Distress and its Correlation with Potential Factors among Patients with Cancer in Vietnam

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Abstract

A cancer diagnosis and treatment are stressful for patients. Evidence has shown that the prevalence of mental health problems among cancer patients is very high globally. To our knowledge, there are no studies related to cancer diagnosis and treatment in Vietnam, where the rate of death caused by cancer is at the 50th in the world. This study investigates the prevalence of distress and its correlations with potential factors among Vietnamese cancer patients. This is a cross-sectional study using a self-report questionnaire for cancer patients focused on examining socio-demographic characteristics, satisfaction with current marital status, current job, life in general, cancer-related distress, diagnosis, cancer stage, acceptance of illness, treatment methods, and perceived social support. The prevalence of distress among cancer patients was very high (91.7%). There were significantly higher distress scores in patients living in rural areas and not receiving chemotherapy and radiotherapy. Patients with higher satisfaction with their current employment status or satisfaction with life were less likely to have psychological distress. The patients' belief in treatment methods and cancer also reduced the risk of experiencing distress. Rural Vietnamese cancer patients impacted by social determinants of health along with cancer-related factors might be experiencing higher psychological distress.

Keywords: Cancer, Distress, Social Support, Low-Middle-Income Country, Vietnam

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Introduction

A cancer diagnosis and treatment are stressful for patients and their families. For example, in China, 15.8% of cancer patients were diagnosed with depression, anxiety, or stress (Song, Li, Lu, Deng, & Sun, 2013). Some studies even indicated that approximately one-third to half of the cancer patients had at least one psychological disorder (Gregurek, Bras, Dordevic, & Brajkovic, 2010). A systematic review found that the prevalence of distress was around one in five, higher than the rate of one in eight in general population controls (Smith, et al, 2018). Mental disorders are usually associated with cancer's increasing feelings of pain, lack of sleep, and low quality of life (Stark & House, 2000). Mental health challenges may negatively impact the effectiveness of treatment, long-term health, and survival rate and increase treatment costs among cancer patients (Gregurek et al, 2010; Jacobsen, 2007; Sarnam, 2002). Many factors were identified to influence the development of mental health problems, including distress among cancer patients (Pitman, Suleman, Hyde, & Hodgkiss, 2018). Individual factors that might impact mental problems in cancer patients include socio-demographic factors such as age, sex, unemployment, lower education, and lack of social support (Niedzwiedz, Knifton, Robb, Katikireddi, & Smith, 2019; Wen, Xiao, & Yang, 2019). One study revealed that mental illness might be influenced by treatment costs or family incomes (Lu, O'Sullivan, & Sharp, 2019). How people react to cancer diagnosis and acceptance of cancer are also identified as the source of distress (Ball, Moore, & Leary 2016). Cancer-related factors such as diagnosis, stage of cancer, and cancer treatments impact the prevalence of depression, distress, and anxiety (Smith, 2015).

Vietnam, a Southeast Asian country ranks 16th with the highest prevalence of cancer in Asia and ranks 99th globally. The number of cancer patients in Vietnam has increased with 182,563 new oncology cases and 122,690 death cancer morality cases (Ministry of Health of Vietnam, 2021). Furthermore, mental health and psycho-social problems have also increased in Vietnam. Early diagnosis and intervention in mental illness for cancer can increase the survival rate for them and reduce the burden for family members or caregivers. However, to our knowledge, there is no evidence in Vietnam about the prevalence of mental illness and its potential impact factors among oncology patients. This study aims to investigate the prevalence of distress and its correlations with potential social factors among Vietnamese cancer patients.

Methods

Participants

This is a cross-sectional study, approved by the ethics board at Oncology Hospital Ho Chi Minh city (Decision number 184/BVUB-HDDD, date 11/01/2021). Potential participants were introduced by doctors at the Oncology Hospital Ho Chi Minh City, Vietnam, one of the largest hospitals in oncology. Information about the study's purposes, participants' rights, and personal issues were distributed to eligible cancer patients. Participants were excluded if they were illiterate or experiencing severe physical symptoms. Patients were provided informed consent to complete a questionnaire about cancer experiences and mental health. Only completed data were included in the analysis. Each patient received small compensation for participating in the study, equal to one-day of work.

Measures

Social-demographic and clinical characteristics

Socio-demographic information included sex, age, residence location, ethnicity, religion, education level, marital status, employment status, family's economic status, and number of dependent children. In addition, satisfaction of marital, employment status, and satisfaction of life were measured by asking single items: "*To what extent are you satisfied with your current marital status?*," "*To what extent are you satisfied with your current employment?*," and "*To what extent are you satisfied with your life.*" Clinical characteristics included stage of

cancer, time since cancer diagnosis, received treatment methods, using analgesic or not, history of other diseases (diagnosed by doctors).

