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# Breast and gynecological cancer patients' risk factors associated with biopsychosocial problem-related distress

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### Abstract

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**Objectives:** Inequalities exist between breast and gynecological cancer patients' experiences, leading to high levels of distress throughout the cancer journey. The present study aims to identify differences in source of biopsychosocial problem-related distress between women diagnosed with breast or gynecological cancers.

**Methods:** From 2009 to 2016, women with breast (n = 2111) and gynecological (n = 641) cancers were screened using the core items of the instrument *You*, *Your Family, and City of Hope are a Team.* This is a touch screen-based instrument that assess problem-related distress due to physical, practical, functional, emotional, and other problems and identifies types of assistance requested. Data were analyzed using the linear regression model.

**Results:** A significant difference in overall biopsychosocial problems rated as high distress was found between breast (M = 5.0) and gynecological (M = 6.2) cancer patients (P < .001). Gynecological cancer patients endorsed a greater number of problems to *talk with a member of the team* (alone or with *written information*), while both cancer groups requested *written information* equally. Gynecological cancer was associated with higher physical, functional, emotional, and total distress. Younger patients, non-Asian, and those with lower education and lower household income also reported greater distress.

**Conclusions:** Gynecological cancer patients represent a high-risk group, reporting greater problem-related distress and higher levels of requested assistance. Age, education, race/ethnicity, and income were found to be potential risk factors. Findings highlight the importance of considering characteristics and special needs related to specific types of cancer to assist in the effective treatment of distress throughout the continuum of care.

#### KEYWORDS

breast cancer, cancer, distress, distress screening, gynecological cancer, oncology, psychosocial assistance

# 1 | BACKGROUND

An extensive body of research has documented high levels of distress related to different types of biopsychosocial problems, such as practical, physical, emotional, social, functional, and spiritual, as associated with cancer<sup>1,2</sup> and the consequent impairment of quality of life.<sup>3</sup> Evidence suggests that factors such as gender and age,<sup>4,5</sup> type of cancer,<sup>1,6</sup> disease stage,<sup>7,8</sup> treatment modalities,<sup>9</sup> phase of treatment,<sup>10,11</sup> and perceived social support<sup>6,12,13</sup> can impact

patients' psychosocial well-being. Cancer-related distress can also be exacerbated by social stigmatization that still exists concerning certain types of cancer. $^{10}$ 

Given the differences in the pathophysiology, treatment, and disease trajectories of breast (BC) and gynecological (GYN) cancers and the disparities in socio-cultural experiences, differences may emerge between these 2 groups regarding types of biopsychosocial problem-related distress and self-reported need for help.<sup>14</sup> In many countries, female breasts are more acceptable for social discourse

and a status symbol. Breasts are also strongly related to maternal caring via breast-feeding of infants. At the same time, female genitals (especially the vagina and internal organs) are still seen as "unclean" (associated with excretory functions) and a taboo topic for social settings.<sup>15,16</sup> Patients may experience higher rates of distress after being diagnosed with a cancer that is associated with sexually transmitted diseases (cervical and vulvar). In addition, GYN patients deal with sexual dysfunction and loss of reproductive ability.<sup>17,18</sup>

This multilevel assault on the personhood of a woman may influence the ways in which GYN patients report their problems and their desire for help after being diagnosed; it can also affect their personal, social, and sexual lives.<sup>18</sup> Further, several common social misconceptions concerning disease causation, treatment, and survival (eg, contagious and transmissible) can impact the prevalence of problem-related distress and the type of assistance requested.<sup>13,14</sup> Social initiatives such as colored-ribbon campaigns and the urging for public figures to speak openly about their disease have served to promote public awareness and provide further support to cancer patients. Breast cancer awareness campaigns have been the most successful, helping to ensure that patients diagnosed today are presented with a markedly different reality from 2 decades ago.<sup>19</sup> At present, pink ribbons have come to symbolize not only BC awareness but also strength, hope, responsibility, empathy, and a more open discourse concerning cancer.13 Though activists associated with GYN endeavored to mobilize similar support, public acceptance, and awareness, a marked contrast now differentiates the experiences of women diagnosed with these cancers. Gynecological cancer is characterized by both a paucity of public figures open to discussing their experiences and awareness campaigns that still struggle to promote public discourse and reduce stigma surrounding GYN.<sup>13,20</sup>

