

Study of awareness amongst women in rural and urban areas about early detection of cervical cancer by pap smear

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ABSTRACT

Cervical cancer¹ continues to be one of the most commonly found cancer affecting women worldwide. In developed countries that have implemented Pap smear² screening programs, the incidence of cervical cancer has markedly reduced. In developing countries the problem of undiagnosed, cervical cancer leading to mortality is increasing day by day. In this study, the knowledge of Pap smear screening and cervical cancer, attitudes and beliefs pertaining to cervical cancer screening, and reasons for not doing cervical screening were identified. The primary objective is to find out the prevalence of awareness³ amongst women living in rural and urban areas, about the utility of Pap smear in early diagnosis of cervical cancer.

It is a cross sectional study of the patients coming to the OPD of Obs and Gyane dept. between the age group of 17 to 60 yrs. and residential area of Lucknow – Gomati Nagar was selected within the same age group. The sample size was 100 women urban and 100 women rural. The study was done in the months of June and July 2014.

This study has shown that women in our region lack knowledge of cervical cancer and its prevention by early detection⁴ by Pap smear both in the rural as well as the urban areas. This study clearly conveys the message that the rural women's educational status need to be strengthened at all levels. The young age, low family income and low schooling are the risk factors for cervical cancer.

One of the significant finding in this study was that the majority women got their knowledge about cervical cancer screening from their social network (relatives and friends) rather than physicians or the media. This can be attributed to the absence of a well-organized cervical cancer screening programme. Most women in this study showed positive attitude towards screening on being informed about its procedure and its utility. Another important barrier mentioned by the participants was lack of information about screening sites. The places of screening should be easily addressed with simple information provision.

Cost is one of the important barriers reported by almost half of the study participants. Indian government should make Pap smear test part of subsidized routine for women. Embarrassment was reported as barriers among these study participants regarding pain and discomfort associated with Pap smear test was reported as a barrier in this study. To help women cope with concerns about pain and discomfort associated with Pap tests, interventions could focus on detailing the nature of the sample and teaching women some relaxation skills.

Keywords: Cervical cancer, Pap smear, Awareness, Early detection.

INTRODUCTION

The number of cervical cancer cases in India is the highest in the world, as per IARC (International Agency for Research on Cancer). About 1, 32,000 new cases of cervical cancer and about 74,000 deaths are reported in India each year. One fifth of the total number of females suffering from cervical cancer in the world are in India and the number of deaths reported due to it is more in India than anywhere in the world. This is mainly due to the unawareness amongst the females of India about early screening.

Studies have shown that HPV infection is responsible for more than 90% of the cases of invasive cervical cancer in the world, and 80% of pre-cancerous lesions are attributed to HPV infection. This is not an incurable disease; it is rather a preventable one. Early detection of pre-cancerous lesions by Pap smear screening and early initiation of treatment before they progress to invasive cancer, have been shown to significantly reduce mortality due to cervical cancer. Unfortunately, cervical cancer control is not yet among the top ten National health priorities in India. As a result, a comprehensive national cervical cancer prevention strategy is still lacking in India. This is disheartening, given the large number of cases and deaths despite of it being a preventable disease and the availability of early screening test (Pap smear).

The Pap smear (Papanicolaou smear) is an effective, reliable and relatively inexpensive method of cervical cancer screening. Active participation of the target population is required for the success of the

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screening program. Therefore, it is important to know and analyze the reasons for non-willingness of women in participation in the screening programme. Various studies show wide variations in terms of participation, knowledge and attitudes of women towards cervical cancer screening by Pap smear. Not much has been studied about the factors that prevent Indian women from taking up screening. Therefore, understanding the factors associated with the underutilization of Pap smear screening is important in order to increase overall cancer screening rates. Several barriers to cancer screening have been reported; these include absence of awareness of the importance of screening, inadequate access to healthcare, aversion to the discomforts of screening, fear of finding cancer and logistic barriers such as having to take time off work for screening. Studies show that attitude, knowledge and beliefs about Pap smear screening appear to be related to the actual participation level in the screening programmes. Infact, the knowledge of women and their beliefs were the strongest predictors of repeated screening. Therefore, a study was undertaken using face-to-face in-depth interviews, to investigate the attitudes, beliefs and knowledge about cervical cancer screening in Indian women. This report includes the findings of the attitude, knowledge, beliefs and awareness of cervical cancer and Pap smear of Indian women who live in the region of Lucknow, both in rural and urban areas.

MATERIALS AND METHODS

It is a Cross Sectional study done amongst women living in rural and urban areas in and around Lucknow. For rural population the patients coming to the OPD of Obs and Gyane dept. of Mayo Institute of Medical Sciences, Gadia, Barabanki were considered, and for survey in urban area, the residential area of Lucknow – Gomti Nagar was selected. The sample size was 100 women (Urban) and 100 women (Rural)

The study was done in the months of June and July 2014. Women between the age group of 17 to 60 yrs living in both urban and rural areas were considered. The household was selected with random table number method. In households with more than one female, the eldest one was selected for the study. For patients visiting the OPD, only those were selected who fulfilled the age criteria and were residents of the nearby rural area.

Written consent was taken from each participant, after explaining the aims and objectives of the study. Data was collected using a questionnaire

including demographic characteristics, knowledge about cervical cancer and knowledge about Pap smear screening and completed by an interview with the woman, after taking their written informed consent.

Data as per the questionnaire was collected, from both the rural and urban areas, to evaluate the prevalence of knowledge regarding cervical cancer and the utility of Pap smear for its early diagnosis. Then evaluation was done to understand the reasons of inhibitions and unawareness.

