

SUPPLEMENTARY DATA

Section 2. Psycho-oncological support for ovarian cancer patients

Introduction

Ovarian cancer is a life-threatening condition and its treatment may produce significant toxicities, which cause substantial short- and long-term side effects and functional loss in various behavioural and life domains (physical, cognitive, emotional, social, and vocational), as well as psychosocial distress. Therefore, quality of life (QoL) and functional status of the patient may be substantially reduced. Women with cancer and their families are faced with a lot of challenges in terms of coping and adjustment.

Today, the traditional approaches of ovarian cancer treatment such as surgery, chemotherapy and/or radiation have extended to a variety of new generations of drugs based on the individual genetic and molecular biological characteristics of the tumour. This means in general that treatment of ovarian cancer has become more individualised, long lasting and more complex.

Psychosocial distress and psychiatric comorbidity

Women with ovarian cancer suffer from high levels of psychosocial distress, not only in early phases after the diagnosis but also over the trajectory of the disease. Psychosocial distress is understood as a continuum, ranging from normal distress levels such as fear, grief, etc. on one hand to high levels of distress and psychiatric comorbidity on the other hand [1-3]. Psychosocial distress includes a variety of emotional, cognitive, social and functional problems including body image and impairment of sexual functions. Families and especially partners of cancer patients are also affected, often experiencing emotional distress, shifting of roles, financial burden, caregiver stress and fear of losing their loved one [4, 5].

Patients experience a variety of affective states, including anxiety and depression, that closely interact with biological stressors such as pain and physical symptom burden [6, 7]. A large meta-analysis of ovarian cancer patients on treatment identified depression prevalences of 22.99% (95% CI: 19.85-26.46) and anxiety prevalences of 26.23% (95% CI: 22.30-30.56) [8].

Stepped care model

The psychosocial care of cancer patients is based on a structured stepped care model aimed at the *identification of the individual's distress level* and their health care needs and demands for specific interventions. In a stepped care model, the first step includes an *early assessment* and identification of the patient's psychosocial distress [9, 10]. Standardised and international validated instruments are available to assess psychosocial distress [11]. Depending on the results of the screening for those patients lying under a certain threshold score information and *counselling* may be sufficient. For those patients above the threshold score, a further diagnostic process is necessary to clarify the psychiatric comorbidity [12, 13]. Depending on the result of this diagnostic process, various types of *interventions* may be indicated such as individual or group psychotherapy, psychoeducational interventions or relaxation techniques [14]. In addition, the *individual needs* for psychosocial support of the patients should be considered when making a decision about any type of psychosocial treatment [15].

A stepped care model comprises systematic identification of the patient's need, integrated delivery of care by care managers, appropriate specialist supervision and the stepping of care based on systematic measurement of outcomes [13].

Psycho-oncological interventions

Psycho-oncological interventions are defined as non-pharmacological interventions using psychological techniques, such as education, coping skills training, psychotherapy and relaxation, alone or in combination, provided by professional therapists in a direct, face-to-face interpersonal process for patients with cancer [14].

Psycho-oncological interventions address the cognitive, behavioural and emotional facets of the patients' (and their families') response to cancer and its treatment. The aims of psychological interventions are:

- to improve coping skills and adjustment to cancer and the treatment sequelae
- to reduce emotional distress
- to reduce feelings of depression and anxiety
- to improve QoL of the patients
- to improve body image and help the patient to regain self esteem
- to enhance personal growth
- to strengthen the personal and social resources of the patient

In addition to medical treatment, psychological interventions also play an important role in the management of various physical symptoms (e.g. pain, fatigue and nausea).

Psychological interventions include:

- counselling and psychoeducation (individual or group)
- psychotherapy (individual or group)
- couples' psychotherapy
- relaxations and guided imagery techniques (individual or group)
- art and music therapy (individual or group)
- dance therapy (individual or group)

Counselling and psychoeducation are basic interventions for patients with medium-to-high level of distress including information and structured elements for stress management and self-exploration of the patient's resources. Psychotherapy is provided for all those patients with high levels of distress and psychiatric comorbidity. Couples' psychotherapy is a helpful intervention for patients and their partner to improve the dyadic coping processes and the communication about cancer and the treatment issues, and, furthermore, to avoid a vicious circle of misunderstanding.

Couples' psychotherapy is also indicated to help the couple cope with sexual issues or to improve self-disclosure of needs and feelings. Relaxation and guided imagery techniques are widely used as individual or group interventions to reduce distress, to strengthen the feeling of individual control or own resources. Art and music therapy as well as dance therapy are specific techniques of psychotherapy using artistic media to strengthen the individual's resources, body image and body awareness.

Cancer and sexuality

QoL and well-being are influenced by different physical, social, spiritual and mental factors. In this context, sexual activity and sexual functioning play an important role. In younger patients, cancer therapy may result in ceasing ovarian function and fertility loss, while postmenopausal women may suffer from androgen deprivation [16].

Patients need to understand that sexual dysfunction does not imply a general failure of the person[17]. Physicians and psycho-oncologists have a role-model function regarding the discussion of sexuality as an essential element of QoL. Therefore, the potential impact that cancer therapies like surgery, chemotherapy or radiation therapy can have on sexual function and fertility needs to be discussed prior to therapy initiation, including preventive or therapeutic options [16]. Many women also appreciate when their

partner is included in the communication and informed about the possible side effects of therapy on sexuality and relationships.

