

**AN INVESTIGATION INTO THE MANAGEMENT OF DEPRESSION IN PATIENTS  
WITH LATE-STAGE CANCER BY SOUTH AFRICAN RADIATION ONCOLOGISTS**

**By**

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## ABSTRACT

There are currently more people living with cancer than ever before. The management of the heavy symptom burden carried by these patients remain a critical subject. Of these symptoms, depression is one of the most frequently reported and debilitating symptoms in advanced cancer. The negative impact of untreated depression on both the patient and the healthcare system is well documented.

The aim of this study was to explore how South African radiation oncologists manage depression in their late-stage cancer patients. The study focussed specifically on the use of screening tools, their choice of drugs and the mental health resources available to them. A convenience sample of 34 South African radiation oncologists that included participants from both the private and government sector completed an online questionnaire. The results from this study showed that these oncologists do encounter depression in their late stage cancer patients confirming the importance of the subject. While the lack of a universally agreed screening tool remains a problem, at least fifty percent of the respondents were already using some form of screening tool and thirty-five percent of the rest indicated their interest in implementing depression screening in their practice. When faced with a depressed patient, Seventy-four percent of these oncologists felt confident in starting antidepressants and all of them had some sort of mental health resources available to them.

Unfortunately, the small study sample and self-reporting lead to concerns regarding the generalizability and validity of the study. However, the study remains valuable in its role of raising awareness for depression in our cancer population, identifying the shortcomings in our current management as well as identifying education needs in our health-care personnel.

### **Abbreviations:**

ASCO	American Society of Clinical Oncology
BDI	Beck Depression inventory
BDI-II	Beck Depression Inventory version two
BDI-SF	Beck Depression Inventory Short Form
BPI	Brief Pain Inventory
BSI-18	Brief symptom inventory-18
CBT	Cognitive behavioural therapy
CES-D	Center for Epidemiological Studies Depression
CES-D-SF	Center for Epidemiological Studies Depression Short Form
DED:	Desire for early death
DSM-4	Diagnostic and Statistical Manual of Mental Disorders
DT	Distress Thermometer
EDS	Edinburgh Depression Scale
EPDS	Edinburgh Postnatal Depression Scale
ESMO	European Society for Medical Oncology
GP	General Practitioner
HADS	Hospital Anxiety and Depression Scale
HAM-D	Hamilton Rating Scale for Depression
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
IARC	International Agency for Research on Cancer
MAOI	Monoamine oxidase inhibitors
MDD	Major Depressive Disorder
NCCN	National Comprehensive Cancer Network
NCI	National Cancer Institute
NCR	National Cancer Registry
PBCR	Population-based cancer registries
PHQ-9	Patient Health Questionnaire
SASCRO	South African Society for Clinical and Radiation Oncologists
SSNRI	Selective Serotonin and Noradrenaline reuptake inhibitors
SSRI	Selective Serotonin Re-uptake Inhibitor
STAI	Spielberger State-Trait Anxiety Inventory
TCAD	Tricyclic antidepressants
UCT	University of Cape Town
UK	United Kingdom
UNDP	United Nations Development Programme
WHO	World Health Organization
ZSDS	Zung Self-Rating Depression Scale



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## **CHAPTER 1**

### **INTRODUCTION:**

Depression is a debilitating disease for any patient, but even more so for the cancer patient where it often goes unrecognized and untreated. Because of the physical and emotional impact depression has on the cancer patient, it reduces their quality of life, adding to the many losses they face on a daily basis.

According to the literature, the incidence of depression increases with advance disease(1) making the late stage cancer patient even more vulnerable.

Late stage cancer according to The NCI Dictionary of Cancer Terms is “A term used to describe cancer that is far along in its growth, and has spread to the lymph nodes or other places in the body.”(2)

This thesis will be focussing on depression in the late stage cancer patient and specifically how it is recognised and managed by their primary caregiver, the treating oncologist. By identifying strengths and weaknesses in current management, education needs can be identified and future recommendations can be made. This will empower healthcare workers strife to improve quality of life for all cancer patients.

## **1.1 CANCER: THE BURDEN OF DISEASE**

Globally cancer remains one of the most feared conditions of all times. Despite millions of dollars spent each year on international cancer research, there are currently more people living with cancer than ever before.

According to the Global status report in 2014, non-communicable diseases, of which cancer is one of the main diagnoses, were responsible for more than two-thirds of global deaths.(3)

Low- and middle-income countries like South Africa accounted for 82% of these deaths. (3) Statistics has revealed a steady rise in non-communicable diseases and more specifically, cancer. Driven by an aging population and an increase in risk factors, health care services will need to recognize the shifting landscape and put strategies in place to care for these chronic patients.

The International Agency for Research on Cancer (IARC) developed a tool called GLOBOCAN. By using the best existing data from population-based cancer registries (PBCR) for each country, it uses several methods of estimation to calculate and predict incidence and mortality rates by cancer site and sex.(4)

GLOBOCAN reported 14.1 million new cancer cases worldwide for 2012 and 8.2 million deaths. (5) They predicted a steady rise in these numbers with a projected count of 21.4 million new cancer cases globally in 2030 – a staggering rise of at least 70%.(6) The majority of these cases will be from developing countries.

More than 40% of all cancers globally are found in countries with a low or medium level of Human Development Index (HDI) (7) According to the United Nations Development Programme 's 2015 Human Development Index, South Africa currently falls into this medium development category.(8)

In the past infectious diseases have been implicated as the cause of most cancers in the developing countries. (9) This can also be seen in Statistics from South Africa, showing a high incidence of cervical cancer, liver cancer and lymphoma.(10)

With the rise of HIV in the 1990's, Kaposi sarcoma started emerging, adding to our burden. Current statistics show a steady rise in lung, breast and colon cancer as the population is more exposed to the western influence with its changing diet, inactive lifestyle and smoking.(11)

South Africa rely on The National Cancer Registry (NCR) to provide up to date statistics. This organization was established in 1986 as a voluntary pathology based cancer-reporting system and functions as the principal cancer surveillance system in South Africa. Receiving data from both the public and private sector, the NCR plays a crucial role in estimating the incidence of South Africa's cancers. In 2005 due to concerns regarding the voluntary sharing of patient information, some of the private laboratories started withholding their reports from the NCR. (12) This resulted in concerns about the validity of South African statistics and its reliability to be used in calculating and predicting incidence and mortality rates for the future.

Singh et al investigated the impact of this missing data on the cancer statistics. They found that private laboratory reporting decreased by 28% between 2005 and 2007. Singh argues that since the majority of the population is served by the public health sector (84%) this decreased reporting in the remaining 16% served by the public sector would not have had a significant impact on the overall cancer statistics.(12)

This problem was addressed in 2011 when Regulation 380 of the National Health Act (Act 61 of 2003) made reporting of all confirmed cancer diagnoses compulsory and officially established the NCR as South Africa's principal surveillance organization. The NCR was also given the mandate to implement population-based cancer registration in South Africa.(12)

Using projections of South Africa's national incidence rates for 2010, GLOBOCAN reported an estimated 82.9 thousand new cancer cases and 51 thousand deaths due to cancer in 2012.(10)

The impact of an increased incidence of cancer can also be seen in the 2014 South African death certificate statistics. Cancer is one of the top 10 main causes of reported deaths. In 2014 a total of 39 143 deaths were reported due to malignancy. (13) According to Statistics South Africa, neoplasms accounted for 9.1% of all deaths in 2015.

It is in the light of these statistics that the importance of good quality care, including good palliative care, for cancer patients become compelling.

## **1.2 PALLIATIVE CARE**

*To deny people their human rights*

*Is to challenge their very humanity*

- *Nelson Mandela-*

### **1.2.1 DEFINITION AND IMPORTANCE:**

The word “palliative” comes from the Latin word “pallium” which means, “cloak.” All cancer patients are entitled to be “cloaked” in our care. Palliation is “easing the severity of a pain or a disease without removing the cause” and since cure will not be an option for most of these patients, good palliative care remains their only hope.

It is essential to understand that palliative care is more than just relieving physical symptoms and is best described by the WHO’s definition of 2002: “an approach that improves the quality of life of patients and their families facing problems associated with life-threatening disease through the prevention and relief of suffering by means of an early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.”(14)

Within recent years the importance of palliative care has come to the forefront and has now been framed within a human rights context.

As stated by the 2014 World Health Assembly Resolution of Palliative Care: “palliative care is an ethical responsibility of health systems, and that it is the ethical duty of health care professionals to alleviate pain and suffering, whether physical, psychosocial or spiritual”(15)

This has also been underwritten in the South African Department of Health’s Patients ‘Rights Charter which states that palliative care is a human right.(16) Every patient facing a life-threatening disease - every patient with cancer - should have access to good palliative care.

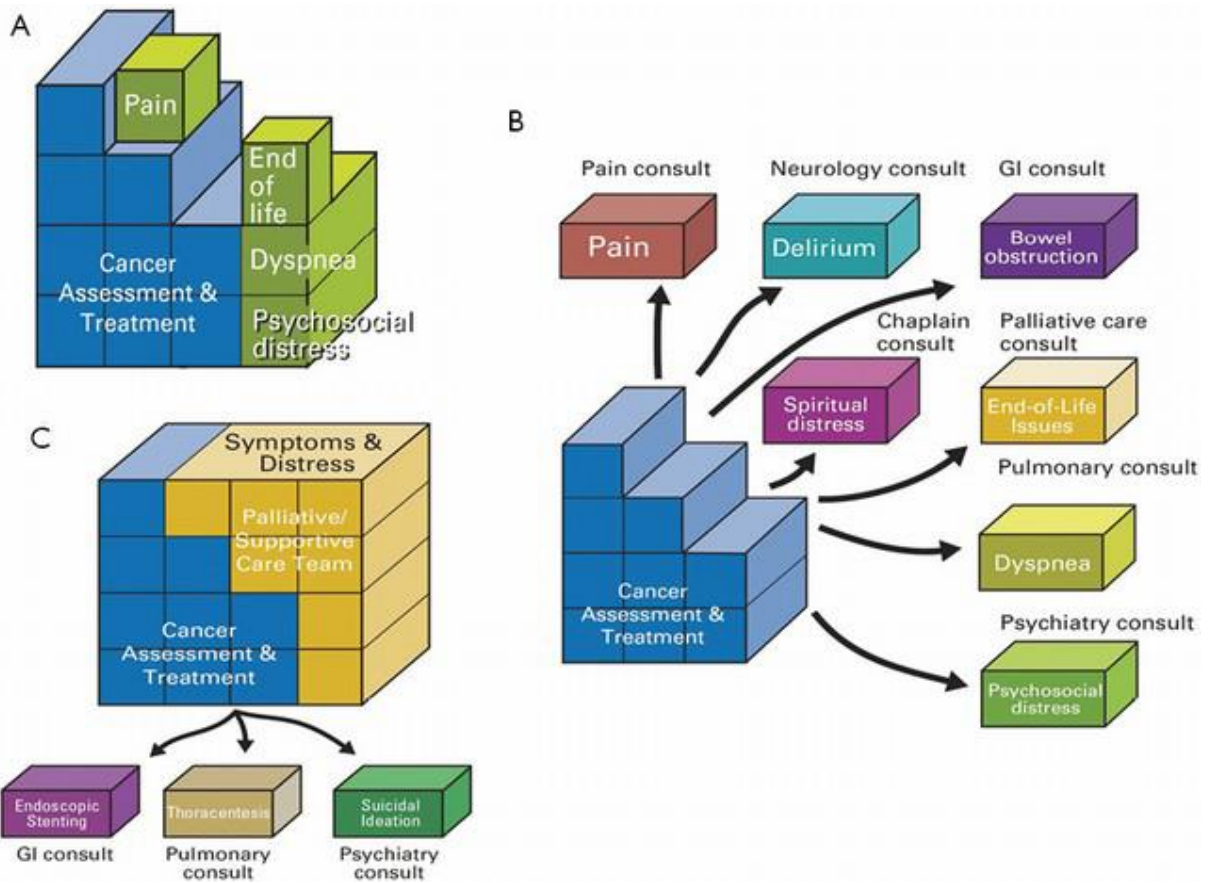
### **1.2.2 PALLIATIVE CARE – NOT ONLY FOR THE DYING:**

Palliative care is not the same as terminal care, but rather a holistic team approach with expertise in symptom management, communication, psychosocial care and decision-making working to maximize well-being for the patient and his caregivers through the cancer journey. (17) All patients facing a life-threatening disease suffer from spiritual, social, financial and emotional concerns all while facing a significant physical symptom burden often causing functional decline.

