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The Impact of a Mother's Emotional Strains and Disclosure of Cancer on Her Child's Defensiveness and Adjustment to Cancer

KEY WORDS

Adjustment
Cancer
Children
Defensiveness
Disclosure
Jordan

Background: Defensiveness is one of the strategies that children with cancer use against psychosocial difficulties, yet it remains unclear what factors may impact children's use of defensiveness. **Objective:** The aim of this study was to explore the psychological adjustment, including use of defensive behaviors, in children who may or may not be told about the diagnosis of cancer. **Methods:** A total of 58 children and 51 mothers participated in the study. Children answered questionnaires about defensiveness, anxiety, and depression, whereas mothers completed a questionnaire of anxiety, depression, and stress and a question about disclosure of cancer to child. **Results:** Significant differences were found in the defensiveness and depression scores between children with full disclosure and those with no disclosure about their cancer. Although children's adjustment has been directly related to that of their mother's adjustment, we did not find this variable to be a predictor of child's adjustment. The child's defensiveness scores were a strong predictor of child's anxiety and eventually for a high risk for depression. **Conclusions:** Mothers' emotional strains and lack of open disclosure about cancer significantly affect the psychosocial well-being of children. **Implications for Practice:** It is essential for nurses to assess the emotional adjustment and defensiveness strategies that children with cancer use. We believe that nurses caring for children with cancer have a

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All identifying information regarding the study participants has been omitted, and this study was approved by the Academic Research Committee at the Faculty

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professional responsibility to identify and understand defensive behaviors and other characteristics of psychosocial distress and advocate for psychological interventions that will help mothers and their children cope with cancer.

A child's cancer diagnosis and treatment present a series of challenges often resulting in emotional stress and difficulty in adjustment for the child and entire family.^{1,2} Considerable data³ suggest that depression and anxiety are the 2 most generally reported psychological influences causing distress, yet the results of these studies were inconclusive in its finding. For example, whereas most studies showed no significant differences in a child's depression and anxiety status compared with their healthy peers,⁴⁻⁷ some studies reported lower levels of anxiety and depression⁸⁻¹⁰ than did the healthy control participants. Although underlying methodological differences in the previous studies may contribute to these discrepancies, it is unquestionable that a significant number of children experience impaired adjustment during and after the treatment of cancer.

From this perspective, a number of studies adopted the notion of "repressive adaptation" to explain the scarcity of serious adjustment problems among children with cancer noted in the previous studies.⁸⁻¹⁰ It has been suggested^{11,12} that defensiveness is one of the strategies that children with cancer use to help them adjust to their threatening situation and as a protective mechanism against psychosocial difficulties. The link between a defensive adaptive style and low reported depression and/or anxiety scores is well documented,^{8,9,13} where high defensiveness scores were repeatedly found to be combined with low self-reported anxiety and depression, and in recent studies,¹⁴ has become the empirical marker for a "repressive" emotional processing style.

A number of studies suggested that communication approaches of cancer diagnosis may contribute to adjustment problems in children.¹⁵⁻¹⁷ This is related to the marked variation in how and what a child may be told about his/her cancer diagnosis. Unlike western societies, a significant number of Jordanian children,¹⁵ Turkish children,¹⁸ and Japanese children¹⁹ do not know their cancer diagnosis. This issue can complicate research design; for instance, children with cancer who do not know the nature of their illness would have a different perception toward their illness and therefore may report less information related to the impact of illness on their psychological well-being.³ This may bias prevalence levels reported for certain adjustment outcomes among the population with cancer. Significantly, little attention has been given to the influence of these factors on children's adjustment. Therefore, it has been difficult to determine the role of such factors on the emotional consequences of children with cancer in nonwestern societies.

Bemis et al² argued that it is important to acknowledge the potential impact of sociodemographic factors in the process of child's adjustment to cancer. In particular, sociodemographic disadvantage may pose a greater risk for distress and coping with illness in children with cancer. Thus, the purpose of this study is to explore the concept of psychological adjustment, including use of defensive behaviors in children who may or may not be told about the diagnosis of cancer. The following research questions guided this study:

1. Do demographic or illness/treatment variables influence psychological adjustment and/or defensive behavior?
2. Does a child's knowledge of cancer diagnosis influence psychological adjustment and/or defensive behavior?
3. Does the emotional strains and defensiveness scores of mothers impact upon a child's psychological adjustment?