An approval for the study was obtained from Mayo Institute of Medical Sciences, Ethics Committee, Gadia, Barabanki. The questionnaire included questions about participant's demographic and fertility characteristics, 14 questions to estimate the knowledge and 10 statements related to the attitude towards screening of cervical cancer, after hearing about it. The knowledge questions were asked to those who already knew about Pap smear while the attitude statements were put up to all. Those who had never heard anything about Pap smears earlier, were first briefed about it by the researcher before bringing up the attitude questions. Knowledge questions had three options and to calculate a knowledge score, correct answers were given score 1 and incorrect or "unsure" answers were scored 0. Attitude statements had two options and were rated as 1 or 2. In order to get a Total Knowledge & Attitude Score, the scores were added and then taken on a 0 to 100 scale. Higher score reflects a higher knowledge or better attitudes about Pap smear. Total knowledge was assessed in three grades: scores 0-33.3 "weak", scores of 33.4- 66.6 "medium" and scores of 66.7 or higher "good". Attitude score of 0 – 50 was labeled "negative attitude" and 50 and above as "positive attitude".

This questionnaire was put up to 100 women in a rural area and 100 women in urban area, after taking their written consent. We also made them aware of its importance in early diagnosis of cervical cancer. The primary objective is to find out the prevalence of awareness amongst women living in rural and urban areas, about the utility of Pap smear in early diagnosis of cervical cancer.

The secondary objectives were to study the various reasons for inhibitions amongst Indian women to undergo Pap smear screening, to create awareness about the utility of early screening in cervical cancer and to create awareness about the availability of HPV vaccine.

Table 1: The Study Population

N=100(rural) n=100(urban)

		N%	n%
Age	≤20	13	30
	21-30	42	37
	>30	45	33
Marital status	Married	85	53
	Unmarried	15	47
Age at time of marriage	≤15	25.9	1.8
	16-20	64.9	20.9
	21-25	9.2	66
	More than 26	-	11.3
Gravid	0	11.33	14.4
	1-3	84.9	51.9
	≥3	3.77	33.7
Contraception	Withdrawal	29	-
	Hormonal methods	20	5
	Condom	30	54
	IUD	4	28
	Others	-	-
	Menopause	17	13
Education	Illiterate	47.7	-
	Primary School	8	3
	High school	30	29
	College	13.3	68
Occupation	Housewife	73.3	43
	Working	20	32
	Student	6.66	25

