# CANCER, THANATOLOGY AND QUALITY OF LIFE IN A PUBLIC UNIVERSITY IN CENTRAL MEXICO.

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**Abstract –** The quality of thanatological services has been analyzed from three dimensions: cognitive, emotional and intentional, although the objective of the present study was to confirm three dimensions, only one was found related to ambivalence. A psychometric, cross-sectional and correlational research was carried out with a sample of 100 students selected for their inclusion in the system of professional practices and services in health care institutions. The results confirm an ambivalent dimension that explained the highest percentage of the variance and suggest the rethinking of thanatological care as an emotional, cognitive and intentional management. In relation to the state of the art, it is recommended to extend the model to scenarios and samples that confirm the findings and build intervention systems in accordance with the ambivalent structure.

**Keywords –** Attitudes, Thanatological Care, Cognitions, Emotions, Intentions

## Introduction

The cancer situation may vary in different regions of the world. Additionally, research and healthcare continue to evolve, which may impact treatment statistics and approaches in the future (Ciuhu et al., 2015). For up-to-date and specific data, I would recommend consulting sources such as the World Health Organization (WHO) or IARC.

Global incidence: According to the International Agency for Research on Cancer (IARC), it is estimated that there were around 19.3 million new cancer cases and 10 million cancer-related deaths in 2020 globally. Incidence and mortality (Richards, 1975): Cancer incidence and mortality vary by region and country. Some areas have higher rates of cancer due to factors such as exposure to environmental carcinogens, diet, smoking, and availability of health care services.

Most common types of cancer: The most common types of cancer include lung cancer, breast cancer, colorectal cancer, stomach cancer, and liver cancer (Hilliard, 2002). The prevalence of these types of cancer can vary depending on the region of the world.
Risk factors: The main risk factors for the development of cancer include smoking, exposure to environmental carcinogens, unhealthy diet, lack of physical activity, genetic predisposition and advanced age (Cote et al., 2014).

Prevention and early detection: Prevention and early detection are essential to reduce the burden of cancer (Ritter, 1993). Awareness campaigns, screening programs and promotion of healthy lifestyles are key strategies. Adopting healthy lifestyles, participating in screening programs, and accessing quality healthcare services are crucial aspects of the fight against cancer.

Research and Advances: Continued research is conducted to better understand the underlying causes of cancer, develop more effective treatments, and improve prevention strategies (Henoch, 2007).

Treatments: Treatments for cancer include surgery, radiation therapy, chemotherapy, targeted therapy, and immunotherapy (Dolbeault, Szporn& Holland, 1999). Advances in medical research have led to new therapeutic approaches and improvements in patient survival and quality of life.

It is important to note that, although cancer is a serious and global disease, significant advances are also being made in the understanding and treatment of this disease (Moretta, 1996). Public awareness, research and international collaboration are essential to address the challenges associated with cancer globally.

The relationship between cancer and thanatology (the study of death and the dying process) is complex and multifaceted (McCord & Morse, 2022).

Emotional and psychological impact: The diagnosis of cancer can have a significant emotional and psychological impact on patients and their loved ones (Vrasdonk, 1972).

Thanatology is concerned with understanding and addressing the emotional responses and psychological challenges associated with terminal illness, including cancer.

Grief process: Thanatology focuses on the grieving process, which is the natural and emotional response to loss, whether the loss of health, autonomy, or life (Hinton, 1999).

People diagnosed with cancer and their loved ones may face an anticipatory grieving process due to the uncertainty and changes associated with the disease.

Accompaniment during the dying process: Thanatology also deals with accompaniment during the dying process (Rollin, 2011). For those in the advanced stages of cancer, healthcare professionals and palliative care specialists play a crucial role in providing physical, emotional and spiritual support.

Palliative care: Palliative care is an integral part of the management of advanced cancer (Silbermann et al., 2012). Thanatology and palliative care professionals work together to improve patients' quality of life, alleviate suffering, and provide support to both the patient and their loved ones.

Spiritual support: Thanatology recognizes the importance of the spiritual dimension in the dying process (Syarifudin& Soares, 2022). For some people, spirituality and personal beliefs play a key role in how they cope with illness and relate to death.

Comprehensive care: Comprehensive care for the cancer patient involves not only medical treatment, but also emotional, psychological and spiritual support (Howell, 2001).

