

Spinal Malignancy Psychobehavioral Issues

Mazin S. Mohammed Jawad

ABSTRACT:

BACKGROUND:

Psychobehavioral is an all encompassing term for psychological and behavioral factors that are major determinants of the widely accepted biopsychobehavioral or multidimensional concept of diseases such as cancer.

AIM OF STUDY:

To identify psychobehavioral issues affecting patients with a diagnosis of a spinal column or cord tumor.

PATIENTS AND METHODS:

Using the keywords “cancer communication,” “psychobehavioral care,” and “spine cancer patient,” a review of literature was performed on Medline, and PsycInfo, a database of the psychology and psychiatry literature in the United States. The relevant articles were reviewed; in addition, relevant references from selected articles were searched. The Spine Oncology Study Group (SOSG), an international group of spine oncology specialists, identified key questions to be addressed in the course of the systematic review of the literature. The key questions were answered using literature review and expert opinion.

Research questions:

1. Who are the allied health care professionals necessary for the comprehensive care of the spine tumor patient?
2. Does compassionate communication (in giving life altering information) affect outcome? What tools can be used in communication with the spine tumor patient?

RESULTS:

Systematic review yielded 120 articles addressing communication in cancer patients. Those articles specifically addressed the 2 questions of interest in the spine tumor patient population. The literature search identified quality evidence; 2 randomized controlled studies were identified. Although neither specifically pertained to the spine tumor patient population, these articles were reviewed and graded as low-quality evidence.

CONCLUSION:

A multidisciplinary group of allied health care professionals is a necessary prerequisite for the effective psychobehavioral care of the spine tumor patient. Compassionate communication, in the form of group sessions, telephone support groups, or internet based groups, can alleviate the psychobehavioral discomfort experienced by spine tumor patients.

KEYWORDS: psychobehavioral care, cancer communication, spine cancer patient.

INTRODUCTION:

“Psychobehavioral” is an all encompassing term for psychological and behavioral factors that are major determinants of the widely accepted biopsychobehavioral or multidimensional concept of diseases such as cancer¹. The biopsychobehavioral model was proposed by Engel² in 1977 in response to the schism between psychiatry and the other medical professions at that time.

Engel argued that the aim of the biopsychobehavioral model was identification of all determinants that exist in a complex consideration of humans’ well being and disease states. This could lead to a novel multidimensional treatment approach in health care. The patient would be a relevant member of the whole process; thus, patients are not the objects but the subjects of the treatment.

AL-Imamein Al-Kadhemein Medical City,
Baghdad/ Iraq

SPINAL MALIGNANCY PSYCHOBEHAVIORAL

The model bridges the separation of mind and body. Psychological and somatic (or physiologic) factors interrelate and coinfluence each other.

Following the basis of the biopsychobehavioral model, “psychobehavioral” refers to the psychological (i.e., affective, emotional, conscious, or unconscious) and behavioral (i.e., relational and behavioral) determinants of one’s life. These factors can play a moderating role in the genesis or experience of psychosomatic diseases such as cancer. In addition, there is a wide range of psychobehavioral interventions (i.e., group therapy, relaxation, psychoeducation, hypnotherapy, etc.), that has established and evidence-based therapeutic effect on multidimensional medical conditions such as cancer. These interventions can work in 2 areas: on the psychological and on the physiologic sides; the efficacy of these interventions can be measured by quality of life, mood, anxiety, physical symptoms, and survival rate.¹

Attention to the psychobehavioral care of the spine tumor patient by a team of professionals, who attend to the emotional, physical, and spiritual health via compassionate means, empowers the patient who has otherwise been rendered impotent by a diagnosis of cancer. As Kuhl³ points out, most patients want to be treated with respect rather than as a disease.

Despite the advances made in the treatment of cancer, our knowledge of the psychobehavioral factors in the patient with a spine tumor is inadequate. In order to provide an evidence-based approach for attending to psychobehavioral issues in this patient population, a multidisciplinary group of international experts², the Spine Oncology Study Group (SOSG) identified 2 key questions to be answered by literature review and expert panel discussion:

1. Who are the allied health care professionals necessary for the comprehensive care of the spine tumor patient?
2. Does compassionate communication (in giving life altering information) affect outcome? What tools can be used in communication with the spine tumor patient?

