

# A Brief Meaning-focused Intervention for Advanced Cancer Patients in Acute Oncology Setting

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## Abstract

**Background:** A large number of advanced cancer patients are in great despair, there is no longer seen meaning or value in their life and want to hasten their death. The purpose of the study was to explore the impact of a brief, individualized meaning-focused intervention for advanced cancer patients.

**Methods:** This study employed a single blinded randomized controlled trial design, and measures taken at baseline, immediately after intervention, and two week after intervention. Quality-of-life concerns in the end of life questionnaire (QOLC-E) will be used as the measurement. There are 2 sessions for the intervention. The first session involves a semi-structured interview that facilitates the search for meaning. The second session is to review, verify, and clarify the findings from the first session with the patients. Qualitative data on perception of the intervention was obtained for the treatment group after completion of the intervention.

**Results:** The score of existential distress domain, quality of life and overall scale of QOLC-E of meaning-focused intervention group were significantly higher than the control group ( $p \leq 0.05$ ). The results showed significantly improved quality of life in existential distress domain of meaning-focused intervention group. In addition the negative emotion domain, support domain, value in life domain, existential distress domain, and quality of life and over scale of QOLC-E of intervention group improved significantly after intervention ( $p \leq 0.01$ ). Apart from the improvement in the intervention group, support domains of both groups in the third measurement were improved after the study ( $p \leq 0.05$ ). Qualitative data also supported that the intervention was effective and common meaningful events for advanced cancer patients were discovered during the processes.

**Conclusion:** The findings show the brief meaning-focused on intervention helps to improve existential wellbeing and quality of life for advanced cancer patients. It represents the potential effectiveness and efficient intervention is feasible for implementation by healthcare professionals.

**Keywords:** Meaning-focused intervention; Existential wellbeing; Quality of life; Cancer patients

## Introduction

Cancer is a serious illness that is familiar to most people. There is an increasing trend of people diagnosed with cancer is evident in Hong Kong. Malignant neoplasm has always been the leading cause of death in Hong Kong [1]. In addition to its physical toll, cancer has a devastating emotional impact on individuals living an advanced stage of this disease. The threat to life can challenge people's beliefs about their life and sense of wellbeing [2].

In Hong Kong, a large number of advanced cancer patients are in great despair and want to hasten their death. Ho and Tay [3] found the rate of suicide in the oncology ward double the average rate in the general wards of public hospitals in Hong Kong. Although not all of such patients will attempt suicide or request euthanasia, some of them could not bear the suffering and no longer see meaning or value in life. If such existential distress is not carefully handled, the extended life expectancy would certainly impose further suffering on the advanced stage cancer patients. Therefore, resources should be allocated to the development of clinical interventions to address the existential distress of this group of patients so as to improve their existential wellbeing and reduce the possibility of premature death.

Meaning in life is a unique experience in different people. The current study aims to explore the effect of a brief, individualized, psychosocial intervention on the quality and meaning of life of advanced cancer patients.

Several studies showed that medically ill patients manifest a strong inverse relationship between spiritual wellbeing and existential

concerns [4,5]. Cancer robs people of their hopes and dreams, not only threatening the physical body, but also the spirit. When confronted with a life-threatening disease like cancer, more existentialistic or self-centered issues become relevant to terminally ill patients [6-11]. Cancer patients tend to see cancer as a death sentence that threatens the meaning and purpose of their existence [12]. This belief may explain the higher incidence of suicide among people with cancer, especially at the terminal stage [13,14].

Unmet existential needs were faced by 25% to 51% of cancer patients [15]. Numerous studies [16-18] found that 13% to 29% of advanced cancer patients experienced moderate to severe existential distress, whereas approximately 25% experienced minor distress. In Morita et al. [17] study, 38% of terminally ill in-patients spontaneously expressed existential distress and 37% expressed meaninglessness in life. The Patients reported to receive desired help in overcoming fears, finding hope, talking about peace of mind, finding meaning in life and spiritual resources, as well as thinking about the meaning of life and

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death [15]. Approximately 40% of cancer patient subjects indicated their need for help in finding the meaning of life, and 70% of them needed someone to talk about the meaning of life [15].

