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Research Article

CORRELATION BETWEEN PSYCHOLOGICAL DISTRESS AND SENSE OF DIGNITY IN TERMINALLY ILL CANCER PATIENTS

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ABSTRACT

Background: Terminally ill cancer patients experience high risks of psychological distress. In this respect, patients' disrupted sense of dignity can cause a number of physical and psychological symptoms. The main objective of the present study was to examine the Correlation between psychological distress and sense of dignity in terminally ill cancer patients. **Methods:** In this descriptive-correlational research, 114 terminally ill cancer patients between January and October 2018 were investigated using convenience sampling method. The data collection instrument included the researcher-made demographic characteristics information and clinical data form, Patient Dignity Inventory by Chochinov et al., and Kessler Psychological Distress Scale (K10). To determine the relationship between psychological distress and sense of dignity and demographic and clinical variables; Pearson correlation coefficient, one-way analysis of variance, and independent-sample t-test were used. **Results:** The results revealed a significantly direct relationship between psychological distress and sense of dignity ($p<0.05$, $r=0.74$). **Conclusions:** It is expected to utilize the results to take actions for reducing levels of psychological distress and enhancing sense of dignity in terminally ill cancer patients. Patients with low sense of dignity can be also referred to the given centers for dignity therapy.

Keywords: Cancer, Dignity, Psychological Distress, Terminally Ill

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INTRODUCTION

Cancer has been acknowledged as the second leading cause of death all over the world and also the main cause of disabilities (1). A terminally ill cancer patient is someone whose disease is progressive and irreversible (2).

So many of cancer patients experience psychological distress from diagnosis to end stages of the disease. Psychological distress can even reduce patients' therapeutic compatibility and have a negative impact on survival rates of cancer patients. In addition, psychological distress can lower patients' quality of life. That is why a large number of cancer specialists allude to psychological distress as the sixth vital sign. Therefore, screening psychological distress is of utmost importance for proper intervention at all stages of cancer (3). Recently, psychological distress has become a public health concern due to a growth in its prevalence rates from 13% to 35% in European countries (4). In this respect, Lee et al. (2018) found that the prevalence rate of psychological distress in patients with gastric cancer was by 28.6% (3). In 2015, Hong et al. also reported that 43.8% of cancer patients were experiencing psychological distress (5). There is evidence that clinical care providers have not received adequate education in this domain to assess and treat this type of distress (6).

On the other hand, one of the essential components of palliative care is respect for human dignity and rights; not considering nationality, race, religion, skin color, age, as well as political and social status. Maintaining dignity of a patient as a human being is also one of the most important principles of professional ethics, and patient rights. So, a patient should be always placed in a human status in treatment cycles and instrumental perspectives on them need to be avoided (7). Illnesses and disabilities can be worrying in terms of loss of individual dignity (8). There are countless situations and conditions at the bedside that can be potentially a threat to human dignity in patients. If patients' sense of dignity is maintained, they can have a sense of comfort, trustworthiness, and value and can consequently make the required decisions on medical-therapeutic care processes. On the contrary; if their dignity is insulted, they experience sense of insecurity and embarrassment, their healthcare outcomes can be affected, and they have to be hospitalized for a longer time (9).

In most cultures, maintaining sense of dignity, especially in the last hours of life, is of utmost importance (10). In 2002, Chochinov et al. reported that 54% of terminally ill patients had a strong and intact sense of dignity, 46% of them expressed occasionally little concern about their dignity, and 7.5% stated that loss of dignity was a serious problem in their life (11). There is little empirical evidence of sense of dignity among dying patients and the relationship between demographic variables, psychological distress, and sense of dignity have been not satisfactorily examined (12). Since no investigation was found concerning the relationship between psychological distress and sense of dignity among terminally ill cancer patients in Iran and given the cultural context of this country, this study was to fill this gap through providing a basis for conducting intervention and applied research in this domain. So, this study was done with the aim of examining the Correlation between psychological distress and sense of dignity in terminally ill cancer patients.