Survivorship

Patients with ovarian cancer and a high risk of recurrence face particular distress after active treatment during follow-up, such as the loss of frequent monitoring and support, the shift from the responsibility of the medical system to the individual and the feeling of abandonment with the loss of a “safety net” [18]. Furthermore, patients may suffer from side effects from cancer treatment such as fatigue, fluctuation of emotional well-being, fear of recurrence or depression. Similar to other people with chronic diseases, they have to rebuild and integrate their injured identity into a new and changed one [18]. Therefore, each patient needs continuous supervision in the transition from cancer patient to cancer survivor and an individualised survivorship care plan. The plan should include a summary of the diagnosis and treatment, the description of possible late effects, commonly faced challenges, a recommendation of ongoing care and follow-up, resources for addressing practical care and psycho-oncological support, as well as health-promoting behaviours.

Patients should be empowered to cope with physical and psychosocial long-term and delayed sequelae of disease and treatment and to preserve health and good QoL [19]. Internet-based support programs may be helpful for ovarian cancer survivors [20].

Conclusion

Early detection of psychosocial distress, sexual dysfunction and psychiatric comorbidity as well as identification of psychosocial care needs are of major importance. A stepped care model of interventions including counselling, psychoeducation and psychotherapy seems to be the best approach in all areas of psychosocial care for cancer patients. To empower patients to cope with the physical and psychosocial long-term side effects of disease and therapy and to preserve QoL they should receive a personalised survivorship care plan.

References

1. Dalton, S.O., Laursen, T.M., Ross, L. et al. Risk for hospitalization with depression after a cancer diagnosis: a nationwide, population-based study of cancer patients in Denmark from 1973 to 2003. *J Clin Oncol* 2009; 27(9): 1440-1445.
2. Singer, S., Das-Munshi, J. & Brahler, E. Prevalence of mental health conditions in cancer patients in acute care--a meta-analysis. *Ann Oncol* 2010; 21(5) : 925-930.
3. Mehnert, A., Brahler, E., Faller, H. et al. Four-week prevalence of mental disorders in patients with cancer across major tumor entities. *J Clin Oncol* 2014 32(31): 3540-3546.
4. Longo, C.J., Fitch, M., Deber, R.B. & Williams, A.P. Financial and family burden associated with cancer treatment in Ontario, Canada. *Support Care Cancer* 2006 14(11): 1077-1085.
5. Teskereci, G. & Kulakac, O. Life experiences of caregivers of women with gynaecological cancer: a mixed-methods systematic review. *Eur J Cancer Care (Engl)* 2018. February 13 [Epub ahead of print] doi: 10.1111/ecc.12456.
6. Mitchell, A.J., Chan, M., Bhatti, H. et al. Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. *Lancet Oncol* (2011) 12(2): 160-174.
7. Arriba, L.N., Fader, A.N., Frasure, H.E. & von Gruenigen, V.E. A review of issues surrounding quality of life among

- women with ovarian cancer. *Gynecol Oncol* 2010 119(2): 390-396.
8. Watts, S., Prescott, P., Mason, J., et al. Depression and anxiety in ovarian cancer: a systematic review and meta-analysis of prevalence rates. *BMJ Open* 2015 5(11) e007618.
 9. Andersen, B.L., DeRubeis, R.J., Berman, B.S. et al. Screening, assessment, and care of anxiety and depressive symptoms in adults with cancer: an American Society of Clinical Oncology guideline adaptation. *J Clin Oncol* 2014 32(15): 1605-1619.
 10. Howell, D., Currie, S., Mayo, S. et al. A pan-Canadian Clinical Practice Guideline: Assessment of Psychosocial Health Care Needs of the Adult Cancer Patient. Toronto, Ontario, Canada, Canadian Partnership Against Cancer (Cancer Journey Action Group) and the Canadian Association of Psychosocial Oncology. (2009).
 11. Donovan, K.A., Grassi, L., McGinty, H.L. & Jacobsen, P.B. Validation of the distress thermometer worldwide: state of the science. *Psychooncology* 2014 23(3): 241-250.
 12. Sharpe, M., Walker, J., Holm Hansen, C. et al. Integrated collaborative care for comorbid major depression in patients with cancer (SMaRT Oncology-2): a multicentre randomised controlled effectiveness trial. *Lancet* 2014 384(9948): 1099-1108.
 13. Fann, J.R., Ell, K. & Sharpe, M. Integrating psychosocial care into cancer services. *J Clin Oncol* 2012 30(11): 1178-1186.
 14. Faller, H., Schuler, M., Richard, M. et al. Effects of psycho-oncologic interventions on emotional distress and quality of life in adult patients with cancer: systematic review and meta-analysis. *J Clin Oncol* 2013 31(6): 782-793.
 15. Sutherland, G., Hill, D., Morand, M., et al. Assessing the unmet supportive care needs of newly diagnosed patients with cancer. *Eur J Cancer Care (Engl)* 2009 18(6): 577-584.
 16. Farthmann, J. & Hasenburg, A. Sexual function and fertility preservation in cancer patients. *Gynakol Geburtsmed Gynakol Endokrinol* 2009 5(3): 220-230.
 17. Farthmann, J. & Hasenburg, A. Sexuality After Ovarian Cancer Therapy, Ovarian Cancer - Clinical and Therapeutic Perspectives, Dr Samir Farghaly (Ed.), In Tech, available from: <https://www.intechopen.com/books/ovarian-cancer-clinical-and-therapeutic-perspectives/sexuality-after-ovarian-cancer-therapy>. (2012).
 18. Foster, C. & Fenlon, D. Recovery and self-management support following primary cancer treatment. *Br J Cancer* 2011 105 Suppl 1: S21-28.
 19. Earle, C.C. & Ganz, P.A. Cancer survivorship care: don't let the perfect be the enemy of the good. *J Clin Oncol* 2012 30(30): 3764-3768.
 20. Kinner, E.M., Armer, J.S., McGregor, B.A. et al. Internet-Based Group Intervention for Ovarian Cancer Survivors: Feasibility and Preliminary Results. *JMIR Cancer* 2018 4(1): e1.