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Hope in Adults With Cancer: State of the Science

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Hope has been defined as “a multidimensional dynamic life force characterized by a confident yet uncertain expectation of achieving a future good which, to the hoping person, is realistically possible and personally significant” (Dufault & Martocchio, 1985, p. 380). This classic definition has helped to describe the concept of hope in seriously ill patients. Many scholars agree that hope is complex and multidimensional (Clukey, 2007; Cutcliffe & Herth, 2002; Fitzgerald Miller, 2007), which implies that hope is not one-dimensional and focused only on a cure of disease, but changing and redefined by patients over time (MacLeod & Carter, 1999; Reb, 2007).

Hope has been found to influence positive adjustment in patients with cancer and continues to be a research priority (Oncology Nursing Society [ONS], 2009). Research shows that hope is associated with increased quality of life in adults with cancer (Ersek, 2005; Fitzgerald Miller, 2007), whereas hopelessness is associated with decreased quality of life, lower self-esteem, anxiety, and depression (Ersek, 2005).

Historical themes of hope generated by qualitative studies in the late 1970s and early 1980s, as outlined by Herth (1992), are the interpersonal element; the time-oriented, future focus of hope; and the goal-achievement expectation of hope. Additional dimensions of hope uncovered by qualitative research in the late 1980s through the early 1990s are (a) a more global, non-time-oriented sense of hope, (b) hope despite diminished or absent interpersonal relationships, (c) hope as a sense of being available and engaging in relationships as opposed to doing for oneself and others, and (d) the potential of hope for controlling behavior or emotional responses as opposed to controlling events or experiences (Herth, 1992).

A few intervention studies with hope in various populations were developed prior to 2005. These studies were with patients newly diagnosed with cancer (Rustøen, Wiklund, Hanestad, & Moum, 1998) and those with a first cancer recurrence (Herth, 2000), and reported a

Purpose/Objectives: To synthesize the literature regarding research on hope in adults with cancer.

Data Sources: CINAHL Plus® and PsycINFO databases.

Data Synthesis: Sixteen articles published from 2005–2009 met the criteria for review. The literature was organized according to Oncology Nursing Society levels of evidence. Research studies on hope in adults with cancer were analyzed, critiqued, and synthesized.

Conclusions: Research evidence continues to grow regarding descriptions of hope and hope attributes in adults with cancer. Although nursing intervention programs have demonstrated positive effects on hope in adults newly diagnosed with cancer, those with a first cancer recurrence, the terminally ill, and survivors of childhood cancer, current studies are small and additional research is indicated.

Implications for Nursing: Opportunities exist to explain the dynamic process of hope, develop hope interventions that are tailored to meet the developmental needs of adults with cancer, and study existing nursing programs that support hope using larger samples in randomized, controlled trials.

significant increase in hope postintervention. Research from 2005–2009 on hope in adults with cancer will be examined.

The purpose of this review was to synthesize the literature regarding research on hope in adults with cancer. A primary research literature review was conducted.

Scope of the Review

A comprehensive literature review was conducted using the CINAHL Plus® and PsycINFO online databases. The following key search terms were used: *hope*, *hopelessness*, *neoplasms*, *cancer*, and *carcinoma*. The limiter for research articles was used. The time frame for the literature search ranged from 2005–2009. The reason for this time frame was that comprehensive reviews exist with summaries of the literature up to and including 2005 (Chi, 2007; Cooper, 2006). This article will review and critique current research and combine the findings with prior research.

The literature review focused on research of hope in adults with cancer. The criteria for inclusion were research studies investigating hope in adults with cancer that were published in the English language. Exclusion criteria were pediatric or adolescent studies, studies involving diseases other than cancer, and populations involving family or professional caregivers, rather than patients. The searches identified 179 articles, and 16 met the criteria for review. Two references were excluded, a published dissertation and a conference abstract, because the research was published in another article included in the current review.

Results

The 16 articles reviewed involve quantitative, qualitative, and mixed-methods research. Findings were critiqued in groups using ONS's levels of evidence rating system (ONS, 2010; Ropka & Spencer-Cisek, 2001). Studies were organized into level III evidence and level II evidence. Results were synthesized, and conclusions were drawn regarding opportunities for future study related to gaps in the literature, with suggestions for advancing nursing knowledge.