Thanatology contributes to addressing these dimensions not only in the patient, but also in their families and caregivers.

Thanatology plays a crucial role in the comprehensive management of cancer patients, providing emotional, psychological and spiritual support throughout their illness, and accompanying both the patient and their loved ones during the dying process (Schain, 1981). The relationship between cancer, psychology and thanatology is complex and encompasses various emotional, psychological and spiritual dimensions.

Emotional and psychological impact of the diagnosis: Emotional reactions to the diagnosis of cancer can trigger a wide range of emotional reactions, such as fear, anxiety, depression, anger and sadness (Gibbs & Achterberg-Lawlis, 1978). Psychological adjustment Patients often undergo a process of psychological adjustment to cope with the reality of the diagnosis, treatments, and possible implications for daily life.

Coping and resilience: Coping strategies where psychology focuses on understanding and supporting the coping strategies that patients use to deal with the stress associated with cancer, whether through social support, relaxation techniques or seeking professional support (Walker, 2013). Resilience where thanatology and psychology work together to foster resilience in cancer patients, helping them find meaning and personal growth even in the midst of illness.

Emotional and psychological support: Mental health professionals such as psychologists and other mental health professionals play a crucial role in the emotional support of cancer patients (Schimmers et al., 2022). They provide individual or group therapy to address specific psychological challenges related to the illness. Palliative care such as thanatology and palliative care professionals work closely with psychologists to address the emotional and psychological needs of patients in the advanced stages of the illness.

Thanatology and Death: Coping with Death where thanatology addresses the experience of facing death, whether anticipated due to the diagnosis of advanced cancer or as part of the grieving process for loved ones (Zhang, Xie &Xiao, 2023). Accompaniment during transition means that thanatologists can provide support and accompaniment to patients and their families during the final stages of life, helping them address spiritual, emotional and practical issues.

Quality of life and well-being: Holistic approach where thanatology and psychology work together to provide a holistic approach that not only focuses on the physical illness, but also on the psychological and spiritual well-being of the patient (Jaramillo, 2019). Patient-

centered care when both disciplines seek to improve patients' quality of life, tailoring support to individual needs and considering the whole person.

Together, the collaboration between psychology and thanatology contributes to comprehensive care that addresses the emotional, psychological, and spiritual complexities associated with cancer and the dying process (Neigel & Hancock, 2019).

The structure of attitudes towards thanatological care is distinguished by including three hegemonic components related to cognition, emotion and intention (Fyotek, 2017). The theories, models and concepts proposed to explain the formation of three dimensions indicate that death is a continuous and assimilable long-term process as long as a high-risk event does not occur (Anderson, 2016). Following this long-term process of assimilation of death, thanatological care differs from other options in terms of case follow-up (Jones-

Eversley & Rice, 2022). Consequently, if thanatological service professionals need to monitor their cases, then the three dimensions emerge in some part of the process as hegemonic (Wogrin, 2013). In this way, exposure to risk events suggests an activation of the emotional attitude. As exposure intensifies and prolongs, emotion management increases and, consequently, a volatile intention develops in the face of risk propensity.

On the other hand, if risk events are assimilated as distant or too close, emotions activate disinterest in thanatological attention (Leviton, 2021). Consequently, the health service is mediated by helplessness or farsightedness. Both scenarios imply a propensity for risks and consequently an avoidance of the thanatology service.

In such scenarios, intentions are dispositions favorable to thanatological service whenever the event or risk exposure intensifies (Meagher & Balk, 2013). In this way, the literature moves toward confirming an attitudinal structure consisting of scenarios, samples, and exposure events.

However, the literature highlights the cognitive and affective dimension as a consistent ambivalence as the risk event increases unusually (Fonseca & Testoni, 2012). Or, if the event or exposure is associated with other events favorable to risk propensity.

Therefore, the objective of the study was to establish the model of reflective dimensions of the attitude towards thanatological care.

Are there significant differences between the theoretical structures of attitudes towards thanatological care reported in the literature with respect to the observations of the present work?

Hypothesis 1. Given that thanatological care has been observed as an ambivalent process, it is emotionally necessary, but unexpected; the sample surveyed will reflect a rather unfavorable attitude (Ajzen & Fishbein, 1974).

