

## THE EFFECTIVENESS OF PSYCHIATRIC THERAPY AGAINST MALAYSIAN CANCER PATIENTS WITH DEPRESSIVE DISORDERS: A SYSTEMATIC REVIEW

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### ABSTRACT

*The aim of this study is to compare depression in terms of treatment between psychotherapy and medical approach or to combine these approaches among cancer patients in Malaysia with respect to the cancer categories. It also studies the major prevalence of depressive disorder in the group together with the specialized clinical connection to the health outcomes. The annual incidence of cancer cases in Malaysia is 30,000 at late stage of the disease. We found 17 eligible researches out of 142 articles which most were under designed of cross-sectional or prospective study, and contained 2,523 cancer patients. This study was conducted on systematic electronic review using the databases such as PubMed, Scopus, ScienceDirect, Google Scholar, Wiley Online Library were carried out from the period of time between 2006 and 2015. For data collection purposes, the study goes through the Malaysian articles in English language, in which some of the considered factors were general management principles, cancer level among the depressed patients, the selection of the psychological therapies and the use of antidepressant medication. However, the evidences are still not enough to present an effective diagnostic method for the depressive disorders in cancer patients, and to find a successful antidepressant drug and/or an appropriate psychotherapy in this group of patients. Hence, many different approaches could be presented for psychotherapy. In conclusion, we found increased hazard rates for the cancer death among psychiatric patients compared to the control group without a registered mental illness.*

**Keywords:** cancer patient; depressive disorder; psychotherapy; antidepressant medications

### INTRODUCTION

Depressive disorder is often a syndrome, not an illness. It appears in a wide range from normal unhappiness to a wide range of mood disturbances and medical demonstrations (Massie & Popkin, 1998). In fact, depression symptoms are usually the most frequent mental disorder has been reported in Malaysia which it is estimated to impact roughly 2.3 million people in Malaysia eventually within their lifestyles (Malaysian Psychiatric Association, 2004). Also it could be a regular and considerable comorbid condition in cancer patient which may need unique consideration (Ng *et al.*, 2011). Also depression has been associated with lower quality of life, along with elevated disability of immune system reaction as well as lesser survival in patients with cancer (Williams & Dale, 2006). Several studies have investigated approximately 58%

cancer patients who possessed depressive symptoms and among them 38% are obtaining major depressive disorders (Massie, 2004; Williams & Dale, 2006). Depressive disorder as well as severe comorbid situation is often a frequent case in cancer patients which seems to require a significant study. The frequency of cancer patients is growing as a result of advances in cancer treatment options and aged population; and the depression diagnosis in cancer patients consequently continues to be complicated.

Cancer is a major general public health issue in Malaysia. The annual incidence of cancer cases in Malaysia is 30,000 at late stage of the disease (Lim, 2002). Twenty-five percent of Malaysian people will get cancer during their lives. Although outstanding healthcare setting can be achieved in Malaysia, there is a lack of data on patients' performance psychologically (Cheung *et al.*, 2003). Ng *et al.* (2011) found

that there were 10.8% of cancer patients suffering from depressive disorders. Hence, studies have demonstrated that most cancer patients can have problems with a number of psychiatric issues that include adjustment problems, anxiety disorders along with major depression in which the prevalence rate can certainly range from 7.5% to 44.5% based on type of cancer, the actual stage of illness and study form (Cullivan *et al.*, 1998; Ng *et al.*, 2014<sup>a</sup>). Psychotropic medications prescription is ordinary in patients who suffer from cancer (Ng *et al.*, 2014<sup>b</sup>), and using medications in cancer patients starts immediately after recognition of tumor in the body and enhances of medication in the later stage (Ng *et al.*, 2012). Most scientific studies about the psychotropic medication for cancer affected person had been based on western studies, additionally, there is still lack of knowledge on this topic in Asia specifically Malaysia. To find diagnosis of depression in cancer patients, symptoms such as loss of appetite, fatigue, loss of weight, sleep difficulties (insomnia), weak and poor in memory and concentration may experienced by cancer patients or during their period of treatment (Jesse *et al.*, 2008; Ng *et al.*, 2011). The most widely used diagnostic method for depression is the Structured Clinical Interview based on DSM (SCID) (Spitzer *et al.*, 1990).