Quality of life is often used as the primary outcome indicator for measuring the effect of care on advanced cancer patients. Generally, the measurement of QOL in healthcare is guided by two principles, namely, multidimensionality and subjectivity [19]. A number of previous studies have recommended that a comprehensive evaluation of QOL in palliative care should cover physical symptoms, physical, psychological, cognitive, social and sexual functioning, and body image [20].

However, a number of studies found this definition to be unduly restrictive in that it did not include existential concerns [21]. Indeed, increasing recognition of the importance of meaning of life is seen as one of the determinants of QOL, especially in palliative conditions [19]. Some advanced cancer patients reported good quality of life even though they faced inevitable death. Psychological adaptation may shift the focus of quality of life judgments from physical deterioration to social, psychological, and spiritual domains. Assessment and intervention to promote a greater sense of meaning might be very important for advanced cancer patients.

Sense of meaning has been associated with enhanced quality of life [22] and is specific to the terminally ill, resulting in less depression [5] and despair [23]. In studies of cancer patients, psychological adjustment to the disease is positively correlated with meaning in life [22,24].

Although palliative care clinicians are generally aware that dealing with dying patients' existential suffering should be a priority, they recognize that the task is difficult [10]. Over the years, medical and psychological discourse on end-of-life care has steadily shifted from focusing primarily on symptom control and pain management to incorporating more person-centered approaches. Meaning making has become a central element of psychotherapeutic interventions [25,26]. Patients with limited life expectancy, whose meaning in life is sustained, are still able to consider their life as worth living [22,27]. At the same time, palliative nursing care personnel have to encounter questions about the meaning and values given to human existence [28]. That is, they have to recapture the meaning of life on behalf of those who are about to die soon.

In the acute oncology ward, advanced cancer patients may experience the deterioration of their own health and witness co-patients' death more frequently than patients in the general wards. This situation could be more stressful for the patients and their family members. Nurses have the privilege of having close contact with patients 24 hours a day during hospitalization. Hence, they are in a good position to offer individualized intervention through the process of daily nursing, and they can help patients live with dignity and meaning within a limited period. When a person is at the end of his or her life, it is important to give assistance in coping with psychological distress and existential concerns.

By searching positive meanings, advanced cancer patients may be able to change their views about individual life, live more in the present, give new meaning to their experiences, and formulate a new perspective of life. Quality social relationships, health personal values and beliefs are important to enhance meaning in life and improve existential well-being and quality of life. Figure 1 shows the conceptual framework of the present study.

The current study primarily addresses the following questions:

1. Does meaning-focused intervention affect the existential

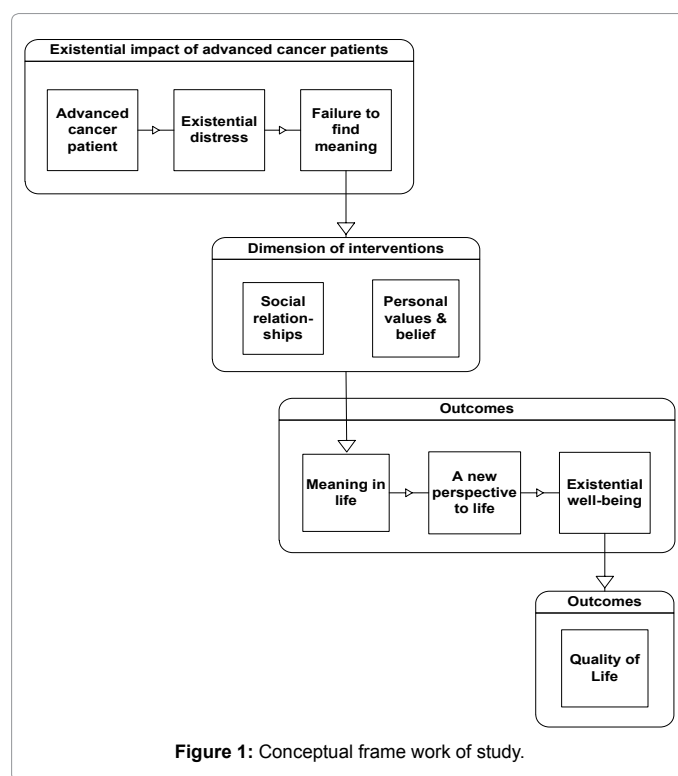


Figure 1: Conceptual framework of study.

domain of advanced cancer patients as compared with those without using such interventions?