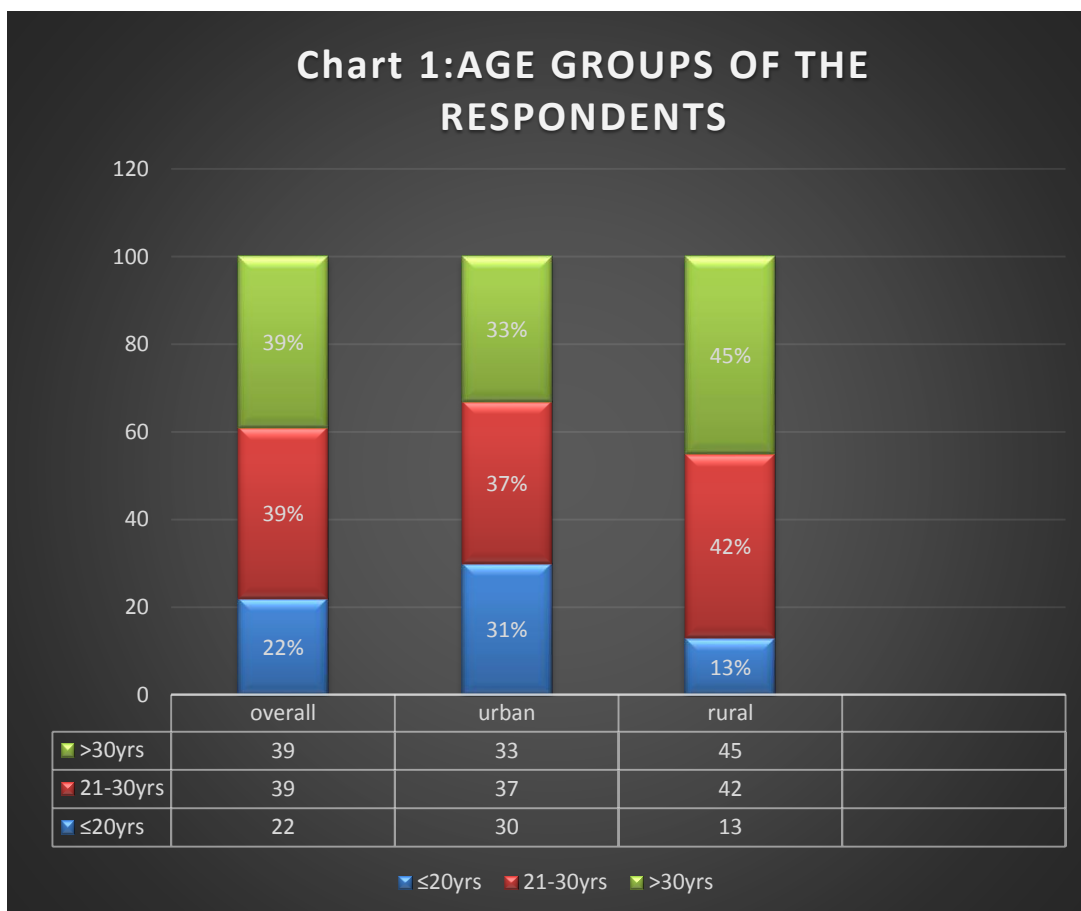


Chart 2: Marital Status of the Respondents

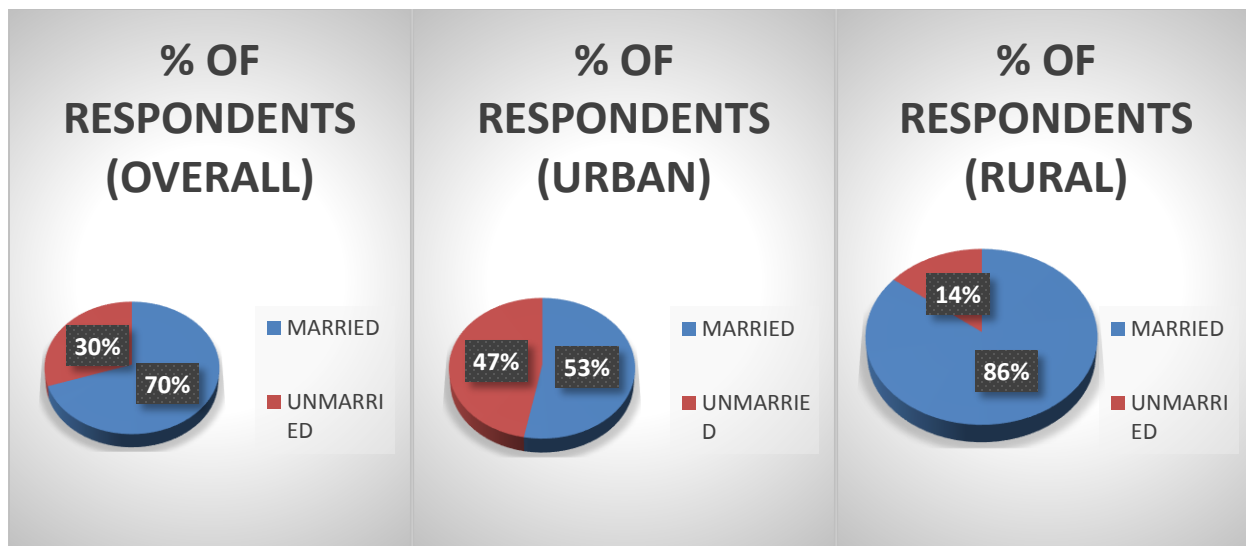


Table 2: Awareness about cervical cancer and it's early screening
N=100(rural) n=100(urban)

		N%	n%
Heard about cervical cancer	Yes	19	58
	No	81	42
Knowledge of risk factors for cervical cancer (multiple options)	(out of 19 people who knew)	4	Out of 58 people who had heard
	Sexually transmitted disease	6	31
	Smoking	8	20
	Multiple partners	9	40
	Early age of marriage	6	8
	No knowledge	6	7
Heard about early screening by pap smear	Yes	10	32
	No	90	68
Source of on pap smear (multiple option)	(Out of 10 who had heard)	2	(Out of 32 who had heard)
	Relatives	-	8
	Friends	-	10
	Media	-	-
	Gynecologist	9	15
	Mass media	5	25
	Newspaper	-	20
	Internet	-	5
	Television	3	12
	Family physician	-	10
	Nurse	10	5
others	-	-	
Knowledge of cervical cancer vaccine	Yes	0	20
	No	100	80

