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A Brief Hope Intervention to Increase Hope Level and Improve Well-Being in Rehabilitating Cancer Patients: A Feasibility Test

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Abstract

This article reports on the feasibility and effect of the brief hope intervention (BHI) in terms of increasing the hope level and psychological and physical health outcomes of rehabilitating cancer patients (RCP). Chinese RCP living in the community were invited to join the study. The BHI consisted of four one-on-one sessions: two (1-hour) face-to-face sessions and two (30-minute) telephone follow-up sessions in between. There were three core features in the hope therapy: (a) goal thoughts: finding workable goals, (b) pathway thoughts: finding ways to reach the targets, and (c) agency thoughts: positive self-talk to optimize their motivation to accomplish the set goals. A one-group pre- and postintervention design was used. Outcome measures included the Memorial Symptom Assessment Scale, the Center for Epidemiological Studies Depression Scale (CES-D), and the State Hope Scale. Recruitment, attrition, and qualitative feedback were collected to understand their comments on BHI. A total of 40 participants were recruited (female 92.3%). The mean age was 57.2 years ($SD = 6.7$). The participants had significant improvement in all aspects of the Memorial Symptom Assessment Scale, with moderate-to-large effect sizes ($d = 0.49$–0.74). The changes in present hope and depression scores were insignificant, with small effect sizes ($d = 0.17$–0.34). The BHI seemed to be promising in producing both physical and psychological benefits in RCP

Keywords

hope, brief intervention, cancer patient, rehabilitation, feasibility

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Introduction

The number of newly diagnosed cancer cases increased by 33% globally between 2005 and 2015, and a progressive increase in cancer incidence was expected (Global Burden of Disease Cancer et al., 2017). A rise in new cancer cases at an average annual rate of 2.5% was also reported in Hong Kong (Hong Kong Cancer Registry, 2015). Meanwhile, there has been a significant reduction in cancer mortality due to novel treatments in recent decades, particularly in high-income countries (American Cancer Society, 2018). Nonetheless, cancer patients experience feelings of hopelessness and vulnerability to depressive symptoms (Brothers & Andersen, 2009; Gross, Cromwell, Fonteyn, Matulonis, & Hayman, 2013). The 2014–2018 Oncology Nursing Society research priorities clearly indicated the need to evaluate the positive aspects of care, the protective factors to patient and family caregivers, such as hope (Knobf, 2015). The concept of hope has long been postulated as an ''overall perception that goals can be met'' (Snyder et al., 1991, p. 570). In the oncological context, hope is a state of mind that entails a positive outlook to

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achieving a tangible outcome while maintaining a realistic understanding of possible negative outcomes (Mattes & Sloane, 2015). The influence of hope has yet to be fully explored in terms of the physical outcomes of rehabilitating cancer patients (RCP). Nurses have been offering psychological support to cancer patients (Van der Plas et al., 2015), but this is not well articulated (Stout et al., 2016). Little consistency or adoption of low-intensity psychological interventions has been developed and offered by nurses. This has led to a lack of evidence on the nurses' role and the feasibility of having nurses promote clinically effective psychotherapeutic management of patients' needs. In this article, we reported the feasibility and the preliminary effect of the brief hope intervention (BHI) that addresses the management of RCP.

Literature Review

A number of studies have reported the positive effect of hope in newly diagnosed cancer patients, for example, in the areas of health, quality of life (QoL), self-esteem (Butt, 2011; Duggleby et al., 2007), reduced major cancer symptoms, such as pain, fatigue, cough, and depression in lung cancer patients (Berendes et al., 2010), or promoting positive changes in breast cancer patients (Casellas-grau, Font, & Vives, 2014; Farhadi, Reisi-Dehkordi, Kalantari, & Zargham-Boroujeni, 2014; Hedtke, 2014; Ho et al., 2012; Rustøen, Cooper, & Miaskowski, 2011; Thornton et al., 2014). However, many of these studies were cross-sectional surveys or qualitative studies; others were mindfulness-based or spiritual-based interventions where hope was one of the active components in the program. Thus, it is difficult to determine whether improving the hopeful state of cancer patients would lead to better clinical outcomes (Rustøen et al., 2011; Rustøen & Hanestad, 1998). Theory and evidence-based practice are keys to the best practice described in the Medical Research Council guidance (Campbell et al., 2000; Craig et al., 2008, 2013). It is a low-intensity psychotherapeutic intervention modified from a hope theory-based, eight-session group-based therapy (Snyder & Taylor, 2000).