METHODS

In this descriptive-correlational research, 114 terminally ill cancer patients between January and October 2018 were investigated. All the patients referred to the Cancer Institute of Iran, between January and October 2018, were examined.

Sample size was estimated by 110 individuals using a sample size formula for examining the correlation of variables (r=0.35) with regard to α=0.05 and β=0.01 (in which α and β were type-I and type-II errors; respectively). Considering 10% sample loss, 120 individuals were included in this study using convenience sampling method. Individuals who were fluent in the Persian language with no known psychological or cognitive disorders according to physicians' examinations were included in this study. A total number of 6 patients were also removed due to nausea and vomiting, severe pains, excessive fatigue, and being confused. Finally, 114 patients were examined.

This study was performed on terminally ill cancer patients out of those admitted to different wards of the Cancer Institute of Iran located in a large hospital as the main participants.

The data collection instrument in this study included the researcher-made demographic characteristics information and clinical data form, Patient Dignity Inventory (PDI) by Chochinov et al. (2008), and Kessler Psychological Distress Scale (K10) (2002).

The researcher-made demographic characteristics information and clinical data form consisted of items including age, gender, level of education, marital status, employment status, number of children, comorbidity, duration of diagnosis, type of cancer, metastasis, and patient's awareness of having cancer.

Kessler Psychological Distress Scale (K10) (2002) as a global scale measuring psychological distress could be completed by patients based on items about symptoms of depression and anxiety experienced by an individual over the last four weeks. This research instrument had 10 five-option items in which the minimum and maximum scores were 10 and 50; respectively. In this regard, those whose scores were below 20 were likely to be good; and scores 20-24 showed mild psychological distress, scores 25-29 indicated moderate psychological distress, and scores 30 and higher implied severe psychological distress (13).

The researcher-made demographic characteristics information and clinical data form and the Kessler Psychological Distress Scale (K10) (2002) were submitted to 10 professors in this field after translation. They declared their opinions on these instruments, and then the necessary revisions were made; accordingly, the face and content validity of the research instruments were confirmed. The reliability of Kessler Psychological Distress Scale (K10) (2002) was also examined in 19 patients by 0.87, using Cronbach's alpha coefficient.

Patient Dignity Inventory (PDI) designed by Chochinov et al. (2008) derived from the dignity model in terminally ill patients using 25 items scored from 1 (no problem) to 5 (a very big problem). The minimum total score was 25 and the maximum one was 125. Accordingly, higher scores showed more disruption in sense of dignity (12). Validity of this research instrument was confirmed by Borhani et al. in 2014, so that this questionnaire was approved by 10 faculty members of nursing which was cited in this study. The reliability of Patient Dignity Inventory (PDI) (2008) was examined in 19 patients by 0.92 using Cronbach's alpha coefficient.

After obtaining the written approval from the Office of Graduate Affairs and receiving the code of ethics (IR.SBMU.PHNM.1395.685) from the Ethics Committee of Shahid Beheshti University of Medical Sciences on 22 May, 2017; the researcher referred to the Cancer Institute of Iran, handed over a letter of introduction, and acquired a written consent of the authorities of the center. Then; the researcher referred to inpatient wards, introduced oneself, explained research objectives and confidentiality of the information obtained, and identified eligible patients. Following the selection of the study participants, a written consent was obtained from all of them. Afterwards, the questionnaires were completed by the patients anonymously.

The data obtained were analyzed using the SPSS Statistics software (version 22). To determine the relationship between psychological distress and sense of dignity as well as the correlation between psychological distress, sense of dignity, and demographic and clinical variables; Pearson correlation coefficient, one-way analysis of variance (ANOVA), and independent-sample t-test were used. For adjustment of confounding variables, multiple linear regression analysis was used to examine the independent relationship between sense of dignity and demographic variables with psychological distress. In this study, p-value<0.05 was interpreted as a statistically significant relationship.

