PALLIATIVE MEDICINE AND HOSPICE CARE

Openventio PUBLISHERS

ISSN 2377-8393 Open Journal http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

Special Edition
"**Palliative Care and Oncology: Time for Increased Collaboration and Integration**"

Systematic Review

Corresponding author
Shirly Alon, MA
Meir Medical Center
Kfar-Saba, Israel;
Faculty of Health Sciences
Ben-Gurion University of the Negev
Be'er Sheva, Israel
Tel. 972-52-3811768
E-mail: shirly.lrt@gmail.com

Special Edition 1
Article Ref. #: 1000PMHCOJSE1113

Article History
Received: May 23rd, 2017
Accepted: June 19th, 2017
Published: June 21st, 2017

Citation
Alon S, Sela Y, Carmel S. Effects of perception of prognosis on existential well-being and ego-integrity among advanced cancer patients. *Palliat Med Hosp Care Open J*. 2017; SE(1): S59-S67. doi: 10.17140/PMHCOJ-SE-1-113

Effects of Perception of Prognosis on Existential Well-Being and Ego-Integrity Among Advanced Cancer Patients

Shirly Alon, MA[1*]; Yaron Sela, MA[2]; Sara Carmel, PhD, MPH[3]

[1]Meir Medical Center, Kfar-Saba, Israel; Faculty of Health Sciences, Ben-Gurion University of the Negev, Be'er Sheva, Israel
[2]Department of Psychology, Tel-Aviv University, Tel Aviv-Yafo, Israel
[3]Center for Multidisciplinary Research in Aging, Ben-Gurion University of the Negev, Be'er Sheva, Israel

ABSTRACT

Background: Based on literature review, advanced stage cancer patients hold over-optimistic perception of their prognosis. This phenomenon is presumed to be an implication of defense and coping mechanisms, aiming to alienate the proximity of death. At such circumstances, existential issues arise and when adaptive, serve as powerful psychological resources against distress and despair. The first purpose of the study was to investigate the influence of advanced stage Israeli cancer patients' perception of prognosis on their existential well-being. The second purpose of the study was to explore the role of ego-integrity as a mediator within the equation of perception of prognosis and existential well-being.
Methods: Two hundred and ten Israeli stage 4 cancer patients completed self-report measures of their perception of prognosis, ego-integrity and aspects of existential well-being: personal meaning, inter-personal meaning, death and dying anxiety, satisfaction with life and will-to-live.
Results: Positive correlations were demonstrated between perception of prognosis with personal meaning, interpersonal meaning, total meaning satisfaction with life, will-to-live and ego-integrity. In addition, negative correlations were demonstrated between perception of prognosis with death-anxiety and dying-anxiety. Perception of prognosis was found to be a predictor of existential well-being, so that the better the perception of prognosis the higher were satisfaction with life (β=0.39, p<0.01), will-to-live (β=0.12, p<0.05), total meaning (β=0.22, p<0.01), personal meaning (β=0.24, p<0.01), interpersonal meaning (β=0.13, p<0.05) and ego integrity (β=0.24, p<0.01). Furthermore, the better the perception of prognosis the lower was death anxiety (β =-.24, p<0.01). Moderating analyses revealed that only among patients low in ego-integrity a positive association existed between perception of prognosis and personal meaning (β=0.30, p<0.05).
Conclusions: The study highlights the significant effect of the perception of prognosis on existential well-being in advanced stage cancer patients. When death is imminent, an overestimation of prognosis has a role of preserving existential well-being. Also, ego integrity was found to be attributing for preserving existential well-being of people with terminal illnesses. In addition, the moderating effect of ego-integrity emphasizes its virtue as a source of resilience for the wholeness of the self at times of threat. A possible influence of cultural – ethnic attributes on results is discussed, thereby emphasizing the complexity of the argument, whether acknowledging one's death has a positive or rather negative effect on one's existential well-being.

KEY WORDS: Perception of prognosis; Meaning; Ego integrity; Cancer; Existential well-being.

PALLIATIVE MEDICINE AND HOSPICE CARE
Open Journal
Openventio PUBLISHERS
ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

BACKGROUND

Self Perception of Prognosis

People suffering from advanced illness tend to react differently to the actual threat to life. One of the overwhelming sources of such threat is the awareness of a life limiting prognosis.

Previous work on advanced cancer patients' awareness of prognosis concluded, that doctors frequently make errors in prognostication, usually towards optimism.[1] This is not surprising, considering that the topic of death and dying can be an area of discomfort for many health professionals.[2]

This over-optimistic bias in prognostication may, in part, explain why patients often appear to have unrealistic expectations of survival,[3-5] and hold a far more overestimation of prognosis than their oncologists.[6] For instance, studies revealed that 82% of stage 4 cancer patients perceive their prognosis as much better than their oncologists.[7] It was also found, that awareness of prognosis is not necessarily an outcome of the information given by the physician.[8] In addition, although physicians' propensity to discuss prognosis was associated with better awareness by patients, still rather few eventually articulated a realistic estimation of their prognosis.[9]