The concept of RCP is adopted in the present study to better reflect the salience and complexity of the situation of cancer survivors (Know & Svendsen, 2015). Some of these patients may have completed their treatment regimen and be deemed cancer-free, while others may continue to take chemoprevention medications or have residual morbidity, which ambiguously fit into chronic illnesses but evoked a strong fear of mortality care (Bell & Ristovski-Slijepcevic, 2013). Cancer rehabilitation is also embraced in the health-promoting palliative care offered to patients facing the challenge of living and the fear of death. It is vital to restore mental or physical abilities lost to the illness, in order to function in a normal or near-normal way (National Cancer Institute, 2015). Alongside aggressive and curative treatment, creating a supportive environment is essential to enhance symptom control and thereby improve QoL and strengthen actions that intervene along the journey of caregiving, loss, and death and dying (Haraldsdottir, Clark, & Murray, 2010; Murray, Kendall, Boyd, & Sheikh, 2005; Tsai et al., 2014; Wood, Molassiotis, & Payne, 2011).

Relevance of Hope to Cancer Rehabilitation Programs

Fostering hope was deemed as a vital protective factor for cancer patients (Lichwala, 2014). In a systematic review, the prevalence of major depressive disorder was estimated to be approximately 15% among cancer patients, whereas it was only 2% in the general population (Pitman, Suleman, Hyde, & Hodgkiss, 2018; Walker et al., 2014). Depression has long been identified as inextricable emotional distress and seen as a manifestation of felt hopelessness (Stotland, 1969). Hopelessness appears to be an onset of a subtype of depression (Iacoviello, Alloy, Abramson, Choi, & Morgan, 2013) and will lead to underestimation of evolving goals or pursual of any successful plan of action (Melges & Bowlby, 1969). This may be particularly important in Chinese culture, because numerous studies have found that negative feelings and depression in the Chinese manifested as somatic problems, such as pain and insomnia (Liu, Cohen, Schulz, & Waldinger, 2011; Yu & Lee, 2012; Zhou et al., 2011). Hope was found to be of paramount importance in predicting QoL in Hong Kong Chinese (Chan, Verplanken, & Skevington, 2017; Ip, 2011). In the coping experiences of Chinese couples living with cancer, nurturing hope was found to be a significant element in staying positive (Chen, Komaromy, & Valentine, 2015; Li et al., 2015).

In a systematic review, hope was found to account for therapeutic changes in clients with depressive symptoms or chronic pain (Casellas-grau et al., 2014). It is suggested that hope may serve as a buffer against depression when one's life is perceived as less meaningful (Feldman & Snyder, 2005). Although being overly optimistic was believed to be harmful and it was questioned whether such agency thinking would sustain in highly traumatic situations (Tong, Fredrickson, Chang, & Lim, 2010), a study on breast cancer women revealed that being overly optimistic in assessing their survival lead to good rather than poor adjustment (Taylor, Lichtman, & Wood, 1984). Considerable research evidence has indicated that enhanced qualities of hope and optimism were found to promote positive changes in breast cancer patients (Casellas-grau et al., 2014; Farhadi et al., 2014; Hedtke, 2014; Ho et al., 2012; Rustøen et al., 2011; Thornton et al., 2014). A cross-sectional study

found hope to be associated with reduced major cancer symptoms, such as depression, pain, fatigue, and cough in lung cancer patients (Berendes et al., 2010). Nonetheless, there was a lack of theory-driven protocol in many of these studies. In addition, most of these studies documented either QoL or psychological outcomes, and few investigated the influences of hope on physical outcomes. Further research on the effects of cancer patients' psychological state on their disease and their responses to therapy was recognized as a crucial step to establish a full rehabilitation model (Chasen, Bhargava, & MacDonald, 2014).

Brief Hope Intervention

The present study modified the hope therapy to a short program—a nurse-led BHI—to improve the hope level and the physical and psychological well-being of Hong Kong Chinese RCP. Hope theory is adopted as the framework in the present study, in which hope is believed to be the central agent in facilitating the change process (Snyder & Taylor, 2000). The theory focuses on three core features: (a) goal thought (goal setting), (b) pathway thought (problem solving), and (c) agency thought (positive self-talk). The mechanisms of goal attainment were articulated in the hope theory and served as the foundation of hope therapy (Snyder, 1994; Snyder, Cheavens, & Michael, 1999; Snyder & Forsyth, 1991; Snyder, Ilardi, et al., 2000). By increasing the hope level, the likelihood of therapeutic change will be increased (Snyder, 2000). Hope therapy is an eight-session cognitive behavioral therapy (CBT)-based intervention built on hope theory (Cheavens, Feldman, Gum, Michael, & Snyder, 2006). It shifts the primary focus of traditional CBT to positive potentials as the starting point, thereby promoting meaning in life, enhancing personal strengths and positive changes, and improving well-being (Casellas-grau et al., 2014). However, one of the major drawbacks of lengthy programs in clinical settings is their high attrition rate, rendering interventions unfeasible and unsustainable.

