



## Comparative Analysis of the Awareness of the Cervical Cancer in the UAE Among Working Women, Female Players, and Household Ladies

Edyta Skibinska<sup>1</sup>, Leonardo Jose Mataruna-Dos-Santos<sup>2,3</sup> and Muhammad Azeem<sup>4</sup>

<sup>1</sup>Assistant Professor, College of Business Administration, American University in the Emirates, UAE.

<sup>2</sup>Associate Professor, Department Sport Management, Faculty of Management, Canadian University of Dubai, UAE.

<sup>3</sup>Center for Trust Peace and Social Relation – Coventry University, United Kingdom

<sup>4</sup>Assistant Professor, College of Business Administration, American University in the Emirates, UAE.

(Corresponding author: Leonardo Jose Mataruna-Dos-Santos)

(Received 27 October 2020, Revised 07 December 2020, Accepted 30 December 2020)

(Published by Research Trend, Website: [www.researchtrend.net](http://www.researchtrend.net))

**ABSTRACT:** A vital component of female health-promoting activities is education. The public awareness was given to households, working women, players, and students around the United Arab Emirates about cervical cancer. The campaigns were conducted to educate about the potential prognoses and the diagnosis of the disease, which is the cent percent curable. This study aims to understand the degree of awareness among women about cervical cancer in UAE, and what are the factors contribute to the seriousness of taking preventive measures among working woman, female players, students, and household ladies. Despite the extensive mass campaigns targeted at women, encouraging them to do 'screening test' as a preventive action, the global studies show a high mortality rate for women due to this disease. The data was collected through a survey designed for this research, to support triangulation in analysis from more than 1500 female respondents, in the age ranging between 18 and above. Semi-structured interviews were conducted from the selected respondents to further understand the nature of the case. The results of the analysis provided evidence that the general level of awareness exists among all groups of women, whereas the knowledge of risk factors and methods of preventing cervical cancer varies to some degree among the female population. The study guides us to the extent, government and institutional intervention are essentially required to increase the awareness level to the specific strata of the female population in UAE. The main challenges faced by researcher was the unavailability of enough research in the context of working women in UAE, and the cultural bottleneck which stop women to speak openly on this subject. These challenges were overcome by collecting primary data after meeting in person to the subjects. This was quite helpful in the hypothesizing the framework for future research.

**Keywords:** Women's health; Cervical cancer; Preventive medicine, Prophylactic; Public health

### I. INTRODUCTION

Cervical cancer is a serious health and social problem. It is one of the most common malignant tumors of the reproductive organ. Nearly 80% of cervical cancer cases are detected in developing countries [1, 2]. The statistics showing that is 1.4 million cases worldwide [3]. Cervical cancer, caused by the human papilloma virus (HPV), is a leading cause of cancer deaths in women worldwide, including many countries within the Middle East and North Africa. In the United Arab Emirates (UAE), cervical cancer is the seventh main cause of death [4], due to late diagnosis of the disease [5]. With no less than 7,600 deaths from cervical cancer in 2018, and over 15,000 deaths prognosticate for 2040 in the MENA region alone, is very important to increase the awareness and preventive measures around HPV and cervical cancer [6].

Preventive testing for cervical cancer is of great importance for reducing morbidity and mortality. The Papanicolaou smear (Pap smear) it is helpful for the diagnosis of early stages of the disease [7]. Universal prevention programs should be integrated with the existing healthcare system and adapted to the country's economic, social, and cultural capabilities [8]. Nowadays, with a high level of knowledge about this condition, women should not die of cervical cancer. To

achieve this goal, one needs to be made aware all women that through active prevention can do so prevent and teach pro-health behaviors.

Improvement of the epidemiological situation of cervical cancer in UAE is a task for all employees serves health. Cervical cancer is a cancer in which it is large the degree can be prevented [9], which relates to the need to make modern populations aware of the need to take multifaceted actions for effective planning and implementation of prevention programs. Initiatives such as educational programs, innovative methods of various emerging technologies can help to promote scientific knowledge and disseminate prophylactic methods.

