**Week 3 Project - Public Health**

**Introduction**

Epidemiology entails the study of the spread of diseases and other health associated problems in a population. The primary purpose of epidemiology is to identify and comprehend what kind of risk factors are related to a particular illness. It is also important because it helps to formulate prevention for a given disease in a group of people. This is where the application of epidemiologic studies comes in. They can be used for many reasons including estimating the frequency of an illness as well as finding associated risk factors that may suggest the cause of the disease. For the case of this paper, I chose three epidemiologic studies on cervical cancer. The first one is the study on the epidemiological causes and Tobacco Smoking and Cancer Types .The second one is the study on the Epidemiology of cervical cancer with special focus on India. And third is the research on Invasive cervical cancer: Epidemiology, risk factors, clinical manifestations, and diagnosis. These studies look into detail the risks that are associated with cervical cancer. This research article tends to provide elaborated epidemiology of cervical cancer.  The three studies explain the prevalence, frequency, and the causes together with the risk factors of cervical cancer. Moreover it tends to explain the occurrence of the disease in various groups of people and providing the reason for the occurrence. It can be termed that the epidemiological studies aid in researching the related factors that influence the incidence of health associated issues. It also discusses the distribution of the disease among the affected groups under the study. Therefore this paper will provide detailed research on the epidemiological studies, the methodology of the study, discussion of the risk factors discussed in the mentioned articles as well as the study design of this paper.

**Methods of selecting the epidemiological articles**

Different criteria were used to select the epidemiological articles. I conducted a literature search of peer-reviewed articles that have been conducted on the epidemiology of cervical cancer in women. This search was conducted using PubMed, Web of sciences as well as google scholar to look for the cervical cancer epidemiological articles that were done and published between 2014 and 2018 (Frumovitz, Goff, & Falk, 2013). I also involved the use of keywords like cervical cancer, cervix uteri cancer, risk factors associated with cervical cancers, the incidence, mortality and also a combinational of these words. This was boosted by the prior knowledge I had regarding the topic of study. The selected studies were found to have clearly described the prevalence, frequency, and the causes together with the risk factors of cervical cancer which contained the primary objectives of the study (Sreedevi, Javed, & Dinesh, 2015).

**Risk factors studied in the selected articles**

All the three epidemiological study articles on cervical cancer took distinguishing risk factors regarding the study topic. However, there are some of the risk factors which are similar to them, but on a more significant percentage, they have different risk factors. Despite that they have varied risk factor approaches, they reach the same destination of the epidemiology of cervical cancer. In this case, this section will wrap together all the risk factors that have been handled by the three epidemiological studies regarding cancer.

**Behavioral factors**

The articles indicate that the behavioral factors of some women are putting them at risks against the cervical cancers. For instance, smoking is among the leading risk factor that is associated with causing invasive cervical cancer. It further revealed that is a significant relationship between smoking and cervical cancer. It showed that the risk of cervical cancer was decreased by half among the women who stopped smoking for ten years. Passive smokers were not associated with increasing the incidence of cervical cancer and age was considered to some extent a risk factor related to the occurrence of cervical cancer (Sreedevi et al., 2015).

Obesity is also another behavioral factor that has been included in the epidemiological studies. It is indicated that obesity increases the risk rates of cervical cancer.  The study articles revealed that the risk of cervix cancer developing in obese females who were also overweight was found to be higher as compared to those females who are not obese. The main reason behind is that obesity is a key factor that is considered in increasing sex hormones levels during the conversion of androgens to the estrogen from in the adipose tissue of the body (Frumovitz et al., 2013).

**Nutritional factors**

The epidemiological studies show that nutrition plays a significant in the process of the pathogenesis of cervical carcinoma. It was further revealed that high intake of nutritional foods like green vegetables, dark greens as well as yellow fruits are related with half decrease of the risk cervical cancer.  As such consumption of a balanced and healthy diet results in the higher accumulation of antioxidants which are helpful in cervical neoplasia. There also exists a significant correlation between high intake of vitamin A, C, and E foods, folate, lycopene and vegetarians diets with cervical cancer (Khani et al., 2018).

