Gratitude at the end of life: a promising lead for palliative care

ABSTRACT

Background – Numerous studies, conducted largely with non-clinical populations, have shown a significant link between gratitude and psychological dimensions relevant for palliative care (e.g. psychological distress). However, the relevance of gratitude in the context of palliative care needs to be confirmed.

Objectives – We strived to evaluate the association between gratitude and quality of life (QOL), psychological distress, post-traumatic growth, and health status in palliative patients, and to develop an explanatory model for QOL. An ancillary purpose was to identify which life domains patients considered sources of gratitude.

Design – We performed an exploratory and cross-sectional study with palliative patients of the Lausanne University Hospital.

Measurements – We used the Gratitude Questionnaire, the McGill-Quality of Life questionnaire, the Hospital Anxiety and Depression Scale, the Post-traumatic Growth Inventory, and the health status items of the Eastern Cooperative Oncology Group. Spearman correlations and multivariate analyses were performed.

Results – Sixty-four patients participated (34 women, mean age= 67). The results showed significant positive correlations between gratitude and quality of life ($r= .376$), and the appreciation of life dimension of the post-traumatic growth ($r=.426$). Significant negative correlations were found between gratitude and psychological distress ($r=- .324$), and health status ($r=- .266$). The best model for QOL explained 47.6% of the variance ($F=26.906$) and included psychological
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distress and gratitude. The relational dimension was the most frequently cited source of gratitude (61%).

*Conclusion* – Gratitude may act positively on QOL and may protect against psychological distress in the palliative situation. The next step will be the adaptation and implementation of a gratitude-based intervention.

*Keywords* – gratitude, palliative care, quality of life, psychological distress, positive psychology
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BACKGROUND

Promoting a holistic approach to care, palliative care aims to improve quality of life by preventing and relieving pain and other physical, psychological and existential problems associated with a life-threatening illness (1). From a psychological perspective, research largely has focused on improving the pharmacological treatments for frequently occurring psychopathologies, such as anxiety or depression (2). Less is known about factors fostering psychological well-being and improving quality of life. Positive psychology represents a theoretical paradigm that is complementary to clinical psychopathology and concentrates on positive subjective experiences, individual traits, and institutions to improve quality of life and prevent pathologies (3). Among its different topics, gratitude seems particularly relevant for palliative care (4, 5).

In the psychology literature, gratitude is considered either as an emotional state or as a personality disposition (5-7). As an emotional state, gratitude consists of two main aspects: a positive state that an individual consciously experiences when he receives a benefit; and the recognition that the source of this benefit was someone or something else, such as life or a more spiritual entity (8). When gratitude is experienced more regularly and more intensely than average, we speak about gratitude as a dispositional trait. At this level, gratitude is often perceived as “a life orientation towards noticing and appreciating the positive in the world” (5, p.891). Beyond psychology, it is also worth mentioning that gratitude is perceived as a central dimension in traditional religious worldviews since it represents a way “to relieve guilt from moral failure” (9, 10), and more widely of spirituality since gratitude involves an appraisal of something as meaningful (11).
Recently, relationships between gratitude and important outcomes of palliative care have been examined in the general population. Significant links were reported between gratitude and anxiety (12), depression (11, 13-15), and death anxiety (16, 17). Two longitudinal studies highlighted that gratitude was a significant predictor of decreased depression and psychological distress (18).

Earliest clinical data have come from oncological populations, where its relevance was validated (19-21).

Psychological traits are by definition more stable than emotions, which tend to be short-lived and transient. Given the lack of data on gratitude in the palliative care context, we have specifically chosen to consider gratitude as a personality trait in this study in order to obtain reliable data.

We hypothesized that dispositional gratitude represents a positive psychological factor in the palliative care setting, contributes to the patient’s quality of life, psychological wellbeing and performance status. The aims of the study were (A) to explore the relation between gratitude and (i) quality of life, (ii) psychological distress, (iii) post traumatic growth and (iv) health status for patients in a palliative care situation; and (B) to investigate to what extent these variables contribute to the patients’ quality of life. An ancillary point of interest was (C) to assess which life domains were identified by the patients as sources of gratitude.

METHODS

This is a cross-sectional study utilizing quantitative methods consisting of validated questionnaires.