Preliminary evidence had shown that the role and value of hope in early counseling sessions enhanced a literal shift to enable patients to experience a sense of worthiness (Larsen & Stege, 2012). The statistical robustness of the short program was supported by the comparable effect sizes achieved by both the eight 2-hour sessions (Cheavens, Feldman, Gum, et al., 2006) and the single 90-minute session (Feldman & Dreher, 2012) in Snyder's studies on hope therapy, although these participants were healthy individuals recruited from the community. Thus, the pilot study of the BHI was a novel step to determine the key uncertainties before applying the intervention to a wider clinical setting for RCP. The study objectives were (a) to test the feasibility of the BHI for RCP and (b) to examine the efficacy (effect sizes) of the program to increase hope level and psychological and physical health outcomes.

Methods

The study used a one-group pre- and postintervention design that aimed to examine the feasibility and preliminary effect of BHI to improve the hopeful state and reduce the physical and psychological symptoms of the RCP in Hong Kong Chinese. Fidelity was assured at the design level and in intervention delivery to establish a standardized procedure. Data collection was conducted before the commencement of the intervention (T1), immediately postintervention (T2), and 1 month after completion of the program (T3).

Sample and Recruitment

Chinese cancer patients currently living in the community were invited to join the study. Information leaflets were disseminated to two cancer patient support groups (the breast cancer support group and the nasal pharyngeal cancer support group) and Tai Chi exercise group for cancer survivors and were posted on bulletin boards at the Hong Kong Polytechnic University. The estimated sample size was 30 using a conservative estimate of a correlation alpha value .6, which would allow detection of a 0.5 effect size with a power of 0.70 (Schrank et al., 2014).

Inclusion Criteria

The candidates had to meet the following criteria:

1. Age $\geqslant$18 years;
2. Chinese patients diagnosed with cancer;
3. Willing to participate in face-to-face activities and a telephone follow-up;
4. Alert and oriented, able to sustain approximately 1 hour of attention and interaction;
5. Able to communicate in Cantonese, able to read and write Chinese; and
6. Able to be reached by phone.

Exclusion Criteria

Patients with one or more of the following conditions were excluded from the study:

1. Inability to communicate in Cantonese;
2. Severe hearing deficit that prevented them from engaging in phone communication; and
3. Being disoriented, delirious, or cognitively impaired.

Ethical Considerations

Ethical approval was obtained from the appropriate ethics committee of The Hong Kong Polytechnic University in accordance with the guidelines of the Human Subjects Ethics Sub-committee (Number HSEARS20160205005). Privacy, confidentiality, and anonymity were maintained. Voluntary participation was ensured with informed consent. The participants had the full right to withdraw from the study at any time.

Description of the BHI

The BHI consisted of four one-on-one sessions: two face-to-face sessions (1-hour) and two telephone follow-up sessions (30 minutes) in between. The follow-up sessions were to review subjects' progress and encourage the practice of hope exercises. The intervention calls were initiated in the second and third weeks (Wong, Chow, & Chan, 2010). A summary talk was included in the final face-to-face session.

In each session, the facilitator had guided the participant through the three core features in hope therapy. (a) Goal thoughts: finding workable goals. A maximum of three goals were written on a worksheet to keep track of their progress and to work on the rank order (Wagland, Fenlon, Tarrant, Howard-Jones, & Richardson, 2015) as appropriate in the follow-up sessions. (b) Pathway thoughts: exploring ways to reach the targets. The facilitator guided participants to imagine how they navigated themselves to circumvent possible obstacles, accomplish their set goals, and experience positive emotions. (c) Agency thoughts: Positive self-talk was performed to optimize their commitment and motivation to accomplish the goals. Hope enhancement strategies included sharing and recalling past successes, hope-based goal mapping exercises, examining possible pathways to problem-solve and reach the targeted goals, the hope visualization exercise, identifying positive resources, and positive self-talk.

