

# Clarifying “meaning” in the context of cancer research: A systematic literature review

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## ABSTRACT

**Objectives:** This article synthesizes the published literature related to the construct of meaning in the adult cancer population.

**Methods:** The databases CancerLit, CINAHL, Medline, PsychINFO, and the Journal of Psychosocial Oncology and PsychoOncology were searched to identify all studies related to meaning. The methodological aspects of all studies are described and the conceptual aspects are summarized only from those studies that met criteria for methodological rigor and validity of findings. The definitions for *global meaning*, *appraised meaning*, *search for meaning*, and *meaning as outcome* as proposed by Park and Folkman were used to interpret the findings.

**Results:** Of 44 studies identified, 26 met the criteria for methodological rigor. There is strong empirical and qualitative evidence of a relationship between meaning as an outcome of and psychosocial adjustment to cancer.

**Significance of results:** The qualitative findings are considered useful for the development of psychosocial interventions aimed at helping cancer patients cope with and even derive positive benefit from their experience. However, variations in the conceptual and operational definitions, frequent reliance on homogeneous and convenience sampling, and the lack of experimental designs are considered to be methodological limitations that need to be addressed to advance the study of meaning in the context of cancer.

**KEYWORDS:** Meaning, Cancer, Systematic literature review, Research

## INTRODUCTION

To date, no systematic review has been reported of the published qualitative and empirical studies on meaning within the cancer experience. However, research has increasingly focused on the construct

of meaning as a critical factor in the psychosocial adjustment to cancer (Folkman & Greer, 2000; Folkman & Moskowitz, 2000; Breitbart, 2001). A profusion of articles and clinical programs (Ishiyama, 1990; Cole & Pargament, 1999; Greenstein, 2000; Greenstein & Breitbart, 2000) have recently explored the clinical and theoretical significance of meaning in relation to coping with cancer across a wide range of populations, cancer types, and phases in the cancer trajectory. A synthesis of this knowledge base would establish what is already known,

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identify areas requiring further study, and provide direction for clinical practice.

This review selected the broad, integrative framework proposed by Park and Folkman (1997) to understand the current state of knowledge related to the multidimensional construct of meaning in cancer. Although other researchers have proposed models meant to clarify the different conceptualizations of meaning across researchers (Thompson & Janigan, 1988; Sullivan, 1993; Taylor, 1995; Davis et al., 1998; Richer & Ezer, 2000), the framework by Park and Folkman (1997) provided the most complete and parsimonious structure to define the different aspects of meaning. (Readers may refer to Park & Folkman, 1997, and Folkman & Greer, 2000, for an in-depth review.) In this review, we present a summary of the methodologies used to investigate meaning in the context of cancer. Next, the studies are appraised in terms of quality, and only those that met our criteria for methodological rigor and validity of findings are summarized with respect to the major themes for global meaning, appraised meaning, search for meaning, and meaning as outcome. Finally, we conclude with a discussion of two issues that should be considered in future theoretical and clinical research.

## METHODS

### Search Strategy

The term “cancer” was used in combination with the terms meaning, meaning-making, search for meaning, finding meaning, existential, sense of coherence, purpose in life, coming to terms, experience, and self-transcendence to electronically search the databases CancerLit (1975–December 2003), CINAHL (1982–December 2003), Medline (1966–December 2003), and PsychINFO (1967–December 2003). As well, a manual search was conducted from the date of first issue to December 2003 of the *Journal of Psychosocial Oncology* (1982) and *Psycho-Oncology* (1992). Other strategies included individual searches of and direct communication with key authors and the perusal of reference lists and bibliographies from articles. The search was limited to studies in English.

### Inclusion Criteria

To capture the broadest use of the concept, this review considered all qualitative, correlational, and experimental studies related to meaning in the context of cancer. To ensure that the results of experimental studies could be attributed specifically to the meaning-making process, experimental studies

were included only if the therapeutic strategies being tested were exclusively devoted to any or all of the dimensions of meaning (i.e., global meaning, appraisal of meaning, search for meaning, meaning as outcome). All studies must have been conducted with the adult cancer population, regardless of gender, type of cancer, histological stage, or phase in cancer trajectory.

### Exclusion Criteria

Anecdotes, editorials, personal testimonials, clinical case reports, and news stories were excluded due to their specificity and lack of generalizability to other patient experiences. Studies pertaining to the couple, family, or pediatric experience were excluded because this review focused on the individual perspective of meaning-making related to a diagnosis of cancer during adulthood. Dissertation abstracts were also excluded because this format did not allow adequate quality assessments.

### Data Extraction

The methodological aspects of all studies were summarized according to research design, methodological rigor, and sampling frame. The conceptual aspects were discussed in terms of conceptual and operational definitions, and the recurring qualitative themes and empirical findings were summarized only for those studies that demonstrated methodological rigor and validity of findings. The definitions for *global meaning*, *appraised meaning*, *search for meaning*, and *meaning as outcome* as proposed by Park and Folkman (1997) were used to organize and interpret the findings.

