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RESEARCH ARTICLE

NURSING AND MIDWIFERY STUDENTS' KNOWLEDGE ABOUT CERVICAL CANCER IN ANTANANARIVO, MADAGASCAR

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ABSTRACT

Objective: Cervical cancer is the first leading cause of cancer-related death among women in Madagascar. Nurses and midwives have an important role in promoting prevention. The aim of this study was to investigate the knowledge of cervical cancer screening among final year undergraduate nurse and midwife students. **Methods:** We conducted a survey during the academic year 2017-2018 at all training institutes in nursing and midwifery across the city of Antananarivo. **Result:** Thirteen out of 15 existing institutes in Antananarivo participated in the survey. Questionnaires were completed by 369 students. All reported that they had heard of cervical cancer. Less than a third (28.8%) knew any risk factors of cervical cancer. Only 8% found the two screening techniques used in Madagascar. Most respondents (96.47%) said that screening for cervical cancer was important but 97.13% of women had never taken a cervical screening. **Conclusion:** Knowledge of cervical screening was low in midwife and nurse students in Antananarivo.

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INTRODUCTION

Cervical Cancer is the second cancer affecting women in Antananarivo, the largest city in Madagascar (Hasiniatsy et al., 2017) (1). More often than not, the disease is detected at an advanced stage despite the setting up of a screening program by Visual Inspection with Acetic acid (VIA) and the existence of several medical centers able to perform a pap tests. Information, Education and Communication (IEC) is important to inform and encourage the population to detect. In this context, the health staff is the first responsible. To carry out well this task, they must have themselves specific knowledge to be able to sensitize the population. In practice, midwives and nurses are closest to the population. That's how our study will focus more particularly on the knowledge, attitudes and practices of cervical cancer screening of paramedical students on the eve of their professional independence. No study has been realized on the topic to this population in Antananarivo. The results obtained can help to establish an educational program to the paramedical.

MATERIALS AND METHODS

We carried out a survey in all public and private institutes for paramedical institutes of urban district in Antananarivo during the academic year 2017-2018.

It stretches over an area of 88km² with 1.168.898 inhabitants. Sixteen institutes were visited including for public institutes and 15 for private institutes. We have beforehand obtained the consents of the directors of each institute. We have included all students in the final year of private and public training institutes in nursing and midwifery science of urban district of Antananarivo. The training of nurse and midwife requires 3 years of study after high school in Madagascar. Our means of study was comprised of a questionnaire based on anonymous questionnaire. The questionnaire included 4 constituents dealing with socio-demographic data, cervical cancer knowledge and students' attitude and practice regarding cervical cancer screening. We visited the institutes according to the appointments fixed by the heads of the institutions in comparison with the students' availability. Students had explanations about the interests of our study and then the questionnaires were shared to each student. The questionnaires have been filled for about twenty minutes. The students were not allowed to communicate with each other and can't view a document about the topic during the investigation. Those who had zero point were considered to have poor knowledge, those who had 1 to 2 points, average knowledge and those who had more than 3 points had good knowledge. Regarding knowledge about screening, those who did not know any of the cervical cancer screening methods had poor knowledge, those who knew one screening method had average knowledge and those who knew 2 or more had good knowledge.

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Data capture was done with Microsoft Excel ® Software and processed by EPI-INFO Software. Chi-square tests were used to test statistical significance with a value of $p<0.05$ as significant threshold.

RESULTS

We visited 16 schools including one public institute and 15 private institutes. Two private institutes didn't give their consent and 3 others do not have students in the last year of study. In total, we have investigated 392 students. Twenty three students hadn't filled all the questions on the form. So they were excluded. Our participation rate was 92.13%. Out of 369 students included in the study, 293 came from private institutes (79%). Midwives represented 62.9% of the study population. People in our study were all between 18 and 30 years old (Table 1). All students in the study admitted having heard about cervical cancer. Seventy four percent of the students had a good knowledge about epidemiology of cervical cancer. Among the students from the private institutes 81 or 27.6% had a good knowledge of the risk factors of cervical cancer against 24 students or 31.6% from public institutes. For gender 30% of the women in our study have good knowledge of risk factors of cervical cancer compared to 19.6% for men (figure 1). There was a significant relation between gender and their knowledge of risk factors with $p=0.032$. Thirty one point nine percent (31.9%) of students in midwifery had a good knowledge of risk of factors of cervical cancer compared to 22.6% from science nursing students. There was also a significant relation between the students course of study and their knowledge of risk factors with $p=0.018$ (Table 2). Three percent of the students had recognized Human Papilloma Virus (HPV) infection as a risk factor of cervical cancer. In 369 students 188 or 90% had an average knowledge revealing signs of cervical cancer (1 to 3 signs cited). Nine point two percent of students in private institutes had a good knowledge of revealing signs of cervical cancer (more than 3 signs cited) compared to 18.4% of students in public institutes. Among nurses, 6.6 had a good knowledge of revealing signs of cervical cancer compared to 13.8% for midwives with significant relation between the course of study and the knowledge of revealing signs $p=0.005$. Metrorrhagia and leucorrhoea were the best know signs by the students (figure 2).

