ORIGINAL RESEARCH PAPER

Volume-8 | Issue-8 | August - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A CORRELATIVE STUDY OF ANXIETY AND DEPRESSION IN CERVICAL CANCER WOMEN: A TRIPLE TROUBLE

Clinical Research

Ashwani Kumar* Assistant Professor Department of Pharmacy Practice School of Pharmaceutical Sciences, Jaipur National University, Jagatpura, Jaipur *Corresponding Author

Dr. B. Shrivastava School of Pharmaceutical Sciences, Jaipur National University, Jagatpura, Jaipur

Dr. Sonu Sharma School of Pharmaceutical Sciences, Jaipur National University, Jagatpura, Jaipur

ABSTRACT

Background: The Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder (GAD-7) is a screening tool for measuring anxiety and depression in Cervical Cancer women. The aim of this study was to assess the burden of anxiety and depression in cervical cancer patients with reference to age and socioeconomic conditions.

Methods: A sample of 200 patients with cervical cancer were examined in this study for one year from June 2016 to June 2017 at Mahavir Cancer Sansthan, Patna, India.Patient's data were collected using threesets of questionnaires in which one questionnaire consist of demographic and socioeconomic characteristics of the patients. The second questionnaire was Generalized Anxiety Disorder (GAD-7) and the third one was Public health questionnaire (PHQ-9) which measures the depression among the cervical women.This questionnaire is commonly said to be HADS Questionnaire (Hospital Anxiety and Depression).

Result: A total of 200 cervical women were included in this study from June 2016 to June 2017. Patients were diagnosed with cancer and completed the screening tools. The mean and SD of anxiety was 11±4.10 and the mean and SD of depressions was found to be 12.49±4.91. The percentage prevalence of depression was found to be 6% (screen negative), 22% (screen at risk) and 72% (screen positive).The prevalence of anxiety was found to be 13% (screen negative), 26% (screen at risk) and 61% (screen positive).

Conclusion: The study shows a screening of both depression and anxiety symptoms is important for all cervical cancer patients. The low socioeconomic condition, illiteracy, and lack of knowledge among rural patients are the most prominent causes ofthe high level of depression and anxiety. The study suggests that the assessment of anxiety and depression is as important as chemotherapy to improve the quality of life of cervix cancer patients.

KEYWORDS

Anxiety; Depression ;Cervical cancer; Socioeconomic condition; Questionnaire.

INTRODUCTION

Cervical Cancer is the fifth most frequent cancer in Humans and second leading cancer in women in developing countries [1]. Cervical cancer is a leading cause of death worldwide, accounting 510,000 new cases and 280,000 death annually.[2] India has a 1/3rd position on global cervical death approximately 132,000 new cases were diagnosed and 74,000 deaths annually[3].

Cervical cancer mainly caused by sexually transmitted infection (STI) of human papillomavirus (HPV), the other leading associated factors are unprotected sex, high parity, poverty and patient themselves also expressed shame, self-blame and the fear of social exclusion. These factors of cervical cancer might affect Quality of life (QOL) and the psychological distress among patients and reported the worst scores in term of emotional distress and quality of life. [30]

The study aimed to assess how the anxiety and depression affecting the daily life and activities of the cervical cancer patients. Nervousness, worrying, restless, anxious, hopeless, depressed, lack of sleep are the major indicators for defining patient's psychological condition. The study aimed to measure these factors and also find the correlation between social factors and emotional distress in the cervical cancer patients.

In this study rural background constitutes over 67% of the Indian population, the prevalence of cervical carcinoma is high in them.Psychological distress, depression and anxiety are common in most physical disease and self-help interventions. Depression and anxiety are frequently observed in cancer patients.[4]A meta-analysis reported a 25% prevalence of all types of psychological distress among cancer patients and a 32% prevalence of mental health condition in general.[5] Psychological distress may negatively affect treatment outcomes[6]that lead to elevated mortality rates in cancer patients.[7]Oncologists often fail to detect depression in their patients[8]. Therefore, it is important to use standardized and easily applicable tools to detect depression and anxiety. There are several screening instruments or the tools to assess the anxiety and depression or other psychological distress. A freely available and more recently developed questionnaire is the Patient Health Questionnaire PHQ-9 [9] and Generalized Anxiety Disorder GAD-7 [10-11]. Its validity has been proven in several studies [12–15].Identification of the patients with anxiety and depression is given for impacts on quality of life that effects that stress may on cancer progression [16].

