A COMPARATIVE STUDY ON THE PREVALENCE OF EMOTIONAL AND BEHAVIORAL SYMPTOMS IN CHILDREN AND ADOLESCENTS BORN TO MOTHERS WITH SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS

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Abstract- Based on psychopathological principles, it is expected that any physical or mental disorder in parents, especially mothers, who are in close contact with their children, would have major impacts on children's behaviors and emotions. Considering the role of family atmosphere and training factors in the development of emotional and behavioral disorders in children, an important objective of this study is to evaluate and document the influence of schizophrenic and psychotic mothers in the development of emotional and behavioral disorders in their children. The study has been implemented through randomized sampling, marking the checklists of emotional and behavioral disorders designed by the authors, and computerized analyses, in three groups of children and adolescents: those born to mothers with schizophrenia, those born to control group. Regarding emotional and behavioral disorders, our final analysis eventually documents that there is a statistically significant difference ($P < 0.01$) when we attempt to compare these three groups. Our study concludes that mental disorders of mothers, particularly psychotic disorders and especially schizophrenia, have major impacts on the development of emotional and behavioral disorders in their children.

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INTRODUCTION

Studying the emotional and behavioral problems in children is a controversial field in psychology, and there has been an extensive literature on its various aspects, contributed by many authors throughout the world. Many authorities in behavioral sciences who have studied the growth and development of children, unanimously agree that a loveful, affectionate, social interrelationship between the mother and her child is an essential factor in the development of a strong reliance in the process of child's mental development, and that those children who are deprived of such an interrelationship because of various reasons, including the inaccessibility of the mother or her illness, are often at risk of emotional and behavioral problems originating from the lack of social skills or from underdevelopment of a healthy personality. One of the most important categories in psychiatric disorders that more than others disturb the interrelationship between the mother and her child is the psychotic disorders in mother, especially schizophrenia, that will destruct her skills and disorganize her tasks (1). Also, other mental disorders of mothers will more or less disturb maternal tasks and skills, and consequently the disorganizing symptoms of mothers will inevitably increase the risk of emotional and behavioral problems in their children. Many researchers have fully described the severe developmental retardation among those children who had been neglected and had not received proper attention and care (2). Parental emotional responses to children will undoubtedly have key influences in enabling them to feel self-confidence, security, and role significance. Most of the children with conduct disorders suffer from a long experience of isolation from an appropriately kind relation with their parents (3). Through a series of mechanisms like encouragement, punishment, and expressing themselves as conduct examples, parents create and modify the behavioral patterns in their children. Since the mother is usually in a closer and more consistent relationship with her children, it seems rational that she has the major influence in this regard (4).

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Psychotic mothers, owing to the nature of their disorders, fall short in many of their maternal tasks and responsibilities. Instability in punishing patterns (5), child abuse and intra-familial crisis (6), intolerance of husband, and neglecting the adaptation needs of their children are only a few examples from a deep ocean of problems that will necessarily result in the development of emotional and behavioral disorders in their children. In fact, psychological illnesses are observed much more frequently in mothers with problematic children (children affected with emotional and behavioral disorders), compared with mothers who do not have such children (7).

Considering the role of family atmosphere and training factors in the development and incidence of emotional and behavioral disorders in children, an important objective of this study is to evaluate and document the influence of schizophrenic and psychotic mothers in the development of emotional and behavioral disorders in their children.

MATERIALS AND METHODS

This is a descriptive cross-sectional study to determine the prevalence of emotional and behavioral symptoms in the children and adolescents born to schizophrenic mothers compared with those born either to non-schizophrenic psychotic mothers or to healthy ones. The study analyzes 150 cases, selected through randomized sampling methodology, including 50 children and adolescents born to schizophrenic mothers, 50 born to mothers with non-schizophrenic psychosis, and another 50 born to healthy mothers, During 1999-2000, these mothers were either among the outpatients visiting Razi Psychiatric Center in Tabriz, East Azerbaijan, or among the patients already hospitalized in that center. The children and adolescents were in the age range of 5-18 years.

The group of non-schizophrenic psychotics included mothers with psychotic mood disorders (such as psychotic depression and psychotic bipolar disorder), with postpartum psychosis and delusional disorders, those with schizoaffective disorders, those with acute psychosis, and those with schizophreniform disorders.