Several studies have consistently found evidence of over-optimistic perception of prognosis among advanced cancer patients. For example, when patients with advanced colon and lung cancer (facing a prognosis of 6 months or less), were asked to estimate their numeric probability of 6-month survival, more than 75% of the sample estimated their likelihood to be at least 90%.[10] In a similar study, only 33% of the sample admitted awareness of the high likelihood of death from cancer within 5 years, and only 16% admitted awareness of death within one year.[5] Thus, overwhelmingly, patients in both studies placed themselves into the most optimistic category provided by the instrument or interview. Moreover, several studies found that only one-third of the patients with advanced cancer recognized that their cancer is not curable even with treatment, whereas one third of patients perceived their cancer to be curable.[4-7,11]

Since disclosure of terminal prognosis of cancer is a common norm in western countries, it can be assumed that it is not a matter of understanding the facts, but a matter of perception. Still, there are quite enough reports of significant numbers of cancer patients in western countries, who are unaware of their prognosis.[12,13] Another reasonable explanation for the patients' over-prognostication may be the misleading relatively stable physical status at the time-point of prognostication, while when getting closer to death, patients are more likely to acknowledge being terminally ill.[14]

Several patient-specific factors have been considered as influencing the perception of prognosis, such as level of social support, spirituality, hopefulness, locus of control and other personality characteristics.[4,15-18] Their actual contribution, however, is not well established.

For many years and even currently, the debate of whether the realistic awareness of having a terminal prognosis is helpful to the patient and to which extent, is still in contention. There are clinicians who claim that people perceiving their prognosis realistically tend to take the liberty of choosing their treatment preferences, such as continuing or avoiding aggressive chemotherapy, accepting palliative treatment and focusing on quality of life (QoL) rather than longevity[3,7] and dedicate their remaining time to closures and farewells. Research too, has been controversial; on one hand, several studies supported the same standpoint with their findings, in which terminally ill people who had difficulties with accepting prognosis also suffered from deprived emotional well-being.[16] More specifically, patients lacking of prognostic awareness suffered from three times higher rates of depression.[19]

On the other hand, other psychological theories, such as denial of death[20] and terror management theory[21] believe that denial of death is a useful defense mechanism and therefore do not find full disclosure at all cost to be necessary. These assumptions have been supported by several studies. For example, preliminary evidence revealed that having a more realistic perception of one's prognosis in the face of terminal illness may be associated with reduced hopefulness and a poorer sense of coping.[5] Another study demonstrated that complete disclosure of prognosis has bad influence on the patient's psychological well-being, QoL and even survival rate.[22]

It is highly important to notice that most studies justifying prognosis disclosure were examined among western populations, whereas in non-western countries, disclosure was not only less frequent,[4] but also proven to be potentially harmful.[17]

Existential Well-Being

Coping with life threatening illness is frequently accompanied by distress and suffering, whether physical psychological, social, or existential/spiritual.[23,24] Hence, even without discussing prognosis, facing cancer causes people to reflect more intensely upon existential issues, such as the meaning and purpose in one's life[2] and fear of death.[25]

Existential well-being is a result of a person's successful and adaptive processing of existential issues, such as meaning, satisfaction with life and feelings of acceptance of death. It is considered an internal coping resource, so confronting or initiatively dealing with those issues may imply of existential well-being.[2,31,32] Although, recognized as an important dimension of QoL,[31] existential well-being is not fully understood.[2] Virtually, some of the characteristics of existential well-being tend to overlap with psychological and spiritual well-being[33] and therefore are difficult to study. Yet, there are several agreeable variables for evaluating existential well-being; Among terminally ill can-

PALLIATIVE MEDICINE AND HOSPICE CARE
Open Journal
Openventio PUBLISHERS
ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

cer patients the consensual existential needs include overcoming fears of death and dying, finding hope, finding meaning in life and satisfaction with life.[25,33,34]

Existential distress is considered to be the most common and challenging to treat[26] and when suffering becomes agonizing, one might feel life is no longer worth living[27] and may wish to hasten death.[28] Existential suffering has different sources and themes, such as death anxiety, loss of control, loss of meaning and purpose in life, loss of freedom of choice and dignity.[29] Nevertheless, not all existential concerns necessarily become distressful. In fact, according to the Salutogenic approach,[30] adaptive process of introspection and reflection of existential issues may also result with existential well-being.

In order to prevent existential distress and assist patients with evolving existential concerns into well-being and personal growth, evidence-based psychotherapeutic techniques have been developed over the years which successfully improved existential well-being of people with terminal illness.[11,35,36]

Existential quest is without any doubt an intrinsic, introspective process, and as noted, tends to intensify related life-threatening situations. The individual's perception of prognosis is in a way a measurable estimate of that subjective sense of threat. This study aims to explore the influence of the patient's perception of prognosis on existential well-being, with emphasis on the associated aspects of end-of-life: meaning, death and dying anxiety, satisfaction with life and will-to-live.

