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Dependent Children and Maternal Psychological Challenges Among Women With Breast Cancer Receiving Chemotherapy: A Cross-Sectional Study in Iran

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Abstract

Background*:* Breast cancer and chemotherapy impose substantial psychological burdens, which may be intensified by parenting responsibilities. Mothers with dependent children may face additional concerns regarding daily caregiving and their children's well-being. This study examined the association between dependent-child status and maternal psychological challenges and coping-related cognitive responses among Iranian women with non-metastatic breast cancer receiving chemotherapy.

Materials and Methods*:* This cross-sectional, correlational study was conducted among 279 women with non-metastatic breast cancer receiving chemotherapy in Kerman, Iran. Participants were categorized as mothers without dependent children (n = 139) or mothers with at least one dependent child younger than 18 years (n = 140). Data were collected using a researcher-developed six-item questionnaire assessing maternal anxious preoccupation, maternal helplessness, and protective cognitive avoidance. Group differences were examined using independent-samples t-tests, Welch's t-tests, and Pearson's chi-square tests, as appropriate.

Results: The two groups did not differ significantly in sociodemographic or clinical characteristics. Compared with mothers without dependent children, mothers with dependent children reported significantly higher maternal anxious preoccupation (mean ± SD: 319.51 ± 66.79 vs. 287.51 ± 54.33; Welch's $t(266.69) = -4.39$, $p < .001$; Cohen's $d = 0.53$) and maternal helplessness (65.94 ± 24.14 vs. 56.58 ± 17.33; Welch's $t(277.00) = -3.72$, $p < .001$; Cohen's $d = 0.45$). Conversely, mothers without dependent children reported significantly higher protective cognitive avoidance than mothers with dependent children (32.37 ± 14.43 vs. 26.42 ± 18.10; Welch's $t(264.71) = 3.03$, $p = .003$; Cohen's $d = 0.36$).

Conclusion: Dependent-child status was associated with distinct maternal psychological challenges during chemotherapy. Mothers with dependent children reported greater anxious preoccupation and helplessness, whereas those without dependent children reported greater protective cognitive avoidance. Family-centered psycho-oncological assessment and support may be particularly important for mothers raising minor children.

Key Words: Breast Neoplasms, Chemotherapy, Dependent Children, Parenting, Psychological Distress.

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1- INTRODUCTION

Breast cancer is the most frequently diagnosed cancer among women worldwide and remains a major cause of cancer-related morbidity and mortality among females (1). In 2022, an estimated 2.3 million women were newly diagnosed with breast cancer globally, making female breast cancer the most commonly diagnosed cancer worldwide (1). In Iran, breast cancer is also the most common malignancy among women and represents a substantial public-health challenge (2).
The treatment of non-metastatic breast cancer commonly involves surgery, radiotherapy, endocrine therapy, targeted therapy, systemic chemotherapy, or a combination of these modalities, depending on tumor biology, disease stage, and patient characteristics. Although chemotherapy can reduce the risk of recurrence and improve outcomes for many patients, it may impose considerable physical and functional burdens. Fatigue, nausea and vomiting, alopecia, hematologic toxicity, infection risk, cognitive complaints, and body-image concerns may impair daily functioning and social participation (3, 4).

These physical and treatment-related consequences may coexist with considerable psychological distress. Women with breast cancer may experience anxiety, depressive symptoms, uncertainty, fear of recurrence, sleep disturbances, impaired concentration, and reduced perceived control throughout diagnosis and treatment (5, 6). Psychological distress is also an important concern among Iranian women with breast cancer. A meta-analysis of 22 studies involving Iranian women with breast cancer estimated the pooled prevalence of depression at 46.83%, although substantial heterogeneity was observed across studies (7). Another systematic review and meta-analysis reported a high prevalence of depression and anxiety among patients with cancer in Iran, with estimates varying according to cancer type, population characteristics, and assessment methods (8).

The psychological consequences of breast cancer may be particularly complex for women who are mothers. In addition to managing symptoms, treatment appointments, uncertainty, and changes in physical functioning, mothers may need to continue providing practical care, emotional support, supervision, and stability for their children. A breast cancer diagnosis can therefore challenge mothers' perceptions of their parental role, their ability to maintain family routines, and their confidence in meeting their children's emotional and practical needs (9–11).