#### **Challenges and Premises for building preventive programs**

The development of medicine and the latest biomedical technologies, treated as a panacea for health problems of modern societies, paradoxically leading to the progressing inefficiency of health care systems. The rising costs of providing technologically oriented health care and providing it to all in need has become a burden difficult to bear even for the richest countries. The social media tools should provide a new way for communication [10] exploring the social leadership [11]. It is can helps in the communication perspective to promote preventive programs [12,13]. In special to enroll

the youth population in educational programs [14]. This situation forcing the search for other possibilities to protect the health of societies and forcing the transformation of health policy from mainly corrective orientation to increasingly preventive.

Although the idea of preventive medicine has been known to medicine since the Hippocrates, it was not until the 1980s that the prevention programs intensified on an ever-larger scale practically all over the world [15]. Instead of the previously dominant position of preventive services (vaccination), an increasing role was attributed to health education and individual preventive behavior of people, thus shifting part of the responsibility for health from medical institutions to individuals. It also resulted in ever longer lists of medical indications regarding the proper, health-friendly lifestyle, controlling one's health and the influence of psychological, social and physical health risk factors in the environments in which people live.

The idea of prevention refers to the concept of risk; the concept of pathogenic risk factors underlies preventive medicine. This risk is reported by epidemiological studies, indicating its distribution in society. As these studies progress, the list of risk factors continues to expand. It may be associated with factors of the physical and social environment, improper lifestyle and health practices, it can also flow from inside the body as a result of its weakness and specific susceptibility to disease [16]. Different configurations of these factors mean that different categories of people are exposed to the risk of illness differently.

Prevention, i.e. risk control, may cover various areas of activity, and apply to all diseases, even those of unknown etiology; it then involves raising overall health and resilience potential, generally referred to as health promotion [17]. All these activities boil down to thinking about health when nothing is wrong with us and we are far from thinking about the disease and the disability that follows it. They encourage constant awareness of the risks over which we should take control, to monitor potential threats and any suspicious signs that may herald a disease [18]. For this reason, the modern discourse on the idea of prevention goes well with the concept of risk as an important element organizing the life of modern man [19]. Awareness of existing threats, however, is neither widespread nor evenly distributed in society.

It is known from many researchers conducted in the world that the attitude towards therapeutic practices - like the state of health - is determined to a large extent by social position and medical culture [20]. Perceptions of disease susceptibility are shaped through their cultural, personal, and social beliefs [21, 22]. This is obviously the result of many factors: different living and working conditions, availability of healthcare, response to disease symptoms. These differences are also clearly visible in preventive behavior. It is known that the lower the unit is located on the social ladder, the less often it uses any preventive measures proposed by the medical system, and the fewer elements of a healthy lifestyle it implements in everyday practice. The perception of disease risk, the ability to control and manage it is in the lower social classes relatively more distant from the recommendations of medicine. As a result, social

inequalities in health and the use of healthcare are particularly evident in the sphere of prevention [23].

An example of such a disease is cervical cancer; women's mortality is very high mainly due to low cancer detection in the early, virtually asymptomatic (and completely curable) stages of the disease; patients who reach treatment are usually in a condition requiring comprehensive treatment and not always promising longer survival [24]. Observations of clinicians seem to indicate that the most common deaths due to cervical cancer are among women from the lower social strata. This confirms the broader regularity that all types of preventive behavior occur less frequently in these social circles and prompts reflection on the adequacy of implemented preventive programs to the living conditions of women from these strata, their health awareness and the way in which perceive the risk of illness. There is also doubt whether the situation when programs targeted at entire populations are more often used by people with a higher socioeconomic status does not indirectly contribute to the deepening of social inequities in health? Should these programs take greater account of the social and cultural differences between their potential recipients?

Most preventive programs implemented in UAE focus on providing rather broadly defined populations of educational content identifying health threats and ways to avoid them. These are generally media campaigns, distribution of educational materials (leaflets, posters) in health care facilities, lectures by doctors or preventive events. In the case of some preventive programs, these actions are accompanied by measures intended to provide specific, necessary, infrastructural possibilities to implement specific behaviors (e.g. vaccination, screening). This is also the case with cancer prevention programs targeted at cervical cancer, which offer mass screening tests for all women from the highest risk age groups. The organizers of the program have made every effort to ensure that these studies cover the widest possible range of women.

An effective way to prevent cervical cancer is primary and secondary prevention. Primary prevention is based on prophylaxis and any measures to eliminate risk factors for the disease; as part of secondary prevention, cytological screening tests are used, so-called screening [25].

