

Review Article

A review of interventions to enhance the quality of life for gynaecological cancer patients

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Abstract

Background: Enhancing the patient's quality of life requires a pro-active approach to managing the physical, psychological, social and sexual rehabilitation following gynaecological malignancies.

Aim: To identify interventions that health care providers can adopt to enhance the quality of life of gynaecological cancer patients by improving their physical, psychological, social and sexual well-being.

Methods: Studies were retrieved from four databases CINAHL, SCOPUS, PubMed, GlobalHealth and reference lists of relevant journal publications.

Results: The findings show that interferences that target the gynaecological patients' physical, psychological, social, emotional and sexual aspects are critical to improving the quality of life. The interventions may take the form of; peer support, functional social support, nurse-led support, psychoeducation, psychosexual, psychosocial interventions and individualized education program for symptom management.

Conclusion: Gynaecological cancers and its treatment can have a significant effect on patients' physical, psychological, social and sexual well-being. Healthcare professionals especially nurses, psychologists, counsellors, and peers should play an active role to address these complex needs of patients by providing interventions that utilize a multidisciplinary approach that is tailored to meet patient's individual needs and enhance their quality of life.

Introduction

Gynaecological cancers refer to cancers of the cervix, ovaries, endometrium, vulva and vaginal cancers. Every year, there are over one million new cases of the three major gynaecological cancers (cervical, endometrial, and ovarian cancer) worldwide [1]. Cervical cancer is the second most malignancy affecting women worldwide with 471,000 annual cases and 233,000 deaths in the world and most deaths occurring in developing countries [2]. About 83% of the cases occur in developing countries where cervical cancer accounts for 15% of all cancers in women, with a cumulative risk of 1.5% (1 in 67) by age 64 [2]. While in developed nations cervical cancer accounts for only 3.6% of cancers in women, with a cumulative risk of 0.8% (1 in 125) by age 64 [2]. Among the gynecologic cancers, cervical cancer offers high potential for prevention, early detection, and cure due to its long preinvasive phase [2,3]. Quality of life is the subjective evaluation of the positive or negative attributes that characterize ones' life [4]. The primary domains of quality of life include physical, psychological, social and spiritual well-being, although some authors may include functional abilities, political, financial and cultural dimensions [5]. The quality of life in cancer patients often consists of the toxicity and burden of the treatment, and the patients socio-demographic, personal, psychological, social, emotional and financial situations which interact with each other concurrently and repeatedly [5,6]. Also, gynaecological cancers often require a multidisciplinary approach including surgery, chemotherapy and radiotherapy and each form of treatment causes different side effects, functional impairments which may result in changes in the patient's psychological dysfunction [6-8].

Several problems can occur as a result of treatment of gynaecological cancer, and these may include sexual problems, early menopause, chemotherapy-induced toxicity, and loss of body image [8]. Sexual functioning problems may have a deeper effect on quality of life as they reflect problems with physical symptoms, self-esteem, self-perception, sense of well-being, satisfaction with life, and relationships with partners [9]. This may be particularly distressing because the body parts involved are associated with femininity, sexuality, and childbearing which may have adverse consequences for intimate relationships [1]. The pelvic location of these tumours may live many patients with problems of the urinary, gynecological and lower digestive tract capacities disturbed by sexual dysfunction connected with anatomical and physiological changes which impact significantly on the quality of life [8]. Also, several symptoms and problems have been reported to affect gynaecological cancer survivors, and these may include sexual activity and fertility, early menopause, chemotherapy-induced toxicity, and the loss of body image [7].

According to Molassiotis [10], a theoretical framework developed

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for cancer patients, psychological functioning, physical health, sexuality, environment, social functioning and individual dimensions are critical in the adaptation process of a cancer patient and interventions made toward these aspects are more likely to improve the quality of life. To improve patients quality of life, healthcare providers should also consider long-term consequences which present after diagnosis and treatment that linger such as pain, fatigue, sexual problems, body image concerns and psychological dysfunction [11]. The most critical element in the quality of life is whether patients are satisfied with meeting their individual needs and narrowing the gap between expectations in life and achievements [12]. The challenge for the health care system is to know ways to support gynaecological cancer patients to adjust and cope with the stressful situations and to identify individuals who do not manage such adjustments during and after the medical treatment [12]. Understanding quality of life among gynaecological cancer patients can provide information concerning areas in need of improvement of the care and subsequently ease suffering among gynaecological cancer patients.