Mothers with breast cancer frequently report parenting-related concerns, including worries about their children's emotional reactions to the illness, disruption of family routines, reduced ability to perform parenting tasks, uncertainty regarding treatment outcomes, concerns about communicating disease-related information, and fears about their children's future should the disease progress or recur (9, 10, 12). A mixed-method systematic review found that breast cancer may affect parenting priorities, maternal identity, mother–child relationships, and communication with children (9). Similarly, parents with cancer may struggle to protect their children, preserve everyday family life, and decide how and when to discuss the illness with them (10).

The age and developmental dependency of children may further shape maternal psychological experiences. Mothers of dependent children may face immediate and intensive caregiving responsibilities, including daily supervision, school-related activities, transportation, household organization, emotional reassurance, and maintenance of predictable routines. During chemotherapy, these responsibilities may become more difficult

to fulfill because of treatment-related fatigue, nausea, physical discomfort, and emotional distress. Parenting stress among young mothers with breast cancer has been associated with depressive symptoms, and tailored psychosocial support has been recommended for this population (13).

Mothers may also experience heightened concerns regarding whether, when, and how to communicate their diagnosis to their children. Qualitative evidence indicates that some mothers delay or limit disclosure of cancer-related information because they wish to protect their children from fear and emotional distress; however, this decision may itself create emotional strain and uncertainty for the mother (12). Children's developmental stage may also influence the nature and intensity of maternal concerns, as younger children may require greater direct care and may have a more limited understanding of cancer and its treatment.

Family-centered psychosocial support is therefore an important component of comprehensive cancer care for mothers with dependent children. Women with breast cancer who are raising dependent children may have substantial psychosocial and family-centered support needs, particularly during diagnosis and active treatment. Organizational and access-related barriers may, however, limit women's use of available support services (14).

Parenting concerns represent a specific dimension of distress among parents with cancer. These concerns include worries about the effect of illness on children, the ability to fulfill parental responsibilities, and the maintenance of family functioning during treatment (15, 16).

Despite the expanding literature on parenting concerns among women with breast cancer, relatively few studies have directly compared mothers with and without dependent children, particularly among women receiving active chemotherapy in Middle Eastern settings. Cultural expectations related to maternal caregiving, family cohesion, household responsibilities, and communication about illness may influence how Iranian women experience breast cancer while caring for children. Understanding whether dependent-child status is associated with specific maternal psychological challenges may help clinicians identify women who require early psychosocial assessment, family-oriented counseling, and targeted supportive care.

Therefore, this study aimed to examine the association of having dependent children with maternal anxious preoccupation, maternal helplessness, and protective cognitive avoidance among Iranian women with non-metastatic breast cancer receiving chemotherapy.

2- MATERIALS AND METHODS

2-1. Study Design and Setting

This cross-sectional, correlational study examined the association of dependent-child status with maternal psychological challenges and coping-related cognitive responses among women with non-metastatic breast cancer receiving chemotherapy. The study was conducted over a 9-month period, from December 2022 to August 2023, at three oncology centers in Kerman, southeastern Iran: the Javad-al-Aemeh Oncology Center, affiliated with Kerman University of Medical Sciences; the Yas Cancer Charity Center; and specialized outpatient oncology referral clinics.

Eligible participants were recruited consecutively during the study period. Participants were categorized into two groups according to the age of their children: mothers with at least one dependent child younger than 18 years and mothers whose children were all aged 18 years or older.

2-2. Sample Size Determination

The minimum sample size was estimated using Cochran's formula for proportions (17):

$$n = \frac{Z_{1-\alpha/2}^2 p(1-p)}{d^2}$$

where $n$is the estimated sample size, $Z_{1-\alpha/2}$is the standard normal value for the selected confidence level, $p$is the anticipated proportion, and $d$is the desired absolute precision.

Because no reliable prior estimate was available for the primary outcome, $p = 0.50$was used to maximize the variance and produce a conservative estimate. Assuming a 95% confidence level ($Z = 1.96$), $p = 0.50$, and a margin of error of $d = 0.06$, the minimum required sample size was 267 participants. To allow for potential incomplete questionnaires, 279 eligible women were consecutively recruited and included in the study.