Primary prevention aims to prevent illness. The achievement of genetic engineering is the creation of HPV vaccination, which is recommended by the Ministry of Health. Vaccinations performed before sexual initiation are most effective [26]. Vaccination is recommended for women up to 26 years of age who have been ruled out HPV infection as the vaccine is not effective during the infection phase [27]. In many countries around the world, there are three vaccines available that are highly effective against virus infection types 16 and 18, responsible roughly for 70% of cervical cancer cases worldwide. The target group for HPV vaccination is young girls, aged 9-14 [28].

A cervical smear is the basis for diagnosing cervical precancerous and neoplastic lesions; the detectability of these conditions is closely related to the number of preventive examinations performed. The best documented and strongest risk factor for developing cervical cancer is long-term HPV infection. In 1994,

WHO recognized oncogenic HPV 16 and 18 types as human carcinogens. The presence of HPV in 99.7% of patients with cervical cancer confirms the relationship between infection and cervical cancer [29].

Risk factors that, together with additional HPV infection, contribute to the development of cervical pathology [30, 31].

- young age at the time of sexual initiation
- multi-family (3 and more live births)
- smoking tobacco
- sexually transmitted diseases - HIV, Chlamydia, herpes virus (HSV 2)
- diet deficient in vitamin A, carotenoids, and vitamin C
- long-term use of oral contraceptive (10> years)
- low socioeconomic status
- frequent change of sexual partners
- bacterial vaginal infections

Prevention of cervical cancer is a multidirectional activity aimed at preventing the disease and early detection of lesions cancer. The American Cancer Society recommends [32, 33].

1. The first cytological examination should be performed at the age of 21 years. Up to the age of 29, this test should be repeated every 3 years.
2. After the age of 30, cytological examination together with an HPV test should be performed every 5 years up to the age of 65, in the case of the cytological examination itself, every 3 years.
3. Cytological tests require women at risk more often than every 3 years:
  - a. infected with HIV
  - b. taking immunosuppressive drugs
  - c. after long-term steroid therapy.
4. Women over 65 years of age who have had regular cytology over the past 10 years and the result was normal may complete a screening test.
5. Vaccination of girls against HPV at the age of 11–12 or at the age of 13–26 without active HPV infection.
6. Vaccination against HPV does not exempt women of having to go to a cytological examination

In sociology of medicine, the readiness for preventive behavior is generally analyzed by referring to the awareness of threats, the perception of individual risk and the balance between the expected profits and losses associated with taking preventive actions. An example of such an approach is the Health Belief Model (MPZ) (health belief model) [34]. According to this model, the attitude to prevention depends on three groups of factors: individual perception of threat, modifying factors and estimated costs and profits associated with taking the recommended actions. Individual perception is the perceived susceptibility to "X" disease and its potential seriousness; Modifying factors to be considered are on the one hand the objective characteristics of the individual (age, sex, social class, medical knowledge, experiences with "X" disease, etc.), on the other hand, tips to take action (media campaigns, doctor's recommendations, etc.).

The result of all these elements will be the feeling of being in danger of illness "X", which after considering the perceived profits and losses associated with taking the action, will determine its probability. This model shows that the attitude towards both disease and prevention depends on the structurally conditioned individual perception of the disturbances that the disease can implement. At the same time, however, it contains certain assumptions about the rationality of health behaviors, which assume that they are the result of considered alternatives and deliberately thought-out decisions. This model seems more adequate to the way of thinking about the health of the women with different levels of education; women with higher education because they internalize medical models and norms to a greater extent. In the rest of this article, based on empirical data, we will consider how far the model of health beliefs can explain the reasons for the low effectiveness of mass gynecological prevention programs [35].