Hence, the aim of this study is to systematically review the medical literatures that is first to enhance the quality and reliability of the management of depressive disorders in cancer patients in Malaysia and second, to measure the prevalence of depressive disorders among cancer patients.

## METHOD

All articles for this study were primarily searched through PubMed, Scopus, Science Direct, Google Scholar and Wiley Online Library search for the terms of *depression, cancer, Malaysia* crossed with all types of cancer such as breast cancer, lung cancer, prostate cancer, etc. Exclusion criteria included for following reasons: biological/physiological studies rather than treatment or assessment studies; depression was not the target of treatment, depression among family caregivers, survivors from cancer and physical training like massage. Also manual search was

performed regarding to the reference lists of inclusion criteria to recognize related researches. The review method was advised based on PRISMA (preferred reporting items for systematic reviews and meta-analyses) statement (Moher *et al.*, 2009).

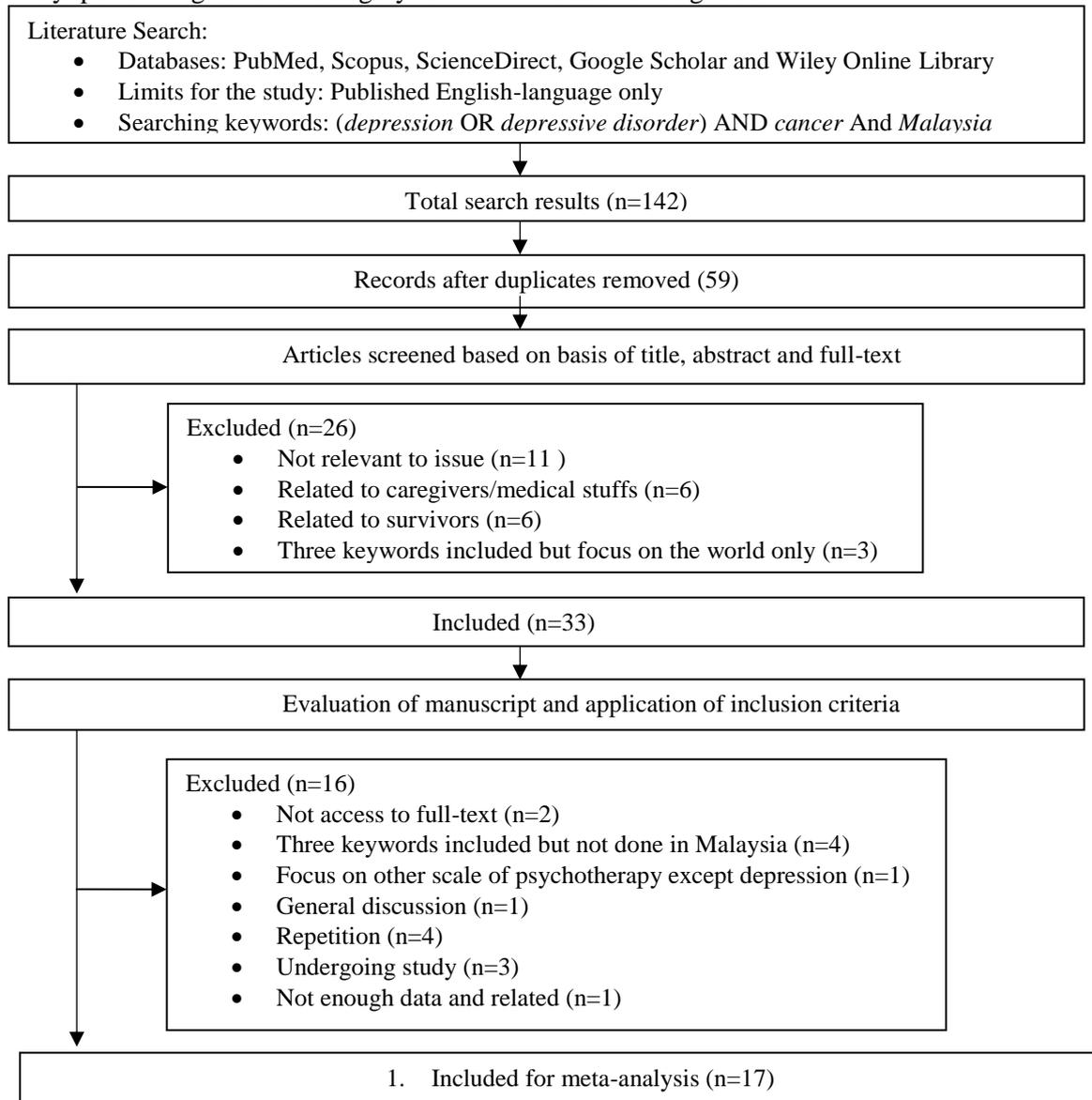
We extracted data from eligible studies, and then entered their data into a data extraction sheet. Some subjects such as the type of cancer, location of the study, study design, mean age, scale of measuring depression, prevalence of depression and its associated factors related were extracted.