The PHQ-9 and GAD-7 were focusing on emotional and cognitive aspects (depressed mood, feeling worthless, and thoughts of death), and the other on somatic aspects (sleep problems, loss of energy, and appetite problems). In summary, the main aim of this study was to identify women treated in a gynecologic oncology clinic with elevated depression and anxiety symptoms, characterize these women in categories and understand their needs. Implementation of screening tools for anxiety and depression along with well-being and analyzed the patient's characteristic. Some of the women having a higher scale of anxiety and depression so those types of patients should be further assessed for the better quality of life as well as the outcome aspects.

MATERIALAND METHODS

Study Design

This was a prospective, observational and single-centric study. The study was conducted for a period of 1 year, from July 2016 to June 2017. A total of200 patients were included in the study at Regional Cancer Centre, Mahavir Cancer Sansthan and Research Centre (MCSRC), Patna (Bihar),India.

Patients were enrolled from Department of Radiotherapy, Mahavir Cancer Sansthan and Research Centre (MCSRC), Patna, Bihar, India after the Ethical Clearance from the Ethical Review Committee of Mahavir Cancer Sansthan and Research Centre Patna with an informed consent from the study patients after full explanation of the study purpose and nature of the data collection and storage. Patients were selected as per inclusion and exclusion criteria set before the initiation of the work and strictly adhered with the study protocol.

Patients Characteristics

A total of 200 patients aged between 30 to 70 years were enrolled. Females already confirmed a case of cervical cancer. The patients who were suffered from renal insufficiency or liver abnormality were excluded from the study. Presence of other comorbid conditions was also excluded.

Data collection

Data were collected by using three questionnaires, one questionnaire

consisted of demographic characteristics of the patients. The second questionnaire was Generalized Anxiety Disorder (GAD-7) and the third one was a Public health questionnaire (PHQ-9) which measure the depression.

Data analysis

Categorical variables were expressed as the frequency with proportion and continuous variables were summarized as the mean ± standard deviation (SD).Data were analysed by using the StatisticalPackage for Social Science (SPSS v22). Results were expressed as a percentage after the analysis of data using descriptive statistics. A p value<0.05 were considered statistically significant. Chi-square was used to compare socioeconomic characteristics with anxiety and depression.

RESULT

A total of 200 cervical cancer patients included in this study from June 2016 to June 2017. Patients were diagnosed with cancer and completed the screening tools. **Table no: 1** shows the percentage of anxiety and depression in cervical cancer patients.The mean and SD of anxiety was 11±4.10 and the mean and SD of depression was 12.49±4.91.

Anxiety score: Anxiety level was classified according to the score obtained in the GAD-7 tool. The Maximum percentage of the patients were suffering from moderate anxiety 88 (44%) while 45 (22.5%) patients were suffering from moderate anxiety. The 48 (24%) patients had severe anxiety.

Depression Score: Depression level was classified according to the score obtained in the PHQ-9 tool. Maximum percentage patients were moderately depressed 73 (36.5%) while 71 (35.5%) patients were severe depression. The 44 (22%) patients had mild depression.

Table 1: Primary outcomes: Anxiety and Depression

Primary Outcome	Number in groups	%
Anxiety Symptoms (GAD-7), mean (SD) and range	11 (4.10)	2-19
None-minimal (0-4)	19	9.5
Mild (5-9)	45	22.5
Moderate (10-14)	88	44
Severe (15+)	48	24
Depression Symptoms (PHQ-9), mean (SD) and range	12.49 (4.91)	2-26
None-minimal (0-4)	12	6
Mild (5-9)	44	22
Moderate (10-14)	73	36.5
Severe (15+)	71	35.5

Scores of the PHQ-9 items

According to the cutoff criteria for depression. The scores of anxiety and depression are divided into three groups screen negative (0-4), screen at risk (5-10) and screen positive (>10). The frequencies of anxiety were 6% (screen negative), 22% (screen at risk) and 72% (screen positive).