Meaning: is defined as a general sense that one's life has order and purpose.[37] It is one of the main existential issues of which a person deals with at some point in life, especially towards their end.[29,36,37] Despite the sense of threat to life, meaning provides people the motivation to engage in life alongside with the physical, psychosocial, spiritual, and existential changes imposed by the illness.[38] Due to its dynamic characteristic, it assists the person in transcending suffering and restoring sense of coherence.[39]

Death anxiety: is another universal existential challenge, especially for people with an imminent threat to their lives. Becoming fatally ill can cause people to become stricken with anxiety by realizing their finity. Some of the common subjects of concern among such people are the fear of leaving loved ones and the fear of what occurs after death.[25] On the other hand, the fear of dying mainly focuses on pain, suffering and hopelessness.

Satisfaction with life: is considered to be one of the most essential factors reflecting individual's subjective appraisal of his overall well-being and QoL, especially towards its end.[40,41] Thus, has been used very commonly in the research field of aging and coping with illness.

Will-to-live: is not only a natural instinct, but also an expression of physical, psychological, social and spiritual factors which lead to the desire of preserving one's life.[42] It has been noticed, that people suffering from severe illnesses tend to be at risk of diminishing their will-to-live, due to the actual or potential harm in one or more of the factors, even up to the point of wishing to hasten death or suicide. Furthermore, it has been demonstrated that some existential variables were strongly associated with the will-to-live.[43]

The last stages of life are not followed only by dealing with existential issues. They are also characterized by a developmental process of striving towards ego-integrity, a concept introduced by Erik Erikson[44] and defined as a sense of wholeness, integration, and a deep acceptance of life as it has been lived. Hence, achieving ego-integrity seems to offer a steady psychological-developmental platform for reaching a sense of existential well-being.

Therefore, the second purpose of the study was to explore the role of ego-integrity in the relationship between prognosis and existential well-being.

METHODS

Participants and Procedure

Two hundred twenty eight stage 4 cancer patients were recruited from a general hospital's oncology institute in Israel. All of them agreed voluntarily to participate in the study. After 17 dropouts (7%), due to patients' difficulty with cooperation, the final sample included 210 men (46.2%) and women (53.8%), between the age of 35 and 86 years (M_{age}=63.17, SD=12.32). The majority of participants (75.1%) were married, 2.4% were single, 8.1% were divorced and 14.4% were widowed. All of patients in the sample were Jewish, while about half of participants (55%) were secular, 34.4% reported conducting traditional lifestyle, and 10.6% were Orthodox. Only 27.6% reported having academic education.

All participants were diagnosed with advanced stage cancer: 35.4% had lung cancer, 26.2% had breast cancer, 22.8% had gastro-intestinal cancer, 11.7% had urological cancer and 3.9% had ovarian cancer. The participants were aware of their diagnosis (name of illness, origin, stage), which was given to them at least 3 months before the study. They were also cognitively intact and not diagnosed with major psychopathology. All were able to speak fluent Hebrew for completing the questionnaires. Based on a structured questionnaire, a trained psychology student interviewed all the participants in intimate conditions.

Measures

Perception of prognosis: was assessed by a single question: "How do you estimate the chance of surviving cancer?" with a scale of 1 ("I am sure that I will not get cured from cancer") to 5 ("I am sure that I will get cured from cancer"). Unlike other studies, in which patients were asked to estimate the likelihood

PALLIATIVE MEDICINE AND HOSPICE CARE
Open Journal
Openventio PUBLISHERS
ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

of their death from cancer, this study used one question of self-estimation of the likelihood of surviving their cancer, in no specific time frame.

The reason for using positive statements (survival) rather than negative (death) was due to the threat of distress that might result by direct referral to actual personal death, as well as possible poor response rate.[5]

Patients were not asked specifically how they had previously been informed of their prognosis, since the perception of prognosis was established on subjective appraisal, rather than objective information.

Existential well-being: was measured by several variables, representing main concerns of cancer patients:

Meaning in life: was measured by 2 questions: one intended to personal meaning ("How do you evaluate the meaning in your life to yourself"?) and one intended to interpersonal meaning ("How do you evaluate the meaning in your life to others?"). Rating scale was of 1 ("without any meaning") to 6 ("extremely meaningful"). A correlation of 0.50 was found between two items.

Ego integrity: was measured by The Adult Ego Development Scale (AEDS).[45] The structure of AEDS enables each sub-scale to be used independently, so for the purpose of this study, only the last sub-scale, referring to Erikson's last developmental stage[44] was used. The sub-scale included 10 items (e.g.: "I feel I have accomplished my purpose in life") with a scale of 1 ("not typical of me at all") to 7 ("very typical of me"). In the current study, internal reliability was acceptable (Cronbach's Alpha=0.66).

Death and dying anxiety: was measured by a 12 items scale.[42] 6 of its items referred to fears of death (for example: "I am afraid of death") and the other 6 items referred to fears of dying (for example: "I am afraid of dying slowly"). Rating scale was of 1 ("do not agree at all") to 5 ("completely agree"). In the current study, death anxiety and dying anxiety were measured separately. Internal consistency was relatively high for both scales: Cronbach's Alpha=0.85 for death anxiety and Cronbach's Alpha=0.84 for dying anxiety.

Satisfaction with life: was measured by a 6 items scale,[46] referring to the person's satisfaction in physical, mental, social, functional aspects (for example: "How satisfied are you of your life, as it is today?"). Rating scale was of 1 ("extremely unsatisfied") to 5 ("extremely satisfied"). In the current study, internal reliability was within the accepted range (Cronbach's Alpha=0.67).

