



A Model for Explaining Depression Based on Demoralization Syndrome with the Mediation of Guilt in Caregivers of Patients with Life-Threatening Illnesses

Rahele Masoudi Sani¹, Afsaneh Taheri^{2*}, Narges Babakhani²

¹ PhD student, Department of Clinical Psychology, Rodehen Branch, Islamic Azad University, Rodehen, Iran

² Assistant Professor, Department of Psychology, Rodehen Branch, Islamic Azad University, Rodehen, Iran

* Corresponding author email address: a2_taheri@yahoo.com

Article Info

Article type:

Original Research

How to cite this article:

Masoudi Sani, R., Taheri, A., & Babakhani, N. (2023). A Model for Explaining Depression Based on Demoralization Syndrome with the Mediation of Guilt in Caregivers of Patients with Life-Threatening Illnesses. *Health Nexus*, 1(1), 98-109.

<https://doi.org/10.61838/kman.hn.1.1.15>



© 2023 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

The present study aimed to explain the model of depression based on demoralization syndrome with the mediating role of guilt in caregivers of elderly patients with life-threatening illnesses (cancer, stroke, and heart disease). A descriptive-correlational method using structural equation modeling was employed. A sample of 240 individuals was conveniently selected from the oncology, CCU, and ICU wards of Imam, Fatemeh Zahra, Bu Ali Sari, and Razi Qaemshahr hospitals. Participants responded to the Beck Depression Inventory (1996), the Kissane Demoralization Scale (2004), and the Eysenck Guilt Scale (2007). Data were analyzed using SPSS and Amos software. The results of the data analysis indicated that the model of depression based on demoralization syndrome with the mediation of guilt in caregivers of elderly patients with life-threatening illnesses can be explained. Demoralization syndrome has a direct effect on depression in caregivers of elderly patients with life-threatening illnesses. Demoralization syndrome has a direct effect on guilt in caregivers of elderly patients with life-threatening illnesses. Guilt has a direct effect on depression in caregivers of elderly patients with life-threatening illnesses. Demoralization syndrome has an indirect effect on depression through the mediating role of guilt in caregivers of elderly patients with life-threatening illnesses. Based on the findings, it can be concluded that in interventions aimed at reducing depression in caregivers of elderly patients with life-threatening illnesses, special attention should be paid to the variables of demoralization syndrome and guilt.

Keywords: Depression, Demoralization Syndrome, Guilt, Elderly, Life-Threatening Illnesses.

1. Introduction

Human beings experience a wide range of events throughout their lives. Many of these experiences present both opportunities for growth and threats to health and psychological integrity (1). Certain life situations, often referred to as "borderline situations," place individuals at crossroads and in challenging and stressful decision-making dilemmas. These situations remove the veil of everyday life, prompting individuals to reflect on existential thoughts that remind them of their inherent vulnerability and limitations. Such reflections highlight the finite nature of human existence, their fragility due to death, shame, guilt about not being a "good" person, loneliness, isolation in the world, and other existential concerns (2). These experiences are intrinsic to illness and caregiving and, if not properly addressed, can lead to significant psychological issues for both the patient and the caregiver. Individuals who suffer from existential distress often experience anxiety and depressed mood as a result. Therefore, healthcare providers should familiarize themselves with these existential concerns and learn how to address them appropriately (3).

Over 80% of the elderly population suffer from one or more chronic illnesses, which pose multiple physical, psychological, social, and economic challenges (4). The increase in the elderly population is accompanied by a rise in chronic illnesses and an increase in dependency in daily living activities (5). Among the elderly, cancer, cardiovascular diseases, and stroke are the most prevalent. These conditions not only affect the patient but also significantly impact the lives of family members and caregivers. This is especially important in traditional Asian societies, where the family unit is central, and caregiving responsibilities often fall on children or middle-aged individuals within the family (6, 7). These family members, who provide care without receiving financial compensation or adequate training and primarily due to emotional closeness, are referred to as informal caregivers (8-10).

Family caregivers (informal caregivers) are described as "hidden patients" who need support and care to cope with the negative impact of their loved one's illness or disability (1). Ignoring the issues faced by this group and their inability to adapt to the conditions (such as caregiving for an elderly person with a life-threatening illness) can lead to personal, familial, and social crises. Research evidence shows that

caregivers who look after terminally ill patients in their families are at high risk of developing depression (9, 11). Caregivers of stroke patients, due to the immense pressures they endure, are vulnerable to psychological issues such as depression, post-traumatic stress disorder, cognitive dysfunction, financial and familial problems, feelings of loneliness and social isolation, role changes, and reduced quality of life (12). The results of studies by Soodagar and Ramid indicate that 68% of caregivers of stroke patients suffer from mild to severe depression; Das et al. also reported that 76% of caregivers of this patient group experience anxiety and depression (13). The experience of depression by caregivers of these patients can negatively affect their quality of life (14). Previous studies have also shown that 45% of family caregivers of patients with heart failure experience symptoms of depression (15). These pressures can lead to inadequate patient care, patient abandonment, family isolation, and disrupted family relationships (4, 8). In contrast, the mental health of caregivers can have a positive impact on the patient in various aspects, such that caregivers, especially spouses, can alleviate the patient's pain and suffering through appropriate behavior (16).