Qualitative studies were considered methodologically rigorous and valid if the study reported at least one method to ascertain each of the following criteria: the credibility, confirmability, and dependability of the findings. Following Carnevale (2002) and Guba and Lincoln (1981), qualitative studies were deemed *credible* if researchers used methods such as triangulation, peer review (i.e., feedback was sought from expert researchers in the field), comparison of findings to previous observations and research, logs, memos, journals, bracketing (i.e., putting what is known about the phenomenon under study), member checking (i.e., acknowledgment of findings was sought from people who understood the experience), and identification of negative cases or alternative explanations. *Confirmability* was defined as reporting a clear decision trail, and *dependability* was judged adequate if there was a detailed account of the process, procedures, and analyses specific to the study. *Transferability*

was not considered in the assessment of quality in this review because this issue is difficult to support in an emerging area until studies of similar contexts are available for comparison (Carnevale, 2002).

Empirical studies were considered methodologically rigorous and valid if researchers reported measures to decrease selection bias and account for attrition bias. Specifically, the empirical findings were summarized from those studies that reported the following: (1) use of representative sampling procedures, (2) the gender and age of the sample, and (3) at least one explanation of participant loss (i.e., refusal rates, reasons for withdrawal, drop-outs, patient characteristics of those remaining vs. those not remaining). The reporting of age and gender were considered important factors as these variables affect psychosocial adjustment differently (Edlund & Sneed, 1989; Murray & McMillan, 1993; Siegel et al., 1999). Although a complete description of the study sampling frame is desirable, reporting only the rate of refusal was deemed adequate in this assessment of study quality given that the reasons for refusal are difficult to obtain.

## RESULTS

The search identified 44 research studies that addressed some aspect of meaning in the context of cancer. Seventy percent ( $n = 31$ ) of the studies originated from the United States, and 30% ( $n = 13$ ) were published from other countries (i.e., Sweden [ $n = 5$ ], Canada [ $n = 4$ ], Australia [ $n = 1$ ], New Zealand [ $n = 1$ ], Hong Kong [ $n = 1$ ], and Israel [ $n = 1$ ]).

### Methodological Aspects

#### *Design*

Only one experimental study (Linn et al., 1982) was found in which the clinical intervention being tested was reported to be solely devoted to facilitating a discussion about the meaning of one's life in the context of living with cancer. Twenty studies (46%) used correlational designs in which participants completed self-report questionnaires. Twenty-three (52%) studies used a variety of qualitative approaches, including grounded theory ( $n = 8$ ; Fife, 1994; Thomas & Retsas, 1999; Taylor, 2000; Halstead & Hull, 2001; Landmark et al., 2001; Bowes et al., 2002; Ramfelt et al., 2002; Richer & Ezer, 2002), and phenomenology ( $n = 9$ ; Coward, 1990; Steeves, 1992; Carter, 1993; Nelson, 1996; Pelusi, 1997; Thibodeau & MacRae, 1997; Olsson et al., 2002; Albaugh, 2003; Lam & Fielding, 2003). Heuristic (Utey, 1999) and ethnographic inquiry

(Ferrell et al., 2003) were less frequently used approaches. Three qualitative studies did not describe using a specific theoretical approach (Matthews et al., 1994; Mahon & Casperson, 1997; Bolmsjo, 2000) and one conducted a secondary analysis of data from a larger study (O'Connor et al., 1990). The qualitative data were obtained primarily through semi-structured or unstructured interviews, although written narratives (Coward, 1990), e-mails, letters, cards (Ferrell et al., 2003), and photographs (Nelson, 1996) were also used.

#### *Methodological Rigor and Validity of Findings*

Of the 44 studies that explored meaning in the context of cancer, 26 studies (59%) met our criteria for a minimum acceptable standard of research quality. This subset included 1 randomized controlled trial (Linn et al., 1982), 3/20 correlational studies (Smith et al., 1993; Tomich & Helgeson, 2002; Degner et al., 2003), and 22/23 qualitative studies. Seventeen correlational studies were excluded mainly due to the use of nonrepresentative sampling procedures or to age not being reported (Luker et al., 1996). One qualitative study (Bolmsjo, 2000) was excluded because there was insufficient information to permit an adequate evaluation of its methodology.

The sampling procedures, refusal rates, and reasons for subject loss reported in the empirical studies ( $n = 21$ ) are described in Table 1. Refusal rates, ranging from 0% to 56%, were reported by 71% (15/21) of the empirical studies. Thirty-eight percent (8/21) of the empirical studies provided reasons for subject loss, such as emotional distress (Moadel et al., 1999; Vickberg et al., 2001; Lechner et al., 2003), fatigue (Post-White et al., 1996), time restrictions (Ramfelt et al., 2000; Vickberg et al., 2001), lack of interest (Post-White et al., 1996; Lechner et al., 2003), deteriorating health (Thompson & Pitts, 1993; Post-White et al., 1996; Moadel et al., 1999; Lechner et al., 2003), or moved from the area (Linn et al., 1982). Few studies collected data on the characteristics of participants who remained in the study versus those not remaining in the study. Nonparticipants were more likely to have been older than 70 years, approached in tertiary care settings (Degner et al., 2003), less educated, or less interested in health issues (Tomich & Helgeson, 2002).

