Knowledge Regarding Ovarian Cancer among Female School Teachers of Selected School of Western Nepal

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ABSTRACT

Background: Ovarian cancer is considered as a silent killer based on myth but studies have proved that it shows warning sign and symptoms such as early satiation, pelvic pain, lower back pain, bloating and abdominal pain which are of diverse nature so the symptoms are misapprehension by doctor and women lead to delayed diagnosis.

Method: The study entitled knowledge on ovarian cancer among female school teachers in selected school of Bhimdatt Municiplity, Kanchanpur was conducted to investigates the school teachers' knowledge on ovarian cancer. Population of the study were female school teachers teaching to secondary level students. Non-probability purposive sampling technique was implied to select the sample and data was collected through self administered structured questionnaire. Sample size of the study was 101. Data were analyzed by using descriptive and inferential statistics.

Result: Findings of the study revealed that, age of the respondents was ranged from 21 to 57 years with the mean age of 36.74 ± 7.748. Regarding ethnicity 99% were Bhramin/Chhetri and regarding religion ,97% were Hindu. Similarly, in education level 44.6% respondent have master degree. Majority of the respondents (93.1%) had poor level of knowledge regarding ovarian cancer and 6.9% had moderate level of knowledge.

Conclusion: This study concludes that teachers working in school had poor level of knowledge regarding ovarian cancer. School teachers are the major stakeholders of the community who can make sensitization to women in the community regarding early detection and screening of gynecological malignancy.

Key words: ovary; cancer; knowledge.

INTRODUCTION

Cancer is arising as a significant public health difficulty throughout the world.[1] According to GLOBOCAN 2022, the incidence of cancer is 20 million and the mortality due to cancer was almost 9.7 million and the number of cancer cases will increase to 28.4 million in 2040.[2] Ovarian cancer is fatal gynecological malignancy.[3,4,5] Ovarian cancer rank in eight in term of both cancer incidence and mortality among women worldwide but it is in 4th rank in Nepal.[6,7] According to BPKMCH annual report 2022, ovarian cancer is ranking at 4th among female suffering from cancer accounting for 214 cases.[8] Fatality rate is more than 70% in women with ovarian cancer diagnosed at advance stage. Five-year survival for advanced stage ranges from 20% to 30.[9]

Ovarian cancer was believed to be a silent killer .[10]Advance age, family history of ovarian ,breast, uterine and colon cancer are the risk factor for developing ovarian cancer.[11] Knowledge about the disease, expected symptoms ,risk factors among women help to reduce morbidity and mortality of ovarian cancer through early detection and management of the disease.[3] Combination of CA125

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and HE[4] level seems to be a best biomarker for predicting risk of benign ovarian tumors.[12] However, there are no any diagnostic tools for early detection in general women.[13] Many studies shows that public knowledge about ovarian cancer is often lacking globally, leading to late-stage diagnoses in women, making treatment more challenging.[14] People diagnosed with ovarian cancer may have hereditary tendency that may range from 20-25%. [15]

The study findings on knowledge of risk factors and symptoms among working Malaysia women in 2012, signifies that women involved in study had poor knowledge on risk factors and preventive measures.[3] Preventive visit can provide awareness regarding ovarian cancer and genetic counseling and effective information about preventive measures may be effective tool for early detection.[16]

Ovarian cancer fatality is predicted to upsurge significantly by 2040 countries where Human Development Index is low.[17] Study conducted in Poland among nurses and teachers revealed that nurses demonstrated a higher accuracy in providing correct responses regarding ovarian cancer general knowledge, with a rate of 44.7%, compared to teachers, who had a lower accuracy rate of 40.6%.[18] Syria study revealed that only 20.5% respondent had good knowledge of symptoms of ovarian cancer among 557 participants which indicate that the women involved in study had insufficient knowledge regarding ovarian cancer.[19] Study findings on ovarian cancer and its symptoms and risk factors among women of reproductive age at a tertiary care hospital in Goa, India shows that 13.4% had fair level of awareness and 83.1% women had poor information regarding ovarian cancer and 14.1% of respondent heard about ovarian cancer while 2.8% were barely aware about its risk factors.[20] Though various research has been conducted to assess the knowledge regarding ovarian cancer among women working in various areas but there exist evidence gap in context to our country. Female teachers who are responsible for educating the people, who can sensitize the women in community are key stakeholders of society needs to be assessed and evaluated on this issue.

