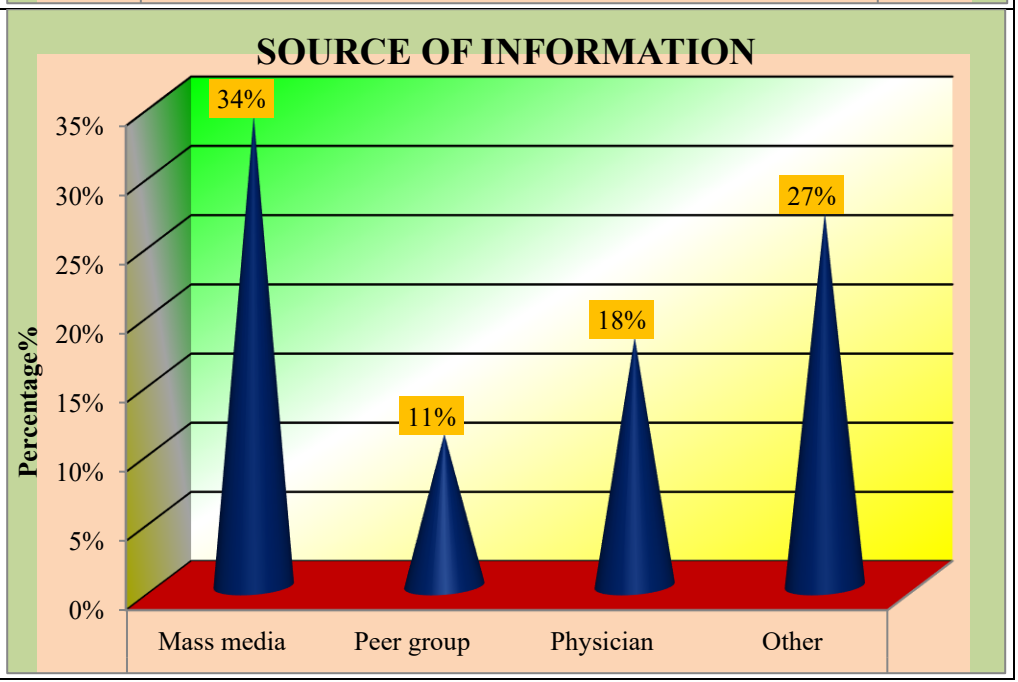


TABLE NO.-4.2: FREQUENCY & PERCENTAGE DISTRIBUTION LEVEL OF KNOWLEDGE LEVEL N=100

CRITERIA MEASURE OF LEVEL OF KNOWLEDGE SCORE		
KNOWLEDGE SCORE	PERCENTAGE	FREQUENCY
ADEQUATE KNOWLEDGE(13-20)	8.0%	08
MODERATE KNOWLEDGE(07-12)	45.0%	45
INADEQUATE KNOWLEDGE(00-06)	47.0%	47
Maximum =20 Minimum=00		

FIGURE NO.-4.9: Pyramidal diagram showing the percentage distribution of knowledge score

