Frequency of psychological distress in gynecologic cancer patients seen in a large urban medical center

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ABSTRACT

Psychological distress in cancer is a well-documented phenomenon, but additional information is needed about demographic and disease correlates in diverse populations with different forms of cancer. This study focused on gynecologic cancers. Using the Distress Thermometer and the Hospital Anxiety and Depression Scale, this study examined distress levels in 94 women with gynecologic cancer who were being treated as outpatients at a large urban medical center. The distress levels in this sample were lower than in comparable studies, raising questions about openness to reporting distress. Those who reported higher levels of distress were more likely to also report a mental health diagnosis or psychiatric medication. This suggests that an alternate form for distress screening may involve inquiring about mental health treatment. In this sample, younger women and those with higher educational achievement or private health insurance had higher levels of distress. Conversely, there were no relations between distress levels and disease characteristics, indicating that, for example, women with early stage disease have just as much risk of distress as those with later-stage disease.

KEYWORDS Distress; gynecologic cancer; mental health; oncology

In 2017, there were an estimated 107,470 new cases of gynecologic cancers in the United States.¹ These cancers present not only a serious threat to life² but also a serious threat to quality of life, because psychological distress is increasingly documented in gynecologic cancer.^{3–5} Cancer patients with high distress are at risk of becoming treatment nonadherent,⁶ of overutilizing emergency resources,⁷ and of engaging in unhealthy coping behaviors.⁸ In cancer patients, distress is also associated with reduced immune functioning⁹ and with increased mortality risk, even when adjusting for disease prognosis.^{10–12} Distress screening is therefore considered an essential standard of care in oncology.^{13–15} The present study examined demographic and disease correlates of distress in gynecologic cancer patients at Baylor University Medical Center (BUMC). The goals of this study were to highlight factors that relate to distress in this sample and to help develop best practices in distress screening.

METHODS

After receiving approval from the institutional review board, research assistants recruited participants from the Texas

Oncology gynecologic oncology outpatient clinic at BUMC. Patients were eligible for the study if they were being treated by an oncologist in the clinic for a gynecologic cancer, and they were excluded if they were unable to communicate in English or if they had a known IQ of <70. Prospective participants were made aware of the study in three ways: (a) an introduction letter describing the study was included in their clinic paperwork; (b) their oncologists provided information about the study during routine clinic visits; and (c) research assistants presented information about the study at a support group. Research assistants scheduled separate appointments during which participants completed informed consent and study questionnaires.

Participants completed two measures: the Distress Thermometer and Problem List (DT)¹⁶ and the Hospital Anxiety and Depression Scale (HADS).¹⁷ DT is accepted as a gold standard distress screening questionnaire in oncology patients.¹³ It contains two components: a single-item scale that measures subjective distress on a scale from 1 to 10 and an accompanying problem list that asks respondents to identify the causes of distress.¹³ HADS is a 14-item measure of anxiety

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and depression in medical settings. It is widely used in oncology samples as a measure of distress with robust validity and reliability.⁴ The measure also includes two subscales, one for anxiety (HADS-A) and one for depression (HADS-D).¹⁷

Participants also completed demographic and mental health information forms. The demographic form included items about age, education, marital status, living situation, ethnicity, household income, employment, and insurance. The mental health information form included questions to assess current and previous mental health diagnostic and treatment history, family mental health history, and current and previous interest in or use of psychosocial services. Additionally, research assistants extracted the following disease characteristics from participants' medical records: type of cancer, International Federation of Gynecology and Obstetrics (FIGO) stage, months since diagnosis, disease status, treatment history, recurrence history, Karnofsky performance score, and Eastern Cooperative Oncology Group/Zubrod scores. Research assistants also offered referrals for psychosocial services as indicated.

Means and standard deviations are provided for the approximately normally distributed continuous measures, and number and percentage are provided for the categorical measures. Spearman rank order correlations (ρ) explored the relation between the two distress measures (DT and HADS). Spearman's ρ was used to explore the relation between the distress measures and the continuous measures of patient demographic and disease characteristics. Kruskal-Wallis or Mann-Whitney U tests, as appropriate, were used to examine categorical group differences (demographic, disease, and mental health characteristics) for the continuous measures DT and HADS. The number of observations for several categories of race/ethnicity, insurance, and mental health diagnosis type were too small to conduct comparisons; these measures were dichotomized into non-Hispanic versus other, private versus other, and none versus one or more, respectively. IBM SPSS version 24 was used to conduct these analyses, and significance was set at $P < 0.05$.

