Maternal Depression: A Risk Factor of Childhood Mental Illness

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The current study was conducted to investigate the correlation between mother's depression and risk of depression and behavioral problems in children (n=60). A Childhood Depression Scale was constructed to discover the possibility of depression in children of high risk (depressed) and low risk (non-depressed) mothers which comprises 43 items. It has five factors e.g., emotional, motivational, behavioral, cognitive and physical subscale. The Siddiqui Shah Depression Scale (Siddiqui.1992), which comprises 37 items, was used to recognize high (depressed) and low risk (non-depressed) mothers. It was hypothesized that offspring of high risk (depressed) mothers will be at elevated risk for depression than offspring of low risk (non-depressed) mothers. Outcomes indicated that total and all the subscales of Childhood Depression Scale were quite reliable. Construct validity (Convergent validity) was established by correlating it with Child Problem Checklist (CPCL) (Tariq & Hanif, 2007). Children of elevated risk (depressed) mothers were found at higher risk of depression than children of low risk (non-depressed) mothers. There was a non-significant difference among male and female children on depression. Children of high risk (depressed) mothers rated higher on all the factors of depression than children of low risk (non-depressed) mothers.

Key words: maternal depression, risk, childhood depression, gender differences

In almost all families parents shoulder the responsibility of bringing up their young. With ever changing pattern in the world, families in most societies are becoming more nuclear in structure. Both mother and father bear the physical, financial and psychological responsibilities to care for their young. If one of the parents is depressed, and lives at the home, burden on the other parent and children increases. Increased burden and stress can potentially germinate depression in children (Phelan, Lee, Howe, & Walter, 2006).

Family unit with a depressed parent may practice high levels of traumatic life actions (e.g. health and financial difficulties). These stressful life events in turn are likely to exacerbate a parent's depressive episodes and contribute to disruptions in parenting. For example high levels of stress may restrict the parents' ability to involve the child in activities outside the home and may limit the family's social networks. Thus the child may have limited opportunity to interact with other adults outside the family or to have access to other sources of social support. This deficiency may be particularly problematic in that one of the mechanisms by which depressed parents may affect the functioning of their offspring is the parents' own problems in interpersonal functioning and their perceptions of others (Hammen, & Brennan, 2001).

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Maternal depression has been recognized as a very significant parenting variable in reference to child outcomes. Maternal depression is a key interpreter of harmful parenting behaviors (e.g., shouting) and that every further depressive indication enhances the probability that the mother will display low levels of constructive parenting behaviors. Maternal depression can have severe and long-term outcomes for a child's growth. The consequences of maternal depression are not limited to early years, but can also expand into toddlerhood, playgroup age and even school age children. Children of depressed mothers are at threat of developmental and behavioral troubles and may be prone for rising depressive disorders themselves (Rutter & Taylor, 2002).

Frye and Garber (2005) studied the association among maternal disapproval, the chronicity and harshness of mother's depression record, and children's externalizing and internalizing indicators. Children of depressed parents have been established the elevated levels of externalizing and internalizing indicators compared to children of typical controls. In accumulation, depressed parents were more pessimistic and more critical with their children. Depressed mothers have been originated to be three to five times more expected to be classified as elevated disapproval than non depressed mothers. Gotlib and Goodman (1999) proposed a developmentally receptive, integrative plan for considering children's risk in accordance to maternal depression. Four means through which hazard might be transferred are (a) genetic inheritance of depression (b) inherent dysfunctional neuro-regulatory systems (c) experience of harmful maternal thought patterns, behaviors and distress and (d) the

traumatic framework of the children's lives. Three features that might moderate this threat are considered (a) the father's wellbeing and attachment with the child (b) the pathway and timing of the mother's depression, and(c) features of the child.

Researches have observed the differential impact of depressed mothers against depressed fathers on the regulation of their children. Jacob and Johnson (1997) illustrated that depressed mothers and fathers both add to deprived outcome in children. Depressed mothers reported larger pessimism and poorer contact within the family. In childhood, boys and girls emerge to have an equivalent threat of depressive disorders; generally no gender distinctions are accounted for children's age six to ten (Nelson & Israel, 2003). But through teenage years, girls are two times as likely as boys to grow depression (Lewinsohn, Clarke, Seeley, & Rohde, 1994) Children who develop major depression are more expected to have a family background of the disorder (Hildebrand, 2000).