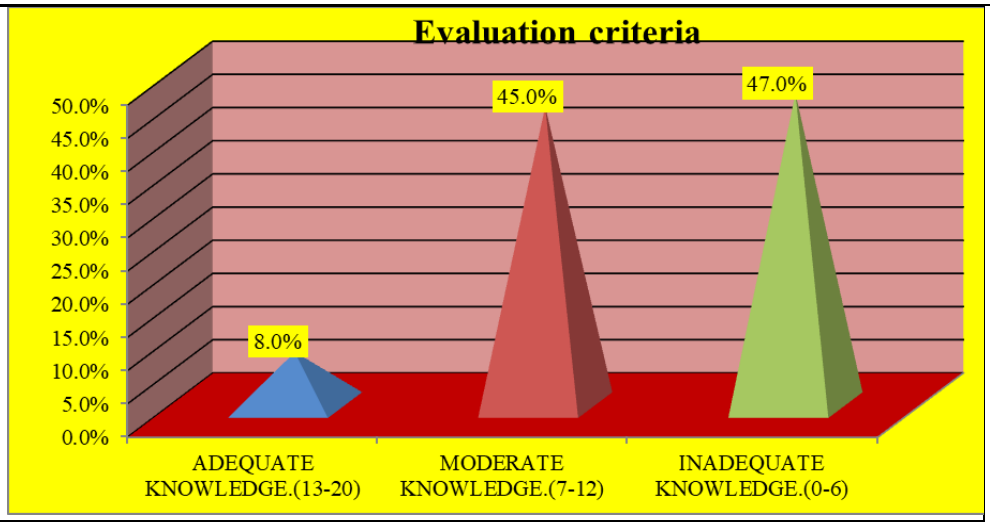


TABLE NO.-4.3: DESCRIPTIVE STATISTICS OF KNOWLEDGE SCORE N=100

DESCRIPTIVE STATISTICS	Mean	Median	S.D.	Maximum	Minimum	Range	Mean %
KNOWLEDGE SCORE	07.27	07	2.95	14	01	13	36.35
Maximum=20 Minimum=00							

FIGURE NO.-4.10: Line diagram showing Individual Knowledge Scores

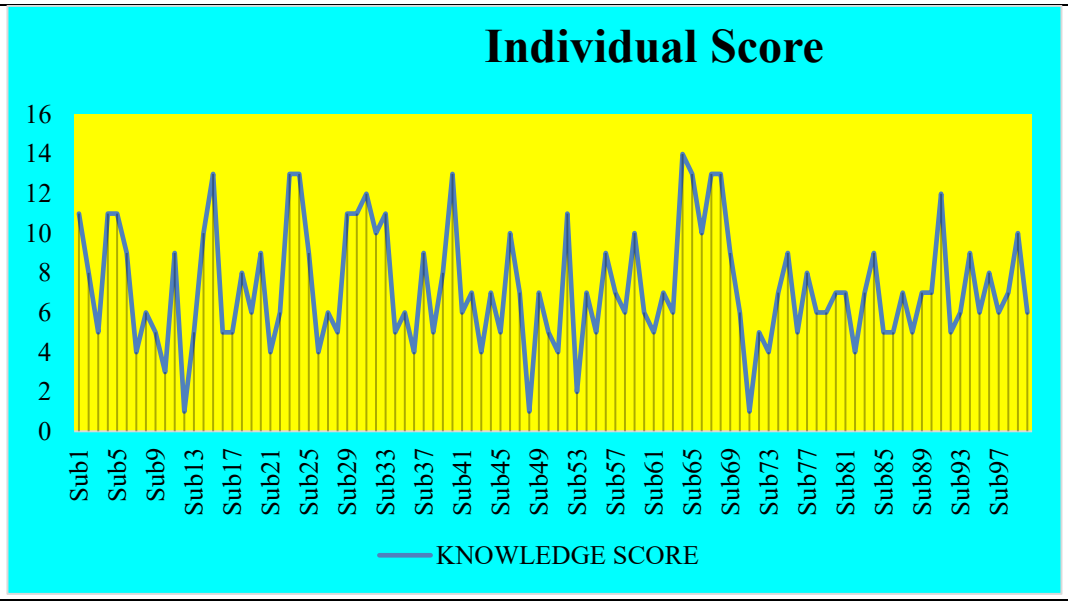


FIGURE NO.-4.11: Conical Shaped diagram representing descriptive statistics level of knowledge

