Nurse-led interventions for promoting self-management in oncological patients

A systematic review

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Summary
Worldwide statistics evidence the increasing number and prevalence of diagnosed chronic diseases such as cancer. Cancer is a chronic condition with uncertain outcomes in what concerns to its cure. Thus, it is crucial that patients develop the right skills to deal with the disease and its profound impact on their activities of daily living. This review aims to identify and critically appraise studies based on the efficiency of nurse-led programmes focused on psychosocial support provided to empower the self-management of adult oncology patients. The research of corpus studies was carried out in the databases of MEDLINE and CINAHL, in the period of January 2017. In compliance with the validation criteria, 22 primary studies were selected and analysed. The results revealed that nurse-led interventions comprised self-management skills aimed to improve symptoms management, self-care activities, health behaviours, social and therapeutic relationships, stress/anxiety management and problem solving. Nursing interventions were implemented individually and/or in a group, applying different methodologies: written material (leaflets, pamphlets, books, manuals, brochures and/or flyers), peer support groups, interactive platforms and telephone calls. Interventions were effective in promoting symptoms management, self-care life and interpersonal relations. Conclusion: Nurses play a key role in providing interventions, health behaviour, stress/anxiety management, psychosocial adaptation, quality of focused on psychosocial support that help people to cope/live with cancer, and promote self-management programmes.

KEYWORDS: CANCER, SELF CARE; REVIEW; SELF-MANAGEMENT; NURSE-LED INTERVENTIONS; PSYCHOSOCIAL SUPPORT.

Introduction

Formerly considered acute and lethal, the oncological disease has increasingly become a chronic condition, therefore, likely to affect the person for many years, in several ways. One of the main challenge of living with this condition is to be able to manage the symptoms and potential side effects, aiming a better quality of life and well-being of those suffering from cancer. The available scientific evidence highlights the empowerment and strengthening self-management of the disease as an important facet[1].

Self-management is a dynamic process in which patients are trained to develop skills to deal with the symptoms, treatments, side-effects and all the changes related to the chronic condition, in order to achieve a better quality of life[1-2]. For instance, a person who is able to identify pain as a symptom and im-

SEARCH STRATEGY **1**

		CINAHL Complete	MEDLINE with Full text
Population	#1	(MH "Cancer Patients") OR (MH "Cancer Survivors") OR (MH "Neoplasms")	(MH "Neoplasms") OR "cancer patient*" OR "oncologic patient*" OR "oncology patient*" OR "cancer survivor*"
Intervention	#2	(MH "Support, Psychosocial") OR (MH "Professional-Patient Relations") OR (MH "Nurse-Patient Relations") OR (MH "Professional-Client Relations") OR (MH "Nurses")	(MH "Social Support") OR (MH "Nurse-Patient Relations") OR (MH "Professional-Patient Relations") OR (MH "Nurses")
Outcome	#3	(MH "Self Care") OR (MH "Self-Efficacy") OR (MH "Self Concept") OR (MH "Health Behavior") OR (MH "Patient Compliance+") OR (MH "Control (Psychology)") OR (MH "Self Regulation") OR (MH "Attitude to Health") OR (MH "Health Beliefs") OR (MH "Attitude to Illness") OR (MH "Patient Autonomy")	(MH "Self Care") OR (MH "Illness Behavior") OR (MH "Patient Compliance+") OR (MH "Health Behavior") OR (MH "Attitude to Health") OR (MH "Self Concept") OR (MH "Self Efficacy") OR (MH "Social Control, Informal")
Search	#4	#1 AND #2 AND #3	#1 AND #2 AND #3

plement strategies, such as analgesia to relieve the pain, is efficiently managing the effect of the disease in their life.

In health professionals' led-interventions, particularly the ones conducted by nurses, a special emphasis has been given to psychosocial support[3], which positively impacts the physical and psychological well-being of the patients, as well as enhances stress management[4].

The psychosocial support comprises a set of interventions focused on patients' physical, emotional and social needs and are usually categorized into three types: informative, instrumental and emotional. These interventions aim to promote the development of effective coping strategies and patients' quality of life[5].

Evidence suggests that people with chronic disease, as cancer, can improve their health and quality of life by taking an active role in self-management[6]. Therefore, the patient should be an active participant in the promotion of his own health and also in the process of adaptation to disease. Healthcare providers, particularly nurses, are important promoters and facilitators in the development of such skills, however effectiveness remains rather unclear.

The aim of this systematic review is to gather the best scientific evidence available with regards to the effectiveness of psychosocial interventions developed by nurses to promote self-management of the oncological disease.

Methods

A good research question needs to be clear, accurate and attainable and should be constructed following the PICOS acronym[7]. The review question was: "What are the effects of nurse-led interventions on psychosocial support (intervention) for promoting self-management (outcome) of adult oncology patients (population)?

