

## RESEARCH ARTICLE

# Perception of Cervical Cancer Screening Among Japanese University Students Who Have Never Had a Pap Smear: A Qualitative Study

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### Abstract

This study aimed to explore attitudes towards cervical cancer screening among Japanese university students who had never had a Pap smear. Four focus-group discussions, each with 15 female university students, took place in November and December 2009. Discussions were recorded and transcripts were analyzed to extract attitudes of young women towards cervical cancer screening. The four themes that emerged were: *i*) a low sense of reality about cervical cancer; *ii*) a lack of knowledge about both cervical cancer and Pap smears; *iii*) a lack of motivation to get screened, and *iv*) a reluctance to visit the gynecologist. Participants who were interested in undergoing screening for cervical cancer cited the influence of conversations with friends and family, a diagnosis of cancer within their family, and relevant information from the media. The results indicate the importance of getting young women more interested in cervical cancer screening and overcoming their tendency to avoid visiting a gynecologist.

**Keywords:** Attitude - cervical cancer - female university students - pap smear - qualitative study

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### Introduction

Regular screening is believed to be key in preventing a cervical cancer epidemic throughout the developed world. In Japan, Pap smear tests for cervical cancer have been conducted since the 1980s. Currently, women over 20 are encouraged to undergo this test every two years. Since 2009, a coupon for a free Pap smear has been distributed nationwide to women who turned 20, 25, 30, 35, or 40 during the previous year. Despite these measures, Japan has a strikingly low rate of participation in cancer-screening programs. In 2009, only 24.5% of all Japanese women were screened for cervical cancer. This constitutes the third-lowest rate of participation among Organisation for Economic Co-operation and Development (OECD) countries, after Slovakia and Hungary (OECD, 2011).

Recently, there has been concern over the increase in cervical cancer rates among Japanese women in their 20s and 30s. In 1976, the rate of cervical cancer among Japanese women in their 20s was 3.7 per 100,000; by 2006, it had increased 13 times, to 48.1 per 100,000. Between these two dates, the death rate due to cervical cancer more than tripled, from 0.2 to 0.7 per 100,000. Concurrently, rates of cervical cancer for Japanese women in their 30s increased from 30.6 to 105.2 per 100,000, and the death rate also increased from 1.5 to 3.4 per 100,000 (Matsuda et al., 2012).

As more women in their 20s and 30s are diagnosed with cervical cancer, those in charge of Japan's cancer control programs are exploring various means of encouraging young women to participate in cervical cancer screening. Women in their early 20s are considered particularly important, because this is the age at which the government recommends that women begin getting Pap smear tests. Conducting health education programs through the higher educational system is a particularly promising way to encourage women in their 20s to participate in cervical cancer screening. About 70% of Japanese women enroll in some form of higher education, but effective cervical cancer education programs have not been offered at Japanese universities, colleges, or vocational schools. In order to design and conduct effective cervical cancer educational programs for this population, there needs to be a better understanding of how these women feel about cervical cancer and screening procedures, as well as what barriers exist for participation in Pap smear tests. However, research addressing these questions in a Japanese population is scarce.

Although multiple studies have explored reasons for non-participation in cervical cancer screening, few focus on young women in higher education. Abotchie and Shokar (2009) conducted a questionnaire study among college students in Ghana, finding that barriers to Pap screening included a lack of awareness that the test can

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diagnose cancer, concern that others would presume them to be promiscuous if they participated in cervical cancer screening, and a lack of information about where to go for screening. Hoque's (2010) survey of South African university students suggested that fear rather than illness was the primary reasons for never having been screened. In a qualitative study conducted by Al-Naggar and Isa (2010), medical school students in Malaysia identified barriers to Pap screening as a lack of awareness of the importance of screening, shyness, cost, and discomfort with male physicians conducting the test.

The above studies suggested some of the informational and psychological barriers faced by students who have never been screened. However, additional studies are needed to clarify which barriers are specific to Japanese women in their early 20s, preventing them from enrolling in the national cervical cancer screening program. In order to achieve a deeper understanding of this population's perspective, we chose a qualitative study design, as this methodology has proven strength in revealing the beliefs and values underlying individual health behavior (Curry et al., 2009). The purpose of this study was to use focus groups to gather qualitative data identifying the factors influencing attitudes towards cervical cancer screening among Japanese university students who have never had a Pap smear.