METHODS

Cross sectional study was carried out to assess the knowledge of ovarian cancer among female teachers of Bhimdatt Municipality, Kanchanpur. The study population was female school teachers teaching in secondary level of selected schools who are registered in education department of Bhimdatt Municipality, Kanchanpur. Non-probability purposive sampling technique was used to select the sample. The total sample size was 101 female school teachers teaching in secondary level. Female school teachers who were diagnosed with ovarian cancer were excluded in the study. The self–administered structured questionnaire was developed after reviewing the extensive literature. Instrument validity was maintained by extensive reviewing of literature and consulting subject experts and Instrument reliability was maintained by pretesting 10% of the sample and those respondents were excluded in the study. Ethical approval was taken from IRC BPKMCH and data collection was done on April 22, 2024 to 10th May 2024. Informed consent was taken from the respondents before data collection. Instrument was consisted of two parts. Part I – Question related to socio demographic information. Part II- Questions related to knowledge regarding ovarian cancer. Total questions were 20 and it was measured in (yes/no) and multiple-choice questions form. Each correct answer was given score 1 and 0 score assign for wrong answer. Level of knowledge was measured based on bloom's cut off point which is classified on three categories.[21] Good level (80-100%), Moderate (60-79%) and Poor level ≤59%. Descriptive analysis was done by using percentage& frequency. Chi-square test was done to identify the association between level of knowledge and selected demographic variables.

RESULTS

Study findings revealed that out of 101 respondents less than half 49 (48.5%) respondents belongs to age group 30-39, 27 (26.6%) belongs to age group from 20-30, 20 (19.8%) belongs to age group from 40-50 and remaining 5(5%) were from 50-57 with mean and standard deviation 36.74±7.748 years with minimum

age 21 years and maximum age 57 years. Regarding marital status (96) 95% were married followed by 2 (1.9%) never married while 3 (2.9%) respondents were widow. Numbers of respondent having children were 97 (96%). Findings further reported that 100 (99%) were Brahmin/Chhettri where 1% belong to Tharu. Regarding religion 98(97 %) were Hindu and remaining 3(3%) belongs to others. In regard to educational level 44 (44.6%) respondent have master and above degree, 41 (40.6%) had Bachelor degree and remaining 15(14.9%) had higher secondary level. Number of respondents living in joint family were 53 (52.5%) followed by 48(47.5%) living in nuclear family. Findings further reported that 7(6.9%) had family history of ovarian cancer.

Table 1 shows that out of 101 respondents, only 16.8% respondents answered the meaning of ovarian cancer correctly. Regarding the risk factors of ovarian cancer 51.5% of respondent said having ovarian cyst is risk factor of ovarian cancer, 30.7% of respondent answered using hormonal replacement therapy, 29% said using talcum powder in genital area, 28.7% said being overweight, 27.7% said being smoker and

Table 1. Respondents' knowledge regarding meaning and risk factors of ovarian cancer. (n=101)

Variables	Correct Response Frequency (%)
Meaning	
Ovarian cancer develop when abnormal cell within ovaries or fallopian tubes undergo uncontrolled growth and multiplication	17(16.8)
Risk Factors	
Relatives with ovarian cancer	17(16.8)
Past history of breast cancer	28(27.5)
Using hormonal replacement therapy	31(30.7)
Being overweight	29(28.7)
Having ovarian cyst	52(51.5)
Using talcum powder in genital area	30(29.7)
Not having children	22(21.8)
Having gone through menopause earlier	10(9.9)
Being smoker	28(27.7)
Increasing age	19(18.8)
Excessive fat diet	29(28.8)

past history of ovarian cancer, 21.8% said not having children ,18.8% said increasing age, 16.8% said relatives with ovarian cancer and only few 10(9.9%) knew that having gone through menopause earlier are the risk factors of ovarian cancer (Table 1).

Table 2. Respondents' knowledge regarding ovarian cancer symptoms, diagnostic test and treatment modality. (n=101)

Variables	Correct Response Frequency (%)
Symptoms of ovarian cancer	
Persistent abdominal pain	57(56.4)
Persistent pelvic pain	44(43.6)
Persistent bloating	21(20.8)
Increasing abdominal size	26(25.7)
Loss of appetite	25(24.8)
Frequent Urination	29(28.7)
Changes in bowel habit	11(10.9)
Extreme fatigue	31(30.7)
Back pain	47(46.5)
Diagnostic Investigations	
Pelvic Examination	10(9.9)
CA-125	23(22.8)
Ultrasonography	42(41.6)
Biopsy	50(49.5)
Treatment Modality	
Surgery	64(63.4)
Chemotherapy	60(59.4)
Radiation Therapy	25(24.8)
Hormonal Therapy	19(18.8)