The specific procedures and analyses used by researchers to ensure the trustworthiness of the qualitative findings consisted of member checking (Coward, 1990; Steeves, 1992; Carter, 1993; Matthews et al., 1994; Mahon & Casperson, 1997;

**Table 1.** Assessment of selection and attrition bias in empirical studies ( $n = 21$ )

Study <sup>a</sup>	Sampling procedure		Refusal rate reported (%)	Reasons reported for subject loss
	Random or consecutive	Convenience		
*Linn et al. (1982)	X		X	X
Baider & de Nour (1986)		X	X	
Lewis (1989)		X		
Coward (1991)		X		
Barkwell (1991)		X		
Thompson & Pitts (1993)		X	X	X
Taylor (1993)		X		
Mullen et al. (1993)		X	X	
Dirksen (1995)		X		
Post-White et al. (1996)		X	X	X
Luker et al. (1996)	X			
Chin-A-Loy & Fernsler (1998)		X	X	
Moadel et al. (1999)		X	X	X
Vickberg et al. (2000)		X	X	
Ramfelt et al. (2000)		X	X	X
Vickberg et al. (2001)		X	X	X
*Degner et al. (2003)	X		X	
Schnoll et al. (2002)		X	X	X
*Tomich & Helgeson (2002)	X		X	
Lechner et al. (2003)		X	X	X
*Smith et al. (1993)	X		X	
Total (out of 21)	5	16	15	8
(% of studies)	(24%)	(76%)	(71%)	(38%)

<sup>a</sup>Ordered from earliest to most recent; References marked with an asterisk indicate inclusion in summary.

Thibodeau & MacRae, 1997; Thomas & Retsas, 1999; Taylor, 2000; Halstead & Hull, 2001; Landmark et al., 2001; Richer & Ezer, 2002; Albaugh, 2003; Ferrell et al., 2003), peer review (O'Connor et al., 1990; Steeves, 1992; Carter, 1993; Fife, 1994; Nelson, 1996; Taylor, 2000; Halstead & Hull, 2001; Richer & Ezer, 2002; Albaugh, 2003; Ferrell et al., 2003; Lam & Fielding, 2003), bracketing (Pelusi, 1997; Thibodeau & MacRae, 1997; Ferrell et al., 2003), and the use of logs, memos, and journals (Nelson, 1996; Pelusi, 1997; Thibodeau & MacRae, 1997; Thomas & Retsas, 1999; Utley, 1999; Halstead & Hull, 2001; Landmark et al., 2001; Bowes et al., 2002). Several grounded theory studies did not specify whether theoretical sampling was used and whether data saturation was achieved (Thomas & Retsas, 1999; Landmark et al., 2001; Ramfelt et al., 2002).

### Sampling Frame

Tables 2 and 3 provide summaries of the demographic data reported by the qualitative ( $n = 23$ ) and empirical ( $n = 21$ ) studies. In spite of the largely incomplete demographic profiles provided

by many of the studies, it was apparent that the study of meaning was conducted with a homogeneous population consisting of predominantly married, Caucasian females, at least high school educated and between 50 and 60 years of age. Level of education (45%) and income (73%) were the least often reported in the studies. Twenty-six studies (59%) explored meaning within the context of a specific type of cancer, such as breast, prostate, colorectal, ovarian, leukemia, and malignant melanoma. Of these, 17 (65%) studies included only women with breast cancer. Fourteen studies (32%) included patients with a variety of cancer types (of which breast cancer was also the most common diagnosis in nine studies), and four studies (9%) did not specify a cancer type.

Meaning was explored across all phases of the cancer trajectory, although some studies ( $n = 16$ , 36%) did not report the range of participants' times since diagnosis (Coward, 1990, 1991; Barkwell, 1991; Steeves, 1992; Fife, 1994; Mathews et al., 1994; Thomas & Retsas, 1999; Bolmsjo, 2000; Ramfelt et al., 2000, 2002; Bowes et al., 2002; Olsson et al., 2002; Richer & Ezer, 2002; Degner et al., 2003; Ferrell et al., 2003). Cancer survivors were the

**Table 2.** Summary of demographics provided in qualitative studies ( $n = 23$ )

Study	Sample size and gender	Age (years) (range, mean)	Type of cancer ( $n$ )	Time since diagnosis	Marital status ( $n$ )	Ethnicity (%) Caucasian unless otherwise noted	Education
Coward (1990)	5 female	48–72, 63	Breast	NR	Married (2) Widow (2) Single (1)	NR	NR
O'Connor et al. (1990)	20 female 10 male	36–67, 55	Breast (18) Lung (10) Colorectal (2)	2 weeks– 6 months	NR	83	5–22 years ( $M = 13$ years)
Steeves (1992)	6 male	20–46, NR	Leukemia	NR	Married (2)	NR	NR
Carter (1993)	25 female	40–78, 56	Breast	5–26 years	Married (18)	96	13–16 years of formal education (56%)
Fife (1994)	22 female 16 male	31–74, 54	NR	NR	All	100	“At least high school education”
Mathews et al. (1994)	26 female	39–83, NR	Breast	NR	NR	Black women from North East California	“Lower educated”
Nelson (1996)	9 female	38–69, Median = 50	Breast	2–6 years	NR	78	2–6 years postsecondary
Thibodeau & MacRae (1997)	45 female	29–75, NR	Breast	3–31 years	NR	NR	NR
Pelusi (1997)	8 female	34–70, 55	Breast	2–15 years	Married (6)	75	NR
Mahon & Casperson (1997)	13 female 7 male	26–72, 54	Breast (6) Leukemia (4) Other (10)	15–134 months	NR	75 African American (25)	NR
Thomas & Retsas (1999)	12 female 7 male	30–90, 55	NR	NR	NR	NR	NR
Utley (1999)	8 female	65–76, NR	Breast	5.5–29 years	Widowed (6)	100	At least high school
Taylor (2000)	24 female	39–70, 52	Breast	2–27 months	NR	58 African American (42)	9–20 years
Bolmsjo (2000)	7 female 3 male	47–84, NR	Mixed	NR	NR	NR	NR
Landmark et al. (2001)	10 female	39–69, 51	Breast	4–19 months	Married (7)	100	NR
Halstead and Hull (2001)	10 female	45–70, NR	Breast (8) Non-Hodgkin lymphoma (1) Ovarian (1)	3 months to 5 years	Married (6)	100	High school (100%)
Ramfelt et al. (2002)	27 female 25 male	34–83, 68	Colorectal	NR	Married (33)	NR	High school (77%)
Bowes et al. (2002)	9 female	36–70, 56	Ovarian	NR	Married (8)	100	NR
Olsson et al. (2002)	4 female 6 male	52–84, NR	Colorectal	NR	NR	NR	NR
Richer & Ezer (2002)	10 female	44–69, 56	Breast	NR	Married (8)	90	NR
Ferrell et al. (2003)	All female $N = NR$	NR	Ovarian	NR	NR	NR	NR
Albaugh (2003)	5 female 2 male	44–74, 61	Breast (2) Colorectal (1) Prostate (1) Not cancer (3)	“At least 1 month prior”	NR	NR	NR
Lam and Fielding (2003)	17 female	30–65, 46	Breast	6–8 months	Married (15)	Chinese (100)	NR

