Health beliefs about cervical cancer in university students

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Problem Statement: There are approximately 60000 women with cervical cancer in Europe and of these, 30000 die annually. Through screening programmes we can prevent many cases of illness and death[1].
Research Questions: What are the health beliefs about cervical cancer in university students?
Purpose of the Study: To identify health beliefs about cervical cancer in university students.
Research Methods: This is a quantitative, analytical, comparative and correlational study, with a sample of 345 university students. The data collection instrument is a questionnaire that assesses the health beliefs about cervical cancer in university students and the Health Belief Scale[2].
Findings: The participants have a low belief in vulnerability, an average belief in severity relative to cervical cancer, a high belief in benefits and indifference in the belief of barriers to screening.
Conclusions: Health professionals are fundamental in health education so that people will adopt healthy attitudes to health, to encourage adherence to screening for cervical cancer and to demystify wrong ideas.
Key Words: cervical cancer, health beliefs, university students

Introduction

Currently, cervical cancer is the 7th most common cancer worldwide and the 2nd most common cancer in women. According[1] there are approximately 60,000 women with cervical cancer in Europe and of these, 30,000 die annually of the disease. Of all malignant tumours, cancer of the cervix, is the one which can be most effectively controlled, with the possibility of an approximately 80% reduction of incidence, through cytological cervical screening programme at 3 or 5 year intervals[3]. In Portugal, the mortality rate is about 4 deaths per 100,000 inhabitants. The highest prevalence of transient infections by carcinogenic HPV types in women occurs in adolescence and between 20 and 30 years of age, after the onset of sexual activity. Thus, promoting adherence to screening is a key strategy. This is free in the primary health care service and women's participation is crucial. Organized screening programmes are recommended for all European countries. The patient here is the biggest challenge[4] and adherence to monitoring should be strengthened to maximize its effectiveness. It is estimated that regular screening can prevent over 90% of cancers of the cervix[5].
As in all health situations, women's attitudes towards screening are of utmost importance. Generally speaking, expectations for screening depend on previous experience, current medical needs and prior education. The patients most likely to develop cancer are least likely to adhere to screening[6]. Other factors are the absence of symptoms and the lack of information about the benefits of cervical screening[7]. Asymptomatic women who often perform more health examinations and who have healthy behaviours demonstrate greater adherence to screening and prevention methods. Women also tend to adhere more to the

screening if it is recommended by their doctor[5]. Ignorance of the technique and its importance, the fear of pain or discomfort and the feeling of shame or embarrassment are some of the reasons that lead to not having cytology[8].
Individuals' beliefs of are also linked to adherence, particularly in terms of having regular screenings since, if people perceive their high susceptibility to the disease, perceiving it as a serious threat to their health, they tend to consider the benefits of screening high and to recognize the costs as relatively low[9]. In this context, most women believe that cervical cancer is more common in older women and, therefore, screening is essentially for an older age group[7]. A person's beliefs on the pros and cons of carrying out screening are associated with their adherence[10]. Thus, it is up to each person to become aware of the appropriate care to be adopted and adhere to preventative screening. It is up to health care professionals to assume the fundamental role of informing the public, encouraging and assisting in prevention.
Given the above, we deliberated with regards to health beliefs on screening for cervical cancer among students enrolled in higher education in courses within health care as well as other courses.

Material and methods

A quantitative, descriptive, analytical, comparative and correlational study was conducted with a non-probability convenience sample of 365 female students enrolled in higher education (147 in the field of health and 198 in other areas), aged between 18 and 45 years. Data collection occurred during the months of April and May 2014 in compliance with all legal and ethical procedures. A questionnaire was used as the data collection instrument in order to characterise participants in socio-demographic terms. The health beliefs scale by Patrão, 2000 was also used. The data were treated using the SPSS 21.0statistical programme.