Schwartz, Gladstone and Kaslow (1998) describe the phenomenology of depression at different developmental stages. Infants and toddlers lack the cognitive and verbal abilities necessary to self reflect and report depressive thoughts and problems. Given cognitive, language and other developmental differences, it is likely that depressive behavior in this age group may be quite different from adults. However, the description of deprivation reactions in infants separated from their primary caregivers in many ways seems similar to that of depression (Nelson & Israel, 2003). These and other distressed infants and newborns of depressed mothers have been observed to exhibit behaviors such as tiredness, feeding and sleep difficulties, bad temper, distressing facial appearance, extreme weeping and declined responsiveness-behaviors often associated with depression. Depression in preschoolers is also difficult to assess. Again, many of the symptoms associated with later depression have been noted in youngsters in this age group (e.g., bad temper, miserable facial appearance, altered temper, nourishing and sleep troubles, exhaustion and too much crying) (Newman & Newman, 2003). For the period of middle childhood, there is more evidence that a prolonged pattern of depressive symptoms may emerge. Younger children in this age group typically do not verbalize the hopelessness and self deprecation associated with depression. However, nine to twelve years olds who exhibit other symptoms of depression may verbalize feelings of hopelessness and low self esteem. Still in youngsters in this age group, depressive signs may not be a typical syndrome but may exist with multiple indicators generally connected with other disorders. During the early adolescent period, the manifestation of depression is in many ways similar to that of the childhood period (Herring & Kaslow, 2002).

This study is a preliminary check for designing a PhD project to adopt and validate a therapeutic program for the children of depressed parents. As no indigenous scale for assessing the depression level of children was available, so we developed and validated the depression scale for children as well.

Hypotheses

To achieve the above mentioned objectives following hypotheses were formulated:

1. Mothers' depression will be positively related to children's depression and behavioral problems.
2. Children of high risk (depressed) mothers will be at higher risk of depression than children of low risk (non- depressed) mothers.
3. Female children of high risk (depressed) mothers will be at higher risk of depression than male children of high risk (depressed) mothers.
4. Female children of low risk (non- depressed) mothers will be at higher risk of depression than male children of low risk (non depressed) mothers.
5. Children of high risk (depressed) mothers will score higher on all the subscales (e.g., emotional, motivational, behavioral, cognitive and physical) of Childhood Depression Scale than children of low risk (non- depressed) mothers.

Method

This study comprised of three phases. Phase-I was the construction of the Childhood Depression Scale, Phase-II was the pilot study and Phase-III was the main study.

Phase I: Construction of a Childhood Depression Scale

The aim of this phase is to construct a Childhood Depression Scale by passing through following phases:

Step I: Defining and Refining the Construct. It was started by defining the construct through brain storming and developing the conceptual framework. The concept was refined by reducing contamination and deficiency. In developing this new measure, it began by examining previous literature and consulting subject matter experts (SME) on childhood depression scales that have been described by various researchers.

Step II: Generation of item pool. Relevant literature was reviewed and items were generated. The item pool obtained as a result of Step I and II consisted of 61 items.

Step III: Committee approach. Committee approach was used for item selection. Out of 61 items, 43 items were selected that were related to childhood depression on the basis of judgmental validity and cultural relativity.

Step IV: Categorization of items. The items were categorized by the committee of experts. They were categorized into five subscales namely, motivational, emotional, behavioral, cognitive and physical on the basis of judgmental validity. These are the five main symptoms of depression. There are 10 items in emotional, 4 items in

motivational, 9 items in behavioral, 10 items in the cognitive and 10 items in the physical subscale.

Phase II: Pilot Study

A pilot study was carried out to determine the psychometric properties of the scale on a small sample consisted of 15 high risk (depressed) mothers from different hospitals of Islamabad and Rawalpindi. Children with the age range of 10-14 years of these mothers, who were suffering from depression, were selected and Childhood Depression Scale was administered individually.