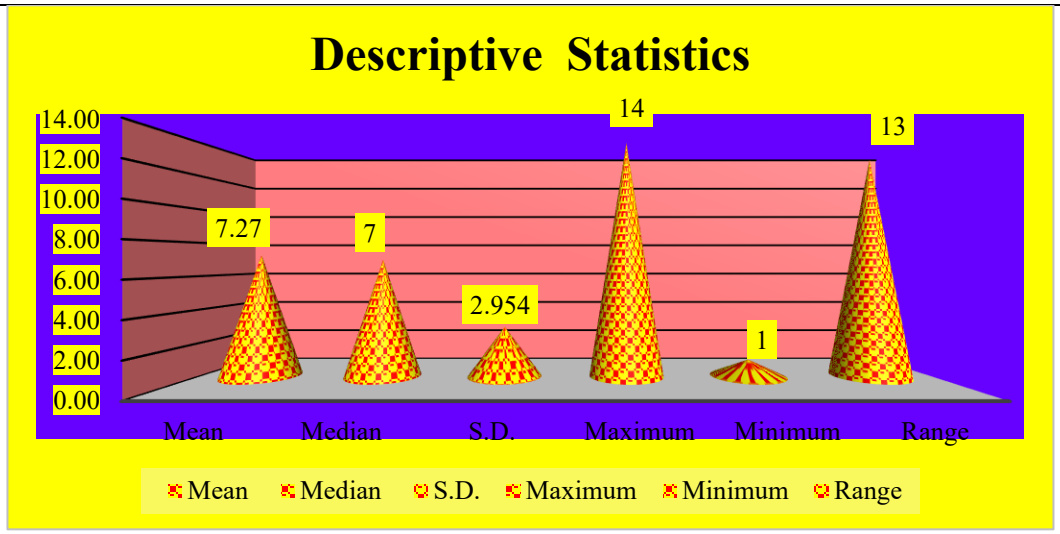


FIGURE NO.-4.12: Cylindrical diagram representing Mean, Median& SD of knowledge Scores