RESULTS

A total number of 114 terminally ill cancer patients at the fourth stage of cancer were included in this study. The mean age of the participants in the present study was 52.9±14.4 years. Most patients were female (54.4%) and 65.8% of the participants had awareness of having cancer. Other demographic characteristics information was presented in Table 1.

The results of the study showed a significantly direct relationship between psychological distress and sense of dignity (p<0.001, r=0.74). The mean scores of psychological distress and sense of dignity were 24.5±8.5 and 59.7±19.8; respectively.

The results of examining the relationship between psychological distress and sense of dignity considering demographic and clinical variables were illustrated in Tables 2 and 3. The relationship between clinical and demographic variables and sense of dignity with psychological distress by considering the confounding variables is presented in Table 4. Linear regression revealed that the score of psychological distress was 3.37 units higher in participants who were aware of their cancer rather than participants who were not aware of their cancer. In addition, linear regression showed that One-unit increase in the score of sense of dignity caused 0.27 unit increase in score of psychological distress on average.

DISCUSSION

The results of this study revealed a significantly direct relationship between psychological distress and sense of dignity. In the study by Oechsle et al. (2014), a significant relationship was also found between perceived dignity in patients with end-stage diseases and their physical, psychological, and distress-related symptoms (12). It seems that one of the most important needs of terminally ill patients is sense of dignity since they are no longer able to do their daily routines and feel frustrated and embarrassed as others help them. On the other hand, receiving too much attention from others makes them feel sympathized; therefore, psychological distress is more severe when sense of dignity is disrupted.

The results of this study demonstrated that terminally ill cancer patients were suffering from mild psychological distress. In the study by Mthembu et al. (2017), it was reported that almost a quarter out of 25860 individuals with AIDS had experienced psychological distress (14). Fadaeeaghdam et al. (2016) similarly found that patients with diabetes referred to the diabetes clinics had suffered from mild psychological distress (15). Hong et al. (2015), indicated that psychological distress was common among elderly patients with cancer (5). The reason for this consistency was the fact that cancer, diabetes, and AIDS are chronic diseases and infected individuals suffer from them for many years.

The results of this study implied that terminally ill cancer patients had a disrupted sense of dignity on average. In the study by Su et al. (2018), patients hospitalized in intensive care units in the last week of their lives had lost their sense of dignity (16). It was concluded that terminally ill patients in intensive care units have no ability to do their daily routines and they also cope with many verbal communication problems. So, their sense of dignity might be disrupted.

Considering the relationship between demographic variables, psychological distress, and sense of dignity in this study; there was a significantly inverse correlation between age, psychological distress, and sense of dignity; so that, the higher the age of patients, the lower the psychological distress and the higher the sense of dignity. In the studies by Fadaeeaghdam et al. (2016) and Akbari et al. (2005), young people were experiencing more severe psychological distress than older individuals (15, 17). To justify this similarity, it was concluded that young people were more responsive to life stressors and they could consider a chronic disease as an unexpected event, so they had less ability to deal with this type of diseases (15). Attributable to little

knowledge of the nature of their illnesses, corresponding side effects with problems caused by aging, enough life experiences, and more familiarity with the environment and stressors; elderly patients may also have low levels of psychological distress (15, 17). In the study by Avestan et al. (2015), it was reported that patients' sense of dignity had enhanced with aging and young patients had lower sense of dignity. This might be due to the importance of physical appearance, reduced job performance, early death, and insufficient time to reach life goals as young people (18).