NR: Not reported.

**Table 3.** Summary of demographics provided in empirical studies ( $n = 21$ )

Study	Sample size and gender	Age (years) (range, mean, <i>SD</i> )	Type of cancer ( <i>n</i> )	Time since diagnosis	Marital status ( <i>n</i> )	Ethnicity (%) Caucasian unless otherwise noted	Education
Linn et al. (1982)	120 male	45–77 (58, 8)	Lung cancer (65) Colon, stomach, pancreas, other (55)	NR	“Over half were married”	88	NR
Baider and de Nour (1986)	30 female	Range NR Moslem (47, 5) Jewish (48, 6)	Breast	Moslem: $M = 29$ months Jewish: $M = 19$ months	Married (5)	100	Moslem: $M = 6$ years, $SD = 5$ years Jewish: $M = 13$ years, $SD = 4$
Lewis (1989)	35 female 21 male	21–79 (54, 13)	Breast (14), lung (13), ovarian (6), other (19)	“2/3 of patients were diagnosed within a year of study”	“Majority were married”	NR	NR
Barkwell (1991)	100 female	26–81 (61, 12)	NR	NR	NR	NR	NR
Coward (1991)	107 female	29–86 (61, 14)	Breast	NR	Married (71)	98	14 years
Smith et al. (1993)	59 female 57 male	18–83 (53; 15)	Breast (21) Colon (21) Leukemia (14) Other (47)	Range: 1 month to 15 years	Married (75)	82	NR
Taylor (1993)	45 female 29 male	20–89 (NR)	Breast (31) Colorectal (12) Non-solid tumors (14) Other (17)	<2–21 months since recurrence	Married (40)	60	16 years (84%)
Mullen et al. (1993)	24 female 18 male	31–75 (57, NR)	NR	<6 months (9) 6–12 months (16) > 1 year (17)	Married (42)	NR	NR
Thompson and Pitts (1993)	53 female 26 male	31–82 (56, NR)	Breast (33), Colorectal (13), Prostate (10), Other (23)	Median = 18 months	Married (79)	100	$M = 1$ –2 years college
Dirksen (1995)	19 female 12 male	25–83 (55, NR)	Malignant melanoma	9 years (5–20 years)	Married (19)	100	College (45%)
Luker et al. (1996)	105 female	NR	Breast	$M = 2.5$ weeks	NR	NR	NR
Post-White et al. (1996)	13 female 19 male	29–74 (47, NR)	Leukemia (17) Solid tumors (11) Other (4)	0–108 months $M = 22$ months	NR	90	At least college (97%)
Chin-A-Loy and Fernsler (1998)	23 male	61–84 (69, 6)	Prostate	2 months–11 years $M = 3$ years	Married (18)	83	At least college (65%)
Moadel et al. (1999)	145 female 98 male	18–85 (56, 14)	Breast (47) Solid tumors (33) Hematologic (78)	1 month–22 years $M = 3$ years	Married (131)	48	At least high school (39%)
Ramfelt et al. (2000)	45 female 41 male	34–84 (70, 10)	Colon (58) Rectal (28)	NR	Married (55)	100	At least high school (50%)
Vickberg et al. (2000)	61 female	30–81 (59, 11)	Breast	2–15 years $M = 7.4$ , $SD = 3.6$ years	Married (31)	80	At least college (70%)
Vickberg et al. (2001)	43 female	17–59 (40, NR)	Leukemia	4.6–11 years since BMT	Married (33)	75	At least college (82%)
Schnoll et al. (2002)	83 female 26 male	NR (60, 11)	Breast (65), Prostate (22) Other (31)	$M = 61$ months, $SD = 69$ months	Married (77)	99	$M = 13$ years
Tomich and Helgeson (2002)	164 female	33–81 (54, NR)	Breast	5½ years	NR	95	At least college (63%)
Degner et al. (2003)	1012 female	NR (58, NR)	Breast	NR	Married (68)	100	At least high school (57%)
Lechner et al. (2003)	59 female 24 male	34–85 (63, NR)	Breast (28), Colorectal (16), Lung (7), Other (32)	0–172 months $M = 39$ months, $SD = 41$	Married (55)	90	College training (68%)