Both the American Society of Clinical Oncology (ASCO) and the European Society for Medical Oncology (ESMO) recognized and endorse the importance of integrating palliative care into standard oncology care irrespective of the stage of disease.(18,19)

Palliative care is applicable at any stage in a life-threatening illness and should be provided together with curative treatment.(18)

Bruera gives a comprehensive explanation of the three conceptual modules for integrating oncology and palliative care (20) as can be seen here in Figure A



**Figure A**

*“The cancer care package. (A) In the Solo Practice Model, the oncologist provides both cancer assessment and treatment, and addresses a variety of supportive care issues such as pain and dyspnoea. However, the lack of time and expertise means that these issues may not be managed adequately. (B) In the Congress Practice Model, the oncologist refers the patient to various specialities for all the supportive care issues. This could result in fragmented and expensive care. (C) In the Integrated Care Model, the oncologist routinely refers patients to palliative care for their supportive care needs. This helps to ensure patients receive comprehensive and integrated care, and it streamlines the provision of care.*

*Reprinted with permission from MD Anderson Cancer Centre.”(20)*

According to ESMO cancer dedicated clinics or hospitals should provide palliative or supportive care as part of their global service and palliative care training must be part of the core curriculum of oncology training.(21)

### **1.2.3 PALLIATIVE CARE IN SOUTH AFRICA:**

Although palliative care has become a recognized speciality in many countries, it is still a relatively new concept in South Africa and although we have a national policy framework for palliative care, it is still not yet fully integrated into formal health care.

Our patients seldom have access to a multidisciplinary team and at present, the integration of palliative care would necessarily have to happen using a “solo model” as seen in Figure A with the oncologist being the primary physician.(20)

There is currently a pilot study being done by UCT to investigate the integration of palliative care training for oncology registrars. (22)

### **1.3 CANCER AND ITS SYMPTOM BURDEN:**

Cancer has a significant symptom burden. Several international studies have reported on the most common symptoms experienced by oncology patients.(23)Cancer patients have to deal not only with the physical and emotional effects of the disease itself but also with the many debilitating symptoms caused by their treatment.

The symptom burden also escalates as the disease progresses.(1,24)

While some of these symptoms have been studied extensively such as pain and nausea, others remain under diagnosed and under treated for different reasons. One such distressing symptom experienced by cancer patients is depression.

### **1.4 DEPRESSION - BURDEN OF DISEASE:**

The term ‘depressive disorders’ is a general term describing a spectrum of disease including amongst others minor depression, major depression and dysthymic disorders which has in common: a depressed mood causing impaired quality of life and disability.

Depressive disorders in the general population have been a major cause of disability worldwide affecting all age groups and all populations. This can be



seen in the 2010 Burden of Disease studies where depression was ranked the leading cause of disability globally.(25)

They estimated a prevalence of 298 million major depressive cases in 2010.(25)

In South Africa, Data on Depression incidence is limited. Gillis et al reported prevalence rates of 25% for depression in the rural area while the South African Stress and Health study found major depressive Episodes to be present in 9.7% of study participants.(26)

In the cancer population, these statistics are even higher.

Internationally several studies have looked at the incidence of depression in cancer. Unfortunately, due to the difference in the incidence of depression amongst the different cancers as well as the lack of an international standardized diagnostic tool, the reported rates vary greatly between the different studies.

(27) Global studies have reported rates between 4.5% and 53%

Hawkins et al. reported higher rates of depression and anxiety medication usage in cancer patients compared to the normal population. (28)

A South African study done in Cape Town looked at the incidence of depression among the oncology patients visiting an outpatient oncology clinic at Groote Schuur Hospital.(29)

The authors reported 14% prevalence. More than half of these patients, however, were in remission.

Since Bukberg et al found depression rates to be higher amongst patients with advanced cancer, increased pain, and disability(1) it can confidently be asserted that depression rates would have been higher in this population had they been late-stage cancer patients. This would then correlate with international studies that reported prevalence rates for depression to be about 15%.(30)

These statistics clearly show - a significant number of cancer patients will develop depression.

## **1.5 DEPRESSION - ITS IMPACT ON THE CANCER PATIENT.**

Depression is not only one of the most reported symptoms in advanced cancer patients(31) but also a seriously disabling one(32) and its diagnosis and treatment should not be neglected.

### **1.5.1 The Psychosocial effects of depression**

Mystakidou et al report that depression negatively affects quality of life in multiple ways. (33) His study showed a noticeable association between the presence of depression and a decline in social functioning. Depression reduces the patient's ability to socialize and takes away their capacity to enjoy life. (33) It robs them of the emotional strength needed to say goodbye.(34)

### **1.5.2 Depression and increased request for euthanasia**

Depression is a risk factor for suicide and has been associated with requests for euthanasia. (34,35) Van der Lee found requests for euthanasia by cancer patients to be four-fold higher in the presence of depression.(36)

### **1.5.3 Physical effects of depression:**

The physical effects of depression on the patient are multiple. Insomnia, loss of appetite, headaches, muscle aches and constant fatigue are some of the most common ones documented. Badger et al reported the presence of depression to correlate with increased number and severity of treatment-related side effects in breast cancer patients.(37)

Pain, fatigue, and depression are so commonly seen together that they have been described as "symptom clusters." (38) Treating one of these will have a positive effect on the others. If we manage the depression, our patients will have a better quality of life and improved general health.(39)

Some studies report depression as a predictor of morbidity(40-42) and Lloyd-Williams et al found it to be an independent predictor of early death in advance cancer patients.(43)

## **1.6 DEPRESSION – ITS IMPACT ON THE HEALTH SYSTEM**

Depressed patients are more likely to utilize the medical services – thereby increasing the burden on already overloaded health facilities. (44-47) It has also been associated with prolonged hospitalization(45,48) and poor compliance with treatment.(1,36,49)

Depression cannot be ignored due to the negative effect it has on both the patient and the health care system.

## **1.7 MANAGING DEPRESSION IN THE CANCER POPULATION – THE CHALLENGES WE FACE –**

### **1.7.1 DIAGNOSING DEPRESSION:**

A diagnosis of cancer will always cause psychological distress as well as a natural sadness as life comes to an end in the case of late-stage cancer patients.

Depression, however, is not the same as psychological distress or grief. The difficulty lies in distinguishing between normal, self-limiting distress and clinical depression.

There are currently no internationally agreed-upon criteria for diagnosing depression in the cancer population.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-4) (50) is the gold standard for diagnosing psychiatric disorders in the physically healthy population. Under the depressive disorders, a patient can be diagnosed as having an MDD (Major Depressive Disorder), persistent depressive disorder or adjustment disorder with depressive symptoms depending on the set of criteria fulfilled.

To make a diagnosis of MDD, a patient needs to have five or more symptoms present for the last 2 weeks including either question 1 or 2(see table A)

**Table A: DSM-5 criteria for major depressive disorder (MDD)**

Five or more symptoms present during the last 2 weeks including either question 1 or 2:

1. Depressed mood
2. Diminished interest or pleasure in activities (anhedonia)
3. Weight or appetite changes
4. Sleep changes
5. Psychomotor agitation or retardation
6. Fatigue or loss of energy
7. Feelings of worthlessness or guilt
8. Diminished ability to think or concentrate or indecisiveness
9. Recurrent thoughts of death or suicidal ideation

The symptoms must persist for most of the day, nearly every day within last 2 weeks leading to functional impairment of the patient.

*Table taken from American Psychiatric Association; DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, 5th edition.(50)*

The somatic symptoms mentioned here – weight or appetite changes, sleep changes and fatigue or loss of energy are almost universal to all late-stage cancer patients, making it very challenging for the physician to distinguish between normal cancer-related symptoms or clinical depression.(1,51,52)

While these symptoms are often the red flags in the normal population, in the oncology population it will just be part of the cancer journey, often causing depression to go unnoticed and untreated. Different approaches have been suggested to overcome this challenge. While some authors suggested “removal” of the somatic symptoms from the diagnostic tool(1,52,53) others were advocates for substituting them with other symptoms like self-pity, pessimism or brooding.(54)

Studies, however, have shown that when high levels of depressive symptoms are present in the medically ill, these somatic symptoms have little effect on the prevalence rates of depression.(51)

### **1.7.2 TREATMENT:**

Hieronymous et al. describe that that depression is a treatable disease and despite controversy regarding the efficacy of antidepressants, a recent meta-analysis has confirmed the superiority of SSRI's over placebo in the treatment of patients with major depressive episodes in the normal population. (55) Several drugs have been developed through the years and together with psychological treatment, they have greatly improved care for the depressed patients in the healthy population.

In mild depression, psychotherapy has proven to be effective in reducing the symptoms. For moderate to severe depression antidepressants remains first-line therapy, used alone or in combination with psychotherapy. (56-58)

Since their discovered in the 1950s, antidepressants have proven themselves effective amongst patients with a wide variety of physical illnesses. (59-61) Rayner, as well as Li et al, reported on their efficacy in both cancer and the palliative care population. (61,62)

But while the literature shows the benefit of antidepressants, it also clearly shows a general trend of under-prescribing in the cancer population. (63) While a lack of knowledge, fear of drug interactions and fear of toxic side effects have been blamed; ultimately it comes back to a lack of good clinical trials in this specific population resulting in a lack of good evidence-based treatment plans.

Since the first antidepressants were discovered in the 1950's, several new "cleaner" drugs have been developed with fewer side effects and faster onset of action. Unfortunately, the cancer population has largely been left behind during most of these new developments and very few of these drugs have been tested in

the cancer population. (64) This is mainly due to the difficulties in obtaining ethical approval, logistical issues and difficulties with drug interactions in this highly treated population. (65)

Gatekeeping by ethical committees trying to protect this vulnerable population against intrusive study measures is usually the first obstacle to overcome.

Followed by further resistance from physicians and caregivers for the same reason resulting in low recruitment numbers. Furthermore, poor performance status, multiple symptomatology and poly-pharmacology will further reduce the number of eligible patients. (66) Finally, high drop out numbers due to physical and cognitive decline as well as death often leads to underpowered trials.

The few studies that have been done so far; have small sample sizes, methodological shortcomings and unfortunately high withdrawal rates, (67) resulting in a significant lack of evidence-based medicine.

This should however not prevent doctors from treating a debilitating disease.

As suggested by Berard, in the absence of clinical trial data, experience in the general population should lead decision-making. (68)

With increased awareness of the burden and importance of depression, several expert working groups have been appointed to study the literature and write guidelines to assist with the management of depression as well as anxiety and psychological distress in general.