A take-home hope exercise modified from the goal worksheet in Lopez, Floyd, Ulven, and Snyder (2000) was prepared for the participants to enable them to review their planned goals and record their achieved targets and successful experiences. Clients were asked to bring with them a positive experience related to hope and to share it with the facilitator. This take-home exercise helped the participants to extend the practice of hope-based skills into their daily living. During the intervention calls, patients were asked to spend time going over the feelings and thoughts associated with reaching their goals. Emerging new needs would also be assessed. The steps to reinforce appropriate behaviors were (Snyder, 2000): (a) assess changes, monitor progress, and reinforce self-help hope strategies; (b) review health goals and adjust the set goals if appropriate; (c) when nonsuccessful examples arose, focus discussion on what the participant thought about them, then on the accomplishments and identifying positive self-talk; (d) end the conversation with hope-based exercises; and (e) confirm the next follow-up session.

Fidelity of the Intervention

The present BHI was both a theory-driven intervention and a manualized program developed based on Snyder's hope therapy (Cheavens, Feldman, Woodward, & Snyder, 2006). The original program consisted of eight sessions of therapy. Snyder's program manual was translated into Chinese and modified to the present BHI design. It was validated by experienced cancer care clinicians, a cognitive behavioral therapist, academic staff who work on cancer care studies, and a rehabilitating cancer patient and was pretested by four cancer patients for its comprehensibility and acceptability. In the hope visualization exercise (approximately 10 minutes), pictures used to elicit a positive emotional state in the visualization exercises were selected by adopting a strategy used in an emotion-eliciting film stimuli study (Gross & Levenson, 1995) and then shortlisted by 10 cancer patients. The BHI was delivered by the principal researcher, an experienced nurse with a master's degree in counseling and basic CBT training.

Data Collection

At Time 1, before the BHI, self-reported sociodemographic information was collected (including gender, age, marital status, educational level, occupation, income, and spiritual beliefs). The participants also reported other medical information, such as diagnosis, medications, current health status, comorbid conditions, and unplanned hospital readmission.

Outcome Measures

Assessment of the effect of the BHI. The primary outcomes included improvement in common cancer physical and psychological symptoms, assessed by the Memorial Symptom Assessment scale (MSAS). The secondary outcome was the change in the hope state assessed by the State Hope Scale (SHS). The Center for Epidemiological Studies Depression Scale (CES-D) was used to evaluate whether the participants were in a depressive state.

MSAS Chinese version (MSAS-Ch). The MSAS (Portenoy et al., 1994) is a 32-item instrument measuring the prevalent symptoms associated with cancer; it comprises two subscales: (a) physical symptoms (MSAS PHYS—26 items), (b) psychological symptoms (MSAS

PSYCH—6 items), and a total score (MSAS SUM). Examples of physical symptoms include lack of energy, lack of appetite, and pain and dry mouth, and the psychological symptoms include worrying and feeling sad. In our study, the participants could indicate that they "did not have" the symptom (a value of zero was assigned). If the symptoms existed, 24 of them were assessed in terms of severity (on a 4-point categorical scale: *slight* = 1 to *severe* = 4), frequency (on a 4-point categorical scale: *rarely* = 1; *occasionally* = 2; *frequently* = 3; *almost constantly* = 4), and distress (on a 5-point categorical scale: *not at all* = 1; *a little bit* = 2; *somewhat* = 3; *quite a bit* = 4; and *very much* = 5), while the other eight were assessed in terms of severity and distress. The MSAS-Ch demonstrated good validity and reliability. The overall Cronbach's alpha was .87, and the alphas of the subscales were .79–.81 (Cheng, Wong, Ling, Chan, & Thompson, 2009).

SHS. The SHS is a self-report instrument consisting of six items (Snyder et al., 1996) used to assess the two ongoing hope indices related to the pathways and agency of hopeful thinking. It is rated on an 8-point scale, with 1 = *definitely false* and 8 = *definitely true*. Overall hope state is assessed by the sum scores (alpha = .93), with the even-numbered items measuring agency thinking and the odd-numbered items measuring pathway thinking. The Cronbach's alpha for these two subscale items ranges from .91 (agency subscale) to .95 (pathway subscale; all $ps < .001$). A Chinese version is available (Mak, Ng, & Wong, 2011).

The CES-D. The CES-D Chinese version is a 20-item self-report scale that was used as a measure of depressed mood in the participants (Cheung & Bagley, 1998; Hertzog, Van Alstine, Usala, Hultsch, & Dixon, 1990; Radloff, 1977). The descriptors of the response format of the 4-point Likert scale were "rarely or none of the time" (less than 1 day), "some or a little of the time" (1–2 days), "occasionally or a moderate amount of the time" (3–4 days), and "most or all of the time" (5–7 days). Total scores were calculated, with the minimum at zero and the highest at 60, with higher ratings denoting a higher frequency of depressive symptoms. The internal consistency of the scale (Radloff, 1977) in the patient group was .85 and in the general population group was .90.