The will-to-live: was measured by a 5 items scale,[47,48] evaluating a person's will-to-live as it is in the present, in comparison to that of other people and changes in it over time with 6 possible responses on a Likert scale (e.g.: "If you could describe your will-to-live, you would say that it is:"). Internal reliability in the current study was Cronbach's Alpha=0.79.

Socio-demographic variables included age, gender, marital status, level of education, country of origin, religiosity and type of cancer).

Data Analysis

Data were analyzed using SPSS software version 24. Associations between study variables were calculated using Pearson correlation coefficients. Hypotheses regarding predicting existential aspects by perception of prognosis were tested using linear hierarchical regressions, controlling socio-demographics, which were found to be associated with study variables in univariate analysis. Moderation hypotheses were tested using hierarchical regressions, while interaction effect was calculated by multiplying z scores of independent variable and moderator. To interpret moderation, associations between the independent variables and dependent variables were calculated after dividing sample into three groups: lower than 1SD from moderator, between -1SD and +1SD, and higher than +1SD. Level of significance was 5%.

RESULTS

Means, standard deviations and Pearson correlation coefficients are presented in Table 1. As can be seen, perception of prognosis positively correlates with satisfaction with life, will-to-live, personal meaning, interpersonal meaning, total meaning and ego-integrity, but negatively correlates with death-anxiety and dying-anxiety.

Satisfaction with life positively correlated with will-to-live, meaning and ego-integrity, but negatively with death and dying anxiety. Meaning positively correlated with ego Integrity.

To examine whether perception of prognosis predicts existential well-being, hierarchical linear regressions were conducted. In step 1, age and gender were included, while in step 2, perception of prognosis was added. As seen in Table 2, the older the patients the higher their satisfaction with life. Also, the older the patients, the lower were death anxiety, will-to-live, personal meaning, interpersonal meaning and total meaning. Males and females did not differ in most existential aspects, aside from dying anxiety, which was lower for males.

After controlling for gender and age, the better the perception of prognosis, the higher were the scores on satisfaction with life (β=.39, p<0.01), will-to-live (β=0.12, p<0.05), total meaning (β=0.22, p<0.01), personal meaning (β=0.24, p<0.01), interpersonal meaning (β=0.13, p<0.05) and ego integrity (β=0.24, p<0.01). In addition, the better the perception of prognosis the lower was death anxiety (β=-0.24, p<0.01).

To examine the moderating role of ego integrity, the relationship between perception of prognosis and existential well-being outcomes, several moderating analyses were conducted,

PALLIATIVE MEDICINE AND HOSPICE CARE
Open Journal
Openventio PUBLISHERS
ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

Table 1: Descriptive Statistics and Pearson Correlation Coefficients between the Study Variables (n=210).

	M (SD)	1	2	3	4	5	6	7	8
1. Satisfaction with life	3.89 (0.62)								
2. Death Anxiety	1.92 (1.04)	-0.30**							
3. Dying Anxiety	3.88 (0.75)	-0.18**	0.24**						
4. Will-To-Live	3.95 (0.76)	0.35**	0.14*	-0.08					
5. Personal meaning	5.22 (0.99)	0.36**	0-.11	-0.02	0.41**				
6. Inter-personal meaning	5.59 (0.79)	0.29**	-0.19**	-0.07	0.25**	0.49**			
7. Total Meaning	5.40 (0.77)	0.38**	-0.17*	-0.05	0.39**	0.89**	0.82**		
8. Ego Integrity	5.10 (0.67)	0.53**	-0.43**	-0.18**	0.29**	0.36**	0.27**	0.37**	
9. Perception of prognosis	3.70 (0.97)	0.33**	-0.16*	-0.13*	0.23**	0.27**	0.18**	0.26**	0.23**

*p<0.05, **p<0.01

Table 2: Beta Coefficients and Standard Errors of Gender, Age and Perception of Prognosis Predicting Existential Well-Being Variables (n=208).

	Satisfection with life	Death anxiety	Dying anxiety	Will-to-live	Personal meaning	Inter-personal meaning	Total meaning	Ego integrity
Gender	-0.01 (0.08)	0.00 (0.14)	-0.27** (0.15)	0.01 (0.10)	-0.07 (0.13)	0.00 (0.11)	-0.04 (0.10)	-0.09 (0.09)
Age	0.17* (0.01)	-0.26** (0.01)	0.11 (0.01)	-0.36** (0.01)	-0.11 (0.01)	-0.14* (0.01)	-0.14* (0.01)	0.04 (0.01)
Perception of Prognosis	0.39** (0.04)	-0.24** (0.07)	-0.09 (0.08)	0.12* (0.05)	0.24** (0.07)	0.13* (0.06)	0.22** (0.06)	0.24** (0.05)
Addition to R^2 by perception of prognosis	0.13**	0.05**	0.00	0.01*	0.05**	0.02*	0.04**	0.05**

Note: Gender was coded as: 1-males, 0-females. *p<0.05, **p<0.01

as shown in Table 3.