2. Does meaning-focused intervention affect the overall QOL of advanced cancer patients as compared with those without using such interventions?
3. What are the perceptions regarding the intervention among advanced cancer patients in the treatment group?

## Methods

In this study, advanced cancer patients are defined as those suffering from incurable malignancy, clinical stage T3 and T4 disease at diagnosis, bone metastases [29] and highly fatal tumors, such as lung cancer, pancreatic cancer, squamous cell carcinoma [30], or patients expected to live less than six months with no existing established curative treatments.

Participants were recruited from the acute oncology wards of a public hospital in Hong Kong. Following the inclusion and exclusion criteria, the participants were screened by the nurses in charge of the respective wards.

## Inclusion criteria

1. Age 18 or above
2. With advanced cancer disease
3. With clinical existential distress
4. Existential distress score of 1 or above, as determined by the QOL Concerns in the End of Life questionnaire (QOLC-E)
5. Expected to stay in the hospital for at least three days
6. Able to read or communicate in Chinese

### Exclusion criteria

1. Age less than 18
2. Cognitive impairment
3. Too weak to communicate
4. Diagnosis of major depression or severe suicidal risk within the past six weeks
5. Enrollment in another clinical trial for which QOL is the primary end point
6. Change in antidepressant or psychotropic drug within six weeks of the study entry
7. Unable to read or communicate in Chinese

After screening by the ward nurses in charge, potential participants were approached by the investigator of the current study within the first two days of admission. They were briefed on the information contained in the consent form that they were asked to sign for the current study, which included details on the background of the current study, the right to refuse to participate in the study at any time during the study period, and further consent information for enquiries and complaints, both in verbal and written format.

This study employed a single blinded randomized controlled trial design with intervention and control groups, and measures taken at baseline, immediately after intervention, and two week after intervention. Quality-of-life concerns in the end of life questionnaire (QOLC-E) will be used as the measurement. There are 2 sessions for the intervention. Baseline measurement will be performed before the intervention. The intervention was based on logo therapy, a meaning-centered form of psychotherapy [31]. During the intervention, meaning was identified in terms of what participants gave to life (creative values), what they took from the world (experiential values), and the stand they took towards unavoidable predicaments (attitudinal values). Although the framework of the meaning was guided by Frankl's theory, the facilitator did not claim to have an answer for the participant's meaning of life, and the patients were autonomous and proactive in identifying individual sources that gave them creative, experiential and attitudinal values.

The first session involves a semi-structured interview that facilitates the search for meaning. It was guided by an interview manual and led by a facilitator who asked five core questions. The first question was "What do you think about your life?", which aims to facilitate a review of significant life events (primary creative values). The second question, "How can belief help you face adversity?" aims to explore personal strengths, values, and belief as inner resources (primarily attitudinal values). The last three questions, "What do you do to love yourself and other?", "What brings you joy?", and "What do you appreciate in your life?" aim to facilitate a review of relationships and an exploration of the important things in life (Primarily experiential values). Each core question was followed by a series of probing questions, if needed.

The second session is to review, verify, and clarify the findings from the first session with the patients. The second and third measurement will be held one day and two weeks after the intervention for outcome measurements. Figure 2 shows the flow diagram of participants through each stage of the study.

The main focus of interest was in relieving existential distress and improvement of the quality of life. For this study, the quality of life is measured by the QOLC-E, which is a 28-item multi-dimensional