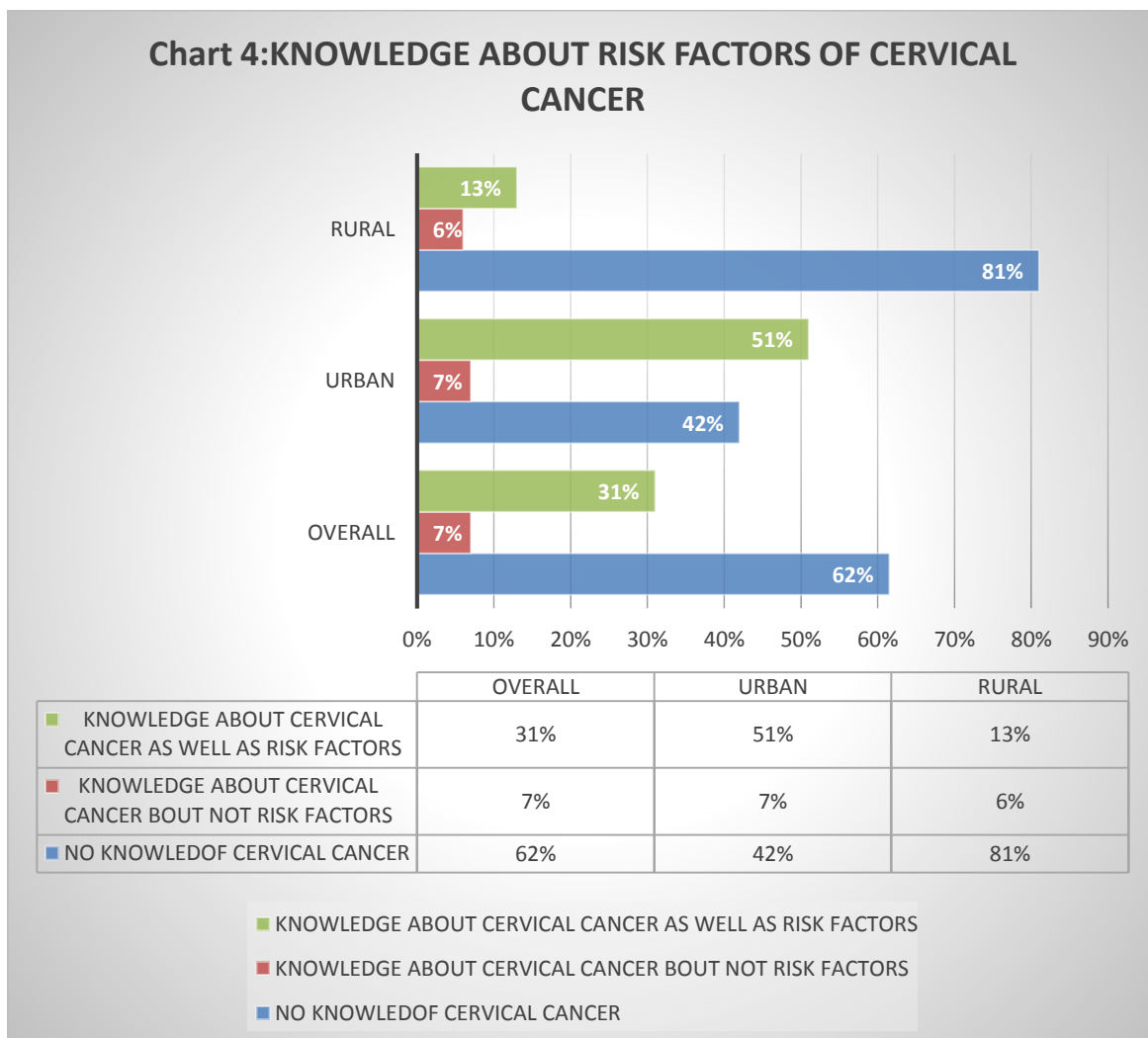
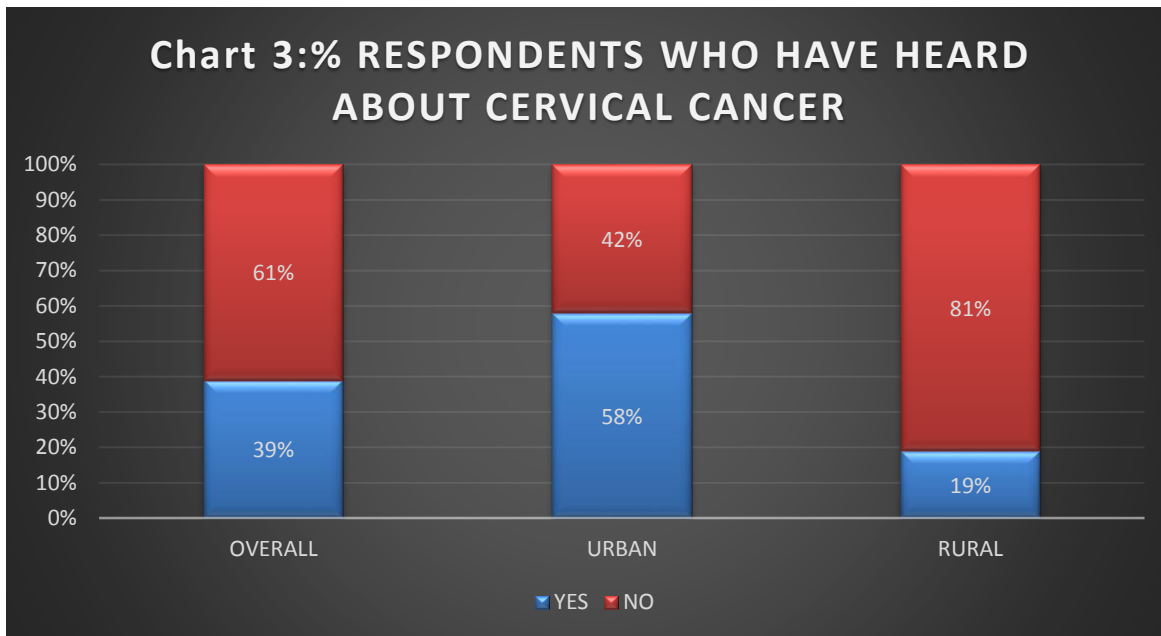
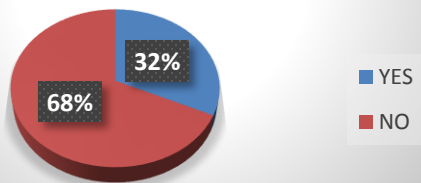
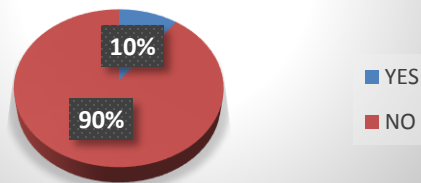


Chart 5: Knowledge about Pap Smearfor Early Screening

KNOWLEDGE ABOUT PAP SMEAR FOR EARLY SCREENING (URBAN)



KNOWLEDGE ABOUT PAP SMEAR FOR EARLY SCREENING (RURAL)



KNOWLEDGE ABOUT PAP SMEAR FOR EARLY SCREENING (OVERALL)

