

Prevalence of Depression among Cervical Cancer Patients Seeking Treatment at the Cancer Diseases Hospital

Dr. Ravi Paul¹, Dr. Gerald Musa², Mr. Humphrey Chungu³

¹M.D (Psychiatry) Lecturer and Head, Department of Psychiatry, University of Zambia

²Medical Officer, University Teaching Hospital Lusaka, Zambia

³MSc. Clinical Neuropsychology, Department of Psychiatry, University of Zambia

Abstract:

Background: Previous research has reported that cervical cancer is a malignancy that develops in females causing changes in the quality of life, scoring emotional and psychological effects. Among the common emotional effects is the condition of depression which poses danger to the life of patients of cervical cancer. Diagnosis of and intervention of depression in patients of cancer is not easy especially that it is confounded by effects of treatment and those of living with the condition.

Aim: The study sought to determine the prevalence of depression in patients of cervical cancer using a representative sample with the relevant tools and techniques. The study also identified risk factors for depression and the associative effects on the quality of life.

Method: Descriptive study at Cancer Disease Hospital in Lusaka of Zambia. 102 women with cervical cancer receiving treatment were interviewed. Participants sampled using systematic random sampling. BDI used as tool for assessment of depression. Age cohorts of 20-30yrs, 40-60 yrs, >60 yrs.

Results: 80% of patients reported with depressive symptoms, 78% moderate, 18% mild and 4% severe.

Conclusion: Patients of cervical cancer need early diagnosis, early treatment, care and support. This would greatly improve the quality of life of these patients.

I. Introduction

1.1 Background

Cervical cancer is a malignancy that develops in females and is responsible for a great number of both deaths and poor quality of life among women. Like all cancers, cervical cancer has physical, emotional and psychological effects on individuals. Due to the high incidence in patients of cervical cancer, depression has received the most attention, (*J Am Med Ass*, 1983; 249; 716-717). Mostly, diagnosis of cancer is met with a period of emotional instability marked by increased anxiety, depressive mood and reduced daily activities. Patients also feel guilt especially with the disease being believed to be caused by a sexually transmitted virus.

Many changes are associated with living with cancer. The multiple operations, chemotherapy and radiotherapy and their side effects all add to the list of psychological effects. Even with survival, the survivors still face physical and psychological sequelae including reduced quality of life and psychosocial effects after treatment, with recurrence in some cases. The side effects in developed countries are addressed through physical and psychosocial rehabilitation. However, superimposed depression has shown to worsen prognosis and adherence to medication thus the need for early diagnosis and treatment (*Eur J Cancer*, 2005). This is because the diagnosis of depression in the patients can be difficult to make as most of the biological symptoms can be produced by the mediators produced by the malignancy or as a side effect of the treatment hence the need for specific methods of diagnosis. Mental health professionals typically use the Diagnostic and Statistical Manual of Mental Disorders (DSM IV) to diagnose depression.

1.2 Rationale for the study

Cervical cancer has become a common malignancy not only in Zambia but in the world at large (*Eur Soc Med Oncol*, 2011). Cervical Cancer has not only physical but psychological and emotional effect, all of which affect the quality of life and the prognosis. Depression in this case, has been the main psychological effect, hence the aim of the study was to investigate the prevalence of depression in patients with cervical cancer at Cancer Diseases Hospital of Lusaka, Zambia. The study also seek to use the findings to make recommendations on what interventions are to be introduced in order to effectively manage these patients.

1.3 Research question

Is depression common among patients with cervical cancer?

1.4 Aims and objectives

1.4.1 General Aims

- To determine the prevalence of depression in patients of cervical cancer.

1.4.2 Specific Objectives

- To determine the risk factors for depression in patients of cervical cancer.
- To determine the effect of depression on the quality of life and the prognosis.

II. Literature Review

Depression refers to a wide range of mental health problems characterized by the absence of a positive affect (a loss of interest and enjoyment in ordinary things and experiences), low mood and a range of associated emotional, cognitive, physical and behavioral symptoms (Eur Soc Med oncol, 2011).

The symptoms of major depression include the following:

- Having a depressed mood for most of the day and on most days.
- Loss of pleasure and interest in most activities.
- Changes in eating and sleeping habits.
- Nervousness or sluggishness.
- Tiredness and poor concentration.
- Feelings of worthlessness, hopelessness or inappropriate guiltiness and thoughts of suicide.