RESULTS

A total of 94 women with gynecologic cancer participated in the study. Their ages ranged from 27 to 83 ($M = 59.9$, $SD = 13.0$). Most (85%) were non-Hispanic white, and 35% reported an annual household income of over \$100,000. *Table 1* summarizes additional demographic information.

The most common cancer diagnosis in the sample was ovarian (46%), followed by uterine (22%). Half of the sample had stage 1 or 2 cancer, and half had stage 3 or 4. Time since initial gynecologic cancer diagnosis ranged from 1 month to 381 months (31.75 years), with a median of 20 months since diagnosis. Recurrent cancer was present in 17% of the sample ($n = 16$), and 32% ($n = 30$) were undergoing chemotherapy at the time of the study. *Table 2* provides additional disease characteristics.

As shown in *Table 3*, slightly more than half of the sample (51%) reported a mental health diagnosis, such as depression (20%) or comorbid anxiety and depression (17%), among others. In addition, 19% reported current psychological

Table 1. Demographic characteristics ($N = 94$)

Variable	<i>n</i>	%
Ethnicity/race		
Hispanic		
White	7	7%
Non-Hispanic		
White	80	85%
Black	5	5%
Asian	1	1%
East Indian	1	1%
Education		
Some high school	1	1%
High school graduate	10	11%
Some college	33	35%
College graduate	23	25%
Some graduate school	10	11%
Graduate degree	17	18%
Employment		
Retired	31	33%
Employed full-time	28	30%
Employed part-time	12	13%
Medical leave of absence	10	11%
Homemaker	7	7%
Disability	6	6%
Annual household income ^a		
\$20,000–\$29,999	4	4%
\$30,000–\$39,999	9	10%
\$40,000–\$49,999	9	10%
\$50,000–\$59,999	6	6%
\$60,000–\$69,999	6	6%
\$70,000–\$79,999	6	6%
\$80,000–\$89,999	6	6%
\$90,000–\$99,999	13	14%
>\$100,000	33	35%
Insurance		
Private	86	92%
Medicare	6	6%
Medicaid	1	1%
Self-pay	1	1%
Living with partner	58	62%

^aIncome missing = 2.

treatment such as psychotherapy, and 43% reported current psychiatric medication management.

Table 4 presents the scores of the distress screening measures. The average DT score was 3.7, with an average of 6.51 problems selected from the problem list. The average HADS-A score was 5.46, and the average HADS-D score was 3.35. The DT scores were significantly and positively correlated with the HADS Anxiety, Depression, and Total scores (range for ρ : 0.400 to 0.707, $P < 0.001$ for all), indicating that participants with more distress as measured by the DT also had more anxiety and depression symptoms as measured by the HADS. The DT and HADS scores were all lower than those in comparable studies of distress in gynecologic cancer patients.^{4,5,18}

No significant relations were found between DT or HADS scores and the following demographic variables: race/ethnicity, employment, income, and living with partner. For Total DT, the Spearman's ρ for education was significantly ($P = 0.011$) and positively related to DT. Those with private insurance had higher scores on the DT compared to those with

Table 2. Disease characteristics at the time of enrollment

Variable	<i>n</i>	%
Primary cancer diagnosis		
Ovarian	43	46%
Uterine	21	22%
Cervical	14	15%
Endometrial	11	12%
Peritoneal	4	4%
Vulvar	1	1%
FIGO stage		
1	38	40%
2	9	10%
3	31	33%
4	16	17%
Cancer treatment history		
Surgery only	18	19%
Chemotherapy only	4	4%
Chemotherapy + radiation	3	3%
Surgery + chemotherapy	43	46%
Surgery + radiation	7	7%
Surgery + chemotherapy + radiation	19	20%
Current chemotherapy treatment	30	32%
Recurrent cancer	16	17%

FIGO indicates International Federation of Gynecology and Obstetrics.

other types of insurance ($P = 0.020$). Age was found to be significantly and negatively related to all distress measures except HADS Depression (rho range: -0.286 to -0.223 , maximum $P < 0.031$), indicating that those who were older were less distressed than those who were younger. No significant relations were found between DT or HADS scores and the disease characteristics FIGO stage, treatment history, current chemotherapy, recurrence, or months since gynecologic cancer diagnosis. In other words, factors specific to the participants' disease had no significant relation with their distress levels.