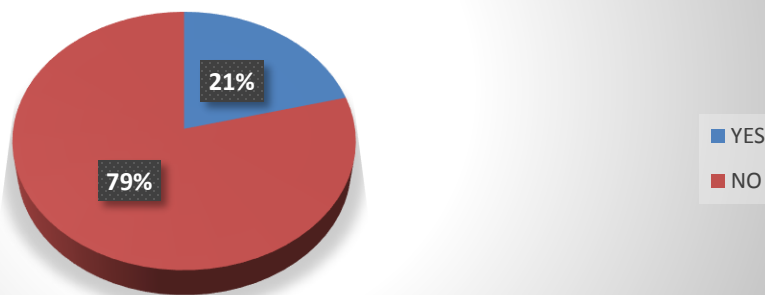


Chart 6: KNOWLEDGE ABOUT CERVICAL CANCER VACCINE

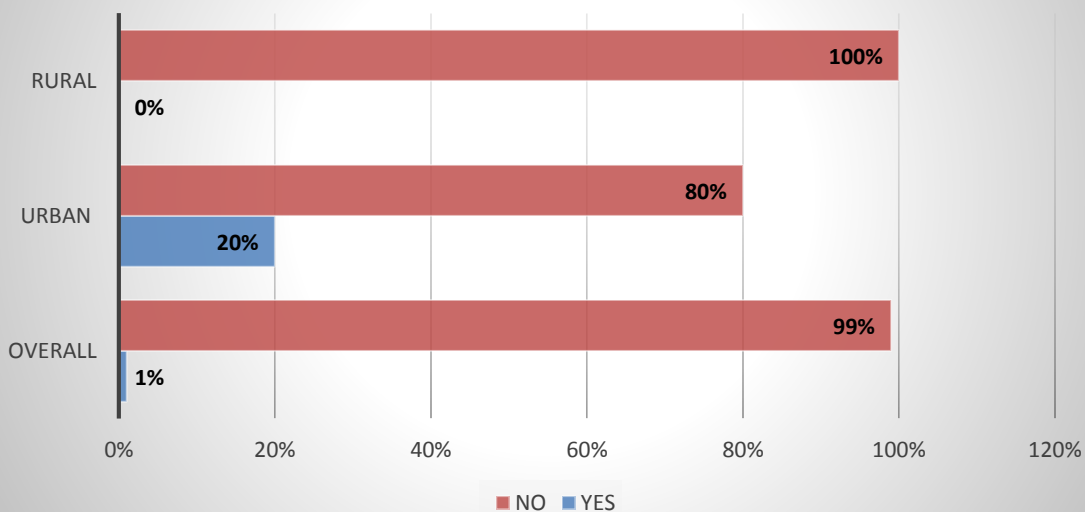


Table 3: Frequency distribution of responses to knowledge statements among women who had heard about Pap smear N= out of 10 (rural) n= out of 32 (urban)

Statement	True		False		Unsure	
	N	n	N	n	N	n
Pap smear was a helpful way to screen for cervical cancer	*10	28	0	-	0	4
The frequency of pap smear screening should be once in three years	*8	17	2	3	1	12
Pap smear could not detect pre cancerous lesions before manifestations of any symptoms	2	10	*5	11	3	11
Pap smear was supposed to detect abnormal cells in the cervix	*5	15	1	5	4	12
Pap smear was not invasive and neither expensive	*8	18	2	9	0	5
There was no need of pap smear screening after menopause	4	7	*5	19	1	6
Having a normal pap smear meant that it was not required in the future	5	15	*5	17	0	0
The procedure could be done both at menstrual and non menstrual period	*3	10	4	21	3	1
A woman should have not had sex for at least 24 hours before getting a pap smear done	*3	14	0	11	7	7
Pap smear could detect all types of genital malignancies	3	9	*7	21	0	2
Pap smear could not effectively reduce mortality	0	0	*10	30	0	2
It was not required without the advice of a doctor	4	17	*6	14	0	1
Pap smear test should be done from the onset of sexual activity	*8	11	1	19	1	2
Pap smear examined cervical cells	*6	15	0	0	4	17

