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Full Length Research Paper

Palestinian mothers' and pre-school children's mental health problems

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The aim of this study is to investigate the relationship between mothers' and their pre-school children's mental health problems. A sample of 324 pre-school children aged 4 to 6 years were selected from 20 kindergartens in the Gaza Strip. Mothers completed the Hopkins Symptoms Checklist and the Children Behavior Checklist. The most common mental health problems among mothers were: headaches (32.4%), crying easily (31.5%), feeling nervous (25.9%), and tension and excitement (25.9%). Of those, 41% of mothers reported severe symptoms, and these were higher if fathers were unemployed. There was significant association between boys' overall mental health (emotional and behavioral) problems and maternal depression. Among girls, there was a significant association between their overall mental health problems and their mothers' total mental health, anxiety, and depression problems. Maternal and child mental health problems are strongly inter-related from an early age. Therefore, universal and targeted interventions should involve both parents and children; enhance positive aspects of their relationship; and be integrated with other health, social care and educational initiatives.

Key words: Mothers, mental health, preschool children, Gaza Strip.

INTRODUCTION

Many studies also showed that parents' own psychological distress influence children's development and health beyond the perinatal period. For example, Cunningham et al. (2004) described the pattern of emotional and behavioral problems of children whose mothers have mental illness, and found a significant association between children's difficulties and maternal insecure attachment. It has long been established that parental mental health disorders such as anxiety and depression can adversely impact on children's development (Stein et al., 2008; Mofrad et al., 2009). Maternal depression, particularly during the postnatal period, has been extensively studied, and has been found to be associated with an increased risk of emotional and behavioral problems in young children, as well as a range of cognitive and developmental delays (Rahman et al., 2008; Campbell, 2010). Others found that children of mothers who reported higher levels of anxiety during their pregnancy showed more overall problem behaviour, hyperactivity/inattention problems, emotional symptoms, peer relationship problems, conduct problems and showed less prosocial behaviour when mothers had rated their children's behaviour (Loomans et al., 2011). The underlying mechanisms involve multiple risk factors, in particular impaired parenting capacity. This is additionally influenced by cultural and rearing attitudes, for which reason it is important to replicate previous research in different cultural groups. There has been particularly limited knowledge on mothers and pre-school children in Middle East countries; hence this was the rationale for this study.

METHODS

The aim of this study was to explore the relationship between mothers' and preschools children's mental health problems among families living in representative areas of the Gaza Strip.

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Subjects

The sample consisted of a randomly selected sample of the total 303 kindergartens across the Gaza Strip. One kindergartens was selected from each of three cities, that is, Gaza city, Der El Balah city and Khan Younis city. Similarly, one kindergarten was selected from the Maghazi, Nusirate, and Elburij camps, and one from the Zwaida village. These were representative of the different types of kindergartens in the Gaza Strip. All preschool children aged 4 to 6 years were selected from the registration books of these ten kindergartens. Only one child was selected from each family. If a family had more than one child in this age range, the youngest child was selected in the first family, the second youngest in the second family, the second oldest child in the third family, and the eldest child in the fourth family. This method was repeated in subsequent families. The sample thus included 380 preschool children, of whom questionnaires were completed on 324 children and their mothers.

Measures

Socio-demographic checklist

Demographic information about the participants included gender, age, number of brothers and sisters, birth order, health problems, area of residence, family income, maternal age, maternal education, and maternal occupation.

Hopkins symptoms checklist (HSCL-25; Derogatis et al., 1974)

The HSCL-25 is a widely used standardized self-rating scale of common adult mental health problems. This includes ten items from the HSCL-58 anxiety cluster (suddenly scared for no reason; feeling fearful; faintness, dizziness, or weakness; nervousness or shakiness inside; heart pounding or racing; trembling; feeling tense or keyed up: headaches; spells of terror or panic; restlessness, cannot sit still), and 13 items from the depression cluster (feeling low in energy, slowed down: blaming yourself for things; crying easily; loss of sexual interest or pleasure; feeling lonely; thoughts of ending your life; feeling of being trapped or caught; worrying too much about things; feeling no interest in things; feeling everything is an effort; feeling of worthlessness). It also includes two additional somatic symptoms (poor appetite and difficulty in falling asleep or staying asleep) (Derogatis et al., 1974).