Aim

The purpose of this paper was to identify interventions that health care providers can adopt to enhance the quality of life of gynaecological cancer patients by improving their physical, psychological, social and sexual well-being.

Methods

Search strategy

The authors derived a plan to identify published studies about interventions that enhance the quality of life of gynaecological cancer

patients. The authors individually examined literature from databases known to have the most recent publications from studies focusing on gynaecological cancer. The databases searched included SCOPUS, CINAHL, PubMed and GlobalHealth. The dates for the search were 2006 to 2016 because this period of 10 years gives relatively recent articles about perspectives and changes on interventions that enhance the quality of life in that time. The search terms used to retrieve entailed studies from the databases included: ('ovarian' OR 'endometrial' OR 'cervical' OR 'vaginal' OR 'vulva') AND ('cancer' OR 'tumor' OR 'tumour' OR 'malignancy' OR 'neoplasm') AND ('quality of life' OR 'HRQoL' OR 'QoL') AND ('physical interventions' OR 'psychosocial interventions' OR 'social interventions' OR 'spiritual interventions' OR 'sexual interventions'). Finalizing of the search terms occurred after searches were carried out to exploit the number of citations in the past ten years available to the authors. The search terms were purposely kept broad to avoid losing possibly relevant publications. A secondary search involved skimming the reference lists of articles selected during the primary search. The search yielded 71 articles in MEDLINE, 43 articles in SCOPUS, 34 articles in CINAHL, eight articles from GlobalHealth, eight articles from grey literature and four articles from manual literature.

The inclusion criteria for the review was primary qualitative and quantitative studies, focusing on interventions that enhance the quality of life of gynecological tumor patients, and written in the English language. The included nine articles met the inclusion criteria regardless of the method, sample size and instruments employed in the studies and a synthesis table was developed to organise and extract findings from the articles as shown in Table 1. Other literature on the subject and not necessarily primary studies was used to support the discussion

Table 1. Interventions to enhance quality of life among Gynaecological Cancer Patients.

Author	Study setting	Sample Characteristics	Type of interventions	Design, methods, and instrument	Study Purpose	Key findings and conclusion
Chow <i>et al.</i> , 2014	Obstetrics and gynaecology department of a teaching hospital in Hong Kong	26 women newly diagnosed cancer with surgery as first-line treatment. 6 suffered from cervical cancer, 13 had uterine cancer, and 7 had ovarian cancer Intervention group (n=13) Control group (n=13)	-Psycho-education. Intervention based on a particular counselling model and delivered in 4 sessions. -The first session offered in the outpatient clinic on recruitment. -Other three courses were given postoperatively and during rehabilitation period	Single-blinded randomized controlled trial and mixed method design	To test the feasibility of implementing a psycho-educational intervention program for gynaecological patients	<ul style="list-style-type: none"> • There was an improvement in the level of inconsistent information about the illness within the category of uncertainty among patients in the intervention group. • There was an improvement in the quality of life, uncertainty, depression and perceived social support. • The intervention was desired and appreciated by the participants.
Schofield <i>et al.</i> , 2013	Six sites in public hospitals from three states in Australia	306 women confirmed diagnosis of gynaecological cancer, scheduled to receive radiotherapy with curative intent and aged 18 years and above Intervention group (n=153) Control group (n=153)	Psychosocial intervention using nurse-led consultations and telephone peer support	Multisite randomized control trial. This multifaceted intervention comprises four nurse-led consultations and four phone calls from a peer supporter.	To evaluate the effectiveness of the intervention package to reduce psychological distress in women receiving radiotherapy with curative intent of gynaecological cancer. Secondary aim assesses patient quality of life, symptoms distress, unmet supportive care needs, preparation for treatment, psychosexual functioning, and vaginal stenosis.	<ul style="list-style-type: none"> • This research was likely to reduce the physical, psychosexual and supportive care needs of women. • Using a telephone peer support model ensures equitable access to support services for geographically isolated patients. • Involving peer volunteers who liaise with nurses encourages adherence to professionally delivered information and provides emotional support. • Can be transferred to a range of treatment settings and diseases.