Phase III: Main Study

Sample

The study was carried out on two independent samples: Sample I consisted of 60 mothers having at least one of their children of age 10-14 years (30 boys and 30 girls) took part in the study. 30 of these mothers were high risk (depressed) taken from different hospitals of Islamabad and Rawalpindi. Depressed mothers were those whose treatment had started at least 2-3 months before the study. Consent was taken from the heads of Psychiatry Departments of various hospitals. Head of Department allotted a medical officer to communicate with the patients in Outdoor Patient Department and Indoor Patient Department. The other group of 30 mothers was low risk (non-depressed), taken from general population with the equivalent demographic information as the cluster of high risk (depress) mothers.

Sample II consisted of 60 children (30 boys and 30 girls) of the above mentioned mothers. The age ranged from 10-14 years.

Instruments

Childhood Depression Scale

A questionnaire of childhood depression was constructed. It is for the children of age 10-14 years. Items are divided into 5 factors (e.g., emotional, motivational, behavioral, cognitive and physical). It is a five point rating scale (viz., always, mostly, often, rarely, very rarely) ranging from "always"= 5 to "very rarely"= 1. Items are internally consistent and with high alpha coefficient is (.98).

Siddiqui Shah Depression Scale

Siddiqui Shah Depression Scale (Siddiqui, 1992) is a native assessment of depression consisted of 36 items. It is a 4 point rating scale. According to the rating process" Never" is give value of '1' and " All the time" give value of '4'. The alpha coefficients for clinical sample was 0.90 and for non-clinical samples was 0.89.

Child Problem Checklist (CPCL)

Child Problem Checklist (CPCL) was constructed by Tariq and Hanif (2007). It is comprised of 80 items. It is designed for children and adolescents for recognizing those behaviors that are difficult. It is a reliable and valid assessment, use with children to know about their behavior problems. The reliability of the scale is .98. This scale was used to establish the validity of Childhood Depression Scale.

Procedure

After getting consent from the specific departments of the hospitals, patients were engaged in the study. As a first step the Siddiqui Shah Depression Scale (SSDS) (Siddiqui, 1992) along with the Informed Consent Form was administered on them. After that, patients were requested to bring their children with them to the hospital on the next visit. A convenient sample of low risk mothers was taken from Islamabad and Rawalpindi with the same demographics as high risk mothers. The same procedure was followed with them like high risk mothers and their children.

In second step their children were asked to respond on Childhood Depression Scale and Child Problem Checklist (CPCL) (Tariq & Hanif, 2007) in order to establish the construct validity of the Depression Scale for Children, and to examine the relationship of mothers' depression with children depression and their behavioral problem. After the compilation of the required information, suitable statistical analyses were done to test the abovementioned hypotheses.

Result

Statistical Package for Social Sciences (SPSS) was used to examine the data. *t*-test and other statistics were applied to identify the differences among study groups.

Final selection of the items was done on the basis of item-total correlation and reliability analysis.

Table 1

Reliability Coefficient of Research Instruments

Scale	No. of Items	Alpha Coefficient
Emotional Subscale	10	.94
Motivational Subscale	4	.81
Behavioral Subscale	9	.93
Cognitive Subscale	10	.94
Physical Subscale	10	.92
Childhood Depression	43	.98
Scale	80	.87
Child Problem Checklist		
Siddiqui Shah	36	.85
Depression Scale		

Alpha coefficient reliability values of sub-scales and total Childhood Depression Scale, and Childhood Problem Checklist (CPCL) are quite satisfactory and it indicates internal consistency.

Item-total Correlation of all items of Childhood Depression Scale varies from .50-.89, for Emotional subscale varies from .64-.89, for Motivational subscale varies from .62-.88, for Behavioral subscale varies from .72-.89, for Cognitive subscale varies from .61-.89 and for Physical subscale varies from .69-.82.

Table 2

Inter- Scale Correlation of Subscales e.g. Emotional, Motivational, Behavioral, Cognitive and Physical of Childhood Depression Scale.