Given that depression is a common phenomenon among caregivers (9, 17) and plays a crucial role in the development or exacerbation of other problems, studying the explanatory models of depression in this group is important. Numerous studies have explored depression from various perspectives in different populations: Sun et al. (2019) identified female gender, low education level, low per capita income, caregiving burden, and social support as predictors of depression in caregivers of severely mentally ill patients (17); Kang et al. (2021) identified low self-efficacy as a predictor of depression in caregivers of stroke patients (18); Vesal and Nazerinia (2016) highlighted rumination and its components in patients with rheumatism (19); Amiri and Amiri (2016) focused on illness perception and pain catastrophizing in patients with diabetes; Basharpour et al. (2016) emphasized self-blame, blame of others, catastrophizing, and minimizing relationships in infertile women (20); Segrin et al. (2018) pointed out high perceived stress in caregivers of women with breast cancer (21); and Berking and Wupperman (2012) identified emotion regulation deficits as risk factors for predicting depression

(22). However, given that existential issues are a significant challenge for caregivers of patients with life-threatening illnesses, it seems that attention to existential concepts in explaining depression in this group could be beneficial. Although valuable studies have been conducted on this subject in patient populations, there is a knowledge and research gap regarding caregivers.

The onset of disease-related complications and treatments, acceptance that a complete and definitive cure for these diseases is unavailable, and changes in role and lifestyle can lead individuals away from managing and controlling problems towards feelings of helplessness and self-inefficacy. These feelings, coupled with isolation, helplessness, and hopelessness, can alter an individual's fundamental assumptions, values, and beliefs. At this point, existential questions arise, such as "Why did I face these conditions?" "Why now?" or more fundamental complaints like the existence or non-existence of God, divine justice, fate, and more (23, 24). Kissane states that if individuals and patients cannot manage emotions related to existential themes such as death anxiety, loss of meaning, inherent loneliness, and fear of freedom and responsibility for their choices, they may develop demoralization syndrome. Demoralization syndrome is a manifestation of existential distress, characterized by a loss of coherence and integrity, feelings of purposelessness and meaninglessness, confusion, helplessness, hopelessness, feelings of failure, and an inability to cope (24, 25). The starting point of experiencing demoralization syndrome is the feeling of inadequacy and self-inefficacy when faced with a disabling situation, which leads to fundamental questions. If individuals cannot effectively respond to and find meaning in these questions, they may develop demoralization syndrome. Some conditions that can lead to demoralization syndrome include long-term unemployment, displacement due to war or natural disasters, imprisonment, chronic illness (3, 24, 25), palliative care patients (12), and recovery from opioid addiction (6).

According to the study by Babarski et al., 10% of individuals with demoralization syndrome also exhibit severe symptoms of depression, and 13% have moderate or mild symptoms of depression. This study indicates that demoralization syndrome may occur independently or co-occur with depression (25). Contrary to common beliefs,

some sources suggest that demoralization syndrome is a construct distinct from depression (6). In a study conducted on mothers with potentially lethal diseases, Bahmani et al. found a significant relationship between existential anxiety, demoralization syndrome, and depression. High existential anxiety was a predictor of demoralization syndrome, and high demoralization syndrome predicted depression. Vehling et al. (2012) believe that one of the variables related to this issue, which has received less attention, is "guilt." If left untreated, guilt can lead to demoralization syndrome. As mentioned earlier, there is a positive and significant relationship between intense suffering, high existential distress, and depression (24, 25). In this regard, Luck and Luck-Sikorski (2020), in their study comparing guilt in depressed and non-depressed adults in Germany, found that guilt was 37.4 in depressed individuals and 8.1 in non-depressed individuals (26).

Guilt includes remorse, regret, and sorrow related to unfulfilled potential and missed opportunities to create personal meaning in life (27). Guilt is an internal and unique state categorized as a negative emotion, encompassing various dimensions, including sadness and loneliness (28, 29). Guilt does not merely involve violating moral, religious, or social standards; it also includes a sense of failure in fulfilling a duty or feeling that one has done something wrong (30, 31). Guilt is not a cognitive state but rather an emotional one (32). According to Penney and Nicholas, guilt arises from concern about harming someone and feeling responsible for them. Therefore, it stems from the ability or perceived inability to help them (33). Some studies, such as those by Dale (2017) and Arian et al. (2021), have shown that guilt can arise from excessive expectations and obsessive behavior (34, 35).

In their research, Spence et al. found that caregivers of patients experience guilt, helplessness, and frustration and complain about not having time for themselves and a lack of control over their lives (1). Chan et al. (2022) conducted a study in Hong Kong, China, on children who cared for their elderly parents. They found that caregivers felt guilt and regret for unfinished responsibilities and tasks, which created emotional distance between them (6). According to Applebaum et al. (2016), the combination of responsibility and guilt among caregivers of patients with brain tumors is a significant existential issue. The guilt of being unable to

cure their loved one's cancer or do more for them causes them considerable suffering (36).

Thus, based on the aforementioned discussion, it seems necessary to examine the relationship between depression and demoralization syndrome in caregivers of elderly patients with life-threatening illnesses. In this context, depression is likely to be predicted by the high levels of these two variables, and guilt likely plays a reinforcing (mediating) role in the relationship between depression and demoralization syndrome. According to the searches conducted, no research was found that specifically explains the model of depression based on these two variables. Given the importance of examining this model, the necessity of conducting this research is emphasized. Accordingly, the research question is: Can depression in caregivers of elderly patients with life-threatening illnesses be predicted through demoralization syndrome with the mediation of guilt?

2. Methods and Materials

2.1. Study Design and Participants

The present study is fundamental in terms of its objective and employs a quantitative (descriptive-correlational) research method, specifically Structural Equation Modeling (SEM). The statistical population in this study includes caregivers of elderly patients with life-threatening illnesses in Mazandaran Province. The target population comprises first-degree relatives of elderly individuals over 60 years old who require care due to heart disease, cancer, and stroke and are being cared for at home (i.e., not residing in nursing homes). A non-random convenience sampling method was used in this study. Accordingly, the sample was identified by visiting the oncology, CCU, and ICU wards of Imam, Bouali, and Fatemeh Zahra (S) hospitals in Sari and Razi Hospital in Qaemshahr, Mazandaran Province, in 2022. The research objectives and the principle of confidentiality were explained to the participants, and with a commitment not to interfere in personal matters, the questionnaires were provided to those who consented to participate.