Hypothesis 2. If attitudes reflect an aversion to risks, then the structure reported in the literature will not be different from the assessments of the present work (Modesto et al.,

2020). Furthermore, such a structure will present a reduced ambivalence towards the predominance of the emotional dimension.

Hypothesis 3. The differentiation between a dominant cognitive structure and a hegemonic emotional structure supposes an impact of some risk event in the sample (Holland & Weiss, 2010). Consequently, the differences between the theoretical structure and empirical observations are a function of the magnitude, intensity and dimension of the risk.

## Method

A confirmatory, transversal and correlational work was carried out with a sample of 100 students (M = 21.3 SD = 3.4 age and M = 9'908.00 SD = 768.00 monthly income) assigned to the internship and professional service system in health care institutions.

The Attitude towards Thanatology Scale was used, which includes three dimensions related to cognitions ("My university will disseminate any threat in its application of thanatological care"), emotional ("My university will organize self-help groups to face dangers"), intentional ("I will go to the thanatological service if my university application notifies me of the schedules." Each item includes response options ranging from 0 = "not at all likely" to 7 = "quite likely." The reported reliability reached values between 0.783 and 0.795; 0.678]

Respondents were contacted through their institutional email. The objectives and those responsible for the project were informed, emphasizing the non-remuneration for participation, as well as the safeguarding of data as a guarantee of confidentiality and anonymity. The participation of the selected sample was in three phases. The first consisted of focus groups for the homogenization of concepts. In a second phase, a Delphi study was organized to evaluate the items. In the third phase the instrument was answered.

The data were captured in Excel and processed in JASP version 14. The coefficients of normal distribution, adequacy, sphericity, reliability and validity were estimated. Values close to unity were considered evidence of non-rejection of the hypotheses.

## Results

The direct effects of the determinants suggest a negative and significant direct relationship between stress and neglect (β = -0.245; p = 0.061). It means then that resistance to change is negatively associated with diseases. Such a result corresponds with the reviewed literature where stressor factors determine resilience (see Table 1).

**Table 1.** Direct effects

| | | | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|
| | | Estimate | Std . Mistake | z- value | p | Lower | Upper |
| Stress | → Comfort | -0.026 | 0.116 | -0.220 | 0.826 | -0.254 | 0.203 |
| Depression | → Comfort | 0.054 | 0.087 | 0.625 | 0.532 | -0.116 | 0.225 |
| Optimism | → Comfort | -0.119 | 0.102 | -1,169 | 0.242 | -0.318 | 0.080 |
| Stress | → Careless | -0.245 | 0.130 | -1,876 | 0.061 | -0.500 | 0.011 |

**Table 1.** Direct effects

| | | Estimate | Std . Mistake | z- value | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower | Upper |
| Depression | → Careless | 0.036 | 0.098 | 0.373 | 0.709 | -0.155 | 0.228 |
| Optimism | → Careless | 0.012 | 0.114 | 0.101 | 0.919 | -0.212 | 0.235 |

*Note.* Delta method standard errors, normal theory confidence intervals, ML estimator.

Regarding the indirect effects, no relationship is significant, and they tend to zero. In other words, the mediating roles of support and responsibility do not reduce or increase the direct effect of stress on neglect (see Table 2).

**Table 2**. indirecteffects

| | | | | Estimate | Std Mistake | z-value | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Lower | Upper |
| Stress | → Support | → Comfort | | -0.007 | 0.014 | -0.474 | 0.636 | -0.035 | 0.021 |
| Stress | → Responsibility | → Comfort | | -3.264e-4 | 0.011 | -0.030 | 0.976 | -0.022 | 0.021 |
| Stress | → Support | → Careless | | 0.002 | 0.010 | 0.241 | 0.809 | -0.017 | 0.022 |
| Stress | → Responsibility | → Careless | | -1.015e-5 | 4.295e-4 | -0.024 | 0.981 | -8.520e-4 | 8.317e-4 |
| Depression | → Support | → comfort | | -0.005 | 0.012 | -0.388 | 0.698 | -0.028 | 0.019 |
| Depression | → Responsibility | → comfort | | -1.536e-4 | 0.005 | -0.029 | 0.976 | -0.010 | 0.010 |
| Depression | → Support | → Careless | | 0.012 | 0.024 | 0.502 | 0.616 | -0.035 | 0.059 |
| Depression | → Responsibility | → Careless | | -0.005 | 0.014 | -0.397 | 0.691 | -0.032 | 0.021 |
| Optimism | → Support | → Comfort | | -0.004 | 0.017 | -0.245 | 0.807 | -0.038 | 0.030 |
| Optimism | → Responsibility | → Comfort | | -1.682e-4 | 0.004 | -0.039 | 0.969 | -0.009 | 0.008 |
| Optimism | → Support | → Careless | | 0.008 | 0.021 | 0.404 | 0.686 | -0.032 | 0.049 |
| Optimism | → Responsibility | → Careless | | -0.003 | 0.008 | -0.333 | 0.739 | -0.018 | 0.012 |