The Oncology Nursing Society's Levels of Evidence

ONS promotes the use of the strongest available evidence in nursing practice to provide the best outcomes for patients (ONS, n.d.). The ONS model ranks evidence from weakest to strongest in three levels (ONS, 2010). Level III (weakest) applied here refers to qualitative studies, and level II refers to nonexperimental and quasiexperimental studies and to a systematic review. No level I research was identified.

Level III Studies

Six qualitative studies were reviewed (see Table 1). All studies were critiqued for research purpose, sample, methods, data analysis, and findings. Results were compared for contributions to knowledge of hope in adult cancer survivors.

Critique

Through semistructured interviews, Elliott and Olver (2007) examined the spontaneous use of hope in 28 patients with terminal cancer. This well-designed and implemented study described how patients used hope as a noun and as a verb, highlighting that hope was focused on the positive, engagement with life, and connection with others during the last three months of life. Hong and Ow (2007) explored hope from the hospice

patient's perspective. Because of the small sample size ($N = 8$), the findings must be interpreted within the limitations of this major flaw. The Hope Process Framework, involving experiential, rational thought, spiritual or existential, and relational processes, was used to summarize themes. Lindholm, Holmberg, and Makela (2005) examined the significance of hope and hopelessness in 50 women, all within three years of diagnosis with breast cancer. A minor flaw was that the sample included eight participants with a cancer recurrence whose results were not examined separately. Eriksson's Theory of Caritative Caring was used to interpret the results. Mattioli, Repinski, and Chappy (2008) used semistructured interviews to explore and describe the meaning of hope and social support in patients receiving chemotherapy. That study had several minor flaws involving a convenience sample, threats to privacy during interviews in bays separated by curtains and in the presence of family members, and a lack of diversity within the sample. Reb (2007) conducted focused interviews using grounded theory with 20 women experiencing stage III or IV ovarian cancer. The Hope Process Framework was used to show how those women transformed the death sentence. A minor flaw was the inclusion of different phases of illness in the same study without analysis of differences. Thorne, Hislop, Kuo, and Armstrong (2006) examined the impact on the patient of information provided in numerical form within provider communication. This large study ($N = 200$) used an interpretive descriptive method to analyze individual interviews, focus groups, and written accounts from a broader study. Strengths included a large sample and a diverse population.

Themes

Content analysis was used to identify common themes in the articles that were reviewed. Six themes emerged: definitions of hope, the experience of hope being challenged, communication, control, and spiritual and relational aspects of hope.

Definitions of hope: Hope was reported to be individually defined, and was recognized as both a noun and a verb in the terminally ill patients' spontaneous use of hope during semistructured interviews (Elliott & Olver, 2007). As a noun, hope involved the external forces of fighting a disease in medical terms. As a verb, hope indicated responsibility, solidarity, and interpersonal relationships. Although the analysis of spontaneous expressions of hope and recognition of hope as individual to the patient were study strengths, limitations are inherent in separating the noun and verb aspects of an integral concept.

Mattioli et al. (2008) reported hope in patients with cancer receiving chemotherapy as involving not only medical aspects, but all areas of life. In addition, hope had individual, multidimensional meanings for participants,

