

Knowledge, Attitudes and Practices of Paramedical and Female Support Staff in the Health District of Tivaouane on Cervical Cancer, Senegal

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Abstract: With the epidemiological transition, cervical cancer is currently a public health problem in Senegal, hence the importance of implementing preventive measures. The objective of the study was to assess the knowledge, attitudes, and practices of female paramedical staff in the district of Tivaouane regarding cervical cancer. This was a descriptive cross-sectional study conducted among these personnel in Tivaouane from June to October 2020. It was found that 99.1% of our study population had heard of cervical cancer, 77.2% thought they could define it but only 47.7% gave a good definition. The level of knowledge was 40.7% for the age of detection of cervical cancer, 29.8% for the population at risk, 4.4% for the notion of heredity in the occurrence of cancer, 7.9% for the risk factors and 43.9% for the symptoms. Vaccination and screening were the most commonly known means of prevention. The main source of information was the media (61.06%). The determinants of knowledge were: being a midwife ($p = 0.008$) and/or having a high level of education ($p = 0.001$). However, only 55.3% had advised women to undergo cancer screening. Of the agents, 65.8% had been screened. The need for education was 98.2% of the agents. Almost all (96.5%) of the respondents favored routine screening, 84.2% said there was no cure for cervical cancer, and only 4.4% trusted traditional medicine. Training on cervical cancer was provided to only 29.8% of the study population, and 98.2% had expressed a desire for more information on the condition. The level of knowledge of the paramedical staff in the district was insufficient, hence the interest in implementing training on this condition for these staff in order to strengthen their knowledge and skills.

Keywords: Knowledge, Attitudes, Practice, Cervical Cancer, Paramedical and Support Staff, Health District of Tivaouane Senegal

1. Introduction

Cancer of the cervix is currently a public health problem in developing countries and particularly in Africa [1, 2] In Senegal, it ranks second among female cancers and nearly 19% of all cancers [3]. In addition, almost half of cervical

cancers go undiagnosed or are diagnosed in the complication stage [4]. Yet the uterus is an accessible organ and cancer can be prevented by simple and inexpensive means. This prevention must be based on the fight against risk factors; in particular papilloma virus infection and screening by cervico-vaginal smear, since our current resources do not allow us to provide adequate therapeutic management for this condition.

Thus, paramedical and support agents constituting front-line health personnel have an important role to play in promoting cervical cancer screening since they are listened to by patients who trust them. Thus, this staff can encourage women to participate in screening for cervical cancer, which presupposes their knowledge of this condition. It is for this reason that we conducted a study among female paramedical and support staff in the district of Tivaouane located in the region of Thiès (Senegal) to assess their level of knowledge but also their attitudes and practices vis-à-vis cervical cancer.

2. Methods

Study framework: The health district (DS) of Tivaouane is located 22 km north of the regional capital (Thiès) and 92 km from the national capital (Dakar). The district's population is estimated at 355,489; i.e. a density of 303 inhabitants / km². The rural population represents 74% against 26% for the urban population. In terms of health, the DS has a health center (CS), a Public Health Establishment (EPS), 27 health posts (PS) including 2 denominational, 32 functional health huts. The district has 284 agents distributed as follows: 75 qualified agents (26.4%), 209 unqualified agents (73.6%). There are 43 health huts, 32 of which are functional (74.4%). These huts are managed by community health workers and matrons.

Type and period of study: This was a cross-sectional descriptive study carried out from June to October 2020, i.e. a period of five months.

Study population: It was made up of female paramedical staff (midwives, nurses, assistant nurses, etc.) and support staff (matrons, community health workers, pharmacy agents, etc.) at the level of the Tivaouane health district. Included in the study are all health care practitioners who participate in consultations and awareness-raising activities and who have agreed to answer the questionnaires.

Survey protocol: We carried out an exhaustive recruitment of practitioners from the Tivaouane district. Anyone who fulfills the inclusion criteria is selected.

Collection tool: The medium used was a questionnaire on socio-demographic characteristics (age, marital status, level of education, seniority, and profession), level of knowledge (sources of information, definition, symptoms, risk factors, means of prevention), and attitude of agents. (Screening, curability), practice (screening, reasons for screening) and training needs.

Data collection methods: Data is collected from a questionnaire administered directly to patients. The questionnaires are sent to the recipients who fill out the forms themselves. The recipients were previously informed by the chief medical officer of the district. The recipients have an acceptable level of education to complete the forms. After completion, the questionnaires are submitted to the district health center for compilation.