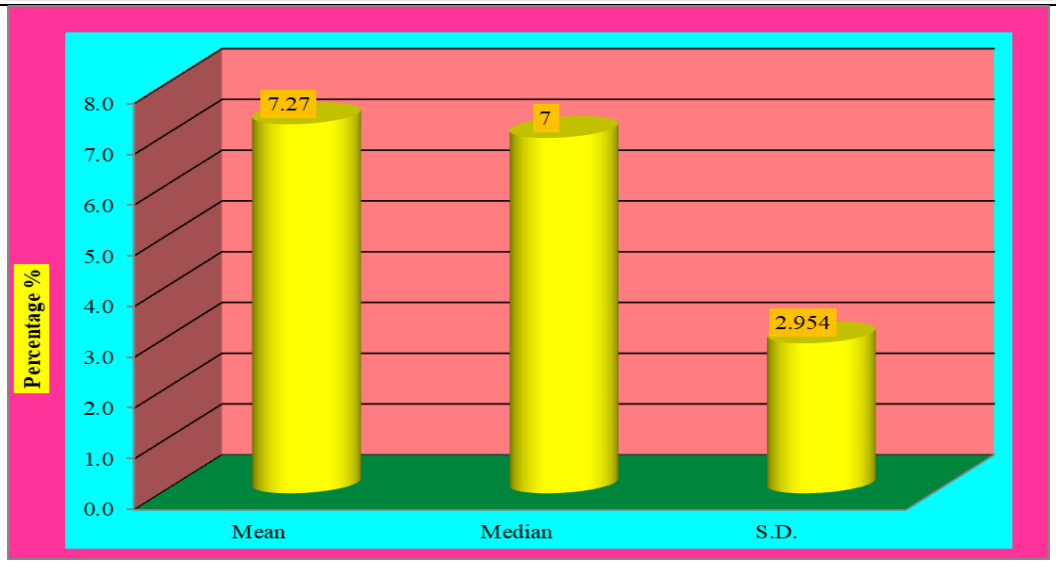


FIGURE NO.-4.13: Diagram Showing Mean Percentage Scores

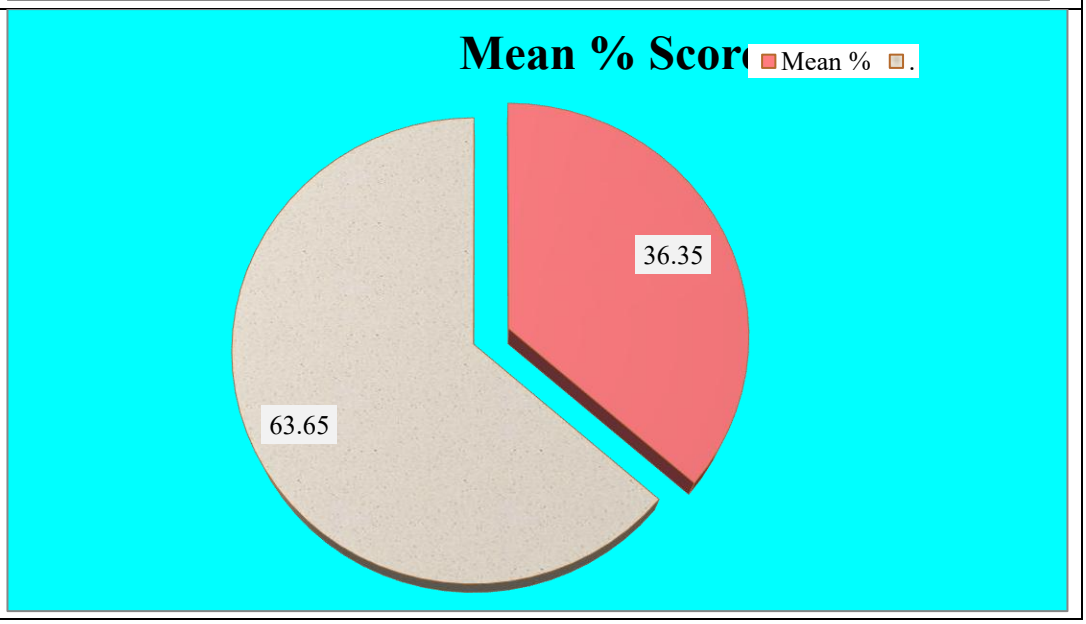


TABLE NO.-4.4: TABLE SHOWING ASSOCIATION OF SCORES AND DEMOGRAPHIC VARIABLES N=100

DEMOGRAPHIC DATA		LEVELS OF KNOWLEDGE (N=100)			ASSOCIATION WITH KNOWLEDGE SCORE				
Variables	Options	Adequate knowledge	Moderate knowledge	Inadequate knowledge	Chi Test	P Value	df	Table Value	Result
Age in years	18-28 years	3	21	29	8.038	0.235	6	12.592	Not Significant
	29-38 years	3	9	6					
	39-48 years	2	14	8					
	49 year and above	0	1	4					
Age at menarche (in years)	8-11 years	0	1	0	5.843	0.441	6	12.592	Not Significant
	12-13 years	3	11	10					
	14-15 years	5	24	22					
	16 years and above	0	9	15					
Marital status	Single	2	15	22	6.095	0.413	6	12.592	Not Significant
	Married	6	26	24					
	Divorced	0	1	1					
	Widowed	0	3	0					
Type of family	Joint family	6	25	23	2.099	0.718	4	9.488	Not Significant
	Nuclear family	2	18	22					
	Extended family	0	2	2					
	Step family	0	0	0					
Educational status	Illiterate	0	5	1	6.643	0.355	6	12.592	Not Significant
	Primary education	0	6	4					
	Secondary education	3	9	15					
	Higher secondary education and above	5	25	27					
Occupational status	Private	0	10	15	6.807	0.339	6	12.592	Not Significant
	Government	1	6	6					

	Self employed	2	10	4					
	Home maker	5	19	22					
Monthly family income in rupees	<Rs 10,000	2	7	8	6.431	0.377	6	12.592	Not Significant
	Rs 10,001-15,000	0	10	13					
	Rs 15001-20,000	1	15	12					
	>Rs 20,000	5	13	14					
If yes what is the source of information ?	Mass media	2	18	14	5.712	0.456	6	12.592	Not Significant
	Peer group	0	6	5					
	Physician	2	5	11					
	Other	3	15	9					

TABLE NO.-4.6: Table Showing Descriptive Statistics of Demographic Variables. N=10

