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Knowledge of Ovarian Cancer among Female Employees

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Abstract: **The aim of the present study was to assess knowledge of ovarian cancer among female employees. Design of the study: An exploratory descriptive design. The study setting: The study was done at Al-Samer Students Center at King Khalid University, Abha, Saudi Arabian. Study subjects: A total of 52 female employees from different faculties had been selected by the convenient method of sampling. Tools of data collection: The researcher developed a structured interview questionnaire. It consisted of 3 parts; parts one and two to assess general characteristics and sources of information and the third part consisted of a questionnaire related to knowledge about ovarian cancer such as definition, symptoms, risk factors, and investigations. Results: the female employees' age ranged from 35-50 years old with Mean ± SD = 45.827 ± 6.715 years old. The main source of information about ovarian cancer was media 55.8%. The total knowledge score about definition, symptoms, risk factors, and investigations of ovarian cancer recognized as poor among 59.6%, 76.9%, 59.6%, and 53.8% of the study group, and 76.6% of them had an inadequate level of total knowledge score. Conclusion: The majority of the participant had inadequate knowledge about ovarian cancer. Recommendations: Developing health educational programs to raise awareness about ovarian cancer in universities, maternity services and through social media.**

Keywords: **ovarian cancer, knowledge, risk factors.**

1. INTRODUCTION

The silent killer is ovarian cancer (OC). It is 8th common gynecological malignancies among female worldwide while among Saudi women ranked 7th in cancer incidence **(Lippi et al., 2017&The Saudi Cancer Registry, 2014)**. The Saudi Cancer Registry (SCR) revealed that there is a slight increase in age-standardized incidence rate (ASIR) and the crude incidence rate (CIR) for ovarian cancer in Saudi Arabia from 2001–2008. The region of Riyadh had the highest overall ASIR at 3.3 cases per 100,000 females, followed by the Aseer and Jouf regions at 2.96 and 3.13 cases per 100,000 females **(Alghamdi et al., 2014)**.

Among others types of gynecological cancer, it has the highest mortality rate in developing countries. This may be due to the most women are only able to get diagnosis after spreading of cancer or in advanced stages so the treatment is difficult. Additionally, its manifestations are not so much particular with OC; women may attribute them to other urinary system or gastrointestinal problems. This brings about delayed detection of advanced OC cases and by implication expands the death rate **(Brain et al., 2014 & Bray et al., 2018 & Coburn et al., 2017)**.

Ovarian cancer was often referred to as a "silent disease" or a "silent killer" due to a lack of familiar signs and symptoms of the disease. Gastrointestinal, urinary, and gynecological symptoms are the more common presenting complaints. Most often, symptoms are gastrointestinal such as nausea, diarrhea, abdominal distension, dyspepsia, and constipation. Moreover, urgency or urinary frequency is also common **(Slatnik & Duff, 2015).** Several factors might expansion a woman's hazard for ovarian cancer. Factors incorporate reproductive history, family history, increasing age, genetics, utilization of hormones, and lifestyle choices **(Carlson, 2016).**

The integral part of nursing role is improving the primary prevention through explores and increases women's awareness for early detection of malignancies diseases. In addition, the community based assessment of women will lead to draw the attention of the scientific community to the depth of deficiencies of information on awareness of ovarian cancer then bridge and tie this gap through the health education of them about the disease. This will significantly improve women's knowledge and boost timely detection of the disease.

Significance of the study:

Early detection and diagnosis of OC would result in a high 5-year survival rate (up to 93%); unluckily, the vast majority of the cases are normally identified in late or progressed stages **(Buys et al., 2011)**. It is believed that a good knowledge about ovarian cancer symptoms could persuade more ladies to look for medical advice **(Freij et al., 2018 & Sopik, Iqbal, Rosen, & Narod, 2015)**. The nurses have the opportunity to improve women's health and detect gaps in their knowledge exist related to gynecological malignancies including ovarian cancer. So, the present study was conducted to assess women's knowledge of OC including the symptoms and risk factors of it.

Aim of the study:

The present study aimed to assess knowledge of ovarian cancer among female employees

Research questions:

1. What is the level of knowledge score about ovarian cancer symptoms and risk factors among female employees?
2. Is the level of overall knowledge score of female employees about ovarian cancer is adequate or not?