Observing outpatient or hospitalized mothers of Razi Psychiatric Center, we selected those labeled diagnostically as schizophrenia or non-schizophrenic psychosis on the basis of DSM-IV criteria. Out of this population, those with offspring in the range of 5 to 18 years were considered. The clinicians, interviewing these children and adolescents as the subjects of the present study, were responsible to mark the specific checklists, designed on the basis of DSM-IV criteria by the authors as our evaluation tool to register any emotional and behavioral disorder.

In the checklist, items related to emotional and behavioral disorders of children were graded based on Likert 5-score scale from the lowest to highest degrees of the disorders (Table 1 and 2). In this scale, total sum of the scores assigned to items in each emotional and behavioral disorder represents the severity of the disorder. Likert Scale resembles very much to Rutter's Questionnaire of Mental Disorders in Children and Adolescnets. In our checklist, there were 17 items included for behavioral symptoms and 24 items for emotional ones; digital scoring in the range of 0 to 5 was used for evaluation. Same checklists were also marked in the cases of the children and adolescents born to healthy mothers. As the cases of non-schizophrenic psychotic patients other than those affected with psychotic bipolar mood disorder were few, in group two we only included this disorder in the analysis, excluding other disorders from group 2 and finally analyzing 150 cases in three groups 1, 2, 3. In the computational step, we statistically analyzed all the data obtained through questionnaires about these three groups, calculating and comparing the average values related to emotional and behavioral symptoms in these groups. Using statistical index, the percentages and patterns of responses to checklists were transformed into comparative tables (Tables 1 and 2). This comparison readily presents an overview of the influences that maternal psychosis may exert on the development of emotional and behavioral symptoms in the children and adolescents, In this study, although the subjects were selected through a totally randomized methodology, we also evaluated all of them regarding age, gender, family income, and educational level to obtain at least a minimum degree of certainity on their homogeneity.

RESULTS

The subjects were analyzed in three groups, concerning the prevalence of emotional symptoms and of behavioral symptoms:

1. Comparisons of these groups regarding the 24 items of emotional symptoms (Table 1) revealed statistically significant differences (P= 0.0000).

2. Comparisons of these groups regarding behavioral symptoms (Table 2) also revealed significant differences (P= 0.0000).

Tables 1 and 2 present the details of emotional and behavioral symptoms, comparisons of these symptoms in the three groups of our study, and the patterns of responses to each of the symptoms in terms of number of cases manifesting a particular symptom.

3. ANOVA test (Analysis of variance) revealed significant differences among these three groups concerning the prevalence of emotional and behavioral symptoms; group 1 (the children and adolescents born to schizophrenic mothers) shows the highest prevalence (P= 0.0000).

4. There was no significant difference concerning the sex distribution among these groups (P= 0.9578), so the groups were homogenous in this regard.

5. Evaluation of socioeconomic status and family income also revealed no significant difference among these groups (P= 0.5765).

6. Concerning the age distribution, no difference was again observed among the groups of the study (P= 0.8064).

7. The groups were analyzed regarding the educational levels of the subjects and this analysis revealed no significant difference (P= 0.5433).

Table 1. Precentages of parental response patterns to the checklist of emotional symptoms in children

