RISK FACTORS FOR CERVICAL CANCER: A LITERATURE REVIEW

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Abstract. Cervical cancer is a cause of death in women in developing countries, including Indonesia. based on data(Globocan, 2020)Cervical cancer still ranks 2nd in cancer disease that occurs in women after breast cancer. And become the second leading cause of death from cancer after breast cancer. The purpose of this study was to determine the risk factors for cervical cancer. This research method was prepared using the method of a literature review or literature review. Search for related articles sourced from the Google Scholar database, PubMed. The number of journals reviewed was 8 international journals using journals published from 2014 to 2022. The keywords in the search for data (or, and) in this study used the keywords in this study, namely, "cervical cancer, case studies" and "factors risk". Based on the results of a literature review, the risk factors for cervical cancer are exposure to the HPV virus, multiple sexual partners, early sexual intercourse, knowledge, perceptions, and education level of women that influence cervical cancer screening behavior.

Keywords: [Human Papilloma Virus, Knowledge, Perception, multiple sex partners, HPV vaccination]

INTRODUCTION

Cervical cancer is a cause of death in women in developing countries, including Indonesia. based on data(Globocan, 2020)Cervical cancer still ranks 2nd after breast cancer. The number of cases is 17.2%. This is also supported by research(Sarvestani, Jeihooni, and Dehghan, 2021)that cervical cancer (cervical cancer) is the cause of death in 2 out of 5 deaths caused by cancer in women in Iran. Likewise, what was conveyed by(Rosethe Rimande-Joel, 2018)in his research Cervical cancer otherwise known as cervical cancer is an important public health disease that affects a large number of women globally. Cervical cancer is the most common growth of the female genital tract and has been ranked as the second most common cancer affecting women globally with developing countries accounting for 85% of the 1.5 million clinically recognized cases.

The etiology or exact cause of cervical cancer is unknown. However, certain conditions are closely related to the incidence of cervical cancer so it can be regarded as a risk factor. HPV (Human Papillomavirus) and Herpes Simplex Virus type 2 are said to be factors that cause carcinoma (cancer) of the cervix(Kartikawati, 2013). However, there are several risk factors associated with cervical cancer.

Based on the research results from N. Kashyap et.al and Lisin Tao showed that the risk factors for cervical cancer include: lack of education, not maintaining personal hygiene, using old clothes repeatedly, place of residence, early age of marriage, not washing genitals after sexual intercourse, increase in the number of husbands' sexual partners, history of sexually transmitted diseases (STIs) and genital warts, and lack of knowledge about screening cervical cancer, as a risk factor for cervical cancer, education identified as a risk factor for cervical cancer, infection from the germ trichomonas vaginalis, bleeding after intercourse ((Kashyap et al., 2019) (Tao et al., 2014).

METHODS

This study was compiled using the method of literature review or literature review. In collecting data, this study used secondary data obtained from previous research articles. The selected articles are articles related to the research topic that is taken and selected according to the topic. Browse related articles sourced from the Sinta Kemedikbud database, Google Scholar, and PubMed. The number of journals reviewed was 8 international journals using journals published from 2014 to 2022. The keywords in the search for data (or, and) in this study used the keywords in this study, namely, "cervical cancer, case studies" and "factors risk". With the exclusion criteria that are not intervention research,

Study selection

The use of research using the Mandeley bibliographic software with the first step is filtering abstracts then followed by screening the full text in selecting journal articles. Irrelevant journal articles were

excluded by reviewing their relevance and suitability for the literature review.

Based on the results of a literature review search using the PubMed database, and Google Scholar, using the keywords specified in this study, namely "cervical cancer risk factors" AND "case studies", the researchers obtained 35 journals that matched these keywords. The journals that have been obtained are then selected and there are 8 journals published in the last 5 years in English. After the journals were selected by checking the suitability of the inclusion criteria determined by the researcher according to the topic by identifying abstracts and keywords in the journal 8 journals according to the topic were obtained for review by researchers.