Given the potential for the differing psychosocial impact of each disease, additional research is needed to distinguish the separate concerns and types of assistance needed among BC and GYN patients. The present study aims to identify differences in sources of biopsychosocial problem-related distress between women diagnosed with BC or GYN. The current analysis also considers the influence of sociodemographic variables on potential differences in levels of distress during this critical period. It is hypothesized that GYN patients will represent a higher-risk group, reporting greater levels of distress related to several biopsychosocial problems and being more likely to decline help.

# 2 | METHODS

This represents a retrospective quantitative study. The data analyzed were collected as a part of a larger Institutional Review Board approved exempt protocol at City of Hope (Duarte, CA, USA), an NCI-Designated Comprehensive Cancer Center. This protocol proposes that all patients should be screened upon check-in to their first or second visit with their medical oncologist or surgeon and before beginning any type of treatment. Patients were asked to complete the electronic version of the You, Your Family, and City of Hope are a Team screening tool, a touch screen-based instrument that assesses biopsychosocial problem-related distress in approximately 10 to 15 minutes. Less than 2% refuse to participate on this screening program.

From 2009 to 2016, data from 6462 patients seen at City of Hope outpatient clinics were included in the main database. In view of our main goal, all women newly diagnosed with BC (n = 2111) or GYN (vulva, labia majora, vagina, fallopian tube, ovary cervix, and uterus) cancers (n = 641) over the age of 18 were included. Non-English or non-Spanish speaking was excluded.

#### 2.1 | Measures

You, Your Family, and City of Hope are a Team.<sup>21</sup> This instrument includes 32 to 53 items that can be tailored considering the type of cancer. The 32 core items (common to both cancer groups) of this self-reported instrument were used for comparisons across BC and GYN groups. Patients were asked to rate 32 problems on a 5-point Likert scale ranging from 1 (not a problem) to 5 (very severe problem) distributed in 5 domains: physical, practical, functional, emotional, and others.<sup>22,23</sup> In addition, patients were asked their preferred method of assistance in dealing with this problem: nothing needed at this time (None), provide written information (Written Info), talk with a member of the team (Talk), or written information and talk with a team member (Written Info + Talk). Items rated ≥ 3 are considered to reflect moderate to severe distress, and the number of item for which help was requested was calculated. This instrument has demonstrated high internal consistency (Cronbach's  $\alpha$  = 0.91) and strong test-retest reliability (Intraclass Correlation Coefficient ≥ 0.75).<sup>23</sup>

Diagnosis, body mass index, and sociodemographic information were obtained from the medical record. Household income and education were self-reported values obtained via the screening tool.

#### 2.2 | Analysis

Patients' characteristics were examined through descriptive analyses, including chi-square tests and independent *t* tests (for age) for statistical differences between BC and GYN patients. The frequency of biopsychosocial problem-related distress (rated  $\geq$  3) and level of help-seeking (any type) for both cancer groups were computed. A total biopsychosocial problem-related distress rated  $\geq$  3 was calculated by counting all problems rated as high distress with a maximum score of 32.<sup>4,24</sup> Subscales for each domains were calculated by counting problems rated  $\geq$  3 for a maximum score of 10 for physical, 8 for practical, 4 for functional, 8 for emotional, and 2 for others.

