

Awareness and health beliefs regarding cervical cancer and screenings of women living two different ethnic groups

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ABSTRACT

Purpose: It is stated that the high mortality rate of cervical cancer worldwide can be reduced by early diagnosis, effective observation, and treatment programs. It was aimed to evaluate the correlation between cervical cancer and screening and the health beliefs of married women living in two different ethnic groups.

Materials and methods: This research was conducted as a comparative descriptive study. 211 Roma (Gypsies) and 202 non-Roma married women included in the study. The data was obtained in the research by the introductory survey form and the "Cervical Cancer and Pap Smear Test Health Belief Model Scale". Percentage, mean, t-test, chi-square tests were used in the evaluation of the data. A logistic regression analysis was used. Before the start of the research was received approval by the Ethics Committee.

Results: The average age of the non-Roma women

who participated in the survey was found 40.3 ± 10.5 (min: 20, max: 67). Non-Roma women were found to have received a pap-smear test at a higher rate (about 4 times more) than Roma women ($p < 0.001$, $OR = 3.723$, 95%, $CI 2.472, 5.607$). Non-Roma women were found to have a higher pap-smear test rate (3-fold higher) than Roma women and found that the difference between them was statistically significant ($p < 0.001$, $OR = 2.932$, 95%, $CI 1.855, 4.635$).

Conclusions: Roma women, a disadvantaged group, were found to hear fewer pap-smear tests, have less knowledge about the test, take fewer pap smears than non-Roma women and especially they did not have the pap-smear test because they did not know it.

Keywords: Cervical cancer screening, early diagnosis, pap smear, risk analysis, Roma women

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INTRODUCTION

Cervical cancer is one of the most critical health problems seen in women. It is ranked tenth among the common cancers affecting women in Turkey [1,2].

In line with WHO recommendations for cervical cancer screening, national standards and quality criteria have been developed in Turkey [3].

In order to reduce the cancer incidence and cancer mortality in Turkey, the Ministry of Health, Cancer Control Department has operated a long-term National Cancer Control Program that includes a variety of strategies. Being part of this program, Cancer Early Diagnosis, Screening and Education Centers were established [4].

It has a goal for asymptomatic women in the 30-65 age group in Turkey to have a cervical smear every five years in these centres [5].

The pap smear is a cytological screening test based on the collection and examination of spilled cervical cells. The low rate of pap-smear testing, being a black racial, polygamy, premature onset of sexual activity due to premature marriage, increased cigarette use, the presence of a immunosuppressive disease (human immunodeficiency virus) and low socioeconomic status are among the risk factors for cervical cancer [6,7]. However, the most important cause is human papilloma virus infection [7,8]. The cytological screening program reduced the number of women who died from the human papillomavirus, but it was found that poor women participating in this screening program had a lower participation rate than richer women [9].

While the rate of pap-smear testing in developing countries is 5%, it is 40%-50% in developed countries [10]. In Bahrain, a research carried out by Jassim and his colleagues, it was found that 35.5% of women had not heard of the pap-smear test and 51.1% had not had a pap-smear test performed [11]. In a study conducted in the United Arab Emirates, it was found that 85.0% of women had heard of the pap-smear test and 54.0% had had a pap-smear test performed [12]. In Gökgöz and Aktaş's study, it was determined that 80% of working women, 48.6% of unemployed women, 27.8% of those who were illiterate and 51.3% of those who were in high school had had a pap-smear test performed [13]. In Demirgöz-Bal's study, it was also found that education and working conditions were important factors in pap-smear testing [14]. In a study done by Bekar et al., it was determined that 79.1% of academicians previously had gynaecological examinations [15]. Women's social beliefs, values and low levels of knowledge play an important role in influencing their decisions in terms of participation in screening for cervical cancer and taking preventive precautions

against cervical cancer; low levels of knowledge, negative attitudes and beliefs about the pap-smear test can lead to women's negative behaviours and attitudes towards health protection and development [12,16,17]. The results of the research attribute why the desired level of pap-smear testing is not currently being met to sociodemographic characteristics, attitudes towards women's gynaecological examination and health beliefs and lack of awareness about cervical cancer [12,18].