## II. MATERIALS AND METHODS

In sociology of medicine, the readiness for preventive behavior is generally analyzed by referring to the awareness of threats, the perception of individual risk and the balance between the expected profits and losses associated with taking preventive actions. An example of such an approach is the Health Belief Model (MPZ) (health belief model). According to this model, the attitude to prevention depends on three groups of factors: individual perception of threat, modifying factors and estimated costs and profits associated with taking the recommended actions. Individual perception is the perceived susceptibility to "X" disease and its potential seriousness; Modifying factors to be considered are on the one hand the objective characteristics of the individual (age, sex, social class, medical knowledge, experiences with "X" disease, etc.), on the other hand, tips to take action (media campaigns, doctor's recommendations, etc.). The result of all these elements will be the feeling of being in danger of illness "X", which after considering the perceived profits and losses associated with taking the action, will determine its probability. This model shows that the attitude towards both disease and prevention depends on the structurally conditioned individual perception of the disturbances that the disease can implement. At the same time, however, it contains certain assumptions about the rationality of health behaviors, which assume that they are the result of considered alternatives and deliberately thought-out decisions. This model seems more adequate to the way of thinking about the health of the women with different levels of education; women with higher education because they internalize medical models and norms to a greater extent. In the rest of this article, based on empirical data, we will consider how far the model of health beliefs can explain the reasons for the low effectiveness of mass gynecological prevention programs. This research respected the ethical principles described by the WMA Declaration of Helsinki, about researches involving human subjects. All participants were protected about risks and their identities. The research aims to provide benefits to the field and society.

### III. RESULTS ON THE AWARENESS OF CERVICAL CANCER AND THE ATTITUDE OF WOMEN TO GYNECOLOGICAL PROPHYLAXIS

The global data indicate that cervical cancer is the fourth most common cancer among women worldwide [39], and the seventh leading cause of death among women in United Arab Emirate (UAE) [42]. The quantitative study conducted [41], have discussed the number of factors relating to cultural, religion, and sexual behavior shaping the perspective of Muslim women in Dubai towards CC screening. The study has recommended the national awareness program on CC screening should according to regional norms and to promote awareness regarding the causes of CC and the importance of screening. The finding on the current study has confirmed the past research. This research involved 1500 women from all over the UAE. A proprietary survey was used to investigate knowledge about cytological examination, risk factors and prevention of cervical cancer. The study allowed to obtain answers from people with different levels of education, at different ages, living in towns of different

sizes. Table 1 shows the respondents demographic in terms of their age distribution, education and whether they have cytological examination (CE) or not. Similarly, the Table 2 shows the composition of association between respondents' age, education, and CE. The majority of women, as many as 1170 (78%) of the respondents, are people in the age range 18–29 years. Women over 40 years of age 120 responses were recorded, representing 8% of the whole group. Almost half of the respondents (46.6%) had higher education. Most respondents (65.2%) had a cytological examination in the last three years. The study shows that almost 78 % of women surveyed up to 29 years of age have performed a cytological examination, and about 90% in the age above 29 years have performed a cytological examination in the last 3 years. Studies show that just 30% of UAE women perform cytology once every three years and half less than every 5 years, some only once in a lifetime. An important information resulting from the study is the fact that 22% of respondents aged 18–29 have not performed a cytological examination so far.

**Table 1: Respondents Demographic (Age, Education, Cytological examination-CE).**

AGE	High School	Higher Edu	CE-yes	CE-no	Total	Percentage
18-29	667	541	912	258	1170	78%
30-40	84	95	189	21	210	14%
over 40	59	54	108	12	120	8%
Total	810	690	1209	291	1500	
Percentage	54%	46%	81%	19%		

**Table 2: Respondents Age, Education and Cytological examination -CE composition.**

AGE	CE-yes		CE-no		Total
	High School	Higher Edu	High School	Higher Edu	
18-29	415	528	200	27	1170
30-40	74	95	36	5	210
over 40	43	54	20	3	120
Total	532	677	256	35	1500

Women with higher education are much more often examined among the women surveyed. In cancer prevention, it is extremely important to know the risk factors, as some of them can then be consciously eliminated. In addition to generally accepted risk factors for the development of cervical cancer, the survey deliberately included responses unrelated to the etiology of the cancer, which were intended to check the actual knowledge of the respondents. Over 38% of respondents are related to the lack of proper intimate hygiene.

In the study most respondents are aware that HPV infection correlates with cervical cancer, but statistically significant differences in the age groups of women surveyed have been calculated. 91.2% of women surveyed to 29 years of age is aware of the risks associated with HPV infection, but only 84% of women over 29 have indicated this type of infection as a risk factor for cervical cancer. Similarly, the smoking risk was one of the risk factors to be marked in the survey. Less than 30% of respondents said that smoking cessation or quitting could be one of the forms of cervical cancer prevention. The results obtained in the study shows statistically significant differences ( $p < 0.05$ ).