*Note.* Delta method standard errors, normal theory confidence intervals, ML estimator.

Because the total effects were not significant, the total indirect effects show the same pattern. Consequently, the assumption that support and responsibility are inexorable to the neglect and comfort that thanatological care entails is corroborated (see Table 3).

**Table 3**. Totalindirecteffects

| | | | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|
| | | Estimate | Std . Mistake | z- value | p | Lower | Upper |
| Stress | → Comfort | -0.007 | 0.018 | -0.393 | 0.695 | -0.042 | 0.028 |
| Stress | → Careless | 0.002 | 0.010 | 0.240 | 0.810 | -0.017 | 0.022 |
| Depression | → comfort | -0.005 | 0.013 | -0.369 | 0.712 | -0.030 | 0.021 |
| Depression | → Careless | 0.007 | 0.027 | 0.239 | 0.811 | -0.047 | 0.060 |
| Optimism | → Comfort | -0.004 | 0.018 | -0.248 | 0.804 | -0.039 | 0.031 |
| Optimism | → Careless | 0.006 | 0.022 | 0.263 | 0.793 | -0.037 | 0.049 |

*Note.* Delta method standard errors, normal theory confidence intervals, ML estimator.

The evidence that the model includes the factors reported in the literature lies in the relationships between the residuals. Non-significant covariances are observed that suggest the non-inclusion of other determinants of comfort and neglect (see Table 4).

**Table 4.** Residual covariances

| | | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | Estimate | Std . Mistake | z- value | p | Lower | Upper |
| Support ↔ Responsibility | -0.077 | 0.621 | -0.124 | 0.901 | -1,294 | 1,139 |
| comfort ↔ Careless | 0.864 | 0.807 | 1,071 | 0.284 | -0.718 | 2,447 |

*Note.* Delta method standard errors, normal theory confidence intervals, ML estimator.

The relationships between the determinants are set to zero and are interpreted as independent predictive routes but related by anticipating the emergence of comfort and neglect as indicators of thanatological care. Regarding the relationship between the determinants and the mediating variables, values close to unity are not observed, but in relation to the dependent variables, stress is negatively linked to neglect ($\beta$ = -0.24; p = 0.006). Furthermore, the relationship between the dependent variables suggests that they are indicative of thanatological care (0.80). It means then that the structure of thanatological care is negatively determined by stress in relation to personal neglect, although such variable is positively associated with comfort. In other words, the loss of a loved one, living or sentient, depends on the level of stress, even when it is associated with a comfort response. Such a process would explain why relatives of terminally ill or injured people feel comfort knowing that their relative stopped suffering to move on to a better life, even though this reflects personal neglect for the bereaved (see Figure 1).