Given the various opinions regarding the logical determination of sample size in structural equation modeling, Hooman (2005) considers a minimum of 15 cases per measured variable in structural equation modeling to be reasonable. Based on this, the required sample size in this

study was determined by the number of factors present in the questionnaires used, which amounts to 10 factors in total. Therefore, the required sample size for this study was 150 participants ($150 = 10 \times 15$). Considering the possibility of participant attrition (e.g., due to incomplete or blank questionnaires), a total of 240 participants were selected for the present study. This approach also increases the test power.

2.2. Measures

2.2.1. Depression

The Beck Depression Inventory was first developed by Beck and his colleagues in 1961, revised in 1971, and published in 1978. The 21-item version (used in this study) has a four-point Likert scale ranging from 0 to 3, allowing individuals to score between 0 and 63 on the questionnaire. To assess the reliability of the Beck Depression Inventory, a high-level analysis of various efforts to determine internal consistency has shown that the obtained coefficients range from 0.73 to 0.92, with a mean of 0.86 (Marnat, 2015). In Iran, the reliability of this questionnaire in a sample of 94 individuals was reported as follows: Cronbach's alpha coefficient of 0.91, a correlation coefficient between the two halves of the test of 0.89, and a test-retest reliability of 0.94 (Fathi, 2003). In the study by Mansour and Dadestan (1987), the reliability was reported as 0.83 and the validity as 0.80. In the research by Sharifi Daramadi and Ghasemi Davari (2012), the reliability and validity of the Beck Depression Inventory were estimated at 0.85 and 0.76, respectively. The correlation of the Beck Depression Inventory with its first edition was 0.93 (cited in Alavi et al., 2011).

2.2.2. Guilt

The Eysenck Guilt Inventory is designed to measure guilt and is scored on a 0 to 1 scale. The minimum score is 0, the maximum is 30, and the cutoff point is 15. In Hariri's research, three items were removed due to low factor loadings, resulting in a final questionnaire with 27 items. Therefore, the minimum score on this questionnaire is 0, and the maximum is 27. A higher score indicates a higher level of guilt and provides an overall score for this variable. To assess the reliability of this questionnaire, Cronbach's alpha and split-half methods were used, yielding a Cronbach's

alpha coefficient of 0.77 and a split-half coefficient of 0.76. Hariri (2008) used Cronbach's alpha and split-half methods to assess the reliability of this questionnaire, obtaining coefficients of 0.67 and 0.68, respectively. To assess its validity, the score was correlated with a criterion question, revealing a significant relationship between the questionnaire score and the criterion question ($r = 0.28, p < 0.001$). The validity and reliability of this questionnaire were also confirmed in the previous studies (37).

2.2.3. Demoralization Syndrome

The Demoralization Syndrome Scale (DS) was designed by Kissane et al. (2004) to assess the level of demoralization syndrome in cancer patients and has since been validated in various populations. The Demoralization Syndrome Scale consists of 24 five-option Likert-type items (never, rarely, sometimes, often, and always) scored from 0 to 4. This scale includes five subscales: loss of meaning (5 items), boredom (5 items), disheartenment (6 items), helplessness (4 items), and a sense of failure (4 items). The score range for the respondents can vary from 0 to 120, with a cutoff score of 30, indicating that a score above 30 suggests that the individual is suffering from demoralization syndrome. In this questionnaire, items 1, 6, 12, 17, and 19 are reverse scored (Kissane et al., 2004). Kissane et al. (2004) reported the reliability of this tool as 0.94, and the five factors of this scale were obtained through principal component analysis. The reliability of these factors was found to be good, ranging from 0.72 to 0.93 in the study by Molan et al. (2009). In Iran, Naqaii and Bahmani (2013) first examined the psychometric properties of this test and reported a Cronbach's alpha of

0.84. Farmani Shahrza et al. (2015) reported the reliability of this tool as 0.96 in a population with HIV/AIDS, and Nasrinia et al. (2022) reported a reliability coefficient of 0.82 for the Demoralization Syndrome Scale in a population of men with multiple sclerosis (6).

2.3. Data analysis

Data were analyzed using SPSS and Amos software. In structural equation modeling, AMOS software was used to determine the significance of the model's fit. The model fit was calculated within the initial model. In this context, the assumptions of data normality were examined before conducting the necessary statistical analyses using AMOS.

3. Findings and Results

The final sample size for this study, after removing incomplete and damaged questionnaires, consisted of 240 participants. The demographic analysis revealed that of the patients studied, 55% were male and 45% were female. Regarding the caregivers, approximately 56% were female, and 44% were male. The mean age of the patients was 70.64 years, with a standard deviation of approximately 8 years, ranging from 60 to 93 years. The mean age of the caregivers was 43.55 years, with a standard deviation of approximately 12 years, ranging from 21 to 75 years. Among the patients, around 40% were unemployed, approximately 38% were self-employed, and 21% were employees. Additionally, most caregivers were self-employed (about 45%), while around 30% reported being unemployed and 24% were employed.