Operational definition of data

- 1) Definition of cervical cancer: primary malignant tumors developed at the expense of the cervix.

- 2) Knowledge of risk factors: good knowledge (name at least three risk factors) and poor knowledge (name no or at least two risk factors);
- 3) Knowledge of symptoms: good knowledge (cite at least two symptoms) and poor knowledge (cite no or only one symptom).
- 4) Curability of cancer: which can be curable, treatable or remediable?

The different variables to be studied were:

- 1) Socio-demographic characteristics: age, level of education, seniority, profession in the community, marital status....
- 2) Knowledge of cervical cancer: definition, hereditary character, risk factors, symptoms, means of prevention, etc.
- 3) Attitude: screening strategies, curability...
- 4) Practice: practice of the screening test...
- 5) Information needs.

Analysis plan: The data were collected on a pre-established form. They were entered with Sphinx software version 5.1.0.2 and analyzed with SPSS (Statistical Package for Social Sciences) software version 18. This analysis was descriptive and analytical.

Ethical considerations: For ethical reasons, authorization was obtained from the chief medical officer of the district. Moreover, the data was collected anonymously and kept confidential.

3. Results

The number of health workers was 114 divided into 29 midwives, 8 nurses, 16 nursing assistants, 5 nursing assistants, 56 community health workers.

Age: The average age was 38 with extremes ranging from 23 to 70. The 31-40 age group was the most represented (47.4%). On the other hand, agents over the age of 60 constituted 3.5% and those under 30 21.1%.

Marital status: Almost all the women were married (82.5%) while widows represented only 1.8%. Multiparas and large multiparas (with more than 5 children) represented 45.6% and 11.4% respectively. On the other hand, nulliparas were estimated at 21.1%.

Level of study: The enrollment rate was 95.6% with respectively 14.7% for the primary level, 53.2% for the secondary level and 32.1% for the university level. The out-of-school represented 4.4%.

Seniority in the profession: A little more than half of the agents (53.3%) had a professional seniority of more than 10 years.

Sources of information: Almost all health workers (99.1%) had heard of cervical cancer. The main sources of information were the media (61.1%), health structures (46%) and medical training (35.4%). Among the media, television was the most cited (32.7%). A respondent can cite one or two sources.

Knowledge of the definition: Among health workers, just over $\frac{3}{4}$ (77.2%) said they could define cervical cancer, but

only 47.7% could define the disease.

Hereditary concept of cancer: Less than five percent of health workers (4.4%) had affirmed the notion of hereditary in the occurrence of cancer.

Symptoms: Only half of the health workers had knowledge of the symptoms of cervical cancer (43.9%).

Risk factors: More than ten percent (7.9%) of the workers were aware of the risk factors for developing cervical cancer.

Means of prevention: Vaccination and screening were the best known means with respective prevalence of 66.3% and 60.2%. The same agent can cite more than two means of prevention.

Attitude towards routine screening: Although almost all health workers (96.5%) were in favor of routine screening, only 55.3% had ever advised women to do so.

Curability of cancer: More than 4/5 of the agents (84.2%) said that cervical cancer was not curable.

Practice of cervical cancer screening: More than half of the agents (65.8%) had performed a screening test for cervical cancer. No lesions had been detected among them. The main motivations for this screening were prevention (58.7%) but also the need to know the status (17.3%), for reassurance (2.7%). On the other hand, 34.2% had never performed cancer screening and the most common reason was the absence of sexual activities (58.8%).

Cancer training: Less than 1/3 of the workers (29.8%) had received training on cervical cancer.

Desire for information about cancer: Almost all of the women surveyed (98.2%) expressed a desire to have additional information on cervical cancer.

Analytical study: The determinants of knowledge were: being a midwife ($p = 0.0000$) and / or having a university education ($p = 0.001$). The practice of cervical cancer screening was particularly linked to the midwifery profession with $p = 0.008$ and knowledge of HPV vaccination to the nursing profession with $p = 0.0009$.

4. Discussion

Knowledge of cervical cancer: Almost all of the health workers interviewed (99.1%) had heard of cervical cancer. A similar result was noted by Tran NT et al in Korea in a study among rural and urban women from six provinces (98%) [5]. On the other hand, studies carried out among women in Brazzaville in 2017 [6] and in Qatar in 2011 [7] found lower percentages respectively 78.6% and 85%. It should be noted that these studies concerned women who were not healthcare professionals. The main source of information was the media in particular television with a proportion of 32.7%. The study carried out in Bamako in 2018 found an almost identical result (32%) [8]. The media are regularly used by health professionals to convey awareness messages on the prevention of chronic non-communicable diseases. Also, the media participate in the celebration of international days against diseases through interactive broadcasts between the population and medical specialists. For example, World Cancer Day, celebrated on February 4 of each year, is an

opportunity for our health authorities to disseminate prevention messages intended for the general population but especially those at risk.