A systematic literature review was conducted in order to summarize relevant evidence, according to Bettany-Saltikovand[7] and Cochrane[8]. A peer review protocol was used to set the methodology design and to enable quality assessment, this was registered in the PROSPERO International prospective register of systematic reviews (CRD42015030140) available at: https://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42015030140

Articles search was performed in January 2017 through MEDLINE with Full text and CINAHL Complete using MeSH terms, CINAHL headings and free text terms (table 1). Keywords and relevant outcomes were identified throughout a process of literature search and a discussion session conducted by a group of experts. Latter and through EBSCO database, a "MH Exact Subject Heading" was used which enabled the automatic inclusion of all variations or synonyms terms for the selected keywords. Retrieved articles were submitted to references review. Researchers did not consider unpublished studies (e.g. dissertations or conference proceeding abstracts).

The review was based on articles meeting the following inclusion criteria:

1. Randomized controlled trials or quasi-randomized trials of nursing self-management interventions provided to adult oncology patients, despite the anatomical location and stage of their cancer.
2. English, Portuguese or Spanish written papers. The high level of

scientific evidence was determinant to select only experimental or quasi-experimental studies.

Two reviewers independently scanned the titles and abstract sections of every record retrieved. Full articles were further assessed whenever relevant data was found and each time there was an uncertainty in the fulfilment of the inclusion criteria, a third reviewer was asked to solve potential disagreements.

An adaptation of the evaluation method used by Law et al.[9] was used to assess the studies' quality. All 15 items of the original checklist were included and three other items from Caldwell et al.[10] and Jadad et al.[11] critical assessment tools, were added. For each individual study, data were collected

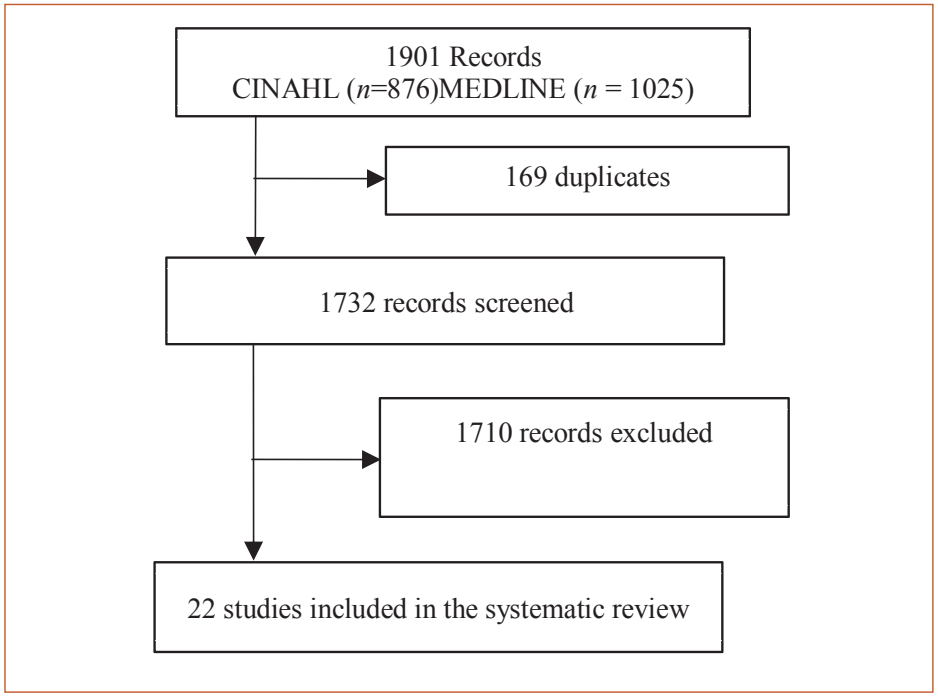

Figure 1. SMA flow diagram

by one reviewer and then checked by other two reviewers. A score of "1" was applied to each item with a "yes" or "not applicable" answer and a score of "0" to a "no" or "not described" answer. The total score was 18 points and studies with values bellow 9 were excluded.

Results

Throughout the conducted research, 1901 studies were identified until December 2016. From this total, 169 were excluded because they were duplicates. After applying the established criteria, 22 studies were submitted to methodological evaluation (fig. 1).

Methodological assessment

Two independent reviewers carried out the assessment of the studies' methodological quality, and, in case of disagreement, a third reviewer was called to make a final decision. Some missing details were found concerning the randomization procedures, however all studies provided precise details on the intervention procedures: a) description; b) method and time set for implementation; c) and content. Considering the study involved psycho-educational interventions, researchers and participants were not blind to the intervention that a participant was receiving. All studies submitted to methodological evaluation were included.