■ Methodology

An exploratory descriptive study was used to investigate whether children with different perspectives about their cancer diagnosis differ in their psychological adjustment and their use of defensiveness behavior and to investigate whether mothers' emotional strains and social desirability scores predict their child's emotional adjustment to cancer.

Ethics Statement

This study was approved by the academic research committee at the Faculty of Nursing at the University of Jordan and the institutional review board of King Hussein Cancer Hospital, Jordan University Hospital and Military Medical Services, and the Ministry of Health in Jordan. All of the participants provided written informed consent and were informed about the study and their rights for confidentiality and anonymity and the right to withdraw from the study at any time.

Participants

Children receiving cancer treatment and their mothers were recruited from the oncology pediatric ward of 4 hospitals in Jordan. All children who are at least 3 months post-cancer diagnosis and receiving chemotherapy and/or radiotherapy treatment were invited. Children had to be between 8 and 16 years old, in a stable condition, and able to understand the Arabic language. For the mothers to be eligible for the study, they had to meet the following criteria: older than 18 years, able to understand and write in Arabic, and had no cognitive or underlying mental problems. The participants in this study were recruited through convenience sampling from 4 hospitals chosen from governmental, private, educational, and military settings.

Procedure

Potentially eligible patients were identified by the chief nurse in the oncology clinics/ward, and then, both child and mother were invited to participate by the first researcher (D.A.) who had explained the study. Informed consent was obtained from parents and children after they indicated their willingness to consider participation. Clinical details of the children were obtained from hospital records. Ethical issues with relation to obtaining informed consent from children when they were not

always aware of the cancer diagnosis were published elsewhere.¹⁶ A semistructured interview and completion of questionnaires with both mother and child were completed during the clinic visit or at the child's bedside if an inpatient.

Instruments

DEMOGRAPHIC QUESTIONNAIRE

The demographic questionnaire contained parent and child information (eg, age, sex, education, income, place of living), as well as information about the child's diagnosis, type of treatment, number of relapses, and time since diagnosis. Regarding the child's knowledge about his/her cancer, parents were asked to answer an open-ended question about what the child knew about his/her illness.

DEPRESSION ANXIETY STRESS SCALE

The Arabic version of the Depression Anxiety Stress Scale (DASS-42)²⁰ was used to measure the mother's emotional strains. The DASS-42 is a self-report inventory of 42 items that measure depression, anxiety, and stress in a healthy person during a negative emotional state. Each subscale of the DASS-42 contains 14 items that are scored using a 4-point severity/frequency scale from 0 ("did not apply to me at all") to 3 ("applied to me very much or most of the time"). Items for each subscale are then calculated by adding the score for each item in the 3 scales, with the higher scores indicating more anxiety, depression, and/or stress. The psychometric properties of the DASS have been demonstrated to be valid and reliable for the Arabic-speaking population in Jordan.^{3,21} Internal reliability values for the current study were satisfactory—0.91 for the total scale. Cronbach's α s were .89, .77, and .83 for depression, anxiety, and stress, respectively.

THE REVISED CHILDREN'S MANIFEST ANXIETY SCALE

The Arabic version of the Revised Children's Manifest Anxiety Scale (R-CMAS)^{22,23} was used to measure children's anxiety and social desirability behaviors. The R-CMAS is a self-report inventory of 37 items that measure anxiety in children aged from 6 to 19 years.

- The Anxiety scale of the R-CMAS includes 28 items that assess anxiety symptoms through 3 subscales: psychological anxiety (10 items), worry/oversensitivity (11 items), and social concern/concentration (7 items).
- The Lie/Social Desirability scale includes 9 items that measure the child's tendency to present oneself in a favorable light and/or deny flaws and weaknesses that others are usually willing to admit.²⁴ The Lie scale is often used as an indicator of social desirability²² and/or defensiveness behaviors.^{3,13,24}

For scoring, the R-CMAS is scored with a true/false format (1 for true and 0 for false). The total score of anxiety scales ranges from 0 to 28, and an overall cutoff point of 19 can be used to identify children experiencing clinically significant levels of anxiety. The reliability and validity have been demonstrated

for the Arabic translated version of R-CMAS for children in Jordan.²³ The Cronbach's α for the current study was .73 for the R-CMA and is consistent with previous estimates reported by Al Jabery and Arabiat.²³

THE CHILDREN'S DEPRESSION INVENTORY

The Arabic version of the Children's Depression Inventory (CDI)²⁵ was used to measure children's depression. The CDI is a self-report inventory of 27 items that measure depressive symptoms and suicidal ideation among children. It is a strong instrument that seems to be acceptable worldwide. The internal consistency and reliability of the Arabic CDI have been found to be good among Arabic-speaking children in Kuwait.²⁶ The Cronbach's α for the current study was .92.