*THE CORRECT ANSWER

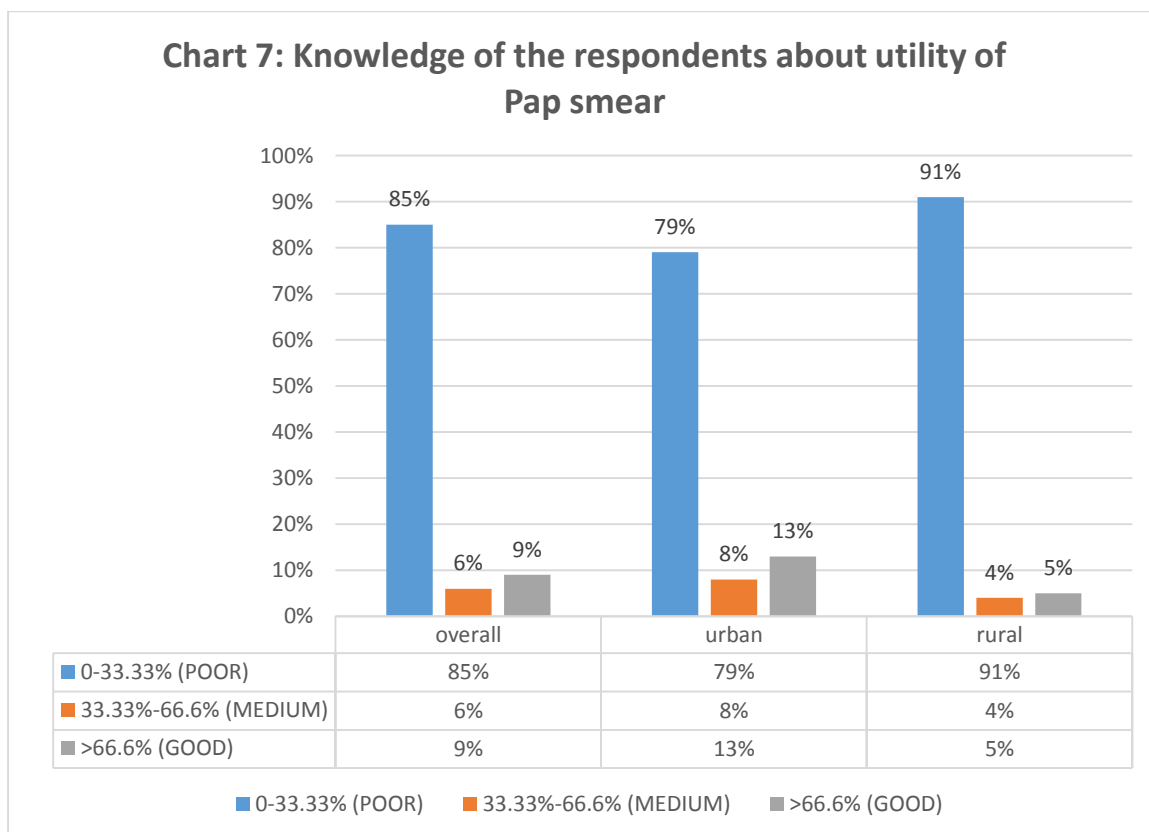
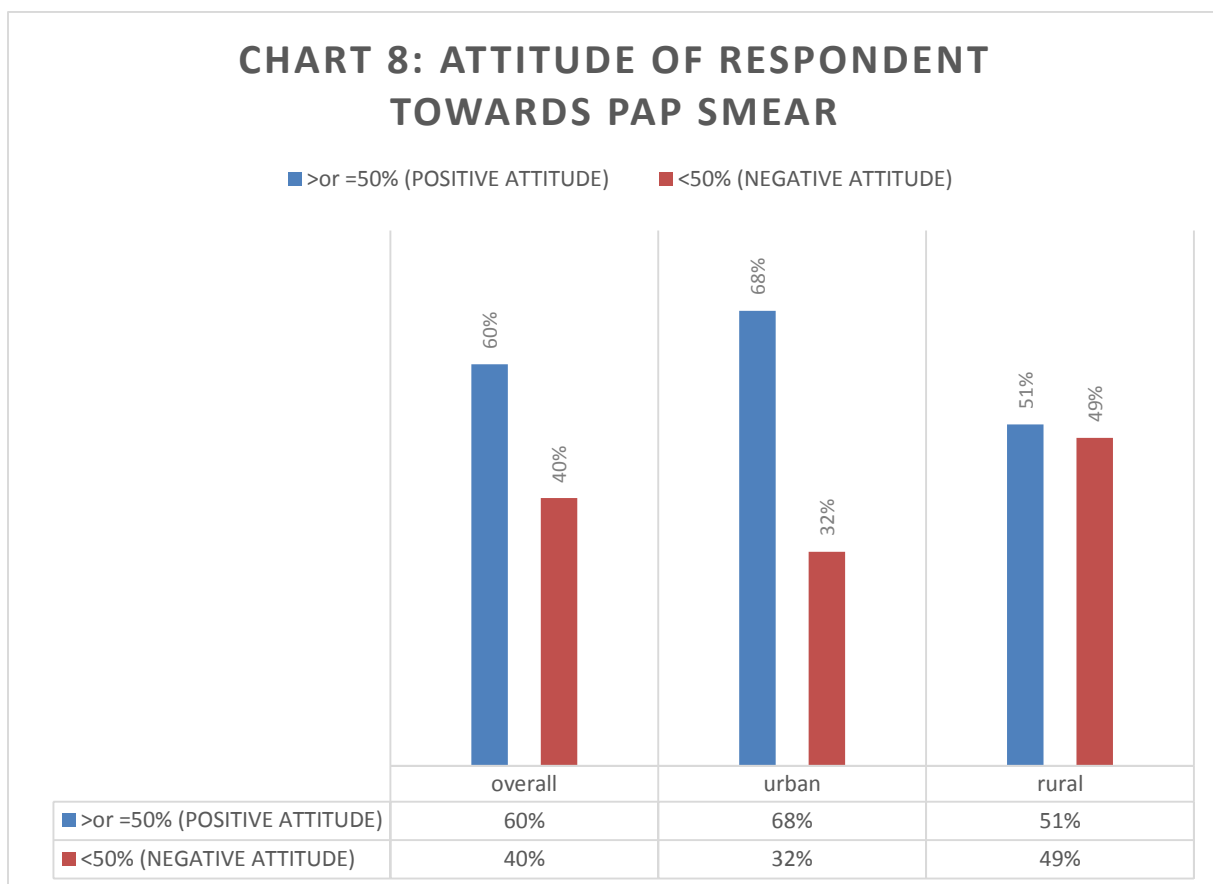


Table 4: Frequency of agreement with each of attitude statements about Pap smear N= (rural) n= (urban)

	Yes		No	
	N%	n%	N%	n%
Was it painful to get a pap smear done	57	54	43	46
Was the procedure unpleasant or embarrassing	82	67	18	33
Was it difficult to take out time to get a pap smear done	26	37	74	63
Was it difficult to reach a pap smear clinic	56	48	44	52
Was business or prioritizing other things, a barrier to have a Pap smear	30	36	70	74
Do you think that pap smear was unnecessary without the presence of any signs or symptoms	62	56	38	44
Was pap smear screening an expensive affair	54	26	46	74
Are you afraid of a positive result after getting a pap smear done	66	37	33	63
Is it uneasy talking about cancer	28	43	72	57
Are you afraid of getting detected with earl signs of cancer	83	75	17	25



RESULTS

Respondents comprised 100 women, who were residents of rural areas around Lucknow, visiting the Obs. & Gyane. OPD of Mayo hospital, Barabanki, and 100 women of urban (Gomti Nagar) area of Lucknow.

Table 1 shows the study population. Mean age was 38.5 yrs (17 to 60 yrs.) (Chart 1). The education status of the participants ranged from illiterate to post graduate (most of the rural participants were illiterate while people from the urban area were mostly educated). Most of the participants were married. (Chart 2) Majority of the

respondents living in the rural area were housewives and used withdrawal as the major contraceptive, whereas most of the urban women were also housewives but used condoms as the major contraceptive. Majority of the respondents had overall 1 to 3 children.

Table 2 reflects the awareness of the participants about cervical cancer and its early screening by Pap smear. Around 58% of the people living in the urban area knew about cervical cancer, and amongst them 51 % of people knew about the risk factors (Chart 3, 4) Majority of them are aware of having multiple partners as the major risk factor.