Variables	Opts	Mean%	Mean	SD	N
Age in years	18-28 years	33.68	6.7	2.73	53
	29-38 years	41.94	8.4	3.35	18
	39-48 years	39.38	7.9	3.07	24
	49 years and above	30.00	6.0	1.87	5
Age at menarche (in years)	8-11 years	35.00	7.0		1
	12-13 years	37.92	7.6	3.57	24
	14-15 years	38.92	7.8	2.84	51
	16 years and above	29.38	5.9	2.13	24
Marital status	Single	33.33	6.7	3.01	39
	Married	37.95	7.6	2.91	56
	Divorced	35.00	7.0	2.83	2
	Widowed	46.67	9.3	2.52	3
Type of family	Joint family	38.70	7.7	2.95	54
	Nuclear family	33.93	6.8	2.74	42
	Extended family	30.00	6.0	4.69	4
	Step family	0.00			0
Educational status	Illiterate	36.67	7.3	2.07	6
	Primary education	35.00	7.0	2.79	10
	Secondary education	35.74	7.1	3.53	27
	Higher secondary education and above	36.84	7.4	2.83	57

Occupational status	Private	29.60	5.9	2.40	25
	Government	37.69	7.5	3.64	13
	Self employed	43.44	8.7	2.80	16
	Home maker	37.17	7.4	2.86	46
Monthly family income in rupees	<Rs 10,000	37.06	7.4	2.83	17
	Rs 10,001-15,000	31.09	6.2	2.49	23
	Rs 15001-20,000	38.04	7.6	2.75	28
	>Rs 20,000	38.28	7.7	3.41	32
If yes what is the source of information?	Mass media	36.91	7.4	2.50	34
	Peer group	35.45	7.1	2.74	11
	Physician	35.00	7.0	2.72	18
	Other	39.81	8.0	3.44	27

SECTION-C

ATTITUDE SCORE REGARDING HPV VACCINATION AMONG RURAL WOMEN

Objective 2: To assess the attitude regarding HPV vaccination among rural women

TABLE NO.-4.7: Frequency & Percentage distribution level of Attitude N=100

CRITERIA MEASURE OF ATTITUDE SCORE		
LEVEL OF SCORES N= 100	PERCENTAGE	FREQUENCY
POSITIVE ATTITUDE(61-90)	62.0%	62
NEUTRAL ATTITUDE (31-60)	38.0%	38
NEGATIVE ATTITUDE(18-30)	0.0%	00
Maximum =90 Minimum=18		

FIGURE NO.-4.15: Pyramidal diagram showing the percentage distribution level of Attitude

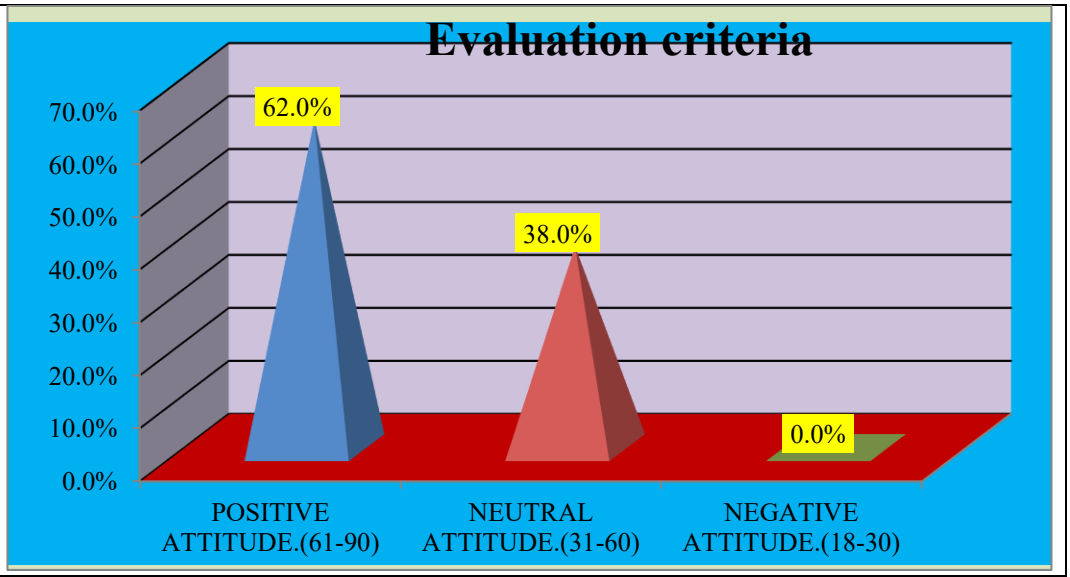


TABLE NO.-4.9: Table Showing Association of level of attitude and Demographic Variables N=100