PATIENTS AND METHODS:

In regards to the psychobehavioral issues in the patient with a spine tumor, the SOSG

identified the 2 key questions described in the preceding section. In the context of these specific questions, in November 2008, a systematic review of the literature was undertaken. The search was limited to articles available in English. To ensure capture of the pertinent literature worldwide, the search was performed on Medline, EMBASE, and PsycInfo, a database of the psychology and psychiatry literature in the United States, using the keywords “cancer communication,” “psychobehavioral care,” and “spine cancer patient.” The search was quickly broadened to include the psychobehavioral care of all cancer patients not exclusively spine tumor patients. The results of the systematic review were discussed by the SOSG; the evidence was graded following the guidelines proposed by Schunemann et al.⁴

Guidelines as detailed by Rodgers et al⁵ were also used; the authors, in their review of systematic reviews of the effect of psychobehavioral interventions in cancer, used an inclusion and exclusion techniques to narrow the broad definition of psychobehavioral. They advise “psychobehavioral interventions must have been evaluated, which could include cognitive behavior therapy or another type of intervention such as psychotherapy, anxiety/depression management, stress management, counseling, family therapy, education or psycho-education, health education, relaxation techniques, behavioral support (outside of family), or any behavioral interventions designed to modify risk factors such as diet, exercise, or smoking.

RESULTS:

The search for articles pertaining to the psychobehavioral care of spine tumor patients yielded 70, and 50 articles via Medline, and PsycInfo, respectively. A search for articles addressing communication in cancer patients yielded 37, and 21 articles via Medline, and PsycInfo, respectively. The relevant articles were reviewed; in addition, relevant references from selected articles were searched.

Systematic search of the Medline, and PsycInfo databases failed to identify any articles that specifically addressed the 2 questions in the spine tumor patient population. The search was broadened to include all cancer patients; while this strategy identified a number of articles, analysis was limited because of

SPINAL MALIGNANCY PSYCHOBEHAVIORAL

heterogeneity regarding patient populations, interventions administered, and outcomes measures.

DISCUSSION:

Several groups have performed meta-analyses of the literature regarding the psychobehavioral care of cancer patients; they acknowledge that there is a paucity of well-designed, randomized controlled studies.⁶⁻⁸ As Jacobsen and Jim⁷ point out: failure of the available literature is due to the following issues:

1. Gaps exist regarding the effects of psychobehavioral interventions for patients with similar patient and disease profiles.
2. Inconsistency in findings is rampant; this may be due to differences in patient populations, outcome measures, and general methodology.
3. There is no standard for reporting of study methodologies. Landmark studies are identified in the literature; review of the literature identified 2 randomized controlled studies^{9,10} that addressed the survival rate of cancer patients who underwent a group intervention. Although neither article directly answered the questions posed by the SOSG, some information can be extrapolated by review.

In Spiegel's 1989 study,⁹ women with metastatic breast cancer were randomized to receive supportive expressive psychotherapy 90 minutes per week for a total of 12 months or to a control group receiving standard care. Medical members of these intervention groups included a psychiatrist, behavioral worker, or therapist. At 10-year follow-up, those randomized to the intervention had a survival twice that of the control group: 36.6 versus 18.9 months. Although survival was independent of many variables, a number of potentially confounding variables were not recorded.

Fawzy et al¹⁰ randomized patients with malignant melanoma to a control group (N = 34) versus a second cohort (N = 34) who participated in a psychoeducational group. This intervention, lasting 90 minutes per week for a total of 6 weeks, was facilitated by a psychiatric nurse and a mental health nurse who focused on education, stress management, problem-solving, and psychological support (i.e., "encouraging open discussion and encouraging hope"). At 6-year follow-up, 3 times as many patients in the control group had died; this difference

was significant. The authors concluded that the group intervention accounted for improved survival.

Criticisms of this study include the small sample size; in addition, a number of confounding variables were not investigated.

Rodgers et al,⁵ in reviewing the available literature, noted that, "psychobehavioral interventions are likely to produce some beneficial effect on psychological distress or emotional adjustment... the relative effects of different treatment settings and paradigms... were inconsistent... reviews investigating physical outcomes (such as immune outcomes, survival) mostly failed to detect any beneficial effect of psychobehavioral intervention on these outcomes, though there is insufficient high-quality evidence to determine whether small effects might exist. Due to the considerable limitations of the reviews concerned with psychobehavioral interventions in cancer, recommendations are made for the conduct of any future reviews in this area."

Hoey et al¹¹ in 2008 performed a meta-analysis of support programs and methods of communication used in people with cancer. Most of the articles had methodologic flaws including small sample size, heterogeneity of subjects, lack of clear measures, and lack of follow up. Of the 43 articles reviewed, none of them dealt specifically with patient diagnosed with a spinal column or cord tumor; the majority of the articles pertain to those with breast cancer. However, the authors suggest that one-to-one face and group-Internet support programs should be given highest consideration.

