

CASE STUDY

Knowledge, attitude, practice of cervical cancer screening and some factors related to practice in women aged 21 - 65 years old in Dan Quyen commune, Trieu Son district, Thanh Hoa province in 2023

Truong Thi Anh Thu^{1*}, Tran Thi Tuyet Hanh²

ABSTRACT

Objective: To describe the knowledge, attitude, practice of cervical cancer screening and some factors related to practice among women aged 21 - 65 years old in Dan Quyen commune, Trieu Son district, Thanh Hoa province in 2023.

Methods: This was a cross-sectional study, interviewed 315 females aged 21-65 in Dan Quyen commune, Trieu Son district, Thanh Hoa province in 2023.

Results: The proportion of women with good knowledge was 44%, positive attitude was 61.3% and practicing cervical cancer screening was 42.9%. Women who were 31 years old or older, had a high school education or higher, has a job other than being a farmer, lived in good/rich economic conditions and had two children or less were 11.2, 6.3, 4.1, 4.7 and 2 times more likely to be screened for cervical cancer than the other groups, respectively ($p < 0.05$). Women who had good knowledge, a positive attitude, had regular gynecological examinations and have had access to information about cervical cancer were 8.3, 1.9, 12.9 and 35.4 times more likely to go for screening, respectively compared to the other group ($p < 0.05$).

Conclusions: Women's knowledge, positive attitude and practice of cervical cancer screening were not high. Therefore, it is necessary to improve women's knowledge and attitudes, thereby increasing the rate of screening practice through appropriate communication and education measures. The communication content should focus on risk factors, signs and symptoms, cervical cancer prevention methods, age and time for regular cervical cancer screening.

Keywords: Cervical cancer screening, knowledge, attitude, practice, Thanh Hoa province.

INTRODUCTION

Cervical cancer is a common type of cancer, ranking the fourth most common cancer in women worldwide with approximately 604000 new cases and 342000 deaths in 2020 (1). If well prevented, detected and treated early, the burden of the disease disability and mortality will be reduced (3,4). The proportions of women going for cervical cancer screening in

low-income countries (8%) and lower-middle-income countries (11%) were still very low and were much lower than those in upper-middle-income countries (48%) and high-income countries (84%) (2). Studies have identified various factors related to cervical cancer screening practice, including women's personal factors (age, economic status, occupation,...); reproductive health behaviors (age at first sexual intercourse, number of sexual partners,



Corresponding author: Truong Thi Anh Thu
Email: Anhthu15192@gmail.com

¹An Duc International Pharmaceutical Company
limited

²Hanoi University of Public Health

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regular gynecological examination, etc.) and knowledge and attitudes about cervical cancer (5). At Dan Quyen Commune Health Center, regular gynecological examinations are regularly organized, incorporating cervical cancer screening for women of reproductive ages by visually observe the cervix with Lugol's solution. However, the proportion of females aged 21-65 years old taking these screening tests was still low and this activity has missed the group of women over 49 years old (6). Therefore, the study was conducted to describe the current status of knowledge, attitude, and practice of cervical cancer screening and to identify some factors related to the practice in women aged 21 - 65 years old in Dan Quyen commune, Trieu Son district, Thanh Hoa province in 2023.

METHODS

Study design: This was a cross-sectional study.

Research subjects: The study was conducted on women aged 21 - 65 years old who already had sexual intercourse. Selection criteria were all women lived in Dan Quyen commune who have had sexual intercourse, aged 21 - 65 years old according to birth certificates as of December 31, 2022. Exclusion criteria included women who have had or were currently suffering from and being treated for cervical cancer; who were suffering from diseases related to cognitive abilities such as mental disorders, cognitive-behavioral disorders, memory loss, etc. that could affect the ability to provide reliable information.

Study site and time: Data were collected in February - April 2023 in Dan Quyen commune, Trieu Son district, Thanh Hoa province.