To make a diagnosis of depression, these symptoms should be present on most days for at least 2 weeks. The diagnosis of depression can be difficult to make in people with cancer due to the difficulty of separating the symptoms of depression from the side effects of medications or the symptoms of cancer. This is especially true in patients undergoing active cancer treatment or those with advanced disease. Symptoms of guilt, worthlessness, hopelessness, thoughts of suicide, and loss of pleasure are the most useful in diagnosing depression in people who have cancer (*Depression (PDQ®) - National Cancer Institute -diagnosis.htm*)

European Journal of Cancer, 2011,-Hengrasme P, et al., (2004), carried out a descriptive cross sectional study of prevalence and risk depression among gynecological cancer patients. The study had 149 women; 77 (51.7%) ovarian cancer, 34 (22.8%) cervical cancer, 20 (13.4%) uterine cancer, 18 (12.1%) gestational trophoblastic tumor with a mean age of 46.6yrs. with a prevalence as high as 13.4% they concluded that depression is one of the most common psychological distresses experienced by cancer patients. Risk factors included low income, diagnosis of cervical cancer, radiation treatment and poor performance status. Hence these patients should receive adequate medical attention and careful evaluation for depression especially with such risk factors

For some women who are diagnosed with cervical cancer, there is marked increase in the incidence of depression and anxiety. For these women, thoughts of suicide are often not uncommon especially when there are financial concerns with regard to treatment and lack of social support during treating for the gynecological disorder. To compound matters, women who are diagnosed with cervical cancer may feel some sense of responsibility for acquiring the virus that lead to the condition and may develop suicidal tendencies over this great feeling of responsibility (J Am Med Ass, 1983; 249; 716-717).

In a meta-analytical review of 58 studies from 1980 -1994, A Van't Spijker, RW Trijsburg and HJ Duivenourden concluded that with the exception of depression, the amount of psychological and psychiatric problems in patients with cancer does not differ from the normal population. Further meta-analysis showed significant differences among groups of cancer patients with regard to tumor site, sex, age and the idea that medical, socio-demographic and psychosocial variables were related inconsistently to psychiatric and psychological problems (A Van't Spijker, RW Trijsburg and HJ Duivenourden, 1980-1994).

In a similar study (European Journal of Cancer, 2005-Nuhu Folorusho T et al, 2008), used 63 male and 147 females: the following were the results obtained; 68 breast cancer, 59 cervical cancers, 40 colorectal cancers, and 43 prostate cancer. The study showed 30% depression prevalence with advanced stage of cancer, pains, and family history of mental illness as the main risk factors. It was also concluded that depression has a negative effect on the quality of life and prognosis. Case examination of depressed cancer patients suggests that illness and treatment factors even though important, may not be the primary risk factors for psychological morbidity. Extended stressors such as poor family support and past sexual abuse (compounded by illness and treatment factors) maybe more relevant in adolescents (Akechi T et'al, 2006).

European Journal of Cancer, 2005-Grassi and Rosti, 2007), reported that awareness of the diagnosis of cancer, history of previous psychiatric disorders; pain and stress factors are predictors of depression in cancer patients. Using a logistic regression analysis (A Van't Spilker, 1980-1994) concluded that having an advanced stage of cancer and living alone were significantly associated with having psychological distress. Several studies have shown that cancer patients with comorbid depression are more likely to have a poor quality of life compared to those that are not depressed. Depression in cancer has been essential to study because comorbid

illnesses complicate the treatment of both and may lead to poor adherence to treatment recommendations and to less desirable outcomes of both conditions (J Nat Cancer Inst Mono, 2004). Patients with comorbid depression and anxiety disorders experience more severe symptoms, have a longer time to recovery, use more health care resources and have poorer outcomes than do those with a single disorder, (J Nat Cancer Inst Mono, 2004) hence the evaluation of cancer patients should include careful evaluation of the persons thoughts about the illness, medical history, personal or family history of mental illness or suicide, current mental status, physical status, side effects of the treatment and the disease, other stressors in the patient's life and necessary support available to the patient. (*Depression (PDQ®) - National Cancer Institute -diagnosis.htm*)

Regionally and locally, the prevalence of depression in cervical cancer patients has not much been done and if done, has not been documented. Hence, the literature is much based on what has been done globally.

The Beck Depression Inventory (BDI) is the gold standard of self-rating scales. It is a 21 item self-report rating inventory that measures characteristic attitudes and symptoms of depression (Beck et al., 1988). It measures the severity of the depressive symptoms that the test taker is experiencing at the time. It is advantageous in that it takes only about 10minutes to complete, no need for trained personnel, and that it is more standardized in terms of administration and scoring. However, it requires individuals' ability to read and write or speak the language used in at least one translation of the scale(*Eur Journal of Cancer, 2011*). The BDI demonstrates high internal consistency with alpha coefficients of 0.86 and 0.81 for psychiatric and non-psychiatric populations respectively (*Beck et al., 1961*)

III. Methodology

3.1 Study Design

- Descriptive study

3.2 Study setting

- Cancer Diseases Hospital (CDH) in Lusaka, Zambia

3.3 Target Population

- The target population was patients with cervical cancer.