Unpublished data by Varga¹² at the National Center of Spinal Disorders, Budapest, Hungary reveals that spine tumor patients portray a psychological profile that is different from that of the patient with chronic low back pain. Subjects were prospectively assessed via a number of well documented and standardized state of the art questionnaires including:

- Psychological background.
- Quality of life.¹³
- Sense of coherence.¹⁴
- Coping.¹⁵
- Anxiety.¹⁶
- Depression scale.¹⁷
- Self-Esteem.¹⁸
- Personality.¹⁹

SPINAL MALIGNANCY PSYCHOBEHAVIORAL

In addition, subjects underwent individual clinical psychological half structured interviews and projective Rorschach Personality Test (Rorschach, 1937).²⁰ Chronic pain patients were compared with the tumor group because there is an established psychological profile of chronic pain patients (Gatchel, 2005, Wilson *et al*, 2008).^{21,22}

The study group was composed of 60 patients; there was no difference in age or gender data between the 2 groups; however, significant differences were noted in behavioral adjustment between the 2 groups. Those with a sacral tumor had a higher percentage of marriages and higher education. These patients were more likely to be employed; more of them were employed in high-prestige jobs. Tumor patients used more adaptive coping strategies than the chronic pain group; this latter group used more maladaptive coping strategies such as self-blame and drug consumption. The tumor patient sample exhibited a greater sense of coherence; members felt there were both meaningfulness and goals in their life. Chronic pain patients exhibited less of this sense of coherence.

Analysis of the tumor patients' questionnaires revealed that they had greater ego-strength, energy, vitality, and motivation than chronic patients. A distinct characteristic of the tumor group compared to ordinary healthy adults was also noted *via* interviews and the Rorschach test; the tumor patients had a fear of disability and the desire to be as healthy as before. In order to reach their desire, they tended to negate symptoms unconsciously and display a better image about their objective general condition. Varga *et al*¹² describe this phenomenon as a dissociation from reality; these patients occupy an altered state of consciousness known as a negative trance.

The implications for the psychobehavioral care of the spine tumor patient are many; this patient needs to be defended from himself. This patient group tends to negate its condition since they want to maintain the image of a quasi-healthy life. These patients tend to work as hard as they did in their premorbid state. Open lines of communication between the healthcare team and the patient and his advocates should preserve the quality of life.

Systematic review of the literature reveals that there are few well controlled, randomized studies available addressing psychobehavioral

interventions in cancer patients. The term "psychobehavioral," study methodologies, and outcome measure need to be standardized and explicitly stated. Psychobehavioral interventions can have an effect on psychological and physiologic spheres. For the former, in regards to quality of life or anxiety level, psychobehavioral interventions appear to be effective. In regards to physical symptoms and survival rate, there are little data supporting efficacy of interventions. The lack of evidence supports the urgent need for well designed standardized treatment, including multidisciplinary care for spine tumor patients using psychobehavioral interventions, and well controlled studies with standardized follow-up.

The psychobehavioral care of the spine tumor patient has many components; only when the patient is viewed as a whole composed of these integral parts they can be addressed individually to allow for maintenance of psychobehavioral health. Pain control in these patients can be challenging as the pain in these people tends to be complex. The pain is not only a somatic or visceral bodily pain; it typically has both emotional and psychological aspects.²

Multidisciplinary approaches provide the best clinical outcomes for these patients. Psychological management of cancer patients includes the use of psychotherapeutic, cognitive-behavioral, and pharmacological interventions. Psychiatrists, psychologists, behavioral workers, clinicians, and nurses all play a vital role in the care of the spine tumor patient; these professionals should have special training in oncology.^{23,24}

Spiritual issues, those that give meaning to a person's life, are also important in the cancer patient; they can affect the management and experience of pain. Patients and their caregivers may benefit from pastoral counseling^{23,25}; thus, it is recommended that pastoral care members participate in the health care team discussions of the patients' needs and treatments.

For any patient dealing with a disease process, information is of paramount importance. While initially received from the primary care physician, oncologist, or spine surgeon; further information is sought out by the patient via a number of resources. Information has the ability to empower the patient, to give control in a situation where things can rapidly spiral out of control.