In our study, just over $\frac{3}{4}$ (77.2%) of health workers said they could define cervical cancer, but only 47.7% could define the disease. Our result on the capacity of health workers to define the disease is close to that of the study by Swapnajaswanth M et al in India among health personnel (52.3%) [9] but lower than that of the study by Haisn M et al in Tunisia with midwives (32.5%) [10]. Thus, our result could be considered insufficient since these health workers were supposed to know this definition of cervical cancer, especially as their mission is to conduct awareness, information and screening campaigns for this condition among the population at risk. How then to properly inform and raise awareness about a disease if a little less than $\frac{1}{4}$ of the staff (22, 8%) fails to define it. In addition, between agents who had heard of cervical cancer (99.1%) and those who could correctly define it (47.7%), the difference was significant (51.4%). Thus, it makes sense to reduce this gap to allow paramedics and support staff to carry out their assigned mission. Adequate knowledge of cervical cancer by health workers will greatly influence the prevention of this disease. Assuming that health workers are better informed than the general population, assessing their level of knowledge about this condition will provide useful data for making appropriate decisions in prevention strategies. In our study, midwives and educated health workers were better able to define cervical cancer. This result is in line with the study by Bouslah S et al carried out in Tunisia in 2014 [11] which showed that knowledge about cervical cancer was statistically correlated with a high level of education of the agents.

Knowledge of risk factors for cervical cancer: In our study, knowledge of risk factors for cancer occurrence was 7.9%. Mutyaba T et al found in their survey of 310 health workers in Uganda that 29% of respondents knew at least three risk factors [12]. A study carried out in Ouagadougou in 2016 among providers showed a level of knowledge of risk factors at 27.4% [13]. Thus, our health workers had a low level of knowledge of risk factors for the occurrence of cervical cancer (7.9%) and yet they were asked to name only three risk factors. This lack of knowledge is probably linked to the priority given to the fight against communicable diseases, the programs of which are financed by development partners and providers who are regularly retrained.

Knowledge of the symptoms of cervical cancer: Regarding the symptoms, they were only known by 43.9% of the agents. On the other hand, two studies carried out respectively in Ouagadougou in 2016 with healthcare providers [13] and in Tanzania among Tanzanian women who were not health professionals [14] had shown a level of knowledge of symptoms at 36.4% and 17.3% respectively. These results on the knowledge of symptoms by health professionals can be considered insufficient since 56.1% of them could not cite more than two symptoms. However, these health workers are responsible for carrying out preventive activities, in

particular primary prevention and screening for cervical cancer.

Knowledge of the means of prevention: Vaccination and screening were the best known means with respective prevalence of 66.3% and 60.2%. The study by Swapnajaswanth M et al in India revealed that 37.4% of health workers had a good knowledge of vaccination against cervical cancer [9]. The study by Addah AO et al reports that 92.2% of practitioners were aware of the Pap test as a diagnostic tool for cervical cancer [15]. The study by Thanappapasr D et al also reported that 85.3% of women healthcare professionals were aware of the Pap smear as a means of preventing cervical cancer [16]. Thus, our result on the knowledge of the means of prevention of cervical cancer by our health workers can be considered fair since it is below 4/5 of the agents (80%). And yet, the fight against cancer is based essentially on prevention, in particular primary prevention, hence the importance of further strengthening the knowledge and skills of health personnel on this condition. In fact, HPV screening and vaccination are complementary strategies which have the role of reducing the incidence and mortality of this cancer. The nursing profession was a determinant of the knowledge of vaccination as a means of prevention. Indeed, in Senegal, vaccination is a preventive activity devolved to nurses who are in charge of the Expanded Program of Vaccination. It is important to point out that the country's health authorities have since October 31, 2018 introduced the vaccine against the human papilloma virus, responsible for cervical cancer in the Expanded Program of Vaccination.