## Materials and Methods

### *Participants and data collection*

Focus groups were used to obtain rich data from interaction among participants (Kruger and Casey, 2000). A convenience sample of 15 female university students (20-22 years old) who had never been screened for cervical cancer was recruited. Participants provided written consent after they received detailed information about the study. The importance of confidentiality and the rationale for discussions to be audio-recorded were also explained. Four focus group sessions were held in November and December 2009 at the university. A semi-structured interview protocol using open-ended questions was designed for the study. Interview questions were prepared based on the research question and data from previous studies. After the introduction, participants were asked to express their views regarding knowledge and perception of cervical cancer and screening, as well as perceived risks of cervical cancer, in responses to the following open-ended questions: "What do you know and feel about cervical cancer and screening?", "What is your impression of gynecological visits?", "Do you think women of your age need to be screened?", "What is your perception of cancer and what do you know about cancer?" Each focus group consisted of 3-4 participants and lasted for 40-60 minutes. All focus group sessions were audiotaped and transcribed with participant consent. The research protocol was approved by the ethical committee of Hokkaido University's Graduate School of Medicine.

### *Data analysis*

Qualitative thematic analysis (King and Horrocks, 2010) was utilized to make use of the rich information

gained from the focus group interviews. Transcripts were coded line by line and analyzed to identify participant attitudes towards cervical cancer screening. The three steps of analysis were descriptive coding, interpretive coding, and coding for overarching themes. First, descriptive codes were identified through a close examination of the transcripts, highlighting quotes that illustrated participant views and experiences regarding cervical cancer, Pap smears, and gynecologist visits and labeling each selected segment with a descriptive word or short phrase. Next, descriptive codes were grouped under interpretive codes according to commonalities and differences. Third, overarching themes were defined by categorizing interpretive codes, again according to their commonalities and differences. The principal author (SO) conducted data coding.

During analysis, the codes, themes, and relationships between themes were constantly compared with each other (Corbin and Strauss, 2008). Emerging codes and themes were subject to change or re-categorization following discussion with the study supervisor (MM) specializing in qualitative data analysis; triangulation helped to improve data validity (Patton, 1999). This process was continued until no new codes or themes emerged.

## Results

Participants were divided into two groups: those who were uninterested in cervical cancer screening, and those who were interested, but had not yet had a Pap smear. Of the participants, four were not interested at all in undergoing screening, while the rest had at least some degree of interest in cervical cancer screening. Four themes describing attitudes towards cervical cancer screening emerged from thematic analysis: *i*) a low sense of reality about cervical cancer; *ii*) a lack of knowledge about both cervical cancer and Pap smears; *iii*) a lack of motivation to get screened, and *iiii*) a reluctance to visit the gynecologist.

### *Low sense of reality about cervical cancer*

All participants felt that they had little risk of developing cervical cancer. Even those who were aware that women of their age were at high risk assumed that it would happen to someone else. Those unaware of the increased risk associated with their age considered cancer to be a disease affecting only older women or those with a family history of cancer, not regarding it as their own problem.

*It seems to me that cancer is a disease of older people, like in their late 20s, 30s, and 40s, so I don't think about it seriously (Participant F). Although I might get cancer, I don't think I am likely to get uterine cancer or breast cancer in particular. My family has no history of cancer, so I don't see any particular risk of my getting it (Participant O).*

Some participants did note that "anybody can get cancer" and "even young people are prone to cancer," and were aware of the general risks at their age. However, they only had vague ideas, which were not based on solid information. Some participants wanted to undergo

screening, but none were concerned enough to act immediately.