Behavioral symptom	Group 1: Schizophrenic Mothers				Group 2: BMD Mothers				Group 3: Control Mothers				
	never	rarely	Some-times	mostly	never	rarely	Some-times	mostly	never	rarely	Some-times	mostly	P. Value
E_1 Statements indicative of sadness	32	12	26	30	50	20	14	16	70	16	8	6	0.0013
E_2 Loneliness and isolation	42	6	26	26	66	10	14	10	84	6	8	2	0.0003
E_3 Early wrath	24	6	18	52	32	6	34	28	44	24	20	12	0.0007
E_4 Sadness and tears	14	12	32	42	36	16	22	26	58	22	8	12	0.0000
E_5 Tiredness, Malaise, Boredom	26	10	32	32	60	10	14	16	70	14	12	4	0.0000
E_6 Being pertinacious and nagging	26	8	18	48	48	8	18	26	58	18	16	8	0.0005
E_7 Fantasy	36	10	24	30	64	12	12	12	70	16	4	10	0.0017
E_8 Feeling guilt and worthlessness	44	14	26	16	82	6	10	2	86	8	6	0	0.0000
E_9 Indifference to problems	38	16	24	22	66	12	12	10	86	2	10	2	0.0001
E_{10} Anorexia	34	4	40	22	64	8	16	12	62	20	10	8	0.0001
E_{11} Weight loss in recent 6 months	36	10	46	8	66	14	14	6	84	10	4	2	---
E_{12} Difficulty in sleeping	54	6	20	20	80	10	10	0	76	14	8	2	---
E_{13} Wishing death	58	10	18	14	90	4	6	0	94	2	2	2	---
E_{14} Excitement	36	4	32	28	72	6	16	6	86	10	0	4	0.0000
E15 Embarrassment	42	10	24	24	72	6	12	10	54	34	4	8	0.0000
E_{16} Fear from situations and objects	30	2	20	48	58	14	16	12	68	22	10	0	0.0000
E_{17} Separation anxiety	28	8	16	34	56	10	20	14	66	22	10	2	0.0000
E_{18} Sensitivity to noise and irritability	36	6	26	30	52	12	14	22	58	28	6	8	0.0006
E_{19} Seeing nightmares	42	12	19	8	76	10	10	4	80	10	8	2	---
E_{20} Complaints of physical pain	32	2	40	26	60	20	8	12	80	8	6	6	0.0000
E_{21} Motor tics	78	4	10	8	86	2	10	2	92	2	0	6	---
E_{22} Inability to control bladder and bowels	58	2	24	16	82	4	10	4	90	4	6	0	0.0017
E_{23} Nail-biting/ nail-sucking	48	0	26	26	70	12	4	14	82	10	2	4	0.0000
E_{24} Stammering	78	6	12	4	80	8	8	4	86	12	0	2	---

* As is clearly self-evident in the table, comparisons of response patterns to each emotional symptom among the three groups along with statistical analysis show significant difference in most of the items of emotional symptoms. These symptoms are more prevalent in group 1 than group 3.

Table 2. Percentages of parental response patterns to the checklist of behavioral symptoms in children

Behavioral symptom	Group 1: Schizophrenic Mothers				Group 2: BMD Mothers				Group 3: Control Mothers				
	never	rarely	Some-times	mostly	never	rarely	Some-times	mostly	never	rarely	Some-times	mostly	P. Value
B_1 Absent-mindedness and difficult concentration	30	6	40	24	58	20	12	10	32	34	22	12	0.0001
B_2 Carelessness about personal objects	40	2	26	32	62	10	14	14	68	12	8	12	0.0044
B_3 Destructing objects in home, school etc.	42	8	24	26	78	4	8	10	90	8	2	0	0.0000
B_4 Conflicts with others	48	6	24	22	68	10	10	12	68	24	8	0	0.0003
B_5 Quarrel with others	48	8	18	26	64	6	20	10	80	14	6	0	0.0005
B_6 Telling Lies	32	18	36	14	80	2	16	2	78	20	0	2	0.0000
B_7 Carelessness and negativism	32	8	18	42	42	16	32	10	60	28	10	2	0.0000
B_8 Theft	66	4	26	4	86	4	8	2	98	0	2	0	0.0002
B_9 Cruelty to human beings and animals	66	0	22	12	88	0	6	6	92	8	0	0	0.0003
B_{10} Escape from school or home	62	10	16	12	92	0	4	4	94	6	0	0	0.0002
B_{11} Compulsive cleanliness	66	16	16	2	68	8	16	8	72	18	8	2	0.3459
B_{12} Compulsive checking-in	50	20	20	10	68	8	22	20	60	18	18	14	0.0662
B_{13} Compulsive orderliness	22	10	26	42	40	8	24	28	50	20	12	18	0.0118
B_{14} Hyperactivity	46	8	26	20	58	12	10	20	72	20	2	6	0.0013
B_{15} Echopraxia	46	20	20	14	74	6	12	8	66	16	10	8	0.1137
B_{16} Inattention	60	8	24	8	70	10	8	12	80	12	8	0	0.0316
B_{17} Impulsive Behavior	70	10	16	4	78	14	6	2	84	12	2	2	0.2402

As is clearly self-evident in the table, comparisons of response patterns to each behavioral symptom among the three groups along with statistical analysis show significant difference in most of the items of behavioral symptoms.