## **1.8 CURRENT INTERNATIONAL GUIDELINES:**

Europe, America, Canada and Australia have published guidelines on psychological distress and depression in particular. (52,69-71)

The general consensus in these guidelines can be summed up as follows:

- Health care practitioners need to first identify the resources for treating depression and anxiety that is available to them.
- They need to be aware of the preferred pathway for the care of these individuals.
- The importance of screening  
All patients should be screened for depression during their first visit and again at regular intervals or as clinically indicated. The Canadian Association of Psychosocial Oncology identified the start and end of treatment, recurrence or progression of the disease, nearing death and during times of family crisis as important times to rescreen.
- A validated and reliable screening tool should be used.
- Health care practitioners should be able to identify high-risk patient
- Patients who are identified as at risk during the screening should then undergo a further diagnostic evaluation to identify the full extent of their disease.
- Medical causes of depression should be identified and treated.
- Trained professionals should initiate pharmacological and non-pharmacological interventions.
- Patients should be followed up to assess compliance and success of treatment.
- If no improvement after 8 weeks, treatment should be altered or patient should be referred to a psychiatrist.
- The guidelines do not recommend any specific drug – treatment should be individualized.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 LITERATURE SEARCH**

A literature search was done to explore this subject. The search was limited to published works in the English language. A Boolean search was done through Google Scholar, Medline and Pubmed using the phrases “oncologist, manage, depression, late-stage cancer”

Since no studies were found focussing on oncologists' management of depression in end-stage or late-stage cancer-specific, the search was broadened to include all cancer patients regardless of the stage of cancer.

After identifying appropriate articles, their bibliographies were then searched to identify other relevant articles.

A few studies were found focusing on the management of depression in the cancer population by nurses and social workers. Those that had no physician involved were excluded.

The literature clearly reveals an increased awareness of the importance of delivering quality care to patients with quality of life and good symptom control being as important as curative treatment. This increased focus on quality of life also includes psycho-oncology and the many debilitating effects of depression and anxiety on the cancer patients. International studies have highlighted the negative impact of depression on the cancer patient and the importance of making a diagnosis.

Researchers showed that health care providers struggle to accurately recognize and diagnose depression in this already symptom-burdened population.

As a result, guidelines recognize the importance of screening for depression and psychological distress.

Studying the literature, however, shows a lack of consensus regarding the best screening instrument, but agrees on the fact that screening without treatment is futile.

Finally, the literature review looks at how oncologists manage depression revealing some of the current shortcomings.



## **2.2 The impact of depression on the cancer patient:**

### *Independent predictor of early death:*

Lloyd-Williams et al(43) found depression to be an independent predictor of early death in a study amongst advanced cancer patients. The study sample was taken from patients referred to a hospice-based palliative care day service. Eighty-seven patients were successfully enrolled. Participants completed the 10 item Edinburgh Depression Scale (EDS) and 7 item verbal rating scale at the time of recruitment and again at four and eight weeks thereafter. Patients scoring above 13 points on the EDS were classified as EDS cases. The EDS had previously shown a specificity of 81% and sensitivity of 79% as a screening tool for depression in the palliative cancer population. (72) Between 28 and 29% of patients were classified as being depressed during the course of the study. Non-depressed cases had significantly higher survival rates throughout the study period compared to the depressed patients using a Logrank test. An increase of one point on the EDS score raised the risk of death by 7%.

But not only does depression raise the risk of death as reported by Lloyd-Williams et al, equally important is the fact that studies unveiled depression to be the cause for a desire for early death (DED).

### *Increased request for euthanasia*

With increased public awareness and interest in euthanasia and physician-assisted death, studies by Breitbart(35) and Chochinov (73) have explored and identified factors linked to a desire for early death in the terminal cancer population. Studies by Mystakidou and Wilson consistently reported a significant correlation between depression and DED while pain –which often gets the most attention, failed to show the same consistent influence on the desire for death. (74,75)

A longitudinal observational study by O'Mahony et al. (76) explores the desire for hastened death in 131 terminal cancer patients from an outpatient palliative care center as well as inpatient hospital unit. Experiencing daily pain greater than 3 on the Brief Pain Inventory (BPI) was one of the inclusion criteria.

Besides socio-demographic details and health status information, pain (scored on a BPI scale), depression (scored on a Revised Beck Depression Inventory-II), anxiety (scored on Spielberger State-Trait Anxiety Inventory (STAI), perceived social support, and spiritual well being were documented and compared to a Desire for Early Death (DED).

O'Mahony et al. found a strong association between high DED scores and higher depression scores with an improvement in depression scores leading to a significant improvement of the DED scores. On the other hand, although pain scores improved significantly on follow-up, DED scores did not improve accordingly.

O'Mahony et al. also noted that 60% of patients classified as having moderate to severe depression were not using antidepressants – again confirming the fact that depression often goes untreated in this population

Although this study had only a very small number of patients, it still managed to prove that depression does improve with medication. It also established not only the fact that depression can cause a desire for hastened death, but that treating the depression does improve that desire, clearly showing a causality or directionality.

#### *Reduced quality of life:*

Mystakidou et al. (33) studied the correlation between psychological morbidities and quality of life in cancer patients. Psychological morbidity was evaluated with a self-assessment mood scale – the Hospital Anxiety and Depression (HAD) Scale that has been validated for detecting depression and anxiety in the medically ill population (77) while the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire version 3.0 was used to score Quality of Life. The study examined 120 advanced cancer patients attending a Palliative care and Pain Relieve Unit and revealed a statistically significant relationship between anxiety, depression and quality of life. Using both univariate and multiple regression analysis, depression was found to influence emotional functioning, social functioning and global quality of life.

These findings were confirmed by the Indiana Cancer Pain and Depression (INCPAD) study. (78,79) Adult oncology patients who met criteria for clinical depression or pain were eligible to enroll into the study. The study explored how pain and depression correlated with health-related Quality of Life using a different method of diagnosing depression and a different method of calculating quality of life than those used by Mystakidou et al.(33)

The Patient Health Questionnaire 9-item depression score was used to establish a diagnosis of depression where after the Hopkins Symptom Checklist 20-item was used to assess severity. Pain was scored on the Brief Pain Inventory and the 7-item Generalized Anxiety Disorder score was used to evaluate anxiety.

Quality of life was assessed using seven different scales focussing on the physical and mental components as well as general health perception, functional status and quality of life.

The results again confirmed a strong association between depression and overall Quality of Life as well as a self-reported general perception of health, vitality, Sheehan's disability index and the total disability days in the past 4 weeks.

This study investigated health care usage in the previous three months. Since the inclusion criteria for this study was cancer patients suffering from moderate to severe pain and, or moderate to severe depression, it was not surprising that most of them attended an outpatient consultation during the last three months. A quarter of patients had more than 10 visits to outpatient clinics and 38% needed hospitalization during that time period again highlighting the increased burden on the health care system as previously discussed in the introduction.

More than 80% of the patients reported as having moderate or severe depression had not seen any mental health professional during the previous three months. Therefore we can conclude that the patient's oncologist will be the de facto manager of his depression and pain, bringing us back to the responsibility resting on the oncologist to recognize and manage depression.

### **2.3 Oncologists' ability to recognize depressive symptoms**

Studying 28 oncologists and their 201 advanced oncology patients, Gouveia et al. (80) clearly established that oncologists struggle to accurately identify depressive symptoms in their patients. Patients and doctors were asked to separately score patients' depressive symptoms using a short form of the Beck Depression Inventory (BDI-SF) as well as rate each patient on a Distress Thermometer.

Doctors were able to recognize symptoms like sadness, dissatisfaction, negative body image and pessimism but struggled to pick up on guilt and feelings of failure and self-dislike.

Doctors reporting better relationship quality and compassionate care, were more accurate in their assessment. Gouveia et al. concluded that these data clearly illustrate the importance of the routine use of screening tools and the value of enhancing oncologists' relational and communication skills.

Passik et al. (81) have reported similar results in a much larger study. 1109 patients and 12 oncologists were entered into the study. Patients were asked to complete the Zung Self-Rating Depression Scale before their consultation with the oncologist. Physicians completed the same scale after the patient visit. Taking into account that physicians knew patients were being evaluated for depression and that their ability to identify any sign of depression in their patients during the time of the consultation would have been maximized, their failure to identify more than half of those patients classified as moderate to severely depressed according to the ZSDS is alarming. Passik also promotes the use of a screening instrument and mentions that it will also have the added benefit of facilitating conversation.

## **2.4 Screening for depression in cancer patients:**

Although all the literature promotes the use of a screening instrument, there is no consensus regarding which instrument should be used.

Although several tools have been validated for use in both cancer and the palliative care setting there remains paucity of agreement on which would be the best. (82)

Concerned that the heavy physical symptom burden normally carried by the cancer patient might cause “over-diagnosing” of depression, some authors have suggested removing the somatic symptoms (loss of energy, weight loss or gain, insomnia or hypersomnia) from the screening tools. (1) Endicott suggested substituting the somatic with other symptoms for instance tearfulness. (54,83)

Even national guidelines have not come to an agreement regarding the most suitable tool.

The ASCO's 2014 guidelines (69) (67) (67) promote using the Patient Health Questionnaire with a sum-scoring method while the European Palliative Care Research Steering Committee(52) recommended the Hospital Anxiety and Depression Scale since it excludes the somatic symptoms.

Lie et al explored the effect of three different scoring methods on the screening process (83) Using the Patient Health Questionnaire (PHQ-9), they asked patients to quantify the frequency at which they were being affected by these symptoms during the past two weeks. Data were then analyzed using an inclusive, an exclusive method and a sum-scoring method.

Lie et al.'s results were consistent with those of Chochinov(51) -again confirming that the inclusion or exclusion of the somatic symptoms seems to have very little effect on the detection of depression. Comparing the inclusive and exclusive method showed excellent agreement. The sum-scoring method however incorrectly classified 31% of patients as falsely positive and seems to be more influenced by somatic disease load, casting some doubt on its suitability in a population with a very high somatic disease burden.

Mitchell et al. (84) conducted a meta-analysis of validation studies of screening tools specific for the cancer population. Studies had to be independently validated against the DSM criteria of the American Psychiatric Association to be included. They identified 8 tools that had two or more independent validity studies. This included one and two stem questions, The Hospital Anxiety and Depression (HAD) scale (three variants) the Beck Depression Inventory version two (BDI-II), The Edinburgh Postnatal Depression Scale (EPDS) and the Distress Thermometer (DT) The General Health Questionnaire and Patient Health Questionnaire were evaluated but lacked sufficient validation.

Tools were separately evaluated for their suitability in the non-palliative care population, the advanced cancer population and the all-cancer population. The two-stem question showed a 95% sensitivity and 91% specificity in the advanced cancer population. Due to its timesaving capacity and availability at no extra cost to the physician, it was highly acceptable, making it the optimal single tool for this population according to Mitchell et al.

Even though no agreement has been reached regarding the best tool, most guidelines recognize the importance of screening (52,69,71) and since 2015 having a screening program for psychosocial distress, became a prerequisite for accreditation of cancer centers in America and Canada. (85)

There are currently no South African guidelines directing oncologist regarding screening or management of depression in the cancer population.

Berard et al. (29) Studied 456 cancer patients attending an outpatient oncology clinic in Groote Schuur hospital to assess the prevalence of depression and to initiate the development of a suitable screening instrument validated in this population. This understaffed outpatient unit sees about 2700 – 2800 patients per month making it a realistic environment to test a screening tool's suitability for the South African healthcare setup. Patients were asked to complete the Hospital Anxiety and Depression Scale (HADS) while sitting in the waiting room. The HADS is a brief self-assessment scale, designed for use in the physical ill population.

Of those patients, 245 were then asked to also complete the Beck Depression Inventory (BDI) scale. A sub-sample of 100 patients was then assessed using a structured psychiatric interview in order to validate the two self-assessment scales.

Berard et al. reported both the HADS and the BDI to be efficient screening tools for identifying depressive symptoms in these patients. Using both scales together as one assessment tool, further maximized their sensitivity.

Berard et al noted a greater need for assistance with completing questionnaires in this South African population than previously reported by other authors.

Finally, Berard et al state their trial stand as proof to show that screening can be implemented cost-effectively in the South African setup even with limited resources.