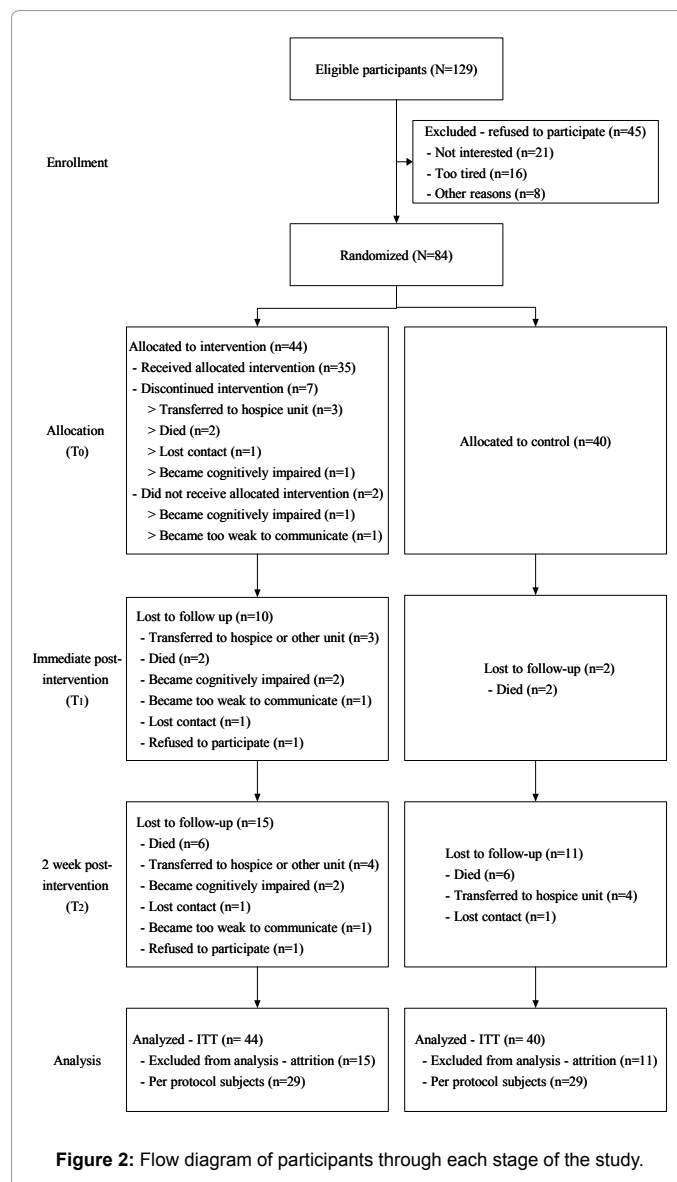


Figure 2: Flow diagram of participants through each stage of the study.

instrument involving eight factors that emerged from the factor analysis and grouped into eight subscales: (1) support, (2) value of life, (3) food-related concerns, (4) healthcare concerns, (5) physical discomfort, (6) negative emotions, (7) sense of alienation, and (8) existential distress. The first four subscales measure the positive aspects of QOLC concerns, whereas the last four measures the negative aspects [32]. Few questions were negatively phrased, so a conversion of scores was conducted in a way that a higher score indicates a higher level of satisfaction.

Good internal consistency was reported, with an overall Cronbach's alpha of 0.87 and a high percentage of variance (62.8%). The values are (1) physical discomfort subscale (4 items, alpha=0.77), (2) food-related concerns subscale (2 items, alpha=0.57), (3) negative emotions (4 items, alpha=0.87), (4) support subscale (2 items, alpha=0.64), (5) value of life subscale (6 items, alpha=0.83), (6) existential distress subscale (3 items, alpha=0.79), (7) healthcare concerns subscale (4 items, alpha=0.64), and (8) sense of alienation subscales (3 items, alpha=0.87) [32].

The current study was approved by the Institutional Review Board of the Cluster Hospital of the involved hospital and the Human

Subjects Ethics Subcommittee of the University and Research Ethics Committee. Documentation of informed consent had been provided and explained to each participant, and the consent forms signed first before the study commenced. Participants had the right to withdraw from the study at any stages without affecting their usual treatments and care.

## Results

Statistical procedures were performed using the software SPSS version 17. A total 58 out of 84 subjects completed 2-week post-intervention assessment. Among 84 participants, 45 (53.6%) were male and 39 (46.4%) were female. Their ages ranged from 38 to 91 years with a mean age of 64.02 ± 11.81 years. Demographic characteristics of the baseline measures are shown in table 1.

A 3 (time of measurement) × 2 (condition) repeated measure ANOVA was used to assess changes in subscales of QOLC-E measures across all 3 time points, pre-treatment, post-treatment, and follow-up. Between-subject effects among various domains of QOLC-E were reported in table 2. There was no significant difference in physical discomfort domain, food-related concern domain, negative emotion domain, sense of alienation domain, support domain, value in life domain, and health care concern domain of QOLC-E (all p>0.05). There was a statistically significant improvement in existential distress domain (F(1,81)=5.824, p=0.018), quality of life in single item (F(1,80)=4.919, p=0.029), and overall scales on average (F(1,81)=6.295, p=0.014) found for the intervention group compared to the control group.