Significant relations were found between distress levels and mental health. Mann-Whitney U tests showed that the presence of a mental health diagnosis was significantly related to greater distress on HADS-A ($P < 0.001$), HADS-D ($P = 0.009$), HADS Total ($P < 0.001$), DT ($P < 0.001$), and DT Problem List scores ($P = 0.010$), compared to the absence of a mental health diagnosis. Similarly, Mann-Whitney U tests showed that those currently taking psychiatric medication also

Table 3. Mental health characteristics at the time of enrollment

Variable	<i>n</i>	%
Mental health diagnosis	48	51%
Diagnosis type		
None	46	49%
Anxiety only	6	6%
Depression only	19	20%
Substance abuse only	1	1%
Anxiety + depression	16	17%
Depression + substance abuse	2	2%
Depression + sleep disorder	1	1%
Anxiety + depression + substance abuse	3	3%
Current psychiatric medication	40	43%
Current psychological treatment	18	19%

Table 4. Distress screening scores ($N = 94$)

Measure	M (SD)	Median (range)
DT	3.71 (2.82)	3 (0–10)
DT Problem List	6.51 (4.74)	6 (0–23)
HADS Anxiety	5.46 (3.99)	5 (0–17)
HADS Depression	3.35 (2.91)	2 (0–13)
HADS Total	8.81 (6.05)	8 (0–30)

DT indicates Distress Thermometer; HADS, Hospital Anxiety and Depression Scale.

had greater distress on HADS-D ($P = 0.008$), HADS Total ($P = 0.019$), DT ($P = 0.003$), and DT Problem List scores ($P = 0.031$).

DISCUSSION

This study examined distress levels in a sample of women with gynecologic cancer at BUMC. Reported distress levels were lower than those in comparable studies. Compared with this study's average DT score of 3.71, for example, Reid and colleagues¹⁸ reported an average DT score of 5.7 in their study of ovarian cancer patients. They also reported 8 DT problems selected, whereas our study found an average of only 6.51.¹⁸ Similarly, our study found average HADS-A and HADS-D scores of 5.46 and 3.35, respectively, which are notably lower than the average 10.1 and 5.5 reported by Mielcarek and colleagues⁵ or the 8.70 and 10.77 reported by Hwang and colleagues,⁴ both of which examined samples similar to our own.

There could be several possible explanations for the lower distress levels in our study. For example, our participants may have psychologically benefited from the multidisciplinary teams or cancer navigators offered at BUMC. However, similar resources are offered at other institutions and, as such, it seems unlikely that our sample was simply less distressed than others. There is also no indication that participants in other studies overreported distress. Instead, we might consider that our sample underreported distress, because this could be supported by the association found between mental health variables and distress in our study.

In our study, participants who reported mental health problems (either a mental health diagnosis or psychiatric medication) were more likely to endorse higher levels of distress. This suggests that our distress-endorsing participants might have been a self-selecting group: those who chose to report mental health histories may have been more open in reporting their distress. Conversely, those who did not disclose psychiatric illness may have been more inclined to minimize distress, perhaps due to widespread stigma associated with mental health problems.¹⁹

There are several notable clinical implications of this study. This association between mental health problems and distress, though intuitive, has not been widely reported in other studies. Inquiring about mental health diagnoses and/or psychiatric medications may be an additional way that clinicians could screen for distress. Another novel finding of this study is that

women with private health insurance or higher education had higher distress levels, which may also reflect an openness to reporting distress. Another possible explanation is that high-functioning women with gynecologic cancer are at heightened risk of feeling blindsided by the diagnosis or isolated from their peers.

Clinicians may also note that younger women were found to have higher levels of distress in this sample, a finding supported by other research.^{20,21} Younger women with gynecologic cancer may struggle with sexual intimacy, fertility concerns, and fear of a premature death more than their senior counterparts; as such, special care should be given to their psychological well-being. Conversely, our study found no correlations between distress and disease variables, which is divergent from literature that documents a correlation between distress and worse disease prognosis.^{10,21} Our findings suggest that women with early stage gynecologic cancer have just as much risk for psychological distress as those with late-stage disease, indicating the need for psychological screening regardless of disease progression.

Several limitations of this study should be noted. This research was conducted at only one hospital with a predominantly white and high socioeconomic sample. As such, the generalizability of this study is limited. Although this study sampled patients at various stages in their illnesses, it did not follow them longitudinally to detect changes in distress over time. As previously mentioned, this study also did not measure perceived mental health stigma. Therefore, conclusions about possible underreporting of distress remain speculative until further research is conducted on this matter.

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