Sample size and sampling method

The sample size was calculated using the formula for estimating a single proportion:

$$n = Z^2_{(1 - \alpha/2)} \frac{p(1-p)}{d^2}$$

In which: n is the research sample size; $Z_{(1 - \alpha / 2)} = 1.96$ (with 95% confidence); $d = 0.05$; p (practice of having cervical cancer screening) = 0.24 (according to research by Huynh Thi My Loan in 2020) (3). Applying the formula, we had $n = 282$, taking a 10% dropout rate, we had a total sample size of 310 after rounding and the actual sample size collected was 315 people. The study applied random sampling method by stages. At stage 1, we randomly selected four villages from the list of 10 villages in the commune. At stage 2, we selected participants according to systematic randomization method. To establish a sampling frame, a list of all women aged 21-65 years old in the 4 selected villages was prepared according to the villages' demographic management list. Estimated sample distance k by dividing the total number of women in the list by 310 ($k = 623/310 = 2$), then a sample of 310 was randomly selected from the list with $k = 2$.

Data collection: Used a structured questionnaire to collect data through direct interviews at participants' homes or some other locations suitable for research participants by appointment to create a comfortable atmosphere and objectivity of answers. The principle researcher directly supervised the enumerators during the interview process.

Research variables: The demographic variables of participants included age, marital status, education level, occupation, family economy status, number of children and family history of members with cervical cancer. Variables on general knowledge about cervical cancer and screening included prevalence, causes, risk factors, signs and symptoms, treatment possibilities of cervical cancer, HPV vaccine, cervical cancer prevention measures, knowing about

screening cervical cancer, screening methods, benefits, designated ages and period of periodic cervical cancer screening.

Variables on attitude towards cervical cancer screening included necessity, confidence, readiness, trust and information sharing of cervical cancer screening. Reproductive health behaviors related to cervical cancer included the following variables: regular gynecological examination/frequency of examination, age at first sexual intercourse, number of sexual partners, condom use during sexual intercourse/frequency of use, use of birth control pills and other reproductive hormonal products/duration of use and HPV vaccination. Variables on cervical cancer screening practices included screening history, number of visits, regular examination time, examination location and reasons for not going for cervical cancer screening. Variable on access to media information included: has heard/watched/read information about the cervical cancer prevention, access channels, and easy-to-understand/reliable access channels.

Women with adequate knowledge and positive attitudes if their knowledge and positive scores were equal or higher than the average values (for knowledge the score ≥ 13 , and for attitude, the score ≥ 17 . Women who had cervical cancer screening practices if they had cervical cancer screening test at least once in the past five years.

Data analysis: All information was entered using Epidata 3.1 software before transferring to SPSS 20.0 software to analyze. The frequencies and percentages were used in the descriptive statistic. While odds ratio (OR) and Chi-square (χ^2) test were used to determine the differences among proportions as well as the relationship between the two variables. A p-value < 0.05 was set as level of statistical significance.

Ethics approval: The study was conducted after getting official approval from the Ethics Committee at Hanoi University of Public Health according to Decision No. 26/2023/YTCC-HD3 dated January 1, 2023.

RESULTS

Table 1 presents general information about research subjects ($n = 315$). Most of the participants already had sex (97.5%) and were married (97.1%). Participants with a high school diploma or higher were 47.6%. The majority of women were farmers (51.7%), however the proportion of women with economic conditions belonging to poor/near poor households was quite low (6.7%). The number of women with two or less children and three or more children was nearly equal at 52.7% and 47.3%, respectively. There were two (0.6%) out of 315 women who had a family member (mother, sister) with cervical cancer.