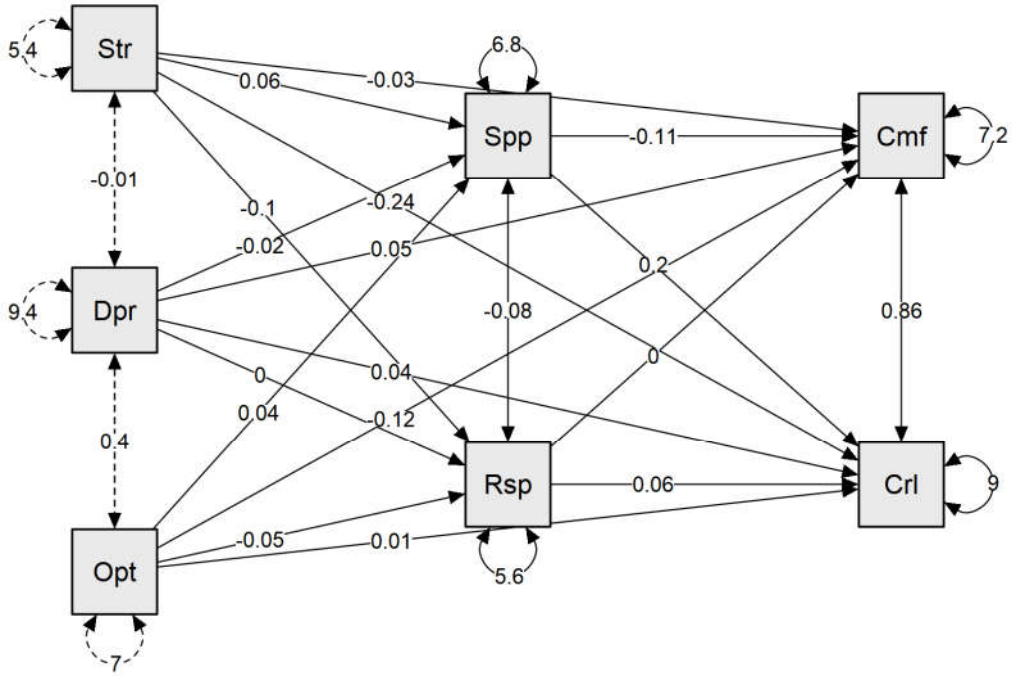


**Figure 1.** Trajectory model

The standardized trajectory model indicates that support is a predictor of neglect ($\beta = 0.17$; $p = 0.006$): That is, the model predicts neglect as an indicator of thanatological care. This is the case of self-help and self-support groups in which the sessions generate greater carelessness in the participants due to the load (see Figure 2).

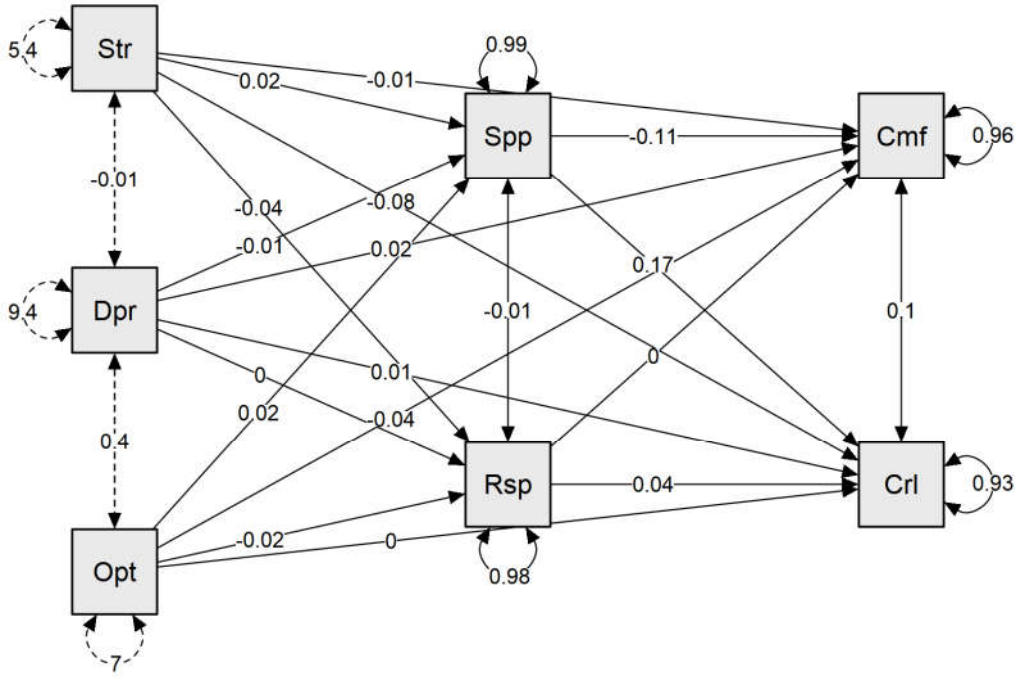


**Figure 2.** Standardized model

The quadratic regression values indicate that the model explains a minimum percentage of the variance [Comfort = 0.030; Careless = 0.064; Support = 0.005; Responsibility = 0.011].