Cancer-related distress

Cancer-related distress was assessed using the General Health Questionnaire 12 items (GHQ-12) (Goldberg & Williams, 1988), designed to diagnose the psychiatric disorder in community settings. This questionnaire asks respondents about their experience of 12 indicators of stress, including loss of sleep due to worry and losing confidence. The scores were coded using the Likert form, with all items coded 0-1-2-3. For positive items, responses were 0 = much less than usual, 1 = less than usual, 2 = same as usual, and 3 = more than usual). For negative items, its codes were 0 = not at all, 1 = no more than usual, 2 = rather more than usual, and 3 = much more than usual. The GHQ-12 has been validated for use among adults in Vietnam (Tran, T.D., Tran, T, & Fisher, 2012). The total scores named "GHQ-12 total score" range from 0 to 36. We used the cut-off point of four, in which those who had four or more symptoms were considered experiencing distress (Brasher, Dew, Kilminster, & Bridger, 2009; Lesage, et al, 2011).

Perceived social support

Perceived social support was assessed by using the Multidimensional Scale of Perceived Social Support (MSPSS). The scale includes 12 items addressing relationships with patients' family, friends, and a significant other (special friend). Each item has seven options, ranging from *strongly disagree* (1) to *strong agree* (7) (Zimet, G.D., Dahlen, Zimet, S.G.,& Farley, 1988). The score ranged from 12 to 84. The high score indicates that the patients received strong social support.

Acceptance of illness

Cancer acceptance was assessed by the Acceptance of Illness Scale (AIS), which is an eight-item questionnaire developed for measuring any disease acceptance in adults. Each item scores from 1 to 5, in which 1 is totally agrees and 5 is totally disagree. The total AIS score ranges from 8 to 40. The low score indicates the low acceptance of cancer, lack of adjustment, no acceptance to the current condition, and mental discomfort. The high score shows good cancer acceptance (Felton, Revenson, & Hinrichsen, 1984).

Satisfaction with life

Satisfaction with life in cancer patients was assessed using the 5-item Satisfaction with Life Scale (SWL) (Pavot & Diener, 1993). Response for each item is designed in 7-point Likert style. The total score ranges from 5 to 35.

Statistical analysis

Descriptive statistics were used to present mean and standardized deviation (SD) for continuous variables and percentages for categorical variables. The difference in cancer-related distress among groups was examined by Independent Sample *t-test* or One-way ANOVA. The contribution of potential factors (including socio-demographic characteristics, employment, clinical information, acceptance of illness, social support, and life satisfaction) to cancer-related distress (GHQ-12 total score) was examined using bivariate analysis. The level of significance was set at .05 and SPSS 22.0 was used to perform all analysis.

Results

Socio-demographic and clinical information of participants

In total, 415 patients were invited to participate based on the doctors' introduction list and 254 cancer patients completed the questionnaire, reaching the response rate 61.2%. Due to missing key information, 24 patients were excluded from the data analysis. The average age of patients was 44.12 ± 8.57 (range 20-60). Most participants were female (83.5%) and self-described Kinh (88.7%). Nearly half of the respondents practiced Buddhism (43.0%). More than half of the patients were living in the urban area (55.3%). Only 36.1% of participants graduated college or higher and 62.6% of the patients were married. More than half of them (59.6%) were unemployed or retired and nearly half of patients (46.1%) had at least one child under 15 years old (see Table 1).

There were 18.3% patients having cancer at stage 1, 40.0% at stage 2, 27.0% at stage 3 and 10.0% at stage 4. More than half of the correspondents were diagnosed with cancer less than six months ago. 54.8% of the patients received chemotherapy, while 21.3% received radiotherapy and 17.4% surgery. 43.9% of participants received analgesics. Most of the patients did not have a history of other diseases (73.9%) (see Table 1).

Cancer-related distress

Cancer-related distress was prevalent among patients with cancer (91.7%; Mean, SD: 15.41 ± 7.73, Min-Max: 0-36). There was a significant difference in distress among patients living in rural and urban areas (see Table 2). Those who live in urban areas suffered lower distress than those from rural areas (t = 2.65). A statistically significant difference between groups of patients who received different treatment methods was found by one-way ANOVA (F (3, 226) = 2.77, p < .01). A post hoc test revealed that patients who received other treatment methods (such as medicine, immunotherapy, or endocrine) had statistically significantly higher distress compared to those who received chemotherapy (15.02 ± 7.01 min, p = .04) and radiotherapy (14.29 ± 8.17, p = .03). Distress scores showed no differences regarding age, sex, ethnics, religion, educational level, marital status, employment status, family's economic income, number of dependent children, stage of cancer, time since diagnosis, analgesic use having a history of other diseases or not (see Table 2).