Table no 2: Depression cut off

Depression cut off	Frequency	Percent
Screen negative (0-4)	12	6.0
Screen at risk (5-10)	44	22.0
Screen positive (>10)	144	72.0
Total	200	100.0

The depression cut off is compared with baseline characteristics like age, educational level, regional distribution, socioeconomic condition and stage of cervical cancer. The P value was found to be significant (<0.05) on the variables include age, educational status, regional distribution,socioeconomic distribution and stage of cervical cancer. See **table no 3**.

Table 3: Baseline characteristics comparing with significant depression

Variables	Screen Negative (0-4)	The screen at Risk (5-10)	Screen Positive (>10)	Total n (100%)	P
Age (mean, 50.33), years					
31-40	7	10	21	38(19)	
41-50	4	12	66	82(41)	0.003
51-60	0	16	35	51(25.5)	
>60	1	6	22	29(14.5)	
Educational level					
Literate	9	16	47	72(36)	0.013
Illiterate	3	28	97	128(64)	
Regional distribution					
Urban	2	21	48	71(35.5)	0.019
Rural	13	20	96	129(64.5)	
Socio economic status					
Upper	0	2	18	20(10)	
Middle	8	13	39	60(30)	0.028
Lower	4	29	87	120(60)	
Stage					
IIA	1	2	6	9(4.5)	
IIB	3	28	89	120(60)	0.548
IIIA	3	4	4	11(5.5)	
IIIB	5	10	45	60(30)	

A score of the GAD-7 items

According to the cutoff criteria for anxiety. The scores of anxiety and depression are divided into three groups screen negative [0-4], screen at risk (5-10) and screen positive (>10). The frequencies of depression were 13% (screen negative), 26% (screen at risk) and 61% (screen positive). See **table no 3.**

As the above tables show that there is a significant correlation between the anxiety and age, literacy, regional distribution and socioeconomic condition. These all factors affect the patient's psychological condition. Lack of knowledge about cancer might affect the QOL of the patient's.

Table no 4: Anxiety cut off

Anxiety cut off	Frequency	Percent
Screen negative (0-4)	26	13
The screen at risk (5-10)	52	26
Screen positive (>10)	122	61
Total	200	100.0

The anxiety cut off is compared with baseline characteristics like age, educational level, regional distribution, socioeconomic condition and stage of cervical cancer. The P value was found to be significant (<0.05) on the variables include age, educational status, regional distribution,socioeconomic distribution and stage of cervical cancer. See **table no 5**.

Table 5: Baseline characteristics comparing with significant anxiety

Variables	Screen Negative (0-4)	The screen at Risk (5-10)	Screen Positive (>10)	Total n (100%)	P
Age (mean, 50.33), years					
31-40	10	8	20	38(19)	
41-50	5	23	54	82(41)	0.008
51-60	3	14	34	51(23.5)	
>60	8	7	14	29(14.5)	
Educational level					
Literate	15	15	42	72(36)	0.037
Illiterate	11	37	80	128(63)	
Regional distribution					
Urban	15	19	37	71(35.5)	0.030
Rural	11	33	85	129(64.5)	
Socio economic status					
Upper	0	0	20	20(10)	
Middle	11	18	31	60(30)	0.004
Lower	15	34	71	120(60)	
Stage					
IIA	0	1	8	9(4.5)	
IIB	15	33	72	120(60)	0.790
IIIA	5	2	4	11(5.5)	
IIIB	6	16	38	60(30)	