*I really have to get screened, but I somehow feel that it is not my top priority (Participant A).*

Participants had little sense of reality or urgency, as they had not heard of anyone their age being diagnosed with breast or cervical cancer; they also considered themselves generally healthy and therefore unlikely to get seriously ill. Many participants referenced a popular film in which the female protagonist, about their age, is diagnosed with breast cancer and given a month to live, a month before her wedding. However, participants did not believe that such a thing could happen in their own lives. Participants had never heard of anyone getting cervical cancer at their age. The only sicknesses that they thought about were common, mild afflictions such as colds; they felt no need to think seriously about illnesses that they perceived themselves to be so unlikely to get.

*I have known no cases of cancer among friends my age; the closest are older persons or neighbors. So I feel it must be scary, like, to get it, but I wonder if I ever will (Participant C). Whatever disease it is, either breast and cervical cancer, or other diseases, do you think we ever worry about illnesses we do not have? Not really (Participant K).*

#### *Lack of knowledge about both cervical cancer and Pap smears*

Participants demonstrated little knowledge of cervical cancer or Pap smears. Most of them had never been taught about cervical cancer at school, nor had ever heard about it outside of school. Those participants who had some knowledge got their information from relatives and media stories about celebrities who had had such disease themselves, or foreign medical dramas featuring patients with cervical cancer.

*I really love foreign medical dramas; quite often there are patients in their 20s and 30s, like, about my age, suffering from uterine or breast cancer (Participant I).*

Some of those participants who knew about cancer were afraid of losing their uterus, but even these women had little to no scientific knowledge of the disease and its risks. One woman said that she understands that people can get digestive and respiratory cancers due to smoking and poor dietary habits, but she could not imagine how organs like uteruses or breasts could develop cancer.

When asked about possible risk factors for cervical cancer, participants attributed this disease to “*unwholesome living*” and “*a family history of cancer*.” When asked who could develop these diseases, they suggested groups as varied as “*people over 40*,” “*anybody*,” and “*people who work too hard*.” However, all answers were based on vague, unscientific information, with only one participant referring to the role of human papillomavirus (HPV).

Participant I: *Anybody will get it when it is her turn.*

Participant J: *Oh, come on [...] but people with a history of cancer in their family may count, or those with an unhealthy diet.*

Participant K: *Both fit me, I guess.*

Participant J: *Really?*

Participant K: *Yes, I have an unhealthy lifestyle in general, and some people in my family have had cancer.*

Participant J: *I wonder what else. I wonder if people get it all of sudden...*

Participant K: *Well... I do not know.*

Participant J: *I really know nothing about it.*

Participants had no precise knowledge of what kind of test a Pap smear was or whether they needed one. Some knew that this test entailed “*taking cells on a cotton swab*” or “*spreading apart the legs*,” but they didn’t know why. Others had little to no knowledge, or completely inaccurate knowledge, such as that the test involved “*computed tomography*” or “*insertion of a camera*.” Participants had more knowledge of breast cancer than cervical cancer; although they did not know what the word “*mammography*” meant, they were aware that testing involved “*clamping of a breast*.”

With regard to the coupon for a free screening mailed to 20-year-old women by the government, some participants discussed the possibility of getting screened with their mothers or with friends who also received the coupon, but these discussions did not provide them with more information about what screening entailed. The lack of knowledge about how the test was conducted made them nervous.

*I have watched movies or heard about people getting cancer, but I have never seen people getting screened for cancer on television or in the movies. So just having been informed of the need to be screened for cancer does not show me how the test is done (Participant A). I also got a coupon, but am afraid to take the first step. I am worried because I cannot foresee what the test is going to be like... (Participant G).*

#### *Lack of motivation*

Most participants said that they did not get screened for cervical cancer because they did not feel “*pushed*” or encouraged to do so, and thus did not bother to visit a screening center or a gynecologist. Some participants who had not received a coupon said they thought such an incentive might have motivated them to go; however, judging by the responses of those participants who had received a coupon, it did not get them to actually take the test although it may have prompted them to discuss cancer screening with their mothers or friends. Participants agreed that they would go to a hospital if they had symptoms that might be cancerous, but were unlikely to see a doctor otherwise. Some also said that they might get screened if someone close to them got cervical cancer.