NR: Not reported.

most frequently selected sample for study, accounting for 32% ( $n = 14$ ) of the studies (Baider & de Nour, 1986; Carter, 1993; Smith et al., 1993; Dirksen, 1995; Nelson, 1996; Pelusi, 1997; Utley, 1999; Taylor, 2000; Vickberg, 2000, 2001; Halstead & Hull, 2001; Schnoll et al., 2002; Tomich & Helgeson, 2002; Lam & Fielding, 2003). However, there was great variability in operationalizing the time frame for the “survivor” phase of the trajectory. For example, Nelson (1996) and Pelusi (1997) included cancer “survivors” who were 2 to 6 years and 2 to 15 years postdiagnosis, respectively. In contrast, Utley’s (1999) sample included participants who ranged from 5 to 29 years since their diagnosis of cancer. Five (11%) of the studies focused on the experience of patients facing a new diagnosis of cancer, generally defined as the time between 0 and 6 months since diagnosis (O’Connor et al., 1990; Landmark et al., 2001, Albaugh, 2003; Olsson et al., 2002; Ramfelt et al., 2002). Patients with a recurrence of cancer (Taylor, 1993; Mahon & Casperson, 1997; Thibodeau & MacRae, 1997) or in the advanced stages (Linn et al., 1982; Lewis, 1989; Coward, 1990, 1991; Barkwell, 1991; Thomas & Retsas, 1999) of cancer were less frequently the subject of study. The remaining studies in this review ( $n = 17$ , 39%) explored meaning irrespective of time since diagnosis.

### *Summary of Methodological Aspects*

The study of meaning in the context of cancer remains at the descriptive exploratory level and has focused on a narrow homogeneous group of patients. Important demographic variables (e.g., time since diagnosis, type of cancer, stage of disease, ethnicity, income level, educational level) that would further understanding about how meaning making varies across individual, social, cultural, and temporal contexts were not consistently reported.

## **Conceptual Aspects**

### *Conceptual Definition*

The major themes and findings from the subset of studies that demonstrated methodological rigor are summarized in Table 4. Few studies distinguished between the different aspects of meaning being studied. Instead, the majority of studies have relied on broad conceptual frameworks stemming from the work of several seminal theorists to describe a general concept of meaning. For example, meaning in cancer has been understood in terms of people’s cognitive representations of their self and world (Thompson & Janigian, 1988; Janoff-Bulman, 1992),

Frankl’s (1959) “will to meaning” theory, Antonovsky’s (1987) “sense of coherence” theory, Reed’s (1991) “self-transcendence” theory, or as one of eight preset categories of meaning (i.e., challenge, enemy, punishment, weakness, relief, strategy, irreparable loss, and value; Lipowski, 1970). Of the three studies that specified the particular aspect of meaning under study, there was considerable overlap in conceptual definition. Tomich and Helgeson (2002) and Vickberg (2000, 2001) conceptualized global meaning as the belief that one’s life had purpose and order, whereas O’Connor et al. (1990) defined the search for meaning as “questions about the personal significance of a life circumstance, such as cancer in order to give the experience purpose and to place it in the context of a total life pattern.” (p. 168)

### *Operational Definition*

The operationalization of meaning in the context of cancer varied widely across studies. Although some researchers developed their own measures specific for their study’s purpose (Smith et al., 1993; Dirksen, 1995; Moadel et al., 1999; Tomich & Helgeson, 2002), the majority used reliable and valid tools to measure meaning. Mullen et al. (1993), Post-White et al. (1996), and Ramfelt et al. (2000) measured meaning with the widely used Sense of Coherence Scale (Antonovsky, 1987). Lewis (1989) and Taylor (1993) used the well-established Purpose in Life Scale (Crumbaugh & Maholick, 1981). Other tools were less frequently used in the cancer context: Coward (1991) and Chin-A-Loy and Fernsler (1998) used the Self Transcendence Scale (Reed, 1991); Thompson and Pitts (1993) used the Meaningfulness of Life Scale (Thompson et al., 1989), and Vickberg et al. (2000, 2001) used the Personal Meaning Index of the Life Attitudes Profile-Revised (Reker, 1992).

### *Global Meaning*

Three grounded theory studies (Fife, 1994; Halstead & Hull, 2001; Richer & Ezer, 2002) and one correlational study (Tomich & Helgeson, 2002) explored the global beliefs and assumptions about the self and the world related to the diagnosis, management, and survival of cancer. Two studies described the need to preserve a sense of continuity between past, present, and future within the general context of cancer (Fife, 1994), and specifically, during active treatment with chemotherapy (Richer & Ezer, 2002). Three studies are noted for their exploration of the influence of religious and cultural attitudes on the meaning of cancer (Baider & de Nour, 1986; Moadel et al., 1999; Lam & Fielding, 2003). Other studies identified the changes associ-