These 25 items are rated on a four-point scale ranging from 1 to 4, focusing on symptoms experienced during the previous week. A score of 1 implies that the specific symptom has not been present; while a score of 4 means that the symptom has been constantly present. All item scores were totalled and divided by the number of items, thus giving the respondent a continuous score between 1 and 4. The score of 1.75 has been found to indicate likely clinical symptoms (Mollica et al., 1987). The Arabic translated version has been shown to be reliable and valid in a multicultural context (Afana, 2002). In this study, the split half reliability of the scale was r=0.90. The internal consistency was calculated using Chronbach's alpha as α=0.95).

Behavior checklist (BCL; Richman and McGuire, 1986)

This standardized measure of mental health (behavioral and emotional) problems was specifically designed for preschool children. The BCL is completed by a parent, who selects which behavioural description out of three or four choices fits their child over the previous four weeks. A score of 0 indicates the behaviour is absent, a score of 1 indicates it is sometimes present or present to a mild degree, and a score of 2 that it occurs frequently or to a marked degree. A total behavior checklist score was estimated. The BCL was been used in the Gaza Strip (Thabet et al., 2006) and was applied in Iranian preschool children during the first Gulf War (Kalantari et al., 1990).

Research procedure

Research ethics approval was granted by the authorizing body in the Ministry of Health and Education to allow the researchers to carry out the study. The researchers trained six field workers as a team to help in the data collection. The team collected data through meetings with the principal of each kindergarten. The data collectors explained to each mother the aims of the study and discussed the ethical considerations provided by the information letter. The mothers who provided consent subsequently completed the questionnaires. The response rate was (85.3%).

Statistical analysis

The statistical analyses were accomplished with the SSPS for Windows (version 17). Frequencies, mean scores and standard deviations were used to describe the sample of mothers and preschool children, mothers' and children's mental health scores according to the Hopkins Checklist and Child Behavior Checklist. The T-test, one-way analysis of variance and post hoc Tukey's T-test were used to test both the differences in mean scores of the Children Behavior Checklist and the Hopkins Symptoms Checklist, and other sociodemographic variables such as gender, place of residence, number of

Table 1. Sociodemographic characteristics of mothers and preschool children (N=324).

	Frequency	Percent
Gender		
Male	159	49.1
Female	165	50.9
Area of residence		
Nusirat camp	61	18.8
Maghazi camp	51	15.7
Elbrurij camp	48	14.8
Dear El-Balaah city	45	13.9
Khan Younis city	34	10.5
Zawaida village	37	11.4
Gaza	48	14.8
Type of residence		
City	57	17.6
Camp	194	59.9
Village	73	22.5
Number of siblings		
Less than 4	130	40.2
From 5-7	142	44
More than 8	51	15.8
Family monthly income		
Less than 350$	158	48.9
From 351-650$	119	36.8
Above 651$	46	14.2
Paternal education		
Uneducated	7	2.2
Primary education	32	9.9
Preparatory education	68	21.0
Secondary education	95	29.3
Diploma	49	15.1
University degree	65	20.1
Post graduate	8	2.5
Maternal education		
Uneducated	14	4.3
Primary education	66	20.4
Preparatory education	86	26.5
Secondary education	98	30.2
Diploma	31	9.6
University degree	26	8.0
Post graduate	3	0.9
Paternal job		
Unemployed	79	24.4
Simple worker	65	20.1
Skilled worker	63	19.4
Civil employee	82	25.3
Farmer	20	6.2
Mechanics	15	4.6
Maternal job		
Housewives	277	85.5
Simple worker	20	6.2
Civil employee	27	8.3

siblings and monthly family income.