Table 2 shows that more than half of the respondents (56.4%) were aware that persistent abdominal pain is the symptom of ovarian cancer, 46.5% said back pain, 43.6% said persistent pelvic pain, 30.7% said extreme fatigue, 28.7% said frequent urination, 25.7% said increasing abdominal size, 24.8% said loss of appetite, 20.8% said persistent bloating, only 10.9% answered that change in bowel habit are symptoms of ovarian cancer. Table further shows that almost half of the (49.5%) respondents responded that biopsy is the diagnostic test for detection of ovarian cancer. So, like 41.6% respond that ultrasonography as diagnostic tool, while 22.8% answered that CA-125 blood test is done for detection of ovarian cancer. Only 9.9% respondents answered that pelvic examination is done

for screening of ovarian cancer.

Above table also shows the knowledge on treatment modalities. More than half (63.4%) of the respondents were aware about that surgery is treatment modality of ovarian cancer followed by 59.4% chemotherapy. While 24.8% respondent answered that radiation therapy is treatment modality of ovarian cancer. Only 18.8% answered that hormonal therapy is treatment modality of ovarian cancer (Table 2).

Table 3. Respondents' knowledge on preventive measures of ovarian cancer. (n=101)

Variables	Correct Response Frequency (%)
Maintain normal body weight	37(36.5)
Early management of ovarian cyst	65(64.4)
Avoid smoking	35(34.7)
Avoid using Talcum powder in genitalia	24(23.8)
Avoid high fat food	26(25.7)
Regular screening practice	52(51.4)

Table 3 shows that majority (64.4%) of respondents answered that early management of ovarian cyst reduces the chance of getting ovarian cancer followed by 51.4% aware about regular screening practice and 36.6% aware about maintaining normal body weight may prevent the ovarian cancer. Similarly, 34.7% knows avoid smoking reduces the chance of getting ovarian cancer. Likewise, 25.7% answered that avoiding high fat diet reduces chance of ovarian cancer. Only 23.8% respondents answered that avoid using talcum powder in genital area reduces chance of getting ovarian cancer (Table 3).

Table 4 shows that, majority (93.1%) of respondents had poor level of knowledge, only, 6.9% had moderate level of knowledge. None of the respondents had good level of knowledge.

Table 4. Respondents' level of knowledge on ovarian cancer. (n=101)

Level of Knowledge	Frequency (%)
Poor	94(93.1)
Moderate	7(6.9)

There exist significant association between level of knowledge with only age group (p-value=0.018) (Table 5).

Table 5. Association between level of knowledge with selected demographic variables.

Variables	Level of Knowledge Poor (%)	Level of Knowledge Moderate (%)	χ^2	p-value
Age group (years)				
20-29	100%	0.00%		
30-39	86.30%	13.70%	10.077	**0.018**
40-49	100%	0.00%		
50-57	100%	0.00%		
Marital Status				
Married	93.80%	6.30%		
Unmarried	100%	0.00%	2.165	0.339
Widow	66.70%	33.30%		
Having Children				
No	100%	0.00%	0.31	0.578
Yes	92.80%	7.20%		
Educational Level				
Higher Secondary	100%	0.00%		
Bachelor Level	92.70%	7.30%	2.411	0.3
Master and above	91.10%	8.90%		
Having Family History of ovarian cancer				
Yes	85.70%	14.30%	0.631	0.427
No	93.60%	6.40%		

DISCUSSION

This study aims to identify the knowledge on ovarian cancer. Present study revealed that only 16.8% respondents answered the meaning of ovarian cancer correctly. Study findings from Palestine in 2021, reported that, 59.6% of the respondent had knowledge on meaning of ovarian cancer.[23] Regarding the risk factors of ovarian cancer 51.5% of respondent said having ovarian cyst is risk factor of ovarian cancer, 30.7% of respondent answered using hormonal replacement therapy, 29% said using talcum powder in genital area, 28.7% said being overweight, 27.7% said being smoker and past history of ovarian cancer, 21.8% said not having children,18.8% said increasing age,16.8% said relatives with ovarian cancer and only few 10(9.9%) knew that having gone through menopause earlier are the risk factors of ovarian cancer. The study findings from Goa , India from December 2018 to February 2019 also reveals the similar findings as, 67.6% were aware on having a close relatives with ovarian cancer is a risk factor, 36.6% had knowledge as past history of breast cancer is a risk factor of ovarian cancer, 18.3% had

knowledge on using hormone replacement therapy is risk for developing ovarian cancer, 28.2% had knowledge on being overweight as a risk factor, 32.4% had knowledge on having ovarian cyst is risk for ovarian cancer, 8.5% had knowledge as using talcum powder in genital area may cause ovarian cancer and 32.4% were aware on having gone through menopause at an earlier age is the risk factor of ovarian cancer.[20]