Table 1. General information about research subjects (n=315)

Characteristics		Frequency	%
Age group	21-30	29	9.2
	31 - 65	286	86.8
Sexual intercourse status	Already had sex	307	97.5
	Not yet having sex	8	2.5
Marital status	Married	306	97.1
	Not married	9	2.9

Academic levels	Primary school or lower	65	20.6
	Secondary school	100	31.7
	High school	115	36.5
	Colleges/Undergraduate/post graduate degrees	35	11.1
Occupation	Farmer	163	51.7
	Workers/craftsmen	81	25.7
	Service/sales	27	8.6
	Employed, hired/unemployed, housewife	14	4.4
	Civil servants/office staff	30	9.5
Family economic status	Poor/near poor households	21	6.7
	Average/rich	294	93.3
Number of children	From 2 children or less	166	52.7
	From 3 children or more	149	47.3
Family history of having cervical cancer	Yes	2	0.6
	No	313	99.4

Table 2. Women’s general knowledge about cervical cancer and screening

Characteristics	Frequency	%	
Ever heard/know about cervical cancer (n=315)	302	95.9	
Know that cervical cancer is a common type of cancer in women (n=302)	184	60.9	
Know that the cause of cervical cancer is the HPV virus (n=302)	68	22.5	
Risk factors of cervical cancer (n=302)	Genetics (mother/ sisters have cervical cancer)	138	45.7
	Age factor	234	77.5
	Impaired immune system	82	27.2
	Having sex with multiple partners or husband/partner with multiple partners	204	67.5
	First sexual intercourse before age 18	13	4.3
	Have > 2 children	124	41.1
	Smoke	38	12.6
	Long-term use of oral contraceptives	87	28.8
	Improper nutrition	11	3.6
	Poor economic conditions	34	11.3
Signs and symptoms of cervical cancer (n=302)	Abnormal vaginal bleeding	243	80.5
	Abnormal vaginal discharge	206	68.2
	Pain during sexual intercourse	65	21.5
	Abnormal pain in the pelvic area	52	17.2
	Abnormalities when urinating (discomfort, blood, etc.)	56	18.5

Characteristics		Frequency	%	
Treatment and prevention of cervical cancer	Know that cervical cancer can be cured if detected early and treated promptly	86	28.5	
	Knowing that cervical cancer can be prevented	216	71.5	
	Knowing about HPV vaccine to prevent cervical cancer (n=216)	130	60.2	
	Knowing the recommended age for HPV vaccination in women is 9-26 years old (n=146)	4	2.7	
	Know that HPV vaccine can be given to men (n=146)	5	3.4	
	Preventive measures (n = 246)	Safe and faithful sex	196	79.7
Having sex for the first time after age 18		23	9.3	
Do not smoke/quit smoking		39	15.9	
Do not arbitrarily use oral contraceptives or other hormonal products for a long time		112	45.5	
Regular gynecological examination		189	76.8	
Proper nutrition		47	19.1	
Cervical cancer screening examination	Know about cervical cancer screening (n=302)	178	58.9	
	Cervical cancer screening is a preventive measure (n=178)	135	75.8	
	Concept (n = 178)	An examination to detect pre-cancerous lesions and cervical cancer where the person has no signs or symptoms of the disease	75	42.1
		Don't know + other methods	103	57.9
	Methods (n = 178)	Cervical cell test (PAP)	37	20.8
		Observe CTCs with the naked eye with acetic acid (VIA) solution.	1	6
		Observe CTCs with the naked eye with Lugol's solution (VILI)	1	6
		HPV testing	28	15.7
		Don't know	114	64.1
	Benefits (n = 178)	Early detection and timely treatment of pre-cancerous lesions and cervical cancer	140	78.7
		Don't know	36	20.2
	Ages that need screening (n = 178)	From 21 to 65 years of age	15	8.4
		Don't know/Other	163	91.6
Periodic examination time (n = 178)	According to the regimen (2-5 years)	29	16.3	
	Don't know/Other	149	73.7	
Adequate general knowledge about cervical cancer and screening (n = 302)		133	44	