The Health Belief Model upholds that individuals' health behaviours will be affected by their beliefs, values and attitudes [19]. The model suggests that if individuals perceive the disease as possible risk for themselves, believe in the severity of the disease, know the benefits and barriers of screening and know if there are positive triggers to screen, the relevant health behaviour will emerge [20]. That is why, it is very important to understand women's beliefs about cervical cancer screening, their perceptions, barriers, decision-making processes and behaviours in terms of their health needs. In the literature, it is emphasized that women's experiences regarding health beliefs and preventive health behaviours and the status of the pap-smear test should be evaluated in a sociocultural context [1]. In this context, the health beliefs of particularly disadvantaged groups can be regarded as an important determinant of health-related behaviours.

Disadvantaged groups have more limitations in terms of their social and economic status due to their economic status, gender, religion and ethnicity. Disadvantaged groups constitute the people living in rural areas, poor people living in the city, children affected by drought and conflict, people living with HIV, people at risk of contracting tuberculosis, people with physical disabilities, migrant workers and gender minorities [21,22]. These specified situations put Roma women, who are members of one of the many cultural and ethnic groups in Turkey, in a risk group for cervical cancer; particularly, it is a risk for those who are living in the suburbs of certain districts, who are undertaking short-term education, who are employed in irregular, temporary or low-paid jobs without social insurance or who had early marriages [23,24]. Demographic and social structures have been frequently discussed in studies conducted with this group, but the studies scrutinizing the health effects of these characteristics have been limited. For this reason, in this study, the aim was to comparing the correlation among cervical cancer, screening and the health beliefs of Roma (Gypsies) and non-Roma married women.

MATERIALS AND METHODS

This research was conducted as a comparative descriptive study. Research was carried out in a

city in northern Turkey between February and May 2017.

The Target Population and Study Group of Research

The target population of the study consists of 2400 married women registered in a Family Health Center (FHC). The study group was determined as 28.9% with a 5% error margin and 80% strength, with an average of 25% of the pap-smear taking-off frequency in a 95% confidence interval by performing power analysis in a population of 2400 persons. As totally 413 married women, 211 Roma and 202 non-Roma married women, who agreed to participate in the study were included in the study. After the study, the power of the research was found to be 0.99. The women, who are enrolled in the family health centre where the research is carried out, live in the same settlement area and have two different ethnic structures.

Data Collection Tools

The data will be obtained in the research by the introductory survey form and the "Cervical Cancer and Pap Smear Test Health Belief Model Scale".

Introductory Survey Form

Introductory survey form consisting of seventeen questions prepared by the researcher which cover the questions about the socio-demographic characteristics of married women, knowing presence of cervical cancer in married women and their relatives, knowledge about cervical cancer, early detection of cervical cancer screening, and knowing where it is done.

Cervical Cancer and Pap Smear Test Health Belief Model Scale

This scale was developed by Champion for breast cancer and mammography and adapted to Cervical Cancer and Pap Smear Test. Turkish validity and reliability studies were conducted by Güvenç, Akyüz and Açikel in 2010 [25].

The scale consists of 35 items and five main dimensions:

- sensitivity (3 items),
- seriousness (7 items),
- Pap smear benefit and motivation (8 items),
- health motivation (3 items)
- Pap Smear barriers (14 items).

5 Likert type scale ranging from 1 to 5 in the evaluation of the scale:

- "I absolutely disagree" (1),
- "I disagree" (2),
- "I am undecided" (3),
- "I agree" (4),

- "I absolutely agree" (5) - method is used.

Each dimension of the scale is assessed separately, and a single total score is not merged. For each individual, scores for the number of subscales are obtained. The increase in the scores means that the sensitivity, the seriousness and the motivation increase; that the benefits are perceived as being highly perceived for benefit perception, barriers are perceived as being highly for barrier perception. Subscales other than the barrier perception subscale were positively related to pap Smear scanning behavior. The higher the score of the barrier perception of the individual, the higher the barriers related to the pap smear [25].