DEMOGRAPHIC DATA		LEVELS OF ATTITUDE (N=100)			ASSOCIATION WITH ATTITUDE LEVEL				
Variables	Options	Positive attitude	Neutral attitude	Negative attitude	Chi Test	P Value	df	Table Value	Result
Age in years	18-28 years	34	19	0	1.246	0.742	3	7.815	Not Significant
	29-38 years	10	8	0					
	39-48 years	14	10	0					
	49 years and above	4	1	0					
Age at menarche (in years)	8-11 years	1	0	0	2.065	0.559	3	7.815	Not Significant
	12-13 years	13	11	0					
	14-15 years	31	20	0					
	16 years and above	17	7	0					
Marital status	Single	25	14	0	1.248	0.742	3	7.815	Not Significant
	Married	35	21	0					
	Divorced	1	1	0					
	Widowed	1	2	0					
Type of family	Joint family	35	19	0	0.889	0.641	2	5.991	Not Significant
	Nuclear family	24	18	0					
	Extended family	3	1	0					
	Step family	0	0	0					
Educational status	Illiterate	3	3	0	1.837	0.607	3	7.815	Not Significant
	Primary education	8	2	0					
	Secondary education	16	11	0					
	Higher secondary	35	22	0					

	education and above								
Occupational status	Private	17	8	0	5.091	0.165	3	7.815	Not Significant
	Government	11	2	0					
	Self employed	10	6	0					
	Home maker	24	22	0					
Monthly family income in rupees	<Rs 10,000	9	8	0	0.759	0.859	3	7.815	Not Significant
	Rs 10,001-15,000	15	8	0					
	Rs 15001-20,000	18	10	0					
	>Rs 20,000	20	12	0					
If yes what is the source of information?	Mass media	25	9	0	5.247	0.155	3	7.815	Not Significant
	Peer group	4	7	0					
	Physician	12	6	0					
	Other	16	11	0					

FIGURE NO.-4.17: Conical Shaped diagram representing descriptive statistics level of attitude