Procedure and participants
The study was conducted at the Lausanne University Hospital in Switzerland. Data collection took place from 2015 to 2017, with questionnaires completed during face-to-face interviews. Patients were recruited from the Palliative and Supportive Care Service and identified by the clinical team based on the eligibility criteria.

Inclusion criteria consisted of age >18, enrollment in palliative care, a stable physical state for the last 24 hours, and suffering from a progressive disease with reduced life expectancy. Exclusion criteria comprised the presence of cognitive or psychiatric disorder impairing decision-making capacity and the existence of severe communication problems (foreign language, deafness).

After identification by the palliative care team, patients were approached by an independent research collaborator who informed them about the study objectives, obtained written consent and administered the questionnaires.

**Measures**

**Socio-demographic and medical assessments**

The attending physician in charge of the patient collected socio-demographic and medical data: age, sex, nationality, mother tongue, marital status, education, profession, primary diagnosis, and co-morbidities.

Quality of life was assessed by *The McGill-Quality of Life questionnaire revised version (MQoL-R)* (22). The MQoL-R was developed for the setting of end of life. It contains 14 items (range from 0 to 10, with higher score reflecting higher quality of life) forming an overall total score and four subscales scores: physical, psychological, existential, and social. Item example: “Over the past
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two days, I was depressed: 0-not at all to 10-extremely”. The tool starts with a single item assessing overall subjective quality of life. MQoL-R was translated into French (22).

Gratitude was measured using *The Gratitude Questionnaire 6 items (GQ-6)* (23). The GQ-6 is a widely used measure of gratitude and contains six items (e.g. “I have so much in life to be thankful for”) rated on a Likert scale. The GQ-6 allows a measure of trait gratitude on four co-occurring dimensions: density, span, frequency and intensity. This questionnaire was validated in French (24). Following this questionnaire, we asked participants to name those life domains that represented sources of gratitude for them.

Psychological distress was examined using the *Hospital Anxiety and Depression Scale (HADS)* (25). The HADS consists of 14 items (e.g. “I feel as if I am slowed down”) rated on a Likert scale yielding a total score (0-42), a depression score (0-21) and an anxiety score (0-21), with higher scores reflecting higher distress. The scale was validated in French (26).

Post-traumatic growth was assessed with the *Post-traumatic Growth Inventory (PTGI)* (27). This questionnaire includes 21 items based on a Likert scale, each describing a potential change arisen because of a stressful event (e.g. “I can better appreciate each day”). The questionnaire includes a total score (0-105) and five subscales: better relation with others (0-35), new possibilities (0-25), personal strengths (0-20), spiritual changes (0-10), and appreciation of life (0-15). We used a translated French version (28).

To assess potential negative aspects of the disease experience and mitigate positivity bias, we included two complementary items (NRS 0-10) that were administered prior to the PTGI: “Globally, to what extent would you say that your disease has negatively (Q1) / positively (Q2) changed you as a person and/or your life?”.
Health status was assessed using the *Eastern Cooperative Oncology Group (ECOG)* (29). The ECOG is a measurement of a patient’s levels of functioning and autonomy in terms of their daily activities, and living and physical abilities. It consists in five grades going from “0 - Fully active, able to carry on all pre-disease performance without restriction” to “5 – Death”. The ECOG performance status was filled out with the physician or nurse in charge of the patient.

**Statistical analyses**

Descriptive statistical analyses were performed on the demographic variables and the questionnaire data. To address our first aim, we used bivariate Spearman correlations on gratitude in relation with quality of life, post-traumatic growth, psychological distress and health status. Spearman correlations were chosen instead of Pearson correlations given the non-normal distributions of some variables and the existence of some outlier values.

To address our second aim, multiple linear regression analyses (enter method) were performed with Quality of life (MQoL total score) as dependent variable and health status (ECOG), psychological distress (HADS total score), post-traumatic growth (PTGI total score) and gratitude (GQ-6 total score) as independent variables. To obtain a more parsimonious model, we performed a second linear regression, using the stepwise methods, including only the significant predictors from the first model. Since, according to the literature, at least 10 to 15 observations are needed for each predictor (30, 31), we only used the total score of each questionnaire in the analyses.