Ninety two point ten percent of the students knew that smear is a cervical cancer test. Out of 369 students, 31 or 8.40% had poor knowledge of the age of onset for screening, and 5.10% knew the good rate of cervical cancer screening. Ninety four point seven percent of public institute students had a good understanding of the age of the beginning of cervical cancer screening for 90.8% of students in private institutes. Ninety two point three percent of women had a good knowledge of the age of onset for screening compared to 87.5 % of men. Ninety three point four percent of nurses had a good knowledge of the age of onset for screening compared to 90.5% of students in midwifery. The majority of our study population 44.7% (public institutes) and 68.6% (private institutes) had a poor knowledge of the way of screening for cervical cancer. Among midwives, 57.3% had a poor knowledge of cervical cancer screening compared to 74.5% for nurses. There is a significant relation between the institute, the course of study and students' knowledge on the ways of screening with « p » respective of 0 and 0.0003 (Table 3).

Table 1. Socio-demographic characteristics

Variable	Frequency (%)
Institution	
Public	76 (21)
Private	293 (79)
Study program	
Midwife	232 (62.9)
Nurse	137 (37.1)
Age	
18-20	71 (19.2)
21-25	268 (72.7)
25-30	30 (8.1)
Gender	
Female	313 (84.9))
Male	56 (15.10)
Religion	
Muslim	20 (5.4)
Christian	346 (93.8)
Others	3 (0.8)
Nationality	
Malagasy	354 (95.9)
Comorian	13 (3.52)
Other	2 (0.6)
Marital status	
Single	321 (87)
Married	34 (9.2)
Unmarried cohabitation	11 (3)
Others	3 (0.8)

Forty one point fifty three percent (41.53%) of women thought they were at risk to get cervical cancer and 80.83% responded that they had to be screened. Fifty seven point forty five percent of our subjects have already advised someone the screening. Among 313 women in the study, 9 have already been screened for cervical cancer. Out of 313 women who participate in the study; 278 or 88.81% planned the screening in the future. The main cessations to screening were the absence of symptoms (48.68%) and absence of the doctor's prescription (35.19%). Theoretical courses and hospital training were their main sources of information, respectively 84.5% and 73.4%.

DISCUSSION

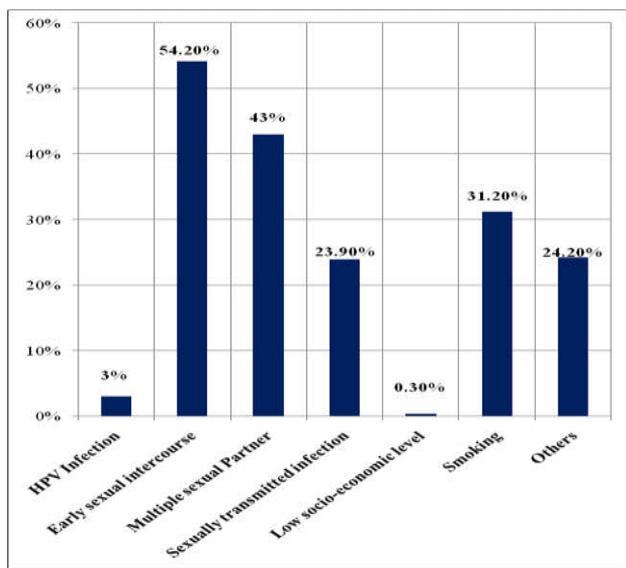
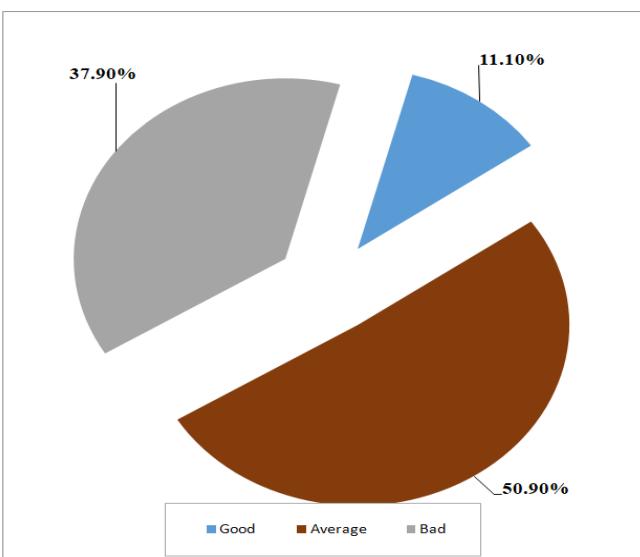
In our study, the great majority of the students 273 (74%) knew that cervical cancer is one of the first cancer affecting women in Madagascar (1). A similar result (75%) was found by Osth (2015) from the students of Rajarata University in Sri Lanka (2). The knowledge of the majority of the students about risk factors is average. Women had better knowledge of risk factors than men. This result could be explained by the fact that cervical cancer is a health problem involving women more personally than men. In a similar study to ours carried out by Osth (2015) in Sri Lanka, no significant relation between knowledge of risk factors and gender was found. The midwifery students' knowledge about risk factors and revealing signs of cervical cancer was better than those nursing students. This result could be explained by the fact that midwives students spend more time in gynecology services than nursing students during their internship. Actually, a study carried out by Urassa (2011) showed that among nurses in its population study (3), those who worked in the gynecology services were more familiar with these revealing signs than those who worked in other department services. Only 3% of the students were aware of HPV involvement in the history of cervical cancer. Other similar studies to ours have found different results. Kress (2015) found that 75% of their study population recognized the involvement of HPV (4).