Table 1

Descriptive Statistics

Variable	Number of Items	Mean	Standard Deviation	Skewness	Kurtosis	Minimum	Maximum
Depression	21	22.11	11.40	0.19	-0.62	1	53
Guilt	28	15.80	5.44	-0.01	-0.33	1	28
Loss of Meaning	5	7.65	4.346	0.159	-0.483	0	19
Disheartenment	6	9.06	4.78	-0.012	-0.614	0	20
Sense of Failure	4	6.35	3.675	0.222	-0.566	0	16
Helplessness	4	6.65	3.787	0.086	-0.717	0	16
Boredom	5	7.6	3.949	-0.142	-0.552	0	16
Total Score	24	37.305	18.431	-0.024	-0.71	3	83

The data in Table 1 show that the mean total depression score was 22.11 with a standard deviation of 11.40. The

range of the variable was between 1 and 53. The skewness and kurtosis indices of the total score for this variable were

within the range of -1 to +1, indicating that the distribution of the variables is normal. Statisticians suggest that if the skewness and kurtosis indices are within the range of -2 to +2, it indicates that the distribution of scores is normal; however, some researchers conservatively consider the

range of -1 to +1 as acceptable. Table 2 presents the significance of the path coefficients between the latent variable and the defined indicator variables using standardized t-scores:

Table 2

Significance of Path Coefficients Between Latent Variable and Related Indicator Variables

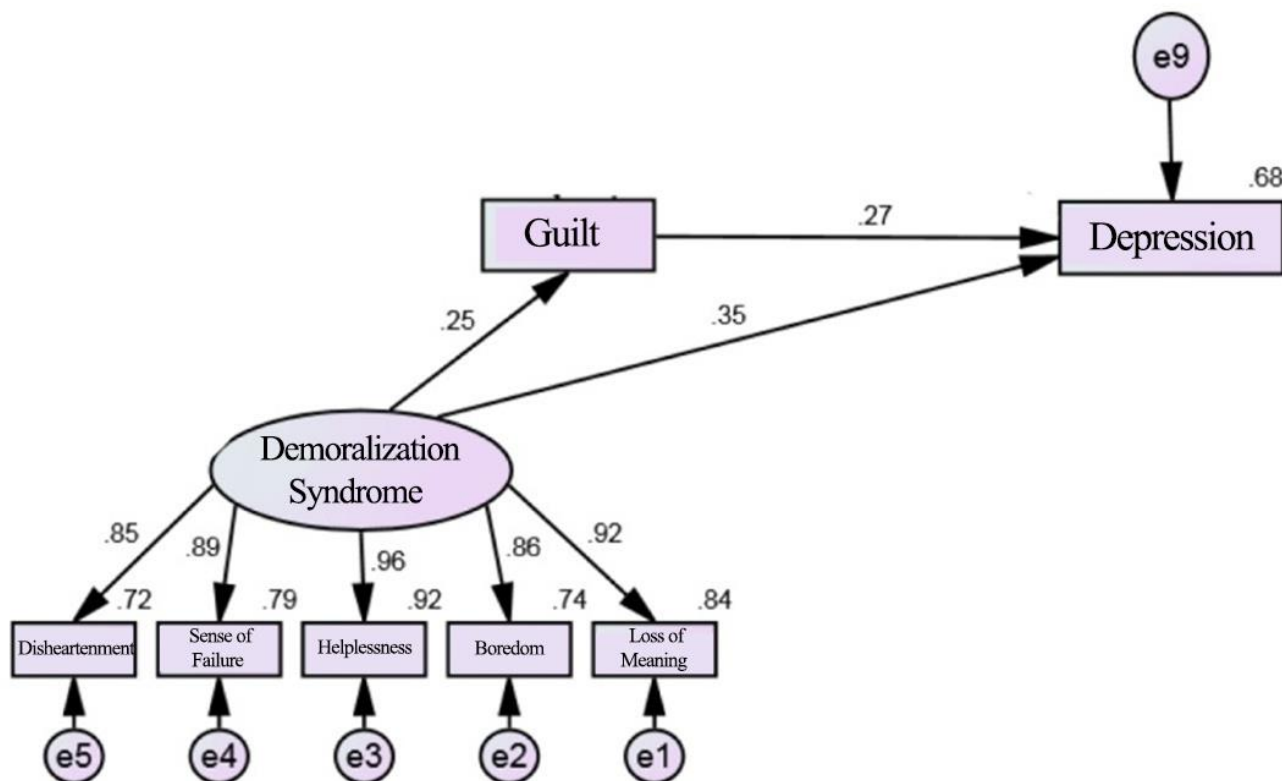
From Latent Variable	To Component	β Standardized	b Unstandardized	Error (S.E)	Critical Ratio (C.R)	Significance Level (P)
Demoralization Syndrome	Meaninglessness	0.75	1.00	-	-	-
Demoralization Syndrome	Boredom	0.81	0.971	0.077	12.681	0.001
Demoralization Syndrome	Helplessness	0.84	0.959	0.073	13.215	0.001
Demoralization Syndrome	Failure	0.88	0.952	0.069	13.721	0.001
Demoralization Syndrome	Disheartenment	0.49	1.063	0.143	7.414	0.001

As observed, the path coefficients between the indicator or observed variables and the latent variable of demoralization syndrome are significant. Therefore, these components can be considered as indicator variables for this

latent variable. After confirming the assumptions and the measurement model of the latent variables, the structural model of the present research was examined.

Figure 1

Research Hypothetical Model in Standardized Coefficients



As shown, the model above includes 22 variables, 10 of which are observed and are represented inside rectangles, and 12 are latent and represented inside circles (including 10 error latent variables inside small circles and two main latent variables inside large circles). Regarding independence and dependence, 12 variables are independent or exogenous,

while 10 are dependent or endogenous (as indicated by arrows pointing towards them).