## RESULTS

A total of 142 articles on depression in cancer patients in Malaysia were found through the database. Then 83 articles were excluded due to duplication in our search. Fifty-nine articles were screened for our criteria based on title, abstract and full-text. Only thirty-three studies were remained. In the end, sixteen studies were excluded (two studies not access to full-text, four studies focused only on the world done by Malaysian, one study focused on other scale of psychotherapy except depression, one study discussed on the general topic, four studies were repetition of the same result with different titles, three studies are still undergoing research and one study did not have enough data). Hence, a total of seventeen studies were included in the meta-analysis. Figure 1 exhibits the diagram of the research study findings.

Seventeen studies included two randomized placebo-controlled, eleven cross-sectional, one retrospective cohort and three prospective studies were performed in Malaysia between 2007 and 2015. The study design and their details of characteristics of them are shown in Table 1. Most of the studies were carried out from five studies in Universiti Malaya Medical Centre (UMMC), followed by two studies from Universiti Kebangsaan Malaysia Medical Centre (UKMMC), three studies did not mentioned their locations and seven other studies were conducted in their hospitals or medical centers. Eight distinct methods were performed to diagnose depressive disorder in the 17 studies included. Eight studies used Hospital Anxiety and Depression Scale (HADS), 3 studies used The Brief COPE. On the other hand, 7 studies diagnosed depressive

disorder by performing diverse category of scale for diagnosis.



**Figure 1.** Flow diagram to detail study search findings

A total of 2,523 cancer patients were included in the 17 studies. Median sample size was 120 patients, ranging from 22 to 467 patients. The age in each research varies from 15 to >80 with the mean age of 52.0 years old. The highest average age was 67.5 years old (Periasamy *et al.*, 2015), while the lowest was 44.5 years old (Suthahar *et al.*, 2008). As Malaysia is a multi-ethnic nation, we categorized their race into Malay, Chinese, Indian and others. The most frequent of those were Chinese (median=48.15%, range=8-82.3%), followed by Malays (median=39.45%, range=11.5-92%) Indian (median=11.4, range=6-55.6%) and others (median=3, range=1.2-9.7%).

*Factors associated with depressive disorder among cancer patient*

Factors that were found to be associated with depressive disorder in cancer patients are

shown in Table 2. Depressive disorder was most regularly related to younger age (Zainal *et al.*, 2007; Poovaneswaram *et al.*, 2013; Hatta *et al.*, 2014) followed by poor quality of life or low income (Schroevvers & Teo, 2008; Saniah & Zaniah, 2010; Priscilla *et al.*, 2011; Tee *et al.*, 2013; Hassan *et al.*, 2015). In terms

of ethnic differentiation, only one research found that non-Malay patients were associated with depressive disorders (Ng *et al.*, 2014<sup>a</sup>), highly educated people (Hatta *et al.*,

2014), and other physical symptoms such as pain (Zainal *et al.*, 2007; Tee *et al.*, 2013).