Assessment of the feasibility of the BHI. In addition to the attrition rate and the completion of take-home exercises, additional information was collected on the usefulness of the present program via a survey and open-ended questions. These would enable us to explore the participants' experience of the BHI, with a specific focus on the feasibility of intervention delivery in primary care settings, participant motivation, and participant preferences with regard to the intervention methods under investigation.

Intervention delivery rating scale. This scale consisted of four items assessing whether the overall BHI and its three core components (goal setting, pathway thinking, and finding positive resources) were useful to the participants. Responses were scored on a 5-point Likert scale. Higher scores mean feedback that is more positive.

Qualitative open-ended questions. The following three questions were added to the questionnaire to explore the perceived impact and benefits of the intervention.

1. Can you tell me about your experience in the hope program?
2. How did the hope intervention affect your views and behavior regarding your present illness and treatment?
3. In your opinion, which intervention activities did you find most helpful in shaping positive outcomes in cancer?

Data Analysis

SPSS for Windows version 22.0 was used for data analysis. Means and standard deviation were used to report descriptive data, while a p value of less than .05 was considered statistically significant. A one-way repeated measures analysis of variance was conducted to assess the changes in general QoL, general health, cancer symptoms, and hope level outcomes. Significant differences between the three time points were obtained by comparing means in a paired t test and calculating effect sizes using Cohen's d in paired time points (small effect: $d \geqslant .2$; moderate effect: $d \geqslant .5$; large effect: $d \geqslant .8$; Fayers & Machin, 2007). Content analyses were performed on the qualitative feedback in relation to the process and the intervention structure on the three hope features of the BHI. The data were read and reread several times to obtain a general impression and to identify patterns in the responses. Succinct descriptions were captured, with shared commonality that fit into either the structure or the process of the intervention. Final features were established by the research team members.

Results

Recruitment and Adherence

Among the 45 eligible clients who responded to the advertisement for the present study, 4 were unwilling to participate due to travel issues or felt uncomfortable sharing their feelings, and 1 had had a recent surgery and

Table 1. Descriptive Statistics of Participants in the Brief Hope Intervention ($N = 39$).

Variable	*M*	*SD*
Age	57.2	6.7
Present quality of life	3.7	0.8
Present health	3.3	0.7
State Hope Scale		
Pathway	16.6	4.0
Agency	15.6	4.9
Total	32.2	8.6
MSAS		
Psychological symptoms subscale	1.3	0.8
Physical symptoms subscale	0.6	0.4
Total	0.7	0.4
CES-D		
	Frequency	Percentage
Gender		
Male	3	7.7
Female	36	92.3
Education level		
Primary	5	12.8
Secondary	13	33.3
Postsecondary	11	28.2
Tertiary or above	9	23.1
Missing	1	2.6
Marital status		
Single	9	23.1
Married/cohabiting	24	61.5
Separated/divorced	4	10.3
Widowed	2	5.1
Cancer OT completed	27	69.2
Cancer RT completed	21	53.8
Cancer chemo completed	25	64.1
Cancer target therapy completed	8	20.5
Herbs completed	6	15.4
Diseases		
Heart disease	2	5.1
Hypertension	9	23.1
Diabetes	4	10.3
Cancer	16	4.1
Cataract	2	5.1
Stroke	0	0.0
Parkinson's disease	0	0.0
Chronic obstructive pulmonary disease	0	0.0
Arthritis	4	10.3
Fracture	0	0.0
Rectal tumor	1	2.6
Neuroticism or mental problem	5	12.8
Chronic foot disease	2	5.1
Thyroid disease	2	5.1
Liver disease	1	2.6
Numb hands and feet	1	2.6
Asthma	1	2.6
Prolapsed intervertebral disc	1	2.6
Varicose vein	2	5.1

MSAS = the Memorial Symptom Assessment Scale; CES-D = the Center for Epidemiological Studies Depression Scale; OT = operation; RT = radiotherapy.

declined to participate in the BHI, giving a recruitment rate of 88.9%. Therefore, the total number of participants is 40, and their baseline characteristics are given in Table 1. The majority were female (92.3%) and married (61.5%). Gender bias may be due to the imbalance between genders in the sample pool. Most of the respondents to the flyers were from the breast cancer support group. The mean age was 57.2 years ($SD = 6.7$). Half ($n = 20$) had attained secondary education or above. One withdrew from the study after the first session because a family member had been diagnosed with cancer. All the remaining participants completed the program (attrition: 2.5%), but two of them had their follow-up sessions more than 1 week apart due to family issues or because they had to undergo a surgery during the BHI.