2-3. Participants

2-3-1. Inclusion Criteria

Women were eligible to participate if they:

- were aged 18 years or older;
- had a histologically confirmed diagnosis of primary non-metastatic breast cancer, corresponding to clinical stages I–III;
- were receiving chemotherapy and had completed at least one chemotherapy cycle before enrollment;
- had sufficient cognitive ability and Persian reading literacy to complete the self-administered questionnaire;
- had at least one living child; and
- provided written informed consent.

Women with at least one child younger than 18 years and women whose children were all aged 18 years or older were eligible. They were subsequently classified into the dependent-child and non-dependent-child groups, respectively.

2-3-2. Exclusion Criteria

Women were excluded if they:

- had metastatic breast cancer or clinical stage IV disease;
- were unable to complete the questionnaire because of cognitive impairment, acute medical illness, or severe physical exhaustion;
- withdrew consent or declined to continue participation;
- had a documented history of severe psychiatric illness predating the breast cancer diagnosis, including schizophrenia-spectrum disorders, bipolar disorder, or chronic severe major depressive disorder;
- had active alcohol or substance dependence;
- had experienced a major non-cancer-related personal crisis or severe life event, such as acute bereavement or marital dissolution, during the preceding 30 days; or
- returned a questionnaire with more than 10% missing responses.

2-4. Recruitment and Data Collection

Potentially eligible women were identified through systematic screening of medical records and consultation with oncology-clinic staff. After eligibility was confirmed, participants received verbal and written information about the study objectives, procedures, voluntary nature of participation, confidentiality protections, and their right to withdraw at any time without consequences for their medical care.

After written informed consent was obtained, participants completed the self-

administered questionnaire in a private and quiet area of the infusion unit or outpatient clinic, generally during treatment breaks or while waiting for routine care. The principal investigator was available to clarify questionnaire wording using neutral, standardized explanations. No guidance was provided concerning the expected or preferred responses.

2-5. Measures

2-5-1. Sociodemographic and Clinical Characteristics

A structured researcher-developed form was used to record sociodemographic characteristics, including maternal age, educational level, marital status, employment status, number of children, and children's ages. Clinical information, including disease stage, time since diagnosis, and chemotherapy regimen, was extracted from medical records.

A structured researcher-developed form was used to record sociodemographic characteristics, including maternal age, educational level, marital status, employment status, number of children, and children's ages. Clinical information, including disease stage, time since diagnosis, and chemotherapy regimen, was extracted from medical records.

2-5-2. Maternal Experiences and Challenges During Illness Questionnaire

Maternal concerns and parenting-related challenges were assessed using a researcher-developed six-item questionnaire. Questionnaire items were developed following a review of literature addressing parenting concerns, maternal distress, family functioning, and coping among women with breast cancer and parents with cancer (9–16).

The questionnaire included three maternal psychological domains:

- **Maternal anxious preoccupation**: Items 2, 3, 5, and 6 assessed maternal guilt, concerns about the child's future, perceived changes in the emotional mother–child relationship, and concerns about the child's education or development. Raw scores ranged from 4 to 16.
- **Maternal helplessness**: Item 1 assessed feelings of helplessness or perceived inability to fulfill maternal responsibilities because of illness. The possible score ranged from 1 to 4.
- **Protective cognitive avoidance**: Item 4 assessed the tendency to conceal illness-related pain or distress to protect the child from worry. The possible score ranged from 1 to 4.

Each item was scored on a four-point Likert scale, ranging from 1, "definitely does not apply to me," to 4, "definitely applies to me." The total raw score was obtained by summing the six item scores and ranged from 6 to 24. Higher total scores indicated greater illness-related challenges in the maternal role.

Because the domains contained unequal numbers of items, raw domain scores were transformed to a 0–100 scale to facilitate comparisons between domains using the following formula:

$$S = \frac{X - X_{\min}}{X_{\max} - X_{\min}} \times 100$$

where S is the standardized score, X is the observed raw score, and $X_{\min}$ and $X_{\max}$ are the minimum and maximum possible scores, respectively.

Higher standardized scores reflected greater endorsement of the respective maternal psychological construct.