## Discussion

The structural model demonstrated the configuration of attitudinal factors and their dependency relationships. These dimensions were structured from groups of items that included the same content, but differed in the response options (Ajzen, 2002). That is, around the attitudinal object (thanatological attention), mourners tend to structure their feelings, reasons and intentions in a direct and positive way (Ajzen, 1991). The structural model demonstrated the influence of other variables not included but inferred from the covariances between the first-order factors. This means that, around the attitude of the mourners towards thanatological care, there are other unexplored attitudinal dimensions that would explain the attitudinal complexity towards thanatological service (Ajzen, 2001).

The relationships are spurious between determinants and mediators (Hyland, 1982). The relationship between stress and support increases the prediction of neglect. Precisely, this route of analysis suggests that the structure of thanatological care is explained by the interaction of depression, stress and optimism as determinants of neglect, although mediated by support (Alcorn et al., 2010). This finding corroborates the assumption around which family or personal losses are staged in an ambivalent context, since the bereaved become depressed or stressed, but they are also optimistic that their family member has moved on to a better situation or at least has stopped suffer (Fortuin et al., 2017). In this process, support is essential to face the personal neglect that grief entails.

Therefore, if the loss is an ambivalent situation, the thanatological service will regulate and channel the mourning towards a scenario of emotional complexity where comfort and neglect coexist. It is recommended to explore ambivalent factors to anticipate scenarios of grief and comfort.

## Conclusion

The objective of this work was to establish the structure of the emotional determinants of thanatological care. The contrast of the theoretical model reported in the literature with respect to the observed model suggests the non-rejection of the hypotheses. Such findings corroborate the assumption of ambivalence of grief in which family loss represents a negative and positive emotional scenario that determines group or individual reconciliation.

It is recommended to extend the model towards empirical testing of the demonstrated trajectory in order to anticipate ambivalent grief and its interactive effects with the thanatological service.

# References


Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*. 50, 179-211

Ajzen, I. (2001). Nature and functioning of attitudes. *Annual Review of Psychology.* 52, 27-58.

Ajzen, I. (2002). *Attitudes*. In R. Fernández Ballesteros (Ed.), Encyclopedia of Psychological Evaluation. (pp. 110-115) London: Sage Publications.

Ajzen, I., & Fishbein, M. (1974). Factors that influence intentions and the intention-behavior relationship. *Human Relations*. 27, 1-15

Alcorn, SR, Balboni, MJ, Prigerson, HG, Reynolds, A., Phelps, AC, Wright, AA, ... & Balboni, TA (2010). "If God wanted me yesterday, I wouldn't be here today": Religious and spiritual themes in patients' experiences of advanced cancer. *Journal of palliative medicine* , *13* (5), 581-588. https://www.liebertpub.com/doi/abs/10.1089/jpm.2009.0343

Anderson, J.R. (2016). Comparative thanatology. *Current Biology* , *26* (13), R553-R556. https://www.cell.com/current-biology/pdf/S0960-9822(15)01371-8.pdf

Ciuhu , ANT, Rahnea Nita, GI, Popescu , MT, &Rahnea Nita, RAD (2015). Abstract P5-15-22: Evaluation of quality of life in patients with advanced and metastatic breast cancer proposed for palliative chemotherapy and best supportive care versus best supportive care. *Cancer Research* , *75* (9_Supplement), P5-15. https://aacrjournals.org/cancerres/article-abstract/75/9_Supplement/P5-15-22/607700

Cote, L., Sprinzeles , L.L., Elliott, R., & Kutscher, A.H. (Eds.). (2014). *Parkinson's disease and quality of life* . Routledge. https://books.google.es/books?hl=es&lr=&id=F6CsAgAAQBAJ&oi=fnd&pg=PP1&dq=cancer+thanatology+quality+of+life&ots=jhGLOVrHct&sig=2WCyKcx9ZpNEuGi-riiXDWzXmDQ

Dolbeault , S., Szporn , A., & Holland, J.C. (1999). Psycho-oncology: where have we been? Where are we going? *European Journal of Cancer* , *35* (11), 1554-1558. https://www.sciencedirect.com/science/article/pii/S0959804999001902