Pistrang <i>et al.</i> , 2012	Gynaecological Oncology Department of a London Cancer Centre	24 women recently treated for gynaecological cancer and had received peer support for up to 3 months	Telephone peer support	Qualitative design Semi-structured interviews Interview guide	To examine a telephone-delivered one-to-one peers support intervention for women with gynaecological cancer focusing on recipients experiences of process and outcome	<ul style="list-style-type: none"> An emotion bond, empathy, talking openly, reciprocity, information, guidance and humor transpired. Participants described several benefits, for example, hope and confidence, making sense of illness experience and rebuilding one's life. Peer support can address the disease and treatment concerns of women with gynaecological cancer. Peer support can also solve the adaptive tasks.
Sacerdoti <i>et al.</i> , 2010	Stanford University conferences room	16 women who had received surgical, radiation, and/or chemotherapy treatment for gynaecological cancer	Psycho-sexual intervention of patients in a cancer support group	<ul style="list-style-type: none"> Relaxation Protocol to put respondents at ease Open-ended one-on-one interview on various aspects of sexuality and body image 	To investigate patients perspectives on the aspects of their sexuality and body image and determine how psychologists can help them.	<ul style="list-style-type: none"> Gynaecological cancer patients need an opportunity to articulate the complexity of their feelings and experiences. Most of them found it beneficial to work through sensitive psychosexual issues in a psychotherapeutic setting. Psychologists working with these patients should initiate discussion of potential sexual related concerns. Psychologists can adopt several roles such as patient educator on psychosexual consequences of cancer as well as a trainer of health care professionals to enhance assessment skills in the area of sexual health.
McCorkle <i>et al.</i> , 2009	Northeastern teaching hospital associated with a comprehensive cancer centre	123 post- surgical women suspected having ovarian cancer Intervention group (n=63) Control group (n=60)	Nurse tailored intervention by an Advanced Practice Nurse and Psychiatric Consultation Liaison Nurse	<ul style="list-style-type: none"> Single-blinded randomized control trial 6-month intervention was evaluated using self-report questionnaires Quality of life assessment with Epidemiological studies-Depression Scale. The ambiguity subscale of the Mishel Uncertainty in Illness Scale The symptom distress scale The Short-Form Health Survey 	To address physical and psychological needs post-surgery and during chemotherapy treatment	<ul style="list-style-type: none"> There was significantly less uncertainty, less symptom distress and better mental and physical quality of life over time. Nurse tailored interventions target both physical and psychological aspects of quality of life among women recovering from cancer surgery and undergoing chemotherapy produce stronger positive outcomes than interventions that target one quality of life issue.
Lim & Zebrack 2008	Five hospitals in Seoul Korea	161 women named as cancer survivors	Functional social support	<ul style="list-style-type: none"> Quantitative design The Quality of life Cancer Survivor questionnaire. The Brief Symptom Inventory 	To investigate how social support influences quality of life	<ul style="list-style-type: none"> Functional social support directly affects quality of life and reduces psychological distress. Social networks can diminish barriers to follow-up care

Nelson <i>et al.</i> , 2008	Multi-sites University of California	50 women Cervical Cancer survivors	Psycho-education intervention using a psychosocial telephone counselling	A randomized controlled trial in cervical cancer survivors	To increase survival by improving using quality of life a psychological intervention	<ul style="list-style-type: none"> • There was enhanced quality of life resulting in improved clinical outcomes including survival. • The study supports the integration of the chronic stress response into biobehavioral models of cancer survivorship. • Interventions leading to enhanced QoL result in improved clinical outcomes and patient survival
Brotto <i>et al.</i> , 2008	University Medical Centre	22 heterosexual, Caucasian Women. 13 women had early stage cervical cancer and 9 had history of endometrial cancer	Psycho-educational Intervention of 3 one-hour sessions that include cognitive and behavioural therapy with education and mindfulness training	Mixed design quantitative and qualitative A detailed assessment of sexual arousal, the Female Sexual Function Index and SF-36 Quality of Life questionnaires were administered. Physiological measurement of sexual arousal. The Film scale administered during the sexual arousal assessment. Semi-structured interviews Interview guide	To implement a psycho-educational intervention for sexual dysfunction in women with gynaecological cancer	<ul style="list-style-type: none"> • There was a positive effect of the psycho-educational intervention on sexual desire, arousal, orgasm, satisfaction, sexual distress, depression and overall well-being. • Improved physiological and perceived genital arousal. • Women reported the mindfulness component to be very helpful. • Psychoeducational intervention improves aspects of sexual response, mood and quality of life in gynaecological patients and had implications for founding the elements of a psychological treatment program for Female Sexual Arousal Disorder
Velji <i>et al.</i> , 2006	Two teaching hospitals in Canada	144 women who received radiation for gynaecological cancer. Intervention group (n=72) Control group (n=72)	Individualized education program for symptom management in 6 sessions	A two-group Randomized Control Trial with repeated measures design	To evaluate individualized symptom education interventions in women with gynaecological cancers	<ul style="list-style-type: none"> • There was a significant decrease in symptom distress scores at the end of the intervention compared to women who received usual care. • Women in the individualized symptom education intervention experienced fewer symptoms of distress, pain, fatigue, and nausea at the end of radiation treatment