ANALYSIS

All statistical analyses were performed by using IBM SPSS Statistics for Windows,²⁷ version 22.0. A series of bivariate analyses were completed to investigate associations between all variables. We then used the *t* test to determine whether children with different perspectives about their cancer diagnosis differ in their psychological adjustment and their use of defensiveness behavior. Correlation coefficient was used to inspect the relationship between the children's adjustment and their mother's emotional strains. Finally, to investigate whether emotional strains and defensiveness scores of mothers impact upon a child's psychological adjustment, regression analyses were performed.²⁸ The following predictors were entered in the regression analysis: on the first step, child's demographics (eg, age, place of living) and treatment variables (type of cancer, time since diagnosis, type of treatment); on the second step, disclosure of cancer; on the third step, social desirability coping, followed by child's adjustment scores; and on the last step, the mothers' reported depression, anxiety, and stress.

■ Results

In total, 63 families were invited, of whom 58 children and 51 mothers participated (response rate, 90%). The most common reason given for refusal was time constraints, and 5 mothers were unable to stay with their child in the hospital. Of these children, only 33 children were informed about their diagnosis (66.9%), whereas 25 children were misinformed or received no information about their cancer (43.1%). The demographic characteristics of the sample are presented in Table 1. Overall, the children were heterogeneous in terms of cancer diagnoses, yet most of our sample had been given a diagnosis of acute lymphocytic leukemia (58.6%).

Do Demographic or Illness/Treatment Variables Influence Psychological Adjustment and/or Defensive Behavior?

A series of bivariate analyses were completed to investigate associations between a child's demographic variables and their

 **Table 1 • Mean Scores on Child's Measures According to Child's Demographics and Medical Characteristics**

Demographic Variable	n (%)	Depression		Anxiety		Defensiveness	
		Mean (SD)	P	Mean (SD)	P	Mean (SD)	P
Sex			.943		.038 ^a		.138
Boys	33 (57.0)	16.6 (11.5)		10.3 (4.4)		6.0 (2.5)	
Girls	25 (43.0)	14.8 (10.9)		11.1 (6.2)		6.7 (1.9)	
Age, y					.127		.001 ^b
7–11	34 (58.6)	11.9 (8.6)		11.0 (5.6)		6.6 (2.1)	
12–16	24 (41.4)	19.9 (12.7)		10.1 (4.3)		5.8 (2.5)	
Type of cancer			.03 ^a		.80		.785
Acute leukemia	34 (58.6)	16.8 (14.5)		10.9 (4.3)		6.2 (2.4)	
Non-Hodgkin's/Hodgkin's lymphoma	5 (3.4)	14.8 (11.5)		11.0 (6.3)		7.0 (1.9)	
Brain tumor	6 (10.3)	13.0 (7.8)		11.0 (4.8)		6.0 (2.2)	
Other solid tumors	12 (20.5)	15.3 (11.0)		10.0 (7.0)		6.5 (2.1)	
Time since diagnosis			.027 ^a		.042 ^a		.532
≤6 mo	18 (31.0)	27.0 (21.2)		10.1 (4.7)		6.0 (2.7)	
7–18 mo	22 (37.9)	08.8 (4.4)		11.0 (5.8)		6.7 (2.1)	
19–23 mo	13 (22.4)	20.8 (14.0)		11.2 (5.8)		6.4 (1.7)	
≥2y	5 (8.6)	12.0 (2.8)		07.3 (1.5)		5.8 (2.7)	
Type of treatment			.781		.04 ^a		.061
Chemotherapy	42 (72.4)	15.4 (12.3)		10.9 (5.3)		6.7 (2.1)	
Radiotherapy	8 (13.8)	15.6 (10.6)		12.0 (5.6)		4.8 (3.1)	
Bone marrow transplantation	7 (12.1)	14.0 (11.0)		5.5 (2.12)		7.0 (1.4)	
Place of residence			.043 ^a		.035 ^a		.804
Urban area	23 (29.6)	15.1 (10.9)		12.7 (5.2)		6.4 (2.3)	
Rural are	26 (44.8)	12.8 (11.5)		08.7 (4.3)		5.8 (2.2)	
Refugees' camps	9 (15.5)	16.5 (9.2)		10.0 (5.47)		6.2 (2.3)	

^a $P \leq .05$.