To determine whether the empirical data collected in this study are consistent with the proposed model, goodness-of-fit indices were used. Table 3 presents the goodness-of-fit indices for the structural model:

Table 3

Goodness-of-Fit Indices for the Structural Model

Goodness-of-Fit Indices	(χ^2)	df	χ^2/df	RMSEA	GFI	AGFI	IFI	NFI	CFI
Initial Structural Model	59.65	31	1.92	0.065	0.95	0.91	0.978	0.969	0.985
Acceptable Value	Near Zero	-	< 3	< 0.08	> 0.90	> 0.90	> 0.90	> 0.90	> 0.90

The goodness-of-fit indices for the initial structural model in Table 3 show that all fit indices fall within the acceptable range, indicating that the model of depression based on demoralization syndrome with the mediation of guilt in caregivers of elderly patients with life-threatening illnesses fits well with the empirical data. Additionally, 68% of the variance in caregiver depression is explained by the predictor and mediator variables in the model.

As mentioned above, there are various indices for evaluating path analysis models, which are generally categorized into absolute, relative, and economic fit indices. Essentially, these indices show how well the theoretical model aligns with or fits the empirical data. Below is a summary of some of these indices reported in this study:

The structural model proposed in this study, which hypothesizes that depression is explained by demoralization syndrome with the mediation of guilt in caregivers of elderly patients with life-threatening illnesses, fits well with the

collected data. According to the findings of this study, all indices demonstrated an acceptable fit, and the model fit with the collected empirical data was confirmed at a high level. The chi-square (χ^2) and the ratio of chi-square to degrees of freedom (χ^2/df) were 1.92; the root mean square error of approximation (RMSEA) was 0.065; the goodness-of-fit index (GFI) was 0.95; the adjusted goodness-of-fit index (AGFI) was 0.91; the incremental fit index (IFI) was 0.97; the normed fit index (NFI) was 0.96, and the comparative fit index (CFI) was 0.98. Thus, the research model fit perfectly with the empirical data on the first attempt, and there was no need to modify the model. Consequently, it can be stated that depression can be explained through demoralization syndrome, with a positive and significant relationship between them, and guilt plays a significant role in this relationship. According to the analyses, 68% of the variance in depression can be explained by the predictor variables.

Table 4

Direct and Indirect Path Coefficients Between Variables

From Variable	To Variable	Through Mediator	β	B	S.E	C.R	p	Indirect Effect	Lower Bound 95%	Upper Bound 95%
Demoralization Syndrome	Depression	-	0.346	0.90	0.243	3.706	0.001	-	-	-
Demoralization Syndrome	Guilt	-	0.253	0.315	0.152	2.073	0.038	-	-	-
Guilt	Depression	-	0.27	0.566	0.142	3.979	0.001	-	-	-
Demoralization Syndrome	Depression	Guilt	-	-	-	-	0.045	0.068	0.014	0.151

Table 4 presents both the direct and indirect path coefficients between the variables of demoralization syndrome, guilt, and depression. The direct effect of

demoralization syndrome on depression is statistically significant, with a standardized coefficient (β) of 0.346, an unstandardized coefficient (b) of 0.90, and a critical ratio

(C.R.) of 3.706, significant at the 0.001 level. This indicates a positive and significant direct relationship between demoralization syndrome and depression.

The direct effect of demoralization syndrome on guilt is also statistically significant, with a standardized coefficient (β) of 0.253, an unstandardized coefficient (b) of 0.315, and a critical ratio (C.R.) of 2.073, significant at the 0.038 level. This suggests that as demoralization syndrome increases, guilt also increases significantly.

Similarly, the direct effect of guilt on depression is significant, with a standardized coefficient (β) of 0.27, an unstandardized coefficient (b) of 0.566, and a critical ratio (C.R.) of 3.979, significant at the 0.001 level. This indicates that higher levels of guilt are associated with higher levels of depression.

Furthermore, the indirect effect of demoralization syndrome on depression through the mediator variable of guilt is also statistically significant, with an indirect effect coefficient of 0.068, significant at the 0.045 level. This confirms the mediating role of guilt in the relationship between demoralization syndrome and depression, suggesting that part of the effect of demoralization syndrome on depression is mediated by increased feelings of guilt. The 95% confidence interval for this indirect effect ranges from 0.014 to 0.151.

4. Discussion and Conclusion

This study aimed to develop a model explaining depression based on demoralization syndrome with the mediating role of guilt in caregivers of patients with life-threatening illnesses. The findings revealed that demoralization syndrome has a direct effect on depression in caregivers of elderly patients with life-threatening illnesses, which was confirmed at the 0.01 significance level ($\beta = 0.346$). Therefore, a statistically significant and positive relationship exists between these two variables. This finding aligns with the results of prior studies (3, 6, 24).

To explain this finding, it can be stated that demoralization is a psychological state characterized by feelings of helplessness, hopelessness, and perceived incompetence. It involves a perceived inability to perform tasks that are deemed essential in stressful situations and is often associated with depression (24). Studies have shown that demoralization is linked to an increased risk of

adjustment disorders, depression, and anxiety, and it has a positive correlation with suicidal thoughts or the desire for a quick death (6). Common symptoms that overlap with depression include irritability, loss of interest, boredom, inability to enjoy activities, lethargy, and fatigue. Demoralization is an independent factor from depression, related to specific events (in this study, caregiving for an elderly person with a terminal illness), but if neglected, it can lead to depression. Thus, demoralization syndrome becomes clinically significant when it manifests with severe symptoms. Studies have shown that demoralization is more intense when caregivers face factors such as unemployment, unmet emotional needs, and a history of psychological problems (6). As a result, these caregivers are at a higher risk of experiencing depression.

In general, regarding the relationship between demoralization syndrome and depression, it can be argued that, according to existentialists, confronting the realities of existence and ultimate concerns, which are inherent and inevitable aspects of human existence in this world, is anxiety-provoking. These existential anxieties are considered honest responses to non-existence and are a consequence of awareness. Therefore, if an individual cannot find authentic meaning in these anxieties, they may experience existential suffering and, as a result, demoralization syndrome. Since demoralization syndrome is a treatable condition, its identification as a clinical syndrome will lead to increased focus on potential therapeutic interventions. However, demoralization syndrome and depression are related in their phenomenology and etiology, and demoralization syndrome may even predict or be comorbid with depression (24).