A supplementary exploratory *t* test analysis was done for the sum of all items reported as high distress by the most common types of GYN, ovarian (n = 248) and cervical samples (n = 144), considering that cervical cancer is more related to a sexually transmitted disease; as no significant differences were found, all types of GYN were grouped together. Correlations were run to test for relationships among sociodemographic and clinical variables, and the subscales and total distress scores. Significant correlations were entered into a linear regression model (backward method) to test for predictors of distress at the  $P \leq .01$  level. To account for missing data, cases were excluded listwise for all statistical tests. The missing data were minimal for the individual distress items as

patients who completed less than 80% of the screening were excluded from the analyses. For all analyses, the Statistical Package of Social Sciences 22.0 was used.

# 3 | RESULTS

The sample (n = 2752) was composed of 76.7% BC patients and 23.3% GYN patients (Table 1). Of 2064 patients for whom disease stage was available, BC patients were diagnosed more often with an early disease (79.2% stage 0, I, or II) and GYN patients with late disease (55.4% stage III or IV). Gynecological cancer patients (M = 57.17) were significantly older than BC patients (M = 55.95), and significantly greater percentage were White (57.9% vs 49.8%, respectively), P < .05. The average difference between body mass index of patients with BC (M = 28.1, SD = 6.4) or GYN (M = 28.4, SD = 7.9) cancer was not significant (P = .41).

GYN patients reported a higher prevalence of problem-related distress (Table 2) compared with BC patients on *fatigue* (42% vs 32.1%, respectively), *pain* (36.5% vs 29.3%), *walking or climbing stairs* (31.6% vs 18.9%), *bowel movement/constipation* (30.1% vs 17.1%), *questions and fear about end of life* (24.4% vs 18.8%), *feeling irritable or angry* (24.1% vs 19.1%), and *needing practical help at home* (14.6%

#### TABLE 1 Breast and gynecological patients' characteristics

vs 10.2%). Breast cancer patients reported higher prevalence on *physical appearance* (22.1% vs 17.6% for GYN patients) and on *substance* use by you or in your environment (4.0% vs 1.9% for GYN patients).

For requested assistance, GYN patients endorsed a greater number of problems with *Talk* and *Written Info* + *Talk*. Both groups requested *Written Info* equally (Table 3). *Talk* was more requested by GYN patients for understanding my treatment options (42.3%), solving problems (23.2%), and fear of medical procedures (22.8%) and BC patients for understanding treatment options (32.5%), talking with the doctor (24.8%), and needing help coordinating my care (22.9%). Both groups requested Written Info regarding practical problems (talking with doctor, transportation, and finding community resource). Written Info + Talk were more frequently requested by BC and GYN for side effects of treatment (12.7% vs 15.5%, respectively), finances (11.9% vs 13.1%), pain (8% vs 12.4%), fatigue (8.5% vs 12.4%), and feeling anxious or fearful (9.3% vs 12.2%).

Using linear regression (Table 4), GYN and advance disease were significant predictors of total distress and each subscale, including physical, functional, and emotional distress. Among sociodemographic characteristics, younger age was significantly associated with total distress as well as physical and emotional distress. Further, being non-Asian was associated with total distress and physical, functional, and emotional distress, while Latino or Black race/ethnicity with higher

Characteristics	BC, % (n) (n = 2111)	GYN, % (n) (n = 641)	Group Comparison P
Age (mean)	55.95 (2111)	57.17 (641)	.03*
Marital status			
Married/life partnered	57.0 (1118)	58.5 (341)	.53
Single	43.0 (842)	41.5 (242)	
Education			
Less than/some/completed high school	29.6 (591)	29.4 (185)	.91
Some/completed beyond college	70.4 (1405)	70.6 (445)	
Race			
Asian	15.9 (313)	13.2 (77)	.01*
Black	6.4 (126)	4.4 (26)	
Latino	27.9 (550)	24.4 (143)	
White	49.8 (983)	57.9 (339)	
Household income			
\$0-\$40 000	49.1 (741)	45.9 (221)	.15
\$40 000-\$100 000	30.6 (461)	35.3 (170)	
\$100 000+	20.3 (306)	18.7 (90)	
Disease stage			
0	4.2 (88)	0.9 (6)	.000***
1	25.5 (538)	19.5 (125)	
II	33.4 (705)	6.2 (40)	
III	11.8 (250)	23.9 (153)	
IV	4.7 (100)	9.2 (59)	
Unknown	20.4 (430)	40.2 (258)	

Abbreviations: BC, breast cancer; GYN, gynecological cancer.