RESULTS

Socio-demographic data

The sample consisted of 159 male (49.1%) and 165 (50.9%) female children (Table 1). According to the selection criteria, the age range was 4 to 6 years, with a mean age of 5 years. Sixty one children lived in the Nusairat camp (18.9%), 51 in the Magazi camp (15.7%), and 48 in the Elburij camp (14.8%); 45 children live in Dear El-Balah city (13.9%), 34 in Khan Younis city (10.5%), 48 in the Gaza city (14.8%), and 37 live in the Zawaida village (11.4%). Overall, 57 children and their mothers lived in urban areas (17.6%), 194 in camps (59.9%), and 73 in a rural area (22.5%).

Families were of large size, as 40.2% of the participating children had 4 or less than siblings, 44% had 5 to 7 siblings and 15.8% of children had 8 or more siblings. Almost half of the families (49.4%) had a monthly income under $350, 37.3% between $351 to 650, and 13.3% had a monthly income above $650. Regarding parental education, 7 (2.2%) fathers were uneducated, 32 (9.9%) had primary school education, 68 (21.0%) had preparatory education, 95 (29.3%) had secondary education, 49 (15.1%) had diploma education, 65 (20.1%) held a University degree, and 8 (2.5%) held a post graduate degree. Similarly, 14 (4.3%) mothers were uneducated, 66 (20.4%) had primary education, 86 (26.5%) had preparatory education, 98 (30.2%) had secondary education, 31 (9.6%) had a diploma degree, 26 (8%) a University degree, 3 (0.9%) held a post graduate degree. In relation to employment status, 79 (24.4%) fathers were unemployed, 65 (20.1%) were simple workers, 63 (19.4%) skilled workers, 82 (25.3%) civil employee, 20 (6.2%) were farmers, and 13 (4.6%) were mechanics. Of the mothers, the majority (277, or 85.5%) were housewives, 20 (6.2%) were simple workers (6.2%), 27 (8.3%) were civil employees.

Mothers' mental health problems

The study showed that the most common mental health problems reported by mothers were: headaches (32.4%), crying easily (31.5%), feeling nervous (25.9%), tension and excitement (25.9%). The least common problems were: restriction and cannot change her life (8.6%), terror and panic attack (9.6%), and trembling (10.2%). As shown in Table 2, the mean total mental health score according to the John Hopkins Checklist was 41.58 (SD =11.6),anxiety subscale mean scores were 17.93 (SD = 5.53), and depression subscale mean scores 23.65 (SD = 6.54). Considering the previous cut-off score of >1.75 as caseness (that is, likelihood of having a

Table 2. Means and Standard Deviations of maternal mental health (HSCL-25) and preschool children's (CBL) mental health scores (N=324).

Mothers' mental health problems	N	Mean	SD
Total HSCL-25 scores	324	41.58	11.16
Anxiety subscale scores	324	17.93	5.53
Depression subscale scores	324	23.65	6.54
Children's total CBL scores	324	14.8	3.9

Table 3. Relationship between mothers' and children's mental health problems (Pearson correlation coefficient).

	1	2	3	4
Total CBL score	-	0.30**	0.23**	0.31**
Total HSCL-25 score	0.30**	-	0.91**	0.94**
Anxiety subscale score	0.23**	0.91**	-	0.71**
Depression subscale score	0.31**	0.94**	0.71**	-

**p =0.001.

psychiatric disorder requiring specialist assessment and treatment), 133 mothers (41%) had severe symptoms that would require assessment and potential intervention, while 191 mothers were within the normal score range (59%).

Mental health problems of preschool children

The most commonly reported mental health problems in preschool Palestinian children according to their mothers were: very active (74.4%), not understood by others (68.8%), poor eating (66.3%), awake at night (61%). The least common problems were: wets his clothes three times weekly (5.5%), wets his clothes once or twice during the day per week (6.7%), and smears his clothes more than three times per week (7%). The total mean CBL scores were 14.8 (SD = 3.9).