Table 2 shows that the proportion of women with adequate knowledge about cervical cancer and screening was 44%. The average

score of general knowledge about cervical cancer and screening was 13 (± 5) out of a total of 35 points. 95.9% of women have heard/

know about cervical cancer. Older age (77.4%) and sexual intercourse with multiple partners or husband/partner with multiple partners (67.5%) were two of the 10 risk factors chosen by the majority of women. Abnormal vaginal bleeding (80.5%) and abnormal vaginal discharge (68.2%) were two out of five signs and symptoms of cervical cancer that most women choose. The majority of women believed that safe, faithful sex (79.7%) and

regular gynecological examinations (76.8%) were measures to prevent cervical cancer. 58.9% of women knew about cervical cancer screening, of which the majority knew that the benefits of cervical cancer screening would help early detection and timely treatment (78.7%). However, up to 64.1% of women did not know the exact screening methods, and only 8.4% knew that the age range for screening was 21 - 65 years old.

Table 3. Women’s attitudes toward cervical cancer screening (n = 302)

Characteristics		Frequency	%
Cervical cancer screening is necessary for adult women	Strongly disagree	0	0
	Disagree	1	0.3
	Neutral	98	32.5
	Agree	196	64.9
	Strongly agree	7	2.3
Feel happy and comfortable when going for cervical cancer screening at medical facilities	Strongly disagree	0	0
	Disagree	77	25.5
	Neutral	78	25.1
	Agree	140	46.4
	Strongly agree	7	2.3
It is possible to go for cervical cancer screening even though it costs time and money	Strongly disagree	0	0
	Disagree	79	26.2
	Neutral	87	28.8
	Agree	129	42.7
	Strongly agree	7	2.3
Screening for early detection of cervical cancer will help cure the disease	Strongly disagree	0	0
	Disagree	37	12.3
	Neutral	84	27.8
	Agree	174	57.6
	Strongly agree	7	2.3
Be ready to share information and mobilize relatives, friends, and neighbors to get cervical cancer screening	Strongly disagreement	0	0
	Disagree	84	27.8
	Neutral	76	25.2
	Agree	134	44.4
	Strongly agree	8	2.6

Table 3 shows that the statement “screening for cervical cancer is necessary for adult women” with a rate of 64.6% participant agreed and “screening for early detection of cervical cancer will help cure the disease”

with a rate of 57.6% people agreed. These were the two statements that received the highest agreement rate from women. Other statements received 42.7%, 44.4% and 46.4% of participants agreed.

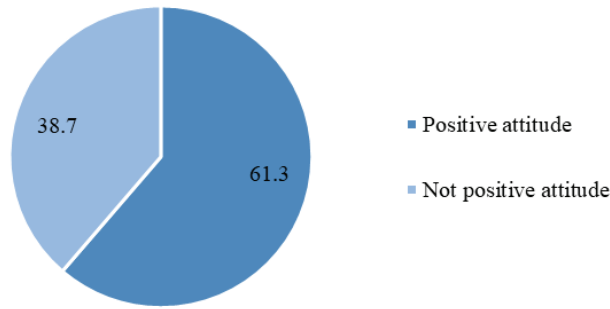


Figure 1. Current status of women's attitudes about cervical cancer screening

Research results showed that 61.3% of women had a positive attitude and 38.7% of women still did not have positive attitude towards cervical cancer screening. The average attitude score for women was 17 out of 25 points (min =12, max = 25).

Table 4. Practices of cervical cancer screening

Characteristics	Frequency	%
Have ever been screened for cervical cancer	126	42.9
Number of medical examinations in the last 5 years (n=126)	1 time	26.2
	≥ 2 times	73.8
Frequency of routine cervical cancer screening (n=126)	Once a year	18.3
	One time every 2-5 years	81.7
	>5 years/screening	0
Place of cervical cancer screening (n=126)	Central hospital	15.1
	Provincial hospital	17.5
	District hospital/health center	39.7
	Commune health center	3.2
	Hospitals, private obstetric clinics	63.5
	Examination during the screening campaign	6.3
Reasons for not having cervical cancer screening (n= 168)	Unnecessary	24.4
	No symptoms	59.5
	Busy, no time	42.9
	Examination costs are high	4.2
	Traveling is not convenient	11.9

Table 4 shows that 42.9% of women had ever gone for cervical cancer screening. Hospitals/private obstetric clinics were the most preferred and chosen places for screening (63.5%). The main reasons for not going for cervical cancer screening were due to no symptoms (59.5%) and due to being busy and not having time (42.9%).