of the most important points. The process of writing this paper did not require approval by the research and ethics committee. Articles were rejected if they were found to be editorial letters, commentaries, and literature reviews. See figure 1 for the outline of the procedure for managing the pool of 168 articles.

Review process

The three investigators completed an initial review of all article titles for relevance to the subject of enhancing the quality of life for gynaecological cancer patients. If one of the three investigators decided that an article title was possibly relevant, the abstract was recovered and reviewed. The three researchers screened the abstracts, and if they agreed on the inclusion status, they independently read the article to abstract data on interventions that enhance the quality of life. When there was dissimilarity regarding the information, a fourth reviewer was assigned to break the tie. There was blinding of the abstract reviewers to the comments of the other reviewers.

Results

A total of 168 studies identified through the database search, manual, and grey literature search were screened to decide if they met

the inclusion criteria. Twenty-eight full-text studies were retrieved, to assess them ultimately for eligibility for inclusion in the integrative literature review and read in entirety. Finally, only nine studies met the inclusion criteria (please see Figure 1). Reference lists of the nine included studies were then reviewed to search for additional potentially eligible studies. There were no other documents found that met the inclusion criteria for this further reference list analysis.

Characteristics of the studies

A sum of nine studies met the inclusion criteria, and Table 1 shows a detailed summary of each study. Overall, the nine studies employed quantitative, qualitative and mixed methods studies. The studies used various approaches and designs, five used randomized control trials [13-17]. Two studies utilized qualitative methods through semi-structured interviews [18,19], and one study employed the quantitative non-experimental approach [20] and only one study utilized the mixed design method [21]. The studies occurred in various countries like USA, United Kingdom, Australia, Canada, Hong Kong and Seoul Korea and numerous primary care settings such as university teaching hospitals, public hospitals, urban cancer centres, and medical facilities. All the participants' in these studies had gynaecological cancer and

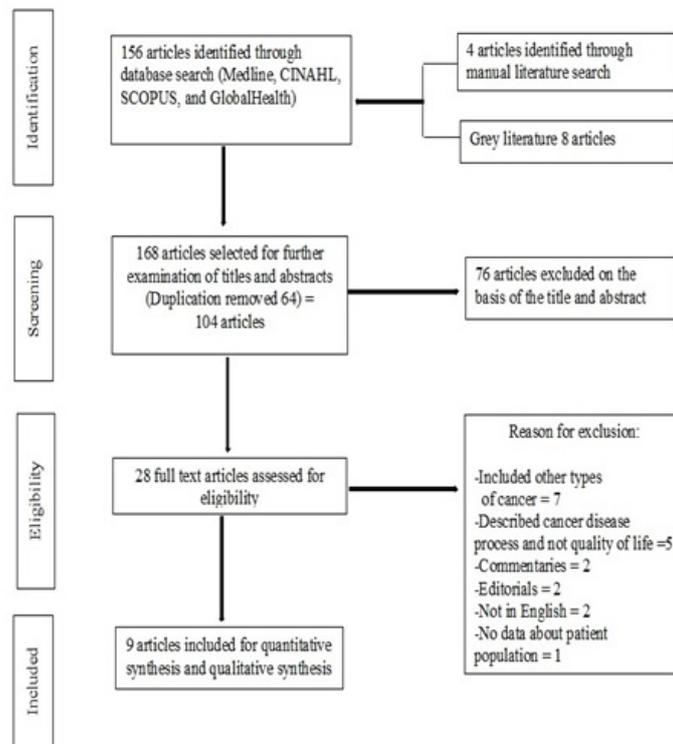


Figure 1. Flow Diagram.

were at different stages of treatment on chemotherapy, radiotherapy, post surgery while others were gynaecological cancer survivors.