DISCUSSION

In this study, 200 patients were included above 30 years of age ranged from 30-70 years with a mean age of 50.33 years. Patients with scores higher than 10 for screened positive either elevated anxiety or depressive symptoms. Concerning the area of residence,64.5% of them came from rural areas and 35.5% from urban areas. The percentage of the socioeconomic condition of the patients were 60% patients belongedfrom lower, 30% from middle and 10% from upper. Most of the patients included in this study were illiterate. The percentage was 63% were illiterate and 37% was literate.[17].The mean scores for the functional subscale were, as follows: Physical Function, 80.9; Role Function, 76.6; Emotional Function, 80.5; Cognitive Function, 88.7; and Social Function, 42.2.[18].among the subscales for functioning, cognitive and physical functioning had higher scores while social functioning had the least. [19]. similarly, among the symptoms scales, loss of appetite was the most frequent complaint [20].

Anxiety:

The mean anxiety scores, in our study, ranged from 0 to 21 in cases with a frequency of 45 mild anxiety, 88 moderate anxiety, 48 severe. The minimum percentage distribution was of moderate anxiety patients with 44% (Table-1). The distribution of anxiety in cancer patients (40.0%). The patient's having lower socioeconomic condition shows the higher anxiety score 60% (Table-5), also illiteracy (63%) and the patient'sfrom rural areas (64.5%)having a high prevalence of anxiety. (Table-5). Data shows that Patient's from age group (41-50) years having high-risk cancer and developing anxiety (41%). Lack of Knowledge, Poverty are factors that affect the patient's mental health as well as physical health. To overcome these factors proper counselling is necessary.

Other studies have reported anxiety as follows: Pinder et al [22] - 25.0%, Kissane et al [23] – 8.6%, Mary Kimmel et al [17] – 22.6% and Pascoe et al [24] – 11.5% had used a cut of 11 or above in the HADS. The present study also identified 6 (12%) individuals with anxiety had the cut off been taken as 11 or above. This would have been in agreement with results quoted by beforementioned studies. Furthermore, a study by Kissane et al [23] used DSM IV diagnostic criteria to come to a diagnosis of an anxiety disorder and obviously the element of the interviewer bias cannot be ruled out. The lack of knowledge about the disease and its treatment may be considered as one of the causes of higher anxiety in this study.[17],

DEPRESSION:

The depression score as tested by PHQ-9, ranged from 0 to 27 in case of frequency of 44 mild, 73 moderates, and 71 severe. The maximum percentage distribution was of severe depression 35.5% (Table-1) Depression is tested by HADS, the distribution of depression (28.0%) in cancer patients. In this study, approximately 25.5%reported depression to be seen in 37.5% of cancer patients. [28]

Patients from age group (41-50) years having a high prevalence of depression (41%). As a same Poor socioeconomic condition, illiteracy hasalso a big role in cervical cancer women. The quality of life of the cervical cancer women is directly associated with the anxiety as well as depression. Women with anxiety and depression

CONCLUSION

The study showed a screening of both depressive and anxiety symptoms is important for all the cancer patients. The oncologist should consider anxiety and depression while they are treating the patients for the better quality of life of women suffering from cervical cancer.Patients with elevated anxiety and depression were from rural areas, illiterate and had the low socioeconomic condition. Creative solutions and counselling are needed to develop good relationships between patients and healthcare professionals. Psychological support is needed.The partnership between psychiatry and oncology is important to assess the anxiety, depression or other psychological distress of patients suffering from cervical cancer. The partnership will also lead to a better understanding of the role of stress and social support in cancer therapy and may help to improve the quality of life and survival rate of cervicalcancer women.

Acknowledgement

No scientific work is even accomplished without the continuing guidance and encouragement of the investigators supervisors, or the active support and assistance of his colleagues, technical and nontechnical staff. I wish to express my deep sense of gratitude to **Dr. Vinita Trivedi**, HOD Mahavir Cancer Sansthan, Patna, Bihar for his active guidance, innovative ideas, constant inspiration, and untiring effects which enabled me to complete my thesis work. Let me express my profound sense of gratitude and heartful thanks to **Dr. Kuljit Singh and Gaurav Gupta.** I wish to thank and gratitude to my parents for his affectionate encouragement, and moral support. On personal note, I would like to express my deep gratitude family members who have encouraged me during the whole tenure of my project work