## **2.5 Management of depression in cancer**

Depressive disorders are known to be treatable in the general population using a combination of psychotherapy and pharmacology. (55)

Rayner et al. also established that treating depression in the physically ill would reduce their symptom load. (60)

And although several systematic reviews have been done in the past by Walker and Li et al, –the reports provided limited evidence to guide physicians in the management of depression. (62,64)

A more recent systematic review by Li et al. looked at randomized controlled trials of collaborative care for depression in cancer patients published between 2005 and 2015. (86)

Exploring both psychological and pharmacological interventions published within the last 10 years, Li found only two eligible pharmacological and nine psychological randomized controlled trials – again highlighting the lack of new data on this important topic.

According to Li et al, to date, only six placebo-controlled, randomized controlled trials were published on depression in the cancer population. (87) These trials explored fluoxetine, paroxetine, desipramine and mianserin with mianserin being the only one showing a statistical superiority compared to placebo. While studies on the second-generation antidepressants have been done, they were open-label, case series reducing their value in directing our future care.

According to Li et al. the psychological intervention trials did report short-term effectiveness compared to the control arm, but failed to show the same benefits at follow up assessments.

But while these trials failed to show significant benefit to these patients, the collaborative care intervention trial by Strong and Walker et al.'s results looked very promising, reporting a significant benefit lasting up to 12 months after the invention. (88,89) In these trials, patients were managed with intensive, systematic interventions by well-trained teams, carefully supervised by psychiatry specialists. Pharmacological agents used in these trials were mainly second-generation antidepressants.

Li et al. concluded that even though there remains lack of agreement in the literature regarding the superiority of any specific treatment, the collaborative care models look promising. Integrating this multidisciplinary approach should be further studied to further strengthen the evidence and direct future care. These findings were confirmed by Li et al.'s meta-analysis of newer collaborative care interventions in 2017. (87)



## **2.6 Benefit of well-managed depression in the cancer population**

According to Li et al., the more recently published collaborative care studies have consistently reported positive outcomes in the depressed cancer population.

(86)

Collaborative care consists of a combination of pharmacological and psychosocial interventions delivered by a well-trained team of health carers and supervised by a psychiatric specialist.

Sharpe et al.'s multicentre, randomized controlled trial in the UK studied the outcome of collaborative care in cancer patients diagnosed with major depression using the inclusive approach.

This study showed a significant reduction in depression severity after 24 weeks of treatment.

The collaborative care group also reported a significant reduction in anxiety, fatigue and pain with an overall improvement in their quality of life. These improvements persisted until the end of the final follow up at 48 weeks.

Unfortunately, this trial again did not establish superiority in any specific intervention.

The generalizability of the trial could also be limited by its location in one individual health care system and its lack of diversity within the sample.

Since the sample consisted of mainly women on adjuvant treatment or follow up its applicability in the advanced cancer population might be questioned, however, a similar trial by Walker et al. managed to show the same positive results with decreased depression levels and increased quality of life in a poor prognosis group of patients with lung cancer. (90)

Studying 142 participants from three cancer centers in the UK, Walker et al reported a clinically significant improvement in depression rating on the SCL-20 questionnaire for those patients allocated to the collaborative care treatment arm. This study, however, did not show the same clinical significant improvement in fatigue, pain and physical functioning. Walker et al. argue that an improvement in this area could be masked by the simultaneous progression of their cancer and its symptoms.

## **2.7 Oncologists' management of depression**

Muriel et al conducted a large study in America investigating oncologists' awareness of the National Comprehensive Cancer Network (NCCN) Supportive Care Guidelines. (91)The study focused on three factors applicable to this study namely – 1) the oncologists' perceived prevalence of psychological distress; 2) screening practices and; 3) management of psychological distress. In the case of management, they explored both the availability of mental health resources as well a pharmacological management.

An online questionnaire containing 21 questions covering the above-mentioned topics were sent to 1000 oncologists randomly selected from the American Society of Clinical Oncology. The oncologist estimated that 72% of their patient experienced psychosocial distress while 38% of their patients were significantly enough distressed to warrant treatment. When asked about screening, 66% of the participants reported doing routine screening in their practice, although only 14 % used a screening instrument. The data showed that routine screening was associated with higher observed rates of psychological distress and female oncologists were more likely to screen patients. Lack of referral resources, lack of time and the perception that patients will be unwilling to discuss psychological distress were reported as barriers to screening. When managing these cases, 99% of the participants would refer patients to psychosocial services or start treatment. The study found that 47% would refer only, 48% would refer and start treatment while 3% would not refer but start treatment. When referring patients, the most commonly used services would be support groups, social worker (64%) and psychologist (54%) 50% of the oncologists had no mental health services affiliated with them and reported low rates of referrals. When starting antidepressants, Selective serotonin reuptake inhibitors were mostly used – prescribed by 89% of the oncologists while benzodiazepines were prescribed by 69% and tricyclics by 29%.

The authors concluded that this study highlights two major areas.

Firstly, that oncologists need to be able to recognize psychological distress in order to initiate treatment.

Secondly, the importance of the availability of mental health care services.

The study has a few limitations. Self-report can lead to overestimation of awareness as well as screening practices. Psychological distress is an umbrella term covering a vast area from minor emotional distress to severe major depression or anxiety. Focussing on a specific psychological diagnosis would be more valuable and enable us to make better future recommendations. Also by getting an isolated opinion from the physician, we miss the complexity and beauty of the care given by a multidisciplinary team.

A study by Absolom et al. highlighted the different roles played by the medical team. (92) Absolom interviewed 23 healthcare professionals from the main cancer center in Leeds and the general associated district hospitals. Their aim was to evaluate the views of health-care professionals on the detection and management of emotional distress in cancer patients. The interview covered the roles and responsibilities of the caregivers in detecting distress, the use of screening tools, access to mental health resources, barriers to management of psychological distress and their views on receiving further training specific to recognizing and managing emotional distress. The study found that although all the participants accepted responsibility for detecting psychological distress, the surgeons and oncologists did not see it as part of their day-to-day role. They prioritized the cancer treatment and did not routinely explore emotional distress when talking with patients. The nursing staff, in general, were much more comfortable in exploring psychosocial issues. This clearly demonstrates the value of the multidisciplinary team.

All of the participants had limited experience with screening tools and expressed their reservations regarding its routine use in clinical practice. They felt uncertain about the efficacy and value as well as the practical logistics of implementing it in their practice.

Time constraints and poor access to mental health resources were identified as barriers to caring for the emotionally distressed patient. Although some reported excellent communication with mental health services and even routine psych-oncology meetings, resulting in direct and quick referrals others reported a lack of guidance on referral pathways with no liaising between the different disciplines. The professionals, in general, agreed that they lacked the skills to

detect and manage psychological distress and felt that additional training focussing on emotional distress would be beneficial.

This study clearly showed that although all professionals agreed upon the importance of recognizing emotional distress, the surgeons and oncologists did not see it as part of their role and rather focused on the cancer treatment. The other important finding was the lack of available mental health resources and referral pathways.

The study also revealed the lack of routine screening as well as the use of a recognized screening tool.

The authors acknowledge that the sample was taken from one geographic area in the UK – therefore limiting the generalizability of the findings. Also as with the previous study, the authors used an umbrella term – emotional distress- making it difficult to draw conclusions specific to depression.

By using the semi-structured interview, the participants were able to voice their concerns and their reservations about screening tools. This is important to recognize since guidelines will not be followed as long as the health care professionals do not see the value or trust their efficacy. Further studies need to be done to evaluate the acceptance of these guidelines by the practicing oncology community. Although this study did not specifically focus on the oncologist's management of emotional distress, the interview format revealed their general attitude regarding the detection of emotional distress. The oncologists in this study relied heavily on their clinical nurse specialists to recognize distress. Because of the small sample (8 oncologists), one must be careful to generalize this finding, however, this highlights the fact that oncologists might not be the best at recognizing emotional distress.

A study by Lawrie et al investigated how palliative care physicians assess and manage depression. (93) The majority of study participants (73%) routinely assessed their patients for depression although only 50% used a screening tool. The Hospital Anxiety and Depression Scale was the most commonly used (27%) while 10% used the single question: "Are you depressed?" The Edinburg Depression Scale was used by 7% of participants. The symptoms they valued the

most were low mood (78%), hopelessness (56%), worthlessness (50%) and loss of energy (42%)

When managing depression 47% struggled to obtain psychiatric input. The physicians reported their prescribing habits as follows: Selective serotonin reuptake inhibitors were the most commonly used (75%) while 25% prescribed tricyclic antidepressants. Psycho-stimulants were prescribed by 6% and St John's wort by 3%

Even though the participants were all senior palliative care doctors, 61% found assessments difficult while 33% found prescribing drugs difficult. This study again revealed that very few physicians routinely use a screening tool despite guidelines advocating it. The authors concluded that since almost 50% of the participants struggled to obtain psychiatric input, it would be most beneficial for people working in palliative care to receive training in the assessment and management of depression.

As with the previous studies, participation was voluntary thus resulting in a biased population who most likely had a specific interest and were possibly more knowledgeable than most. The self-reporting type of methodology also leads to possibly a more favourable picture than we might find in reality.

## **2.8 In Summary**

These studies clearly demonstrate that physicians in the United States, as well as the UK, struggle with assessing and managing depression in the cancer populations. They identified a lack of screening, inadequate training and a shortage of referral facilities as the main problems to address in the future. One of the studies highlighted the importance of the different team players in picking up on depressive symptoms – advocating the multidisciplinary team's effectiveness.

Because of South Africa's limited resources, patients seldom have access to mental health services, multidisciplinary teams are not currently a reality in all locations and cancer patients will have to rely on their treating oncologist to pick up on and manage their depression.

## **2.9 RATIONALE FOR THE STUDY**

The introduction and literature review clearly shows the importance of addressing depression in oncology patients. Depression's negative impact on the physical as well as the psychosocial well-being of the patient has been well documented and clearly adds to their suffering. The literature also shows that managing depression resulted in improved quality of life.

While international centers are using multidisciplinary teams to integrate psychosocial care into cancer centers, the limited resource in South Africa will not permit recruiting additional staff.

Medical staff with special attention to the current primary caregivers - the South African oncologist- need to be empowered.

There have been few previous studies focussing on oncologists' management of depression in South Africa.

This study will serve to both focus some attention onto this important subject and gain insight into the current situation in South Africa in order to identify possible learning opportunities and make future recommendations.

## **2.10 AIM AND OBJECTIVES**

### **AIM:**

The aim of this study is to explore how South African radiation oncologists manage depression in patients with late-stage cancer.

### **Objectives:**

1. To determine how radiation oncologists assess for depression in the cancer patient with specific attention to the use of validated screening tools.
2. To explore these oncologists' attitudes regarding the importance of depression.
3. To identify current pharmacological and no-pharmacological management of depression in cancer patients.
4. To identify the mental health resources currently available to these oncologists.

## **CHAPTER 3: METHODOLOGY**

### **3.1 Study design**

This is a cross-sectional descriptive-analytic study.

### **3.2 Site**

The study was not confined to a specific site. Surveys were sent out to radiation oncologists registered in South Africa.

### **3.3 Study population**

All registered radiation oncologists in South Africa.

### **3.4 Data collection**

#### **3.4.1 Tool**

A self-reported on-line questionnaire was used to collect all data.

The questionnaire contained a total of 14 questions – both open-ended and closed questions.

#### **3.4.2 Development of Tool**

This questionnaire was developed through the following process:

- Identifying the issues related to depression in patients with cancer through own experience in working with late-stage cancer patients.
- Literature reviews. A similar questionnaire was identified from a study done in the United States in 2015 (27) as well as a UK based study done amongst palliative care physicians. (93)
- Discussion with colleagues and study supervisor.

Survey Monkey® (a commercially available tool for online surveys) was used to construct the online survey.

A pilot study was then done amongst 5 oncologists working in a private practice.