The T-independent test was performed to investigate gender differences on total CBL scores, and no statistically significant differences were detected. One-way ANOVA analysis was used to explore potential differences between overall mental health problems of children according to variables such as age, number of siblings, type of residency, and family income. Post hoc test using Tukey test results showed that there were significant differences in overall mental health problems according to the area of residence, with higher CBL scores reported for children living in the Burij camp (F = 3.6, p = 0.002).

One way ANOVA analysis was also used to compare the same socio-demographic sub-groups on maternal mental health scores. Post hoc results showed that there were significant differences between the overall mothers' mental health according to the place of residence, as women living in the Burij camp (mean = 46.6) reported more mental health problems than those living in the Maghazi camp (mean = 39.01) and Zawaida (mean = 38.6) (F = 2.72, p = 0.01). Mothers whose husbands were unemployed also reported significantly more mental health problems (mean = 45.4) than wives of merchants (mean = 34.8) and civil employees (mean = 39.1) (F= 2.79, p =0.008).

Relationship between mothers' and children's mental health

The Pearson correlation test was used to test the association between total maternal mental health; anxiety, depression subscales; and total children's mental health scores (Table 1). There was a significant association between overall maternal and children's mental health problems (r = 0.22, p = 0.001); between maternal anxiety and children's mental health problems (r = 0.19, p = 0.001); and between maternal depression and children's mental health problems (r = 0.22, p = 0.001). Among boys, there was a significant association between their mental health problems and their mothers' depression scores (r = 0.19, p = 0.04). When the analysis was repeated for girls, there was a significant association between their mental health and maternal overall mental health (r = 0.31, p = 0.001), anxiety (r = 0.29, p = 0.001) and depression problems (r = 0.27, p = 0.001) (Table 3).

DISCUSSION

Our main finding of a significant association between Palestinian mothers' and preschool children's mental

health problems is consistent with other research. A number of earlier studies established that a mother's mental health, particularly her level of depression, was a strong predictor of mental health problems experienced by her children (Najman et al., 2000). Some researchers investigated the underpinning maternal attachment style, with insecure attachment being associated with both variables (Cunningham et al., 2004).

A number of psychosocial predictors have also been found to predict the development and continuation of this interaction between maternal and child mental health. In a longitudinal study in Southern Norway, Skreden et al. (2008) found that psychological distress of mothers after five years was predicted by initial psychological distress, being single, low educational level status, unemployment, and low quality of relationship with their partners. Although poverty per se does not lead to such problems, this is a well established contributing factor (Dahl and Lochner, 2011).

Some of these mechanisms may be involved in the Gaza Strip community, which is characterized by extreme levels of socioeconomic deprivation, including the lack of meeting children's basic needs. The presence of higher rates of mental health problems in Palestinian mothers has been repeatedly found to be partly explained by the ongoing stressors and trauma due to the war conflict. Mental health problems in Palestinian mothers, maybe the strongest mediating factor of their relationship with their children from a young age (Abu Khousa, 2012).

This study also has a number of limitations. The main one is the completion of measures by the same informant, as mothers with mental health problems may have reflected those in their perceptions of their child's mental health. Corroboration with other informants such as kindergarten teachers or more costly external observations would control for this constraint in future research. Diagnostic interviews with mothers could also reduce the possibility of recall and reporting bias. The selection of other family and community variables in the design, as well as follow-up of these families over a number of years would provide a better understanding of the mechanisms involved, and this would in turn inform the development of services and interventions.

The findings have a number of service and practice implications, particularly for countries affected by poverty and war conflict like the Gaza Strip, but that also have strong community and social support networks. Interventions should build on existing strengths and initiatives. Early detection of mental health problems in both mothers and their children could be improved by training of volunteers, community, health and social care workers who come in contact with the families, for example through their visits to primary health centers. Awareness and education campaigns can alleviate stigma and encourage help-seeking. Involvement of extended families and communities can moderate coping and parenting deficits, while alternative social and recreational activities such as at kindergartens can build children's resilience outside the home. Community parenting programs can either be provided at universal or targeted level for those mothers more in need, while psychiatric provision should be available for those with more severe and complex problems and disorders.

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