Attitude towards screening: Although the health workers surveyed were in favor of systematic screening (96.5%), only 55.3% had ever advised women to do so. Our result on the attitude of health workers to recommend cervical cancer screening to women is lower than that found in Mali with midwives in 2005 (79.8%) and with nurses (76.9%) [17]. Thus, our result in terms of screening can be considered mediocre, especially since just under half of the health workers (44.7%) had not adopted this attitude of advising women to be screened for cervical cancer. In fact, the study by Mock J et al had shown that health personnel had more influence on the preparation of the smear compared to the media alone [18]. Screening makes it possible to detect precancerous lesions very early and to treat them. Also, according to the Alliance for the Prevention of Cervical Cancer (ACCP) every category of woman has the right to cervical screening at least once in her life. The INC, a survey of French women facing screening, noted that 80% of women who had a smear had done so at the urging of their doctor [19, 20]. Midwives (39.7%) recommended routine screening to patients the most, and the relationship was statistically significant.

Practice of the screening test: More than half of the officers (65.8%) had performed a cervical cancer screening test. Komongui et al in Benin found an almost similar result (67.7%) [21]. The main reason for getting tested for cancer was for prevention (58.67%). However, a not insignificant part of the agents (32.5%) had never performed cancer

screening. The results of the study by Hsain M. et al in Tunisia found that 45.6% of health workers had not yet taken the cervical cancer screening test, of which 5.7% were midwives [10]. The health workers in our study population who did not want to be screened for cervical cancer had mentioned reasons such as the absence of sexual activities, menopause, the absence of symptoms...; moreover, these reasons mentioned were sufficient reasons for carrying out screening. Moreover, these reasons should even encourage professionals to get tested. The fact of not performing the screening was probably also linked to the fear of knowing one's status and to the belief that this condition was incurable, especially since more than 84.2% of the agents had stated that cervical cancer did not was not curable. Midwifery was a determinant of cervical cancer screening with $p = 0.008$ 2% of the agents said that cervical cancer was not curable. Midwifery was a determinant of cervical cancer screening with $p = 0.008$ 2% of the agents said that cervical cancer was not curable. Midwifery was a determinant of cervical cancer screening with $p = 0.008$.

5. Conclusion

In Senegal, the fight against cancer of the cervix can only lead to significant results thanks to the involvement and commitment of paramedical personnel. So this staff must have a good knowledge of this condition. In fact, this fight must be essentially centered on primary prevention, in particular raising awareness of the factors of occurrence of cancer, screening by cervico-vaginal smear and especially vaccination against the papilloma virus. Indeed, the under-equipment of our health structures and the lack of specialist doctors do not allow us to properly take charge of the treatment of this pathology. So the only alternative is to prevent it. Unfortunately, these paramedical and support staff have little knowledge of this condition (symptoms, risk factors and means of prevention). Their attitudes and practices are also weak. It is therefore imperative to train and retrain these paramedical and support staff on the primary prevention of cervical cancer and on the usefulness of screening.

Conflicts of Interest

All the authors do not have any possible conflicts of interest.

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References

- [1] Globocan. http://globocan.iarc.fr/Pages/fact_sheets_population.aspx Accessed 8 April, 2021.