2. SUBJECTS AND METHODS

Design

This study was a descriptive study

Study Setting:

This study was carried out at Al-Samer campus-King Khalid University, Abha city, Aseer. Saudi Arabia from July to October 2019.

Subjects of the study

The study subjects were included 52 female employees who completed and returned the questionnaires. They worked in different colleges at Al-Samer campus- King Khalid University. The sample was a convenient sample with the following criteria; who had not been diagnosed with or treated for OC, and who agreed to participate in the study.

Tools of data collection:

After reviewing the associated literature, the researchers developed the structured self-administered questionnaire in Arabic **(Naik et al, 2019; Mohamed& Abd-Alkeder, 2016)**. It consisted of three parts:

Part A: Demographic variable profile, including items related to age, education, marital status, and residence.

Part B: Source of Information questionnaire, consisted to assess the source of information about ovarian cancer.

Part C: Structured Knowledge Questionnaire, The researchers prepared this questionnaire to assess female employee's knowledge of ovarian cancer as definitions, risk factors, family history, symptoms, diagnostic tests, etc. In order to measure responses to these items, a nominal scale "True" and "False" was used. Articles scored: A score equal to "1" was given to each correct answer and a score equal to zero was provided. Based on the overall knowledge scale, the knowledge was classified as "poor knowledge" for scores below 50%, Moderately Adequate knowledge from 50%-<75%, and "adequate knowledge" for scores above 75%.

Tool reliability: The result of Cronbach alpha was 0.803, which showed a high correlation of questionnaires.

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Tool validity: Three experts in maternity nursing tested the validity of this tool.

Ethical considerations:

Participants were assured that the information was only used for research. The confidentiality of the information was reassured. They had been notified of their right to withdraw at any time or refusal.

Data collection:

- From July to October 2019, data collection was carried out from pre-determined settings for three days/week.
- The researchers introduced themselves to each employee and the purpose of the study was clarified to gain consent for females.
- The researchers gave the questionnaire prepared for each female, and it took about 15 – 20 minutes to complete the tool. The researchers sometimes come back to get it on the second day

Statistical analysis:

Statistical data analysis was done using version 18 of the SPSS (Social Science Statistical Package). The data were tabled and presented for qualitative data as frequency and proportion.

3. RESULTS

Table (1): Frequency distribution by demographic characteristics of the study group

Items	NO. (n=52)	%
Age		
Less than 35	**2**	**3.8**
35-50	**39**	**75**
More than 50	**11**	**21.2**
Mean ± SD	**45.827 ± 6.715**	
Residence		
Rural	**20**	**38.5**
Urban	**32**	**61.5**
Marital status		
Married	**24**	**46.2**
Not married	**1**	**1.9**
Divorced	**15**	**28.8**
Widowed	**12**	**23.1**
Education level		
Illiterate	**1**	**1.9**
Read & write	**19**	**36.5**
Primary	**1**	**1.9**
Secondary	**19**	**36.5**
University	**12**	**23.1**
Family history of ovarian cancer		
Yes	**1**	**1.9**
No	**51**	**98.9**

Table (1): The higher sample age was shown to be between ≤ 35- ≥50 with mean ± SD = 45.827 ± 6.715 years old. 61.5% of them resident in urban areas. The higher percentage of them can read & write (36.5%) and married (46.2%).

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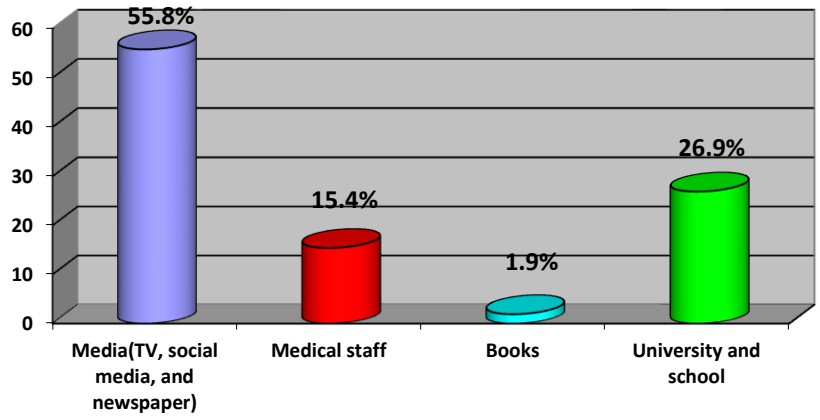

Fig. 1 Source of information about ovarian cancer among the study sample

Figure 1 indicates that media, schools, and universities that accounted for 55.8% and 26.9% were the major source of ovarian cancer information.