**Table 4.** Major findings extracted from studies included in conceptual review

Global meaning				
Definition: Existential beliefs that provide an orderly framework to (a) understand cancer against the backdrop of life experiences and future expectations, and (b) create a sense of purpose in life.				
Need to preserve a sense of continuity between past, present, and future	Perceived loss of control, illusion of predictability, self-esteem, self-worth	Perception of world as more random and less controllable	Struggle with contradictions imposed by cancer and previous views of self and life	Religious and cultural attitudes shape the meaning of cancer
Appraised meaning				
Definition: The perception of threat or challenge associated with the experience of cancer based on the extent to which valued life goals are affected.				
Heightened awareness of one's mortality		Potential growth-enhancing aspects of cancer		
Search for meaning				
Definition: Cognitive coping strategies aimed at reducing the discrepancy between the appraised meaning and previously held global meaning.				
Speculation about etiology and impact of cancer	Decision to accept loss, vulnerability, and uncertainty	Reprioritization of values	Decision to focus on life, not cancer	
Meaning as outcome				
Definition: The product of the search for meaning. May include philosophical changes, perception of personal growth, positive outcomes, enhanced social resources.				
Discovering a sense of fulfillment despite life's uncertainty	Discovering a (re)newed commitment to oneself		Becoming more compassionate toward others	

ated with one's perceptions about the self and world following the experience of cancer (Fife, 1994; Richer & Ezer, 2002; Tomich & Helgeson, 2002) and the struggle to reconcile the paradoxes between previously held beliefs and the present reality of cancer (Utley, 1999; Halstead & Hull, 2001; Richer & Ezer, 2002). Significant decreases in depression and increases in life satisfaction and self-esteem were reported for patients who received regularly scheduled psychosocial counseling sessions to enhance awareness of the meaning of one's life during cancer as compared to a control group (Linn et al., 1982).

### *Appraised Meaning*

All studies alluded to the threat of cancer. This was identified in some studies as a confrontation with the possibility of death and a heightened level of awareness about one's mortality (Carter, 1993; Matthews et al., 1994; Nelson, 1996; Mahon & Casperson, 1997; Pelusi, 1997; Halstead & Hull, 2001; Landmark et al., 2001; Olsson et al., 2002; Ramfelt et al., 2002; Lam & Fielding, 2003). Several studies

focused on both the threatening and growth-enhancing aspects of the cancer experience (Coward, 1990; Mahon & Casperson, 1997; Pelusi, 1997; Utley, 1999; Taylor, 2000; Ramfelt et al., 2002; Degner et al., 2003; Ferrell et al., 2003).

Degner et al. (2003) found that of 1012 women, 85% chose "challenge" or "value" to describe their experience with breast cancer, with fewer (12%) selecting the meaning of "enemy" or "loss." A 3-year follow-up study with women who were within 6 months of their diagnosis in the original study indicated that 79% ( $n = 142$ ) maintained this positive view of breast cancer. Although not measured in the initial study, the women who ascribed a positive meaning at follow-up were reported to have significantly less trait anxiety, depression, and better emotional functioning and quality of life compared to women who described a negative meaning at both testing times or had shifted from a positive to negative view 3 years later. Another study characterized patients who viewed their cancer experience as a "challenge" or "relief" as self-confident people who looked forward to the future, whereas



patients who perceived the cancer as “the enemy” struggled with their self-value and integrity as a person (Ramfelt et al., 2002).

### *Search for Meaning*

Eighteen studies addressed the search for meaning. The complexity of this aspect of meaning making is reflected in the frequency with which it was inextricably linked to the concept of meaning as outcome (Coward, 1990; Mahon & Casperson, 1997; Pelusi, 1997; Thibodeau & MacRae, 1997; Thomas & Retsas, 1999; Taylor, 2000; Landmark et al., 2001; Albaugh, 2003; Ferrell et al., 2003; Lam & Fielding, 2003) and global meaning (Halstead & Hull, 2001; Richer & Ezer, 2002). Only six studies focused exclusively on the search for meaning (O’Connor et al., 1990; Steeves, 1992; Carter, 1993; Nelson, 1996; Bowes et al., 2002; Olsson et al., 2002).

Several recurring themes were identified in the search for meaning. First, the diagnosis of cancer often initiated attributions of causality and speculation about its possible impact on the body and future goals (Baider & de Nour, 1986; Coward, 1990; O’Connor et al., 1990; Steeves, 1992; Carter, 1993; Fife, 1994; Nelson, 1996; Mahon & Casperson, 1997; Pelusi, 1997; Thibodeau & MacRae, 1997; Thomas & Retsas, 1999; Taylor, 2000; Halstead & Hull, 2001; Landmark et al., 2001; Bowes et al., 2002; Lam & Fielding, 2003). Second, it was common for studies to report that patients resolved to accept the losses and questions associated with the cancer experience and that uncertainty and a sense of vulnerability now characterize their daily existence (Coward, 1990; Carter, 1993; Pelusi, 1997; Taylor, 2000; Halstead & Hull, 2001; Richer & Ezer, 2002; Lam & Fielding, 2003). Third, reordering, reprioritizing, or taking stock of one’s life were frequently described activities in the search for meaning (O’Connor et al., 1990; Thomas & Retsas, 1990; Carter, 1993; Nelson, 1996; Mahon & Casperson, 1997; Pelusi, 1997; Landmark et al., 2001; Bowes et al., 2002; Olsson et al., 2002; Lam & Fielding, 2003). Finally, studies reported that patients made deliberate efforts to live life to the fullest and not ruminate over the losses imposed by cancer (O’Connor et al., 1990; Carter, 1993; Nelson, 1996; Pelusi, 1997; Thibodeau & MacRae, 1997; Landmark et al., 2001; Bowes et al., 2002; Ramfelt et al., 2002; Richer & Ezer, 2002). Tomich and Helgeson’s (2002) study indicated that cancer survivors who previously participated in a support intervention reported searching for meaning less often than either survivors who did not receive the intervention or a group of healthy individuals who were asked to refer to the most stressful event that occurred to

them in the last 5 years. Among both cancer survivors and healthy individuals, those who were still searching for meaning had poorer mental functioning, less positive affect, and more negative affect than those who did not report searching for meaning. However, it is not clear whether the lack of meaning search was due to a lack of interest in understanding what happened or was unnecessary because a sense of meaning had already been constructed from their experience.