Subscales	Emo	Mot	Beh	Cog	Phy
Emotional	-	.84***	.88***	.92***	.90***
Motivational	-	-	.87***	.76***	.77***
Behavioral	-	-	-	.88***	.89***
Cognitive	-	-	-	-	.95***
Physical	-	-	-	-	-

****p<.001*

Note. Read Emo as Emotional, Mot as Motivational, Beh as Behavioral, Cog as Cognitive, Phy as Physical,

Inter-scale correlation indicates that all the subscales are internally correlated, values ranges from .76 to .95, which are quite satisfactory.

Table 3

Inter Correlations among Variables

		1	2	3
1	Childhood Depression	-	.82**	.55**
2	Children Behavioral Problem	-	-	.58**
3	Mothers' depression	-	-	-

***p< .01*

Table 3 shows that there are significant interrelationships among childhood depression, child behavioral problems, and mothers' depression.

Table 4

Mean, Standard Deviation and t-value of the Children of high risk (depressed) Mothers and low risk (non-depressed) Mothers on Childhood Depression Scale.

Groups	*N*	*M*	*SD*	*T*	*p*	*LL*	*UL*	Cohen's *d*
Children of high risk (Depressed) mothers	31	164.94	38.92	9.76	.000	.23	4.52	0.94
Children of low risk (Non depressed) mothers	29	88.66	16.58					

df = 58,

A *t*-test analysis shown in table 4 revealed a considerable difference in the children of high risk (depressed) mothers and low risk (non-depressed) mothers on Childhood Depression Scale, *t* (58) = 9.76, *p* = .000. Children of high risk (depressed) mothers (M= 164.94, SD= 38.92) scored higher on Childhood Depression Scale than children of low risk (non-depressed) mothers (M= 88.66, SD= 16.58). Children of high risk (depressed) mothers are at higher risk of depression than children of low risk (non-depressed) mothers. A t-test analysis also presented a non significant difference (t = 1.07, *df*= 28, *p* = n.s) between male (M= 159.13, SD= 42.51) and female children (M= 174.13, SD= 33.56) of high risk (depressed) mothers on the Childhood Depression Scale. These findings indicate that there is not much difference in the two groups in terms of their risk for depression.

Furthermore, the difference between male (M= 90.47, SD= 19.45) and female children (M= 86.71, SD= 13.28) of low risk (non-depressed) mothers on the Childhood Depression Scale is non-significant (*t* = .60, *df* = 27, *p* > .05).These findings indicate that there is not much difference in the two groups in terms of their risk for depression.

Table 5

Mean, Standard Deviation and t-value of the Children of high risk (depressed) Mothers and low risk (non-depressed) Mothers on Subscales of Childhood Depression Scale.

Subscales	High Risk (*n* = 31) *M(SD)*	Low Risk (*n* = 29) *M(SD)*	*t*	*P*	*LL*	*UL*	*Cohen's d*
Emotional	38.82 (8.82)	20.07 (4.53)	10.28	.006	- 1.23	3.22	0.67
Motivational	14.97 (3.83)	7.86 (2.33)	8.61	.004	.09	2.43	0.96
Behavioral	34.81 (8.60)	18.00 (4.78)	9.27	.001	.12	4.67	0.65
Cognitive	37.65 (10.73)	20.45 (5.81)	7.64	.003	1.12	5.31	0.94
Physical	38.65 (9.09)	22.28 (5.79)	8.27	.009	.37	4.33	0.83

df= 58

The difference between children of high risk (depressed) mothers and low risk (non-depressed) mothers on the subscales of Childhood Depression Scale are significant (*df* = 58, p<.01). These findings indicate that there is a considerable difference in the two clusters in terms of their risk for depression. Children of high risk (depressed) mothers are scored higher on all the factors of Childhood Depression Scales than children of low risk (non-depressed) mothers.