Characteristics of the study participants

The selected studies evidenced two types of samples: eight studies exclusively included participants with breast cancer and 14 studies included individuals with different types of cancer. The number of participants ranged from 36 to 367 and involved a total of 2862 participants, of which 2654 were adult cancer patients and 208 were significant others. Table 2 summarily presents the statistical data for each study and study design details, sample characteristics, interventions and results.

Type of interventions

A great variety was found in terms of the content and procedures of the retrieved interventions. Interventions also differed in terms of length, duration, and number of sessions. The shortest intervention lasted one week (study 2) and the longest 13 months (study 6). All interventions were psycho-educational in nature and were implemented by nurses (16 studies) or multidisciplinary groups (studies 4, 7, 11, 14, 15 e 19).

The majority of skills training interventions comprised self-management skills aimed at symptoms management, self-care activities, health behaviour, social and therapeutic relationships, stress/anxiety management, and problem solving.

Discussion

The studies included in this review used a variety of outcome measures, as shown in table 2. Improving health outcomes pertaining to symptoms management or disease control were analysed across studies using a wide variety of outcomes.

Nine studies focused on the effect of the intervention on participants' quality of life (studies 1, 3, 4, 7, 11, 14, 18, 20 and 21). In the majority of the studies, the implementation of

CHARACTERISTICS OF THE INCLUDED STUDIES **2**

SAMPLE	INTERVENTION	RESULTS
STUDY 1: An Intervention to Increase Quality of Life and Self-Care Self-Efficacy and Decrease Symptoms in Breast Cancer Patients [12]. Study design: experimental. Country: United States of America		
n=53 women with breast cancer Experimental Group: n=10. Control group: n=8.	• Cancer; • Share of experiences; • Coping strategies; • Self-care behaviours; • Relaxation techniques; • Motivation and self-efficacy.	Quality of life: higher for the intervention group compared to the control group (large effect (01) to medium (.06). Symptoms: higher reduction of symptoms for the intervention group compared to the control group (big size effect (.14). Self-care and self-efficacy behaviours: the intervention group adopted more health promoting strategies compared to the control group, except for decision-making, where no differences were found
STUDY 2: The effectiveness of progressive muscle relaxation training in managing chemotherapy-induced nausea and vomiting in Chinese breast cancer patients: a randomised controlled trial [13]. Study design: experimental. Country: Republic of China		
n=71 persons with breast cancer. Experimental group: n=38; years. Control group: n=33; years.	• Muscle relaxation; • Guided imagination.	Blood pressure: significant reduction (. Nausea: lower frequency for the intervention group, but only with significant differences (in the first 4 days after chemotherapy. Vomiting lower frequency for the intervention group, but only with significant differences (in the first 4 days after chemotherapy. Mood disturbance: a decrease in the intervention group and increase in the control group (. Anxiety, depression, fatigue and confusion: no differences were found between the groups.
STUDY 3: The effect of progressive muscle relaxation training on anxiety and quality of life after stoma surgery in colorectal cancer patients [14]. Study design: experimental. Country: Republic of China		
n=59 persons with colorectal cancer submitted to surgery. Experimental group: n=30; years. Control group: n=29; years.	-[1] Relaxation techniques.	Anxiety: the intervention group showed anxiety levels significantly lower compared to the control group (). Quality of life: the intervention group showed quality of life significantly higher in relation to the control group (), although these differences are more visible after 5 weeks.
STUDY 4: Effects of psychosocial intervention on quality of life in patients with head and neck cancer [15]. Study design: experimental. Country: Sweden.		
n=144 persons with head and neck cancer. Experimental group: n=52; years. Control group: n=163; years.	• Head and neck cancer; • Treatments and side effects; • Nutrition.	Quality of life: both groups showed clinical deterioration for the majority of indicators analysed in 3, 12 and 36 months. The intervention group showed a lower quality of life compared to the control group. Perception of health: the intervention group felt sicker compared to the control group (). Depression and anxiety: no significant differences were found, however the intervention group showed higher levels of anxiety and depression.
STUDY 5: The PRO-SELF© Pain Control Program Improves Patients' Knowledge of Cancer Pain Management [16]. Study design: experimental. Country: United States of America		
n=179 persons with bone metastases. Experimental group: n=93; years. Control group: n=81; years.	• Pain and pain assessment; • Use of the medication box; • Communication with physician; • Pain control regimen; • Readjustments in the analgesic prescription;	Knowledge about pain and its management: increases 21% in the intervention group (, whilst in the control group there was a non-significant increase of 0,5% (and a reduction of knowledge in some items. The intervention group did not relate the use of non-pharmacologic methods (such as massage, heat and relaxation) with pain relief (.