General characteristics of the sample

The statistics regarding age reveal that students have a minimum age of 18 years and a maximum of 45 years, which corresponds to an average age of 21.47 years with a standard deviation of 3.67 years.

Table 1 – Age of participants in health and other areas

Age students	N	Min	Max	M	D.P.	CV (%)	Sk/error	K/error	K/S
Health	147	18	38	21.39	2.92	13.66	14.19	26.42	0.000
Other Areas	198	18	45	21.53	4.14	19.25	14.34	38.46	0.000
Total	345	18	45	21.47	3.670	17.09	25.72	54.69	0.000

With regards to place of residence and by area of study, it appears that most students from other areas, 43.9%, live in the city. In the health area, the percentage of students living in the city is equal to those residing in the village, 39.5%.

Table 2 – Distribution of respondents by place of residence and area of studies

Residence	Health students		Students of other areas		Total		X^2	p
	Nº	%	Nº	%	Nº	%		
City	58	39.5	87	43.9	145	42.0	1.617	0.446
Town	31	21.1	46	23.2	77	22.3		
Village	58	39.5	65	32.8	123	35.7		
Total	147	100	198	100	345	100		

Results

Analysis of participants' health beliefs revealed that the values varied between a minimum of 27 to a maximum of 110, with an average of 71.07 (SD – 13.156). Dispersion around the mean is moderate (CV-18.51). In the vulnerability subscale, the values range from a minimum of 6 to a maximum of 30, with a mean of 14.55 (SD – 4.522). In the severity subscale, the mean value was 19.02 (SD – 4.742) and the values range from a minimum of 7 to a maximum of 32. In the benefits subscale, the mean values are of 13.87 (SD – 2.783) and the values range from a minimum of 4 to a maximum of 20. In the barriers subscale, the values range from a minimum of 10 to a maximum of 40, with a mean of 23.63 (SD - 6.80). We found that dispersion around the mean in the vulnerability subscale is high, while it is moderate in the other three subscales.

Table 3 – Statistics on health beliefs

Health beliefs	Min	Max	Mean	SD	CV (%)	Sk/error	K/error	K/S
Vulnerability	6	30	14.55	4.522	37.08	-0.65	-0.82	0.000
Severity	7	32	19.02	4.742	24.93	-2.78	-0.02	0.000
Benefits	4	20	13.87	2.783	20.06	-4.58	5.69	0.000
Barriers	10	40	23.63	6.80	28.78	-1.89	-2.45	0.000
Health beliefs	27	110	71.07	13.156	18.51	-4.20	3.77	0.000

Concerning vulnerability, we found that most participants disagree with the questions and as such have a low belief in vulnerability in relation to cervical cancer, but in question 3, the majority reveals indifference regarding the statement (34.2%) and in 6 question the majority (29.0%) agree with the statement "I'm worried about the fact that I may develop cervical cancer in the near future."

Table 4 – Percentage distribution by questions of belief in vulnerability

Vulnerability Questions	1	2	3	4	5
1 – Do you think you are likely to get cervical cancer?	16.8	37.7	34.8	9.9	0.9
2 – Do you think that the likelihood of getting cervical cancer in the coming years is high?	19.4	40.0	32.8	6.7	1.2
3 – Do you feel you are likely to get cervical cancer in your lifetime?	16.8	33.3	34.2	14.8	0.9
4 – Do you think you are more likely to get cervical cancer than most women?	30.4	41.4	23.2	3.5	1.4
5 – Could you be developing cervical cancer right now?	19.1	32.2	29.0	17.4	2.3
6 – Are you worried about the fact that you may develop cervical cancer in the near future?	15.9	27.2	23.2	29.0	4.6

As for severity, most of the participants neither agree nor disagree with the questions. Most responses to question 8 (33.6%), 9 (31.9%) and 10 (36.2%) were "indifferent." We also found

that cervical cancer scares the participants (48.1%) that they disagree that they would not live more than five years if they had this condition (39.7%) or that it would threaten their relationship with their partner (31.6%). Thus, the participants expressed an indifferent belief in severity in relation to cervical cancer.