Table (2) Frequency and percent of knowledge of female about ovarian cancer symptoms

Symptoms of ovarian cancer	Frequency	Percentage (%)
Persistent pelvic pain	23	44.2
Persistent abdominal pain	11	21.2
Back pain	8	15.4
Difficulty eating usual amount of food	7	13.5
Difficult digestion	13	25
Nausea	10	19.2
Persistent bloating/abdominal distension	19	36.5
Diarrhea	7	13.5
Constipation & Changes in bowel habit	5	15.4
Unexplained weight loss or increase	22	42.3
Increased abdominal size	12	23.1
Difficult urination	14	26.9
Passing more urine than usual	12	23.1
Irregular menstruation	27	51.9
post-menopausal bleeding	29	55.8
Extreme fatigue/tiredness	14	26.9
Headache	13	25

Table 2 illustrated the frequency of correct answers about symptoms of OC which recognized as low. The three highest known symptoms were post-menopausal bleeding (55.8%), irregular menstruation (51.9%), and persistent pain in the pelvic region (44.2%). Diarrhea (13.5%), constipation & changes in bowel habit (15.4%), and difficulty in eating (13.5%), were the least ones.

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Table (3) Distribution of the study sample according to their correct knowledge about risk factors of ovarian cancer

Risk factors	Frequency	Percentage (%)
Having past history of breast cancer	28	53.8
Having a close relative with ovarian cancer	28	53.8
Genetic factor	24	46.2
Old age	25	48.1
Early age of menopause	17	32.7
Infertility	14	26.9
X-ray exposure	21	40.4
Early age of menarche	16	30.8
Using hormone replacement therapy	19	36.5
Nulliparous	19	36.5
Use of fertility drugs	16	30.8

Table 3 illustrated the frequency of correct answers about risk factors of OC. The highest known risk factors were history of breast cancer (53.8%), and relatives had ovarian cancer (53.8%). Infertility (26.9%), and early age of menarche (30.8%) were the least ones.

Table (4) Distribution of the study sample based on their total ovarian cancer knowledge

Items	Poor		Moderately Adequate		Adequate	
	No.	%	No.	%	No.	%
Ovarian cancer definition	19	36.5	19	36.5	14	26.9
Symptoms of ovarian cancer	40	76.9	8	15.4	4	7.7
Risk factors	33	63.5	7	13.5	12	23.1
Investigations	28	53.8	14	26.9	10	19.2
Total knowledge about ovarian cancer	34	65.4	10	19.2	8	15.4

Table 4 presented the total knowledge score about definition, symptoms, risk factors, and investigations of ovarian cancer which recognized as poor among 36.5%, 76.9%, 63.5%, and 53.8% among the study sample. The majority of them had poor total knowledge score which represented 65.4%.

Table (5) Distribution of the study group according to the time for seeking the gynecologist advice

Items	Frequency	Percentage (%)
When you go to the periodic examination to the gynecologist		
Every month	0	0
Every three months	0	0
Every six months	0	0
Go only when i have symptoms or complaint of something	52	100

The above table displayed that the time for seeking the gynecologist advice among all women in the study sample was only when they have symptoms or complaint of something (100%).