2-6. Validity and Reliability

Face validity was assessed qualitatively through cognitive debriefing interviews with a pilot sample of 15 women with breast cancer and consultations with

clinical oncology specialists. This process evaluated the clarity, readability, cultural comprehensibility, and relevance of the questionnaire items for mothers receiving chemotherapy.

Content validity was evaluated by a multidisciplinary expert panel comprising 10 specialists in gynecologic oncology, reproductive health and midwifery, and psycho-oncology. The content validity ratio (CVR) was calculated using Lawshe's method (18). Items with a CVR of at least 0.62 were retained. Item-level CVR values ranged from 0.70 to 1.00, with a mean scale-level CVR of 0.82. The item-level content validity index (I-CVI) ranged from 0.80 to 1.00, whereas the scale-level content validity index based on averaging (S-CVI/Ave) was 0.91. The CVI was calculated and interpreted in accordance with established recommendations (19), supporting the relevance, clarity, and content coverage of the questionnaire items.

The internal consistency of the total six-item questionnaire was acceptable (Cronbach's alpha = 0.81). The internal consistency of the four-item maternal anxious-preoccupation domain was also acceptable (Cronbach's alpha = 0.79). Because maternal helplessness and protective cognitive avoidance were each assessed using a single item, Cronbach's alpha was not calculated for these individual domains.

Test–retest reliability was assessed in a subsample of 20 participants who completed the questionnaire twice at a two-week interval. The intraclass correlation coefficient (ICC) was 0.84 (95% CI: 0.65–0.93; $p < .001$), indicating satisfactory temporal stability of the questionnaire.

2-7. Ethical Considerations

The study protocol was reviewed and approved by the Institutional Ethics Committee of Kerman University of Medical Sciences before the initiation of participant recruitment (ethical approval code: IR.KMU.REC.1401.246). The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and applicable institutional and national regulations governing research involving human participants (20).

Before enrollment, all eligible participants received verbal and written information regarding the study objectives, procedures, voluntary nature of participation, anticipated benefits and potential inconveniences, confidentiality safeguards, and the right to refuse participation or withdraw at any stage without any effect on the quality or continuity of their clinical care. Written informed consent was obtained from all participants before data collection.

To protect privacy and confidentiality, each participant was assigned a unique study identification code. Personal identifiers were stored separately from the research dataset and were accessible only to authorized members of the research team. The analytical dataset was de-identified before statistical analysis, and no personally identifiable information was reported in the manuscript or disseminated in any form. Completed questionnaires and electronic study data were stored securely in password-protected files and locked storage, as applicable, in accordance with institutional data-protection procedures.

2-8. Statistical Analysis

Data were analyzed using IBM SPSS Statistics for Windows, version 26.0 (IBM Corp., Armonk, NY, USA). Categorical variables are presented as frequencies and percentages and were compared using Pearson's chi-square test or Fisher's exact test, as appropriate.

The distribution of continuous variables was assessed using the Shapiro–Wilk test and visual inspection of Q–Q plots. Continuous variables are presented as

mean ± standard deviation (SD). Independent-samples t-tests were used to compare standardized maternal psychological-domain scores between mothers with and without dependent children.

Homogeneity of variances was assessed using Levene's test. When the equal-variance assumption was violated, Welch's t-test with adjusted degrees of freedom was reported. Effect sizes were calculated using Cohen's d, with values of approximately 0.20, 0.50, and 0.80 interpreted as small, medium, and large effects, respectively (21). All statistical tests were two-tailed, and $p < .05$was considered statistically significant.

3- RESULTS

A total of 279 women with non-metastatic breast cancer receiving chemotherapy were included in the analysis. Of these, 139 women had no children younger than 18 years, whereas 140 women had at least one dependent child younger than 18 years.

As shown in **Table 1**, no statistically significant between-group differences were observed in maternal educational level ($\chi^2(3) = 0.59$, $p = .897$), spouse's educational level ($\chi^2(3) = 0.38$, $p = .944$), perceived income adequacy ($\chi^2(2) = 0.83$, $p = .660$), histological type of breast cancer ($\chi^2(2) = 0.52$, $p = .769$), or tumor grade ($\chi^2(2) = 0.94$, $p = .626$). In both groups, ductal carcinoma was the most common histological type, and grade II tumors were the most frequently observed tumor grade.