The results showed that demoralization syndrome has a direct effect on guilt in caregivers of elderly patients with life-threatening illnesses, which was significant at the 0.05 level ($\beta = 0.253$). Therefore, it can be stated that there is a positive and significant relationship between demoralization syndrome and guilt. This finding is consistent with the results of prior studies (6, 12, 38). It can be stated that the fear of running out of time is a major concern for patients and caregivers in palliative care, and in many cases, demoralization syndrome commonly arises in both patients and caregivers, characterized by guilt, hopelessness, loss of meaning, and a sense of failure. Some evidence also supports

the relationship between demoralization and factors such as distress, loss of hope, lack of goals and values in life, feelings of inadequacy, and falling short in life. Additionally, there is uncertainty about the appropriate response to perceived threats (6, 38).

In truth, demoralization syndrome is associated with decreased morale, perceived inability to cope, feelings of helplessness and failure, and the loss of self-worth, hope, and meaning in life (Grass et al., 2018). Since both patients and caregivers may be affected by demoralization syndrome and death anxiety, caregivers also face unique existential concerns such as guilt, grief, and uncertainty about how to continue after the death of their loved one. Caregivers may also experience feelings of inadequacy and guilt for not providing adequate care. Furthermore, caregivers often face the pressure of maintaining hope and a positive outlook, which may prevent them from discussing their own concerns. This challenge may lead caregivers to feel isolated and lonely, and patients may feel alienated due to caregivers' denial and avoidance of conflict. This perceived lack of connection in close relationships is a common source of existential distress for both patients and caregivers (38).

The results showed that guilt has a direct effect on depression in caregivers of elderly patients with life-threatening illnesses, which was confirmed at the 0.001 significance level ($\beta = 0.27$). This indicates that there is a positive and significant relationship between depression and guilt. This finding is consistent with the prior findings (39). To explain the direct effect of guilt on depression in caregivers, it can be said that facing one's own or others' death highlights human limitations both in terms of time and performance (40). Many existentialists explain "angst" in relation to existential guilt, meaning that the individual has not achieved enough in their life or, in other words, has not experienced a unique life to its fullest potential. Thus, concepts related to existential issues, such as the inevitability of death, include fulfilling life tasks, making amends, seeking forgiveness, and striving to accept the life one has lived. In a clinical context, symptoms may manifest as fear of the dying process or fear of the state of being dead, and these symptoms present as feelings of guilt (3).

In fact, guilt is among the emotional reactions to depression. Guilt encompasses feelings ranging from disappointment and sadness to feelings of being tainted,

stigmatized, and branded with infamy. Guilt is not a cognitive state but an emotional state (41) and results from negative judgments about one's behavior (35). Guilt is not merely a form of emotional pain; it is also a type of anxiety stemming from intrusive thoughts that lead to depression. It can also result in feelings of loneliness and excessive crying. Overall, according to the DSM-5, guilt is considered one of the main symptoms of depression (42). Cognitive theorists believe that guilt and the subsequent excessive sense of responsibility are key elements in the vicious cycle of depression (38).

The results showed that demoralization syndrome has an indirect effect on depression through the mediating role of guilt in caregivers of elderly patients with life-threatening illnesses, which was confirmed with a 95% confidence level and a significance level of 0.045 ($\beta = 0.068$). Thus, it can be said that guilt mediates the relationship between demoralization syndrome and depression, which is consistent with the findings of prior studies (43).

In this regard, it can be stated that family members and caregivers face challenges related to both caring for and treating the patient and adjusting to the responsibilities associated with caregiving. Guilt, anger, anxiety, and other psychological and social pressures, such as the duration of the illness and treatment, hospitalization, increased treatment costs, and psychological conditions like stress, affect the family and caregivers of the patient. Medical care and concerns about imminent death have a negative impact on both the patient and their family, which may increase feelings of helplessness, inadequacy, and inefficacy in the caregiver, leading to hopelessness, meaninglessness, and disheartenment (43). Therefore, caregiving for an elderly person with a serious illness can lead to demoralization syndrome if the natural anxieties arising from the situation are not properly addressed. The sense of helplessness and inefficacy resulting from demoralization can lead to feelings of guilt (43), and if not addressed and treated, the demoralization syndrome and the guilt arising from it can lead to depression.

Thus, it can be stated that when an individual (caregiver) encounters existential anxiety (a natural and honest response to life's inevitable events) and responds neurotically, the experience of demoralization syndrome is expected. Demoralization syndrome is a common manifestation of

existential distress that occurs in critical life situations, such as life-threatening illnesses, where loss of control, uncertainty, and the loss of social roles and life goals are common existential challenges (24, 25). In such situations, when the caregiver faces existential challenges, guilt arises as the inner critical voice challenges the caregiver's perceived competence in their own eyes and those of others, creating doubts about the individual's worth as a human being. Although such guilt can motivate the individual to action, excessive guilt resulting from improper handling of existential anxiety and the realities of existence can be associated with psychological harm (2). Consequently, neglecting demoralization syndrome can lead to depression, the development of suicidal thoughts, changes in moral principles, exacerbation of cognitive errors, and the emergence of attitudes such as hopelessness, frustration, and helplessness.

This study had some limitations. Human behavior is influenced by various factors that should be examined through moderator variables; for example, caregivers may have experienced some degree of depression before assuming their caregiving role, which was not controlled for in this study. Non-random sampling was used in the present study. Longitudinal studies that examine caregivers at different stages of the patient's illness could better explain the model of depression based on various factors in caregivers of patients with life-threatening illnesses. Given these findings, we recommend exploring additional caregiving channels and considering demographic factors as elements influencing depression in caregivers of elderly patients with life-threatening illnesses. Additionally, other existential components, such as existential anxiety, meaning anxiety, death anxiety, etc., should be considered when explaining depression in caregivers. Holding workshops specifically for caregivers of elderly patients with life-threatening illnesses could help them adapt to the caregiving role and prevent depression.