Table 1. Level III Evidence of Hope in Adults With Cancer

Study	Purpose and Sample	Design	Measures	Findings
Elliott & Olver, 2007	To examine the spontaneous use of hope in 28 terminally ill patients with cancer in Australia	Qualitative	Semistructured interviews	Hope as a noun: need to fight disease and focus on medical domain; hope as a verb: active engagement in life and individually defined good; hope involves responsibility, solidarity, and interpersonal relationships. Even when dying, hope allows focus on the positive, connection with others, and engagement with life.
Hong & Ow, 2007	To explore hope from the patient's perspective in 8 hospice patients in Singapore	Qualitative; Hope Process Framework	Interviews	Support from others, religion, acceptance of illness, and knowledge of self in better condition than others were identified to promote hope. Decreased hope came from absence of family members. Healthcare providers were perceived as instilling hope when they provide care and emotional support and fulfill wishes. Spiritual and relational aspects of hope are important; open and honest communication with family members is important to patients.
Lindholm et al., 2005	To increase understanding of the significance of hope and hopelessness for patients' vitality in 50 women with breast cancer in Finland	Qualitative; Eriksson's Theory of Caritative Caring	Questionnaire with open- and closed-ended questions; one taped interview	Hope and hopelessness presuppose one another and stimulate vitality; sources of hope are communion with others and meaning in life.
Mattioli et al., 2008	To explore and describe the meaning of hope and social support in 14 patients with cancer receiving chemotherapy	Qualitative, descriptive	Semistructured interviews	Focusing on the bigger picture (adaptation); taking cover in the storm (sheltering self from negative); keeping it normal (continuity with prior life); reaching out or not in this alone (seek faith, treatment potential, and others for support)
Reb, 2007	To describe the experience of hope in 20 women with stage III or IV ovarian cancer	Grounded theory; Hope Process Framework	Focused interviews	Facing the death sentence was the main concern, with three phases: shock, aftershock, and rebuilding. Hope was linked to the core variable of transforming the death threat; hope is necessary to find meaning, support, and perceived control.
Thorne et al., 2006	To examine the impact of information provided in numeric form within provider communication from the patient perspective in 200 patients with cancer in Canada	Qualitative	Individual interviews, focus groups, and written accounts	Undercurrent: context of cancer mortality; numeric information influenced hope; themes were calculating the odds, playing the odds, and working against the odds; numbers were perceived as being used to prevent or control unrealistic expectations, with patients seeking to find hope, and professionals seeking to manage unrealistic hope.

and healthcare providers were seen as valuable sources of support. Although these results were interpreted within the limitations mentioned earlier, other studies have supported these findings (Herth, 2000; Rusteøn et al., 1998).

The experience of hope being challenged: Several studies referred to the experience of cancer as involving a death threat (Reb, 2007) and mortality (Lindholm et al., 2005; Thorne et al., 2006), which challenged hope. Reb (2007), in describing the experience of hope in women with advanced ovarian cancer, identified the main theme of *facing the death sentence* as closely linked to the core variable *transforming the death threat* in every phase of the patients' responses. Although the research was based on only one interview with each participant, the process of maintaining hope over time was constructed from the transcripts. In a study by Thorne et

al. (2006) examining the impact of information provided in numerical form (e.g., a therapy's success rate) within provider communication, an undercurrent of mortality was identified. Previous studies support that finding (Buckley & Herth, 2004; Saleh & Brockopp, 2001). Lindholm et al. (2005) studied women with breast cancer to increase understanding of the significance of hope and hopelessness for patients' vitality. Participants perceived hope to be in tandem with hopelessness, with one presupposing the other and stimulating vitality. Hope is portrayed in a dynamic relationship with hopelessness, where hope expands in the presence of hopelessness.

Communication: Communication was reported as important to patients in relation to their hope. Communication involved negative and positive elements affecting the patients' hope. Mattioli et al. (2008)

described patients receiving chemotherapy as sheltering the self from the negative by *taking cover in the storm*, whereby communication was avoided at times to protect the self from negativity. Reb (2007) reported that patients with ovarian cancer sought to find and control information, thereby seeking to maintain hope. Hong and Ow (2007) reported open and honest communication as important to hospice patients. In interviews conducted to explore hope from the patient's perspective, communication with family members was identified, among other factors, as important to patients' hope. Thorne et al. (2006) found that provider communication in numerical form was interpreted by patients as an attempt by healthcare professionals to manage patients' unrealistic hope. The study provided a unique focus on numerical information as specialized communication. The underlying theme of mortality has been noted. However, the authors also stated, "Numerical information was powerfully associated in the patients' accounts with the desire to be hopeful and to have that hopefulness supported through reference to grounded, credible and 'reality-based' possibilities" (Thorne et al., 2006, p. 327). That illustrates the variability of patient responses.

Control: Hope was seen as related to control issues for the patient. Control was reported by Reb (2007) as managing the uncertainty through various means of coping, such as rationalization, minimization, humor, and social comparisons with survivors. Different strategies used by patients were noted at each of the three phases of illness—shock, aftershock, and rebuilding. For the women with ovarian cancer, hope was influenced by perceived control related to their illness. Elliott and Olver (2007) reported that hope in the terminally ill entailed an aspect of responsibility outside of the self when hope was used as a noun. It often was focused on a cure, for which the medical profession was deemed responsible. Thorne et al. (2006) also highlighted the theme of control in that, as noted earlier, patients interpreted provider communication in numerical form as an attempt to manage patients' unrealistic hope.