Associations between distress and feelings about life, knowledge about cancer, and belief in treatment methods

Pearson correlation was used to examine the correlation between distress of cancer patients and their feelings about life, knowledge about cancer, and belief in treatment methods. Patients' feelings about life included satisfaction with current marital status, employment status, and life in general. Patients' knowledge and belief about cancer included their knowledge about cancer in general, their acceptance of cancer, their self-belief in treatment method, and being cured of cancer (see Table 3). Results showed that distress in cancer patients was negatively correlated to satisfaction with current employment status (r = -0.30, p < 0.01), satisfaction with life in general (r = -0.29, p < 0.01), their acceptance of cancer (r = -0.18, p < 0.01), patients' belief in received treatment methods (r = -0.21, p < 0.01), and their belief in cancer cured (r = -0.27, p < 0.01). There was no statistically correlation between distress and satisfaction with current marital status and their knowledge about cancer.

Associations between distress and perceived social support

Social support from family, friends and others toward cancer patients was assessed in this study. Findings revealed no correlation between distress and the level of social support that the patients had.

Discussion

This study aimed examined the prevalence of distress and its determinants among patients with cancer in Vietnam. Findings revealed that most cancer patients were having symptoms of distress. The surprisingly high rate of distress suggests emergency mental health support for cancer patients. This prevalence was much higher than that among cancer patients in other countries. For example, the study of Song et. al (2013) reported that only 1.8-13% of 2,279 Chinese cancer patients had symptoms of mental illness (1). A systematic review study of Walker et al. (2013) and a meta-analysis of depression among adults with cancer by Krebber et al. (2014) revealed the prevalence of mental illness ranged from 4 to 49%. The highest distress prevalence found was 56% to 80% (Secinti, Tometich, Johns, & Mosher, 2019; van den Beuken-van Everdingen et al, 2008). The difference between these studies and ours might differ in used instruments for assessing mental illness.

Evidence has shown that people living in urban areas usually had higher mental health problems than those living in rural areas due to the higher pressure of work, polluted and rapid everyday life (Liu, et al, 2021). However, findings in this study show different results, in which patients who are living in urban areas seemed to have less symptoms of distress than those living in rural areas.

Furthermore, received treatment methods had a significant impact on distress among cancer patients. Those who received chemotherapy and radiotherapy were likely to have lower symptoms of distress than patients

with other treatments. In addition, higher satisfaction with current employment status and life satisfaction might reduce the risk of distress in cancer patients. Due to the high cost of cancer treatment, it might be understandable that the patients were not worried much about the financial issue if they had a current job. For those who were unemployed or retired, the worries of expenditure for treatment cancer might increase symptoms of distress among patients. This study showed that patients with higher satisfaction of life had lower symptoms of distress regarding satisfaction of life. This finding was in line with previous evidence that satisfaction of life reduces the risk of having mental health problems among the general population and patients (Koivumaa-Honkanen, et al, 2008).

This study found that patients with high acceptance cancer were likely to have fewer symptoms of distress. Acceptance of illness is a major issue in a cancer patient's life. It reduced the severity of negative emotions concerning illness (Dijkstra, Buunk, Toth, & Jager, 2008) or reduced symptoms of cancer-related distress (Peters, Goedendorp, Verhagen, van der Graaf, & Bleijenberg, 2014). Acceptance of cancer might change how patients feel about the disease status. Furthermore, acceptance of cancer helped patients more active in using positive coping strategies rather than refuse or delay the treatment (Secinti, 2019). The belief of a patient in treatment strategies from doctors and being released from cancer also reduced the symptoms of distress. These beliefs encourage them to be involved in treatment activities, obeying doctors and nurses' instructions, accepting family members' special caring, and being more active in treatment decision-making based on clinical advice (Secinti, 2019).

Our study found no association between distress in cancer patients and perceived social support that they received from family or friends. This finding was different from another study, which identified that support from family was essential to the mental health of cancer patients (Shrestha, et al, 2017). The difference might come from the disparity in sample size and characteristics in this study.

To our knowledge little mental health treatment and support is provided for Vietnam cancer patients in hospital settings. Our findings provide strong practical evidence about the high prevalence of mental health problems in Vietnamese cancer patients. Furthermore, our findings may help cancer patients in Vietnam understand their risk of mental health problems during the treatment and recovery which in turn might reduce the risk of developing serious symptoms of mental illness.

We acknowledge that our study has some limitations. First, this is a cross-sectional study. Therefore, causality could not be inferred from the findings. Further studies should be conducted. Second, the distress scale used in this study was administered via self-report. The clinical instrument might be re-checked in future studies. Third, other mental health problems such as depression, anxiety, and stress were not examined. Fourth, the sample size in this study was small and participants were recruited from one hospital, which limited our ability to generalized to the larger population of cancer patients.