There were significant differences in negative emotion domain (F=7.467, p=0.003), supportive domain (F=6.292, p=0.004), value of life domain (F=6.665, p=0.003), existential distress domain (F=21.781, p<0.001), quality of life in single item (F=8.089, p=0.002), and overall scales in average (F=17.321, p<0.001) in the intervention group. Table 3 shows the results for Pairwise comparisons in the intervention group.

In this study, the support domain in both the intervention (F=6.292, p=0.004) and control (F=3.542, p=0.046) groups improved. As expected, there were no significant differences between groups (F=0.039, p=0.843). This shows the improved sense for being support or may not be related to meaning-focused intervention directly.

Spearman's correlation coefficients were used to assess the relationships between the patients' continuous demographic and clinical characteristics, and improvement of various domains of QOLC-E. Significantly weak to moderate correlations (r=0.226 to 0.635, p<0.001 to 0.038) were found among subscales.

Age (r=0.518, p<0.001), span of time since diagnosis (r=-0.315, p=0.038), and support (r=-0.358, p=0.017) were found to correlate significantly with the difference (T<sub>3</sub>-T<sub>1</sub>) of existential distress domain.

For the experimental group, an open-ended question was asked at 2 week after the intervention, to collect qualitative information on the usefulness of the intervention. Out of the 29 participants who were available to provide the data, 27 reported that they enjoyed the process of interviews and most (22, 75.87%) found it helpful. Two participants pointed out that not everyone was ready to talk about life and the process placed those with reservations under pressure. There was only one patient (3.44%) who commented that the interview sessions were ineffective because it offered nothing new for him, since he had come to terms with his situation using his own methods. Some of the participants (6, 20.69%) reported that they enjoyed the interview process, but it was difficult for them to determine whether the intervention was effective

or not. A summary of the participants' evaluation of intervention is shown in table 4.

A total of 34 participants completed the intervention interview. The semi-structured interview guide focused on three main areas:

1. Facilitate a review of significant life events (primarily creative values) "What do you think about your life?"
2. Explore internal and external resources (primarily attitudinal values) "How have you faced adversities in life?"
3. Facilitate a review of relationships with the world (primarily experiential values) "What do you do to love yourself?", "What brings you joy?" and "What do you appreciate in your life?"

During the interview process, self-defined meanings of the participants were categorized into two main categories: "personal values and beliefs" and "family and social relationship". Key attributes of "personal values and beliefs" include courage to face challenges [14], show a grateful heart [10], accept reality and maintain hope [9], follow

	Intervention Group (n=44)	Control Group (n=40)
<b>Age</b> , mean ± SD	<b>64.02 ± 12.37</b>	<b>65.28 ± 10.89</b>
<b>Gender</b> , n (%)		
Male	24 (54.5)	21 (52.5)
Female	20 (45.5)	19 (47.5)
<b>Education</b> , n (%)		
Illiterate	11 (25)	8 (20)
Primary	19 (43.2)	18 (45)
Secondary or above	14 (31.8)	14 (35)
<b>Marital Status</b> , n (%)		
Non-married	10 (22.7)	2 (5)
Married	28 (63.6)	31 (77.5)
Widowed	6 (13.6)	7 (17.5)
<b>Religion</b> , n (%)		
Nil	22 (50)	18 (45)
Ancestor Worship	10 (22.7)	7 (17.5)
Buddhism	4 (9.1)	9 (22.5)
Christianity	8 (18.2)	6 (15)
<b>Diagnosis</b> , n (%)		
Ca lung	18 (40.9)	14 (35)
Colorectal cancer	5 (11.4)	12 (30)
Ca breast	4 (9.1)	4 (10)
Other cancer	17 (38.6)	10 (25)
<b>Metastasis</b> , n (%)		
Single metastasis	25 (56.8)	19 (47.5)
Multiple metastasis	16 (36.7)	14 (35)
Nil	3 (6.8)	7 (17.5)
<b>Span of time since diagnosis of cancer</b> , mean ± SD		
	<b>57.00 ± 85.64</b>	<b>66.25 ± 98.67</b>
<b>Duration under palliative nursing care</b> , mean ± SD		
	<b>3.57 ± 11.69</b>	<b>5.23 ± 19.33</b>
<b>Limitation of ADL</b> , n (%)		
Ambulant	16 (36.3)	20 (50)
Walk with help	9 (20.5)	7 (17.5)
Chair-bound	9 (20.5)	8 (20)
Bed-bound	10 (22.7)	5 (12.5)
<b>Agreed DNR</b> , n (%)		
Yes	16 (36.4)	9 (22.5)
No	0 (0)	0 (0)
Not mention	28 (63.6)	31 (77.5)
<b>Current treatment</b> , n (%)		
Palliative Chemo	5 (11.4)	8 (20)
Palliative RT	16 (36.4)	17 (42.5)
Symptoms control	19 (43.1)	10 (25)
Combined treatment	4 (9.1)	5 (12.5)