^b $P \leq .001$.


measures of adjustment and defensiveness. As presented in Table 2, results of an independent sample *t* test revealed no significant difference in depression scores and defensiveness between boys and girls. There was a significant difference in anxiety levels between boys (mean [SD], 10.3 [4.4]) and girls (mean [SD], 11.1 [6.2]), which suggests that girls are at a higher risk for anxiety than boys. An additional independent sample *t* test was conducted to compare children according to age group. There

was a significant difference in reported defensiveness between younger children (mean [SD], 6.6 [2.1]) and older children (mean [SD], 5.8 [2.5]). These results showed that child's age, mainly developmental stage, has an impact on child's reported defensiveness behavior.

One-way analysis of variance (ANOVA) was used to test for child's adjustment and defensiveness differences and the child's medical/treatment variables. Comparisons between children according to the type of cancer and treatment revealed a significant difference in mean depression scores for children with acute leukemia ($P=.043$), as well as a higher level of depression for children with active chemotherapy treatment (mean [SD], 10.9 [5.3]). Another 1-way ANOVA was used to test for adjustment and defensiveness differences among the listed categories of time since diagnosis. As expected, findings revealed significant differences in mean anxiety and depression scores for children who were given a diagnosis less than 6 months ago. Finally, association between place of residence and the child's anxiety and depression using 1-way ANOVA was found to be significant ($P \leq .05$ and $P \leq .001$).

Does a Child's Knowledge of Cancer Diagnosis Influence Psychological Adjustment and/or Defensive Behavior?

The mean scores on the child's adjustment and defensiveness measures according to children's knowledge about their diagnosis are presented in Table 3. Significant differences were found in the

 **Table 2 • The Relationships Between Child's Measures and Mother's Emotional Strains**

Variables	Child's Defensiveness	Child's Depression	Child's Anxiety
Maternal stress			
Correlation index	0.011	0.518 ^a	0.479 ^a
P	0.92	0.001	0.006
Maternal depression			
Correlation index	0.108	0.474 ^a	0.348
P	0.53	0.003	0.06
Maternal anxiety			
Correlation index	0.15	0.507 ^a	0.24
P	0.39	0.002	0.19
Defensiveness			
Correlation index	—	−0.368 ^a	−0.342 ^a
P		0.005	0.02

^aCorrelation is significant at the .05 level (2-tailed) using Pearson correlations.

**Table 3 • Mean Scores on All Measures for Children According to Their Knowledge of Diagnosis**

Measures	Disclosure of Cancer Diagnosis				95% Confidence Interval of the Difference	
	Full Disclosure (n=33)	No Disclosure (n=25)	t Test		Lower	Upper
	Mean (SD)	Mean (SD)	t Test	P		
Social desirability	6.6 (1.9)	5.9 (2.7)	1.25	.03 ^a	−0.48	2.05
Child's anxiety	10.3 (5.3)	11.3 (5.0)	−0.44	.40	−3.8	2.4
Child's depression	12.9 (7.4)	19.5 (15.2)	11.06	.00 ^b	11.2	16.1
Maternal anxiety	17.1 (8.7)	14.6 (9.7)	0.80	.63	−3.8	8.8
Maternal depression	18.3 (11.9)	18.5 (10.4)	−0.06	.37	−8.1	7.7
Maternal stress	23.4 (10.2)	21.1 (10.0)	0.68	.76	−4.7	9.4

^a $P \leq .05$.^b $P \leq .001$.

defensiveness and depression scores between children with full disclosure and those who did not know about their cancer.

Does the Emotional Strains and Defensiveness Scores of Mothers Impact Upon a Child's Psychological Adjustment?

The association between scores on the child's adjustment and defensiveness and the mother's emotional strains is presented in Table 2. The association between measures is consistent with what might be expected. The results of Pearson's correlation analysis revealed a significant negative effect for defensiveness over depression and anxiety scores, suggesting that children reporting less depression and less anxiety scored higher on the defensiveness measure. In addition, the children's depression correlated with their mother's stress and depression. These findings suggest that the mother's emotional strains were clearly associated with a higher risk for depression and anxiety in their children.