Table 5 - Percentage distribution by issues of belief in severity

Severity Questions	**1**	**2**	**3**	**4**	**5**
Thinking about cancer cervical scares me.	7.5	12.8	14.5	48.1	17.1
When I think about cervical cancer, my heart beats faster.	15.7	22.3	33.6	21.7	6.7
I dread to think about cervical cancer.	11.0	20.3	31.9	31.0	5.8
The problems I would have, if I suffered from cervical cancer would last a long time.	9.9	20.0	36.2	31.0	2.9
If I had cervical cancer, I would not live more than five years.	24.1	39.7	32.2	2.9	1.2
Cervical cancer could threaten my relationship with my boyfriend, husband or partner.	26.4	31.6	26.7	13.3	2.0

In the questions related to the benefits subscale, we found that most participants agree with the questions, presenting values between 44.1% and 52.2%. They therefore have a high belief in benefits with regards to cytology. However, most respondents reveal indifference for question 15 in regards to the statement "If any lesions are found on my uterus through cytology, the cancer treatment will not be that bad."

Table 6 – Percentage distribution by questions of belief in benefits

Benefits Questions	**1**	**2**	**3**	**4**	**5**
Performing cytology will help me to detect the existence of lesions on my uterus earlier.	2.3	5.8	15.4	51.6	24.9
If any lesions are found on the uterus through cytology, the cancer treatment will not be that bad.	7.0	27.5	38.3	24.1	3.2
Performing cytology is the best way to detect small lesions in the uterus.	2.6	8.7	21.4	52.2	15.1
Performing cytology will diminish the many chances of dying from cervical cancer.	4.3	15.7	26.7	44.1	9.3

The percentage distribution of beliefs regarding barriers shows us most participants' indifference. However, they (40.0%) agree with the statement, "When I have a cytological exam, I'm afraid to find out that something is not right." And they disagree with three statements, "I have other, more important problems than thinking about having a cytological exam." (33.0 %); "I can't seem to remember to make an appointment for a cytological exam." (31.6%); "Having a cytological exam depends on my boyfriend's, partner's or husband's opinion" (56.5%).

Table 7 – Percentage distribution by questions of belief in barriers

Barriers Questions	**1**	**2**	**3**	**4**	**5**
When I have a cytological exam, I'm afraid to find out that something is not right.	9.0	10.4	31.9	40.0	8.7
I'm afraid to have a cytological exam because I do not understand how it will be performed.	24.3	26.7	27.5	17.1	4.3
Having a cytological exam would be embarrassing.	25.2	25.5	27.5	18.3	3.5
Having a cytological exam would take a long time.	24.3	30.7	38.3	5.5	1.2
Having a cytological exam would be painful.	19.4	25.5	37.7	15.4	2.0
Having a cytological exam would make me miss work.	26.4	25.8	40.0	6.7	1.2
I have other, more important problems than thinking about having a cytological exam.	33.0	31.9	27.2	5.2	2.6
Having a cytological exam would be expensive.\	30.4	27.0	32.5	8.1	2.0
I can't seem to remember to make an appointment for a	31.6	30.1	30.4	6.4	1.4

cytological exam. Having a cytological exam depends on my boyfriend's, partner's or husband's opinion.	56.5	21.4	20.0	1.4	0.6

The participants enrolled in the field of health care have higher beliefs in the subscales (M=73.84, SD=11.97) compared to those enrolled in other areas (M=69.01, SD=13.67). Not assuming equal variances (p=0.022), we find that the t-test is highly significant (t=3.494, p=0.001). Given the above and after analysis, we may conclude that health beliefs are dependent on the area of study.