SPINAL MALIGNANCY PSYCHOBEHAVIORAL

The label, "tumor," causes a great fear of death; patients with this diagnosis enter into a negative trance state.²⁶⁻²⁸ It leads them to consciousness stricture, anxiety, and sensitivity. In this situation, the information communicated to them has a hypnotic effect. For this reason, communication strategies in conversing with cancer patients are extremely important. Caregivers require special education about suggestive communication with patients; being able to convey information in a positive manner is beneficial. In every communication, the impact of every word must be considered. All information sources, such as the Internet, books, news papers, neighbors, may act as suggestive sources.

The oncologic spine surgeon is often times the primary source of information for the spine tumor patient; unfortunately, instruction in effective communication with this patient population is not part of the standard curriculum in medical schools. What recommendations can be offered? The spine surgeon should never play the role of a fortune teller; an example would be confronting a patient with, "Your life expectation is limited; you have only 2 months." This manner of communication can and will negate the internal power of recovery.

A more effective means of communication is, "According to the MRI, or CT, or histologic results, this tumor has a well documented but unfavorable malignancy. This means a special treatment program is required to achieve the best result." In the above example, the phrase "best result" acts as a suggestion allowing the patient's unconscious mind maintain hope and mobilize self curing energy. Programs of self-help and mutual support of patients with cancer have existed since the 1940s. The experience and empathy of people with a similar disease provides credible support as well as effective coping mechanisms.²⁸ Information regarding local support groups should routinely be made available to spine tumor patients.

The advent of the Internet has enabled patients to make contact with others in similar situations. Other effective means of communication include video- and audio-tapes, brochures, telephone, etc.

Physician David Kuhl offers practical guidelines for physicians taking care of those with a terminal illness; some of his guidelines are

pertinent in the care of the patient with a spine tumor.

Communication of bad news should occur in an environment in which there are no interruptions from cell phones or pagers. Patients should be allowed to have a family member or friend present for any discussions of this magnitude. Delivering information as clearly as possible, in nonmedical terms, will empower and not confuse the patient. Finally, the use of touch and direct eye contact cannot be overemphasized; these tools will decrease any feelings of isolation that a patient may experience.³

CONCLUSION:

- The diagnosis of a spinal column/cord tumor is a life-altering event.
- The psychobehavioral care of the spine tumor to be delivered by a multidisciplinary health care team composed of spine surgeons, psychologists, psychiatrists, pain specialists, pastoral members, social workers, physiotherapist, nursing personnel, the patient and his advocates. This team of experts can strive to halt the disease, improve function, and maintain the quality of life.
- A positive communication to be delivered using tools such as Internet-based patient support groups, video, brochures, and the multidisciplinary care group.

REFERENCES:

1. Lee, S.J.C., Jetelina, K.K., Marks, E. et al. Care coordination for complex cancer survivors in an integrated safety-net system: a study protocol. *BMC Cancer*. 2018;18, 1204. <https://doi.org/10.1186/s12885-018-5118-7>
2. Jonathan Fuller, The new medical model: a renewed challenge for biomedicine. *CMAJ*. May 2017, 189 : E640-E641; DOI: 10.1503/cmaj.160627
3. Wellman. Reflecting on Mortality to Inspire Vitality and Meaning in Life". Master of Applied Positive Psychology (MAPP) Capstone Projects. 2020;181. https://repository.upenn.edu/mapp_capstone/181
4. Brazilian Consensus. SpecialArticle.Rev.Bras.Anesthesiol.2016;66(6). <https://doi.org/10.1016/j.bjane.2016.09.007>.