Likewise, there was a significant relationship between gender, psychological distress, and sense of dignity. Accordingly, female patients had higher levels of psychological distress and low sense of dignity. In studies by Mthembu et al. (2017), Herschbach et al. (2008), Borhani et al. (2014), and Akbari et al. (2005); psychological distress in female patients was higher than that in men (14, 17, 19, 20). Given the biological characteristics of women and their double duties at home and outside home, high levels of psychological distress could sound logical (17). In the studies by Hong et al. (2015) and Fadaeeaghdam et al. (2016), no significant relationship was reported between gender and psychosocial distress (5, 15) due to various statistical populations together with cultural differences in a choice of cities and countries. Azami et al. (2016), Amininasab et al. (2016), and Borhani et al. (2014) also showed a significant relationship between gender and sense of dignity, in which female patients had low sense of dignity than males (20-22). It was concluded that women suffer from depression and psychological distress more than men. Compared with men, women are much more sensitive towards loss of support and they feel good as they receive it in a naturally positive manner (22).

A significant relationship was also reported between employment status, psychological distress, and sense of dignity. In this regard, students were suffering from the highest levels of psychological distress and self-employed people had the lowest levels. Besides, the employees had the highest sense of dignity and the unemployed patients had the lowest one. It seems natural that students in the present study had higher levels of psychological distress because they had no income and they also had to die without reaching their goals and aspirations. The self-employed people were similarly experiencing low levels of psychological distress because they had no bosses and were not worried about losing their jobs. In this respect; Mashayekhi sardoo et al. (2016), Azami et al. (2016), and Avestan et al. (2015) found a statistically significant relationship between employment status and sense of dignity (23 ,21 ,18) , which were consistent with the results of the present study. It seems that types of jobs can have effects on reducing or increasing social dignity.

There was also a significantly inverse relationship between number of children, psychological distress, and sense of dignity; so that, more children could reduce psychological distress in patients and add to their sense of dignity. It seems that patients having more children were receiving much attention, care, and respect which could lead to a decline in psychological distress. In the present study, patients' children paid more respect to their dignity since they had no hope for their recovery and survival.

Moreover, there was a significant relationship between type of cancer and psychological distress. Patients with reproductive and breast cancers had the highest and the lowest levels of psychological distress; respectively. In the study by Herschbach et al. (2008), patients with gynecological carcinomas also reported the highest levels of psychological distress (19). To justify these results in this study, it was concluded that patients with reproductive cancer were more likely to develop psychological distress because of the shame associated with their genitals. Most patients might also fail to maintain their sex life due to the nature of their disease (reproductive cancer) which could induce psychological distress.

In addition, there was a significant relationship between patients' awareness of having cancer, psychological distress, and sense of dignity. Patients who were aware of their cancer had the highest levels of psychological distress and the lowest sense of dignity. In the study by Chittem et al. (2015), patients who were not aware of their cancer diagnosis had experienced a high level of psychosocial distress (24) which was not consistent with the findings in the present study due to cultural differences in both countries. In Iran, most people are afraid of cancer and consider it as the end stage of their life and thus get frustrated, so they have higher levels of psychological distress and low sense of dignity.

Using three questionnaires in this study led to fatigue as well as disrupted self-reports by the participants. To control this limitation in case of patients' fatigue, time breaks were considered and then again the rest of the questionnaires were completed. Given the small sample size in the Cancer Institute, the sampling process took a long time. Thus, it was suggested to perform the sampling process in numerous healthcare centers in future studies.

CONCLUSION

The researcher hoped to a take steps towards improving quality of life in terminally ill cancer patients through presenting these results to authorities, administrators, and healthcare workers. It is expected to use the results of this study to take actions to reduce psychological distress and increase sense of dignity in terminally ill cancer patients. Patients with low sense of dignity can be also referred to the given centers for dignity therapy. As a whole, such conditions can be prevented through early identification and faster therapeutic interventions for patients at risks of high psychological distress and low sense of dignity.

Abbreviation

PDI: Patient Dignity Inventory

Declaration

Ethics approval and consent to participate

The study was approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences with code of ethics (IR.SBMU.PHNM.1395.685) on 22 May, 2017. All participants provided signed informed consent to participate.