As presented in **Table 2**, mothers with dependent children reported significantly higher maternal anxious preoccupation than mothers without dependent children (mean ± SD: 319.51 ± 66.79 vs. 287.51 ± 54.33; Welch's $t(266.69) = -4.39$, $p < .001$; Cohen's $d = 0.53$, 95% CI: 0.29–0.76). Mothers with dependent children also reported significantly higher maternal helplessness than mothers without dependent children (65.94 ± 24.14 vs. 56.58 ± 17.33; Welch's $t(277.00) = -3.72$, $p < .001$; Cohen's $d = 0.45$, 95% CI: 0.21–0.68).

Conversely, as shown in **Table 2**, mothers without dependent children reported significantly higher protective cognitive avoidance than mothers with dependent children (32.37 ± 14.43 vs. 26.42 ± 18.10; Welch's $t(264.71) = 3.03$, $p = .003$; Cohen's $d = 0.36$, 95% CI: 0.13–0.60).

Overall, as summarized in **Table 2**, dependent-child status was associated with a distinct pattern of maternal psychological challenges and coping-related cognitive responses. Compared with mothers without dependent children, mothers raising dependent children reported greater anxious preoccupation and helplessness, whereas mothers without dependent children reported greater protective cognitive avoidance. The standardized between-group difference was moderate for maternal anxious preoccupation, small-to-moderate for maternal helplessness, and small for protective cognitive avoidance.

Table-1: Sociodemographic and Clinical Characteristics of Women With Breast Cancer According to Dependent-Child Status.

Variables	Category	No Child <18 Years (n = 139), n (%)	At Least One Child <18 Years (n = 140), n (%)	Total (N = 279), n (%)	χ^2	*p*-value*
Maternal education	Primary	32 (23.0)	37 (26.4)	69 (24.7)	0.59	.897
	Middle school	9 (6.5)	10 (7.1)	19 (6.8)		
	Diploma	50 (36.0)	49 (35.0)	99 (35.5)		
	Academic	48 (34.5)	44 (31.4)	92 (33.0)		
Spouse's education†	Primary	29 (24.6)	31 (25.4)	60 (25.0)	0.38	.944
	Middle school	6 (5.1)	8 (6.6)	14 (5.8)		
	Diploma	44 (37.3)	42 (34.4)	86 (35.8)		
	Academic	39 (33.1)	41 (33.6)	80 (33.3)		
Income adequacy	Sufficient	20 (14.4)	25 (17.9)	45 (16.1)	0.83	.660
	Moderately sufficient	98 (70.5)	92 (65.7)	190 (68.1)		
	Insufficient	21 (15.1)	23 (16.4)	44 (15.8)		
Histological type	Ductal	118 (84.9)	123 (87.9)	241 (86.4)	0.52	.769
	Lobular	6 (4.3)	5 (3.6)	11 (3.9)		
	Not specified	15 (10.8)	12 (8.6)	27 (9.7)		
Tumor grade	Grade I	4 (2.9)	6 (4.3)	10 (3.6)	0.94	.626
	Grade II	87 (62.6)	92 (65.7)	179 (64.2)		
	Grade III	48 (34.5)	42 (30.0)	90 (32.3)		

Note. Categorical data are presented as frequency (within-group percentage). *P-values were calculated using Pearson's chi-square test. †Data on spouse's education were available for 240 participants: 118 in the no-child-under-18-years group and 122 in the at-least-one-child-under-18-years group.

Table-2: Comparison of Maternal Psychological Challenges and Coping-Related Cognitive Responses According to Dependent-Child Status.

Variables	No Child <18 Years (n = 139), Mean (SD)	At Least One Child <18 Years (n = 140), Mean (SD)	t	df	p-value	Cohen's d(95% CI)
Protective cognitive avoidance	32.37 (14.43)	26.42 (18.10)	3.03	264.71	.003	0.36 (0.13–0.60)
Maternal anxious preoccupation	287.51 (54.33)	319.51 (66.79)	−4.39	266.69	< .001	0.53 (0.29–0.76)
Maternal helplessness	56.58 (17.33)	65.94 (24.14)	−3.72	277.00	< .001	0.45 (0.21–0.68)

Note. Values are standardized composite scores. Welch's independent-samples t-test and adjusted degrees of freedom were reported because the assumption of equal variances was not met. Positive Cohen's $d$values indicate a higher score in the group listed first for protective cognitive avoidance and in the group with dependent children for maternal anxious preoccupation and maternal helplessness. SD: standard deviation; df: degrees of freedom; CI: confidence interval; t: Welch's independent-samples t-test statistic; d: Cohen's standardized mean difference.