One of Mattioli et al.'s (2008) findings was the need to maintain normalcy as an aspect of control; they reported that "many participants discussed the importance of continuing what they described as normal daily activities prior to their diagnosis of cancer and chemotherapy" (p. 826). Hong and Ow (2007) found in their sample of hospice patients that hope involved acceptance of illness and seeking knowledge of themselves in a better state than others. That finding was similar to Reb's (2007), where participants compared themselves to other survivors to bolster hope and maintain control of their disease.

Spiritual aspects of hope: Hope was seen as related to spiritual aspects of patients' lives. Spiritual aspects were identified by Hong and Ow (2007) as related to religion and by Reb (2007) and Lindholm et al. (2005) as necessary to find meaning in life. Referring to the typical

participant with breast cancer in their study, Lindholm et al. (2005) noted that the patient "turns to God, and in the relation to an abstract other, she finds consolation and hope through prayer" (p. 36).

Relational aspects of hope: Relational aspects of hope featured prominently in most studies. For participants in Reb's (2007) study, hope was reinforced by support from family, friends, and other survivors. In Hong and Ow's (2007) participants, support from family and professional caregivers was important, and hope was diminished when family support was absent. Elliott and Olver (2007) mentioned the importance of interpersonal relationships, as did Lindholm et al. (2005) and Mattioli et al. (2008). Healthcare providers are mentioned (Hong & Ow, 2007) as instilling hope when they provide care, provide emotional support, and fulfill wishes.

Summary: The six qualitative studies on hope had no major flaws, with the exception of one study with a very small sample size (Hong & Ow, 2007). Theoretical frameworks were involved in three studies, two using the Hope Process Framework (Hong & Ow, 2007; Reb, 2007) and one using Eriksson's Theory of Caritative Caring (Lindholm et al., 2005). These studies confirm previous research on hope within six themes: definitions of hope, the experience of hope being challenged, communication, control, and spiritual and relational aspects of hope. Several studies extend previous findings to include a better understanding of the patient's perspective of communication received from providers as intending to influence hope (Thorne et al., 2006) and the interaction of hope and hopelessness as challenging and transforming hope (Lindholm et al., 2005).

Level II Studies

Level II evidence included seven correlational studies, one quasiexperimental study, one feasibility study, and one qualitative systematic review (see Table 2). All studies were critiqued for design, sample, measurement instruments, data collection, analysis, findings and discussion.

Correlational Studies

Factors positively correlated with hope: Hope was positively correlated with health (Vellone, Rega, Galletti, & Cohen, 2006; Weis Farone, Fitzpatrick, & Bushfield, 2008), quality of life (Esbensen, Østerlind, & Hallberg, 2006; Vellone et al., 2006), well-being (Vellone et al., 2006), happiness (Blank & Bellizzi, 2006), and comfort in the hospital (Vellone et al., 2006). Studies by Craig (2005) and Vellone et al. (2006) found that hope was positively correlated with self-esteem, and Blank and Bellizzi (2006) and Crothers, Tomter, and Garske (2005) found hope to be correlated with positive affect. In addition, Craig (2005) determined that hope was positively correlated with resilience.