Research suggests that the aversion to prophylaxis mainly concerns visits to the gynecologist and gynecological examinations, assessed as particularly unpleasant. For comparison, it is possible to indicate differences in the readiness of women to visit a gynecologist and control visits to dentists, which are also not considered pleasant. Study present that over the past year, almost twice as many women visited the dentist office than the gynecological one (43% to 25%). Perhaps this is due to the ad-hoc ailment in the case of dental diseases, a better understanding of the nature of dental prophylaxis or even the aesthetic aspects of well-groomed dentition. The fact that women don't fully understand the need for gynecological prophylaxis, as well as the fact that cervical cancer develops asymptotically for a long time, weakens risk perception and does not help women overcome the embarrassment of examining intimate body parts. If preventive behavior is a reaction to the perceived risk of illness and the anticipated consequences of the disease, it can be seen that these reactions can be very different and not necessarily consistent with the model of rationality of pro-health behavior developed by medicine. It is recommended that awareness campaign and education fully integrated with the health system are

required for the prevention of cervical cancer, and this is in line with the recommendation from the research conducted [38]. Despite the challenges of lack of awareness, the study confirms that a reasonable increase in families' willingness to vaccinate their women due to the government effort and availability of the vaccine [40].

#### IV. CONCLUSION

If an early detected disease is completely curable, and yet so many women die because of it, then this fact must ask the question - why is this happening? The study shows that most women know the basic risk factor for cervical cancer, but unfortunately, they cannot connect it with the most common cause of HPV infection. Few women also associate smoking with the onset of cervical cancer and do not treat quitting as one of the forms of prevention. In addition to the need to seek the answer to the above question in the functioning of the health care system (preventive programs, educational campaigns), one should also take into account the individual level of knowledge, motivation and socio-cultural factors conditioning a woman's attitude towards health, but also a visit to a gynecologist. For some women, such a visit is associated with tremendous shame, fear, and embarrassment. This is due to, inter alia, shortcomings in sex education at school level. An effective way to prevent cervical cancer is primary and secondary prevention. Primary prevention is based on prophylaxis and any measures to eliminate risk factors for the

disease; as part of secondary prevention, cytological screening tests are recommended, so-called screening. The proposed model shown in the Fig. 1 is a specific configuration of elements and their features, as well as the relationships between them that are significant due to its separate identity. Health education is the main challenge of managing change in health care all of the healthcare practitioners are responsible to help individuals improve their health, by increasing their knowledge about risk factors, method of prophylactic and treatment. Health education should be the main goal of any health care system. Patient involvement and education how to prevent not only cervical cancer is a critical component of improving outcomes in health care. The basic measure of the effectiveness and efficiency of the model and any system is their ability to provide citizens with the necessary, commonly accessible health services and health education. Health education should be part of the syllabus in the schools and universities across the UAE and other countries in the Gulf Region. Economic impacts can be reduced by prophylactic praxis and longitudinal follow up of the population. Using vaccination for preventing and tests to realize the diagnostic of health, the general process in prevention is conclude. Efforts in public health must focus on the health of women in Gulf countries breaking paradigms, promoting equality of medical accessibility and provide the basic access to the technology and innovation under the protection strategy.