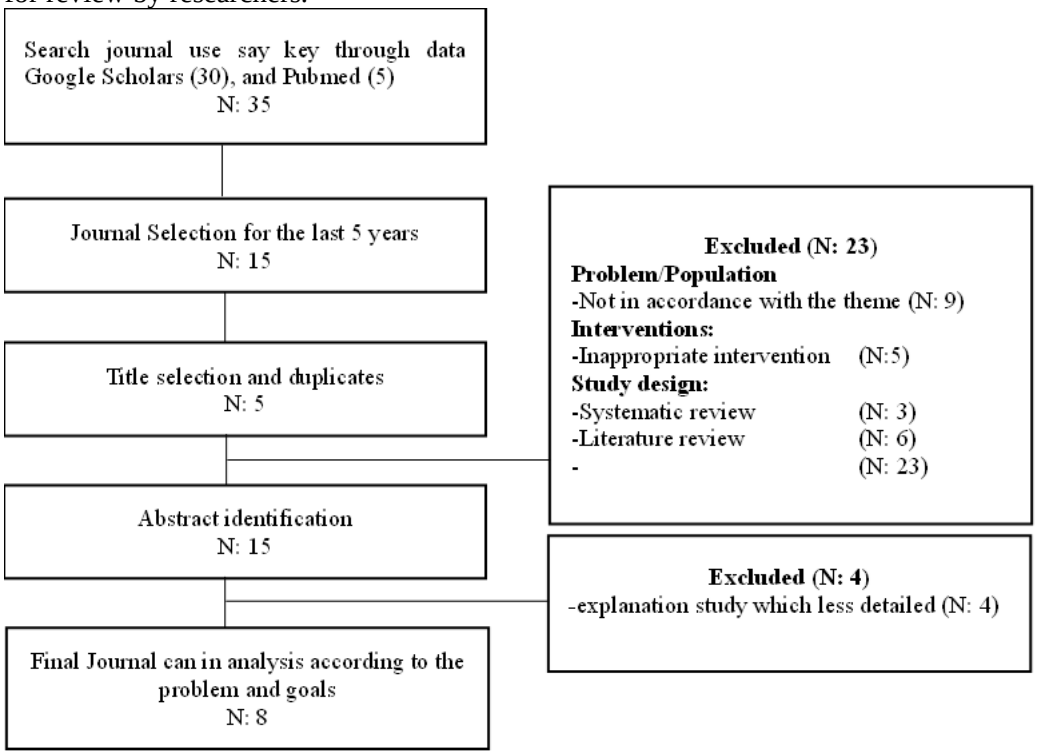

Figure 1. Journal flowchart

RESULTS AND DISCUSSION

Table 1. Review of the Journal

No	Name/title	Year/journal	Design	Sample	Results
1	Cervical Cancer: Epidemiology, Risk Factors, and Screening Zhang, Shaokai Xu, Huifang Zhang, Luyao Qiao, Youlin ((Zhang et al., 2020)	2020 Chinese Journal of Cancer Research	Multi-center cross-sectional	19 hospitals in 7 geographic regions (Northeast China, North China, Northwest China, Central China, East China, Southwest, and South China)	Risk factors for cervical cancer related to exposure to HPV, multiple sex partners, oral contraceptive pills
2	Prevalence and Risk Factors For Cervical Cancer Neoplasia: a Cervical Cancer Screening Program In Beijing (Tao et al., 2014)	2014 BMC Public Health	Case record cards	Women aged 25-65 years	The risk factors that remained significant in the multivariate logistic regression were in the 46–55 year age group (adjusted odds ratio [aOR] = 1.15, 95% CI: 1.07–1.44, compared with the 25–35 year age group)), bleeding after intercourse (aOR = 2.08, 95% CI: 1.40–3.10), and presence of Trichomonas vaginalis infection (aOR = 2.62, 95% CI: 1.35–5.07), cervical inflammation (aOR= 4.22, 95% CI: 3.39–5.26) and genital warts (aOR = 3.89, 95% CI: 2.54–7.70). Higher education