Interventions to enhance the quality of life

The results discuss interferences reporting to improve gynaecological patient's quality of life that target the patients' physical, psychological, social, emotional and sexual aspects. The interventions included: the psychoeducational interventions, nurse-led intervention, peer support interventions, psychosexual strategy, functional social support and individualized education program for symptom management. In what follows, each primary category is explored in-depth.

Central themes

The psychoeducational intervention

Of the nine articles, three articles applied the psychoeducation intervention to improve the quality of life of gynaecological patients with a counselling model [13,15] and with cognitive and behavioural therapy [21]. The study of Chow *et al.* [13], employed 26 participants, six suffered from cervical cancer, 13 had uterine cancer, and 7 had ovarian cancer. The mean age was 54.5 years. The primary diagnostic stage of the cancer was stage I (73.1%), and 50% of the participants had had surgery as a treatment modality for the disease. The study employed a one to one psychoeducational format for the first three meetings and a group counseling in the last session so as to provide an opportunity for the participants to talk about their feelings and gain support from other people in similar situations [13]. Also, trends towards improvement were demonstrated in the quality of life, uncertainty, depression and perceived social support with the provision of the interventions.

The study by Nelson *et al.* [15], employed 50 patients determined from the provincial tumor registries with reported histologic findings

of squamous cell carcinoma of the uterine cervix. The inclusion criteria were patients with pathologic growth stages I, II, or III, who had experienced complete treatment, who were conversant with English or Spanish as their primary dialect, who had admittance to a phone, and who were able to comprehend and sign an informed consent form. The study used a psychoeducation intervention comparing a different psychosocial telephone counseling intervention to usual care. The psychosocial telephone counseling intervention yielded significantly improved quality of life ($P = 0.011$). Also, there was a positive relationship between patients improved immunity and enhanced quality of life.

The study by Brotto *et al.* [21], included 22 women with mean age 49.4 years, and 18 (82%) women had some tertiary education. All women were hetero, Caucasian, and had an average age of 15.3 years (range, 1–45 years). Thirteen women had a history with early stage cervical and nine women a history of endometrial cancer. The women had three sessions psychoeducational intervention. The psychoeducational intervention consisted of three, one-hour sessions that consolidated components of psychological and behavioral treatment with instruction and care preparing. Women completed surveys and had a physiological estimation of genital excitement at pre- and post-psychoeducational intercession (sessions 1 and 4) and partook in a semi-organized meeting (session 4) eliciting their feedback on the psychoeducational intervention. There was a critical, constructive outcome of the psychoeducational meditation on sexual yearning, excitement, climax, fulfillment, and a pattern towards radically enhanced physiological genital excitement. The findings suggest that a brief three-session psychoeducational intervention can enormously improve parts of sexual reaction, state of mind, and personal satisfaction in gynaecological cancer patients, and has suggestions for building up the segments of a mental treatment program for female

sexual excitement disorder.

Nurse-led interventions

Two studies applied the nurse-led intervention using nurse-led consultations and telephone peer support [16] and the other used services of an Advanced Practice Nurse and Psychiatric Consultation Liaison Nurse [14]. The study by Schofield *et al.* [16] employed three-hundred and six participants with gynaecological cancer on radiotherapy, aged 18 years or over and who spoke English. The multifaceted intervention comprised of four nurse-led consultations coupled with four phone calls from a peer support volunteer a gynaecological cancer survivor. The evidence-based intervention was delivered at critical points in the illness trajectory: pre-treatment, mid-treatment, treatment completion and post-treatment. The novel intervention included adherence to professionally-delivered information and provided emotional support. This timely research was effective in reducing the physical, psychosexual and supportive care needs of women with gynaecological cancer [16].

The study by McCorkle *et al.* [14] utilized two randomized groups. The intervention group received six months of specialized care by an Advanced Practice Nurse; also, patients with high distress were assessed and observed by a psychiatric consultation–liaison medical nurse. The research assistant assisted the attention control group with symptom management. The impacts of the 6-month intercession were assessed utilizing self-report questionnaires at standards (24–48 h after surgery), one, three, and six months post- surgery. The quality of life appraisals incorporated the Depression scale, the Vagueness subscale, the Symptom Distress Scale, and the Short-Form Health Survey (SF-12). The Advanced Practice Nurse intervention resulted in significantly less uncertainty than the attention control intervention six months after surgery. The subgroup who received the interventions from the Advanced Practice Nurse plus psychiatric consultation–liaison nurse had essentially less instability, less side effect such as pain, and better mental and physical quality of life over time. Therefore, the results from the study show that nurse-tailored interventions that target both physical and psychological aspects of quality of life in women recuperating from malignancy surgery and experiencing chemotherapy produce more grounded results than intercessions that focus solely on one quality of life issue.