Table 1: Demographic and clinical characteristics of study subjects.

the natural path [9], enjoy simple life [5], and rely on higher power [2]. As for family and social relationship, it includes sense of connection with family and mutual support with others [32], and affirmation of worth [8].

## Discussion

The finding of this study showed the brief, individualized meaning-focused intervention helps improve existential wellbeing and quality of life of advanced cancer patients.

The study indicates that the intervention may have a specific effect on improving the existential distress of advanced cancer patients given that there is a significant difference between the experimental group and the control group in the sub-scale of the QOLC-E-existential distress. Apparently, the intervention improved QOL, particularly by improving existential distress, which supports the theoretical notion that existential distress results primarily from the lack of meaning [31,33] and previous empirical findings that existential distress is alleviated by meaning-making [34]. However, Breitbart's [34] study was conducted in groups, and the intervention consisted of eight sessions, whereas the current study was conducted on an individual basis and consisted of two sessions per subject. In addition, existential distress is defined differently by different authors. In the current study, existential distress was measured by three items: hopelessness, powerlessness, and helplessness. The intervention is a new attempt that focuses on meaning and quality of life and is effective for advanced cancer patients.

Apart from the existential domain of QOLC-E, the intervention affects quality of life in a single item (F=4.919, p=0.029) and in the overall scales of QOLC-E on average (F=6.295, p=0.014). Through the process of helping patients search for their own meaning, patients have a chance to express their own feelings and reframe them in a positive and meaningful way.

Although some studies on cancer patients have found that meaning-focused strategies, such as positive reframing, are related to better subsequent adjustment, such as improved quality of life and psychological wellbeing [35,36], others have reported that searching for meaning is related to poorer adjustment [37,38]. The results of this study show that a brief meaning-focused intervention effectively improves the level of existential wellbeing and quality of life of advanced cancer patients, especially in older people, patients who received inadequate palliative care services and who lack social support, and newly diagnosed patients in the advanced stage of illness. The findings are consistent with those of previous studies [12,39] for patients searching for meaning, as existential suffering is an essential coping strategy when meaning of the patients' existence is threatened by suffering due to cancer.

Meaning is the cognizance of order, coherence, and purpose in one's existence, the pursuit and attainment of worthwhile goals, and the accompanying sense of fulfillment [40]. Through the process of discovery and creation of individual meaning, a new perspective on the etiology and treatment of life problems can be found. Meaning-focused

Dependent variable	Source	Type III Sum of squares	df	Mean squares	F	Sig
Existential distress	Group	55.056	1	55.056	5.824	0.018*
	Error	765.745	81	9.454		
Quality of life in single item	Group	22.322	1	22.322	4.919	0.029*
	Error	363.023	80	4.538		
Overall scales in average	Group	7.610	1	7.610	6.295	0.014*
	Error	97.926	81	1.209		

Significant subscales predictors (\*p<0.05)

Table 2: Between-subjects effects among various domains of QOLC-E.

Time of measure	Overall		To-T <sub>1</sub>		To-T <sub>2</sub>		T <sub>1</sub> -T <sub>2</sub>	
	F	Sig	F	Sig	F	Sig	F	Sig
Physical discomfort	0.842	0.420	1.189	0.282	0.994	0.324	0.009	0.924
Food-related concerns	2.818	0.079	3.251	0.079	3.454	0.070	0.109	0.743
Negative emotion	7.467	0.003**	10.736	0.002**	7.771	0.008**	0.013	0.910
Sense of alienation	3.089	0.055	4.828	0.033*	3.444	0.070	0.49	0.826
Support	6.292	0.004**	8.110	0.007**	8.267	0.006**	0.303	0.585
Value of life	6.665	0.003**	8.073	0.007**	8.620	0.005**	0.001	0.977
Existential distress	21.781	<0.001**	22.814	<0.001**	30.963	<0.001**	0.394	0.533
Health care concern	2.952	0.064	4.702	0.036*	3.024	0.009**	0.114	0.737
QOL in single item	8.089	0.002**	10.355	0.002**	8.759	0.005**	0.028	0.868
Overall scales in average	17.321	<0.001**	22.705	<0.001**	22.292	<0.001**	0.872	0.872