The original Cronbach alpha value of the scale was 0.81 for the pap-smear benefit and motivation subscale, 0.84 for the pap-smear barrier, 0.78 for the CC (Cervical Cancer) seriousness, 0.76 for the CC sensitivity, and 0.61 for the health motivation subscale.

In this study, Cronbach alpha value of the scale was 0.64 for the pap-smear benefit and motivation subscale, 0.83 for the pap-smear barrier, 0.83 for the CC (Cervical Cancer) seriousness, 0.98 for the CC sensitivity, and 0.63 for the health motivation subscale.

Collection of Data

On the dates of the research, the Cervical Cancer and Pap Smear Test Health Belief Model Scale with an introductory form consisting of 17 questions were provided all married women, who applied to ASM and agreed to participate in the survey, to answer in a separate room in ASM with a face-to-face interview technique of personally by the researcher. Each form took about 15-20 minutes to fill.

Evaluation of Data

Analyses were evaluated with the SPSS 20.0 package program. all data were analyzed in 2017. Percentage, mean, t test, chi-square tests were used in the evaluation of the data. Logistic regression analysis was used to estimate the difference between ethnicity, pap-smear, and pap-smear test. In all tests, 5% was accepted as meaningful.

The ethical rules of the research

Before commencing the research, the information form containing the purpose and scope of the research received the approval of the Ethics Committee (B.30.2.ODM.0.20.08/725).

In addition, the necessary legal permissions have been obtained from local Public Health Directorate in order to be able to do research.

The participants were informed that their names and personal information would be kept secret, and the rule of 'written consent' was fulfilled.

RESULTS

Descriptive Properties

The mean age of the Roma women who participated in the survey was 37.3 ± 9.2 (min: 18, max: 65) and the mean age of marriage was 16.2 ± 2.8 (min: 12, max: 32).

It was found that while 27.5% of Roma women were not literate, 75.5% were primary school graduates, and no Roma women who participated in the study graduated from high school.

While 97.2% of Roma women had social insurance, 2.8% had no health insurance, 46.4% were working, 53.6% were not working, 40.8%'s income was lower than expense, 50.7%'s income was equal to expense, 8.5% of the income was found to be greater than expense.

The average age of the non-Roma women who participated in the survey was found 40.3 ± 10.5 (min: 20, max: 67) and the mean age of marriage was found 20.8 ± 3.9 (min: 15, max: 37).

It is found that 16,8% of non-Roma women are not illiterate, 64,9% are primary school graduates and 18,3% are high school graduates.

96.5% of the non-Roma women participated in the survey had social insurance while 3.5% did not have, 10.4% working 89.9% not working 13.9% had lower income than expense, 69.3%'s income was equal to expense 16.8% of the income was found greater than expense.

It was found that non-Roma women had higher pelvic examination than Roma women and the difference was statistically significant ($p=0.002$).

Non-Roma women were found to have a higher knowledge of cervical cancer than Roma women have, and the difference between them was found to be statistically significant ($p=0.018$).

Roma women were found to be more likely to receive information from multiple sources about cervical cancer compared to non-Roma women ($p=0.049$).

Non-Roma women were found to have received a pap-smear test at a higher rate (about 4 times more) than Roma women ($p=0.000$, $OR=3.723$, 95%, $CI 2.472, 5.607$).

Non-Roma women were found to have a higher pap-smear test rate (3-fold higher) than Roma women and found that the difference between them was statistically significant ($p=0.000$, $OR=2.932$, 95%, $CI 1.855, 4.635$).

The difference between status of Roma and non-Roma women having cervical cancer in their relatives and status of experiencing gynaecological problems were found to be statistically insignificant ($p=0.499$) (Table 1).