No	Name/title	Year/journal	Design	Sample	Results
					level was found to be protective against HSIL (aOR= 0.79, 95% CI: 0.37–0.90, higher education compared to junior high school or lower education level)
3	The relative risk of cervical cancer in Indigenous women in Australia, Canada, New Zealand, and the United States: A systematic review and Meta-analysis ((Vasilevska et al., 2012)	2012 Journal of Public Health Policy	Systematic review and meta-analysis	35 studies	the indigenous population does not have an increased risk of cervical dysplasia or carcinoma in situ relative to the non-indigenous population but does have a high risk of invasive cervical cancer (collected RR¼1.72) and cervical cancer-related mortality (collected RR¼3.45). There is a log-linear relationship between relative risk and disease stage
4	Trichomonas vaginalis as a risk factor for human papillomavirus: a study with women undergoing cervical cancer screening in a northeast region of Brazil (Belfort et al., 2021)	2021 BMC Women's Health	Cross-sectional and nonintervention ional studies	562 patients	In total, 562 women attending public primary health care were included in this study. Trichomonas. vaginalis was present in 19.0% (107) and HPV DNA was present in 46.8% (263) of women. Among Trichomonas V women 73.8% (79) were co-infected with HPV (p = 0.001).
5	Sexual behavior, clinical outcomes and attendance of cervical cancer screening by HPV vaccinated and unvaccinated sexually active women (Sauvagea et al., 2021)	2021 Human Vaccines & Immunotherapeutics	Case study	1475 women aged 17-29 years	The majority of respondents (67.9%) were vaccinated against HPV. The proportion of those vaccinated decreased with age: from 93.2% in those aged 17–19 years to 72.9% in those aged 20–22 years, and 21.8% in those aged 23–29 years. A higher proportion of unvaccinated respondents had at least one sexual encounter under the age of 15 when compared to those who were vaccinated (30% vs. 23%, p < 0.0001). The number of sexual partners over the past 12 months was similar between vaccinated and unvaccinated participants. Vaccinated participants reported more condom use (45% vs. 38%; p = 0.0002), fewer sexually transmitted infections (10% vs. 28%; p <.0001), and fewer anogenital condylomas (2.2 % vs 11.6%; p < 0.0001). Screening tests were reported by 51% and 77% of vaccinated and unvaccinated participants, respectively (p < 0.0001). The relationship between vaccination status and cervical cancer screening disappeared when adjusted for participant age. The study results consolidate existing data sets on the absence of an impact of HPV vaccination on sexual behavior or contraceptive use

No	Name/title	Year/journal	Design	Sample	Results
6	Beliefs and perceptions regarding cervical cancer and screening associated with Pap smear uptake in Johannesburg: A cross-sectional study (Mabotja, Levin and Kawonga, 2021)	2021 PLOS ONE	Cross-sectional study	280 women	Of the 280 women, 177 (63.2%) had been screened, 180 (64.3%) had never been married, 199 (71.1%) had attained secondary education and 133 (47.5%) worked full-time. Older women (AOR = 1.6 for a 5-year increase in age; CI: 1.3–1.9; P<0.001), with higher knowledge scores (AOR = 2.5 for a 5-point increase in knowledge score; 95% CI: 1.0–6.3; P = 0.051), with a lower perceived inhibition score (AOR = 0.4 for a 5-point increase in inhibition score; 95% CI: 0.3–0.5; P<0.001) and higher perceived severity scores (AOR = 1.3 for a 5-point increase in severity score; 95% CI: 1.0–1.6; P = 0.017) were more likely to undergo Pap smears.
7	Cervical cancer knowledge and barriers and facilitators for screening among women in two rural communities in Guatemala: a qualitative study (Bevilacqua et al., 2022)	2022 BMC Women Health	Qualitative Study	21 women	Knowledge of cervical cancer varies across locations and among women. Women reported barriers to screening including additional costs, control by male partners, poor provider communication, and resource constraints at the system level. Facilitators for screening include wanting to know one's health status, conversations with other women, including community health workers, and health campaigns outside the government.
8	Risk Factors of Cervical Cancer: A Case – Control Study Nainakshi Kashyap, Nadiya Krishnan, Sukhpal Kaur, Sandhya Ghai	Asia-Pacific Journal of Oncology Nursing, 2019	Case-control study	75 cases and 75 controls	There was a significant association (P < 0.05) between cervical cancer with education, place of residence, using an old sanitary cloth napkins, young age at marriage, number of husband's partners, washing the genitalia after sexual intercourse, and availability of health services. Bathing daily and during menstruation was found to be preventive factors for cervical cancer. in logistics regression, the utilization of health services, and the presence of sexually transmitted infections showed a significant association with the development of cervical cancer