### *Meaning as Outcome*

A total of 12 studies dealt with meaning as an outcome and were inextricably linked to the concept of searching for meaning (Coward, 1990; Mahon & Casperson, 1997; Pelusi, 1997; Thibodeau & MacRae, 1997; Thomas & Retsas, 1999; Utley, 1999; Taylor, 2000; Landmark et al., 2001; Albaugh, 2003; Ferrell et al., 2003; Lam & Fielding, 2003) or embedded within the exploration of global meaning (Halstead & Hull, 2001; Richer & Ezer, 2002). Discovering a sense of fulfillment despite uncertainty (O’Connor et al., 1990; Nelson, 1996; Halstead & Hull, 2001; Olsson et al., 2002; Richer & Ezer, 2002; Lam & Fielding, 2003), discovering a renewed commitment to oneself (Pelusi, 1997; Thomas & Retsas, 1999; Utley, 1999; Taylor, 2000; Bowes et al., 2002; Olsson et al., 2002; Ramfelt et al., 2002), and becoming more compassionate towards others (Coward, 1990; Steeves, 1992; Pelusi, 1997; Thibodeau & MacRae, 1997; Taylor, 2000; Landmark et al., 2001) were recurring themes reported by patients who had endured the psychological and physical effects of cancer treatment.

### *Excluded Studies*

The findings of the 17 excluded correlational studies demonstrated a trend that was consistent with the findings of the studies that were considered methodologically rigorous. For example, the continued search for meaning was related to higher levels of anxiety (Lewis, 1989), avoidant coping (Schnoll et al., 2002), greater pain perception (Barkwell, 1991), depression (Barkwell, 1991), dependence on others (Taylor, 1993), irrational beliefs (Thompson & Pitts, 1993), and psychological distress (Mullen et al., 1993; Taylor, 1993; Vickberg, 2000, 2001; Schnoll et al., 2002; Tomich & Helgeson, 2002). In contrast, the ability to find meaning was consistently associated with positive outcomes, such as higher self-esteem (Lewis, 1989), hope (Post-White, 1996), coping (Barkwell, 1991), better physical functioning, and optimism (Thompson & Pitts, 1993). Specifically, the relationship between benefit finding and distress was proposed as an inverted

U-shape: Individuals were less likely to perceive a positive outcome from the experience of cancer if the degree of life threat (as measured by stage of disease) was perceived as not serious enough to provoke a reexamination of lifelong beliefs or so high that the consequences of cancer cannot even be contemplated (Lechner et al., 2003). Three studies also found that younger patients were more likely to have lower levels of meaning (Degner, 2003; Taylor, 1993; Dirksen, 1995; Vickberg et al., 2001).

### *Summary of Conceptual Aspects*

Despite substantial variations in the conceptual and operational definitions used across researchers, each of the different aspects of meaning within the context of cancer have been explored. Researchers have tended to focus on some aspects more than others. To date, the cancer patient's search for meaning has received the most attention. As a result, detailed descriptions about the process involved in making sense of the cancer experience has grown consistently and steadily over the years. Although the negative impact and psychological sequelae of a cancer diagnosis have been the subject of much inquiry in the past, current studies reflect a more recent trend that explores the positive appraisal of a cancer diagnosis and the experience of growth or benefit following a cancer experience. In contrast, the aspect of global meaning has received the least research attention, possibly because of the methodological complexity related to the study of how one's assumptions and beliefs about the self and the world develop and change during and following a cancer experience. Although there is preliminary evidence for the psychosocial benefits associated with meaning-making coping, the methodological weaknesses of the correlational studies and the paucity of experimental studies prevent more definitive conclusions.

## **DISCUSSION**

The results of this review suggest that although cancer can profoundly disturb one's sense of global meaning, enough to instigate a search for meaning, a successfully completed search for meaning appears to confer positive effects such as enhanced self-esteem, greater life satisfaction, and less distress despite the uncertain and unpredictable nature of cancer. Interventions that help people find meaning are likely to provide another way in which cancer patients can be helped to cope with and even derive positive benefit from their experience.