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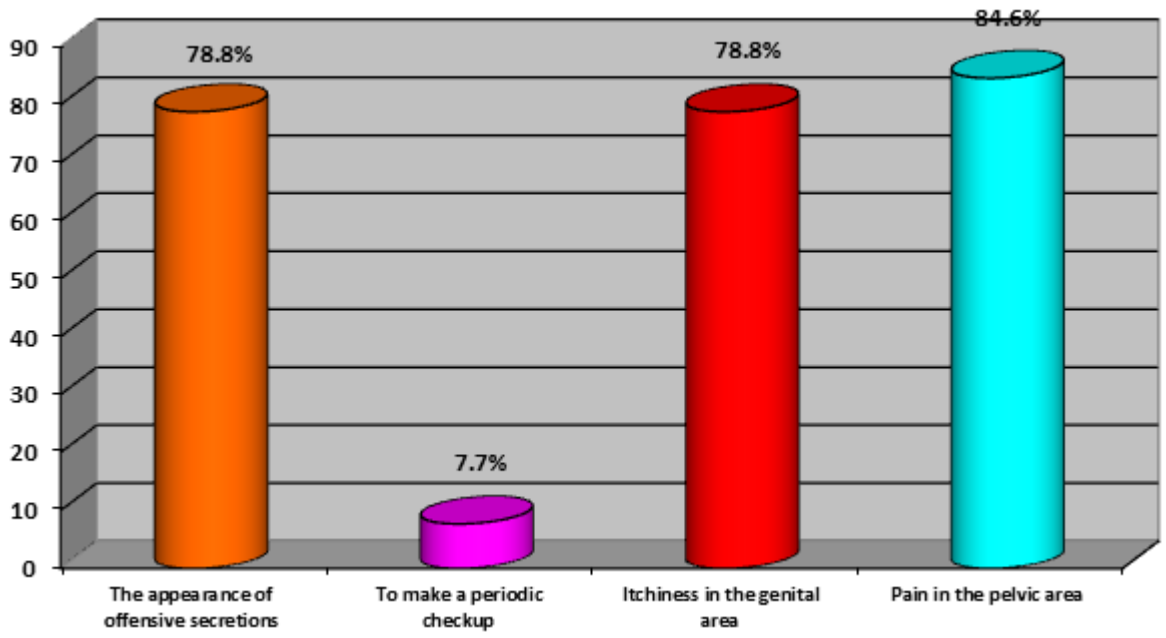

Figure (2) Distribution of the study group according to the reason for seeking the gynecologist advice

The above figure illustrated the reasons for seeking the gynecologist advice among the study group, the major one is pelvic pain, offensive secretions and itching in genital organ 84.6%, 78.8% &78.8%.

Table (6) Relationship between sociodemographic variables and ovarian cancer knowledge about symptoms, risk factors and investigation

Items	knowledge about symptoms of ovarian cancer			knowledge about Risk factors of ovarian cancer			knowledge about Investigation of ovarian cancer			Total knowledge about ovarian cancer		
	Poor	M adequate	Adequate	Poor	M adequate	Adequate	Poor	M adequate	Adequate	Poor	M adequate	Adequate
	%	%	%	%	%	%	%	%	%	%	%	%
Age												
Less than 35	3.8	0	0	3.8	0	0	1.9	1.9	0	3.8	0	0
35-50	51.9	15.4	7.7	38.5	13.0	23.1	32.7	25.0	17.3	40.4	19.2	15.4
More than 50	21.2	0	0	21.2	0	0	19.2	0	1.9	21.2	0	0
Significance test		5.2			9.98			9.799			9.167	
Chi-square		0.267			0.041			0.066			0.057	
P-value												
Residence												
Rural	36.5	0	1.9	34.6	1.9	1.9	32.7	3.8	1.9	34.6	1.9	1.9
Urban	40.4	15.4	5.8	28.8	11.5	21.2	21.2	23.1	17.3	30.8	17.3	13.5
Significance test		6.687			9.937			12.738			8.712	
Chi-square		0.035			0.007			0.002			0.013	
P-value												
Education level												
Illiterate	1.9	0	0	1.9	0	0	1.9	0	0	1.9	0	0
Read & write	36.5	0	0	36.5	0	0	34.6	1.9	0	36.5	0	0
Primary	1.9	0	0	1.9	0	0	1.9	0	0	1.9	0	0
Secondary	28.8	7.7	0	17.3	9.6	9.6	9.6	17.3	9.6	19.2	13.5	3.8
University	7.7	7.7	7.7	5.8	3.8	13.5	5.8	7.7	9.6	5.8	5.8	11.5
Significance test		23.902			24.637			25.878			27.493	
Chi-square		0.002			0.002			0.001			0.001	
P-value												

Table 6 presented that there was a statistical significant difference relationship between total score of knowledge about ovarian cancer and residence and educational level of the study sample at P≤ 0.05. While, there was not a statistical significant difference with the age at P= 0.057.