Examining moderation of personal meaning yielded a significant interaction effect (β=-0.20, p<0.01). To interpret moderation, sample was divided into three groups by low than 1SD from ego-integrity average, between -1SD and +1SD, and higher than +1SD. Analysis showed a positive association between perception of prognosis and personal meaning only among patients low in ego-integrity (β=0.30, p <0.05), to lower extent among patients who are moderate (β=0.16, p=0.10) and non-significant association among patients who are high in ego-integrity (β=0.01, p=0.97).

Examining moderation of dying-anxiety yielded a significant interaction effect (β=-0.12, p<0.05).

DISCUSSION AND CONCLUSIONS

This study focalized on the existential aspect, which is considered as one of the major sources for concern and distress among patients with end stage diseases. Our findings contribute to the persistent discussion regarding the effectiveness of defense and coping mechanisms, such as denial of death or false hope, in preserving existential well-being. Specifically, addressing the continuous query, whether acknowledging one's own impending death affects existential well-being.

Patients in this study are highly overestimated with their prognosis. In fact, the average grade of perception of prognosis indicates that most of the patients in the sample believed there was a likelihood of getting cured from cancer. This result is consistent with previous studies,[5,10] all of which strengthen the assumption, that the process of perceiving threatening information (such as bad prognosis) evades cognitive mechanisms and is mediated by complex, intrinsic defense mechanisms.

In addition, significant correlations emerged between perception of prognosis and the existential well-being aspects (positive correlations between perception of prognosis and meaning, ego integrity, satisfaction with life, and will-to-live

Table 3: Beta Coefficients in Regressing Prognosis Perception and Meaning in Life Predicting Existential Aspects in Final Step (n=208).

	Personal meaning	Dying anxiety
Gender	-0.03	-0.20**
Age	-0.13*	-0.07
Perception of Prognosis	0.15*	-0.13*
Ego integrity	0.29**	-0.39**
Perception of Prognosis X Ego integrity	-0.20**	-0.12*

Note: Gender was coded as 1-males, 0-females. *p<0.05, **p<0.01

ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

and negative correlations with death and dying anxiety). These associations support the assumption that those variables represent existential themes among people with advanced cancer. In addition, these interrelations among all variables are similar to those reported in previous studies[49-51] and demonstrate the mutual influence on each other. The only exception was dying anxiety, which correlated with only some of the variables and therefore may not be considered as an indicator of existential theme.

The main finding of this study is the significant effect of the perception of prognosis on existential well-being in advanced stage cancer patients. When prognosis is poor, a false positive perception (overestimation) has a role of alienating the feasibility of death or meaninglessness and thereby preserving existential well-being. Given that false positive perception of prognosis has a protective effect against existential distress: death becomes less proximate and levels of meaning (personal and interpersonal), ego integrity, satisfaction with life and will-to-live remain high or are elevated.

Our findings support previous findings[2,14,17] and may provide explanation for cancer patients' false positive bias of their prognosis. In a way, overestimation of prognosis is analogous to denial of death.

The demonstrated positive correlation between ego integrity and perception of prognosis, as well as with all existential factors indicate that ego integrity serves as a powerful attribute for preserving the emotional, spiritual and existential well-being of people approaching their end-of-life.

The moderating effect of ego-integrity emphasizes its virtue as a source of resilience for the wholeness of the self. The positive correlation between overestimation of prognosis and personal meaning among people with weak ego-integrity implies that the stronger is the sense of personal meaning in life, the more patients with weak ego-integrity seem to hold on to defense mechanisms while dealing with the fear of death accompanied to bad prognosis. Those, in turn, create false positive perception of their prognosis followed by preserving strong personal meaning. Otherwise, realistic perception of prognosis might cause acute existential distress and despair. Patients with strong ego-integrity seem to have adequate resilience resources to cope adaptively with poor prognosis, and hence, seem to be able to preserve a sense of personal meaning, despite the threat of death.

The moderating effect of ego integrity on personal meaning whereas not on interpersonal meaning is reasonable, while leaning on the conception that in the course of striving for ego-integrity, the individual converges into himself for the purpose of introspection, instead of externalization, which is often expected at earlier stages of development. The resolution of such a process is mostly intrapersonal.

Conclusions, however, have to take into consideration the cultural-ethnic attributes, which may have an influence on the results; Israeli society has many characterizations which resemble Western countries. Despite the patterns of doctor-patient communication, which are becoming more Western-like, still some of the attitudes and tributes of Israelis do not entirely meet customs of Western societies. In fact, even within Israeli society itself there appears to be a variety of typical communication patterns around illness and death.[52] Today, there is still a non-negligible similarity with non-western cultures' communication patterns, such as the tyranny of positive thinking and the evasion from leading an open communication about death, even with loved ones. Not surprisingly, our study shares quite similar results and conclusions with a study conducted on Iranian cancer patients.[4] Yet, studies both from Western countries and non-Western countries showed consistency with the fact that cancer patients, especially at advanced stage, overestimate their prognosis.[3,4,7] The consequent conclusion, if so, is that not the type of communication, but the personality characteristics, defense mechanisms and spiritual and existential views are those that mostly influence the patients' ability to cope with a terminal prognosis. This conclusion, however, should be further examined by comparing between type of communication and psychological attributes and estimating the impact of each on the perception of prognosis.