The knowledge generated from the qualitative studies reviewed in this article may inform the

development of psychosocial interventions aimed at assisting the cancer patient's meaning-making efforts. Although the majority of the qualitative findings demonstrated a low level of complexity (i.e., findings were presented as a series of labeled data categories and not integrated together into a multifaceted whole; Coward, 1990; O'Connor et al., 1990; Steeves, 1992; Fife, 1994; Nelson, 1996; Mahon & Casperson, 1997; Pelusi, 1997; Thibodeau & MacRae, 1997; Landmark et al., 2001; Bowes et al., 2002; Olsson et al., 2002; Ramfelt et al., 2002; Albaugh, 2003; Ferrell et al., 2003), this structure was expected when the phenomenon is in the initial stages of study (Kearney, 2001). However, these studies were useful for generating a rich description for each of the various aspects of meaning in the context of cancer. Other studies demonstrated a greater degree of complexity by providing a synthesis of data into processes over time (Carter, 1993; Matthews et al., 1994; Thomas & Retsas, 1999; Utey, 1999; Taylor, 2000; Halstead & Hull, 2001; Richer & Ezer, 2002). This latter group of studies provided insight into how meaning making was manifested over time and across the phases of the cancer trajectory. Given this body of knowledge, it would be possible to construct a meaning-making intervention and begin exploring its potentially positive effects with people diagnosed with cancer.

Several methodological issues need to be addressed, though, in order to build on previous knowledge and permit assessments of quality and rigor across studies related to meaning in the context of cancer. First, there is a need for an integrative framework that can provide some consistency in terms of the conceptualization and operationalization of meaning within the context of cancer. Although many conceptual frameworks are available to explain meaning in the context of stress and coping, many are too broad to disentangle each of the different aspects involved in the meaning-making process. Many researchers recognize that the multifaceted and evolving nature of meaning making makes it necessary to clearly define, theoretically and operationally, the particular aspect(s) of meaning under study (Thompson & Janigian, 1988; Park & Folkman, 1997; Richer & Ezer, 2000). As demonstrated in this review, the four aspects of meaning identified by Park and Folkman (1997) provided a useful and parsimonious framework for categorizing the different aspects of meaning explored within the context of cancer.

The complexity and novelty of the construct also presented challenges to the operationalization of meaning, as reflected in the variety of ways it has been measured. Researchers rarely defined the specific aspect of meaning they were measuring. Many

did not use validated instruments to measure outcomes. An increasing number of instruments are available for assessing each of the dimensions of meaning, but further information on their psychometric properties is needed. For example, the Stress Appraisal Measure (Peacock & Wong, 1990) specifically assesses a number of dimensions of primary and secondary appraisal that may be appropriate to explore with the cancer population. Similarly, instruments to measure global beliefs (the Life Evaluation Questionnaire [LEQ]: Salmon et al., 1996; the World Assumptions Scale: Janoff-Bulman, 1992; the Cross-Cultural Assumptions Scale: Ibrahim & Kahn, 1987; the Just World Scale: Lerner, 1970) and meaning as outcome (the Post-Traumatic Growth Inventory-Revised [PTGI-R]: Tedeschi & Calhoun, 1996) exist, but many have not been widely used in general, and few have been specifically used with the cancer population (Salmon et al., 1996). The challenge appears to be finding a fit between a reliable and valid measure appropriate for the cancer population and the specific aspect of meaning that is appropriate for each study's purpose.

A second important methodological concern in the study of meaning in the context of cancer is the frequent reliance on correlational designs that were largely based on homogeneous convenience samples. The repeated exploration of meaning among women who were married, Caucasian, newly diagnosed, or survivors of breast cancer provided support for the validity of the themes across studies, and as discussed earlier, can be used to develop clinical interventions aimed at assisting cancer patients in their search for meaning. On the other hand, this homogeneity might also hinder the discovery of new perspectives (Kearney, 2001). An even greater degree of qualitative complexity and discovery may be achieved if future studies exploring the experience of meaning were conducted with a more heterogeneous sampling frame.

The use of convenience samples in empirical research may introduce bias and limit the generalizability of findings. How people make sense of their situation with cancer may vary considerably among patients in a different developmental stage of life, a different social context, or a different cancer type with different prognostic factors. Evidence suggests that younger women may experience more distress than older adults following a diagnosis of cancer (Edlund & Sneed, 1989; Reed, 1991; Siegel et al., 1999). Culturally specific beliefs may influence the meaning of cancer, which in turn may determine treatment decisions (Mathews et al., 1994). Women reported a preference for emotional or psychosocial terms in discussions related to cancer, whereas men preferred more neutral or biomedical language (Mur-

ray & McMillan, 1993). Existential concerns may be more prevalent for people with advancing disease or in the palliative phase of cancer but may require sensitive research methodology (McMillan & Weitzner, 2003). As well, the lack of information about certain patient characteristics, of nonparticipants, and a wide range of reasons for participant refusal or subject loss suggests that the phenomenon of meaning making in the context of cancer remains unclear for certain patient groups. Thus, caution is indicated in assuming that the findings apply equally to men, ethnic minorities, or people who are very distressed by or not interested in the psychosocial effects of cancer.

## CONCLUSION

Although definitive conclusions cannot be drawn at this time, there is substantial qualitative and empirical evidence to suggest that the ability to reconstruct a sense of meaning following a diagnosis of cancer is related to important psychosocial outcomes such as improved self-esteem, greater optimism, and less psychological distress. Additional research might focus on exploring whether meaning is as relevant or beneficial for patients who do not fall within the narrow sampling frame on which most studies of meaning were based (i.e., married, Caucasian, newly diagnosed, or survivors of breast cancer). Given the wealth of information available from the qualitative studies, it is considered timely to begin developing and testing psychosocial interventions that are aimed at assisting the cancer patient's transition through the meaning-making process. Well-designed, controlled studies of novel meaning-making interventions would begin to provide more clarity as to the specific impact of meaning-making coping on some of the psychosocial outcomes suggested by the studies in this review.

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