Table 4 shows the 5 regression analyses that were carried out to explain the factors contributing to the child's reported anxiety and depression levels. In the second step of the regression analysis, both anxiety and depression scores are explained by the place of residence. Yet, it is not until the third step that the child's anxiety is explained significantly by the child's reported defensiveness/social desirability behavior. In the fourth step, both defensiveness and the child's depression scores explained the child's anxiety significantly. The explanation of the child's depression follows a little different route. Steps 4 and 5 of the regression analysis are explained significantly by the child's anxiety scores. From these steps, it becomes clear that disclosure of cancer, medical characteristics, and the mother's emotional strains do not explain depressive symptoms and anxiety in children with cancer. The mother's emotional strain does not seem to be a predictor to children's emotional adjustment; yet, the child's depression and defensive scores do seem to be the most important predictors for the child's reported anxiety.

■ Discussion

This study used a cross-sectional descriptive design to examine the child's adjustment and defensiveness in relation to

their mother's emotional strains and their knowledge about cancer. To our knowledge, this is the first study to report the influences of sociodemographic status and illness/treatment variables on children's adjustment within a pediatric population with differing knowledge about their cancer diagnosis.

In this study, the child's adjustment and defensiveness scores were first examined in the context of the child's demographics and medical characteristics. Consistent with previous findings, results indicated no significant differences in the defensiveness scores as a function of sex. Significant differences in defensiveness were only found as a function of age, where younger children reported higher defensiveness scores compared with older children. In terms of the age findings, younger children (7–11 years) had significantly higher defensiveness scores (a mean of 6.64) than older children (a mean of 5.79), which may be an indicator that the increase in age enhanced the children's abilities to accurately report their behavior as opposed to a supposition of their ideas about their behavior.^{22–24}

In terms of child's adjustment, our finding indicated that girls had significantly higher anxiety scores than boys, which is consistent with Allen et al's²⁹ view. In contrast, a number of studies reported that self-reported measures of anxiety and/or depression did not change with sex and age.^{6,8} In addition, it was also reported that there was a significant difference between anxiety and depression scores according to time since cancer diagnosis. Although previous research⁹ has found no significant relationship between time relapsed since diagnosis and a child's adjustment, our findings show that children at their early cancer treatment stage are at a higher risk of experiencing depression. These findings also suggest that the first 6 months of treatment is characterized by a higher risk of psychosocial problems.³⁰

Although our findings reported a lower level of anxiety among children undergoing bone marrow transplantation compared with children receiving chemotherapy and/or radiotherapy, we cannot generalize these findings because of the small number of children undergoing bone marrow transplantation.

Another significant finding of this study is that disclosure about cancer is related with the child's reported level of depression and anxiety, but not with their mother's emotional strains. Significantly, children with no information about their diagnosis reported higher levels of depression and anxiety scores. Although we might expect that mothers who used open disclosure would have lower emotional strains than mothers

❁ **Table 4 • Simultaneous Regressions (β) for Measures of Depression and Anxiety of Children With Cancer**

	<i>R</i>	<i>R</i> ²	<i>P</i>	Adjusted <i>R</i> ²	Child's Depression, β	<i>R</i>	<i>R</i> ²	<i>P</i>	Adjusted <i>R</i> ²	Child's Anxiety, β
Step 1	0.692	0.478	.62	−0.130		0.326	0.106	.48	−0.009	
Age					0.114					0.164
Sex					0.019					−0.140
Time since diagnosis					−1.15					0.105
Type of cancer					0.451					0.165
Type of treatment					0.371					0.275
Place of living					−0.371					0.008
Step 2	0.584	0.341	.88	−0.428		0.488	0.238	.18	0.086	
Age					−0.224					−0.070
Sex					−0.109					0.141
Time since diagnosis					−0.327					−0.113
Type of cancer					0.278					0.278
Type of treatment					−0.483					−0.077
Place of living					−0.307 ^b					0.364 ^b
Disclosure of cancer					0.171					0.261
Step 3	0.503	0.253	.46	0.004		0.564	0.319	.08	0.158	
Age					−0.069					−0.190
Sex					−0.214					0.040
Time since diagnosis					0.009					−0.035
Type of cancer					−0.026					0.245
Type of treatment					−0.013					−0.076
Place of living					0.078					0.228
Disclosure of cancer					−0.157					0.213
Defensiveness					−0.217					−0.328 ^b
Step 4	0.670	0.449	.002	0.349		0.760	0.578	.03	0.378	
Age					0.029					−0.179
Sex					−0.020					0.058
Time since diagnosis					−0.184					−0.222
Type of cancer					0.306					0.121
Type of treatment					−0.039					−0.159
Place of living					−0.119					0.246
Disclosure of cancer					−1.170					0.186
Defensiveness					−0.237					−0.428 ^b
Child's depression	—	—	—	—	—					0.536 ^a
Child's anxiety					0.486 ^a	—	—	—	—	—
Step 5	0.83	0.688	.005	0.515		0.779	0.608	.01	0.451	
Age					0.408 ^b					−0.347
Sex					0.039					−0.128
Time since diagnosis					−0.007					
Type of cancer					0.306					−0.276
Type of treatment					−0.039					0.200
Place of living					−0.119					−0.017
Disclosure of cancer					0.094					0.197
Defensiveness					−0.480					−0.135
Child's depression	—	—	—	—	—					0.682 ^a
Child's anxiety					0.413 ^b	—	—	—	—	—
Maternal depression					0.174					0.121
Maternal anxiety					0.516					−0.621
Maternal stress					−0.013					0.551