3.4 Study population

- The study population was patients with cervical cancer receiving treatment at Cancer Diseases Hospital in Lusaka, Zambia.

3.5 Inclusion criteria

- Patients able to speak English or any language that the principle investigator was fluent in for translation were included.

3.6 Exclusion criteria

- Patients not able to read or understand English and any other language that the investigator was not able to fluently speak were excluded.

3.7 Sample Size

- Both from the out-patient and in-patient department.

$N = Z^2 (PQ) / d^2$, Where d is confidence interval; P is an estimate of the confidence level, $Q = 100 - p$ is the confidence level. $Z = 1.96$, $p = 40$, $q = 60$, $d = +/- 10$ hence the sample size was 92. Taking into account a refusal rate of 10% (10) of patients interviewed, sample size was 102 patients in total. Hence, a sample size of 102 patients was to be interviewed.

3.8 Sampling Technique

- Systemized random sampling method was used. Individuals were chosen at regular intervals from the sampling frame. About 30 patients go for treatment every day at the hospital. 15 patients were seen on each day of data collection. The sampling interval was every second patient, calculated from the formula:

Sampling interval = Target population per day / sample size per day.

$$= 30 / 15$$

$$= 2$$

The first unit is chosen randomly and is included in the sample.

3.9 Data Collection

3.9.1 Data collection tools

- An international standard questionnaire called the becks depression inventory (BDI) was used.

3.9.2 Data collecting personnel

- Data was collected by the principal investigator.

3.9.3 Data collection procedure

- Data was collected as the patients were coming in for treatment. The Beck’s depression inventory was used. Translation was done verbally for the patients who were unable to speak English. Being a short process, the scale was filled in either prior to or after the treatment. The scale was handed in on the same day.

3.9.4 Statistical consideration

3.9.4.1 Data management

- The data was divided into two groups: patients with depression and those without depression. And this data was analyzed manually and graphs and tables were made.

3.9.4.2 Ethical Considerations

- Permission to carry out the research was given by University of Zambia Biomedical and Research Ethics Committee (UNZABREC), university of Zambia department of Community Medicine and the cancer diseases hospital. On collection of data, written informed consent was obtained from the patients, maintaining privacy and confidentiality.

IV. Results

The calculated sample size of 102 was successfully collected and the results were analyzed as follows; Figure 1.1 Percentages of patients with depression From the 102, 82 participants (80%) of the patients met the minimum criteria for depression whereas 20 participants (20%) did not meet the criteria.

Analysis of Patients with Depression

Figure 2 BDI levels.

Of the 82 participants that met the criteria for depression, 78% showed moderate depression, 18% mild, while only 4% had severe depression.

Figure 3 age distribution of the patients:

The majority of patients (50%) with depression were between 41 and 60 years and only 12.5% of the participants with depression where >60years.

Figure 4 level of education:

Of the 83 participants with depression, 37.5% had secondary level education and 37.5% primary school level education. 17.5% had no formal education and 7.5% had tertiary education level.

Figure 5 marital statuses:

Majority (47%) of the participants with depression were married.

Figure 6 Occupations:

63% of the participants with depression had no formal employment whereas 37% were employed.

Table 1 Severity of Symptoms and Absolute Numbers of Patients:

Symptoms	Absent	Mild	Moderate	Severe
Sadness	48	43	9	3
Pessimism	59	26	7	11
Past failure	59	19	16	6
Loss of pleasure	29	19	19	36
Guilty feeling	64	21	15	3
Punishment feeling	54	7	6	38
Self-dislike	62	9	25	7
Self-criticalness	52	15	23	13
Suicidal thoughts	90	7	3	3
Crying	44	5	11	43
Agitation	32	13	41	17
Loss of interest	55	20	13	15

Indecisiveness	59	16	19	9
Worthlessness	63	4	31	5
Loss of energy	18	21	41	23
Changes in sleeping pattern	18	5	51	25
Irritability	60	13	17	13
Changes in appetite	12	11	53	27
Concentration difficulty	60	15	25	3
Tiredness or fatigue	16	15	23	49
Loss of interest in sex	2	11	27	63

V. Discussions

Out of the collected 102 patients, 83 (81%) met the minimum criteria for depression according to the Becks Depression Inventory (BDI). This value is very high compared to the estimated prevalence of 40%. 18% of these patients had mild depression, 78% with moderate depression and 4% with severe depression. This can be attributed to the overlap between the treatment side effects and the symptoms of depression. Factors including; loss of appetite, weakness, sleep abnormalities used in the BDI as symptoms of depression are very common side effects of the chemotherapy and radiotherapy treatment. Hence these women tend to have higher scores (Beck A et'al, 1996).