It was found that 53.1% of Roma women and 39.8% of non-Roma women did not have any pelvic examination, 63.0% of Roma women and 51% of non-Roma women have no information on cervical cancer, 43.6% of Roma participants who had information about cervical cancer and 27.6% of non-Roma participants had information about cervical cancer from multiple sources, 10.9% of Roma women and 7.9% of non-Roma women had a relative who had a cervical cancer story, 61.1% of Roma women and 29.7% of non-Roma women did not hear the pap-smear test, 17.1% of Roma women and 37.6% of non-Roma women have previously undergone a pap-smear test, since 51.5% of Roma women did not know the pap-smear test, since 43.3% of the non-Roma women were afraid, they did not have the test, 49.3% of Roma women and 47.0% of non-Roma women did not have any gynaecological problems (Table 1).

Non-Roma women's pap-smear benefits, motivation and health motivation perceptions were higher than Roma women; caring of CC and pap-smear barrier perception scores were found to be lower, the difference was statistically found significant ($p=0.000$).

Sensitivity to CC was found to be similar in both groups ($p=0.54$) (Table 2).

There was a significant relationship between the status of non-Roma women having health insurance, the presence of a cervical cancer story in their relatives and having pap smears ($p=0.007$).

A statistically significant relationship was found between the pelvic examination status of Roma and non-Roma women and the status of pap smears ($p=0.000$).

There was a relationship between pelvic examination and pap smear in both groups. Roma women found that those who did not have a pelvic examination did not have a pap-smear, whereas it was found that those who had a pelvic examination had more pap smears. It was seen that patients who had family members with cervical cancer had more pap smears.

It was found that there was a difference between the average age and pap-smear status of Roma and non-Roma women, both Roma and non-Roma women had higher scores than the average score of women who did not have a pap-smear test and the result was found to be statistically significant. In both groups, it was found out that the pap-smear ratio increased as the mean age increased. ($p=0.000$).

There was no significant relationship between Roma women having health insurance, having a history of cervical cancer in their relatives, and those having pap smears ($p=0.976$) (Table 3).

Table 1. Knowledge status distribution of pelvic examination and cervical cancer by married women

FEATURES	Roma Women (n= 211)		Non-Roma Women (n=202)			
	n	%	n	%	X ²	p
Pelvic Examination Status						
Yes	99	46.9	125	61.9	9.308	0.002
No	112	53.1	77	38.1		
Knowledge about Cervical Cancer						
Yes	78	37.0	98	48.5	5.628	0.018
No	133	63.0	104	51.5		
Where to Get Information						
Family-friend environment	18	23.1	18	18.4	7.867	0.049
TV-Radio	15	19.2	30	30.5		
Health personnel	11	14.1	23	23.5		
Multiple sources	34	43.6	27	27.6		
Status of Cervical Cancer Among Relatives						
Yes	23	10.9	16	7.9	1.071	0.301
No	188	89.1	186	92.1		
Hearing Pap-smear Test						
Hearing	82	38.9	142	70.3	41.085	0.000
Not hearing	129	61.1	60	29.7		
Status of Pap-smear Test						
Yes	36	17.1	76	37.6	22.077	0.000
No	175	82.9	126	62.4		
Why did not you take Pap-smear?						
I fear	48	27.4	55	43.3	8.298	0.016
I don't know	90	51.5	50	39.4		
I do not know and I'm afraid	37	21.1	22	17.3		
Status of experiencing Gynecological problem						
I didn't experience	104	49.3	95	47.0	1.416	0.499
I experienced	107	50.7	107	53.0		

Table 2. Test score averages of women's Health Belief Scale Sub-dimensions

Scale Sub-Dimensions	Roma Women		Non-Roma Women			
	Mean	SD	Mean	SD	t	p
Sensitivity to CC	8.31	2.53	8.47	2.52	0.61	0.54
Caring of CC	26.74	3.39	25.25	5.03	3.54	0.00
Benefit and motivation of pap smear	30.64	4.35	34.30	2.88	10.03	0.00
Health motivation	5.38	2.56	6.77	2.75	5.295	0.00
Pap smear barriers	37.94	6.64	29.54	8.16	11.48	0.00