Consent for publication

Not Applicable

Availability of data and materials

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

N.A. and M.P. made a substantial contribution to the concept and design of the work. N.A. and Z.A.B. analysed and interpreted data. M.P. and F.B. revised the article and approved the version to be published. All authors have read and approved the final manuscript.

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REFERENCES

1. Group AS. Health-related quality of life and psychological distress among cancer survivors in Southeast Asia: results from a longitudinal study in eight low-and middle-income countries. BMC medicine. 2017;15(1):10.

2. Hui D, Nooruddin Z, Didwaniya N, Dev R, De La Cruz M, Kim SH, et al. Concepts and definitions for "actively dying,""end of life,""terminally ill,""terminal care," and "transition of care": a systematic review. Journal of pain and symptom management. 2014;47(1):77-89.
3. Lee S, Oh S-T, Lee H, Lee JS, Pak H, Choi W-J, et al. Associated risk factors for psychological distress in patients with gastric epithelial neoplasm undergoing endoscopic submucosal dissection. Medicine. 2018;97(52).
4. Sidorchuk A, Engström K, Johnson CM, Leeoza NK, Möller J. Employment status and psychological distress in a population-based cross-sectional study in Sweden: the impact of migration. BMJ open. 2017;7(4):e014698.
5. Hong J-F, Zhang W, Song Y-X, Xie L-F, Wang W-L. Psychological distress in elderly cancer patients. International Journal of Nursing Sciences. 2015;2(1):23-7.
6. Vuksanovic D, Green HJ, Dyck M, Morrissey SA. Dignity therapy and life review for palliative care patients: a randomized controlled trial. Journal of pain and symptom management. 2017;53(2):162-70. e1.
7. Moraveji M, Yaghmaei F, Bagheri H. Dignity of heart failure patients referred to Zanjan hospitals. Journal Of Health Promotion Management. 2015;4(4):75-83.
8. Albers G, Pasman HRW, Deliens L, de Vet HC, Onwuteaka-Philipsen BD. Does health status affect perceptions of factors influencing dignity at the end of life? Journal of pain and symptom management. 2013;45(6):1030-8.
9. Manookian A, Cheraghi MA, Nikbakht Nasrabadi A, Peiravi H, Shali M. Nurses' lived experiences of preservation of patients' dignity. Iranian Journal of Medical Ethics and History of Medicine. 2014;7(1):22-33.
10. Hemati Z, Ashouri E, AllahBakhshian M, Pourfarzad Z, Shirani F, Safazadeh S, et al. Dying with dignity: a concept analysis. Journal of clinical nursing. 2016;25(9-10):1218-28.
11. Donato SCT, Matuoka JY, Yamashita CC, Salvetti MdG. Effects of dignity therapy on terminally ill patients: a systematic review. Revista da Escola de Enfermagem da USP. 2016;50(6):1014-24.
12. Oechsle K, Wais MC, Vehling S, Bokemeyer C, Mehnert A. Relationship between symptom burden, distress, and sense of dignity in terminally ill cancer patients. Journal of pain and symptom management. 2014;48(3):313-21.
13. Kessler R. Kessler Psychological Distress Scale (K10) 2002 [cited 2017 18 May]. Available from: https://www.tac.vic.gov.au/files-to-move/media/upload/k10_english.pdf.
14. Mthembu J, Mabaso M, Khan G, Simbayi L. Prevalence of psychological distress and its association with socio-demographic and HIV-risk factors in South Africa: findings of the 2012 HIV prevalence, incidence and behaviour survey. SSM-population health. 2017;3:658-62.
15. Fadaeeaghdam N, Ameri M, Rezaie S, Mehravar F, Sadat Hosseini S, Mirhashem B. Assessment of psychological distress and related factors in type 2 diabetic patients in diabetes center of Shahroud University of medical sciences in 2014. Journal of Clinical Nursing and Midwifery. 2017;5(4):13-21.
16. Su A, Lief L, Berlin D, Cooper Z, Ouyang D, Holmes J, et al. Beyond Pain: Nurses' Assessment of Patient Suffering, Dignity, and Dying in the Intensive Care Unit. J Pain Symptom Manage. 2018;55(6):1591-8.e1.
17. Akbari F, Amirabadizadeh H, Poor Reza A, Vagheie Y, Dastjerdi R. Survey of socio-psychological stresses among nurses working in Birjand teaching hospitals in 2004. Journal of Birjand University of Medical Sciences. 2005;12(3-4):66-72.
18. Avestan Z, Rahmani A, Heshmati-Nabavi F, Mogadasian S, Faghani S, Azadi A, et al. Perceptions of Iranian cancer patients regarding respecting their dignity in hospital settings. Asian Pac J Cancer Prev. 2015;16(13):5453-8.
19. Herschbach P, Book K, Brandl T, Keller M, Lindena G, Neuwöhner K, et al. Psychological distress in cancer patients assessed with an expert rating scale. British journal of cancer. 2008;99(1):37.
20. Borhani F, Abbaszadeh A, Moosavi S. Status of human dignity of adult patients admitted to hospitals of Tehran. Journal of medical ethics and history of medicine. 2014;7.
21. Azami M, Mahdian K, Tavan H, Borji M. Assessing Human Dignity of the Patients with Cardiovascular Diseases at Shahid Mostafa Khomeini Hospital in the city of Ilam. Medical Ethics Journal. 2016;10(37):61-8.
22. Amininasab SS, Azimilolaty H, Moosazadeh M, Shafipour V. Studying the Factors Threatening Human Dignity in Patients with Heart Failure. Iranian Journal of Nursing Research. 2016;11(3):82-91.
23. Mashayekhi sardoo A, Borhani F, Abbaszade A. The effect of dignity therapy model on sense of dignity of hemodialysis patients: a randomized clinical trial. Bioethics Journal. 2016;4(13):117-36.
24. Chittem M, Norman P, Harris PR. Illness representations and psychological distress in Indian patients with cancer: does being aware of one's cancer diagnosis make a difference? Psycho-Oncology. 2015;24(12):1694-700.