An email containing a link to the specific questionnaire on Survey Monkey was forwarded to them. They were asked to give feedback on the time it took to complete the questionnaire as well as on any unclear or ambiguous questions. Feedback from this pilot study was used to test content validity. The pilot study did not reveal any major problems, therefore, no further pilot studies were needed and the final questionnaire was uploaded onto Survey Monkey®.

### 3.4.3 Data collection process:

#### Recruitment and procedure:

A list of radiation oncologists currently registered with the Health Professionals Council of South Africa was downloaded from their website. The list contained 220 names.

Neither the Health Professionals' Council nor SASCO was willing to supply contact details for the oncologists, so a manual Internet search was done for each name on the list.

Five of the oncologists were not working in South Africa at the time and were excluded from the study.

For 63 of the names, no reachable contact details could be found and they were excluded from the study.

Emails were sent out to the remaining 152 names. Of these 13 emails were reported as undelivered.

Confirmation of delivery was received for 139 emails, but no confirmation as to whether it has been read was received.

One hundred and thirty nine was used as the number for the sample population.

Emails contained an introduction letter, explaining the purpose of the study as well as an explanation that the study will be anonymous and voluntarily and participation in the survey will be construed as providing consent.

Those interested had to follow a direct link taking them to the online questionnaire. All data were captured anonymously but doctors were asked



demographic details such as gender, age category, years in practice and current workplace.

A follow-up email requesting their participation was sent out 3 weeks later.

Since data was captured anonymously, non-responders could not be identified.

### **3.5 Data storage and confidentiality:**

E-mail addresses were stored on a password-protected private computer.

Responses were captured anonymously. Study data were password protected.

### **3.6 Data analysis:**

Primary data analysis was done using Survey monkey's software. Further statistical analysis was done using IBM SPSS Statistics 24 (IBM Corporation, Armonk, NY, USA)

The relationship between independent variables (gender, age, current practice setting and years in practice) and dependable variables were studied as follows  
-QUESTION 6 - In your current practice: What percentage of your advance stage patients is depressed? - Please give estimation:

Since the international literature reports depression rates in the cancer population to be between 5 and 50% and a South African study reported rates of 14% in an outpatient oncology clinic, we categorized rates under 9% as "under-diagnosing" and rates over 60% as "over-diagnosing"

A Fischer's Exact test was used to study the relationship between oncologists who under-diagnosed or over-diagnosed and the independent variables.

-Question 7- what would normally alert you to the possibility of depression in your patient?

Oncologist's first choice was cross-tabulated with question 6 to explore whether depending on a specific red flag or screening tool lead to higher or lower number of estimated depression rates. Using a Chi-Square Test to search for an association.

-Question 12-

A Cross tabulation between those oncologists who think they are good at diagnosing and managing depression and age groups was done.

A Fischer's Exact test was conducted showing a statistically significant association.

-Question 17 - Do you have any recommendations to improve the management of depression in our late-stage cancer population?

Due to the small number of respondent for this question, content analysis was done from which themes were identified.

### **3.7 Ethical consideration:**

The ethical proposal received approval from the Faculty of Health Sciences Human Research Ethics Committee of the University of Cape Town.

Reference number: HREC REF 595/2016

There were no ethical considerations with respect to vulnerabilities of the study group.

Consent was explained in the document accompanying the questionnaire and then implied through completion of the survey.

## CHAPTER 4: RESULTS

### 4.1 Demographics:

E-mails were sent to 139 potential participants who are all radiation oncologists practicing in South Africa. Thirty-four physicians responded giving a response rate of 24%. Demographic data are summarized in Figure 1.

There were an equal number of male (n=17) and female (n-17) participants.

The distribution of the age categories was fairly equal with most of the participants in the 50 to 59 categories and 91% of them have been practicing for more than 5 years.

85% of the doctors were in private practice at the time.

**Figure 1:**

#### Characteristics of Respondent

CHARACTERISTICS	n	%
<b>Gender</b>	34	
Male	17	50%
Female	17	50%
<b>Age</b>		
28 – 39 years	10	29.41
40 – 49 years	9	26.47
50 – 59 years	13	38.24
60 – 69 years	2	5.88
<b>Current practice setting</b>		
Private practice	29	85.29
Government	6	17.65
<b>Years practicing in oncology</b>		
<5 years	3	8.82
5 – 9 years	9	26.47
10 – 19 years	10	29.41
20 years or more	12	35.29

The majority of our participants were treating patients with a variety of different cancers. Four doctors were mainly treating patients with breast cancer and one doctor was seeing mostly patients with head and neck cancers.

#### 4.2 The incidence of depression in their practice:

The aim of this study was not to investigate the true incidence of depression in oncology practices, but rather to explore how common oncologists thought it was.

Doctors were asked to estimate the incidence of depression in their late stage cancer patients.

The data is summed up in Figure 2

**Figure 2:**

#### **Estimation of incidence of depression (late stage cancer)**

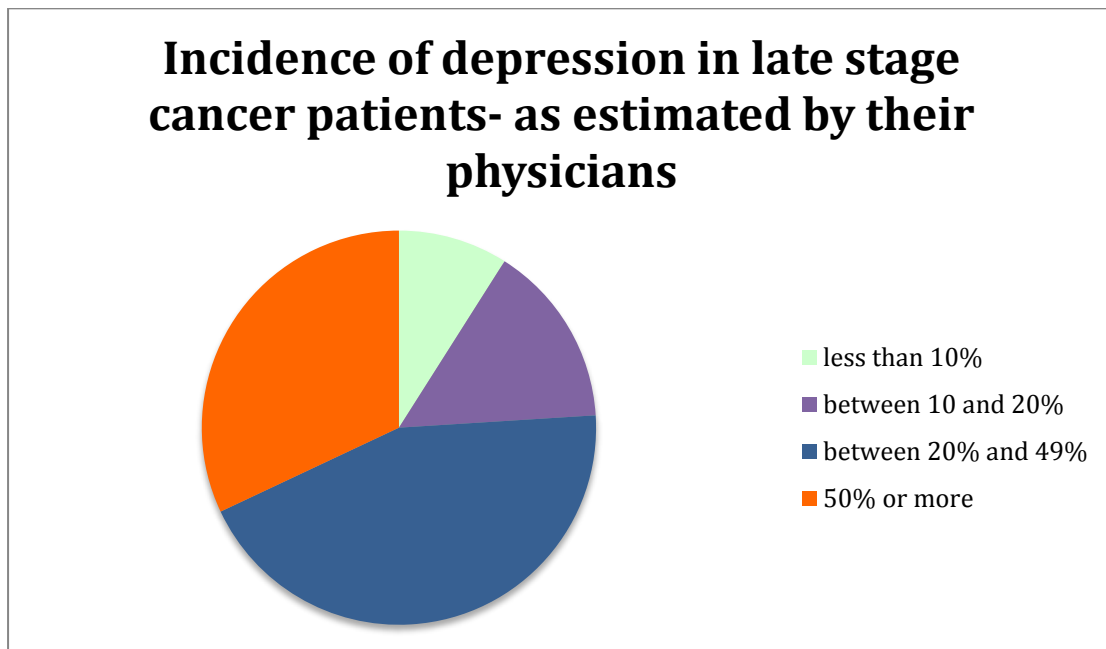
Percentage of patients with depression

Answer Choices	Responses
< 5%	2.94% 1
5 - 9%	5.88% 2
10 - 19%	14.71% 5
20 - 29%	14.71% 5
30 - 39%	20.59% 7
40 - 49%	8.82% 3
50 - 59%	11.76% 4
>60%	20.59% 7

Thirty-one doctors reported depression rates of more than 10%. Of these respondents, seven thought that more than 60% of their late-stage cancer patients were depressed.

Breaking down these numbers revealed that according to 11 doctors more than half of their late-stage cancer patients were depressed.

**Figure 3: Physicians estimation of the incidence of depression:**



Assuming expected rates to be between 10 and 50% according to the literature, the respondents were then divided into three subcategories. Those giving estimated ratings between 10% and 50% were categorized as “normal ratings”, less than 10% as being “under rated” and more than 50% as being “Over rated”. A Fisher’s Exact test showed a statistically significant association ( $p = 0.027$  and Cramer’s  $V = 0.701$ ) between these groups and the age of the oncologist. The oncologist falling into the “underrating” category were more likely to be older than 50 years old while the “overrated” were more likely to be younger than 50.

### 4.3 Recognizing depression:

When asked about how depression presents in their practice, 12 doctors (35%) indicated that they routinely screen for depression in their practice. Verbal cues from the patient were the second most common way depression would be recognized – being the first choice for 32% of the doctors and observing patients' mood was the first choice for 20% of the participants. Only one doctor chose physical symptoms as the main red flag that would alert him to possible depression.

Cross-tabulating the over-rated and under-rated with the different ways of recognizing depression did not show any statistically significant relationship. These figures are summarized in Figure 4

**Figure 4: What would alert doctors to possible depression in a patient?**

Rating the statements from 1 (most common) to 5 (least common)

	1	2	3	4	5
<b>We routinely screen all patients at diagnosis</b>	35.29% 12	8.82% 3	0.00% 0	5.88% 2	50.00% 17
<b>Verbal cues from the patient</b>	32.35% 11	26.47% 9	20.59% 7	20.59% 7	0.00% 0
<b>Verbal cues from the family</b>	8.82% 3	38.24% 13	35.29% 12	2.94% 1	14.71% 5
<b>Observing patient's mood</b>	20.59% 7	20.59% 7	29.41% 10	26.47% 9	2.94% 1
<b>Physical symptoms</b>	2.94% 1	5.88% 2	14.71% 5	44.12% 15	32.35% 11

#### 4.4 Regular screening:

All the international guidelines recommend screening at the time of diagnosis and at regular intervals thereafter. Using a validated screening tool is highly recommended. Giving a list of 11 recognized screening methods, participants were asked to rate them according to how familiar they were with them and whether they have ever used them. The results are summarized in Figure 5

**Figure 5: Knowledge and usage of international screening tools**

	Have never heard of it	Know about it, never used	Have used	Often used	Used as routine screening tool for all patients
Beck Depression Inventory(BDI)	79.41% 27	14.71% 5	5.88% 2	0.00% 0	0.00% 0
Brief symptom inventory-18(BSI-18)	70.59% 24	14.71% 5	8.82% 3	5.88% 2	0.00% 0
Center for Epidemiological Studies Depression(CES-D)	79.41% 27	17.65% 6	2.94% 1	0.00% 0	0.00% 0
Centre for Epidemiological Studies Depression short form(CES-D-SF)	76.47% 26	17.65% 6	5.88% 2	0.00% 0	0.00% 0
Edinburgh Postnatal Depression Scale	73.53% 25	26.47% 9	0.00% 0	0.00% 0	0.00% 0
Brief Edinburgh Depression Scale	73.53% 25	20.59% 7	5.88% 2	0.00% 0	0.00% 0
Hamilton Rating Scale for Depression (HAM-D)	73.53% 25	17.65% 6	8.82% 3	0.00% 0	0.00% 0
Hospital Anxiety and Depression Scale(HADS)	55.88% 19	26.47% 9	11.76% 4	2.94% 1	2.94% 1
Mood thermometer	33.33% 11	27.27% 9	15.15% 5	9.09% 3	15.15% 5
Patient Health Questionnaire for Depression(PHC-9)	47.06% 16	38.24% 13	14.71% 5	0.00% 0	0.00% 0
Single question: "Do you feel depressed"	9.09% 3	3.03% 1	27.27% 9	45.45% 15	15.15% 5

One participant indicated using the HADS as a regular screening tool, while 5 doctors regularly used the mood thermometer and 5 used the single question: “Are you depressed” The only other tool reported as being used regularly, was the BSI-18 (by 2 participants)

Looking at the participants working in the government hospital, none of these tools were used for routine screening. One doctor indicated doing routine screening in the government hospital but no routine screening tool chosen. 66% would often use the single question tool. 50% of them indicated that they would like to do routine screening while one oncologist thought it was a good idea but not practical in their current work setting. These figures are summarized in Figure 6.