***STUDY 6: The Effect of Telephone Social Support and Education on Adaptation to Breast Cancer During the Year Following Diagnosis*[17].** Study design: experimental. Country: United States of America		
n=106 women with breast cancer Experimental group: n=54; years. Control group: n=52; years.	• Experience with diagnosis and treatment; • Decision-making; • Relaxation techniques; • Stress management; • Breast self-examination and others; • Self-image and sexuality; • Fear of recurrence; • Community resources.	Mood: all participants showed significant improvement , with no differences found between groups. Symptoms: all participants showed significant improvement , with no differences found between groups. Relationships with significant others: all participants showed a significant improvement . No statistically significant differences found between groups.
***STUDY 7: Efficacy of comprehensive group rehabilitation for women with early breast cancer in South Korea*[18].** Study design: quasi-experimental. Country: Republic of Korea		
n=65 women with breast cancer. Experimental group: n=28; years. Control group: n=27; years.	• Cancer, treatments and complications; • Nutrition and diet; • Relationships, self-image and sexuality; • Prevention and management of lymphedema; • Breast reconstruction surgery • Rehabilitation exercises.	Articular movements: significant improvement in the experimental group. No significant differences found in the the control group. Significant differences found between groups . Psychosocial adaptation: significant improvement in the experimental group . Significant worsening . Significant differences between groups . Quality of life: significant improvement in the experimental group . No significant differences found in the control groups. Significant differences between groups .
***STUDY 8: Nursing education as an intervention to decrease fatigue perception in oncology patients*[19].** Study design: experimental. Country: Spain		
n=40 persons with gastric and colon cancer. Experimental group: n=23; years. Control group: n=17; years.	• Self-management and coping strategies; • Daily changes; • Stress management; • Nutrition; • Activity and rest; • Community resources.	Fatigue: the experimental group showed a reduction of 11 points, whilst no changes were found in the control group, however no significant differences were found between participants. Satisfaction with intervention: 8,34(SD=0.9), from a total of 10.
***STUDY 9: Depression and Anxiety in Women With Breast Cancer and Their Partners*[20].** Study design: experimental. Country: United States of America		
n=96 women with breast cancer (years) and 96 spouse (years) Group TIP-C (telephone counseling): n=76. Physical exercise group: n=46. Control group: n=70.	• Breast cancer; • Anxiety; • Stress and adaptation; • Social support; • Awareness of changes; • Symptoms management; • Physical exercise.	Depression: No significant time effect , but significant for intervention . No significant interaction effect between intervention and time . The intervention groups (TIP-C and Physical exercise group) showed higher reduction in depression levels compared to the control group. Anxiety: A statistically significant effect for time (and no significant effect for intervention . A significant interaction effect between intervention and time . The intervention groups showed a significant reduction in anxiety symptoms: TIP-C and physical exercise , whilst no significant differences were found in the control group .
***STUDY 10: Effectiveness of a nursing support program for patients with recurrent ovarian cancer receiving pegylated liposomal doxorubicin (Caelyx®/Doxil®)*[21].** Study design: quasi-experimental. Country: Canada		
n=112 women with ovarian cancer Age: years (32-87 years). No control group.	• Ovarian cancer and chemotherapy; • Management of side effects.	Treatment adherence: 59% of participants completed 4 or more chemotherapy cycles. 75% of participants completed more than 3 chemotherapy cycles; 6.25% withdraw from treatment due to side effects. At the end of the 2nd, 4th and 6th chemotherapy cycles the clinical condition was stable or improved in 65.4%, 54.2% and 67.5% of participants, respectively.

STUDY 11: Effect of Educative-Supportive Program on Quality of Life in Breast Cancer Survivors[22]. Study design: quasi-experimental. Country: Thailand		
n=66 women with breast cancer. Experimental group: n=33; years. Control group: n=33; years.	• Self-care activities; • Coping strategies; • Uncertainty and hope; • Health behaviour; • Stress, fear of recurrence and self-relaxation; • Stress and relaxation techniques.	Quality of life: a decrease without significant differences were found in all participants (42nd day: and 3 months after). Self-care: Experimental group: getting back to daily life activities ; perception of changes in daily living ; and self-relaxation using cassette tape provided . Control group: guilty feelings ; no adjustments to daily life activities ; and unmonitored relaxation exercises .
STUDY 12: Effects of a Brief Psychosocial Intervention in Patients With Cancer Receiving Adjuvant Therapy[23]. Study design: quasi-experimental. Country: Republic of Korea		
n=71 patients with cancer. Experimental group: n=37. Control group: n=34.	• Self-care and self-efficacy; • Symptoms management; • Coping strategies and problem-solving; • Relaxation techniques; • Health behaviours; • Relationships.	Fighting spirit: significant improvement found in the intervention group compared to the control group Helplessness/Hopelessness: improved in the control group and decreased in the intervention group, without significant differences . Self-care: significant improvement found in the intervention group compared to the control group . Depression: improved in the control group and decreased in the intervention group, without significant differences Anxiety: no significant differences were found , although the control group showed a higher increase.
STUDY 13: A pain education programme to improve patient satisfaction with cancer pain management: a randomised control trial[24]. Study design: experimental. Country: Republic of China		
n=136 (68 patients with cancer and 68 significant family members) Experimental group: n=68; years. Control group: n=68; years.	• Pain management; • Usage of analgesics.	Satisfaction pain management: higher in the intervention group . Analgesic adherence: participants satisfaction was a mediator between barriers to using analgesics and adherence to the prescribed use of analgesics , accounting for 47-73% of the observed mediation.
STUDY 14: Evaluation of a Comprehensive Rehabilitation Program for Post-Treatment Patients With Cancer[25]. Study design: quasi-experimental. Country: United States of America		
n=36 persons with cancer; years. No control group.	• Physical exercise; • Self-confidence and autonomy; • Adaptation; • Fatigue, anxiety and stress; • Return to work; • Nutrition.	Quality of life: significant reduction (. Fatigue: significant reduction (. Depression: significant reduction (. Pain: significant reduction (. Dyspnoea: significant reduction (. Anxiety; anguish; nausea; insomnia; loss of appetite; bowel obstruction and diarrhea: no significant differences were found.