Table 5. Factors related to cervical cancer screening practice (bivariate analysis)

Characteristics	Classification	Cervical cancer screening n (%)		OR	95% CI
		Yes	No		
Age	31 - 65 years of age	124 (45.4)	149 (54.6)	11.2	2.6 – 48.1
	21 - 30 years of age	2 (6.9)	27 (93.1)		
Education levels	High school and above	94 (62.7)	56 (37.3)	6.3	3.8 – 10.5
	Secondary school and lower	32 (21.1)	120 (78.9)		
Occupations	Others	88 (57.9)	64 (42.1)	4.1	2.5 – 6.6
	Farmers	38 (25.3)	112 (74.7)		
Home economic status	Average/rich	123 (43.8)	158 (56.2)	4.7	1.3 – 16.2
	Poor/near poor*	3 (14.3)	18 (85.7)		
Current number of children	≤ 2 children	82 (49.4)	84 (50.6)	2	1.3 – 3.3
	≥ 3 children	44 (32.4)	92 (67.6)		
General knowledge about cervical cancer and screening	Adequate	91 (68.4)	42 (31.6)	8.3	4.9 – 13.9
	Not adequate	35 (20.7)	134 (79.3)		
Attitude towards cervical cancer screening	Positive	88 (47.6)	97 (52.4)	1.9	1.7 – 3.1
	Not positive	38 (32.5)	79 (67.5)		
Regular gynecological examination	Yes	69 (82.1)	15 (17.9)	12.9	6.9 – 24.5
	No	57 (26.1)	161 (73.9)		
Number of sexual partners in the past 12 months	≥1	122 (51)	117 (49)	15.4	5.4 – 43.7
	0	4 (6.3)	59 (93.7)		
Use condoms when having sex	Yes	35 (64.8)	19 (35.2)	2.1	1.1 – 3.9
	No	87 (47)	98 (53)		
Listen/watch/read information about preventing cervical cancer	Yes	124 (52.5)	112 (47.5)	35.4	8.5 – 148.1
	Never/ don't remember/ don't know	2 (3)	64 (97)		

Table 5 showed that women aged 31 years or older (OR=11.2; CI 95%: 2.6 - 48.1), with a high school education or higher (OR=6.3; CI 95% : 3.8 – 10.5), had a profession other than a farmer (OR=4.1; CI 95%: 2.5 – 6.6), had an average/rich economic status (OR=4.7 ; CI 95%: 1.3 - 16.2) and having 2 or less children (OR = 2; CI 95%: 1.3 - 3.3) were more likely to be screened for cervical cancer

than the reference groups. Women with adequate knowledge (OR = 8.3, 95% CI: 4.9 – 13.9) and positive attitudes (OR = 1.9; 95% CI = 1.7 – 3.1) were more likely to go for screening than the other groups. Having regular gynecological examinations (OR = 12.9; CI 95%: 6.9 - 24.5), having one or more sexual partners (OR = 15.4; CI 95%: 5.4 – 43.7), those who used condoms when having

sex (OR = 2.1; CI 95%: 1.1 - 3.9), were more likely to go for cervical cancer screening than the other groups. Women who have heard/watched/read information about cervical cancer prevention were 35.4 times more likely to go for cervical cancer screening than those who have not heard/watched/read the information (OR = 35.4; CI 95%: 8.5 – 148.1).