Participant C: *You would make yourself go for the test only if something triggers you to go.*

Participant A: *If I got notified that a subsidy was offered covering a portion of the cost of a test, and if it were offered at school or some other convenient location for a certain testing period, I might be tempted to do it. But still I would not make an appointment to do so because*

*I am very busy at present, and I think that it can wait.*

All participants: *Yes, yes.*

Participant C: *Especially if I don't have any symptoms like that at present.*

All participants: *Yes, yes.*

Participant D: *Especially if nothing seems to be wrong with me.*

Participant C: *I feel no need to do so immediately.*

Even the participants interested in being screened for cervical cancer were unwilling to make the test a priority, deferring it due to their busy lifestyle. It seemed that they were only willing to undergo screening if it they were forced to.

*Nobody would take the test if left to her own decision. So I would suggest that they make people take it on the spot, for example, in the venue next to where the coming-of-age ceremony is conducted. For example, you are allowed to attend the ceremony only after taking being screened for cancer (Participant E).*

#### *Reluctance to visit the gynecologist*

Participant reluctance to visit the gynecologist was another reason for putting off a Pap smear. Participants felt unable to speak about such an embarrassing subject with anyone else, and were afraid to be seen visiting a gynecological clinic, worrying about what others might say about them. They rarely talked about visits to gynecological clinics, even with other women. Out of the 15 participants, 11 had never visited a gynecologist, with all but one admitting to fear or embarrassment regarding such a visit. The biggest concern was that the test entailed spreading the legs and exposing one's self. Due to the invasive and embarrassing nature of the screening, participants had more resistance against cervical cancer screening than breast cancer screening.

*Well, I can visit other clinics alone, but visiting a gynecological clinic is like stepping into unknown territory (Participant E). I imagine it is going to hurt, and I do not like the idea of someone doing something to me. And I also hate being seen visiting a gynecological clinic (Participant L).*

Four interviewees (Participants C, F, K, and O) had visited a gynecologist due to irregular menstruation or hormone imbalance, but almost all of these four participants said they were initially very reluctant to visit such a clinic, and that were hesitant, or even postponed their visit. They knew that they would eventually need to have an internal examination at the gynecologist's, but it was the last place they wanted to go. Only one participant (Participant C) had gone to the gynecologist many times and had little resistance against gynecological examinations; she was seriously considering being screened for cancer in the near future. However, all participants had a great resistance towards male physicians.

*How should I put it... personally, it's probably the worst of all the hospital departments for me to visit. Oculists are OK. Internal examination... well, no way (Participant J). It felt a little uncomfortable. He was middle*

*aged, probably a bit older. Yes, of course, there were the curtains. But I felt a little embarrassed when I had to spread my legs apart in front of someone I didn't know... (Participant C).*

#### *Creating interest in cervical cancer screening*

Participants who were interested in the screening credited conversations with friends and family members, having someone in their family diagnosed with cancer, and the media. Those who had discussed cancer screening with parents or sisters had done so casually, not seriously. Not all conversations about screening had a positive effect when one participant broached the subject with her mother, her mother did not urge her to get a Pap smear, but rather warned her about the increased risk of cervical caused by promiscuous sex. This participant then turned to her sister to discuss screening.

*I do not want to go for testing alone. So I asked my sister if she, rather than a friend, could go with me, but we were unable to find the right time for us to go, and it was left at that. But I feel I should go... that is where I am (Participant E).*

Some participants talked with their mothers about screening, but their mothers only suggested that they "better go ahead." None of the interviewees said they had ever heard their mothers discuss being screened. While the coupon prompted them to discuss the matter with friends, some of whom advised them to take the test, none actually did so.

*One of my friends was really interested in a coupon for a free Pap smear and told me 'You must go for it,' even though she herself had not been screened (Participant G).*

Participants who had had family members diagnosed with cancer were aware that they might someday get cancer, increasing their interest in getting screened. One participant had developed a benign uterine polyp, which prompted her decision to get screened in the near future. Others felt they were too young to develop cancer, seeing no need to be screened right away.

Participants learned about cancer from many forms of media, including television, films, and hospital wall notices. No participants reported learning from newspapers. Television (especially foreign dramas), movies, and celebrities with cancer had a strong influence in interesting participants in screening.

