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Assessment of knowledge attitude practice towards ovarian cancer among women - A questionnaire based cross sectional study

Ms. Athi Nandhini. U
Department of Pharmacy Practice, SPS, Vels Institute of Science Technology and Advance Studies, Chennai 600117
Email: athinandhini97@gmail.com

Dr. T.S. Shanmugarajan, M.Pharm, Ph.D
Department of Pharmacy Practice, SPS, Vels Institute of Science Technology and Advance Studies, Chennai 600117
Email: smrajan.sps@velsuniv.ac.in

***Abstract*---**Background: Ovarian cancer is the 3th most common cancer among women in India and has a high death rate than any other gynecological cancer due to late diagnosis of disease. Knowledge regarding disease and early screening is effective for prevention. Aim: This study is designed to assess the knowledge, attitude and practice towards ovarian cancer among general women. Methods: A questionnaire based Cross sectional study was conducted among 517 women. Information on their KAP towards ovarian cancer was collected using a pre-validated questionnaire. Result: Mean age of the participants was 35.5 ± 9.3 years. Although 48.3% of participants reported to have heard of ovarian cancer. 59.6% of the participants did not have adequate knowledge regarding ovarian cancer. Almost 55.5% of the participants have negative attitude towards ovarian cancer. The knowledge score were significantly associated with age, marital status, occupation, education status, marital status. Conclusion: knowledge, attitude and practice related to ovarian cancer were low among the surveyed women. Health education should be implemented to improve level of knowledge among women.

***Keywords*---**knowledge, attitude, ovarian cancer.

Introduction

Ovarian cancer account for 3% of cancer in women aged 55 to 65 years [1]. However it is the 3rd most common cancer among women after breast, uterine and cervical cancer [2]. The risk factors are advancing age and family history of

breast and ovarian cancer [3]. It has a high mortality rate of more than 50% [4].Whereas ovarian cancer has a lower prevalence in comparison with breast cancer, it is 3 times more lethal [5] and it is predicted that, by the year 2040, the mortality rate of this cancer will rise significantly.[3]

Unfortunately, there are presently no effective screening modalities for detecting ovarian cancer in asymptomatic individualities. Likewise, there are no tell- tale physical signs of the complaint. normal symptoms — which include abdominal discomfort, bloating, gas, nausea, and urinary urgency — are vague and frequently incorrect for gastrointestinal problems[6,7].In numerous cases, symptoms may not indeed present until the tumor has reached an advanced stage. Accordingly, ovarian cancer is constantly nicknamed the " silent killer"[8]

Unfortunately, there high mortality is primarily due to difficulties in diagnosing early stage complaint. Although the 5 times survival rate for stage I ovarian cancer is> 90, stage I judgments are more frequently the exception than the rule. maximum cases (~ 75) present with advanced stage (III/ IV) tumors, for which the 5 times survival rate is 30% [9]

Methodology and Materials

This cross sectional study was conducted from November 2020 to April 2021 among 517 women. The study was approved by the Institutional Ethical Committee (IEC). Women aged 20 years or above and willing to participate in the study are included in this study. Women who are below 20 years, mentally ill and not willing to participate in this study are excluded.

The pre-validated questionnaire comprised four parts to gather information regarding socio demographic characteristics of study population, KAP toward ovarian cancer and risk factor. The socio demographic details included are age, marital status, education, occupation and residence.

The knowledge of ovarian cancer, risk factor symptoms and treatment was assessed using a 12 point scale. There were 9 knowledge-related multiple choice questions that carried 12 correct answers. Each correct answer was given a point of 1 and the wrong answer a point of 0. The maximum points expected were 12 and minimum of 0.

Points to aware about ovarian cancer (1 point), symptoms of ovarian cancer (2 points for any two correct responses) risk factors of ovarian cancer (2 points),screening test(2 points), treatment option (2 points), person who is most likely to develop ovarian cancer (1 point), chance of women getting ovarian cancer (1 point), description about screening method (1 point), eligibility of screening (1 point), frequency of screening (1 point), aware about cost of ovarian cancer treatment (1 point).

After assessment of knowledge points, original Bloom's cutoff points were used to classify knowledge levels, where 80%–100% correct responses comprise a score of 10–12 meant a good knowledge, 60%–79% correct responses comprise a score

of 7–9 meant a moderate knowledge, and <60% correct responses comprise a score of 6 or <6 meant a poor knowledge.