Major source of knowledge for them was mass media and internet and not doctors. While only about 19% of the people living in the rural area were aware of cervical cancer, only about 13% of them knew about its risk factors. (Chart 3, 4) Majority of them thought that smoking and early marriage were the most important risk factors, while only a few acknowledged multiple partners as one of the reasons. Major source of knowledge for the people living in the rural areas was the gynecologist

Only about 10% of women living in the rural area, (which is quite low as compared to the 32 % of women living in the urban area) are aware of Pap-smear and its utility for early detection and early treatment of cervical cancer. (Chart 5) As is well known that HPV vaccine is available; it was found that only 20% of women living in the urban area and none of the women living in rural area made it an issue of concern. (Chart 6)

Table 3 Deals with the details of the knowledge statements answered by the women who knew about Pap smear. It shows that women knew very less about cervical cancer. Only about 13% of the respondents living in the urban area had "good" knowledge, about 8% had "medium" knowledge and 79% had "poor" information about Pap smear and its utility. While in the rural area only about 5% had "good" knowledge 4% had "medium" knowledge and about 91% had "poor" knowledge about Pap smear and its utility. (Chart 7) When they were asked regarding cervical cancer, they had little knowledge, but about cancer in general. Many knew about cervical cancer but did not know that it was preventable. Many thought that it was a deadly disease with no cure. They talked about people who in their knowledge had cervical cancer and died of it. Cervical cancer was identified as a horrible disease and one that often incurred tremendous stress, both emotional and physical. Only a few, mostly young and educated, knew that early detection and treatment could save life. The main misconception was that it was a diagnostic test used to detect an already present cervical cancer. Most women did not understand that it was a screening procedure. None, however, understood the concept of pre-cancerous lesions and cervical abnormalities. A few of them indicated that Pap smear test was "to check that everything was OK even if there was presence of cancer or not.

When they were asked about the frequency of screening, none of the respondents could answer with confidence. Most respondents guessed that screening was to be conducted every one to two years. One respondent thought it was a must for the test to be repeated every six months: "I don't know, I would guess a woman should have Pap test every six months." Some even thought that the test was to be done only be done when there were symptoms. Respondents were unsure about who was to be

screened. A few of them correctly identified that women above 18 years of age or those who had already started their sexual life were supposed to get regular pap smears done. Many thought that it was only required for married women. Two women aged 50 years and above thought that since they were never married or sexually active, they never required getting a pap smear done. Lack of recommendation by healthcare providers prevented women from taking the Pap smear test. One respondent who was married and had three children said that she was never advised by any doctor she visited and she herself had no knowledge of it. Many other thought that after menopause there was no need for them to have the screening test.

Table 4 Deals with the attitude of the women towards early detection of cervical cancer. These attitude questions were asked to both women who had the knowledge about Pap smear and also to those who did not know about Pap smear after explaining to them about the procedure and its utility. This helped to evaluate the reasons for not undergoing Pap smear screening. It was found that about 68% of the participants from the urban area had a "positive attitude" towards Pap smear while 32% had "negative" attitude towards it. In the rural area about 51% had "positive attitude" while 49% had "negative attitude about Pap smear. (Chart 8) The major causes that may have led to the avoidance of Pap smear other than lack of knowledge in the rural area, was that they found it embarrassing. Majority of them had the myth that the test was painful so they avoid it. One of the major cause is that majority of the people living in both rural as well as urban areas thought that there was no need for the test unless advised by a doctor or unless there were any symptoms.

DISCUSSION

Cervical cancer continues to be a major threat for women worldwide. Developed countries that have implemented early detection techniques like Pap-smear show a marked decrease in its incidence. In developing countries, however, due to late detection, the mortality due to cervical cancer is on a rise. Many researchers and scholars are trying to spread awareness, in general, about cervical cancer and about its prevention, screening and early detection. Here, in our study the knowledge about cervical cancer and its screening by Pap smear, attitudes and beliefs pertaining to its screening and the inhibitions for not undergoing cervical cancer screening were identified. The findings matched similar studies and reflected that knowledge, attitude and beliefs of women with respect to cervical cancer screening had a huge influence on the screening behavior.

The study showed that women were barely aware of the need and benefits of screening. They thought that it was meant for only those who were symptomatic. Most had not heard about Pap smear screening for early detection of cervical cancer and thought that they did not need it as they were not at risk for developing cervical cancer. Most thought that Pap smear was meant to detect only existing cancer. These misbeliefs emphasize the need for spreading awareness and letting people know that Pap smear is a screening method, primarily meant for detection of precursor lesions for early detection and timely treatment initiation of cervical cancer. The study revealed the fact that a large number of women in the rural areas never attended school. Illiteracy is one of the factors which make women ignorant about their health. "Health is wealth" needs to be emphasized upon.

Our study proves that women in our region lack knowledge of cervical cancer and its method of screening and early detection by Pap smear, both in the rural as well as the urban areas. This study hence also emphasizes on the need of strengthening the educational status of our women at all levels. Young age, poor family income and illiteracy serve as risk factors for development of cervical cancer. Thus it can be stated that ignorance is a major risk factor for the development of cervical cancer and it is directly related to illiteracy. Similar findings were reported by other national and international studies where literacy, socioeconomic status and age served as major factors

One of the significant findings in this study was that most of the women, who knew what little about cervical cancer and its screening, were through relatives and friends, rather than through doctors or media. This can be attributed to the absence of a well-organized awareness or screening programme, which would include mass media awareness and practice guidelines encouraging family physicians to advise their patients to have a smear test. Most of the women participating in our study showed positive attitude towards screening on being informed about its procedure and its utility.