5. Howell, D., Richardson, A., May, C. et al. Implementation of self-management support in cancer care and normalization into routine practice: a systematic scoping literature review protocol. *Syst Rev*. 2019; 8, 37. <https://doi.org/10.1186/s13643-019-0952-5>
6. Barre PV, Padmaja G, Rana S, Tiamongla. Stress and quality of life in cancer patients: Medical and psychological intervention. *Indian J Psychol Med* 2018;40:232-8.
7. Samantha R. Fashler, et al. The Use of Acceptance and Commitment Therapy in Oncology Settings: A Narrative Review. *Psychological Reports*. SAGE JOURNALS. 2018;121;229-52.
8. Smith TB, Workman C, Andrews C, Barton B, Cook M, Layton R, et al. Effects of psychosocial support interventions on survival in inpatient and outpatient healthcare settings: A meta-analysis of 106 randomized controlled trials. *PLoS Med*. 2021;18:e1003595. <https://doi.org/10.1371/journal.pmed.1003595>
9. Amy Mulick, MSc, et al. Does depression treatment improve the survival of depressed patients with cancer? A long-term follow-up of participants in the SMaRT Oncology-2 and 3 trials. *THE LANCET Psychiatry*. 2018;5:321-26.
10. Chen X, Hua L, Zhang C, Xu Z, Cao X, Cai Y. Effect of peer support on improving self-management ability in peritoneal dialysis patients—a randomized controlled trial. *Ann Palliat Med* 2021;10(3):3028-3038. doi: 10.21037/apm-21-219
11. Somogy Varga, Mental disorder between naturalism and normativism *Philosophy Compass*. 2017; 12.
12. Lins L, Carvalho FM. SF-36 total score as a single measure of health-related quality of life: Scoping review. *SAGE Open Med*. 2016;4:2050312116671725. Published 2016 Oct 4. doi:10.1177/2050312116671725
13. Rahe RH, Veach TL, Tolles RL, et al. The stress and coping inventory: an educational and research instrument. *Stress Med* 2000;16:199–208.
14. Lynne McMordie. Avoidance strategies: stress, appraisal and coping in hostel accommodation. *Housing Studies*. 2021; 36:3, 380-396, DOI: 10.1080/02673037.2020.1769036
15. Mattsson S, Olsson EMG, Carlsson M, et al. Identification of Anxiety and Depression Symptoms in Patients With Cancer: Comparison Between Short and Long Web-Based Questionnaires. *J Med Internet Res*. 2019;21:e11387 doi: 10.2196/11387
16. Guo, Congying MB, Huang, Xuan MB. Hospital anxiety and depression scale exhibits good consistency but shorter assessment time than Zung self-rating anxiety/depression scale for evaluating anxiety/depression in non-small cell lung cancer, *Medicine*: 2021;100:e24428 doi: 10.1097/MD.00000000000024428
17. Rosenberg M. *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University; (eBOOK) Published December 8, 2015.
18. Nock MK, Prinstein MJ. A functional approach to the assessment of self-mutilative behavior. *J Consult Clin Psychol*. 2004;72:885–90. doi: 10.1037/0022-006X.72.5.885
19. Hansen, N. R. Kuncel, S. P. Reise, & M. C. Rodriguez. handbook of testing and assessment in psychology, Testing and assessment in clinical and counseling psychology. American Psychological Association. 2013;2; 231–252. <https://doi.org/10.1037/14048-014>
20. Gatchel RJ. *Clinical Essentials of Pain Management*. Washington, DC: American Psychological Association; 2005.
21. Wilson MG, Lavis JN, Ellen ME. Supporting chronic pain management across provincial and territorial health systems in Canada: Findings from two stakeholder dialogues. *Pain Res Manag*. 2015;20:269-79. doi:10.1155/2015/918976
22. James F. Cleary MD. Restoring balance to cancer pain management. *Cancer* . 2020;126:697-700.
23. Smith TJ, Razzak AR, Blackford AL, et al. A Pilot Randomized Sham-Controlled Trial of MC5-A Scrambler Therapy in the Treatment of Chronic Chemotherapy-Induced Peripheral Neuropathy (CIPN). *J Palliat Care* 2020; 35:53.

24. Lilja A, DeMarinis V, Lehti A, et al. Experiences and explanations of mental ill health in a group of devout Christians from the ethnic majority population in secular Sweden: a qualitative study. *BMJ Open* 2016;6:e011647. doi:10.1136/bmjopen-2016-011647.
25. Riegel, B., Tönnies, S., Hansen, E., et. al. German norms of the Harvard Group Scale of Hypnotic Susceptibility (HGSHS-A) and proposal of a 5-Item short-version (HGSHS 5:G). *International Journal of Clinical and Experimental Hypnosis*. 2021; 69:112-23. <https://doi.org/10.1080/00207144.2021.1836645>
26. Boulding W, Glickman SW, Manary MP, Schulman KA, Staelin R. Relationship between patient satisfaction with inpatient care and hospital readmission within 30 days. *Am J Manag Care*. 2011; 17: 41e8
27. Karnatovskaia LV, Schultz JM, Niven AS, Steele AJ, Baker BA, Philbrick KL, Del Valle KT, Johnson KR, Gajic O, Varga K. System of Psychological Support Based on Positive Suggestions to the Critically Ill Using ICU Doulas. *Crit Care Explor*. 2021 26;3:e0403. doi: 10.1097/CCE.0000000000000403. PMID: 33912833; PMCID: PMC8078413.
28. Maindet, C., Burnod, A., Minello, C. et al. Strategies of complementary and integrative therapies in cancer-related pain—attaining exhaustive cancer pain management. *Support Care Cancer*. 2019; 27:3119–3132. <https://doi.org/10.1007/s00520-019-04829-7>.