Attitude was assessed by Likert's scale; Likert's scale statement has positive and negative responses that ranged from strongly agree 5, agree 4, neither agree or nor disagree 3, disagree 2, and strongly disagree 1. The maximum score expected from all statements is 40 and minimum of 8. If the persons scored above or equal to 20 will be considered as positive attitude and <20 considered as a negative attitude toward ovarian cancer.

Statistical Package for Social Sciences (SPSS) version 26 was used for data entry and analysis. .Descriptive statistics such as mean, standard deviation (SD), frequency, and proportion were used to represent the socio demographic characteristics and KAP of the study population. Association of socio demographic variables with KAP levels is determined using Chi-square test. $P < 0.05$ was considered statistically significant

Result

A total of 501 women participate in this study, which made the response rate to be 96.9%.

Socio demographic Characteristics

A total of 501 women responded to the questionnaire, in these most were between 20 and 29 years of age, the mean age of the respondents was 35.5 (SD = 9.3). Majority of the women were unmarried (261; 52.2%). More than one third (162; 32.2%) of the respondents held a degree, while (103; 20.8%) were illiterate. Most respondents (191;38.1%) were house wives, (196;39.1%) were employees and (114;22.7%) were students. More than half of participants (304;60.6%) were from urban residence as shown in Table 1.

Table 1
Socio demographic characteristics (n=501)

Variables	Category	Frequency	Percentage (%)
Age	MEAN ± SD	35.5 ± 9.3	
	20 - 29	184	36.7
	30 - 39	156	31.1
	40 - 49	94	18.7
	≥ 50	67	13.3
Education status	Illiterate	103	20.5
	Primary	96	19.1
	Secondary	81	16.2
	Diploma	65	12.9
	Degree	162	32.3
Occupation	House wife	191	38.1
	Student	114	22.7

	Employed	196	39.1
Marital status	Unmarried Married	262 239	52.2 47.7
Residence	Urban Rural	304 197	60.6 39.3

Knowledge about ovarian cancer and its screening

Among 501 women (242; 48.3%) had heard about ovarian cancer and most of them heard form media (117;48.3%), friends (39;16.7%), health education (62; 25.6%) and other source(24;9.9)

Regarding symptoms related knowledge (279;55.8) had a poor knowledge. (221;44.2) had a good knowledge, pelvis or abdominal pain (152;15.1), lack of appetite (94;9.4), bloating (83;8.2), frequent urination (71;7.0), feeling full quickly when eating (43;4.2). Knowledge regarding risk factor (220;40), majority of them respondents are being overweight (42;4.1), smoking (82;8.2), family history (71;7.1), having ovarian cyst (80;7.9), being over 50 years old (68;6.7),using hormone replacement therapy(51;4.9), having gone through the menopause (47;4.6). More than one third of the respondents are not aware of risk factor. Knowledge about screening test of ovarian cancer CA-125 blood test (98;9.7), pelvic / transvaginal ultrasound (113;11.2),surgical biopsy (239;23.8). Almost (276;55.1) respondents are unaware about screening test of ovarian cancer. Most of them (223;40.3) are unaware of treatment as shown in table 2

Table 2
Knowledge about ovarian cancer and its screening among (n=501)

Variables	Frequency	Percentage (n%)
Heard about ovarian cancer	242	48.3
If yes, Source of knowledge Friends Mass media Health education Other source	 39 117 62 24	 16.7 48.3 25.6 9.9
Knowledge of symptoms of ovarian cancer (at least 2 symptoms) Pelvis or abdominal pain Lack of appetite Bloating Frequent urination Feeling full quickly when eating Do not know	221 152 94 83 71 43 279	44.2 15.1 9.3 8.2 7.1 4.2 55.8
Knowledge of risk factor of ovarian cancer (at least 2 risk factor)	220	44