The other important barrier was lack of knowledge about the centers where Pap smears were done. Majority of the participants were also ignorant about the cost part of it and thought it to be an expensive affair. Pain and discomfort was also a major barrier especially with asymptomatic women as they did not feel the need to undergo discomfort and pain for no evident reason. Those with repeat tests may have had unpleasant experience in the past and so were reluctant. Acknowledging the possibility of a little discomfort and pain, women need to be given reassurance and thought some relaxation skills.

CONCLUSION

In conclusion, our results show that there was inadequate knowledge and practice among certain women groups, especially those above 30 years old, married at young age, and those with low education level. Some women also had a positive attitude, although they needed to have reassurances that could reduce the barriers. A well-organized cervical cancer screening programme providing the Pap-smear test through primary health care services is recommended: this should include raising awareness of women regarding risk factors, and overcoming barriers to having the test such as fear and embarrassment.

REFERENCES

1. Laikangbam P, Sengupta S, Bhattacharya P, Duttgupta C, Dhabali Singh T, et al. A comparative profile of the prevalence and age distribution of human papillomavirus type 16/18 infections among three states of India with focus on northeast India. *Int J Gynecol Cancer*. 2007; 17:107–117.
2. Government of India - World Health Organization Collaboration Programme 2004-2005. Guidelines for cervical cancer screening programme; 2006.
3. Balaiah Donta, Shahina Begum, Saritha Nair, Naik DD, Mali BN, Anil Bandiwadekar : Awareness of Cervical Cancer among Couples in a Slum Area of Mumbai *Asian Pacific J Cancer Prev*, 13 (10), 4901-4903
4. Walboomers JM, Jacobs MV, Manos MM, et al. Human papillomavirus is a necessary cause of invasive cancer worldwide. *J Pathol* 1999; 189:12-9.
5. Pontin J et al. Strategies for global control of cervical cancer. *International Journal of Cancer*, 1995, 60(1):1–26.
6. Eddy DM. Screening for cervical cancer. *Ann Intern Med* 1990; 113:214-26.
7. National Health Policy 2002. Ministry of Health & Family Welfare. Government of India. New Delhi. Available from: <http://mohfw.nic.in/np2002.htm>, accessed on August 11, 2009.
8. Giuntoli RL, Bristow RE. Cervical cancer. In: Gibbs RS, Karlan BY, Haney AF, Nygaard I, editors. *Danforth's Obstetrics and Gynecology*. 10th ed. Philadelphia Lippincott Williams & Wilkins, 2008: 971.
9. Mamon JA, Shediac MC, Crosby CB, et al. Inner-city women at risk for cervical cancer: Behavioral and utilization factors related to inadequate screening. *Prev Med* 1990; 19:363-76.
10. Paskett ED, White E, Carter WB, Chu J. Improving follow-up after an abnormal Pap smear: A randomized controlled trial. *Prev Med* 1990; 19:630-41.
11. Bundek NI, Marks G, Richardson JL. Role of health locus of control beliefs in cervical cancer screening belief and behavior *Health Care Women Int* 1997; 18:251-62.
12. Chavez LR, Hubbell FA, Mishra SI, Buriaga Valdez R. The influence of fatalism on self-reported use of Papanicolaou smears. *Am J Prev Med* 1997; 13:418-24.
13. Harmon MP, Castro FG, Coe K. Acculturation and cervical cancer: knowledge, beliefs and behaviors of Hispanic women. *Women Health* 1996; 24:37-57.

14. Twinn SF, Holroyd E, Fabrizio C, Moore A, Dickson JA. Increasing knowledge about and uptake of cervical cancer screening in Hong Kong Chinese women over 40 years. *Hong Kong Med J* 2007; 13(Suppl 2):S16-20.
15. Fernandez-Esquer ME, Espinoza P, Ramirez AG, McAlister AL. Repeated Pap smear screening among Mexican-American women. *Health Edu Res* 2003; 18:477-87.
16. Eddy DM. Screening for cervical cancer. *Ann Intern* 1990;113:214-26.
17. Free K, Roberts S, Bourne R, et al. Cancer of the cervix: old and young, now and then. *GynecolOncol* 1991; 43:129-36.
18. National Institutes of Health consensus development conference statement: cervical cancer; 1996 April 1-3 [Online]. Available at: text.nlm.nih.gov/nih.uploadv3/CDC_statements/cervical/cervic Accessed January 4, 2007.
19. WHO (1986). Control of cancer of the cervix uteri. *Bull World Hlth Organ*, 64, 607-18.
20. World Health Organization (2005). Are the number of cancer cases increasing or decreasing in the world? May, 13.
21. Lindsay-Nanton G (2000). Building partnerships to fight and defeat cancer. Presented at the annual general meeting of the jamaica cancer society. Kingston J May, 18, 2000.
22. Aswathy S., Mariya Amin Qureshi, Beteena Kurian & Leelamoni K.- Cervical cancer screening: Current knowledge & practice among women in a rural population of Kerala, India *Indian J Med Res* 136, August 2012, pp 205-210.
23. Redhwan Ahmed Al-Naggar¹, WY Low^{2*}, ZalehaMd Isa³- Knowledge and Barriers Towards Cervical Cancer Screening Among Young Women in Malaysia *Asian Pacific Journal of Cancer Prevention*, Vol 11, 2010.
24. Nganwai P, Truadpon P, Inpa C, Sangpetngam B, Mekjarasnapa M, Apirakarn M, Chumworathayi B - Knowledge, attitudes and practices vis-a-vis cervical cancer among registered nurses at the Faculty of Medicine, KhonKaen University, Thailand. *Asian Pac J Cancer Prev*. 2008 Jan-Mar; 9(1):15-8.