Intervention Structure and Process Evaluation

All of the participants reported that the BHI was helpful to them, with the overall mean score 3.6 ($SD = 0.8$) at T2, increasing to 3.9 ($SD = 1.1$) at T3 ($p = .17$). More than 60% of the participants rated the three hope components as extremely helpful or very helpful, and only two rated it as not helpful. Goal setting was rated the highest of the three hope components in the BHI (T2 mean = 3.6, $SD = 1.1$; T3 mean = 4.1, $SD = 0.8$), followed by finding positive resources (T2 mean = 3.6, $SD = 1.0$; T3 mean = 3.8, $SD = 1.2$) and pathway thinking (T2 mean = 3.5, $SD = 1.0$; T3 mean = 3.7, $SD = 1.1$). Although the correlation between hope scores and Time 1 physical score was insignificant, the sum of the hope scores negatively and significantly correlated with the MSAS scores at all three time points, ranging from −.36 (.043) to −.45 (<.001) in the physical component and from −.46 (.004) to −.61 (<.001) in the psychological component.

Intervention Outcomes

The repeated measures analysis of variance results are given in Table 2. The participants experienced significant

Table 2. Estimated Marginal Mean (Standard Error) Obtained by Repeated Measures Analysis of Variance at the Three Waves of Data Collection Before (T1), Immediately After (T2), and 4 Weeks After (T3) the Brief Hope Intervention.

Outcome	Time 1	Time 2	Time 3	Cohen's *d* effect size (T2-T1)	Cohen's *d* effect size (T3-T1)	*p* value
Present QoL ($n = 32$)	3.70 (0.15)	3.85 (0.12)	3.91 (0.13)	0.19	0.26	.18
Present health ($n = 31$)	3.34 (0.13)	3.47 (0.10)	3.59 (0.12)	0.17	0.34	.16
State Hope Scale						
Pathway ($n = 33$)	16.76 (0.66)	17.67 (0.63)	17.64 (0.66)	0.23	0.22	.11
Agency ($n = 33$)	15.72 (0.80)	17.06 (0.69)	16.82 (0.69)	0.27	0.22	.059
Total ($n = 32$)	32.49 (1.40)	34.73 (1.12)	34.46 (1.26)	0.26	0.23	.053
MSAS						
PSYCH ($n = 30$)	1.16 (0.16)	0.72 (0.14)	0.56 (0.13)	0.52	0.72	<.001
PHYS ($n = 29$)	0.61 (0.08)	0.39 (0.07)	0.40 (0.06)	0.52	0.49	.003
Total ($n = 28$)	0.69 (0.08)	0.44 (0.06)	0.38 (0.06)	0.60	0.74	<.001
CES-D ($n = 32$)	14.97 (1.06)	14.03 (0.92)	14.38 (0.89)	0.15	0.09	.62

Note. QoL = quality of life; MSAS = the Memorial Symptom Assessment Scale; PSYCH = psychological symptoms; PHYS = physical symptoms; CES-D = the Center for Epidemiological Studies Depression Scale.

improvement in all aspects of MSAS, with moderate-to-large effect sizes ($d = 0.49$–0.74). However, the changes in present QoL, present health, and SHS were insignificant, with small effect sizes ($d = 0.17$–0.34).

Qualitative Feedback

Twenty-nine participants provided qualitative feedback in response to the open-ended questions. No written comments were provided by the remaining participants in response to the optional questions. Three common features were reported.

Goal setting in a systematic and progressive way. The respondents commented that the program had guided them systematically toward goal setting in a progressive way and was vital in steering their focus to positive thinking. Most had identified similar goals in the present intervention but had implemented them in different ways. These goals included reviewing precious moments in the past, preparing and passing love messages to their family members or significant others, reporting something for which they were grateful in daily life, invoking self-appreciation, and finding positive meaning in their illness. Attaining these goals was found to be their source of motivation—agency thoughts. The participants' positive feedback resulted in promotion of the BHI via their self-help association's newsletters.

Pathway thoughts: a deep reflection. Some commented that it was inspiring to use photos to help them visualize their goals and the possible ways to achieve the set targets. Finding alternatives and the motivation to pursue goal setting was optimized through the visualization exercise, during which some participants started to let go of negative thoughts and emotions while others envisaged possible goals. This process was also described as a three-dimensional experience to reflect on their own needs and to find ways to relieve their burden. Some participants who had spiritual beliefs integrated praying into the pathway thought exercise. One stated that the take-home exercise helped her to reflect more deeply on her own needs and resolve some of the conflicts in facing life issues. Three of the participants indicated that they could have used two or three more sessions to better master the goal setting and thinking skills. However, most found that the four-session intervention helped them gain insights into their own attitude to life and relationships.