Table 2. Level II Evidence of Hope in Adults With Cancer

Study	Purpose and Sample	Design	Measures	Findings
Blank & Bellizzi, 2006	To examine how hope, optimism, use of coping strategies, and primary treatment predict well-being, positive and negative affect, impact, depression, and adaptive changes among 490 prostate cancer survivors	Correlational descriptive with regression analysis	Questionnaires, including Snyder Hope Scale (measures hope agency and hope pathways)	Hope agency had significant, positive correlation with happiness and positive affect; significant negative correlation existed with depression and negative affect.
Cantrell & Conte, 2008	To establish the feasibility of delivering the HIP using a Web-based design among six female survivors of childhood cancer	Feasibility study—intervention with qualitative evaluation; Hope Process Framework	HIP delivered online with educational software, including Web cameras and voice and text chat capabilities; Questions online regarding structure, delivery, content, and outcomes	Promoted group interaction and fostered hope; Web-based format is promising.
Chi, 2007	To synthesize the literature (26 studies), develop generalizations, and identify issues that should be evaluated in the future regarding hope and patients with cancer	Literature review 1982–2005	MEDLINE®, CINAHL®, and PsycINFO databases	Hope had four major themes: exploring level of hope in patients with cancer, discovering how patients cope with a cancer diagnosis, identifying strategies that patients use to maintain hope, and identifying nursing interventions to foster hope. New interventions to foster hope and instruments to measure hope were encouraged, as was development of the concept of hope.
Craig, 2005	To examine hope in 137 women with breast cancer in relation to social support, resilience, and self-esteem	Correlational descriptive with regression analysis	HHI, Resilience Scale, Personal Resource Questionnaire, and Rosenberg Self-Esteem Scale	Hope had significant positive correlation with social support, resilience, and self-esteem. Regression analysis indicated that neither resilience nor self-esteem were mediators in the relationship between social support and hope.
Crothers et al., 2005	To obtain specific information regarding the linkages between social support satisfaction and two QOL variables, affect and hope, among 42 patients receiving cancer treatment	Correlational descriptive with regression analysis	Social Support Inventory, HHI, and Derogatis Affects Balance Scale	Hope had a high positive correlation with affect. Hope was predicted by social support satisfaction. Hope along with relationship closeness predicted affective status.
Duggleby et al., 2007	To evaluate the effectiveness of a psychosocial supportive intervention called the <i>Living With Hope Program</i> in increasing hope and QOL for 60 older adult, community-living, terminally ill patients with cancer in Canada	Experimental mixed method, cross-over with intervention group (n = 30) and control group (n = 30); Transforming Hope Theory	HHI, McGill QOL Questionnaire, and interviews	Patients' levels of hope and QOL were increased significantly postintervention in the intervention group when compared with the control group. Qualitative data showed that 62% of the participants in the intervention group reported that the intervention increased their hope.
Esbensen et al., 2006	To investigate QOL in patients aged 65 years and older diagnosed with cancer (T1 = 101, T2 = 85) three months postdiagnosis; to investigate activities of daily living, hope, social network, and support, and their relationship to low QOL at three months postdiagnosis	Repeated measures correlational	European Organization for Research and Treatment of Cancer QLQ-C30 version 3, Katz Activities of Daily Living Index, and Nowotny's Hope Scale	At three months, hope was decreased significantly on two subscales: <i>confidence</i> (p = 0.003) and <i>comes from within</i> (p < 0.001). Low level of hope, dependency in instrumental activities of daily living, and reduced economy were associated with a low level of QOL.

(Continued on next page)

HHI—Herth Hope Index; HIP—Hope Intervention Program; QLQ-C30—Quality of Life Core Questionnaire; QOL—quality of life

Table 2. Level II Evidence of Hope in Adults With Cancer (Continued)

Study	Purpose and Sample	Design	Measures	Findings
Lin & Tsay, 2005	To explore relationships among perceived diagnostic disclosure, health locus of control, and levels of hope in 124 patients with cancer in Taiwan	Correlational descriptive with regression analysis	HHI and Multidimensional Health Locus of Control Scale	Higher hope associated with knowledge of diagnosis; hope positively correlated with internal locus of control. Participants had medium level of hope overall.
Vellone et al., 2006	To describe the level of hope in 80 Italian patients with cancer; to compare the levels of hope during and after hospitalization; to determine whether hope was correlated with QOL and several symptoms; to determine whether the variables from the international literature also pertain to Italian patients	Correlational descriptive	Hope Related Variable Questionnaire, Nowotny's Hope Scale, Rotterdam Symptom Checklist, and Hospital Anxiety and Depression Scale	Hope was positively correlated with QOL, self-esteem, coping, adjustment to illness, well-being, comfort in hospital, satisfaction with information received, and support from family, healthcare professionals, and friends. Hope was negatively correlated with anxiety, depression, and boredom during hospitalization.
Weis Farone et al., 2008	To explore the effects of hope and internal locus of control on the health and well-being of 109 older Mexican American women with cancer	Correlational descriptive with regression analysis	Secondary data analysis of Hispanic Established Populations for the Epidemiologic Studies of the Elderly; hope was taken from one item of the Center for Epidemiological Studies Depression Scale	Hope had a significant positive association with health and well-being. Findings suggest an overlap between hope and locus of control. Hope was significantly associated with more favorable outcomes for self-rated health, restricted activity, negative affect, and somatic symptoms.