To address our final aim, the research collaborator used an open-ended approach to ask each patient which life domain(s) he/she identified as a source of gratitude. We analyzed the responses based on pre-existing categories adapted for this study from the Schedule for Meaning in Life Evaluation (32). The proportion of agreement between two independent evaluators (BA and MB) was calculated on 30% of the total domains.
Regarding missing data, MQoL and PTGI scores were calculated using mean imputation if no more than one item score were missing for a given subscale (22). Concerning the HADS, participants’ subscale mean were calculated if at least half of the items were answered (33). Three participants did not complete the GQ-6 questionnaire and were excluded from the analyses.

In accordance with the exploratory approach of our study, we set a significance level at $p=0.05$ without Bonferroni correction.

**Ethical commission and funding**

This study was funded by the Leenaards Foundation and approved by the ethics committee of the Lausanne University Hospital.

**RESULTS**

**Socio-demographic and medical characteristics**

A total of 164 patients were identified as eligible by the clinical team. Out of these, 64 patients agreed to participate in the study (39% acceptance rate). Reasons for refusal were “doesn’t want to participate” (16%), “no longer a patient of the palliative care service” (13%), “psychological” (10%) or “physical” (9%) problems, “exclusion criteria present” (7%), “deceased” (4%) or “lost to follow-up” (2%). Socio-demographic data are shown in table 1.

[Insert table 1 here]

**Descriptive analyses**

Table 2 shows the descriptive statistics for each questionnaire used.

[Insert table 2 here]
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Positive and negative impacts of the disease on personality and/or life

To the question: “Globally, to what extent would you say that your disease changed negatively or positively your person and/or your life?”, patients answered with a mean of 5.48 (SD= 3.4) for the negative changes and a mean of 4.33 (SD=3.5) for the positive changes following the illness.

Relationship between gratitude and quality of life, psychological distress, post-traumatic growth and health status (aim A)

The results of the Spearman correlation analyses are shown in Table 3. Notably, the data showed a significant positive association between gratitude (GQ6 total score) and global quality of life (MQoL total score), as well as with three MQoL subscales (physical, psychological, and existential). The data also indicated a significant negative association between gratitude and global psychological distress (HADS total score) and health status (ECOG score).

[Insert table 3 here]

Gratitude as a potential predictor of quality of life (aim B)

The results of the linear regression model showed that 51.9% of the variance of overall quality of life (MQoL total score) was explained by gratitude, psychological distress, post-traumatic growth and health status, with gratitude and psychological distress as significant predictors (adjusted $R^2$ = 519; F=15.588; p=.000; see table 4).

[Insert table 4 here]

We performed a second linear regression (stepwise method) using only psychological distress and gratitude. The results (table 5) showed that these variables explained almost 48% of the
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variance of quality of life (adjusted R^2=.476; F=26.906; p=.000; psychological distress 43.8%,

gratitude 3.8%).

[Insert table 5 here]

Sources of gratitude (aim C)

An average of 3.78 sources of gratitude per participant were mentioned. They were classified in

11 dimensions (see figure 1), with “family and friends”, representing the most cited dimension

(57%). Concerning the classification of the cited domains, 89.5% agreement was found between

the two independent evaluators.

[Insert figure 1 here]

DISCUSSION

To our knowledge, this is the first study to examine the relevance of dispositional gratitude in the

palliative care context. In this setting, we found a weak to moderate positive correlation between

gratitude and overall quality of life as well as its physical, physiological and existential subscales.

These results are supported by previous research in other clinical settings (34-36). Notably, the

strongest relationship was found with the existential dimension of QOL. This lends support to the

hypothesis that gratitude may improve meaning in life and could reinforce spirituality (7, 37).

Gratitude did not correlate significantly with the relational dimension of quality of life. This point

was surprising given the fact that patients mentioned social relationships (and particularly family

and friends) as a major source of gratitude for them. This could be explained, in part, by the fact

that the GQ-6 does not measure gratitude according to the quality of the relationship but more in

terms of the quantity of people towards whom gratitude is experienced (the “density” facet of the
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GQ-6). In addition, the GQ-6 measures gratitude with four dimensions and provides a total final score, which is unidimensional; thus, the relational aspect of gratitude could not be investigated independently of the total score even though it may have been important. We also found a weak to moderate negative relationship of gratitude with psychological distress and with depressive symptoms, consistent with previous findings in clinical settings (13, 20, 38).