nursing interventions improved the perceived quality of life of participants, except for study 11 that registered a decreased quality of life of the intervention and control groups, despite no statistically significant differences found between the groups. There was also a decrease in the quality of life of the intervention group in study 4, both after three months and twelve months.

The health condition was analysed in study 17 and all participants showed improvements in this indicator, with no difference found between those receiving usual care and those viewing videos and/or being provided with telephone counselling. Contrarily, in study 4, participants who benefited from the psychosocial intervention felt more ill compared to the other participants. Nurse-led interventions significantly improved self-care (studies 1, 11 and 12), in particular knowledge about the disease and treatments[22].

Adherence to treatment was assessed in three studies (studies 10, 13 and 22). In the first study, the psycho-educational intervention helped to reduce the severity of the palmar-plantar erytrodysesthesia and mucositis, caused by chemotherapy, which contributed for patients' prolonged adherence to treatment. The results from study 13 showed that the implementation of an educational programme on pain mana-

***STUDY 15: Effects of cancer rehabilitation on problem-solving, anxiety and depression: A RCT comparing physical and cognitive-behavioural training versus physical training*[26].**

Study design: experimental. Country: Netherlands

n=209 patients with cancer. Group PT (Physical exercise): n=71; years. Group PT+CBT (Cognitive-behavioural training): n=76; years. Control group (with access to other interactive platforms): n=62.	Group PT (Physiotherapist): • Exercise and exercise physiology; • Disease representation; • Self-management. Group PT+CBT (Psychologist + Nurse): • Problem-solving; • Self-management abilities; • Fight for personal goals; • Sharing of experiences; • Stress and relaxation techniques; • Fatigue and exercise; • Disease representation; • Optimism and self-efficacy.	Problem-solving: At 12 weeks and 3 months the groups PT and PT+CBT show rational problem-solving levels and positive problem orientation, similar to the overall population . At 9 months only the group PT+CBT has maintained the rational problem solving, similar to the overall population. Participants of groups PT and PT+CBT showed higher negative orientation to the problem and impulsive behaviours compared to the overall population. No significant differences were found between PT and PT+CBT groups compared to the control group. Anxiety and depression: A significant reduction was found, with no differences compared to the overall population, except for group PT+CBT that showed higher anxiety levels at 3 and 9 months and higher levels of depression at 9 months , although values were lower in relation to the start moment. The groups PT and PT+CBT showed significant reduction levels in anxiety compared to the control group: PT () and PT+CBT (). As for depression, no significant differences were found between the groups PT and PT+CBT and the control group.

***STUDY 16: The Pro-Self Pain Control Program Improves Patients' Knowledge of Cancer Pain Management*[27].**

Study design: experimental. Country: Norway

n=179 persons with bone metastases. Experimental group: n=87; years. Control group: n=92; years.	• Pain and assessment; • Side effects management; • Pillbox instructions; • Communication with physician; • Management of the therapeutic regimen; • Readjustment in the analgesic prescription.	Knowledge on pain and pain management: higher for the intervention group compared to the control group (. No significant differences were found in the control group for the 9 items analysed. Statistically significant differences in results were found between the intervention group and the control group (.