HHI—Herth Hope Index; HIP—Hope Intervention Program; QLQ-C30—Quality of Life Core Questionnaire; QOL—quality of life

Once again, communication and information emerged in the findings of correlational studies, as they did in qualitative studies. Knowledge of the diagnosis was positively correlated with hope (Lin & Tsay, 2005). Vellone et al. (2006) found that hope was positively correlated with the degree of satisfaction with information received from health providers.

Coping and adjustment to illness were identified to be positively correlated with hope (Vellone et al., 2006), as was internal locus of control (Lin & Tsay, 2005). That is consistent with findings reported by Chi (2007). Although some overlap between the variables of hope and locus of control was identified by Weis Farone et al. (2008)—with hope mediating better outcomes—this study had a major flaw in that hope was measured using only one item on a depression scale.

Social support emerged as correlated with hope (Craig, 2005) and related to the support of family, friends, and healthcare providers (Vellone et al., 2006). Hope was predicted by social support satisfaction in the analysis done by Crothers et al. (2005). In the same study, hope and relationship closeness were found to predict affective status. The positive correlation between hope and social support and relationships also is consistent with studies reviewed by Chi (2007).

Factors negatively correlated with hope: Hope was found to be negatively correlated with depression (Blank & Bellizzi, 2006; Vellone et al., 2006) and with

negative affect (Blank & Bellizzi, 2006). Negative correlations also were found with health locus of control based on chance, when the patient believes that outside factors control one's destiny (Lin & Tsay, 2005). Hope was found to be negatively correlated with anxiety and boredom during hospitalization (Vellone et al., 2006).

Levels of hope: Taken together, the studies that used quantitative measures indicated that the overall levels of hope were reported to be moderate to high. Two studies used the Herth Hope Index to measure hope (Crothers et al., 2005; Lin & Tsay, 2005) and two used Nowotny's Hope Scale (Esbensen et al., 2006; Vellone et al., 2006). Levels of hope were reported to be unrelated to stage of disease (Crothers et al., 2005; Lin & Tsay, 2005; Vellone et al., 2006). One exception is the study by Esbensen et al. (2006), which showed that levels of hope in older patients newly diagnosed with cancer decreased after three months. Specifically, two factors—as measured by Nowotny's Hope Scale—decreased, *confidence* ($p < 0.05$) and *comes from within* ($p < 0.001$).

Quasiexperimental Study

Duggleby et al. (2007) conducted a quasiexperimental study in Canada with 60 patients older than 60 years with terminal cancer. Participants were randomly assigned to an intervention group ($n = 30$) or a control group ($n = 30$) and crossover of the control group was made at

the end of the study to allow all participants to benefit from the intervention, the Living With Hope program. In the program, participants viewed a film on hope and then chose one of three hope activities on which to work during a one-week period immediately following the viewing. The control group received standard care. Hope was measured pre- and postintervention using the Herth Hope Index (Herth, 1992). In addition, qualitative data were collected from the intervention group using open-ended questions about hope. Results showed a significant increase in hope ($p < 0.05$) from baseline to postintervention in the intervention group when compared to the control group. Qualitative data confirmed the finding, with more than half the intervention group reporting that the program increased their hope. Eighty-eight percent of eligible participants consented to take part and 97% completed the study. Limitations of the study were small sample size, crossover design, and lack of diversity (e.g., 97% Caucasian).

Feasibility Study

Cantrell and Conte (2008) examined the possibility of extending the Hope Intervention Program (HIP) (Herth, 2000) to a new population, young adult cancer survivors, and delivering it in a new way, via the Web. HIP initially was developed and successfully used as an intervention by Herth (2000) using small-group interactive format sessions in adults with a first recurrence of cancer, but Cantrell and Conte (2008) examined the feasibility of adapting HIP to meet the developmental needs of young adults when delivered online with the use of educational software that included Web-based cameras and online voice and text chat capabilities. Evaluation was conducted with survey questions rating helpfulness of the sessions, and a follow-up online session six months later to elicit thoughts and reflections. Limitations of the study were small sample size and the participation of only three survivors at the online six-month evaluation session. Although limited, the evaluation supported the Web-based HIP intervention as effective.