It is also worth mentioning that one of the strongest associations found concerns gratitude and life appreciation, one of the PTGI’s subscales. Several authors emphasize that appreciation (of life but also for simple pleasures and others) represents an essential component of gratitude (5, 6). This aspect may support the hypothesis that gratitude, through the appreciation experience, can be a specific factor in the post-traumatic growth process that may help people to adapt to a traumatic event such as a life-threatening illness (5, 39, 40).

A closer look at the items of PTGI may explain in part why we did not observe significant correlations with the other PTGI subscales. The “new possibility” dimension includes items describing having new opportunities or interests, which does not match with the definition of gratitude as an appreciation of what someone already has. The items of the “personal strengths” subscale describe an ability to cope with the disease, an aspect that is not included in the GQ-6 questionnaire. Finally, the “spiritual changes” dimension was very close to the significance level (p=.055), which may be due to our relatively small sample.

Regarding our second aim, the most parsimonious model shows a strong impact of psychological distress on quality of life, explaining almost 44% of the variance. As the only other significant factor in this model, gratitude explained another 4% of QOL variance. These results confirm that psychological distress represents a major issue for palliative care (41-43). They also point out that positive dimensions such as gratitude play a significant role and could represent useful
resources for improving the quality of life of palliative care patients. This finding is consistent with the patients’ responses to the two additional items administered prior to the PTGI where patients reported experiencing positive and negative illness consequences in almost equal proportions.

The correlations found in this research between gratitude and quality of life and positive psychological changes on one hand and psychological distress on the other hand raise questions about the processes involved. As a positive trait and emotion, gratitude can be viewed within the broaden-and-build theory of emotions (44). According to this paradigm, gratitude’s role is to broaden people’s thought-action repertoire. This process would result in an expansion of personal resources that can be noticed at two levels specific for gratitude: an increase in spirituality and a development of interpersonal resources, both of which contribute to global quality of life (6, 21, 45). Concerning the interaction between gratitude and psychological distress, Lambert, Fincham and Stillman (46) showed that people higher in the gratitude trait tend to positively reframe previous negative events by perceiving them as opportunities for growth, facilitating the emergence of positive emotions such as gratitude and the decrease of depressive and anxious symptoms (5, 46).

Finally, our findings indicate that family and friends are the most cited resource of gratitude for palliative patients. Interpersonal and particularly familial relationships are known to be crucial for palliative care patients, contributing to both their meaning in life (47-49) and their quality of life (50, 51). As an “other-oriented” emotion, gratitude shows a positive impact on relationship-related dimension such as feelings of social affiliation (52), relational commitment (53), satisfaction with relationships (54, 55), and partner reciprocal maintenance behaviors (52, 53, 56).

There are several limitations to the present study. First, the cross-sectional design does not allow inferring causality in the associations highlighted between the variables. Second, our relatively
small sample size and sometimes high level of missing data (i.e. for the PTGI) leads to a low statistical power. Third, the use of the GQ-6 for assessing gratitude does not allow a complete understanding of the individual characteristics of gratitude (e.g. the quality of the relationships is not considered). Future research could utilize a different gratitude tool such as the S-GRAT (57) to allow for an in-depth examination of dispositional gratitude. Fourth, in light of the generally high scores on the gratitude scale, a social desirability bias may have influenced our results (58). We strove to minimize this bias using a research investigator not connected to the clinical team.

Finally, as most palliative care studies, the participation rate was low, which may contribute to a selection bias favoring patients with higher levels of psychological wellbeing and performance status.

In summary, this study supports the hypothesis that gratitude may have a positive impact on quality of life in palliative care patients, and may help reducing psychological distress at end of life. Since the main sources of gratitude are based on social support, which in turn is known to contribute strongly to quality of life and meaning in life of palliative care patients, we are currently in the process of developing a gratitude-based intervention involving patients as well as family caregivers.

AUTHOR DISCLOSURE STATEMENT

No competing financial interests exist.

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REFERENCES


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