Table 2. Assessment of knowledge of risk factors for cervical cancer in relation to institution, gender and study program

	Knowledge of risk factors			p
	Good n (%)	Average n(%)	Bad n(%)	
Institution	Public	24(31,6)	40(52,6)	12(15,8)
	Private	81(27,6)	129(44)	83(28,3)
Gender	Woman	94(30)	146(46,6)	73(23,3)
	Man	11(19,6)	23(41,1)	22(39,3)
Study program	Midwife	74(31,9)	109(47)	49(21,1)
	Nurse	31(22,6)	60(43,8)	46(33,6)

Table 3. Students' knowledge of screening methods

Knowledge of screening methods		Good n(%)	Average n(%)	Bad n(%)	p
Institution	Public	13(17,1)	29(38,2)	34(44,7)	0
	Private	9(3,9)	83(28,3)	201(68,6)	
Program study	Midwife	21(9,1)	78(33,6)	133(57,3)	0,0003
	Nurse	1(0,7)	34(24,8)	102(74,5)	

**Figure 1. Representation of student knowledge of risk factors for cervical cancer****Figure 2. Diagram showing students' level of knowledge of the signs of cervical cancer**

He showed that 88.8% of nurses of his study population have never been tested for cervical cancer. These results are those the closest to what we found with our paramedical students. Other studies in other countries have found different results. In this study, Dinas (2009) found different results (8). In this study, he has found in midwifery students that only 37.9% have never had cervical cancer screening test. We collected from these students the reasons of their reticence for cervical cancer screening. In order of frequency, these causes were absence of symptoms (48.6%), absence of doctor's prescription (35.1%), absence of sexual intercourse (28.28%), lack of financial means (24.33%), fear of pain (17.43%) and shyness (15.78%). Swapnajawantha (2014) study of women is working in a hospital in India. The absence of symptoms and risk of factors were their main reasons for reluctance to screen and respectively 31% and 29 %. Another survey carried out with nurses in Nigeria showed that 25% of women who have never been tested thought they would not have the risk of cervical cancer and 18.6% didn't know the procedure of the test and 15% thought the examination was too expensive. To improve women's adherence to screening, these causes of reticence could be taken into account. In fact, to encourage these future health staff to practice cervical cancer screening, these inconvenient should be curbed. Firstly a great number of

More than half of women (58.46%) answered «NO» to the question «Do you think you have a risk of having cervical cancer?». While 72% was sexually active. The study carried out by Mutyaba (2006); 54.1% of women responded having little or no risk of having cervical cancer. Our result can be explained by the relatively young age of our participants who are under 30 years old (5). The question «Have you ever advised someone to do the screening» was addressed to both women and men in our study whether in their work or their daily life. Out of 369 students, 212 (57.45%) answered «YES». In a study carried out in Turkey by Topan (2015) among a population of nursing students and nurses, 23.9% of these students gave information and suggestions on cervical cancer to people around them (6). Our high rate of students who have already given advice on cervical cancer could be explained by the high rate of midwifery students in our study population. In 313 women who participated in our study, only 9 (2.87%) had already had at least one screening test. The study of students from Rajarata University showed that 99.54% of the study population had never been tested for pap smear test (Östh, 2015). Swapnajawantha (2014) gave a rather similar result on a study of the perception and practices of female health staff concerning cervical cancer in a hospital in India (7).

these students have mentioned the absence of symptoms, absence of medical prescription and the lack of financial means as causes of their non-practicing screening. The notion of screening as an action to be done before the appearance of clinical signs is therefore not yet one of the acquired information by the students. Our participants included 56 men to whom we have asked the question « Have you ever advised your partner to do cervical cancer screening? »Out of 56 men who participated to the study, only 16 or 28.69% have already encouraged their partners to screen. This result is lower than that found with women. This result could be explained on the one hand by the fact that women have better knowledge of the risk factors and ways of screening for cervical cancer. On the other hand, all men in our study are nurses. So, they rarely come to gynecological services, which as we have seen, play an important role in the education of students in midwifery. To improve these students knowledge and perception and thus to improve their practice, we suggest that the training institutes to transfer systematically these students to gynecology services.

It would be important to improve the students' knowledge of the risk factors of cervical cancer. This, firstly, so that everyone can carry out his task at best. But secondly, to remove this difference related to gender and students course of study, given that later everyone should be responsible for the same IEC population. In fact, all health staff are involved in the IEC of the population whether men or women, students in midwifery or nursing sciences.

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