Peer support intervention

Pistrang *et al.* [18] utilized the telephone one to one peer support strategy. They conducted semi-structured interviews with 24 women recently treated for gynaecological cancer who had received peer support for up to a 3-month period. The peer support intervention showed positive results that included a passionate bond, compassion, talking transparently, correspondence, data and direction, and humour. Also, the patients highlighted other advantages, of peer support such as trust and certainty, understanding the ailment experience and reconstructing one's life. Thus, one-to-one telephone peer support shares common features with support groups but is uniquely dependent on an efficient working relationship between the support provider and beneficiary. Peer support can address the disease and treatment specific worries of women with gynecological malignancy, and, also, the versatile errands of recuperation confronted by cancer survivors [18].

Psychosexual intervention

Sacerdoti *et al.* [19] used the psychosexual strategy using a relaxation protocol and one to one interviews on various aspects of sexuality and body image. The study by Sacerdoti *et al.* [19] interviewed

nine gynecological cancer patients and seven cancer-free women. After implementing a relaxation protocol, each woman described their feelings and thoughts on their sexuality and body image in one-on-one interviews. The cancer survivors in the present study still had an interest in sexual activities, despite experiencing significant side effects of medical treatment, feelings of separateness, and/or fears associated with pursuing or maintaining intimate relationships. They suggested that gynecological cancer patients needed an opportunity to articulate the complexity of their feelings and experiences. Many of them would have found it very beneficial to work through sensitive psychosexual issues in a psychotherapeutic setting. Psychologists working with this patient population should delicately initiate discussions of potential sexually-related concerns [19].

Functional social support intervention

Lim and Zebrack [20] employed the functional social support for cancer survivors. They identify multiple dimensions of health status and psychosocial outcomes, consistent quality of life and psychological distress measures among 161 participants. Functional social support and social network structures were assessed. The findings indicate that functional social support positively influences the quality of life and reduces, mental distress. The study illuminated the relationships between social support components influencing the quality of life for gynaecological cancer survivors [20].

Individualized education program for symptom management

Velji *et al.* [17] used the individualised teaching programme for symptom management with women undergoing radiotherapy. The study employed a two-group randomized controlled trial with 144 women with gynaecological cancer with repeated measures design. The patients randomly allocated to either a six-session individualized symptom education program group (intervention) or a regular care group. An individualized education program with distributed [22], evidence-based rules for symptom manifestation, was given to women at the start of radiation treatment and week by week amid radiation treatment for a sum of six sessions. Members of the intervention group showed a significant decline in symptom distress scores toward the end of the mediation contrasting with women who got usual regular care ($p=0.039$). Expectedly, both groups experienced decrease of symptoms through the span of radiation treatment. In any case, women in the individualized education training program bunch had less exacerbating in symptom trouble, pain, exhaustion, and sickness toward the end of radiation treatment.

The discussion below articulates the importance of enhancing the quality of life for gynaecological cancer patients and discusses some of the interventions that doctors, nurses, other health care providers, peers and the community can adopt to enhance the quality of life for gynaecological cancer patients.

Discussion

In this section, I discuss results of the literature review with a particular emphasis on how healthcare professionals could apply these interventions in practice. The practice implications are discussed below under six categories: the psychoeducational interventions, nurse-led intervention, peer support interventions, psychosexual strategy, functional social support and individualized education program for symptom management. In all the nine studies, the participants who received an intervention regardless of the form attained a high quality

of life however participants who received an intervention that utilised a multidisciplinary approach achieved a better quality of life.