Qualitative Systematic Review

The qualitative systematic review of hope in patients with cancer from 1982–2005 (Chi, 2007) represents a comprehensive review of the literature before 2005. Significant results were that level of hope was not related to cancer stage and that hope was positively correlated with level of control, level of coping, and spiritual well-being. Also reported were strategies that patients used to maintain hope, such as religion and prayer, living in the present, relationships with others, situation and symptom control, positive thinking, and uplifting memories. Those findings are consistent with studies from 2005–2009.

Summary

The sample sizes of four of the level II studies were small (i.e., less than 100 participants). Appropriate statistics were used and lack of bias in choosing the samples and carrying out the designs were evident in the studies. Theoretical frameworks were involved in two studies, the Hope Process Framework (Cantrell & Conte, 2008) and the Transforming Hope Theory (Duggleby et al., 2007). Three psychometrically sound tools were used to measure hope—the Snyder Hope Scale (one study), Nowotny's Hope Scale (two studies), and the Herth Hope Index (four studies). Although consensus across studies on how to measure hope was not found, the Herth Hope Index was used more frequently than other instruments. Use of one item on a depression scale (Weis Farone et al., 2008) provided limited measurement of the concept.

Concurrence exists for most positive and negative correlations found in the studies. Levels of hope were reported on average to be moderate to high, and not related to stage of disease, although variations exist and hope has been reported to increase after interventions. One study (Esbensen et al., 2006) reported that levels of hope in older patients newly diagnosed with cancer decreased after three months, a finding meriting additional study.

Although two studies (Cantrell & Conte, 2008; Duggleby et al., 2007) added to the evidence that nursing interventions designed to support hope can positively influence patients' hope, their sample sizes were small and their limitations did not provide sufficient evidence for recommendation in practice at this time.

Discussion

As defined by Dufault and Martocchio (1985), hope has a multidimensional structure and involves a dynamic process. Accumulating evidence suggests that hope constellates as multidimensional, but the dynamic process of hope remains poorly understood, meriting additional study. Intervention programs to support hope are promising and merit more study through randomized, controlled trials with larger samples.

Hope as Multidimensional

Although no consensus exists regarding the best model for representing this structure, models embrace a whole-person framework. The Hope Process Framework, used in three of five studies using a theoretical base, suggests four attributes of hope—an experiential process, a spiritual or existential process, a relational process, and a rational thought process (Farran, Herth, & Popovich, 1995). Level II and III evidence supports hope within this framework.

Evidence is accumulating to support hope as positively correlated with health, quality of life, spiritual well-being, happiness, level of control, internal locus of control, level of coping, adjustment to illness, social support, and satisfaction with information received from health providers. Evidence supports hope as negatively correlated with depression, anxiety, negative affect, and locus of control based on chance. Interesting findings regarding the role of communication from provider to patient using numerical form merit additional investigation. When presenting statistics about the probability of responding to a treatment, providers may be unaware of patients' perception of such information and its effect on the patient's hope. Because statistical data frequently are an integral part of provider communication, additional research is needed.

The Dynamic Process of Hope

Although the multidimensional structure of hope is fairly well defined, the dynamic process of hope remains poorly understood. Certain dynamics of hope have been uncovered related to coping and adaptation, changing levels of hope over time, the interaction of hope and hopelessness, and the process of transforming challenges into opportunities. Understanding of this dynamic appears to be multilevel, longitudinal, influenced by internal and external factors and, therefore, requiring the support of a more complex theoretical framework than those used heretofore. To explain the dynamic elements of hope adequately, the support of nursing or other theories may be required to develop a better understanding of the dynamic process of hope. An adequate framework would assist nurses in viewing hope from the patient's perspective, provide interventions, and guide the integration of research evidence as it continues to evolve.

Research shows that patients view hope within all the dimensions of their lives. According to developmental theory, how a person views life, and therefore hope, is dependent on the person's developmental stage. According to Erikson's (1963, 1997) eight-stage developmental framework, hope is the first strength to develop in infancy, and it continues to expand within the context of each of the subsequent stages. The young adult will view life, and therefore hope, within the context of intimacy versus isolation, the midlife adult in terms of generativity versus stagnation, and the older adult in terms of integrity versus despair. The adult's developmental stage may be important to consider in the design and interpretation of future research on hope in adults with cancer.