*I feel more like getting screened after watching a movie about a young woman in her 20s who was suffering from breast cancer. (Participant C)*

The one participant who had frequently visited the gynecologist was the only one who cited the impact of posters and brochures in clinics and doctors' offices. She was the only participant who knew that cervical cancer was on the rise among young women. All other participants stated that breast cancer had overwhelmingly more media coverage than cervical cancer.

*When I visited the clinic, I saw posters urging testing for cervical cancer, which could be cured if detected at an early stage. I had the impression that these posters were targeting young people, which is why I thought young women might be prone to this disease. I saw many*



brochures as well, which I am definitely sure were more focused on cervical cancer than breast cancer (Participant F).

## Discussion

We investigated Japanese female university students' attitudes towards cervical cancer and screening. The majority of participants were interested in cervical cancer screening. Their interest in getting screened stemmed from sources ranging from close acquaintances to the media, which helped them to think of cancer as their own problem. However, despite their interest, only one was taking action towards getting a Pap smear. The interviews revealed scant knowledge of cervical cancer and screening procedures and low recognition of the threat posed by the disease, as well as fear of embarrassment and possible pain.

A lack of knowledge about cervical cancer and Pap smears, as well as underestimation of risk, has been observed in previous studies on young women (Eiser and Cole, 2002; Blake et al., 2004; Moreira et al., 2006). Lack of knowledge about HPV was also evident in this study, consistent with studies of university students in other regions (Philips et al., 2003; Lenselink et al., 2008; Wong and Sam, 2010). Study findings indicate the importance of increasing awareness in young women as to cervical cancer and its risk factors, as well as informing them about the benefits of cancer screening.

This study also highlighted the great reluctance that many young women have toward male physicians and the way cervical cancer screening is done in clinics. Studies conducted among Asians and Asian Americans show that physician gender can affect whether young women decide to be screened for cervical cancer or not (Nguyen et al., 2002; Kwok et al., 2011). Two studies of Asian women in North America- on Asian women living in the US and Chinese women living in Canada- confirmed that Asian attitudes towards sexuality pose barriers to cervical cancer screening (Tang et al., 1999; Woo et al., 2009). These feelings are not limited to Asian women; a survey conducted among Turkish women revealed that women aged 25 years and younger had a stronger preference for female doctors at a gynecological clinic than their older counterparts (Yanikkerem et al., 2009). The reluctance to visit gynecological clinics shown by participants in this study was assumed to be affected both by these women's age and by their cultural attitudes towards sexuality and modesty. Creating an environment where it is less embarrassing for young women to get gynecological examinations is paramount in overcoming these women's tendency to avoid visiting the gynecologist. Measures might include informing women about what clinics employ female gynecologists, as well as encouraging young women to make a personal connection with a gynecologist.

Another important finding is that participants in this study felt that they were not encouraged to take action. While the coupon for the free screening spurred interest in cancer and testing, it did not drive them to take action. Some participants said that they did not have the courage to be tested because they did not know anyone who had

been tested, while others said that they would have to be forced to do it. Judging from these remarks, if the rate of young women being screened for cervical cancer is to be increased, their environment needs to make it a matter of course that they get tested, just as health check-ups and vaccinations are included in the Japanese school system. In contrast, by the time that women attend university, they are rarely given the chance for preventative care, seeking out medical services only when they have symptoms. Once they turn 18, more than 50% of Japanese women enroll in college, while another 20% enter vocational training (Ministry of Education, Culture, Sports, Science, and Technology, 2012). These colleges and training centers need to establish health services and health education programs integrated into the educational system in order to inform students about cervical cancer and encourage them to get preventive check-ups.

This study was not without limitations. Because the participants came from one university, our findings might not be generalizable to the Japanese university student population as a whole. Further, since most participants knew each other prior to participating in the study, some participants might have simply gone along with what others said, or felt inhibited in expressing their honest opinions in focus-group discussions. This is an especially salient concern with Japanese persons, who tend to avoid confrontation and disagreement. Nonetheless, this study offers new insights into Japanese university students' attitudes toward cervical cancer screening. We recommend that future studies conduct cross-sectional surveys of randomly selected university students to confirm the generalizability of these factors.

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