One-on-one format. It is noteworthy that all participants appreciated the one-on-one format of the present BHI, while only two preferred group intervention and sharing. The one-on-one format enabled the participants to disclose their struggles and their feelings of vulnerability. For example, a young female participant with late-stage liver cancer revealed her struggles and fears about the possible remarriage of her husband after she passed away, which would lead to potential hardships for her daughters living with a future stepmother. The participant reckoned that admitting this concern had led her to establish *true* and desirable goals and explore strategies to build trustful relationships and realistic expectations, thereby enabling her to face these future challenges.

Discussion

The present study involved a novel, one-on-one, brief format hope program that investigated the health outcomes of RCP. Evidence from the present

nonrandomized study indicated that the BHI was feasible and acceptable to the target populations. It is encouraging that the preliminary quantitative results showed that the physical and psychological symptoms were reduced significantly after the BHI, with moderate effect size (Cohen, 1992), although the increase in hope level was only marginally significant and the depression scores remained unchanged throughout the three waves of assessment.

In line with another hope study, by Snyder (Cheavens, Feldman, Gum, et al., 2006), the pre- to postintervention hope scores were not as strong as expected. It is interesting to find that the psychological scores correlated with the hope scores at all time points, whereas the physical scores did not correlate with hope scores at Time 1. Snyder's studies demonstrated higher hope associated with higher engagement in prevention activities in cancer women (Snyder, Feldman, Taylor, Schroeder, & Adams, 2000; Snyder, Rand, & Sigmon, 2002). Similarly, the BHI participants appeared to have engaged in a broader exploration of new ideas and new actions once they started examining plausible goals and actions. Would the improvement in hope scores at Times 2 and 3, although statistically insignificant, have some effect on the improvement in physical symptoms? It was certainly worth further investigation. Meanwhile, scrutinizing the pathway and agency scores in the BHI showed that changes in agency scores were comparable to those in the overall scores, whereas pathway scores showed no change. This was in contrast to the description in the hope theory (Snyder, 2002; Snyder, Lopez, & Pedrotti, 2011), where pathway thought and agency thought appeared to have moved in parallel and in a reciprocal and temporal manner with goal thought. It is beyond the scope and aim of this pilot study to investigate the interactions of pathway and agency thought. The qualitative data shed light on the dynamics of how the BHI had helped the participants.

Regardless of the future's uncertainty, the hope intervention sets out to create an expectation of a positive outlook and a relatively enjoyable life. Some participants found it difficult to determine significant goals other than being cured from cancer. Goal thought is therefore essential in terms of dividing desired outcome into manageable goals (Lopez et al., 2000; Snyder, Ilardi, et al., 2000). Considerable time was spent assisting the patients to reflect and determine their own targets during the first session of BHI. Goal setting within realistic limits in everyday life was essential due to their declined physical health, as reflected in their signs and symptoms. Recapturing the commonly set goals in the BHI participants, self-appreciation, gratitude, and savoring and building or strengthening positive relationships with significant others aligned with the strategies indicated in many positive psychotherapies (Emmons & McCullough, 2003; Froh, Sefick, & Emmons, 2008; Herth, 2001; Seligman, Rashid, & Parks, 2006). This matched the important element in maintaining hope beyond survival but to achieve QoL and a good death, with minimal disabilities and suffering, and close communications with friends and families (Menzel, 2011). In addition, the spiritual element emerged as one of the pathway and agency thoughts in these participants, thus motivating them to move forward. This result fits into the spiritual needs of patients, such as those with chronic pain and cancer, irrespective of whether they had spiritual beliefs (Büssing, Janko, Baumann, Hvidt, & Kopf, 2013). Fostering spiritual well-being is vital in promoting QoL (Chan, 2018), and hope was one of the spiritual elements in a QoL assessment that was found to strongly correlate with existential well-being (Chan et al., 2017). Faith was perceived as a resource and found to correlate to higher gratitude scores in multiple sclerosis patients (Wirth & Büssing, 2016). This demands further investigation to pinpoint the significance of the spiritual element in hope interventions.