- [2] Pierre A and Bernard-Alex G. Cancers in developing countries. *Med Too. News* 2019. <http://medecinotropicale.free.fr/cours/cancer.pdf>
- [3] Torre LA, Bray F, Siegel RL, Ferlay J, Lortet-Tieulent J and Jemal A. Global cancer statistics, 2012. *Ca Cancer J Clin* 2015; 65 (2): 87–108. <https://pubmed.ncbi.nlm.nih.gov/25651787/>
- [4] WHO. Sexual and reproductive health. Controlling Cervical Cancer: A Guide to Essential Practices. Second edition 2017 p 446. <https://www.who.int/reproductivehealth/publications/cancers/cervical-cancer-guide/en/>.
- [5] Tran NT, Choe SI, Taylor R, Ko WS, Pyo HS and So HC. Knowledge, attitude and practice concerning cervical cancer and screening among rural and urban women in six provinces of the Democratic People's Republic of Korea. *Asian Pac J Cancer Prev* 2011; 12 (11): 3029-33. <https://pubmed.ncbi.nlm.nih.gov/22393985/>
- [6] Mbongo JA, Mahoungou F, Nguesso NI, Gombet Koulimaya CE and Iloki LH. Knowledge, attitudes and practices of women in matters of cervical cancer at the Brazzaville university hospital center. *International journal of current Research* 2017; 9 (02): 46153- 46156.
- [7] Al-Mer FM, Aseel MT, Al-Khalaf J, Al-Kuwari MG and Ismael MFS. Knowledge, attitude and practices regarding cervical cancer and screening among women visiting primary health care in Qatar. *EMH* 2011; 17 (11): 855-61. <https://pubmed.ncbi.nlm.nih.gov/22276494/>
- [8] Diawara MK. Knowledge, Attitudes and Practices of Women Facing Cervical Cancer Screening. Mali, University of Technical Sciences and Technology of Bamako, Medical Thesis 2018. <https://www.bibliosante.ml/handle/123456789/2072>
- [9] Swapnajaswanth M, Suman G, Suryanarayana SP and Murthy N S. Perception and Practices on Screening and Vaccination for Carcinoma Cervix among Female Health Care Professional in Tertiary Care Hospitals in Bangalore, India. *Asian Pac J Cancer Prev* 2014; 15 (15): 6095-8. <https://pubmed.ncbi.nlm.nih.gov/25124579/>
- [10] Hainn M, Fakhfakh R, Bellaaj R and Achour N. Knowledge and involvement of primary care physicians and midwives in cervical and breast cancer screening. Tunisia. *Rev Santé Méditerranée Orient* 2003; 9 (3): 353-63. file:///C:/Users/HP/Desktop/emhj_2003_9_3_353_363.pdf
- [11] Bouslah S, Soltani M, Ben Salah A and Sriha A. Knowledge, attitudes and practices of Tunisian women in breast cancer screening and that of the cervix. *Psycho-oncology. Carcinol Prat Africa* 2014; 6 (27): 24-30.
- [12] Mutyaba T, Mmiro AF and Weiderpass E. Knowledge, attitudes and practices on cervical cancer screening among the medical workers of Mulago. Hospital, Uganda. *BMC Medical Education* 2006; 6; 13. <https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-6-13>
- [13] Sawadogo YA, Ouédraogo I, Zamané H, Ouattara A, Kain DP, Kiemtoré S, Ouédraogo A, Thiéba BB and Lankoandé J. Knowledge, attitudes and practices of health providers in the face of cervical cancer in reference health centers in the city of Ouagadougou. *Sciences and Techniques, Health Sciences* 2016; 39 (1-2). <https://www.ajol.info/index.php/stss/article/view/164046>
- [14] Mabele MM, Materu J, Ng'ida FD and Mahande MJ. Knowledge towards cervical cancer prevention and screening practices among women who attended reproductive and child health clinic at Magu district hospital, Lake Zone Tanzania: a cross-sectional study *BMC Cancer* 2018; 16 18 (1): 565-70. <https://pubmed.ncbi.nlm.nih.gov/29769124/>
- [15] Addah AO, Ojule JD and Fiebai P O. Knowledge, attitude and practice of cervical cancer screening-Papanicolaou test among female health care providers in Port Harcourt. *Port Harcourt Medical Journal* 2012; 6: 74-80. <https://www.ajol.info/index.php/phmedj/article/view/74002>
- [16] Thanappapasr D, Chittithaworn S, Lertkhachonsuk A and Sarikapan W. Female Hospital based health care professional's knowledge of cervical cancer, HPV and attitudes towards HPV vaccination. *Asian Pac J Cancer Prev* 2010; 11 (2): 429-33. <https://pubmed.ncbi.nlm.nih.gov/20843129/>
- [17] Igor K E. Knowledge, attitudes and practices of health providers in Bamako relating to cervical and breast cancer, Faculty of medicine, pharmacy and odontostomatol, Mali. *Medical Thesis* 2005. <http://www.keneya.net/fmpos/theses/2005/med/pdf/05M95.pdf>
- [18] Mock J, McPhee JS, Nguyen T, Wong C, Lai KQ, Nguyen TT, Doan H and Nguyen KH. Effective lay health worker outreach and media-based education for promoting cervical cancer screening among Vietnamese American Women. *Am J Public Health* 2007; 97 (9): 1963-700. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1963308/>
- [19] National Cancer Institute. The French face cancer screening, summary of the results of the 2nd wave of the barometric survey. *Boulogne Billancourt: Inca* 2009: 12p. https://www.bib-bop.org/base_bib/bib_detail.php?ref=8675&titre=les-francais-face-au-depistage-des-cancers&debut=
- [20] Alliance for the Prevention of Cancer of the Col. Ten key findings and recommendations for effective cervical cancer screening and treatment programs. *ACCP* 2007: 1-2. Available at URL: <http://www.alliance-cxca.org>
- [21] Komongui DG. Knowledge of attitudes and practices in breast and cervical cancer. Abstract SAGO Cotonou 2000 Congress; p 60.