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Table 1. Demographic and clinical variables in terminally ill cancer patients

Variables		Frequency (percentage)		Variables		Frequency (percentage)
Level of education				Duration of diagnosis		
	Illiterate	31 (27.2)			less than 1 year	37 (32.5)
	Elementary school	25 (21.9)			1-2 years	34 (21.9)
	Middle school	19 (16.7)			More than 2 years	42 (44.7)
	High school diploma	22 (19.3)			Not reported	1 (0.9)
	University degree	17 (14.9)		Type of cancer		
Marital status					Gastric	64 (56.1)
	Single	11 (9.7)			Breast	8 (7)
	Married	83 (72.8)			Lung	7 (6.2)
	Deceased spouse	12 (10.5)			Reproductive	17 (14.9)
	Divorced	8 (7)			Other	18 (15.8)
Employment status				Metastasis		
	Housewife	48 (42.2)			Yes	89 (78.1)
	Retired	17 (14.9)			No	25 (21.9)
	Employee	8 (7)		Number of Children		
	Worker	6 (5.3)			No	19 (16.7)
	Self-employed	20 (17.5)			One	11 (9.6)
	Unemployed	3 (2.6)			Two	22 (19.3)
	Student	4 (3.5)			Three	21 (18.4)
	Others	8 (7)			More than three	41 (36)
Comorbidity						
	Yes	35 (30.7)				
	No	79 (69.3)				

Table 2. Association between demographic and clinical variables, psychological distress, and sense of dignity