**Table 1.** Descriptive characteristics of the eligible studies

Authors	Type of cancer	Location of study	Study design	Inpatient	No. of subject	Mean age (years)	Ethnic
Zainal <i>et al.</i> , 2007	Breast, Colon, Nasopharyngeal and etc.	UMMC	Cross-sectional study	No	168	50.0	Chinese (57%), Malay (23%), Indian (16%), Others (4%)
Suthahar <i>et al.</i> , 2008	Breast, Gastro Intestinal Tract, Head & Neck, Gynaecological, Lung, Haematological, Skin, Neurological, Bone and soft tissue and Genitourinary	HUKM	A prospective study	No	78	44.5	Malay (63.8%), Chinese (30.0%), Indian (6.2%)
Schroevers and Teo, 2008	Breast, Nasopharyngeal carcinoma, Colorectal, Lung	N/A	Cross-sectional study	N/A	113	51.8	Chinese (82.3%), Malay (11.5%)
Niang <i>et al.</i> , 2010	Nasopharyngeal Carcinoma (NPC)	HKL	Comparative cross-sectional study	Yes	22	49.5	Chinese (50.0%), Malay (40.9%), others (9.1%)
Saniah and Zainal, 2010	Breast cancer	UMMC	Cross-sectional study	No	141	50.0	N/A
Priscilla <i>et al.</i> , 2011	Haematological cancer	Ampang Hospital KL	Cross-sectional study	Yes	105	40.4	Malay (60.0%), Chinese (24.8%), Indian (13.3%), others (1.9%)
Lua <i>et al.</i> , 2011	Breast, Colorectal, Gynaecologic, Urologic, Lungs and etc	HSNZKT	Cross-sectional study	Yes/No	150	50.4	Malay (92.0), Chinese (8.0%)
Poovaneswaram <i>et al.</i> , 2013	Colorectal, breast	HTJS	Cross-sectional study	N/A	77	N/A	N/A
Tee <i>et al.</i> , 2013	Gynaecological cancer	HSBAS	Hospital-based cross-sectional descriptive study	No	120	50.6	Malay (63.0%), Chinese (23.0%), Indian (10.0%), Others (4.0%)
Ng <i>et al.</i> , 2014	Most breast cancer (others are unknown)	UMMC	Retrospective cohort study	Yes	260	57.0	N/A
Ng <i>et al.</i> , 2014	Breast, Upper gastrointestinal Colorectal, Renal and etc.	UMMC	Randomized, double blind, placebo-controlled study	No	88	57.7	Chinese (59.1%), Malay (25.0%), Indian (11.4%), Others (4.5%)
Hatta <i>et al.</i> , 2014	Oral cancer	7 hospitals in Sabah and Sarawak	Cross-sectional study	No	72	63.1	Indian (55.6%), Malay (18.1%), Chinese (16.7), Others (9.7%)
Chan <i>et al.</i> , 2015	Breast, Gastrointestinal, Head and Neck, Gynaecological, Lung, Genitourinary, Haematological, CNS, Sarcoma	N/A	Prospective single-centre study	N/A	467	56.3	Chinese (57.0%), Malay (24.6%), Indian (15.4%), Others (3.0%)
Gan <i>et al.</i> , 2015	Haematological cancer	UMMC, SJMC	Cross-sectional study	No	245	53.0	Chinese (62.0%), Malay (24.9%), Indian (11.4%), Others (1.6%)
Hassan <i>et al.</i> , 2015	Breast cancer	UKMMC	Cross-sectional study	No	205	52.4	Chinese (46.3%), Malay (44.9%), Indian (7.8%), Others (1%)
Leong Abdullah <i>et al.</i> , 2015	Head and Neck cancer	UKMMC	Prospective study	N/A	50	49.8	Chinese (57%), Malay (38%), Indian (6%), Others (2%)
Periasamy <i>et al.</i> , 2015	N/A	N/A	A randomized, single blind, placebo controlled study	N/A	162	67.5	Malay (54.3%), Chinese (27.2%), Indian (17.3%), Others (1.2%)

HKL: Hospital Kuala Lumpur ; HSBAS: Hospital Sultanah Bahiyah, Alor Star; HSNZKT: Hospital Sultanah Nur Zahirah, Kuala Terengganu; HTJS: Hospital Tuanku Ja'afar Seremban; HUKM: Hospital Universiti Kebangsaan Malaysia; N/A: Not mentioned; SJMC: Subang Jaya Medical Centre; UKMMC: University Kebangsaan Malaysia Medical Center; UMMC: Universiti Malaya Medical Centre