**Figure 6: Oncologists’ screening practices**

<b>Answer Choices</b>	<b>Private sector</b>	<b>Government sector</b>	<b>All responses</b>
<b>We screen all patients at the time of diagnosis / all new patients</b>	37.93% 11	0.00% 0	32.35% 11
<b>We screen all new patients and at regular intervals thereafter</b>	17.24% 5	16.67% 1	17.65% 6
<b>I would like to implement this in my practice</b>	34.48% 10	50% 3	35.29% 12
<b>It sounds like a good idea, but it will not be possible in my practice</b>	6.90% 2	16.67% 1	8.82% 3
<b>none of the above</b>	3.45% 1	16.67% 1	5.88% 2



#### 4.5 Available mental health resources:

Figure 7 summarizes the resources available to South African patients. Eighty eight percent have access to a social worker and more than half have indicated access to a psychologist or psychiatrist. When looking at the government and private setting individually, all of the physicians in the government sector had access to a social worker and 83% had access to a psychiatrist.

**Figure 7: Available mental health resources:**

Answer Choices	Private Sector	Government	Combined Responses
Social worker	86.21% 25	100.00% 6	88.24% 30
Psychiatric nurse	0.00% 0	0.00% 0	0.00% 0
Psychologist	62.07% 18	66.67% 4	64.71% 22
Psychiatrist	55.17% 16	83.33% 5	58.82% 20

#### 4.6 Managing depression:

After making a diagnosis of depression, physicians referred patients to the social worker (76%), psychologist (44%), psychiatrist 35%, GP (15%) and started antidepressants (76%) as indicated in Figure 8

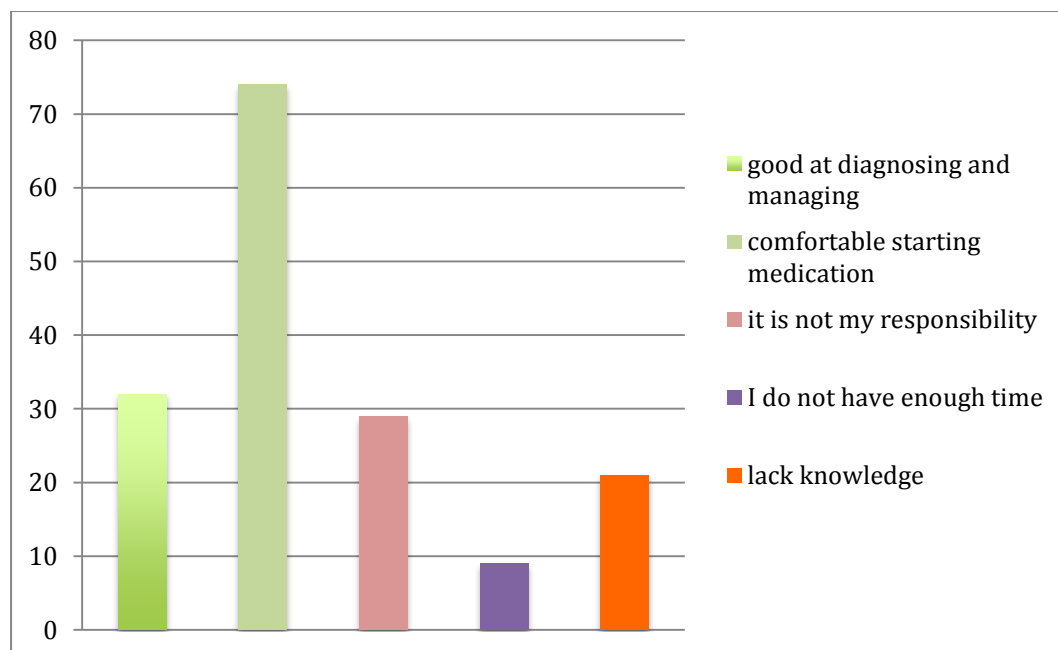
Within the subgroup of participants working in the government setup, 100% reported referring to a Social worker.

**Figure 8: Actions taken after diagnosing depression:**

Answer choices	Private sector (29)	Government sector (6)	Combined response (N=34)
Refer Social Worker	72.41% 21	100.00% 6	76,47% 26
Refer Psychologist	44.83% 13	33.33% 2	44,12% 15
Refer Psychiatrist	31.03% 9	66.67% 4	35,29% 12
Refer GP	17.24% 5	0.00% 0	14,71% 5
Start antidepressants	75.86% 22	66.67% 4	76,47% 26

Figure 9 illustrates that 32% of the participants felt confident in diagnosing and treating depression, while 21% indicated their lack of knowledge in this area. 74% felt confident in starting antidepressants. Only 9% selected "it is not my responsibility to treat depression while 29% indicated that time management was a barrier to managing depression in their patients.

**Figure 9:  
Oncologists' perception of their role and ability in managing depression**



When comparing the private and government sector with regards to this question,(figure 10) of note is that government-employed oncologists all indicated that they feel comfortable prescribing antidepressants and that all of them felt it is part of their responsibility to manage depression in their late stage cancer patients.

**Figure 10: Comparing Private and Government sector:  
Oncologist perception of their role and ability in managing depression**

	Private practice	Government
<b>I am good at diagnosing and managing depression</b>	31.03%	33.33%
<b>I am very comfortable starting anti-depressants</b>	72.41%	66.67%
<b>I do not feel comfortable prescribing antidepressants</b>	10.34%	0.00%
<b>I do not have enough time to manage depression</b>	31.03%	33.33%
<b>It is not my responsibility to manage depression</b>	10.34%	0.00%
<b>I do not feel knowledgeable about treating depression</b>	20.69%	33.33%

#### **4.7 The use of antidepressants:**

Figure 11 shows how many of the late stage cancer patients are using antidepressants – as estimated by the participants.

**Figure 11: Estimated percentage of patients using anti-depressants**

Percentage of patients on Antidepressants	Respondents
< 5%	14.71% 5
5-9%	26.47% 9
10-19%	14.71% 5
20-29%	5.88% 2
30-39%	17.65% 6
40-49%	8.82% 3
>50%	11.76% 4

The question, however, did not stipulate whether the drug was specifically used to treat depression.

Doctors indicated also using antidepressants for peripheral neuropathy, pain management, hot flushes and insomnia.

### Which drugs are used?

As indicated in Figure 12, the most popular drug used by 88% of the participants, was SSRI – also being the drug most recommended in the literature due to its favourable benefit-toxicity ratio.

**Figure 12: Drugs used to treat depression**

Answer Choices	Responses
Benzodiazepine	5.88% 2
Monoamine oxidase inhibitors (MAOI)	0.00% 0
Selective Serotonin and Noradrenaline reuptake inhibitors (SSNRI)	29.41% 10
Selective Serotonin re-uptake inhibitors (SSRI)	88.24% 30
Tricyclic antidepressants	29.41% 10
I do not feel comfortable prescribing anti-depressants	8.82% 3

The participants had to categorize the drugs in order of most likely to use to least likely to use. Figure 13 shows the difference between the government and private practice oncologists' first choice of drugs:

**Figure 13:**

**Oncologists' First Choice of medication when managing depression**

<b>Drugs</b>	<b>Private sector</b>	<b>Government sector</b>
<b>SSRI</b>	<b>93.10%</b> 27	<b>83.33%</b> 5
<b>TSA</b>	<b>3.45%</b> 1	<b>16.67%</b> 1
<b>SSNRI</b>	<b>3.45%</b> 1	<b>0.00%</b> 0
<b>MAOI</b>	<b>0.00%</b> 0	<b>0.00%</b> 0
<b>Benzodiazepine</b>	<b>0.00%</b> 0	<b>0.00%</b> 0

**4.8 Recommendations**

Finally, participants were given the opportunity to give recommendations to improve management of depression in our end-stage cancer patients. Only 13 doctors responded. By grouping these answers in themes, the following themes came to light:

- Raising awareness amongst oncologist regarding the prevalence of depression, the importance of a high degree of suspicion especially in the advance cancer patient and implementing screening into the practices.
- Focus on Psychosocial interventions, including utilizing support groups, improving home-based care and spiritual interventions.
- Multidisciplinary team approach –
- Lack of funding and fear of increased patient numbers that would need to manage if regular screening is implemented were two concerns mentioned.

## CHAPTER 5: DISCUSSION

### ***5.1 Low survey return rates:***

Unfortunately, survey return rates were low (24%) This could in itself be a reflection of the oncologists' indifference towards this subject, or could simply be a reflection of an overworked and understaffed health care system's restricted time. Health care providers are notorious for low survey response rates. Cho et al. reported rates of 38% for online or web-based surveys. (94) They found mail surveys to be more effective than online surveys. Unfortunately, due to the slow and unreliable postal service in South Africa, mail surveys were not a plausible option. Cho et al also found that offering monetary incentives increased the likelihood of getting a response while non-monetary incentives did not significantly improve response rates. No incentives were offered for completing this survey. Cho et al. also reported that one or two follow up attempts were effective in increasing the response rates. This was confirmed by this study. When studying the return times of this survey. The majority of participants responded within a day of the initial survey being sent out. A reminder to complete the survey was sent out three weeks later, resulting in another inflow of responses.

Unfortunately, these low rates do raise concern about the validity and generalizability of the data because of non-response bias.

### ***5.2 The estimated incidence of depression:***

Studies looking at the incidence of depression in cancer patients reported variable numbers ranging between 10 and 50 percent. This wide range of figures can be explained firstly by the diversity of the diagnostic criteria and tools used in the different studies.

Depression can be seen as a continuum of symptoms ranging from subclinical depression to major depression with studies generally including all the depressive disorders and not focussing on major depression alone. The focus of this study was also not confined to major depression alone, but rather a broad diagnosis of depression.

Secondly, the literature has shown variable depression rates between the different cancer sites, stage of cancer as well as patient gender.

According to McDaniel et al. the highest incidence of depression were reported amongst head and neck, pancreatic and breast cancer patients. (95) Although the study attempted to explore this finding, only four doctors indicated seeing mostly a homogeneous group consisting of breast cancer patients and only one doctor saw mainly head and neck cancer patients. The participant who treated mainly head and neck cancer reported unexpectedly low rates of depression (5-9%) compared to rates given in previous studies. (96) However, the fact that this participant reported not using any screening method might have explained these lower than expected rates. Without a larger population, no definite conclusions can be drawn from these figures.

Lastly in the absence of routine screening, the estimated depression rates depend solely on the ability of the clinician to recognize depression. Studies by Gouveia et al. and Passik et al. have convincingly proven that oncologists struggle to accurately identify depressive symptoms in their patients. (80,81)

Looking at this study, the only variable showing a statistically significant relationship with the estimated incidences of depression, was the age of the oncologist with oncologist younger than 50 giving higher estimated depression ratings.

One possible explanation for this can be found in a study on communication by Pollak et al. (97) Younger oncologists were more likely to respond empathically to patients' emotions leading to greater disclosure of sadness. Pollak accounts this to improved communication skills taught in more recent years.

### ***5.3 Recognizing depression:***

The literature is clear about the fact that physicians in general struggle to recognize depression in the medically ill patient. (98)

Studies done amongst the cancer population confirmed those findings and reported that oncologists are not doing any better (80,99,100) In a study done by Hardman et al. only 49% of depressed patient in an inpatient oncology unit were recognized as such by the nurses and doctors. (99) Using a screening tool showed significant benefit in identifying patient in need of further evaluation.