LIMITATIONS OF THE STUDY

Besides the socio-demographic profile of the sample discussed above, several methodological limitations of the study should be taken into consideration. First, perception of prognosis, as well as personal and interpersonal meaning, had been evaluated by a single question each. Second, since no unified tool had been detected at the time of performing the study, different tools had been used for measuring each aspect of existential well-being. However, due to the recently developed Existential Concern Questionnaire (ECQ),[25] perhaps further research, using the ECQ, may reveal more novel findings.

Third, as described, perception of prognosis had been measured by using a positive statement question (the likelihood of surviving). Indeed, positive wording helped avoiding emotional intimidation and dropouts, but on the other hand, positive cues may lead to a positive bias, due to the subjects' tendency to report of their wish or desire. Also, measuring perception of prognosis is likely to be confounded by other psychological variables, which were not detectable.

Another question for further examination is whether existential well-being has a general profile for the entire population or perhaps its validity has to be differentiated in accordance with the focus of concern, or sample of people. For example: the Existential Concerns Questionnaire (ECQ)[25] was proven to be valid and reliable for the general population and for people suffering from psychiatric disorders. In our present study, only part of the ECQ factors were examined (meaning, death anxiety), while others were not examined, since literature review

ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

reported other topics to be main sources for existential concern among people suffering from terminal illness (e.g., satisfaction with life). The evolving question is whether questionnaires such as ECQ are capable to reflect the unique existential concerns of people suffering with life threatening illnesses.

Furthermore, aside from the existential issues examined in this study, one must not neglect other essential concepts of end-of-life, such as hope. Although, level of hope was not examined in this study, it is known to be an internal source of great value for people with imminent threat to life.

RECOMMENDATIONS

Despite the limitations of the study, its conclusions have a clinical implication on healthcare providers, while discussing difficult issues. Due to the high likelihood that patients are holding false positive perception of prognosis, healthcare providers should take into consideration that discussing prognosis might shake their patients' existential thresholds. Therefore, a form of dialogue which refines facts with realistic sources for hope may offer patients to process the information in accordance with their defense mechanisms and psychological abilities of preserving existential well-being. Moreover, even for people who appear resilient enough to perceive bad prognosis, sentencing a statistically based time frame, not only might be unnecessary, but also harmful.

Although, professional guidelines for effective communication have been developed,[53] further resources and training programs focusing specifically on existential support would be beneficial.

Finally, the clinical implications of understanding the role of ego-integrity would recommend assessing ego-integrity resources in patients who represent existential distress while receiving bad prognosis. Psychotherapeutic intervention, with the focus on promoting ego-integrity perhaps should be considered even prior to existential work. Strengthening ego-integrity may even result with facilitating patients to perform existential work by themselves. This recommendation, however, has to be further examined both clinically and empirically.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

REFERENCES

1. Oxenham D, Cornbleet MA. Accuracy of prediction of survival by different professional groups in a hospice. *Palliat Med.* 1998; 12: 117-118. doi: 10.1191/026921698672034203

2. Ownsworth T, Nash K. Existential well-being and meaning making in the context of primary brain tumor: Conceptualization and implications for intervention. *Frontiers in Oncology.* 2015; 5: 96. doi: 10.3389/fonc.2015.00096

3. Weeks JC, Cook EF, O'Day SJ, et al. Relationship between cancer patients' predictions of prognosis and their treatment preferences. *JAMA*. 1998; 279(21): 1709-1714. doi: 10.1001/jama.279.21.1709

4. Seyedrasooli A, Rahmani A, Howard F, et al. Iranian cancer patient perceptions of prognosis and the relationship to hope. *Asian Pac J Cancer Prev.* 2014; 15 (15): 6205-6210.

5. Helft PR, Hlubocky F, Wen M, Daugherty CK. Associations among awareness of prognosis, hopefulness, and coping in patients with advanced cancer participating in phase I clinical trials. *Supportive Care in Cancer.* 2003; 11 (10): 644-651. doi: 10.1007/s00520-003-0496-y

6. Temel JS, Greer JA, Admane S, et al. Longitudinal perceptions of prognosis and goals of therapy in patients with metastatic non-small-cell lung cancer: Results of a randomized study of early palliative care. *J Clin Oncol*. 2011; 10; 29(17): 2319-2326. doi: 10.1200/JCO.2010.32.4459

7. Mack JW, Walling A, Dy S, et al. Patient beliefs that chemotherapy may be curative and care received at the end-of-life among patients with metastatic lung and colorectal cancer. *Cancer*. 2015; 121(11): 1891-1897. doi: 10.1002/cncr.29250

8. Johnston G, Abraham C. Managing awareness: Negotiating and coping with a terminal prognosis. *Int J Palliat Nurs*. 2000; 6(10): 485-494. doi: 10.12968/ijpn.2000.6.10.9048

9. Liu PH, Landrum MB, Weeks JC, et al. Physicians' propensity to discuss prognosis is associated with patients' awareness of prognosis for metastatic cancers. *J Palliat Med.* 2014; 17(6): 673-682. doi: 10.1089/jpm.2013.0460