Being over weight	42	4.1
Smoking	82	8.2
Family history	71	7.1
Having ovarian cyst	80	7.9
Being over 50 years old	68	6.7
Using hormone replacement therapy	51	4.9
Having gone through the menopause	47	4.6
Do not know	280	56
Knowledge about screening test of ovarian cancer (at least 2 screening test)	225	44.9
CA-125 blood test	98	9.7
Pelvic / Transvaginal Ultrasound	113	11.2
Surgical Biopsy	239	23.8
Do not know	276	55.1
Knowledge about different treatment to treat ovarian cancer (at least 2 answer)	278	55.4
Drug therapy	102	10.1
Radiotherapy	134	13.3
Surgery	196	19.5
Chemotherapy	124	12.3
Do not know	223	40.3
Knowledge about person who is most likely to develop ovarian cancer	92	18.3
40 - 55 years	101	20.1
55 - 65 years	99	18.3
>65 years	96	19.1
Do not know	212	41.9
Knowledge about change of women getting ovarian cancer in her lifetime	62	12.3
3%	62	12.3
30%	129	23.9
10%	48	9.5
5%	36	7.1
Do not know	226	45.1
Knowledge about person who must undergo screening Women age of 25 years and above	95	18.9
Women having family history and women who have history of breast cancer	121	24.1
Elderly women	95	18.9
Do not know	97	19.3
	188	37.5
Knowledge about screening frequency in	124	24.7
Ovarian cancer	124	24.7
Once every year	65	12.7
Once every 3 years	78	15.5

Once every 5 years Do not know	234	46.7

Attitude and practice about ovarian cancer

Among all respondents, 69 (13.7%) were strongly agreed, 92 (18.3%) agreed, and 172 (34.3%) neither agreed nor disagreed that women with breast cancer increases the chance of getting ovarian cancer. Most of them disagree that smoking is a risk factor for ovarian cancer. Most of the participants strongly agree (139;27.7%) and agree (128;25.5%) early screening can prevent ovarian cancer. Most of the participants (483;96.4%) were never screened for ovarian cancer as shown in table 3.

Table 3
Attitude and practice about ovarian cancer among (n=501)

Variables	Frequency	Percentage (n%)
Women with breast cancer increases the chance of getting ovarian cancer Strongly agree Agree Neither agree or disagree Disagree Strongly disagree	 69 92 172 86 82	 13.7 18.3 34.3 17.1 16.1
Smoking is risk factor for ovarian cancer Strongly agree Agree Neither agree or disagree Disagree Strongly disagree	 49 17 111 128 196	 9.7 3.3 22.1 25.5 39.1
Ovarian cancer is a major health problem for female of reproductive age group Strongly agree Agree Neither agree or disagree Disagree Strongly disagree	 94 87 92 103 125	 18.7 17.3 18.3 20.5 24.9
Use of oral contraceptive pill is a risk factor for ovarian cancer Strongly agree Agree Neither agree or disagree Disagree Strongly disagree	 93 98 89 101 120	 18.5 19.5 17.7 20.1 23.7

It is possible to detect ovarian cancer with easy screening before symptoms appear Strongly agree Agree Neither agree or disagree Disagree Strongly disagree	184 102 88 54 73	36.7 20.3 17.5 10.7 14.5
Screening helps in prevention of ovarian cancer Strongly agree Agree Neither agree or disagree Disagree Strongly disagree	139 128 117 62 54	27.7 25.5 23.3 12.3 10,7
Practice towards cervical cancer screening Subjects screened for ovarian cancer Screened for ovarian cancer within the past 3 years Screened for ovarian cancer more than past 3 years6 Never screened before for cervical cancer	6 (1.1) 12 (2.3) 483(96.4)	1.1 2.3 96.4

Adequacy of knowledge, attitude, and practice regarding cervical cancer

Among all respondents, 99 (19.7%) have good knowledge, 103 (20.5%) moderate knowledge, and 299 (59.6%) poor knowledge. More than half of the participants (278; 55.5%) have a negative attitude toward ovarian cancer shown in Table 4.

Table 4
Adequacy of knowledge, attitude, and practice regarding cervical cancer and its screening among respondents n=501

Variables	Frequency	Percentage (n%)
Knowledge Good knowledge Moderate knowledge Poor knowledge	 99 103 299	 19.7 20.5 59.6
Attitude Positive attitude Negative attitude	 223 278	 44.5 55.4
Practice Regular practice Irregular practice No practice	 6 (1.1) 12 (2.3) 483(96.4)	 1.1 2.3 96.4

Discussion

This is the study employing a validate questionnaires to investigate the knowledge, attitude and practice relating to ovarian cancer. The result from this baseline study highlights the poor knowledge about ovarian cancer. Therefore it is necessary to address this health care issue by increasing ovarian cancer awareness through education and screening. The study found that more than one third of the population never heard about ovarian cancer. Three quarters of the population are heard about ovarian cancer. In this study media, friends and health education are the principle information resources of ovarian cancer.