***STUDY 17: The effects of psychoeducation and telephone counseling on the adjustment of women with early-stage breast cancer*[28].**

Study design: experimental. Country: United States of America

n=249 women with breast cancer (years). Group 1: Control group. Group 2: Psycho-educational videos (A). Group 3: Telephone contacts (B). Group 4: A + B.	• Coping strategies; • Treatments and side effects; • Recovery after surgery; • Cancer experience; • Clarifying questions; • Community resources; • Health behaviours; • Communication; • Self-conception.	Frequency of side effects: reduction in all individuals, with no significant differences between the groups. Severity of side effects: increase in all individuals, with no significant differences between the groups. Health condition: improvement in all individuals, with no significant differences between the groups. Emotional adaptation: increase in psychologic well-being in group 3 between the beginning of the study and surgery and a decrease after surgery (). No differences were found in the psychologic well-being of individuals in the other groups. The impact of side effects increased in the control group (). No significant differences were found in the remaining groups. Social adaptation: the impact of the disease in social life increased for all the participants, with no significant differences found between the groups.

STUDY 18: Effects of an Internet Support System to Assist Cancer Patients in Reducing Symptom Distress[29]. Study design: experimental. Country: Norway		
n=325 patients with breast cancer (n=189) and prostate cancer (n=136). Experimental group: n=162; years. Control group: n=163; years.	• Self-monitoring; • Communication; • Symptoms management; • Self-management activities; • Treatments and side effects;	Emotional disturbance: stress has decreased in the experimental group and increased in the control group (). Depression: significant reduction in the intervention group (), with no significant differences found between groups. Self-efficacy: significant reduction in the control group (), with no significant differences found between groups. Quality of life: significant reduction in the control group (), with no significant differences found between groups. Social support: no significant differences were found between groups.
STUDY 19: Effects of a Psychoeducational Versus a Support Group Intervention in Patients With Early-Stage Breast Cancer[30]. Study design: experimental. Country: Norway		
n=367 women with breast cancer Experimental group (PEG): n=185; years. Experimental group (SG): n=182; years.	Multidisciplinary psycho-educational intervention (PEG): • Breast cancer and surgery; • Treatment and side effects; • Exercise and relaxation; • Community resources; • Coping strategies. Peers group intervention (SG): • Treatment and side effects; • Self-image; • Misperceptions clarifying; • Sharing of experiences and feelings; • Reconstructive surgery; • Genetic counseling.	Depression and anxiety: at 12 months, the groups showed a reduction of approximately 40% in anxiety and 50% in depression, with no significant differences between the groups. Mental status: at 2 and 6 months the group PEG, compared to the group SG, showed a significant reduction of inneffective coping strategies () and a significant increase of positive attitudes (). At 2 months, participants of group PEG were more optimistic than participants of group SG (). At 6 months, a reduction of pessimist behaviours was found in group PEG compared to the group SG. At 12 months no statistically significant differences were found between the groups.
STUDY 20: A Tailored Web-Based Psycho-Educational Intervention for Cancer Patients and Their Family Caregivers[31]. Study design: quasi-experimental. Country: United States of America		
n=88 (44 persons with cancer and 44 family caregivers). No control group.	• Family involvement; • Symptoms management; • Coping strategies; • Fear, uncertainty and optimism; • Positive aspects of the disease.	Stress: significant reduction (Quality of life: significant improvement (Perception of positive aspects of the disease and caring: significant improvement (. Communication and Social Support: no differences were found.
STUDY 21: The effectiveness of a rehabilitation programme for Chinese cancer survivors: A pilot study[32]. Study design: experimental. Country: Republic of China		
n=47 patients undergoing a last chemotherapy session. Experimental group: n=24; years. Control group: n=23; years.	• Treatment; • Nutrition and physical exercise; • Coping strategies; • Support; • Self-efficacy; • Relaxation techniques; • Fatigue.	Self-efficacy: significant improvement in the experimental group compared to the control group (). Mood disturbance: significant improvement in the experimental group compared to the control group (). Quality of life: significant improvement in the experimental group compared to the control group (). Self-efficacy is a predictor of quality of life and less mood disturbance.

***STUDY 22: Impact of tailored patient education on adherence of patients with chronic myeloid leukaemia to tyrosine kinase inhibitors: a randomized multicentre intervention study*[33].**

Study design: experimental. Country: Finland.

n=68 persons with myeloid leukemia. Experimental group: n=35; years. Control group: n=33; years.	• Knowledge of the disease; • Importance of the medication regimen; • Management of side effects; - Psychosocial support.	Adherence to treatment: an increase of 51% for intervention group and an increase of 21% in the control group participants. Significant differences were found between groups (). Patients were most satisfied with face-to-face counselling and the information booklet and least satisfied with text messages.

gement was a mediator to analgesic adherence, significantly increasing the patients' satisfaction with the pain management provided by nurses. In the intervention group of study 22 adherence to the medication regimen increased in 51%, compared to the control group, with an increase of only 21%.