\*\*P < .01.

\*\*\*P < .001.

<sup>\*</sup>P < .05.

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TABLE 2	Percent of problems endorsed as high distress (moderate to very severe) by cancer type	

Problem-Related Distress	BC, % (n = 2111)	GYN, % (n = 641)
Physical (10 items)		
Fatigue	32.1	42.0
Side effects of treatment	38.0	41.5
Pain	29.3	36.5
Bowel movement and constipation	17.1	30.1
Physical appearance	22.1	17.6
	18.0	16.4
Sundling	14.2	16.4
Sweiling	14.2	10.7
Recent weight change	14.0	16.9
Sexual function	11.5	14.5
Ability to have children	5.0	5.0
Practical (8 items)		
Finances	41.3	39.8
Understanding my treatment options	20.2	22.4
Transportation	20.0	19.8
Needing help coordinating my care	17.9	15.0
Finding community resources	17.3	17.6
Needing practical help at home	10.2	14.6
Becoming too ill to communicate	9.0	7.9
Talking with the doctor	6.2	4.8
Functional (4 items)		
Sleeping	40.0	39.2
Walking or climbing stairs	18.9	31.6
Managing work, school, or home life	22.0	24.7
Eating, chewing, or swallowing difficulties	5.8	7.8
Emotional (8 items)		
Feeling anxious or fearful	32.8	34.8
Managing my emotions	26.2	24.2
Fear of medical procedures	27.5	25.7
How my family will cope	20.7	25.1
Questions and fear about end of life	18.8	24.4
Feeling irritable or angry	19.1	24.1
Solving problems	17.2	21.5
Finding meaning or purpose	6.4	5.7
Others (2 items)		
Substance use by you or in your environment	4.0	1.9
Tobacco use	3.8	3.2

Abbreviations: BC, breast cancer; GYN, gynecological cancer. Percent endorsements were calculated by adding the total number of responses of moderate, severe, and very severe and dividing by the number of responses with any distress rating; missing values, prefer not to answer, and do not know were not included in the denominator.

practical distress. Finally, lower household income was significantly associated with total distress and all domains of distress, while lower education with higher practical and emotional distress.

# 4 | DISCUSSION

Cancer type, age, race/ethnicity, education, and income play important roles in the prevalence of biopsychosocial problems rated as high distress. This suggests that cancer type and sociodemographic characteristics may help identify patients at risk for poor psychosocial outcomes and guide supportive care services. Gynecological cancer patients reported a higher prevalence of problem-related distress than BC patients. In previous studies, BC patients tended to report a higher prevalence of distress<sup>1</sup> or no differences were found.<sup>25</sup> Surprisingly, there was no significant difference between cervical and ovarian cancers on the total sum of biopsychosocial problems endorsed as high distress, indicating that both are equally at high risk for distress.

Given that patients were assessed prior to treatment, most biopsychosocial problems endorsed are likely associated with disease-