4- DISCUSSION

This cross-sectional study examined the association of dependent-child status with maternal anxious preoccupation, maternal helplessness, and protective cognitive avoidance among Iranian women with non-metastatic breast cancer receiving chemotherapy. Mothers with at least one child younger than 18 years reported significantly higher maternal anxious preoccupation and maternal helplessness than mothers whose children were all adults. Conversely, mothers without dependent children reported higher protective cognitive avoidance. These findings suggest that raising dependent children during chemotherapy is associated with a distinct pattern of maternal psychological challenges and coping-related cognitive responses.

4-1. Parenting-Related Distress

The higher maternal anxious-preoccupation scores observed among mothers with dependent children are consistent with evidence linking parenting concerns to psychological distress among individuals with cancer. In a cross-sectional study of 211 young and middle-aged cancer patients with minor children, latent profile analysis identified three parenting-concern profiles. Depression was associated with membership in the moderate- and high-concern profiles relative to the low-concern profile (22). These findings suggest that parenting concerns and depressive symptoms may co-occur, although they do not establish the direction of this relationship or directly demonstrate an association with anxious preoccupation.

The present study adds to this literature by directly comparing mothers with and without dependent children during active chemotherapy. Mothers caring for dependent children reported greater anxious preoccupation. Concerns about children's future, the mother–child relationship, and children's education or development may help contextualize this finding. This interpretation is consistent with prior literature indicating that parents with cancer frequently experience concerns about maintaining everyday family life, communicating about illness, and protecting children from emotional distress (9, 10, 12).

Nevertheless, these findings should be interpreted cautiously. Because of the

cross-sectional design, it cannot be concluded that having dependent children causes increased anxious preoccupation. It is also plausible that women with greater psychological distress perceive parenting-related concerns more intensely, or that the observed association reflects unmeasured factors such as social support, financial strain, symptom burden, disease characteristics, or family functioning.

The higher maternal-helplessness scores among mothers with dependent children provide further insight into the potential psychological burden of parenting during chemotherapy. Physical symptoms, treatment-related fatigue, and emotional distress may make it more difficult for mothers to perform caregiving responsibilities or to feel able to meet their children's needs. This interpretation is consistent with evidence that parents with cancer may report reduced parenting self-efficacy, difficulties maintaining family routines, and concerns about their ability to fulfill parental responsibilities (9, 10, 13, 15). A systematic review of quantitative studies reported a substantial burden of anxiety and depressive symptoms among cancer patients parenting minor children and emphasized the importance of proactive assessment of mental health and family circumstances in oncology care (23).

However, maternal helplessness in the present study should be interpreted as a self-reported psychological construct rather than as an objective measure of parenting ability or parenting self-efficacy. The present data do not establish whether mothers with dependent children were less able to perform caregiving activities or whether their children experienced poorer psychological adjustment. These questions require longitudinal research incorporating both maternal and child outcomes.

4-2. Protective Cognitive Avoidance

Mothers without dependent children reported higher protective cognitive avoidance than mothers with dependent children. This result should be interpreted carefully because the relevant domain was assessed using a single researcher-developed item reflecting the tendency to conceal illness-related pain or distress to protect children from worry. Therefore, it should not be equated with a comprehensive measure of cognitive avoidance or with a validated coping inventory.

One possible explanation is that mothers raising dependent children may have fewer opportunities to disengage from illness-related concerns because children's day-to-day needs and questions require ongoing practical and emotional engagement. Alternatively, mothers without dependent children may be more likely to contain or avoid illness-related thoughts and emotions in the absence of immediate parenting demands. These explanations are speculative and were not directly assessed.