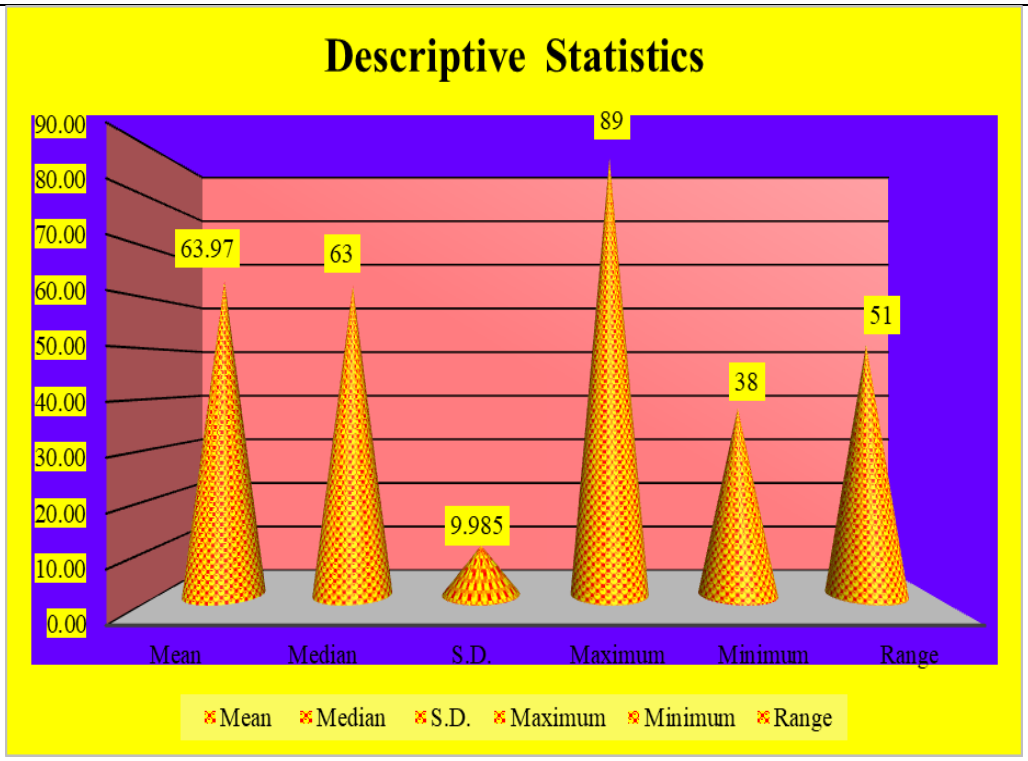
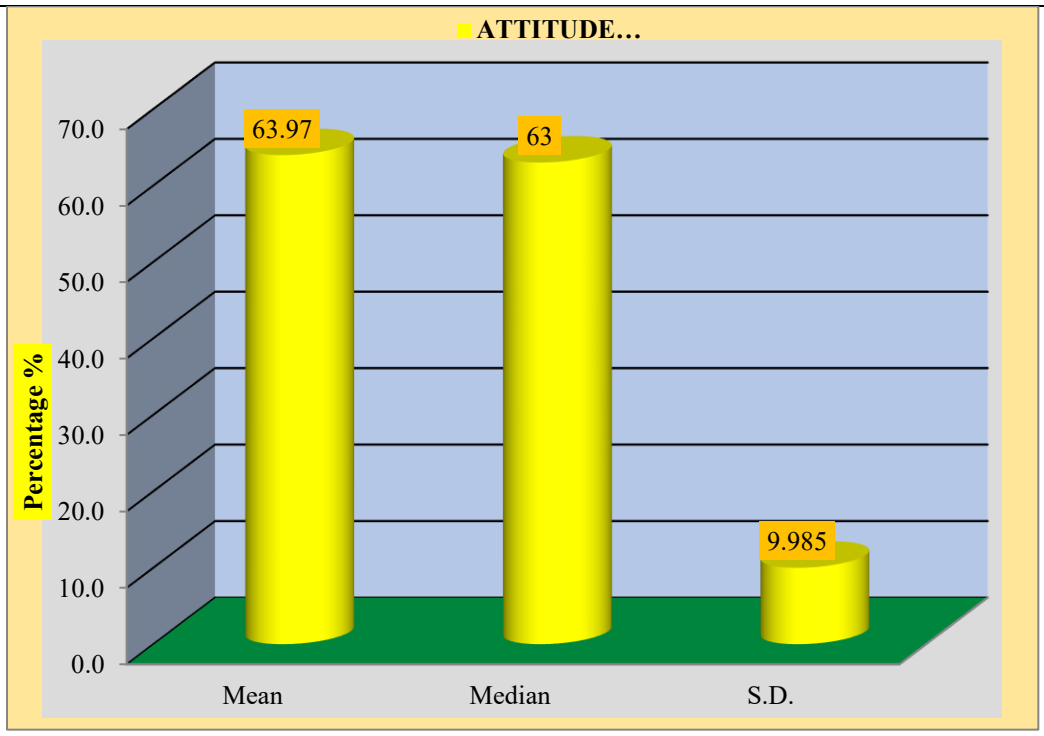


FIGURE NO.-4.18: Cylindrical diagram representing Mean, Median& SD of Attitude Scores



VIII. CONCLUSION

The present study was to assess the knowledge and attitude regarding HPV vaccination among women of selected rural area (Lana Bhalta, trhsil Pacchad,) of district Sirmaur, H.P. After analyzing and interpreting the data we found that majority of women i.e. 47% had inadequate knowledge regarding HPV vaccination. 45% of them had moderate knowledge while only 8% of women had adequate knowledge regarding HPV vaccination. Majority of them i.e. 62% had positive attitude towards HPV vaccination 38% of them had neutral attitude and neither of them has negative attitude regarding HPV vaccination. So it is necessary to conduct educational programme in order to increase the knowledge of the rural women.

IX. ACKNOWLEDGEMENT

We would like to express our deepest gratitude to Honorable Baba Dr. Davinder Singh ji, Chancellor, Eternal University, Baru Sahib, (H.P.) for his blessings, motivation, encouraging and inspiring us to bring peace to the world.

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