Fonseca, L.M., &Testoni, I. (2012). The emergence of thanatology and current practice in death education. *OMEGA-Journal of Death and Dying* , *64* (2), 157-169. https://journals.sagepub.com/doi/abs/10.2190/om.64.2.d

Fortuin, NPM, Schilderman, JBAM, &Venbrux, E. (2017). Death and the search for meaning: Canonical, utilitarian and expressive thanatological cultural niches. *Mortality* , *22* (4), 339-355. https://www.tandfonline.com/doi/abs/10.1080/13576275.2016.1259213

Fyotek , T. (2017). *Deathics: Homeric ethics as thanatology* . The University of Iowa. https://search.proquest.com/openview/e0be7be4cb72a0954ea4efdefbd38ada/1?pq-origsite=gscholar&cbl=18750

Gibbs, H.W., & Achterberg-Lawlis, J. (1978). Spiritual values and death anxiety: Implications for counseling with terminal cancer patients. *Journal of Counseling Psychology* , *25* (6), 563. https://psycnet.apa.org/record/1979-29326-001

Henoch, I. (2007). *Dyspnea experience and quality of life among persons with lung cancer in palliative care* . Inst of Health and Care Sciences. https://gupea.ub.gu.se/handle/2077/887

Hilliard, R. E. (2002). *The effects of music therapy on quality of life and length of life of hospice patients diagnosed with terminal cancer* . The Florida State University . https://search.proquest.com/openview/fa8f77acb1a49bd651a4fcba192a9506/1?pq-origsite=gscholar&cbl=18750&diss=y

Hinton, J. (1999). The progress of awareness and acceptance of dying assessed in cancer patients and their caring relatives. *Palliative medicine* , *13* (1), 19-35. https://journals.sagepub.com/doi/abs/10.1191/026921699672169546

Holland, J.C., & Weiss, T.R. (2010). History of psycho-oncology. *Psycho-oncology* , *2* , 3-12. https://books.google.es/books?hl=es&lr=&id=tBVF4i1AfvoC&oi=fnd&pg=PA3&dq=cancer+thanatology+quality+of+life&ots=QDZp8HZ_RK&sig=SjtDTj-WjA7LRfOXsN51HOS5sW4

Howell, D. A. (2001). One Woman's Travels (Travails) through Thanatology. *Illness , Crisis & Loss* , *9* (1), 55-62.https://journals.sagepub.com/doi/pdf/10.1177/105413730100900107

Hyland, J. M. (1982). Terminal Care: Friendship Contracts with Dying Cancer Patients by Loma Feigenberg (Book Review). *Bulletin of the Menninger Clinic* , *46* (2), 194. https://search.proquest.com/openview/899ad0b38d86802880f4ba2d4daa43c2/1?pq-origsite=gscholar&cbl=1818298

Jaramillo, LAU (2019). Thanatology in the elderly. *Hos Pal Med Int Jnl*, *3* (1), 19-21.https://www.academia.edu/download/78170460/HPMIJ-03-00143.pdf

Jones-Eversley, S.D., & Rice, J. (2022). A call for epidemiology and thanatology to address the dying, death, and grief pipeline among Blacks in the United States. *Death studies* , *46* (1), 140-147. https://www.tandfonline.com/doi/abs/10.1080/07481187.2020.1721618

Leviton, D. (2021). Horrendous death: Linking thanatology and public health. In *Awareness of mortality* (pp. 185-214). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315225067-16/horrendous-death-linking-thanatology-public-health-daniel-leviton

McCord, J.S., & Morse, R.S. (2022). Thanatology. In *Encyclopedia of Gerontology and Population Aging* (pp. 5001-5012). Cham: Springer International Publishing. https://link.springer.com/content/pdf/10.1007/978-3-030-22009-9_1012.pdf

Meagher, D.K., & Balk, D.E. (Eds.). (2013). *Handbook of thanatology: The essential body of knowledge for the study of death, dying, and bereavement* . Routledge. https://books.google.com/books?hl=es&lr=&id=jewdAAAAQBAJ&oi=fnd&pg=PP2&dq=thanatology+dead+health+&ots=R_qnDFdGur&sig=j9584dJ0s2PwabmssMQ_-w3MYZU