^a*P* ≤ .05.

^b*P* ≤ .001.

who did not disclose cancer to their children, this was not the case. There was a similar finding between group differences and also for the defensiveness scores.

Interestingly, disclosure of cancer significantly impacted the child's reported level of depression and their social desirability behavior. The significant differences identified between defen-

siveness and depression scores among children who knew their cancer diagnosis and those who did not suggest that withholding disclosure of cancer diagnosis may trigger overt psychological distress and higher levels of depression and defensiveness behavior.

In this study, children's adjustment to cancer has been directly related to that of their mothers'. The positive correlation

suggests that the higher the mother's stress, the higher the child's anxiety and depression scores. This is also congruent with Frank et al³¹ and Wurr³² who found that parental anxiety is associated with depression and behavioral problems in children. Our findings confirmed that the higher the mother's level of anxiety and depression, the higher the child's depression scores.

Finally, although it has been suggested in the literature that maternal adjustment after cancer diagnosis may predict the child's adjustment,³³ this was not confirmed in this study. A mother's emotional strains did not turn out to be a predictor for their child's reported depression or anxiety scores. The main finding of the study is that some of the child's socio-demographic factors (mainly place of residence and age) emerged as a significant predictor of child's adjustment. Girls could possibly be perceived as more vulnerable to adjustment problems as boys. In addition, the child's depression and defensiveness scores seem to be the most important predictors for the child's reported anxiety and vice versa.

In this study, there are several limitations that should be taken into account. First, our findings are based on cross-sectional data; therefore, future research design should be extended longitudinally to explore how changes in the variables of interest impact upon the child's adjustment and coping with cancer. Second, this study is correlational in nature, and our results cannot be used to imply causality. In addition, there was a focus on some specific factors (eg, mother's adjustment, knowledge about cancer) that may influence the emotional adjustment of children with cancer. It is yet to be discovered how children's adjustment may be influenced by other factors related to the child's environment or their coping strategies. Other limitations that should also be taken into account are the reliance on the mother's perceptions of what their children knew about their diagnosis in addition to the limitations related to the use of self-report measures.

In conclusion, our findings are of great significance for nurses and other health-related personnel involved in caring for children with cancer. They offer clear signals related to the importance of being perceptive to the emotional adjustment and defensive coping strategies that children with cancer use. We believe that nurses and other allied healthcare professionals have a need and an obligation to understand the impact of a mother's emotional strains on their children's adjustment. Nurses should identify and understand defensive behaviors and other characteristics of psychosocial distress and advocate for psychological interventions that will help mothers and their children cope with cancer. Nurses in particular should take note that children in nonwestern societies may present with high defensiveness behaviors, which may reflect significant psychological distress. Children in these societies are more likely to be vulnerable to stress related to the lack of appropriate communication approaches, which could also affect their parents. Our findings echo our earlier results¹⁵ that communication approaches related to cancer diagnosis and knowledge and skills in the use of defensiveness coping strategies may affect a child's adjustment to cancer.^{3,14} It remains essential for healthcare professionals, in particular nurses, to be sensitive and familiar about factors promoting both a child and parent's adjustment.

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