10. Haidet P, Hamel MB, Davis RB. Outcomes, preferences for resuscitation and physician - patient communication among patients with metastatic colorectal cancer: SUPPORT investigators: Study to understand prognoses and preferences for outcomes and risks of treatments. *Am J Med*. 1998; 105: 222-229. doi: 10.1016/S0002-9343(98)00242-3

11. LeMay K, Wilson KG. Treatment of existential distress in life threatening illness: A review of manualized interventions. *Clin Psychol Rev*. 2008; 28(3): 472-493. doi: 10.1016/j.cpr.2007.07.013

12. Sinclair CT. Communicating a prognosis in advanced cancer. *J Support Oncol*. 2006; 4(4): 201-204.

13. Barnett MM. Does it hurt to know the worst?—psychological morbidity, information preferences and understanding of prognosis in patients with advanced cancer. *Psychooncology*. 2006; 15(1): 44-55. doi: 10.1002/pon.921

ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

14. Lichtenthal WG, Nilsson M, Zhang B, et al. Do rates of mental disorders and existential distress among advanced stage cancer patients increase as death approaches? *Psychooncology*. 2009; 18(1): 50-61. doi: 10.1002/pon.1371

15. Strada EA, Sourkes BM. Psychotherapy in the palliative care setting. *Primary Psychiatry.* 2009; 16(5): 34-40.

16. Thompson GN, Chochinov HM, Wilson KG, et al. Prognostic acceptance and the well-being of patients receiving palliative care for cancer. *J Clin Oncol*. 2009; 27(34): 5757-5562. doi: 10.1200/JCO.2009.22.9799

17. Seyedrasooly A, Rahmani A, Zamanzadeh V, Aliashrafi Z, Nikanfar AR, Jasemi M. Association between perception of prognosis and spiritual well-being among cancer patients. *J Caring Sci*. 2014; 3(1): 47-55. doi: 10.5681/jcs.2014.006

18. Lin CC, Tsay HF. Relationships among perceived diagnostic disclosure, health locus of control, and levels of hope in Taiwanese cancer patients. *Psycho-Oncology*. 2005; 14(5): 376-385. doi: 10.1002/pon.854

19. Chochinov HM, Tataryn DJ, Wilson KG, Ennis M, Lander S. Prognostic awareness and the terminally Ill. *Psychosomatics*. 2000; 41(6): 500-504. doi: 10.1176/appi.psy.41.6.500

20. Becker E. *The Denial of Death*. New York, NY, USA: Simon & Schuster; 1973.

21. Pyszczynski T, Greenberg J, Solomon S. A dual-process model of defense against conscious and unconscious death-related thoughts: An extension of terror management theory. *Psychol Rev.* 1999; 106(4): 835-845. doi: 10.1037/0033-295X.106.4.835

22. Kim SY, Kim JM, Kim SW, et al. Does awareness of terminal status influence survival and quality of life in terminally ill cancer patients? *Psychooncology*. 22(10): 2206-2213. doi: 10.1002/pon.3275

23. Krikorian A, Limonero JT, Maté J. Suffering and distress at the end-of-life. *Psychooncology.* 2012; 21(8): 799-808. doi: 10.1002/pon.2087

24. Murillo M, Holland JC. Clinical practice guidelines for the management of psychosocial distress at the end-of-life. *Palliat Support Care*. 2004; 2(1): 65-77.

25. van Bruggen V, Ten Klooster P, Westerhof G, et al. The existential concerns questionnaire (ECQ) – Development and initial validation of a new existential anxiety scale in a non clinical and clinical sample. *J Clin Psychol*. 2017; 1-12. doi: 10.1002/jclp.22474

26. Best M, Aldridge L, Butow P, Olver I, Price MA, Webster F. Treatment of holistic suffering in cancer: A systematic literature review. *Palliat Med*. 2015; 29(10): 885-898. doi: 10.1177/0269216315581538

27. Kissane DW. The relief of existential suffering. *Arch Intern Med.* 2012; 22: 172(19): 1501-1505. doi: 10.1001/archinternmed.2012.3633

28. Ruijs CD, van der Wal G, Kerkhof AJ, Onwuteaka-Philipsen BD. Unbearable suffering and requests for euthanasia prospectively studied in end-of-life cancer patients in primary care. *BMC Palliative Care*. 2014. 23; 13(1): 62. doi: 10.1186/1472-684X-13-62

29. Yalom ID. *Existential Psychotherapy*. New York, USA: Basic Books; 1980.

30. Antonovsky A. The structure and properties of the sense of coherence scale. *Soc Sci Med*. 1993; 36(6): 725-733. doi: 10.1016/0277-9536(93)90033-Z

31. Cohen R, Mount B, Tomas J, Mount L. Existential well-being is an important determinant of quality of life. *Cancer*. 1996; 77: 576-585. doi: 10.1002/(SICI)1097-0142(19960201)77:3<576::AID-CNCR22>3.0.CO;2-0

32. White G. An inquiry into the concepts of spirituality and spiritual care. *Int J Palliat Nurs.* 2013 6(10): 479-484. doi: 10.12968/ijpn.2000.6.10.9047