Authors' Contributions

R. M. S., A. T., and N. B. contributed collaboratively to the development and execution of the study on depression in caregivers of patients with life-threatening illnesses. R. M. S. led the project, conceptualizing the research framework and overseeing the structural equation modeling analysis.

She was instrumental in designing the study and ensuring its alignment with the theoretical model of demoralization syndrome and guilt. A. T. was primarily responsible for data collection and analysis. She coordinated with hospitals to select participants, administered the relevant psychological assessments, and managed the data processing using SPSS and Amos software. Her expertise in statistical analysis was key in interpreting the relationships among demoralization syndrome, guilt, and depression. N. B. focused on the literature review, compiling and synthesizing research on demoralization syndrome, guilt, and depression in caregivers. She also contributed significantly to drafting the manuscript, ensuring that the findings were presented clearly and concisely. Her work helped situate the study within the broader context of caregiver stress and mental health research.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

References

1. Aghajani A, Nazari A, Zehrakar K. Examining psychological distress in married children caring for elderly parents (A qualitative study). *Journal of Aging*. 2018;13(3):243-60. [DOI]
2. Lundvall M, Hörberg L, Palmér L, Carlssona G, Lindber G. Young men's experiences of living with existential concerns: "living close to a bottomless darkness". *International Journal of Qualitative Studies on Health and Well-Being*. 2020;15:1810947. [PMID: 32854600] [PMCID: PMC7482899] [DOI]
3. Lee JH. Existential issues and psychosocial interventions in palliative care. *Korean Society for Hospice and Palliative Care*. 2020;23(4):167-71. [PMID: 37497471] [PMCID: PMC10332729] [DOI]
4. Kazemi A, Hazimian C, Mafi M, Matlabi SA. The relationship between caregiver burden and dependency level of elderly stroke patients. *Faculty of Nursing Journal*. 2018.
5. Jaracz K, Grabowska-Fudala B, Górna K, Kozubski W. Caregiving burden and its determinants in Polish caregivers of stroke survivors. *Archives of Medical Science*. 2014;10(5):941. [PMID: 25395945] [PMCID: PMC4223139] [DOI]
6. Chan WCH, Yu CTK, Kwok DKS, Wan JKM. Prevalence and factors associated with demoralization in palliative care patients: A cross-sectional study from Hong Kong. *Palliative and Supportive Care*. 2022;1-9. [PMID: 36052852] [DOI]
7. Wu C, Rong J. Relocation experiences of the elderly to a long-term care facility in Taiwan: a qualitative study. *School of Nursing, National Taipei University of Nursing and Health Sciences, Taipei, Taiwan*. 2020. [DOI]
8. Grosbois JM, Gephine S, Kyheng M, Le Rouzic O, Chenivresse C. Improving the well-being in caregivers of patients with COPD using a home-based pulmonary rehabilitation program. *ERJ Open Research*. 2022. [PMID: 36655219] [PMCID: PMC9835991] [DOI]
9. Johansen S, Cvancarova M, Ruland C. The Effect of Cancer Patients' and Their Family Caregivers' Physical and Emotional Symptoms on Caregiver Burden. *Cancer Nursing*. 2018;41:91-9. [PMID: 28426539] [DOI]
10. Rodrigo-Baños V, Moral-Pairada Md, González-de Paz L. A Comprehensive Assessment of Informal Caregivers of Patients in a Primary Healthcare Home-Care Program. *International Journal of Environmental Research and Public Health*. 2021;18:11588. [PMID: 34770102] [PMCID: PMC8583293] [DOI]
11. Park Y, Kim Y. The relationship among financial support for offspring caregiving to parents, preparation for their own old age and depression of baby-boomers. *Advance Science and Technology Letters*. 2016;131:78-82. [DOI]
12. Chen P, Fyffe DC, Hreha K. Informal caregivers' burden and stress in caring for stroke survivors with spatial neglect: an exploratory mixed-method study. *Topics in Stroke Rehabilitation*. 2017;24(1):24-33. [PMID: 27216085] [DOI]
13. Soudagar S, Ramid M. Prevalence of depression, anxiety, and stress in caregivers of stroke patients. *Sadra Medical Sciences Journal*. 2018;6(3):185-94.
14. Menon B, Salini P, Habeeba K, Conjeevararam J, Munisumitha K. Female caregivers and stroke severity determines caregivers stress in stroke patients. *Annals of Indian Academy of Neurology*. 2017;20(4):418. [PMID: 29184350] [PMCID: PMC5682751] [DOI]
15. Naderi N, Khalili Y, Ansari-Far A, Ghaddaroust B, Bakhshi A. The impact of supportive interventions on resilience and quality of life in family caregivers of patients with advanced heart failure. *Cardiovascular Nursing Journal*. 2018;7(2):21-33.
16. Baghcheghi N, Kohestani H. Comparing the level of depression and quality of life between hemodialysis patients and their spouses. *Ibn Sina Nursing and Midwifery Care Journal*. 2019(2676-5748).
17. Sun X, Ge J, Meng H, Chen Z, Liu D. The influence of social support and care burden on depression among caregivers of patients with severe mental illness in rural areas of Sichuan, China. *International Journal of Environmental Research and Public Health*. 2019;16(11). [PMID: 31159499] [DOI]
18. Kang L, Ju Y, Zou C. The mediating role of self-efficacy in sleep disorder and depressive symptoms among Chinese caregivers of stroke inpatients: A structural equation modeling analysis. *Neuropsychiatric Disease and Treatment*. 2021:3635-42. [PMID: 34934316] [PMCID: PMC8684603] [DOI]
19. Vesal M, Nazari-Nia M. Predicting depression and sleep quality based on rumination and its components (brooding and reflection) in patients with rheumatoid arthritis. *Thought and Behavior*. 2016;11(41).
20. Amiri Z, Amiri Z. Examining a model for predicting depression based on illness perception and sleep quality mediated by pain catastrophizing in patients with diabetes. *Scientific-Research Quarterly of Diabetes Nursing*. 2016;4(2):48-58.
21. Segrin C, Badger T, Sikarskil A, Crane T, Pace T. A dyadic analysis of stress process in Latinas with breast cancer and their family caregivers. *Psycho-Oncology*. 2018;27(3):838-46. [PMID: 29125677] [DOI]
22. Berking M, Wupperman P. Emotion regulation and mental health: recent findings, current challenges, and future directions. *Current Opinion in Psychiatry*. 2012;25(2):128-34. [PMID: 22262030] [DOI]
23. Saria MG, Nyamathi A, Phillips LR, Stanton AL, Evangelista L, Kesari S, et al. The hidden morbidity of cancer: burden in caregivers of patients with brain metastases. *Nursing Clinics of North America*. 2017;52(1):159-78. [PMID: 28189161] [PMCID: PMC10239524] [DOI]
24. Vehling S, Kissane DW, Lo C, Glaesmer H. The Association of Demoralization With Mental Disorders and Suicidal Ideation in Patients With Cancer. *Cancer*. 2017. [PMID: 28472548] [DOI]
25. Vehling S, Kissane DW. Existential distress in cancer: alleviating suffering from fundamental loss and change. *Psycho-Oncology*. 2018;27(11):2525-30. [PMID: 30307088] [DOI]
26. Luck T, Luck-Sikorski C. Feelings of Guilt in the general adult population: prevalence, intensity and association with depression. *Psychology, Health & Medicine*. 2020;26(9):1143-53. [PMID: 33295786] [DOI]
27. Levinson CA, Byrne M, Rodebaugh TL. Shame and guilt as shared vulnerability factors: Shame but not guilt. Prospectively predicts both social anxiety and bulimic symptoms. *Eating Behaviors*. 2016;22:188-93. [PMID: 27294791] [DOI]
28. Hoffman L. Existential guilt. 2018. [DOI]
29. Sangani A, Khoshvaght N, Azizi L, Abolghasemi-Zadeh M. Modeling obsession and guilt with the mediating role of self-compassion in nurses. *Journal of Psychiatric Nursing*. 2019;7(3):70-8.
30. Brea M, Albar M, Casado-Mejia R. Gendering Guilt among Dependent Family Members' Caregivers. *The Spanish Journal of Psychology*. 2016;19:e80. [PMID: 27852347] [DOI]
31. Miller C. A balancing act: understanding the role of mother guilt and self compassion in health protecting behaviours in mothers with young children. *Frontiers in Psychology*. 2017;12:851937.
32. Farias C, Cardoso M. A ferocidade da culpa na neurose obsessiva: do desamparo a angustia moral. *Psicologia em Estudo*. 2015;20(1):33-44. [DOI]
33. Gambina M, Sharp C. The relations between empathy, guilt, shame and depression in inpatient adolescents. *Journal of Affective Disorders*. 2018;241:381-7. [PMID: 30145508] [DOI]