Based on research(Tao et al., 2014)Risk factors for cervical cancer include the risk factors that remained significant in data processing with multivariate logistic regression in the age group 46-55 years (adjusted odds ratio [aOR] = 1.15, 95% CI: 1.07-1, 44, compared with the 25–35 years age group), bleeding after sexual intercourse (aOR = 2.08, 95% CI: 1.40–3.10), and presence of Trichomonas vaginalis infection (aOR = 2.62, 95% CI: 1.35–5.07), inflammation cervical (aOR= 4.22, 95% CI: 3.39–5.26) and genital warts (aOR= 3.89, 95% CI: 2.54–7.70). Higher educational attainment was found to be protective against HSIL (aOR= 0.79, 95% CI: 0.37–0.90, higher tertiary education compared to junior secondary or lower educational attainment). Likewise the results of research from ((Zhang et al., 2020)

state that the risk factors for cervical cancer are due to exposure to the HPV virus, multiple sex partners, and due to taking oral contraceptive pills.

This is also stated in(Ahmed, 2020)The risk factors for cervical cancer include having sexual intercourse at a young age (less than 16 years), women with high sexual activity, and often changing partners, having poor genital hygiene, women who smoke, history of venereal diseases such as herpes and genital warts, the higher the risk in women with many children, especially with births that are too close together and nutritional deficiencies.

Along with the existence of several risk factors for cervical cancer, it is necessary to do prevention (screening). Prevention efforts that can be done include carrying out an IVA (Visual Acetic Acid Inspection) test, pap smear examination, carrying out the HPV vaccine. The easiest and cheapest effort is to do an IVA test and pap smear. Where this examination can be done once every 1-3 years for women who have had sexual contact.

Some of these things are in line with research from(Sauvagea et al., 2021)The majority of respondents (67.9%) were vaccinated against HPV. The proportion of those vaccinated decreased with age: from 93.2% in those aged 17–19 years to 72.9% in those aged 20–22 years, and 21.8% in those aged 23–29 years. A higher proportion of unvaccinated respondents had at least one sexual encounter under the age of 15 when compared to those who were vaccinated (30% vs. 23%, $p < 0.0001$). The number of sexual partners over the past 12 months was similar between vaccinated and unvaccinated participants. Vaccinated participants reported more condom use (45% vs. 38%; $p = 0.0002$), fewer sexually transmitted infections (10% vs. 28%; $p <.0001$), and fewer anogenital condylomas (2.2 % vs 11.6%; $p < 0.0001$). Screening tests were reported by 51% and 77% of vaccinated and unvaccinated participants, respectively ($p < 0.0001$). The relationship between vaccination status and cervical cancer screening disappeared when adjusted for participant age. The study results consolidate existing data sets on the absence of an impact of HPV vaccination on sexual behavior or contraceptive use. Research result(Mabotja, Levin, and Kawonga, 2021)Out of a sample of 280 women, 177 (63.2%) had been screened, 180 (64.3%) had never been married, 199 (71.1%) had attained secondary education and 133 (47.5%) worked full time. Older women (AOR = 1.6 for a 5-year increase in age; CI: 1.3–1.9; $P<0.001$), with higher knowledge scores (AOR = 2.5 for a 5-point increase in knowledge score; 95% CI: 1.0–6.3; $P = 0.051$), with a lower perceived inhibition score (AOR = 0.4 for a 5-point increase in inhibition score; 95% CI: 0.3–0.5; $P<0.001$) and higher perceived severity scores (AOR = 1.3 for a 5-point increase in severity score; 95% CI: 1.0–1.6; $P = 0.017$) were more likely to undergo a Pap smear.

CONCLUSION

From the results of a review of case study articles, the risk factors for cervical cancer (cervical cancer) are the presence of trichomonas vaginalis infection, namely bacteria that cause sexually transmitted infections, to avoid the incidence of cervical cancer (cervical cancer), namely by not changing partners. The next factor is poor genetic hygiene and exposure to the HPV virus which is the main cause of cervical cancer (cervical cancer), the level of education can affect women's knowledge and perceptions about risk factors for cervical cancer.

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