The psychoeducational intervention

A third of the studies employed the psychoeducation intervention to improve the quality of life of gynaecological patients [13,15,21]. The psychoeducation intervention incorporates; information provision concerning knowledge of the illness, treatment and self-care given to the patients; behavioural therapy such as relaxation breathing exercises and coping skills; and psychological support provided through counselling [13,15]. All the three studies utilized a multidisciplinary approach to manage the psychoeducation interventions. Similarly, Chow, Chan, and Chan [23] found that when the psychoeducation intervention uses an interdisciplinary approach where the nurse is the most active provider, together with a clinical psychologist and a clinician, this results in better health outcomes and improves the quality of life of gynaecological patients. Also, the psychoeducation interventions need to be incorporated into routine care for gynaecological cancer and target patient concerns and thus improving their quality of life [24,25]. The gynaecological cancer patients subjected to the psychoeducation intervention demonstrated better trends of improvement in emotional well-being as well. Also, they had improved mood, social support, positive social interaction, reduced depression levels, improved sexual functioning, consequently increasing the patient's quality of life [13,15,21]. Therefore, providing a psychoeducation intervention using a multidisciplinary approach to a diverse population is a very practical strategy that enhances the quality of life of gynaecological cancer patients.

Nurse-led intervention

The use of nurse-led interventions can provide a pro-active approach by professionals who are skilled in the provision of holistic care to improve patients' quality of life [1]. Schofield and Colleagues [16] used a multidisciplinary approach to healthcare delivery that involved the input from a nurse consultant and peer supporters' intervention to reduce psychological distress in women receiving radiotherapy with curative intent for gynaecological cancer. The adequacy of an imaginative, customized nurse and peer support groups for women with gynaecological cancer was patient centred, promoted adherence to self-care, provided coordinated care including timely referrals and increased access to supportive care for women living in a remote setting via the telephone [16]. Engaging peer supporters in the treatment plan reduced nurses' time spent on healthcare encouraged the adherence to professionally delivered information and supported patients on post-treatment completion who were geographically or medically isolated [16,18]. This approach was effective in reducing physical, psychosexual, and supportive care needs of women with gynaecological cancer and increased greater use of health care services and thus improving their quality of life [26].

McCorkle and Colleagues [14] supported the use of the nursing intervention approach to enhance the quality of life for gynaecological patients. According to Sekse *et al.* [27] using a nursing intervention is critical for supporting patients with cancer to create a follow-up process that is tailored individually to each cancer patient. The nursing intervention involved combined services of an oncology advanced practice nurse and a psychiatric consultation-liaison nurse who met with the patient to discuss the plan of care. The primary objective of this nursing intervention was to assist patients in developing and maintaining self-management skills postoperatively and to facilitate their active participation in decisions affecting their subsequent

treatment, which included chemotherapy [14]. This specialized intervention of using nursing involvement and a psychological evaluation helped in reducing the physical and psychological burdens associated with gynaecological cancer and enhanced patient quality of life.

Peer support intervention

According to Pistrang *et al.* [18] using a telephone one to one peer support intervention can be an effective intervention to improve patients' quality of life. The one to one peer support typically involves an old patient or survivor providing emotional or informational support to someone at an earlier stage of treatment or recovery [28]. This intervention builds on experiential knowledge and mutual sharing of people who have experienced similar stressors or health condition, however, the support is unidirectional with one person in a designated helping role. [18,29]. Telephone support has the advantage of overcoming the practical problem of meeting face to face, particularly for patients who live in rustic ranges or who are exhausted by the side-effects of treatment [30]. This type of intervention can be beneficial to both the peer supporter and the recipients. This approach also helps patients cope with diagnosis and treatment, improves satisfaction with medical care, and increases knowledge about the disease. Also, it develops coping strategies, provides a sense of hope, improves personal relationships, expands social support, fosters a sense of belonging and improves mood [29,31]. Patients who have undergone one to one peer support report decreased isolation, increased hope and making sense of one's experience [18]. The one to one peer support intervention is also beneficial for women who have completed their treatment and were in the transition from "patient" to "survivor". Also, it helps them in processing emotions, making meaning and returning to normal life thus facilitating adaptation [18,32]. According to literature the one to one peer support programs with well-trained peer supporters can provide useful emotion, social and information support to patients and their families throughout diagnosis, treatment and survivorship [33-35]. Furthermore, this approach can enhance a feeling of self-esteem and well-being to the peer supporter, and a more profound therapeutic benefit is from their cancer experience and a sense of closure by coming to terms with emotionally painful issues [33,36]. However, one of the potential risks in cancer peer support is that the emotional distress of the recipients may amplify the supporters own anxieties and vulnerabilities [18].