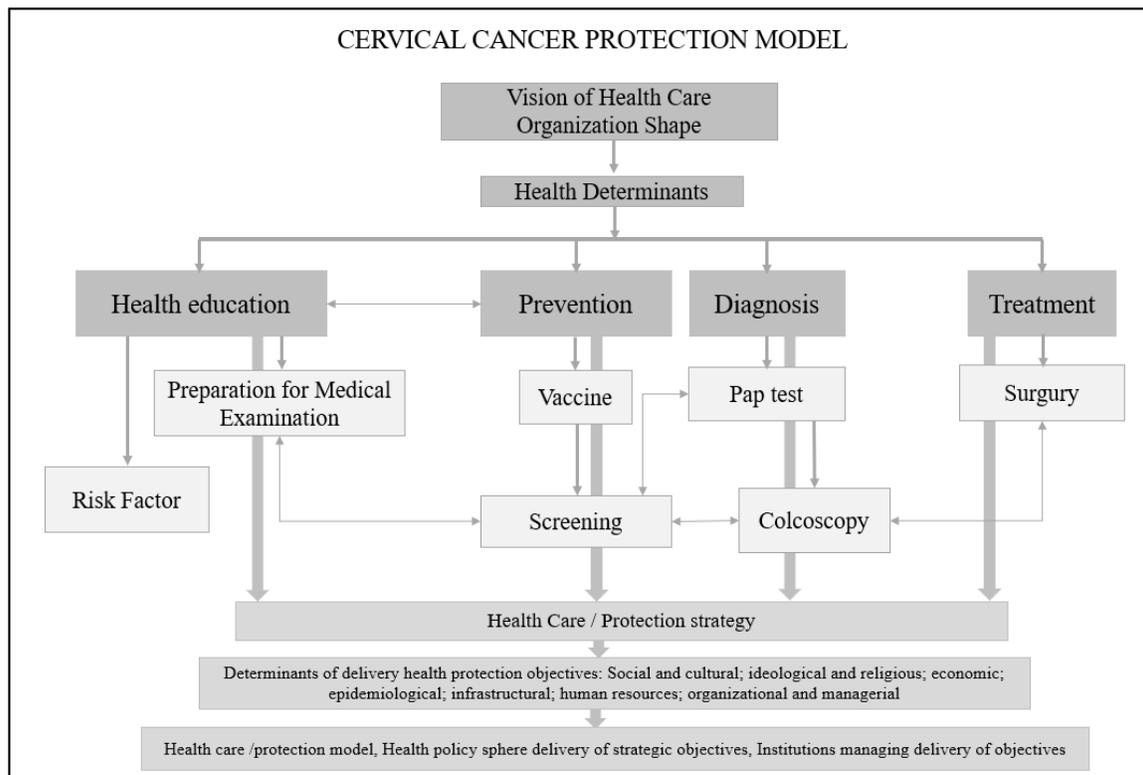


Fig. 1. Propose Cervical Cancer Protection Model.

## V. FUTURE SCOPE

An effective way to prevent cervical cancer is primary and secondary prevention. Primary prevention is based on prophylaxis and any measures to eliminate risk factors for the disease; as part of secondary prevention, cytological screening tests are recommended, so-called screening. Education is a vital component of female health-promoting activities. The school's education system must include the contents of awareness about the disease and taught to female students. Educators and governments must take the lead and took real measures. Emerging technologies and methods should be stimulating in research to predict cervical cancer [36, 37]. Parents are also closely connected with educational institutions, and schools can contribute to extend the awareness to families of the children they are teaching.

**Conflict of Interest.** The authors confirm that there are no known conflicts of interest associated with this publication of this paper.