Present study findings related to knowledge on symptoms of ovarian cancer shows that more than half of the respondents (56.4%) were aware that persistent abdominal pain is the symptom of ovarian cancer, 46.5% said back pain, 43.6% said persistent pelvic pain, 30.7% said extreme fatigue, 28.7% said frequent urination, 25.7% said increasing abdominal size, 24.8% said loss of appetite, 20.8% said persistent bloating, only 10.9% answered that change in bowel habit are symptoms of ovarian cancer.

The study findings from Goa, India reveal that, 71.8% had knowledge of persistent abdominal pain, 64.7% had knowledge of persistent pelvic pain, 35.2% had knowledge of persistent bloating, 60.6% had knowledge of increasing in abdominal size, 47.9% had knowledge of loss of appetite, 26.8% had knowledge of frequent urination, 22.5% had knowledge of change in bowel habit,53.5% had knowledge of extreme fatigue and 42.3% had knowledge on back pain are sign and symptoms of ovarian cancer.[20] The Indian study findings further denote that even the general women population had better level of knowledge on symptom of ovarian cancer than the women school teachers of Nepal.

Present study findings further shows that almost half of the (49.5%) respondents responded biopsy is the diagnostic test for detection of ovarian cancer. So, like 41.6% respond that ultrasonography as diagnostic tool, while 22.8% answered that CA-125 blood test is done for detection of ovarian cancer. Only 9.9% respondents answered that Pelvic examination is done for screening of ovarian cancer. Study findings related to knowledge on treatment modalities revealed that more than half (63.4%) of the respondents were aware about surgery is treatment modality of ovarian cancer followed by 59.4% chemotherapy. While 24.8% respondent answered that radiation therapy is treatment modality of ovarian cancer. Only 18.8% answered that hormonal therapy is treatment modality of ovarian cancer. Present study findings on preventive measures of ovarian cancer reported that, majority (64.4%) of respondents answered as early management of ovarian cyst reduces the chance of getting ovarian cancer followed by 51.4% aware about regular screening practice and 36.6% aware about maintaining normal body weight may prevent the ovarian cancer.

Similarly, 34.7% knows avoid smoking reduces the chance of getting ovarian cancer. Likewise, 25.7% answered that avoiding high fat diet reduces chance of ovarian cancer. Only 23.8% respondents answered that avoid using talcum powder in genital area reduces chance of getting ovarian cancer. Regarding level of knowledge, majority (93.1%) of respondents had poor level of knowledge, only, 6.9% had moderate level of knowledge. None of the respondents had good level of knowledge on ovarian cancer. This study findings further shows that there exist significant association between level of knowledge with only age group (p-value= 0.018). Other demographic variables have no significant association.

CONCLUSIONS

This study concludes that teachers working in Bhimdatt Municipality had poor level of knowledge regarding ovarian cancer. Hence, concerned authority should make strategic planning and implementing measures to make aware the school teacher about the risk factors and symptoms of ovarian cancer. School teachers are the major stakeholders of the community who can make sensitization to women in the community regarding early detection and screening of gynecological malignancy.

REFERENCES

1. Deo SVS, Sharma J, Kumar S. GLOBOCAN 2020 Report on Global Cancer Burden: Challenges and Opportunities for Surgical Oncologists. Ann Surg Oncol. 2022 Oct;29(11):6497-6500. [DOI] [PMID]

2. Bray F, Laversanne M, Sung H, Ferlay J, Siegel RL, Soerjomataram I, Jemal A. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: a cancer journal for clinicians. 2024 May;74(3):229-63.[DOI]

3. Al-Naggar RA, Osman MT, Bobryshev YV, Kadir SA. Ovarian cancer: knowledge of risk factors and symptoms among working Malaysian women. Middle East J Sci Res. 2013;14(4):549-53. [DOI]

4. Dahal UK, Khadka K, Neupane K, Acharya SC, Jha AK, Gyanwali P, Baral G. Cancer Risk in Nepal: An Analysis from Population-Based Cancer Registry of Urban, Suburban, and Rural Regions. Journal of cancer epidemiology. 2024;2024(1):4687221.[DOI]