It is noteworthy that client preference and flexibility were found to affect fulfillment and the sustainability of hope (Chamodraka, Fitzpatrick, & Janzen, 2017). Group-based hope therapy has the advantages of sharing common experiences and information and offering emotional support (Anderson, Turner, & Clyne, 2017), but adverse dynamics such as social comparison, conformity, and nondisclosure may occur. Breaching comember confidentiality would be another concern. Increased risks of negative effect may also arise, for instance, generalizing needs and undertaking goals that mismatch individual needs may lead to exacerbation and even the appearance of new symptoms (Roback, 2000). Overcoming unwillingness to participate was a significant determinant of whether the patients would be engaged in the intervention. The one-on-one format of BHI appeared to be essential to provide the participants with a safe environment to reveal their deep-seated negative thoughts and emotions. Self-disclosure and letting go of some negative experiences in the past appeared to be a vital step in some participants to gain new insights and engage in strength setting and pursuing positive goals. In a similar vein, an assumption was made that reduced negative feelings appeared to be equivalent to increased positive feelings (Larsen, Hemenover, Norris, & Cacioppo, 2003). Widened thoughts or transforming occur when a person is no longer suppressing negative emotions (Neenan, 2009). The process of defocusing and refocusing attention on transforming negative emotion into creativity (Rathunde, 2000) reframes stressful circumstances positively (Fredrickson, 1998). As recommended by clinical practice guidelines, care services should include rapport and relationship building with patients and families, as well as unmet psychosocial needs (Ferrell et al., 2017).

Likewise, one of the merits of the present program appears to be the cocreation of these goals desired by the participants instead of prescribed activity in group-based programs. In addition, the participation decision minimizes disparities among facilitators, and the patient is one of the influential factors producing notable positive changes (Fried, 2016; Stiggelbout, Pieterse, & De Haes, 2015; Thorne, Oliffe, & Stajduhar, 2013). This not only made it possible to capitalize on positive contributions from the patients' perspectives but also gave a degree of flexibility in selecting relevant activities.

Evidence of the outcomes of brief interventions is scarce and inconclusive, particularly for cancer patients. Although two of the participants would have preferred more than four sessions in this program, the positive psychological and physical outcomes in the RCP as a result of the BHI add evidence to our knowledge of hope studies (Cheavens, Feldman, Gum, et al., 2006; Feldman & Dreher, 2012). Conventional eight-session hope programs have resulted in reduced chronic pain (Larsen, King, Stege, & Egeli, 2015) and depression in diabetic patients (Ghazavi, Khaledi-Sardashti, Kajbaf, & Esmaielzadeh, 2015; Santos et al., 2015) and disaster survivors (Retnowati, Ramadiyanti, Suciati, Sokang, & Viola, 2015). The BHI appeared effective compared with other brief interventions, such as the improvement in QoL and existential distress that were demonstrated in the brief intervention (2 sessions of 30–60 and 15–30 minutes, respectively) on meaning in life for advanced cancer Chinese patients (Mok, Lau, Lai, & Ching, 2012). In addition, the attrition rate was only 2.5%, suggesting that the brief design is a practical choice and an appropriate research initiative to build care services for RCP. The present result also points to a great potential and an added value to the nurses' role in improving client outcomes through conducting low-intensity psychotherapeutic interventions. However, two minor adjustments of the program are needed. First, participants preferred to have these sessions planned before the chemoprevention therapies to avoid the peak fatigue period, which might have affected their ability to travel and their attention span. Second, training the trainers and monitoring interfacilitator quality in the intervention will be needed in the main study. Further evaluation with longer follow-up may also be conducted to examine whether the hope strategies can be a self-help skill that is sustainable in their future journey.

Limitations

The major limitation of this study is that it is not a randomized controlled trial design, and there might have been some natural improvement in the symptoms regardless of the intervention. However, this reflects the clinical challenge that cancer patients are usually reluctant to be part of a control condition or randomized trial (Ellis, Butow, Tattersall, Dunn, & Houssami, 2001; Shah et al., 2012). There is insufficient evidence of the optimal length of the hope intervention for cancer patients to produce the desired effect. Among the BHI participants were a disproportionately high number of females, different cancer diagnoses and staging, and considerable variation in the period since diagnosis. These factors may also cloud the interpretation of the present findings. However, the results contributed evidence to the acceptability of brief interventions and telephone follow-ups in the clinical environment with tight resources.

Conclusion

The BHI is a nonpharmaceutical treatment that seemed promising in producing both physical and psychological benefits in RCP. BHI participants positively rated the hope strategies acquired during the program. A waitlist controlled trial is warranted to confirm the robustness of the results of BHI.

Clinical Messages

1. The four-session individual BHI (including two face-to-face sessions and two follow-up intervention calls in between) was found to be acceptable and feasible for RCP.
2. A randomized controlled trial is warranted to confirm the robustness of the present promising results in producing both physical and psychological benefits.

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