## REFERENCES

- [1]. Bener, A., Denic, S., & Alwash, R. (2001). Screening for cervical cancer among arab women. *Int. J. of Gyn. & Obs.*, 74(3): 305–307.
- [2]. Michalska M. (2008). Epidemiology of cervical cancer. In: Primary and secondary prevention of cervical cancer - diagnostics and treatment. Ed. Spaczyński M. Poznań: *Polish Gynecological Society*, 11-18.
- [3]. Ferlay, J., Bray, F., & Pisani, P. (2001). *Globocan 2000: Cancer Incidence, Mortality and Prevalence Worldwide*. Lyons, France: IARC Press Health Authority Abu Dhabi: What is cervical cancer? <http://www.haad.ae/simplycheck/ar/tabid/72/Default.aspx>, Accessed 13 Jul 2020
- [4]. Health Authority Abu Dhabi: Cancer programs. (2020). Retrieved from: <http://www.haad.ae/simplycheck/tabid/128/Default.aspx> Accessed 13 Jul 2020.
- [5]. Khan, S., & Woolhead, G. (2015). Perspectives on cervical cancer screening among educated Muslim women in Dubai (the UAE): a qualitative study. *BMC women's health*, 15(1): 90.
- [6]. Ferlay, J., Soerjomataram, I., & Dikshit, R. (2015). Cancer incidence and mortality worldwide: sources, methods, and major patterns in GLOBOCAN. *Int. J. Cancer* 2015; 359–386.
- [7]. El-Hammasi, K., Samir, O., Kettaneh, S., Al-Fadli, A., & Thalib, L., (2009). Use of and attitudes and knowledge about Pap smears among women in Kuwait. *J. of Women's Health*, 18(11):1825–32
- [8]. Spaczyński, M., Nowak-Markwitz, E., & Januszek-Michalecka, L., (2009). Women's social conditions and their participation in Cervical Cancer Population Screening Program in Poland. *Ginekol Pol.*, 80, 833-838.
- [9]. Communicable Disease Reports, (2001). Sexually transmitted infections quarterly report: anogenital warts and HSV infection in England and Wales. *Commun. Dis. Rep.* 11: 11–15
- [10]. Milla, A. C., Kurt, O., & Mataruna-Dos-Santos, L. J. (2019). User perceptions of technology integration in schools: Evidence from Turkey's. *International Journal of Education and Practice faith project*, v.7, n.4, pp.430-437.
- [11]. Mataruna-Dos-Santos, L. J., Khan, M.S., & Al-Shibini, M.A.H.M.S.A.A. (2018). Contemporary scenario of Muslim women and sport in the United Arab Emirates: Pathways to the vision 2021. *Olimpianos-Journal of Olympic Studies*, 2(2), 449-474.
- [12]. Azeem, M., & Mataruna-Dos-Santos, L.J. (2019). Identifying Factor Measuring Collective Leadership at Academic Workplaces. *International Journal of Educational Management*, v.33, n.6, p1316-1335.
- [13]. Haiachi, M. C, de Ávila, E. B., Cardoso, V. D., Canuto, S. C. M., Kumakura, R. S., de Oliveira, A. F. S., & Mataruna-Dos-Santos, L. J. (2020). Military rehabilitation programs and Paralympic Movement. *Journal of Human Sport and Exercise*, 2020, 15(1proc), pp.S46-S56.
- [14]. Mataruna-Dos-Santos, L. J., Zardini-Filho, C. E., & Cazorla, A. (2019). Youth Olympic Games: Using marketing tools to analyse the reality of GCC countries beyond Agenda 2020. *Journal of Human Sport and Exercise*, 2019, 14(3proc), pp. S391-S411. doi:<https://doi.org/10.14198/jhse.2019.14.Proc3.12>
- [15]. Leavell, H., & Clark, E. (1953). *Textbook of Preventive Medicine*. 3 McGraw-Hill; New York.
- [16]. Kavanagh, A. M., & Dorothy, H. B. (1997). *Embodied Risk: My Body, Myself?* *Social Science and Medicine* 46: 437–444.
- [17]. Nahin, R. L. Dahlhamer, J. M., & Taylor B. L. (2007). Health behaviors and risk factors in those who use complementary and alternative medicine. *BMC Public Health*, 7: 217.
- [18]. Stein, C.J., & Colditz G.A. (2004). Modifiable risk factors for cancer. *Br. J. Cancer*, 90(2): 299-303.
- [19]. Giddens, A. (2001). *Modernity and identity. "I" and society in the late modern era*. Warsaw: WN PWN.
- [20]. Frank, E., & Kunovich-Frieze, T. (1995). Physicians' prevention counseling behaviors: current status and future directions. *Prev. Med.*, 24(6):543–545
- [21]. Roots, E. (2007). Making connections: The relationship between epistemology and research methods. *Special Edition Papers*, 19(1): 19-27.
- [22]. Green, J. (2009). Thorogood N. Analysing qualitative data. In: Anonymous Sage, editor. *Qualitative methods for health research*. 2nd ed. p. 203.
- [23]. Cockerham, W.C., (2004). *Medical Sociology*. Upper Saddle River: Prentice Hall.
- [24]. Kotarski, J. (2007). "Cervical cancer in Poland - a summary of the situation and an indication of the possibilities of its improvement". Paper presented at the scientific session "Cervical cancer - medical, social, economic problem" Warsaw: SNS IFiS PAN and "Health Service".
- [25]. Katz, D., & Ali, A. (2009). *Preventive Medicine, Integrative Medicine, and the Health of the Public*; Commissioned paper for IOM of the National Academies. Summit on Integrative Medicine and the Health of the Public.
- [26]. Kols, A., & Sherris, J. (2000). *HPV Vaccines: Promise and Challenges*. Seattle: Program for Appropriate Technology in Health.
- [27]. Schiffman, M., Bauer, H., & Hoover, R. (1993). Epidemiologic evidence showing that human papillomavirus infection causes most cervical