Importantly, concealment and avoidance are not inherently maladaptive in every context. Mothers may temporarily withhold distressing information in an effort to protect children or preserve family routines. However, prolonged or rigid avoidance may complicate communication, reduce access to support, or increase uncertainty within the family. Qualitative research has shown that mothers with breast cancer may delay or limit illness-related communication with dependent children because of concerns about causing fear or emotional distress (12). Future studies should distinguish clearly among cognitive avoidance, emotional suppression, protective concealment, and parent–child communication strategies using validated multidimensional measures.

4-3. Clinical Implications

The findings support considering routine assessment of parenting status and parenting-related concerns in psycho-oncology services. During treatment planning and chemotherapy follow-up, clinicians could ask whether patients have dependent children, identify practical caregiving pressures, and assess concerns about children's emotional well-being, communication about illness, perceived parenting capacity, and family support. This approach is consistent with recommendations to integrate parental and family circumstances into comprehensive oncology care for patients raising minor children (14, 23).

Family-centered psychosocial support may be particularly relevant for mothers who report high anxious preoccupation or maternal helplessness. Potential components include developmentally appropriate guidance on communicating with children, parenting-focused psychoeducation, emotional support, facilitation of family communication, linkage to social-work and practical-support services, and referral for psychological care when clinically indicated. A systematic review of 11 studies involving 496 parents, primarily women with breast cancer, and their children examined psychosocial interventions targeting parent–child relationships, family communication, parental psychological well-being, children's mental health, and social support. The review reported benefits in reducing parental depressive and anxiety symptoms, parenting stress, and children's internalizing and externalizing problems. However, methodological limitations, including participant selection bias, lack of blinding, and low follow-up rates, warrant cautious interpretation of these findings (24). These interventions should therefore be considered potential supportive-care options rather than established treatments for the specific constructs of anxious preoccupation or maternal helplessness assessed in the present study.

The Iranian sociocultural context should also be considered when translating these findings into practice. Maternal caregiving responsibilities, expectations regarding family cohesion, and the availability of extended-family support may influence how women experience breast cancer while caring for children. Family-oriented interventions should therefore be culturally adapted and responsive to each woman's household structure, caregiving resources, financial circumstances, and preferences for communication about illness. This consideration is particularly important because the intervention literature summarized in the systematic review was predominantly developed in Western countries (24).

4-4. Strengths and Limitations

This study has several strengths. It included a relatively large sample of women receiving active chemotherapy, directly compared mothers with and without dependent children, and examined several maternal psychological domains relevant to parenting during cancer treatment. In addition, the questionnaire underwent face-validity assessment, expert content-validity evaluation, internal-consistency assessment for the total scale and multi-item domain, and test–retest reliability testing.

Several limitations should also be acknowledged. First, the cross-sectional design precludes causal or temporal conclusions. Second, the study was conducted in a single Iranian city and healthcare context, which may limit generalizability to other cultural and clinical settings. Third, the researcher-developed six-item questionnaire limits direct comparison with studies using established multidimensional instruments; further validation, including factor-structure assessment and convergent

validity testing, is needed. Fourth, maternal helplessness and protective cognitive avoidance were assessed with single items and should be interpreted cautiously. Fifth, residual confounding cannot be excluded because the analyses did not adjust for potentially relevant factors, including chemotherapy regimen, time since diagnosis, symptom burden, child age, number of children, marital relationship, partner support, family functioning, and socioeconomic circumstances. Finally, child outcomes and children's perspectives were not assessed; therefore, the study cannot determine how maternal psychological challenges relate to children's adjustment.

Although the three primary comparisons remained statistically significant using a Bonferroni-adjusted threshold of $p < .017$, this sensitivity analysis does not address the limitations inherent in the observational and cross-sectional design.

5- CONCLUSION

Among Iranian women receiving chemotherapy for non-metastatic breast cancer, having dependent children was associated with higher maternal anxious preoccupation and maternal helplessness, whereas mothers without dependent children reported higher protective cognitive avoidance. These findings highlight parenting-related concerns as an important domain for psychosocial assessment during cancer treatment. They support the consideration of family-centered, culturally responsive psycho-oncological care for mothers raising dependent children. Longitudinal studies using validated multidimensional measures and including children's perspectives are needed to clarify the direction, mechanisms, and clinical consequences of these associations.

6- CONFLICT OF INTEREST: None.

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