Nine studies analysed the effect of the intervention on anxiety and depression symptoms (studies 2, 3, 4, 9, 12, 14, 15, 18 and 19). The majority of these studies reported a reduction in anxiety and depression after the intervention, however no statistically significant differences were found in relation to the control group, except for study 3. In study 14 a significant reduction in depression was found, but not in anxiety. The psychosocial adaptation to the disease was examined in nine studies (studies 2, 6, 7, 12, 17, 18, 19, 20 and 21). These studies examined, in particular, the attitudes towards diagnosis, fear of recurrence, acceptance or anger feelings, the ability or motivation for self-management (study 7), the fighting spirit and hopelessness (study 12), mood disturbance (studies 2, 6 and 21), emotional distress (studies 18 and 20), psychosocial well-being (study 17) and mental condition (study 19). The emotional distress of participants in study 20 was significantly reduced. In study 12 an increase in hopelessness was found in control group subjects and a reduction in the intervention group. In study 18 a reduction in stress was found in the intervention group and an increase in the control group. The intervention implemented in study 19 promoted the development of positive attitudes and a decline in the usage of non-adaptive coping strategies. In the majority of studies, the psychosocial adaptation was significantly higher for the intervention group, except for study 6, which showed improvements in all participant's mood, hence, no significant differences were found between the two groups, statically speaking.

Finally, satisfactory results were found in the reduction of symptoms and side effects of the disease (studies 1, 2, 6, 8, and 14). In study 2, participants receiving the muscular relaxation intervention and guided imagination, in the first four months after chemotherapy, showed a significant reduction of frequency and duration of vomiting and nausea compared with those receiving usual care. Contrarily to these findings, the psycho-educational intervention used in study 17 did not produce significant results on the frequency and severity of the side effects of the disease and treatment of women with breast cancer.

Overall, the results of this study show a positive impact of the nurse-led psychosocial interventions, on the self-management of the oncological disease, expressed in multiple outcomes. Several studies have reported a decrease in disease symptomatology, stress, fear and uncertainty feelings, after nurse-led interventions. The benefits of the interventions were also evidenced in the psychosocial adaptation, in self-care, in adherence to the therapeutic regimen, in the perception of quality of life, in the satisfaction with the nurses' role, in self-efficacy, in stress management and in patients´ interpersonal relationships. Nonetheless, in two studies, the results do not clearly confirm the benefits of the provided psychosocial support[22,26].

Other literature reviews support these results, for example, a study on the effectiveness of interventions to promote self-management of cancer pain, concluded that the three most effective interventions have been implemented by nurses[34]. Similarly, in the assessment of the effectiveness of interventions focused on self-management and the behavioural change in persons with heart disease, hypertension or diabetes type II, nurses played a key role in education, counseling and in promoting adherence to treatment[35]. Alongside these results, other studies were found that did not suggest the same evidence. For example, an intervention provided by specialist nurses targeting womens with breast cancer, did not produce beneficial effects in the process of transition and adaptation to the disease[36].

Concerning the conceptual framework, only three of the studies included in this systematic review use intervention programmes supported by the theory of self-efficacy[12,23,32]. Self-efficacy proved to be a mediator between mood disturbance and quality of life[32], to be associated with the improvement in quality of life and the reduction of symptoms of

emotional distress[23,32] and to a positive effect on self-care behaviours[12]. The results of these three studies are similar to the conclusions of another systematic review that analyzes self-management interventions, based on the theory of self-efficacy, in patients with stroke[37]. This systematic review confirms emerging evidence of benefits to be gained from programmes that target self-management based on self-efficacy principles; however, the optimal format of delivering these interventions for stroke survivors is not clear[37]. Since our review included 22 studies, and only three studies use self-efficacy principles, it is not possible to assess the benefits of this theory in intervention programmes. Existing evidence emphasizes the importance for patients to play an active role in the management of the chronic disease[2,37,38] and that communication between patients and health care professionals allows people to feel part of the treatment process, very likely to result in positive health outcomes[24].

In what concerns the content of interventions, the majority of the studies was focused on the promotion of knowledge and skills training. The knowledge was related to aspects such as: oncological disease (diagnosis, treatments, complications and prognostic), life styles, sexuality, health surveillance and interpersonal relations (family relationships and communication with health professionals). The development of abilities focused on areas related to: self-care, prevention and management of the adverse side effects of treatments, management of symptoms, relaxation and physical exercise.

As for the resources used in the implementation of interventions, the programmes included a wide variety of strategies such as pamphlets, booklets, books, audiovisual material (e.g. interactive CD-ROM), support groups, interactive platforms and telephone contacts. The most adopted resource was written and audiovisual materials, a similar result to the one found in another systematic review addressing the strategies used to control cancer pain[34]. This strategy might have been used considering the need to balance the cost-effectiveness of interventions. As an example, the use of electronic educational material proved to be sufficient for the promotion to the adaptation process of women with breast cancer, particularly compared with the costs associated with telephone contacts[17].