In this study, 35% of clinicians indicated using some sort of screening at the time of diagnosis. This is significantly lower than a similar type of study done amongst oncologists in the United States (101) and palliative care physicians in the UK. (93) According to Pirl et al. 65% of American oncologist screen their patients routinely. This could be due to the fact that screening is one of the key recommendations in the 1999 guidelines on managing psychosocial distress released by the NCCN. (102)

The voluntarily and self-reported nature of the study does cast some doubt on the validity of these figures. Oncologists choosing to participate in a specific study are more likely to have a special interest in that area and therefore likely to be more knowledgeable about the subject, in this case, recommendations regarding screening. Self-reporting might also lead to participants not being truthful and trying to portray themselves and their practices in the best light possible.

Verbal cues from the patient were chosen as the main indicator by 32% of the participants and verbal cues from the family by 9% of the participants.

Unfortunately, the literature reveals that patient often chooses not to disclose these symptoms due to embarrassment or fear that it might divert the focus from treating cancer. (95,103)

Weight changes, fatigue and insomnia are so common in the cancer patient, caused by the disease as well as treatment-related side effects, that both the patient and the family member often accept it as part of the cancer journey. Likewise, a depressed mood and diminished interest or pleasure in activities might be seen as part of the normal grieving process in a person facing a non-curable disease. Patients and family often do not recognize these symptoms for what it is and therefor does not always report it.

A lack of verbal cues from the patients and families might lead to a missed diagnosis if clinicians solely rely on that.

Twenty-one respondents indicated observing patients' mood as their main indicator of depression. Previous studies in this field consistently report on the inability of physicians to accurately assess depression in this way. (80,81,100)



Gouveia et al. found that oncologist-patient agreement on depressive symptoms was low especially for covert ones. (80)

In a study by Hardman et al. only 49% of depressed patient in an inpatient oncology unit were diagnosed as such by the clinician and nurses. (99)

These studies clearly demonstrate the importance of using structured screening instruments since missing the diagnosis of depression in a cancer patient will result in serious impact on their quality of life.

#### ***5.4 Screening:***

The literature consistently reports on the importance of using a screening tool. Since physicians and even patients might ignore the vegetative symptoms like weight loss, fatigue and insomnia, assuming they are merely side effects of the treatment or part of the disease journey, depression in the cancer patient can often be missed. Likewise, the depressed mood and anhedonia can be overlooked as natural sadness. Since a missed diagnosis will lead to non-treatment and a major negative impact on quality of life, identifying depression in a patient should not solely depend on clinician's ability to identify these symptoms. This is why using a recognized screening tool is of such great importance. The value of a screening tool lies in its ability to effectively sample those patients that will need further evaluation and care.

In order to make a definite diagnosis, the full psychiatric interview remains the gold standard.

Screening tools will also improve communication and both patients and physicians can use it as a prompt to open a difficult discussion.

Several of these tools have been designed and tested both in cancer as well as the palliative care population. According to oncologists, the main barrier to successful screening is a lack of time (104) making the ultra-short screening tools more acceptable for use in a busy practice. Mitchell reported on the diagnostic accuracy of ultra-short screening tools and found them to have a sensitivity of 78% with a negative predictive value of 93% for depression. Although these instruments cannot be used to make a definite diagnosis of

depression, their value lies in their ability to be used as first-stage screening tools. (105)

Berard et al. (29) assess the prevalence of depression in a South African outpatient oncology clinic using the Hospital Anxiety and Depression Scale (HADS) and the Beck Depression Inventory (BDI). He reported that although patient did need some assistance in completing these self-report screening scales, the study proofed that a self-assessment approach is possible even in an understaffed exceptionally busy clinic like Groote Schuur Hospital and concluded that psychosocial screening can cost-effectively be implemented in a real world, low-resource healthcare setting like South Africa.

When given a list of eleven tools used internationally for screening purposes, the mood thermometer and the single question “are you depressed” were the two most commonly used by the study participants. As stated by O’Connor, your method needs to be consistent with your practice setting, your patient population as well as your personal preference. (106)

In the South African setting with eleven official languages and where the majority of patients might be unfamiliar with the psychological terminology, the mood thermometer and single question might be most relevant. Both of these have been tested and validated for use in both cancer and palliative care population. (82,84,107,108)

Gessler et al. compared the validity of the mood thermometer against the hospital anxiety and depression scale in a UK oncology and palliative care outpatient clinic and found it to be both valid and acceptable as a rapid screening tool for emotional distress including depression. (108) This was confirmed by Gill et al. in a European study population. (109)

In a meta-analysis of screening tools, Mitchell et al. reported a weighted sensitivity of 64% and specificity of 92,8% for the single question tool. (104)

Up till now, no single tool has proven to be superior and physicians are advised to choose the one that they will be able to practically implement in their current setting. In a systematic review of assessment instruments used in the cancer

population, Vodermaier (82) found that ultra-short instruments like the mood thermometer and single question are inexpensive and has the best chance of being used in a busy clinic setting.

The importance of routine screening, using validated tools, cannot be stressed enough. And even though nursing staff can be taught to do this, involving the frontline clinician to drive this practice, is essential for success.

### ***5.5 Available health resources:***

The literature clearly states that screening on its own without taking any further action is not only futile but could be seen as being unethical. (84) Management of depressed patients might consist of a combination of referral to mental health services, psychosocial interventions and starting antidepressants.

The NCCN, as well as ASCO guidelines, emphasize the importance of identifying mental resource available to each practice.

In this study, all participants reported having some sort of mental health service available to them. These figures compare well to services available to cancer patients in the USA (91) and better than those reported by palliative care physicians in the UK. (93) Unfortunately being available does not always mean being utilized.

When participants had to report on the actions they normally take after diagnosing depression, all of the doctors in the government indicated referring patients to a social worker. Due to the lack of mental health services in South Africa, task-sharing or shifting has been used to improve access to mental health care. This practice where non-specialists provide mental health care have been investigated by Mendenhall et al. and found to be acceptable and feasible in low- and middle-income countries. (110) In the absence of specialist mental health professionals, South African social workers often have to fulfil the role of professional counsellors.

Psychiatric and Psychology services were also very well utilized in this subgroup. The private sector was more likely to refer to social workers than psychiatrist or

psychologist. Whether this would be due to the financial implications for the patient or because of a shortage of available services is unknown. It does, however, seem that these services would be available if a patient should need them. These statistics compare well to those of the USA where 64% of patients were referred to a social worker and 54% were referred to psychiatric services.

### **5.6 Managing depression:**

The literature consistently reports on the lack of clinical trial data in regards to managing depression in the cancer population and more so in the late stage cancer patient.

In the healthy population, guidelines recommend psychosocial interventions for minor depression while moderate and severe depression would need pharmacological management or a combination of both.

### **5.7 Psychosocial interventions:**

When asked about psychological interventions, three percent of the participants doubted its efficacy. Only one participant indicated that she routinely refer patients for non-pharmacological interventions. The literature, however, reports that patients commonly prefer psychosocial interventions above pharmacological interventions. (111) Over the last decade, increased interest in a holistic and comprehensive approach to the management of depression in the cancer patient has led to a large body of literature on the subject. This includes both group and individual therapy. Of the different modalities, cognitive behavioural therapy(CBT), mindfulness, narrative therapy, problem solving and supportive-expressive group therapy has been the most widely studied. Most of these studies, however, have been exploring the effects on depressive symptoms rather than improvement of formally diagnosed depression. Several meta-analyses have reported on the effectiveness of different psychotherapies for depression. Osborn et al. (112) found CBT to be effective in the short-term management of depression while Zhang et al. (113) reported on the efficacy of

mindfulness therapy. Both found depressive symptoms to significantly decrease in the intervention group in the short term. Unfortunately, the positive effect did not last more than 12 weeks.

In a meta-analysis on psychotherapy among advanced, incurable cancer, Okuyama (114) reported a statistically significant improvement in depression symptoms. However, Okuyama mentions that these studies have a low body of evidence due to methodological limitations. So even though several studies have been done on the different psychosocial interventions and have proven effective in the short-term improvement of depressive symptoms, there remains paucity of evidence regarding its long-term benefits and which type of psychotherapy would be superior.

However, clinicians should not overlook these therapies and for those patients who can afford it, it should be offered.

### **5.8 Pharmacological treatment:**

According to the National Collaborating Centre for Mental Health (UK) as well as the Canadian guidelines for mood and anxiety treatments, antidepressants are first-line therapy for moderate to severe depression and should be used in conjunction with psychosocial interventions. (57,58) Unfortunately, as with psychotherapy, there is a huge lack of trial data. There are currently no published studies on the efficacy and tolerability of the newer antidepressant drugs in the late stage cancer population.

According to a Cochrane review done for the Evidence-based European guidelines in managing depression in the palliative care community, antidepressants are more effective than placebo in the physically ill (52) as well as the palliative care population. (61)

Since there is currently no evidence to prove the superiority of any antidepressant in this population, the guidelines advised physicians to become familiar with two or three of the second-generation antidepressants that are more tolerable and effective. When choosing a drug to start treatment, the

patient's co-morbidities, symptom profile and preference should be taken into account as well as the known side effects and interaction of the treatment. (52)

The literature reveals that not only is depression under-diagnosed, even after making a diagnosis, it is often not adequately treated. (115) A study done by Jacob et al. (63) reported that antidepressants were underutilized in patients with cancer and depression compared to patients with depression alone. Our data did show the same trend – with fewer people being on antidepressants than estimated to be depressed.

The respondents reported starting antidepressants in 76% of depressed patients in the private practice and 67% in the government practice. Nine oncologists chose not to start antidepressants after making a diagnosis of depression. All of these doctors, except one, indicated that they do not feel knowledgeable in treating depression. All of them indicated that they would refer their patient to a psychiatrist. Comparing these figures to a similar study done amongst oncologists in the USA shows that South African oncologists are more likely to prescribe medication than their USA colleagues.

USA oncologists reported starting medication in 51% of cases. The only other management option mentioned in this USA study is a referral to psychosocial services. (91) It must be noted however that the USA study did not specifically focus on depression but rather on psychosocial distress, which could explain the lower reported prescription rates.

Seventeen percent of private practice oncologists preferred to also refer their patient to their general practitioner for further management.

Prescribing habits were very much in line with those seen in the USA and UK. SSRI's are clearly the first choice for physicians in all three continents with 89% of USA oncologist, 93% of private South African oncologist and 67 % of South African government oncologist choosing it as one of their commonly used treatment options. This is supported by the literature because of its more favourable benefit-toxicity ratio.

Despite its anticholinergic side effects and risk of overdose, tricyclic antidepressants seem to be a popular choice in the South African government sector with 67% of oncologist reporting it as a commonly used drug for depression. This could be due to the fact that it is more easily available to the oncologists. As one respondent noted - SSRI's are only available when prescribed by a psychiatrist. Our data shows that South African oncologists are less likely to prescribe Benzodiazepines compared to those in the USA. Only 3 % of private practice and 17 % of Government oncologist in South Africa prescribed Benzodiazepines while 69% of USA oncologist reported it to be part of their prescribing habits. This could be explained by the fact that our study focused specifically on depression while the USA study focussed on distress, which would have included anxiety. Forty three percent of private practice oncologist in South Africa also reported using SSNRI's. This is supported by the literature due to its more favourable side effect profile. (116)

Due to insufficient trial data no drug has as yet been proven to be superior in this population. Physicians are advised to individualize each patient's treatment. Since some of these drugs can be used for anorexia, insomnia, fatigue, hot flushes and neuropathic pain, physicians should try to utilize the dual benefits. South African oncologists seem to be well aware of these benefits as indicated by their reported use of antidepressants for these symptoms.

Although more substantial evidence is lacking, Berard et al. (68) urged that clinicians should in the absence of more trial data, allow their decisions to be influenced by experience in general population.

### **5.9 Oncologists' opinion regarding their treatment of depression**

As with studies done in the UK and USA, this study confirmed that physicians often struggle to assess and diagnose depression in cancer and palliative care population. Only 33% indicated confidence in diagnosing and prescribing in depressed cancer patients. Lawrie et al. (93) reported similar figures in his study amongst palliative care physicians. Our study does show that once the diagnosis has been made, physicians feel fairly comfortable in starting treatment. All of those that did not opt to start treatment, indicated that they would refer to some form of psychiatric services.