- intraepithelial neoplasia. *J. Natl Cancer Inst.*, 85: 958–964.
- [28]. World Health Organization: Immunization (2000). Vaccines and Biologicals. Retrieved from: <https://www.who.int/immunization/diseases/hpv/en/>, Accessed 27 Jul 2020.
- [29]. Schiffman, M., Castle, P.E., and Jeronimo J., (2007). Human Papillomavirus and cervical cancer. *Lancet*, 8; 370(9590): 890–907.
- [30]. Ghosh, C., Baker, J.A., & Moysich, K. B. (2008). Dietary intakes of selected nutrients and food groups and risk of cervical cancer. *Nutr. Center*, 60(3):331–341.
- [31]. Mocarska, A., Starosławska, E., Zelazowska, C., (2012). Epidemiologia czynników ryzyka rozwoju raka płaskonabłonkowego szyjki macicy. *Pol Merk Lek.*, XXXIII(194):101–106
- [32]. Society American Cancer (2012). Cancer Facts & Figures, Atlanta; ACS.
- [33]. Saskow, D., Solomon, D., & Lawson, H. (2012). American Cancer Society, American Society for Colposcopy Cervical Pathology and American Society for Clinical Pathology Screening. Guidelines for prevention and early detection of cervical cancer. *Am. J. Clin. Pathol.*, 137(4): 516–542.
- [34]. Rosenstock, I. (1966). *Why People Use Health Services*. „*Milbank Memorial Fund Quarterly*” 44: 94–127.
- [35]. Becker, M.H., (1974). *The Health Belief Model and Personal Health Behavior*. San Francisco: Society for Public Health Education inc.
- [36]. Geeitha, S., & Thangamani, M. A. (2020). Cognizant Study of Machine Learning in Predicting Cervical Cancer at various Levels-A Data Mining concept. *International Journal on Emerging Technologies*, 11(1): 23–28.
- [37]. Logeswaran, K., Suresh, P., Savitha, S., Kumar, P .K. R., Ponselvakumar, A. P., & Kannan, A.R. (2020). Data Driven Diagnosis of Cervical Cancer using Association Rule Mining with Trivial Rule Expulsion Approach. *International Journal on Emerging Technologies*, 11(2): 110–115.
- [38]. So, V.H.T., Channon, A.A., Ali, M.M., Merdad, L., Al Sabahi, S., Al Suwaidi, H., Al Ajeel, A., Osman, N., & Khoja, T.A.M. (2019). Uptake of breast and cervical cancer screening in four Gulf Cooperation Council countries. *European Journal of Cancer Prevention*, 28(5): 451-456.
- [39]. AL-Hammadi, F. A., Al-Tahri, F., Al-Ali, A., Nair, S. C., & Abdulrahman, M. (2017). Limited understanding of pap smear testing among women, a barrier to cervical cancer screening in the United Arab Emirates. *Asian Pacific journal of cancer prevention: APJCP*, 18(12), 3379
- [40]. Saqer, A., Ghazal, S., Barqawi, H., Babi, J. A., AlKhafaji, R., & Elmekresh, M. M. (2017). Knowledge and awareness about cervical cancer vaccine (HPV) among parents in Sharjah. *Asian Pacific journal of cancer prevention: APJCP*, 18(5), 1237.
- [41]. Khan, S., & Woolhead, G. (2015). Perspectives on cervical cancer screening among educated Muslim women in Dubai (the UAE): a qualitative study. *BMC women's health*, 15(1), 90.
- [42]. Ortashi, O., Raheel, H., Shalal, M., & Osman, N. (2013). Awareness and knowledge about human papillomavirus infection and vaccination among women in UAE. *Asian Pac J. Cancer Prev.*, 14(10), 6077-6080.

**How to cite this article:** Skibinska, E., Mataruna-Dos-Santos, L. J., and Azeem, M. (2020). Comparative Analysis of the Awareness of the Cervical Cancer in the UAE Among Working Women, Female Players, and Household Ladies. *International Journal on Emerging Technologies*, 11(5): 693-699.