34. Dale R. Obsessive Compulsive Disorder: Moral reasoning imagery and guilt. 2017.
35. Arian M, Masoumi R, Shojaei. Feeling of shame and guilt in patients with cancer and their family caregivers. *International Journal of Cancer Management*. 2021;14(8):e117159. [DOI]
36. Applebaum A, Kryza M, Bathorn J, Derosa A, Corner G, Diamond E. Existential distress among caregivers of patients with brain tumor: A review of the literature. *Neuro-Oncology Practice*. 2016;3(4):232-44. [PMID: 31385976] [PMCID: PMC6657396] [DOI]
37. Zarghari Y, Mardani M, Mehrabizadeh Honarmand M. Effectiveness of cognitive-behavioral intervention on perfectionism and guilt in students. *Applied Psychology Quarterly*. 2012;6(24):71-85.
38. Aung TNN, Aung MN, Moolphate S, Koyanagi Y, Supakankunti S, Yuasa M. Caregiver Burden and Associated Factors for the Respite Care Needs among the Family Caregivers of Community Dwelling Senior Citizens in Chiang Mai, Northern Thailand. *International Journal of Environmental Research and Public Health*. 2021;18:5873. [PMID: 34070766] [PMCID: PMC8197883] [DOI]
39. Alavi K, Modarres Gharavi M, Amin Yazdi E. Effectiveness of group dialectical behavior therapy on depressive symptoms in students. *Journal of Principles of Mental Health*. 2011;13(2):124-35.
40. Einstein A. Existential guilt and the fear of death. *Palliative and Supportive Care*. 2017;15:509-12. [PMID: 28829012] [PMCID: PMC5597483] [DOI]
41. Farhadi A, Amiri H, Hosseini S. Effectiveness of Adlerian parent education on reducing guilt and psychological well-being in depressed children. *Counseling Research*. 2019;18(71):61-81. [DOI]
42. Sadock B, Sadock V, Ruiz P. Kaplan & Sadock's Synopsis of Psychiatry. Eleventh Edition ed. Tehran: Arjmand Publications; 2015.
43. Dimkov P. Karl Jaspers' boundary situations and psychopathology: alike or distinct? *Evidence-Based Psychiatric Care*. 2020;6:167-71. [DOI]