DISCUSSION

Most women aged 21 - 65 years old in Dan Quyen commune (95.9%) have heard/know about cervical cancer. This was also similar to studies in the world and Vietnam where this rate was mostly over 90% (4-7). The proportion of women with general knowledge about cervical cancer and screening was 44%. Our result was higher than those of Nguyen Thi Nhu Tu's study (1.8%) (6) when studying women in rural areas. However, it was lower than Nguyen Thi Ngoc Phuong's research in Hanoi (59.5%) (5), and Huynh Giao's research (79,4%) on medical school students (8). At the same time, our study's result was higher than that reported in the study in Thailand (26.9%) (9). It was possible that the difference came from the characteristics of research participants that were not similar between studies and the year when the studies were conducted. University and research students in Hanoi with good economic conditions and access to good information sources had better knowledge about cervical cancer than women in rural areas. However, our research results were higher than other studies from previous years and were similar to some other countries in the world. This may come from the effectiveness of the Project 818 on "Guidelines for prevention, screening, early detection and management of breast and cervical cancer" of the Ministry of Health. We need to continue to maintain and apply

appropriate methods in each specific area to improve the effectiveness of this activity.

Research showed that 61.3% of women had a positive attitude toward cervical cancer screening, but 38.7% of women still did not have a positive attitude about this. This result was higher than that in Tran Thi Lan's study on Ede ethnic women (42.6%) (10), lower than Nguyen Thi Thuy Hanh's study on students (94.5%) (11). The differences may come from different research participant groups. Students were young and had the ability to learn and access information better than the general population, especially farmers in rural areas.

The proportion of women who have ever been screened for cervical cancer was 42.9%, higher than studies conducted in previous years such as Huynh Thi My Loan (2020) 24.2% (3) and Nguyen Thi Hong Hanh (2021) 37.7% (12). At the same time, it was higher than the study in Cambodia (7%) (13). Although the rate of women going for cervical cancer screening was still quite low, it has gradually increased over the years. This is a good sign and perhaps the increase in the rate was the result of programs/projects to increase the rate of women getting cervical cancer screening in different countries. At the same time, medical services are also gradually improving and are easily accessible for cervical cancer screening at a suitable cost and location, thereby increasing this rate over the years.

Research has shown factors related to cervical cancer screening practices from both personal factors to factors of knowledge, attitude and access to media information. This is also similar to studies in the world and Vietnam on the same topic. At the same time, there were similarities with related factors that have been recognized worldwide and included in official document sources to warn and communicate with women to

prevent cervical cancer (14, 15). The older women are, the higher their ability to practice cervical cancer screening. Women aged 31 years or older and with a high school education or higher were 11.2 times and 6.2 times more likely to undergo cervical cancer screening, respectively, than the remaining women. Women who work in agriculture and live in poor/near-poor economic conditions were 4.1 and 4.7 times less likely to undergo cervical cancer screening than the remaining groups, respectively. Women with appropriate general knowledge about cervical cancer and screening, having positive attitude towards cervical cancer screening were 8.3 and 1.9 times more likely to have cervical cancer screening than the other group. Women who have heard/watched/read any information about cervical cancer prevention were 35.4 times more likely to go for cervical cancer screening than the remaining women. All of these factors have also been identified in previous studies in the world and in Vietnam. Thus, it is necessary to communicate more strongly and increase intervention activities to increase the rate of cervical cancer screening practice on appropriate communication channels.

CONCLUSIONS

The average score of general knowledge about cervical cancer and screening was 13 (\pm 5) out of a total of 35 points and the proportion of women with good knowledge was 44%. The average attitude score for women was 17 (\pm 3) out of 25 points with a positive attitude rate of 61.3%. The proportion of women who have ever been screened for cervical cancer was 42.9%. Women age 31 or older, high school education or higher, have a job other than being a farmer, live in average/rich economic conditions, have 2 children or less; have appropriate knowledge; positive

attitudes, regular gynecological examinations and having had access to information about cervical cancer were factors statistically significantly related to cervical cancer screening practices of women in Dan Quyen commune ($p < 0.05$).

Recommendations: It is necessary to further promote communication activities to improve knowledge, attitude and ability to access information about cervical cancer and screening, thereby increasing the rate of cervical cancer screening practice. The communication content should focus on risk factors, signs and symptoms, cervical cancer prevention methods, age and time for regular cervical cancer screening.

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