Modesto, CP, De Andrade, AMLC, De Albuquerque, LTC, Aguilera, KC, Granja, TA, De Albuquerque, ABTC, ... &Malheiro, DR (2020). Thanatology under the perspective of ethics and bioethics: a systematic review. *Revista Eletrônica Acervo Saúde*,*12* (9), e3734-e3734. https://acervomais.com.br/index.php/saude/article/view/3734

Moretta, B.J. (1996). *Cognitions, depression, quality of life, and will-to-live in lung cancer patients* . Bowling Green State University. https://search.proquest.com/openview/4c9c854be70587af08a0fd863d04e87a/1?pq-origsite=gscholar&cbl=18750&diss=y

Neigel, A.R., & Hancock, G.M. (2019). Thanatology and Human Factors: Current Research and Future Directions. *Critical Issues Impacting Science, Technology, Society (STS), and Our Future* , 251-280. https://www.igi-global.com/chapter/thanatology-and-human-factors/222880

Richards, W. A. (1975). *Counseling, peak experiences and the human encounter with death: an empirical study of the efficacy of DPT-assisted counseling in enhancing the quality of life of persons with terminal cancer and their closest family members* . The Catholic University of America. https://search.proquest.com/openview/07b805605bb8ac81b5dece486b88de03/1?pq-origsite=gscholar&cbl=18750&diss=y

Ritter, H. (1993). Perspectives on Thanatology: Moving from Theory to Practice–Or, is Death a Bad Idea?. *Journal of Pastoral Care* , *47* (4), 428-431. https://journals.sagepub.com/doi/pdf/10.1177/002234099304700411

Rollin, B.E. (2011). When to treat animals with cancer. In *BSAVA Manual of Canine and Feline Oncology* (pp. 40-43). BSAVA Library. https://www.bsavalibrary.com/content/chapter/10.22233/9781905319749.chap5?crawler=true&mimetype=application/pdf

Schain, W. S. (1981). Role of the sex therapist in the care of the cancer patient. In *The Pharmaceutical Aspects of Cancer Care* (Vol. 15, pp. 168-183). Karger Publishers. https://karger.com/Article/Abstract/394386

Schimmers , N., Breeksema , JJ, Smith-Apeldoorn, SY, Veraart , J., van den Brink, W., &Schoevers , RA (2022). Psychedelics for the treatment of depression, anxiety, and existential distress in patients with a terminal illness: a systematic review. *Psychopharmacology* , *239* (1), 15-33. https://link.springer.com/article/10.1007/s00213-021-06027-y

Silbermann, M., Arnaout, M., Daher, M., Nestoros , S., Pitsillides , B., Charalambous, H., ... & Oberman, A. (2012). Palliative cancer care in Middle Eastern countries: accomplishments and challenges. *Annals of oncology* , *23* , iii15-iii28. https://www.sciencedirect.com/science/article/pii/S092375341938888X

Syarifudin , M., & Soares, D. (2022, September). Palliative Care to Improve Quality of Life Patient with Hepatocellular Carcinoma. In *Proceeding of International Conference on*

*Science, Health, And Technology* (pp. 378-385). http://ojs.udb.ac.id/index.php/icohetech/article/view/2215

Vrasdonk , W. G. (1972). Beyond thanatology: immortality. *J. Value Inquiry* , *6* , 280. https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/jrnlvi6&section=33

Walker, A. C. (2013). Life span issues and end-of-life decision making. *Handbook of Thanatology* , 81-89. https://api.taylorfrancis.com/content/chapters/edit/download?identifierName=doi&identifierValue=10.4324/9780203767306-12&type=chapterpdf

Wogrin , C. (2013). Professional issues and thanatology. In *Handbook of thanatology* (pp. 395-409). Routledge. https://api.taylorfrancis.com/content/chapters/edit/download?identifierName=doi&identifierValue=10.4324/9780203767306-47&type=chapterpdf

Zhang, X., Xie, X., & Xiao, H. (2023). Effects of death education interventions on cancer patients in palliative care: A systematic review and meta-analysis. *Death Studies* , 1-15.https://www.tandfonline.com/doi/abs/10.1080/07481187.2023.2233450