#### TABLE 3 Percent of assistance requested on problems by cancer type

	Talk, %		Written I	nfo, %	Written Info + Talk, %		None, %	None, %	
	BC	GYN	BC	GYN	BC	GYN	BC	GYN	
Physical (10 items)									
Fatigue	13.9	18.6	8.2	8.0	8.5	12.4	69.5	61.0	
Side effects of treatment	15.9	18.8	9.2	7.8	12.7	15.5	62.3	57.9	
Pain	14.4	17.3	5.9	5.4	8.0	12.4	71.6	64.9	
Bowel movement and constipation	7.9	12.8	5.7	6.1	4.4	10.8	82.1	70.4	
Physical appearance	7.8	6.9	8.5	4.2	5.2	5.9	78.4	83.0	
	14.9	13.6	-	-	-	-	85.1	86.4	
Swelling	0.4	10.5	E 4	5.0	ΕΛ	7.0	70.4	74.4	
Sweining	7.4	10.5	5.0	5.7	5.4	7.0	/ 9.0	70.0	
Recent weight change	12.4	15.0	-	-	-	-	87.6	85.0	
Sexual function	5.3	4.2	4.0	3.8	4.0	4.4	86.7	87.6	
Ability to have children	2.5	1.3	2.2	0.5	1.4	2.6	93.9	95.6	
Practical (8 items)									
Finances	8.7	9.2	13.6	11.8	11.9	13.1	65.8	66.0	
Understanding my treatment options	32.5	42.3	-	-	-	-	67.5	57.7	
Transportation	2.6	1.0	12.9	12.3	3.3	2.8	81.1	84.0	
Needing help coordinating my care	22.9	22.6	-	-	-	-	77.0	77.2	
Finding community resources	7.5	8.2	13.3	12.1	8.3	7.0	70.8	72.8	
Needing practical help at home	4.4	7.6	4.1	4.3	4.9	6.1	86.7	82.1	
Becoming too ill to communicate	6.6	7.4	5.9	4.2	5.7	5.7	81.8	82.7	
Talking with the doctor	24.8	13.6	17.4	18.2	9.2	9.1	48.6	59.1	
Functional (4 items)									
Sleeping	14.5	14.5	12.1	10.4	9.7	10.6	63.7	64.4	
Walking or climbing stairs	13.1	17.1	-	-	-	-	86.9	82.9	
Managing work, school, or home life	15.0	15.0	-	-	-	-	85.0	85.0	
Eating/chewing/swallowing difficulties	7.5	8.5	-	-	-	-	92.4	91.4	
Emotional (8 items)									
Feeling anxious or fearful	14.7	13.2	9.2	8.3	9.3	12.2	66.8	66.2	
Managing my emotions	13.0	11.9	9.3	6.7	8.8	11.7	68.9	69.7	
Fear of medical procedures	19.4	22.8	1.1	0	2.0	0	77.5	77.2	
How my family will cope	7.0	7.2	7.3	8.2	7.3	8.8	78.4	75.9	
Questions and fear about end of life	8.0	10.1	6.5	5.1	6.5	8.2	79.0	76.6	
Feeling irritable or angry	10.1	10.1	8.1	7.5	6.3	6.5	75.4	75.8	
Solving problems	19.1	23.2	-	-	-	-	80.9	76.8	
Finding meaning or purpose	6.6	5.5	-	-	-	-	93.4	94.5	
Others (2 items)									
Substance use	5.0	3.6	-	-	-	-	95.0	96.4	
Tobacco use	1.9	0.8	1.7	1.2	1.0	1.2	95.4	96.9	

Abbreviations: BC, breast cancer; GYN, gynecological cancer.

Percent endorsements were calculated as the number of patients selecting the specific option divided by the total number of patients with any option selected for the specific question. In addition, "-" indicates written information was not an option for these biopsychosocial problem-related distress. Types of assistance: Talk (*talk with a member of the team*), Written Info (*provide written information*), Written Info + Talk (*written information and talk with a team member*), and None (*nothing needed at this time*).

related symptomatology and psychosocial concerns surrounding diagnosis, treatment, and prognosis. Disease-related stigma may have also played a role in the types of problems reported and levels of requested assistance. This finding highlights the need for psychosocial interventions (eg, brief supportive-expressive psychotherapy intervention and web-based stress management intervention) targeted for BC and GYN patients to address specific concerns and improve coping strategies. In comparing the most common problems reported with patients' tendency to request assistance, the two were not equivalent: *understanding treatment options* for GYN patients and *talking with the doctor* for BC patients, for example, were not commonly reported as highly distressing but were problems for which patients more commonly requested assistance. Overall GYN patients requested to *talk with a member of the team* more often than BC patients. One possible reason