33. Visser A, Garssen B, Vingerhoets A. Existential well-being: Spirituality or well-being? *Journal of Nervous and Mental Disorders.* 2017; 205(3): 234-241. doi: 10.1097/NMD.0000000000000617

34. Moadel A, Morgan C, Fatone A, et al. Seeking meaning and hope: Self-reported spiritual and existential needs among an ethnically-diverse cancer patient population. *Psychooncology.* 1999; 8(5): 378-385. doi: 10.1002/(SICI)1099-1611(199909/10)8:5<378::AID-PON406>3.0.CO;2-A

35. Bentur N, Stark DY, Resnizky S, Symon Z. Coping strategies for existential and spiritual suffering in Israeli patients with advanced cancer. *Isr J Health Policy Res*. 2014; 24(3): 21. doi: 10.1186/2045-4015-3-21

36. Breitbart W. Spirituality and meaning in supportive care: Spirituality and meaning-centered group psychotherapy interventions in advanced cancer. *Support Care Cancer.* 2001; 10(4): 272-280. doi: 10.1007/s005200100289

37. Steger MF, Oishi S, Kashdan TB. Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *J Posit Psychol.* 2009; 4(1): 43-52. doi: 10.1080/17439760802303127

38. Lee V. The existential plight of cancer: Meaning making as a

ISSN 2377-8393 http://dx.doi.org/10.17140/PMHCOJ-SE-1-113

concrete approach to the intangible search for meaning. *Support Care Cancer.* 2008; 16(7): 779-785. doi: 10.1007/s00520-007-0396-7

39. Hammond C, Teucher U, Hamoline R. Narrative coherence and disruption: Negotiating between positive and existential psychology. In: Batthyany A, Russo-Netzer P, eds. *Meaning in Positive and Existential Psychology*. Berlin, Germany: Springer Science & Business; 2014: 129-147.

40. Fernandez-Ballasteros R, Kruse A, Zamarron MD, Caprara M. Quality of life, life satisfaction and positive aging. In: Fernandez-Ballasteros R, ed: *Geropsychology: European Perspectives for an Aging World*. Boston, MA, USA: Hogrefe & Huber Pub; 2007: 197-223.

41. Phelan EA, Anderson LA, LaCroix AZ, Larsom EB. Older adults' views of "successful aging" – How do they compare with researchers' definitions? *J Am Geriatr Soc.* 2004; 52(2): 211-216. doi: 10.1111/j.1532-5415.2004.52056.x

42. Carmel S. The will-to-live: Gender differences among elderly persons. *Soc Sci Med.* 2001; 52: 949-958. doi: 10.1016/S0277-9536(00)00198-2

43. Chochinov HM, Hack T, Hassard T, Kristjanson LJ, McClement S, Harlos M. Understanding the will-to-live in patients nearing death. *Psychosomatics*. 2005; 46(1): 7-10. doi: 10.1176/appi.psy.46.1.7

44. Erikson EH. Identity and the life cycle: Selected papers. *Psychological Issues.* 1959; 1: 50-100.

45. Boylin W, Gordon SK, Nehrrke MF. Reminiscence and ego integrity in institutionalized elderly males. *Gerontologist.* 1976; 16(2): 118-124. doi: 10.1093/geront/16.2.118

46. Carmel S, Mutran E. Wishes regarding the use of life-sustaining treatments among elderly persons in Israel: An explanatory model. *Social Science & Medicine.* 1997; 45: 1715-1727.

47. Carmel S. The will-to-live scale: Development, validation, and significance for elderly people. *Aging Ment Health*. 2017; 1: 1-8. doi: 10.1080/13607863.2015

48. Carmel S. The will to live as an indicator of well-being and a predictor of survival in old age. In: Poon L, Cohen-Mansfield J, eds. *Understanding Well-Being in the Oldest-Old*. Cambridge, UK: Cambridge University Press; 2011: 281-289.

49. Hallford D, Mellor D, Cummins RA, McCabe MP. Meaning in life in earlier and later older-adulthood: Confirmatory factor analysis and correlates of the meaning-in-life questionnaire. *J Appl Gerontol.* 2016; 1: 733464816658750 doi: 10.1177/0733464816658750

50. Walaskay M, Whitbourne SK, Nehrke MF. Construction and validation of an ego integrity status interview. *Int J Aging Hum Dev*. 1984; 18(1): 61-72. doi: 10.2190/RRAT-BL8J-J2U2-XRD3

51. Yüksel M, Kirikkanat B, Yılmaz SH, Sevim E. Investigation of life satisfaction, meaning in life & loneliness levels of a group of elderly individuals in terms of some demographic variables. *Journal of Society & Social Work.* 2016; 27(1): 65-75.

52. Bachner YG, Yosef-Sela N, Carmel S. Open communication with terminally ill cancer patients about illness and death: A comparison between spouses of ashkenazi and sephardi ethnic origins. *Cancer Nurs*. 2014; 37(1): 50-58. doi: 10.1097/NCC.0b013e31827b5c7a

53. Robinson TM, Alexander SC, Hays M, et al. Patient–oncologist communication in advanced cancer: Predictors of patient perception of prognosis. *Support Care Cancer*. 2008; 16(9): 1049-1057. doi: 10.1007/s00520-007-0372-2