Conclusion

The mental health of people living with cancer has been truly examined in Vietnam. Compared to the general population and cancer patients in other countries, the prevalence of distress among cancer patients in Vietnam was much higher. Vietnamese cancer patients are also affected by many factors related to individual, familial, and cancer-related factors that might increase the prevalence of distress. It is important to take care of mental health of patients with cancer to help them coping as well and reduce distress to caregivers or family members.

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Declaration of Conflicting Interests:

There are no conflicts of interest to disclose.

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Table 1. Socio-demographic and clinical information of cancer patients (N = 230)

Variables	Number (n)	Percentage (%)
Age (Mean ± SD)		
	44.12 ± 8.57 (Min: 20, Max: 60)	
Sex		
Men	38	16.5
Women	192	83.5
Ethnics		
Kinh	204	88.7
Others	26	11.3
Religious		
None	92	40.0
Buddha	99	43.0
Others	39	17.0
Residence location		
Rural	103	44.7
Urban	127	55.3
Educational level		
Junior school or lower	147	63.9
High school	45	19.6
College or above	38	16.5
Marital status		
Married	144	62.6
Unmarried/Others	86	37.4
Employment status		
Employed/Self-employed	93	40.4
Unemployed/Retire	137	59.6
Family's economy income		
< 5 million VND	121	52.6
5-10 million VND	67	29.1
>10 – 15 million VND	39	17.0
>15 million VND	3	1.3
Number of dependent child (<15 years old)		
None	124	53.9
One	59	25.7
Two	40	17.4
> Two	7	3.0

Table 1. Continued

Variables	Number (n)	Percentage (%)
Stage of cancer		
Stage 1	42	18.3
Stage 2	92	40.0
Stage 3	62	27.0
Stage 4	23	10.0
Time since diagnosis		
0-6 months ago	123	53.5
6-12 months ago	56	24.3
12-18 months ago	11	4.8
18-24 months ago	5	2.2
>24 months ago	35	15.2
Received treatment		
Radiotherapy (Yes)	49	21.3
Chemotherapy (Yes)	126	54.8
Surgery (Yes)	40	17.4
Others (Yes)	15	6.5
Analgesic		
Yes	101	43.9
No	118	51.3
Do not know	11	4.8
History of other diseases		
Yes	60	26.1
No	170	73.9

Table 2. Cancer-related distress among cancer patients in Vietnam (N=230)[1]

Contents	Groups		Distress	
			Mean (SD)	t(230)
Sex		Male	16.18 ± 6.69	0.67
		Female	15.26 ± 7.93	
Ethnics		Kinh	15.36 ± 7.85	-0.30
		Others	15.85 ± 6.85	
Residence location		Rural	16.89 ± 8.22	**2.65****
		Urban	14.21 ± 7.12	
Marital status		Married	15.63 ± 7.79	0.54
		Unmarried/Others	15.06 ± 7.66	
Employment status		Unemployed/ Retire	16.05 ± 7.59	1.52
		Employed/ Self-employed	14.47 ± 7.88	
History of other diseases		Yes	15.77 ± 8.56	0.41
		No	15.29 ± 7.44	
Contents	**Groups**		**Distress**	
			Mean (SD)	**F (2, 227)**
Educational level	Junior school or below	Junior school or below	16,07 ± 7,39	-
		High school	14,36 ± 8,08	1,72
		College and above	14,11 ± 8,49	1,97
	High school	College or above		0,25
Received treatment	Chemotherapy	Chemotherapy	15,02 ± 7,10	-
		Radiotherapy	14,29 ± 8,17	0,74
		Surgery	16,13 ± 8,46	-1,10
		Others	20,47 ± 8,06	**-5,44***
	Radiotherapy	Surgery		-1,84
		Others		**-6,18***
	Surgery	Others		-4,34
Analgesic	Yes	Yes	16,64 ± 7,90	-
		No	14,26 ± 7,59	2,38
		Do not know	16,45 ± 6,25	0,19
	No	Do not know		-2,19

1 *Only statistical significant factors are presented in the table; * p < 0,05; ** p < 0,01*

Table 3. The associations between distress among cancer patients and different factors (N = 230)

Variables	Mean (SD)	Distress
Satisfaction with marital status	6.67 ± 2.81	-0.13
Satisfaction with current job	5.20 ± 2.85	-0.30**
Satisfaction with life	6.13 ± 2.42	-0.29**
Acceptance of illness	21.73 ± 8.45	-0.18**
Self-knowledge about cancer	7.84 ± 2.20	-0.11
Self-belief in treatment method	6.42 ± 2.08	-0.21**
Self-belief in cancer cured	6.57 ± 2.42	-0.27**
Perceived social support	66.38 ± 13.17	-0.07
Distress	15.41 ± 7.73	1.00

** $p < 0,05$; ** $p < 0,01$*