The study found that more than half of the proportion of women are not aware of symptoms, risk factors. The highest knowledge was on the pelvis or abdominal pain (15.5%), bloating (8.2%), feeling full quickly when eating (4.2%). Similarly, Al-Naggar et al (2013) found that knowledge on ovarian cancer was poor among Malaysian working women, thus suggesting an annual ovarian cancer campaign nationwide. In a study done by Lockwood-Rayermann et al. (2009) among 1,235 women, it was reported that awareness regarding ovarian cancer symptoms and risk factors among women in the general population is low.

The study found association between sociodemographic characteristics with inadequate knowledge, negative attitude, and irregular practice toward ovarian cancer. We found that inadequate knowledge and negative attitude were associated with five sociodemographic characteristics: age, education, occupation, marital status and residence. Women aged between 20 and 29 years are having moderate knowledge in relation to other age groups with P = 0.001. Women who are residing in rural associated with inadequate knowledge and negative attitude toward cervical cancer in comparison with women residing in urban area with P = 0.00001. Married women having inadequate knowledge with P = 0.0001. Women who finished secondary level of education are having inadequate knowledge and negative attitude toward cervical cancer screening in relation to others.

Socio demographic such as age, occupation, marital status, education status and residence to be important factors in level of knowledge toward ovarian cancer and these are in agreement with studies from Malaysia (Keng et., 2015). As table 5 shows women age above 30 years old need more knowledge regarding the cancer and its screening as more respondents of this category possess low knowledge levels regarding ovarian cancer knowledge and screening. Even though the risk increases when a women reaches menopause over 50 years old, knowledge becomes a safeguard to any disease (Menon, 2004).

Table 5
Associated of socio demographic characteristic with knowledge, attitude and practice towards ovarian cancer (n=501)

Variables	Total (n=501)	Good knowledge (n %)	x2 (p)	Poor knowledge (n %)	x2 (p)	Positive attitude (n %)	x2 (p)	Negative attitude (n %)	x2 (p)
Age									
20 - 29	184	71(38.5%)	32.7	113(61.4%)	46.8	80(43%)	33.2	104(56.5%)	51.7
30 - 39	156	60(38.4%)	<0.0001	96(61.5%)	<0.00001	63(40.3%)	<0.002	93(59.6%)	<0.003
40 - 49	94	42(44.6%)		52(55.3%)		50(53.1%)		44(46.8%)	
>50	67	18(26.8%)		49(73.1%)		25(37.3%)		42(62.6%)	
Educational status									
Illiterate	97	16(16.4%)	37.2	81(83.5%)	59.3	18(18.5%	18.3	79(81.4)	21.1
Primary	96	31(32.2%)	<0.0001	65(67.7%)	<0.002	31(32.2%)	<0.00001	65(67.7)	<0.003
Secondary	81	34(41.9%)		47(58%)		34(41.9%)		47(58)	
Diploma	65	33(50.7%)		32(49.2%)		26(40%)		39(60)	
Degree	162	77(47.5%)		85(52.4%)		114(70.3%)		48(29.6)	
Occupation									
House wife	191	73(38.2%)	14.0	118(61.7%)	16.7	58(30.3%)	17.1	133(69.6%)	45.7
Student	114	41(35.9%)	<0.0002	73(64.0%)	<0.009	64(56.1%)	<0.001	50(43.8%)	<0.00001
Employed	196	77(39.2%)		119(60.7%)		101(51.5%)		95(48.4%)	
Marital status									
Unmarried	262	119(45.4%)	14.2	143(54.5%)	18.8	138(52.6%)	16.2	125(47.7)	35.3
Married	239	72(30.1%)	<0.0001	167(69.8%)	<0.0003	85(35.5%)	<0.0005	214(89.5)	<0.0001
Residence									
Urban	304	122(40.1%)	18.1	182(59.8%)	51.5	155(50.9%)	35.6	125(47.7)	43.3
Rural	197	69(34%)	<0.00001	128(64.9%)	<0.0002	68(34.5%)	<0.00001	214(89.5)	<0.0002

Conclusion

In this study, it was found the overall knowledge, attitude and practice towards ovarian cancer is very low among women. There is a lack of awareness about ovarian cancer in Women residing in both rural and urban areas. Therefore a national awareness camping program should be organized to increase the awareness among women towards ovarian cancer.

Ethics Approval and Consent to Participate

This was approved by the Institution Ethics Committee (IEC) of Vels Institute of Science, 1 clearance was obtained. The participants responded anonymously to the survey by filling up an informed consent letter in the first section of the questionnaire. In the informed consent, objective and purpose of the study were verified briefly to the study participant and confidentiality was assured.

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