This has made the diagnosis of depression very difficult in cancer patients. Identifying the depressed patients is important because in their hopelessness, compliance to medication may be lost worsening the prognosis. The age distribution in these patients showed that depression was more common between 40 and 60 years (50%) and lowest >60 years (12.5%).

The relationship between depression and some socio-demographic determinants' such as marital status, work, educational level etc. needs to be further clarified with a wider sample size. However like in primary depression, depression has risk factors which predispose certain individuals more than others. In this study, 63% of the depressed patients were unemployed whereas only 37% was employed. This could be explained in that employment offers a good premorbid personality and a possible social support system. The presence of a good social support system has been seen in the literature as a protective factor against depression (. Analysis of the education levels shows that 37.5% and 37.5% of the depressed patients were at least primary and secondary school educated respectively. 7.5 % of the depressed patients had gone up to tertiary education whereas 17.5% had no formal education. People with a higher education usually tend to have a better understanding of the disease in terms of the cause, treatment options and the prognosis hence the above collected results are expected (Beck A et'al, 1993).

As the most prominent feature in these patients, a reduced libido was seen in 98% of the patients with 64% having lost interest in sex completely. This can be due to continuous bleeding and dyspareunia that these patients have or may as well be a symptom of depression. This also plays a role as a source of anxiety and depression in married women unable to engage in sexual intercourse with their spouse, giving rise to the levels of depression even among married women as seen above. Aside the loss of libido, other prominent symptoms include reduced energy(81%), changes in sleeping patterns(81%), changes in appetite(87%) and fatigue or tiredness(83%). These symptoms are non-specific to depression and as mentioned are some of the commonest side effects of the cancer treatment explaining why it is possible to either over-diagnose or under-diagnose depression in these patients. Most of the patients mentioned that the symptoms were more prominent prior to and in the first few weeks of diagnosis, but as they were educated and got to interact with other patients with cervical cancer at the various clinics and hospitals, they were given hope. Hence, support groups if implemented would yield considerable effect on the prevalence of depression (European Journal of Cancer, 2005).

VI. Study Limitations

1. The BDI is not able to differentiate between symptoms due to treatment side effects and depression.
2. When the patient is not able to read, understand or write in English, the chances of getting false results are higher as translation into local languages is limited.

VII. Conclusion and Recommendations

7.1 Conclusion

The prevalence of depression in cervical cancer patients was determined and found to be 85%. The risk factors and effect of depression on prognosis and quality of life were determined. Cervical cancer is a very common disease in the Zambia and the world at large and hence must be managed holistically to reduce mortality. With the high prevalence of depression in these patients, screening and management must be routinely carried out. These patients tend to be pessimistic and this may reduce compliance to treatment and in turn worsening the prognosis.

7.2 Recommendations

1. Screening for depression must be routinely carried on all patients with cervical cancer. This applies to both newly diagnosed and patients already on treatment. This will make possible early detection of the comorbidity.
2. Psychiatrists and psychologists must be incorporated in the management of these patients
3. Doctors and nurses must undergo training in the diagnosis and treatment of depression and other psychiatric conditions commonly seen in cancer patients
4. Cervical cancer support groups must be created to help give hope and support to the patients.
5. Due to the non-specificity of some of the symptoms of depression scored in the BDI, further studies must be carried out with possibly more specific investigation tools.
6. A questionnaire to evaluate the quality of life must be routinely given to the patients so as to make sure the patients are as comfortable as possible.

References

- [1]. European Journal of Cancer (2005).
- [2]. European Journal of Cancer (2011).
- [3]. Depression (PDQ@)-National Cancer Institute-diagnosis.htm.
- [4]. J Am Med Ass, 1983; 249:716-717.
- [5]. J National Cancer Inst Mono, (2004).
- [6]. Akechi T, Akizuki N, Okamura M, et al., (2006) *Psychological distress experienced by families of cancer patients*.
- [7]. A Van 't Spijker, R W Trijsburg and HJ Duivenvourden, (1980-1994).
- [8]. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J: *An inventory for measuring Depression*. Arch Gen Psychiatry 1961; 4:561-71
- [9]. Beck AT, Steer RA: *Manual for the Beck Depression Inventory*. San Antonio, TX, 1993
- [10]. Beck AT, Steer RA, Brown GK: *Manual for the Beck Depression Inventory*, 2nd ed. San Antonio, TX, 1996.