5. Lengyel E. Ovarian cancer development and metastasis. The American journal of pathology. 2010 Sep 1;177(3):1053-64.[DOI]

6. Ferlay J, Colombet M, Soerjomataram I, Parkin DM, Piñeros M, Znaor A, Bray F. Cancer statistics for the year 2020: An overview. International journal of cancer. 2021 Aug 15;149(4):778-89. [DOI]

7. World health organization GLOBOCAN 2022. [Link]

8. B.P.Koirala Memorial Cancer Hospital. Annual Report 2022. Yagyapuri, Bharatpur,Chitwan. [Link]

9. Cannistra SA. Cancer of the ovary. New England Journal of Medicine. 2004 Dec 9;351(24):2519-29. [DOI]

10. Jasen P. From the "Silent Killer" to the "Whispering Disease": Ovarian Cancer and the Uses of Metaphor. Medical History. 2009;53(4):489-512. [DOI]

11. Lockwood-Rayermann S, Donovan HS, Rambo D, Kuo CW. Women's awareness of ovarian cancer risks and symptoms. AmJNurs. 2009;109:36–45.[DOI]

12. Dochez V, Caillon H, Vaucel E, Dimet J, Winer N, Ducarme G. Biomarkers and algorithms for diagnosis of ovarian cancer: CA125, HE4, RMI and ROMA, a review. Journal of ovarian research. 2019 Mar 27;12(1):28. [DOI]

13. Elorriaga MA, Neyro JL, Mieza J, Cristobal I, Llueca A. Biomarkers in ovarian pathology: from screening to diagnosis. Review of the literature. Journal of Personalized Medicine. 2021 Oct 29;11(11):1115.[DOI]

14. Saki S, Ali NR, Saki SS, et al. Barriers to Healthcare Seeking, Beliefs about Ovarian Cancer and the Role of Socio-Economic Position. A Cross-Sectional Multilevel Study in Dubai, A Multicultural Society. Journal of Public Health Research. 2021;10(3).[DOI]

15. World ovarian Coalition. Ovariancancerhttps://worldovariancancercoalition.org/about-ovarian-cancer/symptoms-risk-factors/ovarian-cancer- (Internet) Cited on 2024 august.[Link]

16. Doubeni CA, Doubeni AR, Myers AE. Diagnosis and management of ovarian cancer. American family physician. 2016 Jun 1;93(11):937-44. [Google Scholar]

17. Momenimovahed Z, Tiznobaik A, Taheri S, salehiniya H. Ovarian Cancer in the world: epidemiology and risk factors.international Journal of women's health 2019;//287-2 [DOI]

18. Hreńczuk M: Knowledge of Polish nurses and teachers about ovarian cancer. Medical Science Pulse 2022; 16(2): 6-14.[DOI]

19. Bohsas H, Alibrahim H, Swed S, El-Sakka AA, Alyosef M, Sarraj HH, Sawaf B, Habib MB, Rashid G, Daraghmi AT, Daraghmi AT. Knowledge toward ovarian cancer symptoms among women in Syria: Cross-sectional study. Heliyon. 2023 Aug 1;9(8).[DOI]

20. Naik RR, Cacodcar J, Pednekar G, Noronha L. Awareness of Ovarian Cancer and Its

Symptoms andRisk Factors Among Women of Reproductive Age at a Tertiary Care Hospital in Goa, India. Indian Journal of Gynecologic Oncology. 2019 Dec;17:1-8. [DOI]

21. AkaluY,Avelign B, Molla MD. Knowledge , attitude and practice towards COVID-19 among chronic disease patients at Addis Zemen Hospital, Northwest Ethiopia .Infection and drug resistance.2020 Jun 24:1949-60.[DOI]

22. Elmashad HA, Elzehri MA, Ahmed KE. Knowledge of Ovarian Cancer among Female Employees 2021 April; 8 (1): 367-375. [Link]

23. Elshami M, Yaseen A, Alser M, Al-Slaibi I, Jabr H, Ubaiat S, Tuffaha A, Khader S, Khraishi R, Jaber I, Arafeh ZA. Knowledge of ovarian cancer symptoms among women in Palestine: a national cross-sectional study. BMC Public Health. 2021 Dec;21(1):1-0. [Link]

Citation: Bhatta A, Sharma S, Neupane L, Koirala S. Knowledge Regarding Ovarian Cancer among Female School Teachers of Selected School of Western Nepal. IJSIRT. 2025; 3(2):102-108.