**Table 2.** Prevalence of depressive disorders among cancer patients and its associated factors

Authors	Scale of measuring depression	Prevalence of depression	Associated factors with depression cancer patients
Zainal <i>et al.</i> , 2007	HADS	32%	Younger age as well as practical, familial and emotional problems such as some physical symptoms.
Suthahar <i>et al.</i> , 2008	HADS	6.48%	Cancer patients are not routinely referred to a psychologist or a psychiatrist.
Schroevers and Teo, 2008	PTGI, The Brief COPE, SCL-90-R	Cronbach $\alpha$ 's =0.92	Greater use of coping strategies was significantly associated with more use of emotional and instrumental support, positive reframing, humour, planning and religion.
Niang <i>et al.</i> , 2010	HADS, The Brief COPE	p=0.002	Possess humour associated with a lower level of depression
Saniah and Zainal, 2010	HADS, The Brief COPE	19.1%	Practical problems e.g. transportation, financial and work problem
Priscilla <i>et al.</i> , 2011	EORTC QLQ-C30, OCD, PTSD, GAD, SAD	38.5%	Poor quality of life
Lua <i>et al.</i> , 2011	Malay version of HADS, MMQoL	23.3%	Poor psychological distress
Poovaneswaram <i>et al.</i> , 2013	Zung SDS	40%	Younger age
Tee <i>et al.</i> , 2013	MINI, MVFSFI	18%	Lack of perceived social support, greater physical pain perception, presence of past psychiatric history, and poorer quality of life
Ng <i>et al.</i> , 2014	N/A	7.8%	No significant difference found in the use of antidepressant between age, gender or ethnicity
Ng <i>et al.</i> , 2014	MADRS, CGI-S	MADRS=4.14	Addition of methylphenidate improves antidepressant responses and would have better result than mirtazapine and placebo
Hatta <i>et al.</i> , 2014	HRQOL, PCI	5.6%	Younger age and high educated level
Chan <i>et al.</i> , 2015	HADS	15.8%	High default rate not appear to be significantly associated with any socio-demographic or clinical factors other than desire for psychological support
Gan <i>et al.</i> , 2015	HADS	12.0%	Due to small number of patients in this study, no significant difference between those complementary and alternative medicine (CAM) users and non-CAM users in terms of gender, race, religion, education background, household income, HADS score and underlying diagnosis
Hassan <i>et al.</i> , 2015	HADS	22.0%	Marital status, accompanying person, financial support and felt burden were significantly associated with depression
Leong Abdullah <i>et al.</i> , 2015	HADS	HADS (rho=0.083)	Depression reduced simultaneously across time in head and neck cancer patients and no correlation found between posttraumatic growth (PTG) and depression.
Periasamy <i>et al.</i> , 2015	GAD-7, RSES	73.9%	Chemotherapy counseling by pharmacist could reduce depression and improve self-esteem of patients

CGI-S: Clinical Global Impression-Severity Scale; EORTC QLQ-C30: European Organization for Research and Treatment of Cancer Quality of Life Questionnaire; GAD-7: The Generalized Anxiety Disorder-7 questionnaire; HADS: Hospital Anxiety Depression Scale; HRQOL: Health-Related Quality of Life; MADRS: Montgomery-Åsberg Depression Rating Scale; MMQoL: McGill Quality of Life Questionnaire; MINI: Mini International Neuropsychiatry Interview; MVFSFI: Malay version Female Sexual Function Index; OCD: Obsessive-Compulsive disorder; PCI: Patient Concerns Inventory; PTGI: Posttraumatic Growth Inventory; PTSD: Post-Traumatic Stress Disorder; RSES: The Rosenberg Self-Esteem Scale (RSES); SAD: Social Anxiety Disorder; SCL-90-R: Symptom Check List; WHOQOL-BREF: World Health Organization – Quality of Life-26; Zung-SDS: Zung self-rating depression scale

## DISCUSSION

Depression and anxiety have been identified for being independent prognostic factors with regard to death in cancer patients undergoing chemotherapy (Ell *et al.*, 2007). In additional studies, those people approaching the end of life administrated high doses of antidepres-

sant drugs, and vicinity to death additionally recommending for anxiolytics in breast cancer survivors (Ng *et al.*, 2014<sup>a</sup>). Other than medicinal remedy; patients seek alternative treatment of psychotherapy remedies to treat signs of depression (Haaga *et al.*, 1991). This consideration has been compensated to the swiftly growing occurrence of psychiatric

complications in cancer patients (Maeda *et al.*, 2008; Hassan *et al.*, 2015).