Instruments and Interventions

The measurement of hope using questionnaires as research instruments is beginning to coalesce around the Herth Hope Index, a brief 12-item Likert-type scale with established reliability and validity in adult populations

(Herth, 1992). The instrument measures hope in three dimensions: the relationship to temporality and future; positive readiness and expectancy; and interconnectedness. Instruments must measure the multidimensional and dynamic nature of hope as currently understood. In addition, consistent use of an instrument to measure hope would strengthen the discipline's ability to evaluate the evidence across studies.

Although intervention studies show promise, sample sizes are small and current research does not constitute a significant body of high-quality evidence meriting recommendation for practice. Populations studied have been the newly diagnosed (Rustøen et al., 1998), those with a first cancer recurrence (Herth, 2000), the terminally ill (Duggleby et al., 2007), and young adults (Cantrell & Conte, 2008). Rustøen et al. (1998), Herth (2000), and Duggleby et al. (2007) reported a significant increase in hope postintervention, and Cantrell and Conte (2008) reported a positive effect. The lack of sufficient evidence, representing a gap in nursing knowledge, should spur additional research with interventional studies to address this important aspect of patient care.

State of the Science

The current review extends knowledge from the previous review (Chi, 2007). Most recent studies confirm that level of hope is not related to cancer stage, yet the finding of a decrease in hope in older adults at three months postdiagnosis (Esbensen et al., 2006) merits additional study. Level of hope and level of coping continue to exhibit a strong positive correlation. Since the previous review, one new nursing intervention, the Living With Hope program, has been used with the terminally ill population (Duggleby et al., 2007) and has demonstrated a significant increase in patient hope. In addition, a developed program, HIP (Herth, 2000), has undergone a feasibility study for use in a new population of young adults using Web-based technology with promising results (Cantrell & Conte, 2008). Although still in the early stages of development, nursing intervention programs are being extended to more populations and being built on prior nursing research, as recommended by Chi (2007).

As previously discussed, the multidimensional nature of hope is confirmed, but the dynamic process of hope remains poorly understood. As suggested by Chi (2007), the "framework of hope can be developed systematically and logically by applying different nursing theories to broaden the concept and testing the effectiveness of theories with diverse sample groups and healthcare settings" (p. 422). Much work remains in that regard.

Instruments used to measure hope mentioned in Chi's (2007) review included the Miller Hope Scale (two studies), Nowotny's Hope Scale (three studies), the Herth Hope Scale (five studies), and a shorter version of the

Herth Hope Scale—the Herth Hope Index (four studies). When the instruments used in the current review are added to those used in Chi's (2007) studies, totals include the Snyder Hope Scale (one study), the Miller Hope Scale (two studies), Nowotny's Hope Scale (five studies) and the Herth Hope Index or Herth Hope Scale (13 studies). Although various populations may require different scales, the Herth Hope Index and Scale have been used the most.

The support of hope in patients with cancer continues to be an important aspect of nursing care. Development of the concept and testing of nursing interventions is supported by the literature.

Directions for Future Research

To advance the state of the science and facilitate future research and clinical care directed toward hope in adults with cancer, the following are offered as suggestions for consideration.

- Explore various theories from nursing and other fields for their ability to explicate the complex dynamism of hope.
- Study levels of hope in patients newly diagnosed with cancer for decreases over time, particularly at three months postdiagnosis.
- Design studies to examine the role of communication from provider to patient using statistical information and its perception by patients and effect on patient hope.

- Continue to study the effectiveness of developed programs—HIP (Herth, 2000) and the Living With Hope Program (Duggleby et al., 2007)—with larger samples using randomized, controlled trials.
- Develop interventions tailored to the adult developmental stages of young adulthood, midlife, and older adulthood.
- Whenever possible, be consistent with the use of research instruments to measure hope so that outcomes may be compared more accurately across studies.

Implications for Nursing Practice

Hope is integral to all aspects of quality of life for the adult experiencing cancer, so nurses in clinical settings need to be sensitive to patients' hope. Each patient will experience hope in a way that is unique and often open to support from others. Nurses can demonstrate sensitivity to the patient's experience of hope as they offer patients a listening ear, words of encouragement, and respect for their wishes. By connecting patients with resources important to them, nurses will be delivering timely, effective evidence-based care.

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