Table 3. Distribution of status of taking pap-smear according to demographic characteristics of married women

FEATURES	Roma Women(n=211)						Non-Roma Women(n=202)					
	Status of Taking Pap-Smear											
	Yes		No		Analysis		Yes		No		Analysis	
	n	%	n	%	X ²	p	n	%	n	%	X ²	p
Marriage Age												
15-20	27	16.0	142	84.0	0.707	0.401	10	27.0	27	73.0	2.167	1.141
21-37	9	21.4	33	78.6			66	40.0	99	60.0		
Education												
Illiterate	14	24.1	44	75.9	2.830	0.092	11	32.4	23	67.6	3.234	0.198
Elementary	22	14.4	131	85.6			55	42.0	76	58.0		
High School	-	-	-	-			10	27.0	27	73.0		
Health Insurance												
There is	35	17.1	170	82.9	0.001	0.976	76	39.0	119	61.0	-	-
There is not	1	16.7	5	83.3			-	-	7	100.0		
Working Status												
Working	14	14.3	84	85.7	0.996	0.318	12	57.1	9	42.9	3.805	0.051
Not Working	22	19.5	91	80.5			64	35.4	117	64.6		
Income status												
Income is lower than expense	15	17.4	71	82.6	1.806	0.405	11	39.3	17	60.7	4.412	0.110
Income is equal to expense	16	15.0	91	85.0			47	33.6	93	66.4		
Income is greater than expense	5	27.8	13	72.2			18	52.9	16	47.1		
Pelvic Examination Status												
There is	34	34.3	65	65.7	39.36	0.000	72	57.6	53	31.2	55.75	0.000
There is not	2	1.8	110	98.2			4	5.2	73	94.8		
Status of having a relative who had a cervical cancer status												
There is	2	8.7	21	91.3	1.277	0.259	11	68.8	5	31.2	7.17	0.007
There is not	34	18.1	154	81.9			65	34.9	121	65.1		
Taking Pap-smear												
	Yes		No		t	p	Yes		No		t	p
	X±SS		X±SS				X±SS		X±SS			
Age (Average)	42.69±9.16		36.16±8.76		3.92	0.000	43.89±8.77		38.06±10.93		3.94	0.000

DISCUSSION

Findings in this research for the purpose of examining awareness and health beliefs about cervical cancer and screening of married Roma and non-Roma women registered in a Family Health Center at Black Sea Region will be discussed in this section. There

have been no studies on the involvement and health belief of Roma women in cervical cancer screening. For this reason, the discussion will be done constrictedly. In this study, 46.9% of Roma women and 61.9% of non-Roma women were found to have a pelvic examination. It was determined that 74.8% of the women had a pelvic examination in the study of Gökğöz and Aktaş

[13]. It is believed that this is the reason for the low pelvic examination rates of women in this study.

It was found that 63.0% of Roma women and 48.9% of non-Roma women had no information on cervical cancer. In the study of Gökgöz and Aktaş, the rate of those who did not know about cervical cancer was found as 61.9% [13]. In this study, it was thought that the incidence of Roma women with knowledge of cervical cancer was lower than that of non-Roma women due to the lack of awareness due to the low education level. The Roma population is generally a group with a low level of education. It was found that the participation in long-term educational studies was low in this group. This may have affected their participation in studies for cancer awareness.

In the present study, 10.9% of the Roma women and 7.9% of the non-Roma women who participated into the study had a cervical cancer story in their families. The incidence of cervical cancer in the families of women participating in the study conducted by Jassim and his colleagues was 6.7% [11]. The low rate of Pap smear testing, low socioeconomic status and early sexual intercourse are important risk factors for cervical cancer. High level of these risks at Roma women is considered to increase the incidence of cervical cancer.