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TABLE 4 Regression models for subscales and total distress score

Einal Model Predictors	P	SE (B)	+	Significant (D)
	Ъ	3E (D)	L	Significant (r)
Physical subscale				
Diagnosis group (0 = GYN/1 = BC)	406	.109	-3.724	.000
Disease stage ( $0 = Early/1 = Late$ )	.408	.093	4.372	.000
Asian (0 = non-Asian/1 = Asian)	370	.131	-2.830	.005
Annual household income category: \$0-\$40 000 (0 = \$40 000+/1 = \$0-\$40 000)	.557	.143	5.341	.000
Annual household income category: \$100 000+ (0 = \$0-\$100 000/1 = \$100 000+)	372	.078	-2.904	.009
Age	013	.078	-3.344	.001
Practical subscale				
Disease stage (0 = Early/1 = Late)	.257	.068	3.798	.000
Latino (0 = non-Latino/1 = Latino)	.220	.079	2.765	.006
Black (0 = non-Black/1 = Black)	.288	.046	3.841	.000
Education ( $0 \le$ High school diploma/1 = Some college to >4-year degree)	085	.026	-1.998	.046
Annual household income category: \$40 000-\$100 000 (0 = \$0-\$40 000; \$100 000+/1 = \$40 000-\$100 000)	760	.256	-18.587	.000
Annual household income category: \$100 000+ (0 = \$0-\$100 000/1 = \$100 000+)	-1.109	.349	-24.460	.000
Functional subscale				
Diagnosis group (0 = GYN/1 = BC)	190	.083	-3.519	.000
Disease stage (0 = Early/1 = Late)	.246	.047	5.276	.000
Asian (0 = non-Asian/1 = Asian)	311	.065	-4.768	.000
Annual household income category: \$40 000-\$100 000 (0 = \$0-\$40 000; \$100 000+/1 = \$40 000-\$100 000)	245	118	-4.695	.004
Annual household income category: \$100 000+ (0 = \$0-\$100 000/1 = \$100 000+)	440	184	-7.329	.000
Emotional subscale				
Diagnosis group (0 = GYN/1 = BC)	290	.065	-2.747	.006
Disease stage (0 = Early/1 = Late)	.265	.092	2.888	.004
Asian (0 = non-Asian/1 = Asian)	282	.051	-2.153	.000
Education ( $0 \le$ High school diploma/1 = Some college to >4-year degree)	229	.055	-2.178	.030
Age	018	.112	-4.742	.000
Annual household income category: \$40 000-\$100 000 (0 = \$0-\$40 000; \$100 000+/1 = \$40 000-\$100 000)	435	.108	-4.130	.000
Annual household income category: \$100 000+ (0 = \$0-\$100 000/1 = \$100 000+)	694	.149	-5.634	.000
Other subscale				
Annual household income category: \$40 000-\$100 000 (0 = \$0-\$40 000; \$100 000+/1 = \$40 000-\$100 000)	059	091	-3.548	.000
Annual household income category: \$100 000+ (0 = \$0-\$100 000/1 = \$100 000+)	097	130	-5.062	.000
Total distress score				
Diagnosis group (0 = GYN/1 = BC)	617	.287	-2.149	.03
Disease stage (0 = Early/1 = Late)	1.213	.245	4.945	.000
Asian (0 = non-Asian/1 = Asian)	-1.029	.343	-2.997	.003
Annual household income category: \$40 000-\$100 000 (0 = \$0-\$40 000; \$100 000+/1 = \$40 000-\$100 000)	-2.211	.198	-8.057	.001
Annual household income category: \$100 000+ (0 = \$0-\$100 000/1 = \$100 000+)	-3.459	.270	-10.976	.000
Age	037	.084	-3.659	.000

Abbreviations: BC, breast cancer; GYN, gynecological cancer.

for BC declining assistance may be the preexisting support they received from elsewhere.<sup>26</sup> Future studies should clarify differences on types of assistance requested.