REFERENCES

1. Denny L. Cervical cancer: prevention and treatment. Discov Med. 2012;14:125-131.[Pubmed]
2. Arbyn M, Castellsague X, de Sanjose S, et al. Worldwide burden of cervical cancer. Ann Oncol. 2011;22:2675-2686. [Pubmed]
3. ICO Information Centre on HPV and cancer (Summary Report 2014-08-22). Human Papillomavirus and Related Diseases in India.2014
4. Mitchell AJ. Pooled results from 38 analyses of the accuracy of distress thermometer and other ultra-short methods of detecting cancer-related mood disorders. J Clin Oncol. 2007;25:4670–81.
5. Singer S, Das-Munshi J, Brähler E. Prevalence of mental health conditions in cancer patients in acute care–a meta-analysis. Ann Oncol. 2010;21:925–30.
6. Pirl WF, Greer JA, Traeger L, Jackson V, Lennes IT, Gallagher ER, et al. Depression and survival in metastatic non-small-cell lung cancer: Effects of early palliative care. J Clin Oncol. 2012;30:1310–5.
7. Pinquart M, Duberstein PR. Depression and cancer mortality: a meta-analysis. Psychol Med. 2010;40:1797–810.
8. Passik SD, Dugan W, McDonald MV, Rosenfeld B, Theobald DE, Edgerton S.Oncologists' recognition of depression in their patients with cancer. J Clin Oncol. 1998;16:1594–600
9. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9 - Validity of a brief depression severity measure. J Gen Intern Med. 2001;16:606–13.
10. Kroenke K, Spitzer RL, Williams JB, et al; Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. Ann Intern Med.2007 Mar 6 146(5): 317-25.
11. Spitzer RL, Kroenke K, Spitzer RL, Williams JB, et al; A brief measure for assessing generalized anxiety disorder: the GAD-7. Arch Intern Med. 2006 May 22 166(10): 1092-7
12. Thekkumpurath P, Walker J, Butcher I, Hodges L, Kleiboer A, O'Connor M, et al.Screening for major depression in cancer outpatients. The diagnostic accuracy of the 9-item Patient Health Questionnaire. Cancer. 2011;117:218–27.
13. Wittkampf KA, Naeije L, Schene AH, Huyser J, Van Weert HC. Diagnostic accuracy of the mood module of the Patient Health Questionnaire: a systematic review. Gen Hosp Psychiatry. 2007;29:388–95.
14. Watzke B, Heddaeus D, Steinmann M, Koenig H-H, Wegscheider K, Schulz H, et al; Effectiveness and cost-effectiveness of a guideline-based stepped care model for patients with depression: study protocol of a cluster-randomized controlled trial in routine care. BMC Psychiatry. 2014;14:230.
15. Kocalevent RD, Hinz A, Brähler E. Standardization of the depression screener patient health questionnaire (PHQ-9) in the general population. Gen Hosp Psychiatry. 2013;35:551–5.
16. Lutgendrof SK, Sood AK. Biobehavioural factors and cancer progression: physiological pathways and mechanism. Psychosom Med. 2011;73:724-730.
17. Manea L, Gilbody S, McMillan D. Optimal cut-off score for diagnosing depression with the Patient Health Questionnaire (PHQ-9); a meta-analysis. CMAJ 2012;184:E191-E196.
18. Bahar, Mahjoudi, Rezvan, Mirzaei and Leila, Zahedi-Shoolami (2012). A cross-sectional survey of quality of life in colostomates, Health Qual Life Outcomes, 10,136.
19. Radha Acharya Pandey, Govinda Prasad Dhungana, Jyostana Twi Twil, SundeepBanjul, Barsha Khawas; Quality of Life of Patients Undergoing Cancer Treatment in B.P. Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal. American Journal of Cancer Prevention, 2015, Vol.3, No.2,35-44.
20. Lim. G. (2011). Health-related quality of life among patients with cancer. ASEAN J Psychiatry, 13 (1), 210-14.