Notwithstanding, the single dissemination of information through written or electronic material, without the use of educational sessions, can limit the way how people apply that knowledge in the promotion of their own health, adding the difficulty in ascertain the degree to which booklets and leaflets were actually read[38]. The use of written material to provide can highly benefit from other strategies as face-to-face contacts.

In this systematic review, the face-to-face contact was widely used and in seven of the analyzed studies, the face-to-face intervention was complemented with telephone contacts, showing positive outcomes in cancer self-management[14,16,23,24,27,28,32]. The face-to-face contact was also an intervention strategy mentioned in other literature reviews, for example, in the analysis of studies focusing self-management of pain in cancer patients, the face-to-face contact was used in 20 of the 24 retrieved studies[34].

In four of the analysed studies, the intervention was implemented exclusively through telephone contacts[17,20], or interactive platforms[29,31]. Literature also suggests the telephone contact as an efficient strategy to promote self-management of the disease in people with colorectal cancer[39] or prostate cancer[40]. On the other hand, interactive platforms are increasingly used to inform and treat patients, allowing quick and easy access to infinite contents, but the evidence was not fully convincing to confirm the effectiveness of e-health interventions for patients with chronic disease[41]. Similarly, in this systematic review, it is not possible to demonstrate the benefits of interactive platforms in the self-management of the disease in women with breast cancer, particularly with regard to emotional symptoms, quality of life and perception of self-efficacy[29]. Notwithstanding, other review associate interactive platforms to a positive effect on knowledge, social support, behaviours, patient's clinical condition and experience of the oncological disease[42]. The interactive platforms can be important tools for future interventions, however, the face-to-face contacts seem to have a higher impact in self-management of patients with chronic diseases[38].

It is not possible to establish a direct relationship between the types of contact and outcomes, or to conclude that the educational sessions are more beneficial than the written information. It should be noted that the high mortality rate in one study sample suggests that some participants were not available to participate in all the sessions of the self-management programme[23]. This fact seems to emphasize the importance of using telephone contacts and interactive platforms to overcome patients' constraints to attend the therapy sessions[42]. In addition, this will likely enable participants to complete the programmes, since they are able to assure the intervention sessions in their own homes and at more convenient time[31].

The programmes were conducted in periods ranging from one week to 13 months, hindering the possibility of establishing the ideal duration of a programme on the promotion of the self-management of the oncological disease. In other literature review studies on the self-management of the chronic disease, the interventions varied between three and 18 months[43], one month and two years[35], or 6 days and 16 weeks[44]. It's not possible to establish an association between the duration of interventions and the related outcomes[34,35,44], however it must also be

considered that, in some studies, the intervention did not last long enough to achieve better outcomes[23,27]. Follow-up sessions seems to be an effective way to overcome constraints related with the reduced duration of interventions, since it provides continuous support and monitoring, encouraging patients to adopt or maintain healthy behaviours[24,35]. For example, the weekly 10-minute telephone contacts promoted self-efficacy and the perception of quality of life in patients undergoing chemotherapy[32].

Finally, and considering participants involved in the interventions, there seems to be no differences in the approach, whether through individual interventions or in a group context. The support groups can constitute an effective strategy in a way they facilitate the exchange of experiences and feelings, encouraging people to believe that they are also capable of facing the disease challenges[30,32,34]. In three selected studies, the intervention was extended to the significant person and/or family caregiver[20,24,31], showing positive and synergic effects, enhancing the benefits of the intervention in cancer patients[20,24].

Through the performed analysis, the following items emerged to be considered in the planning of programmes to promote self-management of cancer patients:

1. The content of the interventions.
2. The duration of the intervention, considering period, number of sessions and duration of each session.
3. The type of contact (face-to-face or other).
4. Used resources.

Conclusion

Irrespective of the multiplicity and the particularities of the studied interventions, the results indicates that the participation of patients in nurse-led psychosocial intervention programmes is beneficial to physical and psychological health (meaning better quality of life, decreased anxiety and depression) and helps in behavioural change (meaning adherence to medication, symptoms management, lifestyles, communication with health professionals and relationship with significant others) and therefore promotes cancer self-management.

Results also suggest that face-to-face contacts and follow-up through telephone contacts are more effective than the use of written material. The financial constraints and availability of people to attend the sessions can explain why the combination of face-to-face intervention with other strategies (written material, audiovisual material, telephone contacts and interactive platforms) are often more appealing and effective.

Since only three studies reported data on theoretical construct for the development of interventions, it is recommended to focus future study analysis on the importance of the theoretical framework for the planning and implementation of nursing therapeutics. Further research in this area may contribute to determining an optimal duration of interventions and to identify the main contents to be included in nursing programmes aimed at promoting self-management of the oncological disease.

Nurses play an important role in the follow-up and support of people suffering from a chronic disease such as cancer and they should be able to develop self-management programs involving patients, providing them with all necessary information and training skills to cope with the disease, treatments and side effects.

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