Discussion

The study data was collected from the children of high risk (depressed) and low risk (non-depressed) mothers. Our results supported first and second hypotheses; there is a relationship between maternal depression and possibility of depression in children. If mother is suffering from depression then children are also at risk of depression. There may be two reasons; first, genetic inheritance of depression from mother into children. As it has been seen in a research by Puigh-Antich, Kaufman and Ryan (1993), that if onset of depression occurred before 20 years of age, greater rates of depression were found among family members. Finding from twin and blended family designs have also suggested a genetic component for depressive symptomatology (O'Connor, McGuire, Reiss, Hetherington, & Plomin, 1998). Second, depression can also be transferred by vicarious learning and modeling. Parents are the best models for children. Children spent most of their time under their parent's guidance by observing and following them. Children

who observe and follow a depressive parent, are more vulnerable to develop depression or at a higher risk for depression than children of non-depressed parents. Negative (depressed) affect and constricted mood on the part of a mother shows up as unresponsive facial expressions and irritable behavior can produce similar responses in her child (Carson, Butcher, & Mineka, 2000). There is also relationship between maternal depression and children behavioral problems. As mothers are often primary caregivers, and depressive symptoms effect their parenting (Weinfiel, Ingerski & Moreau, 2009). Result also coincides with Sheeber, Hops, & Davis (2001) study, who suggest that hostile and conflictual interactions with mothers, in turn relate to children's externalizing and internalizing symptoms.The association between maternal depression and a range of adverse child behavioral and emotional outcomes has been documented in numerous studies and reviews (Goodman 2007 ; National Research Council and Institute of Medicine 2009).These associations have been corroborated most consistently during childhood, when maternal depression has been linked to fussiness and difficult child temperament (Cutrona & Trouman,1986; Whiffen & Gotlib, 1989), insecure attachment (Campbell et al., 2004; Field et al., 1988), behavior problems (Marchand, Hock, & Widaman, 2002; Shaw, Keenan, & Vondra, 1994), and reduced mental and motor development (Murray, Fiori-Cowley, Hooper, & Cooper, 1996; Sharp et al., 1995).

Third hypothesis is regarding male and female children of high risk (depressed) mothers and it was hypothesized that female children of high risk (depressed) mothers will be at higher risk for depression than male children of high risk (depressed) mothers. According to our background, children spent the majority of their time at home by viewing their parents particularly mothers that are the best representation for children. Children pursue them and adopt their way of conversation, behaving, judgment, reaction etc. Both male and female children are at high risk of depression if their mothers are suffering from depression. So girls and boys do not differ in their risk of developing the pathological customs of judgment and behavior. Results suggest that within the age range of the study sample there are non-significant gender variations in risk of depression. Among 8-12 years aged children, the frequency of depression is same for girls and boys (Comer, 2001).

Fourth hypothesis proposes that female children of low risk (non depressed) mothers will be at higher risk of depression than male children of low risk (non depressed) mothers. Children of low risk (non depressed) mothers are at low risk of depression, whether it is male or female child. Usually no gender differences in depression are reported for children age range six to twelve (Nelson & Israel, 2003).

Fifth hypothesis is that children of high risk (depressed) mothers will score higher on all the factors e.g. emotional, motivational, behavioral, cognitive and physical of Childhood Depression Scale than children of low risk (non-depressed) mothers. The children who scored high on Childhood Depression Scale, also scored high on all the subscales of Childhood Depression Scale. Therefore, children of high risk (depressed) mothers scored higher on all the factors of Childhood depression Scale than children of low risk (depressed) mothers.

To encounter the limitations of the present research some recommendations can be considered for future research. In order to have broader generalizations larger sample size is recommended. Data needs be collected from the various hospitals located in diverse cities of Pakistan. A representative and large sample which fulfills the demands of a normative sample can make it possible to establish norms, makes the score interpretation more meaningful and these findings could then be generalized to the population at large. Age range of children can be increased from early childhood to late teenage years. To establish the validity of the Childhood Depression Scale, it was satisfactorily correlated with the Child Problem Checklist, a measure of children's behavior problems. However, the scale could be further validated on personality problems and ADHD symptoms of the children of depressed mothes. Depressed fathers are also recommended to be included in future study to broaden the understanding of relationship between parental illness and children's behavioral problems. Keeping in view the severity of problems of children of depressed parents, it is also recommended to develop or validate a therapeutic program for these children in indigeneous perspective.

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