Table 3. Distribution of standardized means in the groups of the study regarding the overall incidence of emotional and behavioral symptoms

Groups	X ± SE	P. Value
1	$1.326 \pm \frac{0.845}{\sqrt{50}}$	0.0000
2	$0.713 \pm \frac{0.488}{\sqrt{50}}$	
3	$0.432 \pm \frac{0.365}{\sqrt{50}}$	

Table 4. Evaluation of the groups of the study regarding the educational level

	Group 1	Group 2	Group 3
Illiterate	6%	10%	4%
Primary school	40%	30%	34%
Guidance school	36%	42%	32%
High school and higher	18%	18%	30%

P= 0.5433

DISCUSSION

This study only compares the prevalence of behavioral and emotional manifestations in the three groups mentioned above, regardless of the various factors that are involved in their developmental process.

In the group 1, i.e. the children and adolescents born to mothers with schizophrenia, the manifest-tations are significant due to the severity and nature of the maternal disorder, that results in a progressively deteriorative course, or the prolonged and frequent hospitalizations of mothers; both the severity of mother's illness and her hospitalization(s) can considerably disturb her maternal skills and tasks, increasing the incidence of behavioral and emotional symptoms in her child. The intra-familial crisis has many dimensions: physical or sexual child abuse, conflicts and violence in the relations of parents, divorce, prolonged absences of mother due to her

prolonged or frequent hospitalizations, escape of the mother from home and parental, especially maternal, suicide. All these events happen in those ages of the child, particularly pre-school years, when the mother's physical presence is highly necessary. In such circumstances, these children should inevitably a catastrophic tragedy and the roles they would be directed to play would exert definitive influences on the growth of their personality, resulting in defective cognitive development and in emergence of emotional and behavioral symptoms. Other studies also confirm these findings (8,9). So, it is expected that schizophrenic mothers, through social isolation, negligence, and mistreatment of their children, as well as lacking the proper maternal skills required for training purposes, contribute to the development of psychological problems in their children. Besides environmental and training problems (10), there are also other factors such as hereditary and genetic influences that should be considered in attaining certain developmental levels (11), cognitive development, formation of personality, and emergence of emotional and behavioral symptoms in these children; concerning schizophrenia, such factors are widely documented (12,13). In group 2, mothers were affected with psychotic mood disorders and the nature and prognosis of the illnesses were often better than those of the group 1. Although the disorder is chronic and recurrent, usually there are longer periods of remissions and deterioration of overall functionality, compared with group 1, is generally slight, if any. Periods of maternal absence and hospitalization are usually shorter. Wide-scope deteriorations of maternal skills and tasks are not observed; therefore, significant maternal factors affecting the prevalence of emotional and behavioral disorders in children are observed at lower rates (14). The influence of relevant genetic factors may also be slight in this group, as is suggested by some studies (15). Anyway, in addition to training factors and mother-child interrelationship, there are important causes, such as genetic factors, involved in the development of various emotional and behavioral disorders among the offspring of parents with psychiatric disorders.

Considering the extensive studies documenting the significant and tremendous impacts of parental, and particularly maternal, physical and mental disorders in the development disorders in children, the necessity of comprehensive appropriate plannings is strongly felt in the nation-wide mental health care. As we discussed, the association between those parental disorders and their influences on children is observed in many studies, some of which we cited above.

Following measures seem appropriate to enhance the overall level of public health: high priority in education of mental health in primary health care programs; education of mental health through mass media in an extensive and continuous basis; nation-wide attention to the role of mental health in enhancing the overall community health, family health, and the welfare of children; increasing the public awareness of mental disorders and their symptoms; encouraging early visits to psychiatric centers; altering the public attitude toward mental illnesses; encouraging prevention and early treatment of psychological problems; educating families on the adverse effects of intra-familial conflicts on the emotional development of children.

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