Table 8 – T test for mean differences between health beliefs and area of study

Area of Study	**Health**		**Other areas**		**Leven,s**	**t**	**p**
Health Beliefs	**M**	**SD**	**M**	**SD**	**p**		
Vulnerability	15.39	4.488	13.92	4.456	0.631	3.004	0.003
Severity	19.84	4.466	18.41	4.858	0.079	2.841	0.005
Benefits	14.18	2.729	13.64	2.807	0.425	1.790	0.073
Barriers	24.44	6.07	23.04	7.26	0.001	1.940	0.053
Health beliefs	73.84	11.97	69.01	13.67	0.022	3.494	0.001

Discussion of Results

Cervical cancer has a great impact on the lives of women around the world, affecting women of all ages and is curable when detected at an early stage. Beliefs about health care constitute ideas or speech that people express about how they maintain or regain their health, which is reflected in the health behaviours they embrace. Thus, health beliefs appear and progress within an individual's social and cultural context.

With the aim of analysing health beliefs in the four subscales, we found that participants have a low vulnerability in relation to cervical cancer, even though most reveal indifference to the statement "I feel I am likely to get cervical cancer in my lifetime." and agree with the statement "I'm worried about the fact that I may develop cervical cancer in the near future." In their research[11], found that participants "have a high vulnerability in relation to cervical cancer, although most disagree with the statements, "I am more likely to have cervical cancer than most women." And "I could be developing cervical cancer right now." "Women who belong to the sample...have a high belief in vulnerability with regards to cervical cancer"[2]

Regarding the severity subscale, we found that most participants expressed an average belief in severity in relation to cervical cancer, as they show indifference to most statements. Nevertheless, we found that thinking about cervical cancer scares most participants and disagree with the statements "If I had cervical cancer, I would not live more than five years." and, "Cervical cancer could threaten my relationship with my boyfriend, husband or partner." Contrary to our results, found that participants in their study "have a high belief in severity in relation to cervical cancer"[11.] Similar results are obtained[2] "Participants generally...have a high belief in severity in relation to cervical cancer." As for the statement, "If I had cervical cancer, I would not live more than five years." the results obtained in both studies were similar to ours, i.e., most participants did not link cervical cancer with an early death.

Analysing the benefits subscale, most participants have a high belief in the benefits of cytology. However, most show indifference to the statement, "If any lesions are found on my

uterus through cytology, the cancer treatment will not be that bad." Similar results obtained in their studies[2, 11] with regards to this subscale.

Participants in our study expressed an average belief in barriers with regards to cytology as they show indifference in most of the statements. Nevertheless, they agree with the statement, "When I have a cytological exam, I'm afraid to find out that something is not right." and disagree with three statements, "I have other, more important problems than thinking about having a cytological exam.", "I can't seem to remember to make an appointment for a cytological exam." and, "Having a cytological exam depends on my boyfriend's, partner's or husband's opinion." In the study[2], some results are identical to ours, because the participants their study expressed "...responses of indifference to the following questions: 20, 'Having a cytological exam would be embarrassing.' 21, 'Having a cytological exam would take a long time.' and 22, 'Having a cytological exam would be painful.', and agreed with the statement[2], 'When I have a cytological exam, I'm afraid to find out that something is not right.'" However[2, 11], obtained different results from ours, as the participants of their studies showed a low belief in barriers.

Analysis of the data collected has shown that the health beliefs about cervical cancer are dependent on the participants' area of study. In this context, a study conducted in a district hospital in Botswana in 2011 concluded that women's barriers to screening for cervical cancer are embarrassment, pain, lack of time for adherence to screening and the of information.

Conclusions

It is worth mentioning that a population's myths strongly influence health beliefs and adherence to screening. Thus, promoting adherence to screening is a key strategy. Screening programmes and adherence to them should be strengthened in order to maximize effectiveness. Since individuals have their beliefs as basis directing their action in confronting illness or the threat of illness, screening programmes should be negotiated socially and take into account their educational and health literacy.

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