**Reproductive and sexual factors**

The studies show that there is a high risk of cervical cancer in multiple sexual partners. The further shows that the increase in risk is contributed by HPV infections. However, other related factors are lead to increased risks of cervical cancer in people with multiple partners. For instance, early exposure to sexual intercourse is a risk factor for cervical cancer. Another risk factor related to reproduction and sexual intercourse is parity. The study article revealed that there is a correlation between parity and the risk of cervical cancer. Additionally, full-term expectancy increases the risk of cervical cancer (Sreedevi et al., 2015).

**Sexually transmitted infections**

Another significant risk factor for cervical cancer is sexually transmitted diseases. The infections are the primary determinants of pre-cancerous and cancerous cells. In particular the oncogenic HPV types. The virus is spread through sexual intercourse. Despite that the infection can be treated, small amounts of lesions remain which causes to cancer. Other common sexually transmitted diseases which are risk factors for cervical cancer include Chlamydia trachomatis, Human immunodeficiency virus and Herpes Simplex Virus (Sreedevi et al., 2015).

**Host factors**

Host genetic sensitivity plays a significant role in cervical cancer pathogenesis.  The study articles indicated that there is some genetic polymorphism that is related to cervical cancer. Moreover, they also showed the genetic variants of the host is accountable for determining the risk of developing cervical cancer pathogenies (Khani et al., 2018).

**Study design**

The study articles applied cohort study design. Cohort study designs start from the cause of the disease to the effects of the conditions. It is evident from the research because the articles outline the objectives of cervical cancer, risk factors, prevention of the disease and finally the effects of the disease. They applied this study design because of various relations some of which were based on the healthcare settings and others on the study itself (Sreedevi et al., 2015). Cohort study design tends to examine whether the disease occurs more often in the people who are exposed to it or not exposed to the risk factors. For the case of the study articles, it was used to determine the frequency and prevalence of cervical cancer in women who are exposed to the risk factors. For instance, the articles indicated that a cohort study that was conducted revealed that the risk of cervical cancer showed a 50% decrease among the women who had stopped smoking for ten years. The researchers also used this specific design to establish the causative agents of the disease and evaluating the outcome of the provided treatment (Khani et al., 2018). Additionally, the study design is essential when randomized conducted healthcare examinations are impossible to accomplish. Therefore it can be concluded that the researchers used the design because of the aim of the study they were conducting. This is because cohort design is best applied when the research aim is to examine the risk factor and determine whether the risk factor is associated with the disease. This is evident from the study articles because they involved thorough research on the risk factors that are associated with cervical cancer, and determined the relation between them and the disease (Sreedevi et al., 2015).

**The proximate or underlying risk factors of the articles**

The underlying or proximate risk factors that are associated with cervical cancer include age, socioeconomic status, and inflammatory diseases. They never disclosed which age was more likely to affect with cervical cancer. Despite that it published that it is high in full-term pregnancy, the articles never specified the age that the disease is prevented in. Secondly, it left the risk factor of social-economic status underlying. Probably individuals with low social-economic status have a higher risk of getting the disease. This is because they could lack information regarding the condition due to limited access to healthcare facilities or even if they are aware of it, they lack enough funds for getting a diagnosis of the disease or also getting treatment (Frumovitz et al., 2013). As such they live with the disease and suffer in their lives. Some articles never disclosed the risk factor of inflammatory diseases that are associated with cervical cancer. The left this risk factor underlying because some two researchers failed to account for this risk factor in their articles. They did not state how the inflammatory diseases are associated with cervical cancer. This is because of the existing correlation of the risk of inflammatory diseases rheumatoid arthritis and systemic lupus erythematosus with cervical cancer (Khani et al., 2018).

**Conclusion**

In summary, epidemiological studies tend to provide and explains the prevalence, frequency, and the causes together with the risk factors for cervical cancer. The selected epidemiological studies on cervical cancer illustrate the reasons, risk factors and study design of the research. Some of the risk factors include behavioral factors like obesity and smoking. Others include nutritional factors, host factors, and reproductive and sexually transmitted diseases. Also, it indicated that the research articles used cohort study because it intended to study the cause of the health issue, risk factor, and the finally the effects of the disease. As such this epidemiological studies provided the risk factors, effects, and the associated study design.

**References**

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