Significant subscales predictors (\*p<0.05, \*\*p<0.01)

Table 3: Pairwise comparisons in intervention group.

Effectiveness	Reasons
<b>Perceived as effective (22)</b>	Increase sense of being concerned by health care professionals (6) Emotional needs addressed (6) Clarify life views and enhance self-understanding (5) Satisfy with the present situation (3) Improve family relationships (2)
<b>Perceived as neutral (6)</b>	No recollection of details (4) Physical fatigue (2)
<b>Perceived as ineffective (1)</b>	Nothing special for him (1)

Table 4: Summary of participants' evaluation of the intervention.

intervention empowers advanced cancer patients in overcoming even the most overwhelming circumstances of life, such as facing death and permanent separation of a beloved, and acts as a door leading to a unique human experience.

The common personal values and beliefs perceived meaningful by the participants in this study include the courage to face challenges, grateful attitude, acceptance of reality and maintenance of hope, following of the natural path, enjoying of a simple life, and relying on a higher power. Previous experiences in which they acknowledge themselves as responsible persons and previous job satisfaction also reinforce their efforts and contributions in the past.

Advanced cancer patients face the uncertainties of disease progression and the possibility of increased suffering in the future. This finding is also evident in De Faye et al. [16] study, with 59.6% of advanced cancer patients citing concerns about the future as their most significant source of existential distress. Positive thinking, re-examination of life, and religious and cultural beliefs are identified to be internal factors that facilitate their search for meaning and contribute to the process of growth [41]. Patients' positive views on misfortune, family care, and sufficient social support are key elements of the healing process, as these alleviate psycho-spiritual suffering.

Several participants were unable to describe their underlying reasons for finding the intervention useful, simply stating that the process was helpful. In Chinese culture, discussing death is considered a social taboo; hence, they avoid broaching the topic. Palliative nurses should introduce the issue of death and improve a patient's acceptance according to his/her pace. Addressing this concern and assisting patients in overcoming darkness in their lives can prepare them better in facing the challenge of uncertainty in the terminal stage of their lives and make the limited time spent with loved ones more meaningful. Family members and friends will feel more comfortable spending valuable time with their loved one as a result. This method is considered a subtle way of encouraging better coping by both patients and their relatives.

Although the initial results are promising, several limitations should be considered when interpreting the study results. It is possible that our study missed some patients who had a poor QOL but refused to participate. Extremely distressed patients should be given emotional support and clinical management, instead of being made to perform pre-assessment measures of research protocols. A second limitation of the study is its high attrition rate of 31% (26/84), a common characteristic of palliative care research. This study's attrition rate is comparable to that of other palliative care studies [42]. The third limitation of this study stems from our sample having been solely obtained from an acute oncology setting within the same hospital. An opportunity to investigate the effectiveness of the intervention on other advanced illness in non-cancer and non-acute settings might uncover different aspects of the phenomena explored.

## Conclusion

In summary, individuals with less support, lower quality of life, lack of palliative care, and old age seem to benefit more from meaning-focused intervention. Through the process of searching for meaning, advanced cancer patients can find their own meaning in life and are able to accept their current physical condition with better psycho-spiritual well-being, even in the terminal stages of illness. In this study, there was significant improvement in the negative emotion domain, support domain, value in life domain, existential distress domain, quality of life, and overall scale QOLC-E of the intervention group. The

supportive domain among the participants was improved in both the intervention and control groups.

Creating meaning during the patients' final journey was an integral part of patients' healing process. Patients turned to internal resources, included suffering as a life challenge, and searched for life wisdom and external resources, including the support of family and peers, as they endured existential well-being. The study also found that younger patients are prone to receive more palliative care nursing services in the study hospital, and the level of physical discomfort and existential distress are significantly correlated.

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