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4. DISCUSSION

The aim of the present study was to assess the knowledge of female employees about ovarian cancer. This aim was achieved significantly by answering the questions of research. The core study findings conveyed that most of them had a poor level of knowledge related to definition, symptoms, risk factors, and investigations about ovarian cancer. Furthermore, about two-third of them had inadequate overall knowledge about ovarian cancer (OC). This is may be due to medical health personnel and books were the lowest source of information about ovarian cancer among the participant group.

Regarding the sources of information about ovarian cancer, the main source of information was media (television, social media) as reported by more than half of participants, while the lower one was information obtained from medical health personnel and books. In the same line, **Okunowo & Adaramoye (2018)** study results found television/radio (33.3%), internet/social media (28.2%), and the low source was from doctors and nurses (16.7%). In contrast, **Abidin et al., (2015)** study revealed that most of the females obtained their information regarding ovarian cancer from books and magazines (72.4%) followed by newspapers (66.4%) and brochures (61.3%).

In relation to the symptoms of OC, a possible warning sign and symptoms of ovarian cancer could help to make a diagnosis of OC in the early stages, like abdominal pain, pelvic pain, change in bowel habit, urinary symptoms, and sensation of full are present in the early stages of ovarian cancer **(Goff, 2012).** The ignorance of these symptoms was found in the current study with different variations. More than three-quarters of women had poor knowledge scores about symptoms of OC. The three highest known symptoms were post-menopausal bleeding, irregular menstruation, and persistent pain in the pelvic region. While urinary symptoms, diarrhea, constipation, changes in bowel habit, and difficulty in eating were the least ones. In another study among Jordanian women, the three highest known symptoms were extreme fatigue, persistent pain in the pelvic and back pain, Also, difficulties in eating, persistent bloating, and persistent feeling full were the least familiar symptoms **(Freij et al., 2018).**

In relation to the risk factors of OC, about two-thirds of women had inadequate knowledge scores about it. The highest known risk factors were a history of breast cancer and relatives who had ovarian cancer. In agreement, the study among female employees held in a Public University, Malaysia, concluded that the majority of respondents were found to have a lower level of knowledge of risk factors and symptoms. In addition, more than half have also identified the genetic heritage of breast cancer and/or ovarian disease familial history as a risk factor for ovarian cancer **(Elmahdi et al., 2017).** Also, the most commonly known risk factor reported was a family history of ovarian cancer (67.6%) in a study conducted by **(Naik et al., 2019).**

Concerning the level of knowledge about ovarian cancer among females, the majority of them had inadequate knowledge about the OC disease, and only (3.8%) of them had adequate knowledge. This is perhaps being due to a shortage of educational messages about ovarian cancer as well as poor awareness related to the health value. This was consistent with **Mohamed & Abd Elkader (2016)** who mentioned that the total knowledge of Egyptian working women in Mansoura University was very poor before educational sessions and only 6.5% of them had good knowledge about ovarian cancer. In agreement **Elmahdi et al., 2017** study results concluded that more than half of females' nonacademic staff in Malaysia was not well knowledgeable about ovarian cancer.

The time and reasons for seeking the gynecologist advice among females in the current study were only when the female had gynecological complaints or symptoms such as pelvic pain and offensive secretions and no one seek for advice regularly which concurrent with **Keng. et al., (2015)** studies about ovarian cancer who revealed that majority of participants did not regular check-up with a physician.

The sociodemographic features of the females had been observed to significantly influence the knowledge of ovarian cancer symptoms and risk factors. Women's residence and educational status significantly influenced the level of knowledge of the symptoms, risk factors; investigations of OC. High educational status and urban residence were associated with good knowledge of ovarian cancer. Age did not significantly influence respondent's knowledge of ovarian cancer symptoms and investigations but it significantly influenced respondent's knowledge of OC risk factors. In other studies, findings reach the same results **Okunowo and Adaramoye, (2018) & Elmahdi et al., (2017)**.

5. CONCLUSION

The majority of participants in the study had inadequate knowledge of the symptoms, risk factors, and investigative procedures of ovarian cancer. Media as TV and social media were the primary source of information. High educational status and urban residence were associated with knowledge of ovarian cancer. Surprisingly, all females did not go to a gynecologist regularly that may affect their health condition.

6. RECOMMENDATION

• Health education awareness program to raise the awareness of females about ovarian cancer.

- Further research comprising large sectors of Abha City

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