In this study, 38.9% of Roma women and 70.3% of non-Roma women were found to hear about pap-smear test. In the study conducted in the United Arab Emirates, it was found that 85.0% of the women, 64.7% of women in the study done by Jassim and their colleagues, 76.4% women in the study of Al-Meer and their friends heard about the pap-smear test [10-12]. While the status of hearing of women's pap-smear test differs in the literature, the difference between Roma and non-Roma women living in the same region in this study is remarkable. This situation is thought to stem from the low awareness of Roma women from disadvantaged groups due to low educational status and therefore lack of knowledge. The fact that Roma women have not heard of this test clearly demonstrates the need for education.

In this study, it was determined that 82.9% of Roma women and 62.4% of non-Roma women did not have a pap-smear. In Demirgöz-Bal's study, it was determined that 30.3% of the women had a pap-smear test [14]. In the study of Gökgöz and Aktas, it was detected 51.6% of the women had a pap-smear test [13]. In this study, the high rate of Roma women not having the pap-smear test is thought to be due to the fact that Roma women do not know the test. Nonetheless, the rate of not having the test in both groups is very high. This is due to the lack of awareness on this issue.

In the present study, it has been found that 51.5% of Roma women did not have a pap smear test

because they didn't know it, 43.3% of non-Roma women did not have a pap-smear test because they were afraid of it. In a study conducted by Al-Hammadi and his colleagues, it was found that 29% of the women did not do the pap-smear test because they did not know the test¹². In this study, it is thought that the low level of education in Roma women may affect status of not taking the pap-smear test.

Although Roma women received more points than the non-Roma women in terms of cervical cancer caring dimension, it was found that the benefit perception was low and the barrier perception was high. In the health belief model, perceiving the benefits at a low level, perceiving the barriers at a high level reduce the likelihood of starting the desired health behaviour. Perceiving the benefits at a low level, perceiving the barriers at a high level in the health belief model reduce the possibility of developing positive health behaviour.

In this study, it was found that while Roma women's age and pelvic examination status, while non-Roma women age, health assurance, pelvic examination, and cervical cancer of the relatives affected pap smear test; marital age, educational status, working status, and income status of both Roma and non-Roma women did not affect to have pap-smear testing. In Demirgöz-Bal's and Gökgöz and Aktaş's studies, it was found that working and educational status had a significant effect on pap-smear ratio [13,14]. In this study, both age and pelvic examinations were found to affect pap-smear status in married Roma and non-Roma women. It is thought that this may be due to the fact that the testimonials of women's health conditions have deteriorated and that preventive health behaviours are not sufficiently adopted in Roma and non-Roma women.

Roma population - an ethnic and disadvantaged group - is among the least beneficiary groups in health care at the same time. Especially in this group, studies about access to preventive health services are very limited that is why group is considered as a closed group. Considering this evaluation, a lower rate of cancer screening awareness of Roma women than non-Roma women reveals that they are disadvantaged group who can access to health services. Although especially cancer screening for women at risk in Turkey (such as breast examination, mammography, pap-smear tests, and colonoscopy) is free, it is thought-provoking that women in the Romani group have a pap-smear rate of three times less, and the awareness of this cancer is low. The lack of systematic health education for Roma people, which would be considered as one of the disadvantaged groups in public health practices, may be the result of this.

This study has some limitations that may concern its readers. This research was carried out only

with a group of Roma and non-Roma women living in a region of Turkey. The result can only be generalized to this group.

CONCLUSIONS

As a result of this study, Roma women - a disadvantaged group - were found to hear less about the pap-smear test, have less information about the test, take fewer pap smears than non-Roma women, and they did not have the pap-smear test because they did not know it. However, in this research, the high incidence of pap-smear barrier perception, the low incidence of benefit perception in Roma women, an ethnic disadvantaged group lead to consider that the possibility of initiating preventive health behaviours will be very low. Based on these results; it may be advisable to conduct awareness studies on cervical cancer screening for women, especially Roma women - a disadvantaged group. Studies on the Roma population are very limited. Women's health problems gain special importance in this group due to early marriage. For this reason, it may be suggested that women in this group and women living in different societies should take pap smears and the study on the awareness of cancer screening should be conducted.

Conflicts of interest

It was not taken any financial support for this article. There is no any conflict interest.

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