Functional social support intervention

According to Lim and Zebrack [20], functional social support is crucial in enhancing the quality of life of gynaecological cancer patients. Support from key sources such as the spouse, family and friends have shown to be of paramount importance [20]. Also, research studies have reported that women with gynaecological cancer who participate in support group report successful adaptation to the disease and its treatment [37]. Influencing functional social support by the available social network depends on the extent to which survivors use supportive services, their perception of such services and the availability of social support [20]. Having diverse support networks may provide survivors with more sources of material aid, more security in areas of economic concern and positive, supportive care services and turn improving the quality of life [38]. Having functional social support in the form of support groups provides a unique sense of community, and unconditional acceptance. Also, this facilitates positive relationships with family and friends because of relieving their burden of care,

promoting increased empowerment and agency and improving the overall well-being of group attendees [39].

Individualized education program for symptom management

Velji and Colleagues [17] employed an individualized education program symptoms management for distressed women receiving radiation therapy for gynaecological cancers to improve their quality of life. Women who receive radiation therapy for gynaecological malignancies experience some concurrent symptoms including fatigue, pain, nausea, pelvic symptoms and mood disturbance [8,11]. These symptoms may linger on after treatment and may cause severe distress and have an adverse influence on the scope of quality of life. The women who utilized the individualized education program intervention showed a significant decrease in symptom distress and showed less worsening symptoms of distress pain, fatigue, and nausea at the end of the radiation treatment than those who received usual care [17]. Therefore, this intervention can be effective in managing symptoms among women undergoing radiotherapy and thus can impact positively on their quality of life.

Psychosexual intervention

According to Sacerdoti *et al.* [19], gynaecological cancer can harm all four stages of female sexual response namely sexual desire, excitement, orgasm and sexual response. One of the effective interventions used in clinical practice to address the sexuality of gynaecological cancer patients is the psychosexual response [19]. The psychosexual intervention targets changes in sexual functioning and mood among gynaecological patients [40]. Sacerdoti *et al.* [19] implemented the psychosexual intervention by first using a relaxation protocol to put patients at ease and then they asked the women to describe their feelings and thoughts on their sexuality and body image in one to one interview. During this intervention, the patients found it beneficial to discuss sensitive psychosexual issues in a psychotherapeutic environment with a psychologist, nurses, and doctors. Accepting information on sexuality is esteemed a high need for women with gynaecological cancers as one of the three most important issues in the provision of health care [41]. Similarly, in another study Maughan and Clarke [42] implemented the psychosexual intervention using services of clinical nurse specialists and sexual partners of the women who were encouraged to participate in the rehabilitation and adaptation nursing intervention sessions. Results indicated that this intervention showed a positive impact on women's resumption of sexual activity, quality of life and facilitated the recovery and adaptation process. Therefore, providing a psychosexual interference using a multidisciplinary approach in a diverse population can be an effective intervention to improve sexual well-being among gynaecological patients thus enhancing their quality of life.

Conclusion

The studies reviewed substantially informs our understanding of intervention strategies to improve the quality of life outcomes for gynaecological cancer patients recovering from cancer surgery, undergoing chemotherapy and radiotherapy and those who have completed their treatment and were thus in the transition from "patient" to "survivor." They suggest the potential benefits of using comprehensive interventions directed by multidisciplinary teams that may include clinicians, nurses, psychologists, counsellors, researchers, communities, families and peer supporters. The interferences can be used to manage the physical, psychological, social and sexual problems that usually affect gynaecological cancer patients' quality of life during and after undergoing the different types of therapy and

bridge the transition from hospital to home. Interventions that utilize the multidisciplinary approach are reported to improve better patients' quality of life. Therefore, health care providers especially nurses, clinicians, psychologists, counsellors, peers and the community should play an active role to address the needs of gynaecological patients by incorporating these interventions in routine care tailored to meet patient's individual needs thus improving their quality of life.

Limitations

The authors included articles only written in the English language. Therefore, articles in other languages or from non-English speaking communities were not represented. The authors included all relevant articles published in the period 2006 to 2016, but there is a possibility that some were missed. The paper also does not address the unmet needs of people in the developing countries. Furthermore, the review excluded publications on complementary or alternative therapies as interventions to enhance patients' quality of life.

Implications of practice

- Health care professionals need to monitor and understand the impact of gynaecological cancers on the patient's physical, psychological, social, sexual, emotional and spiritual well-being and their effect on quality of life.
- Using an intervention that utilizes a multidisciplinary approach can lead to increased survival benefits and better quality of life.
- Interventions to improve gynaecological cancer patients' quality of life should target the individual physical, psychological, social, emotional and sexual needs of the patient.

Conflict of interest

The writers declare no funding or conflict of interest.

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