Breast cancer is the most typical cancer in Malaysia (Lim, 2002) and the second most frequent cancer recognized globally is lung cancer (Parkin *et al.*, 2005). Saniah and Zainal (2010) and Hassan *et al.* (2015) reported that breast cancer patients in Malaysia indicated prevalence for depressive disorder was 19.1% and 22.0%, respectively. However, socioeconomic status related to depressive disorders among breast cancer patients has yet to be recently analyzed specifically. (Sainah and Zainal, 2010). The results in Table 1 showed that the main factor for depression among breast cancer was young age (Zainal *et al.*, 2007; Hassan *et al.*, 2015). Hence, Hassan *et al.* (2015) suggested that more support should be given to the young age and low income group. However, Ng *et al.* (2014<sup>a</sup>) found that there was no significant relationship between the use of antidepressant and age among breast cancer patients.

The prevalence range of depression in our results was 5.6% to 73.9%. However, Llyod-Williams (2001) found that estimates of prevalence varies from 3% to 45%. However, anxiety demonstrates higher prevalence as opposed to depression prevalence in Malaysia (Hassan *et al.*, 2015). One study (Ng *et al.*, 2014<sup>a</sup>) mentioned that non-Malay females who suffer breast cancer had a significantly more prescription rate for anxiolytic/hypnotic drugs (12.3%), and only 7.8% using antidepressant.

The disabling characteristic of advanced cancer implies that recognised psychotherapy techniques can be difficult to follow. As a result of a wide variety of psychotherapy techniques have been performed due to use in advanced cancer (Moorey *et al.*, 2009). Zainal *et al.* (2007) found regular counseling sessions would improve patient's condition for family and emotional difficulties. According to a recent study in Malaysia by Periasamy *et al.* (2015), chemotherapy counseling by pharmacist could reduce depression and improve self-esteem of patients. Hence, earlier studies found that the consultation rate from oncologists to consultation psychiatrists to be simply 4-10% amongst cancer patients (Grassi *et al.*, 2010). Also another Malaysian article supported that most of cancer patients along with anxiety and depressive disorders

tend not to care about their mental health difficulties but regularly they do visit their oncologists (Mei Hsien *et al.*, 2012). Unfortunately, the variety of randomized, managed medical tests of antidepressant on depressive disorders in cancer patients is restricted (Rodin *et al.*, 2007; Ng *et al.*, 2011). Also, several typical symptoms of major depression were found in cancer patients who tend not to accept their depressive disorders (Raison and Miller, 2003).

Ng *et al.* (2014<sup>a</sup>) found that there was a notable oncology patient's used medication of any type of psychotropic drugs when compared to cardiology in patients. Chan *et al.* (2015) found that their results exhibit those cancer patients who refuse or delay their treatment (defaulters) possess a higher desire for assistance as compared to non-defaulters in Malaysia. Dependent on relative risk (RR) turned out that patients with depressive disorder have at least four-fold higher risk associated with death when compared to those patients without. This contradicts with western studies which mentioned that patients who refused cancer remedy are generally more unlikely to seek psychological assistance (Colleoni *et al.*, 2000; Wells *et al.*, 2011). Hence, a number of researches support a combination of pharmacotherapy and psychotherapy will make a better consequence or effect. (Mukhtar *et al.*, 2011). These are also the reason besides pharmacological treatment why patients also choose an alternative psychotherapy treatments to treat their symptoms of depression.

Future study could actually recommend several instruments that have been validated using larger sample sizes, good psychometric properties such as HADS, and can differentiate between the stages of cancer in different category. Also, some research derived from a Western outlook of knowing and investigation on depression without using some reliable and valid measurements like HADS, and therefore, their outcome might be lacking determination data about Asian culture or the need for the extra caution to be explained.

In conclusion, some techniques like imagery, assertiveness training and cognitive restructuring motivated combined with the traditional remedy for the cancer patient to com-

bat the ailment. In contrast, regarding soaring prevalence, proof for the efficacy of antidepressants is insufficient, and future research on the use of psychostimulant in cancer patients is required. Also it is recommended for each cancer patient, a technique which improves their depression and anxiety namely Mindfulness-based stress reduction (MBSR) will be performed.

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