In trying to explore some barriers to treatment, questions regarding time and responsibility were included. About a third of respondents indicated a lack of time as a problem in managing depression. Only 10% indicated that they do not feel it is their responsibility. This opinion has also been expressed in Absolom et al's study (92) where oncologists indicated that they would prioritize cancer treatment and felt that the management of emotional distress is not an important part of their responsibility.

Our study did not explore the roles of the multidisciplinary team. As reported by Absolom et al, physicians often rely on the other clinical staff to identify and manage emotional distress in their patients.

### **5.10 Study limitations:**

This study has several limitations of which the poor response rate remains the biggest concern casting some doubt on the generalizability of the data. Survey responders are typically more interested and possibly more knowledgeable regarding a specific topic, which means that non-responders' data could have been very different.

In the future, the response rates for studies amongst South African oncologist might be improved by doing data collection as physical rather than online questionnaires during times of oncology orientated conferences.

Furthermore, the self-reporting format of the questionnaire can lead to both social desirability bias and recall bias. Social desirability bias happens when participants' answers in a way that they feel might be viewed favourable by



others. However, the responses were anonymous which should have minimized social desirable bias.

Recall bias remains a problem since oncologists might report what they would want to do instead of a reliable recollection of actual events in their practice. We recommend that future research include patient data to get accurate figures on referral rates as well as drug prescribing habits.

The self-reporting format of this questionnaire does have value in its ability to reveal oncologist's views and attitudes regarding their role, knowledge and time constraints when it comes to identifying and managing depression in cancer patients.

This study brings valuable new insight into the South African oncologist's perspective on depression in the late-stage cancer patient. Although most oncologists accept responsibility for managing depression in their cancer patients, sixty-five percent of them do not do any depression screening in their practice. This shows the importance of establishing a recognized screening tool to be used in the South African context.

Furthermore, only thirty percent of them felt confident in diagnosing and treating depression, emphasizing the need for further training in this area in order to improve management of these oncology patients.

## CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

### **Conclusion:**

The study met its aim in exploring how South African oncologists manage depression in their late stage cancer patients.

The study showed that South African Oncologist do encounter a significant incidence of depression in late-stage cancer patients and most of them accept the management of this debilitating symptom as part of their responsibility.

Management will start with an assessment. Although screening for depression and psychosocial distress has become an essential part of integrated cancer care, our data confirm the lack of a recognized screening tool and screening guidelines. The fact that 50% of participants were already using some sort of screening and a further 35% of participants indicated that they would like to implement this in their practices is heartening.

Another positive statistic was the number of available mental health resources. Being a developing country, we would have expected to see a lack of mental health resources. All the government oncologists and most of the private sector oncologists had at least a social worker available to them. Unfortunately being available does not necessarily mean being utilized and without investigating patient data it is impossible to know how many patients actually benefit from these services.

With regards to treatment, the data also looked promising with the majority of respondents feeling confident in starting antidepressants.

Despite South Africa's limited resources with regard to finances and staff, our study revealed positive results.

**Recommendations:**

Looking at international guidelines and the data from this study, the following recommendations can be made:

- Screening for depression should become a mandate for all cancer centers. This should be done at the time of diagnosis and at regular intervals thereafter.
- Having one or two commonly used screening tools which are acceptable to the South African context would lead to a familiarity and greater acceptance of usage. The use of these tools should be taught to all medical students as part of palliative care training as well as to oncology registrars.
- The lack of clinical trials to study the newer antidepressants remains a great need and future studies should address this.
- The introduction of a simple algorithm for treating depression in the cancer population will assist those who feel they lack knowledge.

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Information sheet for:

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How do South African oncologist manage depression in late stage cancer patients

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Thank you for taking the time to read about our study.

As an oncologist you will be familiar with the many hardships faced by your cancer patients on a daily basis – emotional as well as physical.

In our study, we would like to focus on one of the common, under-diagnosed symptoms: DEPRESSION

**Purpose of the study:**

The purpose of the study is to investigate how oncologists manage depression in their late stage cancer patients.

This information will enable us to give valuable feedback regarding possible areas of need for future training.

**Do I have to take part?**

You have received this email because you are a registered oncologist in South Africa and your participation would be greatly appreciated.

Participation will be voluntarily and anonymous.

A reminder email will be sent to this address again on two further occasions.

These can be ignored if you already completed the survey or if you should wish to not take part.

**How do I take part?**

If you are willing to participate, please click on the link at the bottom of the page.

This will take you to the survey monkey website where you will be able to complete the questionnaire. If you exit the questionnaire at any time before the final question, your data will not be captured.

**Requirements to take part in the study:**

Survey monkey is a web based survey site. Your computer will need to have access to the Internet for the full time required to complete the questionnaire.

It will take you approximately 10 minutes to complete and submit the questionnaire.

**Benefits of the study:**

There are no direct benefits to you as a participant. The anticipated benefits are in identifying possible areas where we could improve care for our cancer patients in the future.

**What are the risks of the study?**

There are no risks for you as a participant. Your personal details (e-mail address) will be kept strictly confidential and will not be used in any way that is not related to this study. All data will be captured anonymously and will not be traceable back to you.

**How will I know about the results of the study?**

At the end of the study a full report will be sent to you via e-mail.

**Who is organising the research?**

If you need to talk to anyone about this research, you can contact the following people.

If you have any question about the study:

Dr Johanna Fourie : Tel 041 3630581 E-mail: [Johanna.fourie@cancercare.co.za](mailto:Johanna.fourie@cancercare.co.za)

If you have any question about your human rights or any ethical issues about the study:

UCT Research Ethics Committee

E 52 Room 24, Old main building. Groote Schuur Hospital, Observatory

Telephone: 021 406 6338

## Investigating how South African oncologists manage depression in late-stage cancer patient.

### 1. Gender

- male
- female

### 2. How old are you in years?

- 28 - 39
- 40 - 49
- 50 - 59
- 60 - 69
- 70 or older

### 3. What is your current practice setting?

You may choose more than one option.

- Private practice
- Government hospital
- Other

### 4. How many years have you been practicing in oncology?

- still in training
- < 5 years
- 5 - 9 years
- 10 - 19 years
- 20 years or more

5. Please indicate which of the following statements best describe your current practice: More than 80% of my patients are:

- Paediatric cases
- Breast cancer patients
- Head and neck cancer patients
- Pancreatic cancer patients
- a mixture of different cancers

\* 6. In your current practice: In your opinion - what percentage of your late-stage cancer patients are depressed? Please give an estimation.

< 5%

5 - 9%

10 - 10%

20 - 29%

30 - 39%

40 - 49%

50 - 59%

>60%

\* 7. What would normally alert you to the possibility of depression in your patient? Please rate the following from 1 to 5.

1 being the most common way depression presents and 5 being the least common in your practice

We routinely screen all patients at diagnosis

Verbal cues from the patient

Verbal cues from the family

Observing patient's mood

Physical symptoms



\* 8. Please read through the following screening tools for depression.

For each tool - please choose which answer best describes your current practice

	I have never Heard of it	I know about it, never used it	I have used it	I often use it	We use this as routine screening tool for all Our patients
Back Depression Inventory (BDI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brief symptom inventory-18 (BSI-18)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Centre for Epidemiological studies Depression (CES-D)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Centre for Epidemiological studies Depression short form (CES-D-SF)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edinburgh Postnatal Depression Scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brief Edinburgh Depression Scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hamilton Rating Scale for Depression (HAM-D)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospital Anxiety and Depression Scale (HADS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mood thermometer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patient Health Questionnaire for Depression (PHC-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single question: "Do you feel depressed"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* 9. ASCO as well as NCCN guidelines for managing depression in cancer patient recommend that all patients should be screened at diagnosis and regular intervals thereafter. Please choose which statement best describes your current practice.

- We screen all patients at the time of diagnosis / all new patients
- We screen all new patients and at regular intervals thereafter
- I would like to implement this in my practice
- It sounds like a good idea, but it will not be possible in my practice
- none of the above

Other (please specify)

\* 10. Which of the following psychosocial resources are available to your patients? You may choose more than one of the following options.

- Social worker
- Psychiatric nurse
- Psychologist
- Psychiatrist
- Other (please specify)

\* 11. After making a diagnosis of depression - which of the following would you routinely do? You may choose more than one option.

- Refer to Social Worker
- Refer to Psychologist
- Refer to Psychiatrist
- Refer to General practitioner
- Start antidepressant medication
- Other (please specify)

\* 12. Which of the following statements are true? You may choose more than one.

- I think I am good at diagnosing and managing depression in my patients
- I feel very comfortable starting patients on anti-depressant medication
- I do not have enough time to manage depression in my patients.
- It is not my responsibility to manage depression
- I do not feel knowledgeable about treating depression
- I do not think psychosocial interventions are effective

\* 13. Please give an estimation :

What percentage of your late-stage cancer patients are using anti-depressants?

- < 5%
- 5 - 9 %
- 10 - 19%
- 20 - 29%
- 30 - 39%
- 40 - 49%
- > 50%

\* 14. Which of the following drugs do you use to treat depression in your cancer patients? You may choose more than one option

- Benzodiazepine
- Monoamine oxidase inhibitors (MAOI)
- Selective Serotonin and Noradrenaline re-uptake inhibitors (SSNRI)
- Selective Serotonin re-uptake inhibitors (SSRI)
- Tricyclic antidepressants
- I do not feel comfortable prescribing anti-depressants
- Other (please specify)

\* 15. When starting an anti-depressant: Please rank the following drugs. Where 1 would be your most likely first choice and 5 would be the least likely.

<input type="text"/>	<input type="text"/>	Benzodiazepine
<input type="text"/>	<input type="text"/>	Monoamine oxidase inhibitor (MAOI)
<input type="text"/>	<input type="text"/>	Selective Serotonin and Noradrenaline Re-uptake Inhibitor (SSNRI)
<input type="text"/>	<input type="text"/>	Selective Serotonin re-uptake inhibitors (SSRI)
<input type="text"/>	<input type="text"/>	Tricyclic antidepressants

\* 16. Please select which of the following would be true for your practice:  
I use antidepressants for the following symptoms (other than depression)

- Hot flushes
- Peripheral neuropathy
- Part of pain management
- Other (please specify)

17. Do you have any recommendations to improve the management of depression in our late-stage cancer population?



**UNIVERSITY OF CAPE TOWN**  
**Faculty of Health Sciences**  
**Human Research Ethics Committee**



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03 November 2016

**HREC REF: 595/2016**

**Dr L Gwyther**  
School of Public Health & family Medicine  
Falmouth Building  
FHS

Dear Dr Gwyther

**PROJECT TITLE: INVESTIGATING HOW SOUTH AFRICAN ONCOLOGIST MANAGE DEPRESSION IN LATE STAGE CANCER PATIENTS (MPhil-candidate-Dr J Fourle)**

Thank you for your response letter dated 26 October 2016, addressing the Issues raised by the Human Research Ethics Committee (HREC).

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

**Approval is granted for one year until the 30 November 2017.**

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: [www.health.uct.ac.za/fhs/research/humanethics/forms](http://www.health.uct.ac.za/fhs/research/humanethics/forms))

**Please quote the HREC REF in all your correspondence.**

***We acknowledge that the student; Dr J Fourle will also be involved in this study.***

Please note that the onco

Yours sincerely

**PROFESSOR M BLOCKMAN**  
**CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE**

Federal Wide Assurance Number: FWA00001637.  
Institutional Review Board (IRB) number: IRB00001938

HREC 595/2016

This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP), South African Good Clinical Practice Guidelines (DoH 2006), based on the Association of the British Pharmaceutical Industry Guidelines (ABPI), and Declaration of Helsinki (2013) guidelines.

The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.