Variables		Psychological distress			Sense of dignity	
		Mean (SD)	P-value		Mean (SD)	P-value
Gender			0.001*			0.005*
	Female	27.24 (8.40)			64.29 (22.03)	
	Male	21.34 (7.56)			54.26 (15.48)	
Level of education			0.64			0.81
	Illiterate	22.87 (7.94)			57.51 (16.96)	
	Elementary school	25.08 (8.30)			62.12 (21.35)	
	Middle school	24.10 (7.88)			56.73 (16.05)	
	High school diploma	26.50 (9.84)			60.36 (25.41)	
	University degree	24.82 (9.09)			62.70 (19.79)	
Marital status			0.058			0.69
	Single	29.81 (9.56)			65.45 (24.16)	
	Married	23.31 (8.24)			58.91 (18.95)	
	Deceased spouse	27.16 (8.49)			57.58 (22.26)	
	Divorced	26.25 (7.45)			63.37 (21.85)	

Employment status			0.04*			0.02*
	Housewife	27.08 (8.61)			65.20 (22.78)	
	Retired	21.82 (9.36)			50.82 (13.81)	
	Employee	23.87 (9.62)			50.25 (15.61)	
	Worker	27.50 (5.43)			63.83 (19.05)	
	Self-employed	19.60 (5.75)			51.00 (14.41)	
	Unemployed	24.66 (5.50)			69.33 (6.02)	
	Student	28.25 (10.75)			67.00 (21.21)	
	Other	24.12 (8.00)			66.62 (18.28)	
Comorbidity			0.43			0.69
	Yes	25.48 (8.59)			58.60 (18.03)	
	No	24.13 (8.51)			60.21 (20.74)	
Type of cancer			0.03*			0.34
	Gastric	23.68 (8.37)			58.34 (18.67)	
	Breast	19.62 (4.89)			51.00 (16.75)	
	Lung	25.71 (11.07)			61.42 (28.52)	
	Reproductive	30.00 (7.52)			67.47 (22.81)	
	Other	24.22 (8.48)			60.50 (18.41)	
Metastasis			0.6			0.69
	Yes	24.71 (8.51)			6.08 (20.15)	
	No	23.96 (8.68)			58.40 (19.22)	
Patient's awareness of having cancer			0.006*			0.001*
	Yes	25.28 (8.09)			60.93 (20.45)	
	No	19.57 (6.72)			54.21 (17.30)	

Obtained from independent-sample t-test or ANOVA
*P-value<0.05

Table 3. Correlation between demographic and clinical variables, psychological distress, and sense of dignity

Variables	Minimum	Maximum	Mean (SD)	Psychological distress		Sense of dignity	
				r	P-value[a]	r	P-value[a]
Age (year)	16	82	52.9 (14.4)	-0.262	0.005*	0.266	0.004*
Number of children	0	9	2.92 (2.16)	-0.22	0.01*	-0.18	0.04*
Duration of diagnosis(month)	0.25	192	28.68 (33.29)	0.15	0.1	0.06	0.5

a Obtained from Pearson correlation coefficient
*P-value<0.05

Table 4. Multiple linear regression for the association between sense of dignity and demographic variables with psychological distress

Variables	β (95% Confidence Interval)	P-value
Female	.962 [-1.537, 3.461]	.446
Male	0[a]	
Patient's awareness of having cancer (yes)	3.372 [.524, .6.221]	.021*
Patient's awareness of having cancer (No)	0[a]	
Age	-.012 [-.116, .092]	.817
Number of children	-.129 [-.781, .522]	.694
Sense of dignity	.268 [.207, .328]	.000*
Type of cancer (gastric)	1.872 [-1.432, 5.177]	.263
Type of cancer (breast)	-1.220 [-6.123, 3.684]	.622

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Type of cancer (lung)	.896 [-4.462, 6.254]	.740
Type of cancer (reproductive)	3.827 [-469, 8.124]	.080
Type of cancer (other)	0[a]	

* P-value < .05