Our findings provide partial support for the hypothesis, as GYN patients represented a high-risk group for experiencing high levels of problem-related distress. However, contrary to what was hypothesized, GYN reported higher levels of requested assistance. In light of these findings, the computerized touch screen system may have facilitated the expression of needs and concerns despite cancer stigma: In research involving sensitive or embarrassing information, electronic questionnaires have been more accepted by patients and more sensitive than paper questionnaires.<sup>27</sup>

Importantly, significant relationships were found between biopsychosocial problem-related distress, type of cancer, and

several sociodemographic characteristics. Specifically, GYN was associated with physical, functional, emotional, and total distress. This finding supports the hypothesis, suggesting that type of cancer may contribute to distress. Additional significant associations were non-Asian race with physical, functional, emotional, and total distress; lower annual household income with all types of distress; younger age with physical, emotional, and total distress; lower education with practical and emotional distress; and Latino/Black with practical distress. These findings are hypothesis generating, identifying sociodemographic characteristics that may contribute to specific types of distress; previous research has only suggested that age,4,5 financial burden,<sup>28</sup> and race/ethnicity<sup>29</sup> can impact general distress levels. These findings highlight the importance of developing interventions that target populations at greater risk of experiencing distress, as, for example, for those diagnosed with GYN or patients who are younger, of lower education, and lower income. Until now, few studies have investigated the most common female cancers types and how sociodemographic characteristics may influences different types of distress.

The clinical implications for these findings are meaningful. The current study describes differences in sources of distress between 2 common cancer groups and begins to address a gap in the literature, showing that the desire for assistance in managing needs should be assessed by types of help offered rather than simply asking if they desire help. These findings also lend specificity as to which potential interventions may be helpful to patients and their support systems. Interventions relevant to stigmatized populations should be considered: information sharing, education, open and honest communication, peer and professional support, supportive counseling, skills training (especially cognitive behavioral therapy), and couples support. Additional research is needed to clearly define which interventions, alone or in combination, are most effective; to date, this level of evidence does not exist.

Limitations of this study include the lack of data related to type of treatment received and lack of reliable data about satisfaction with social support or the amount of support received. Future studies should include stigma-related questions to explore the impact of preexisting misconceptions on distress and types of assistance requested. We also highlight the fact that most patients were English speaking and willing to use a touch screen. Despite these limitations, our results revealed significant and unique information, with implications for clinical care, about the experience of women diagnosed with BC and GYN. In sum, these results provide important data about distress among BC or GYN patients, expanding the knowledge of the needs presented by women facing these different experiences of cancer. Specifically, GYN patients represented a high-risk group compared to BC patients. Our findings suggest that developing interventions targeting GYN patients aimed at mitigating biopsychosocial problem-related distress would be warranted considering the higher level of openness to help seeking these patients presented, especially the desire to receive face-toface assistance. Our supplementary analyses also highlight the importance of recognizing the potential influence of age, race, income, and education in the development of psychosocial interventions.

# 5 | CONCLUSIONS

These preliminary findings among a relatively large sample of patients highlight the importance of considering specific biopsychosocial needs related to 2 commonly diagnosed female cancers. The differences found can help guide the development of educational and intervention programs to effectively manage different types of distress throughout the full continuum of care. Gynecological cancer patients may represent a group at greater risk of distress when compared to those with BC. Age, race, education, and annual income can also contribute to the presence of problem-related distress. In view of a marked contrast in the societal attitudes and awareness surrounding BC and GYN and often inadequate discussion of reproductive and sexual health, further work is needed to promote more open discourse concerning GYN and the possible side effects of treatment, particularly within the patient-physician dyad.<sup>27</sup>

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