

A Cross Sectional Study into the Frequency of Depression in Mothers with Children that Have Disability

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Abstract

Original Research Article

Methodology: Total of 122 mothers of children having disabilities of Global developmental delay (GDD), Intellectual disability (ID), Cerebral palsy (CP) and syndromes were included in this study. Ethical approval was obtained as was family consent. A wide range of factors were used to assess disability included age of mothers, educational levels, occupation of both parents, total number of children, number of disabled children, socioeconomic status, family setup and residential area of family. Age and type of disability of child and their independence level in daily activities were also noted. The BECK depression inventory (BDI) was used to detect depression in mothers. All the information was collected using a standardized form and data was analyzed by using SPSS version 21. **Objective:** To describe the frequency of maternal depression and associated factors in families having children with different disabilities. **Results:** A total of 122 mothers had 63.9% male children with male to female ratio of 2:1. The mean and SD of children with disability and mothers age is 1.96 (+/- 0.686) and 2.70 (+/- 0.677) respectively. Majority were of average socioeconomic status (42.5%). Most of mothers were educated above matriculation level (56.6%), house wives (80.3%), had total 2-4 children (86.4%), one disabled child (74.6%). Mostly fathers were also educated above matriculation (74.6%). Significant families were from combined family setup (60.7%) and living in urban areas (63.1%). The included children were diagnosed mainly with intellectual disability (32%), Global development delays (30.3%), CP (22.1%) and other learning disability syndromes (15.6%). 75.4% children had single disability while 24.6% had a combination of two or more. 65.6% of mothers were diagnosed with moderate level depression, 21.2% mild and 13.1% severe. (TABLE 1). Age groups of both mother and kids, socioeconomic status, parental education, mothers occupation and type of disability of the participants were statistically significant (p-value < 0.05) (Table: II). **Conclusion:** Mothers with socioeconomic status, living in urban areas, combined family system, having male children 5 – 8 years with single disability especially ID and GDD are susceptible to depressive illness.

Keywords: Beck depression inventory, maternal depression, child disability.

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INTRODUCTION

The presence of a disabled child in a family results in complex feelings in both or one of the parents or even the whole family. There may be rejection, shock, aggression, sadness, lack of acceptance [1], feeling of guilt and anxiety [2], all are parts of the adjustment process. Long term stress due to lifelong care demands for a disabled child, would cause more physical and psychological problems leading to reduced mental wellbeing and depression in families predominantly in

mothers, compared with parents of healthy children [3,4]. Beside this stress, there are other factors which negatively impact on parents' mood and wellbeing. Financial demands tend to be higher. Disabled children may have one or more associated medical problems requiring intensive care. Child behavior issues and other household responsibilities, coping strategy and lack of support to mother may overburden her, leading to increased frustration and sleep deprivation and exacerbate depressive feelings [5].

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Maternal depression leads to psychological and behavioral issues in disabled children as compared to children without delayed development [6]. It also affects the mother's ability to appropriately care for the young child which can impact the child's developmental outcomes [5].

Mothers have a fundamental role in raising healthy children. In families of children with learning disabilities the prevalence of depression is higher thus supporting such mothers will reduce mental illness noticeably [7].

Disabilities may be physical, cognitive, developmental, intellectual, sensory or a combination of two or more. The most common developmental disability is intellectual disability, then Cerebral palsy followed by autism spectrum disorder and others including Attention-Deficit/Hyperactivity Disorder, hearing and visual impairment. Type of disability is also an important factor e.g. families having a child with autism spectrum disorder leads to them being isolated. Similarly, children with physical disabilities results in the physical exhaustion of parents [8].

Raising children with learning disabilities and developmental delay has been a topic of interest to researchers for many years due to families facing many challenges in raising such children [9].

No significant local and international data is available about psychological disturbance of mothers having a child with disability, so we aimed this study to find the prevalence of maternal depression and significant contributory factors.

METHODOLOGY

This Descriptive cross-sectional study was done at the (OPD) outpatient department of the developmental and behavioral pediatric department at the children hospital and the institute of child health Multan from August 2023 to August 2024 by convenient sampling. Sample size was calculated by using Open epi software. Total of 122 mothers of children having disabilities of Global developmental delay (GDD), Intellectual disability (ID), Cerebral palsy (CP) and syndromes, were included in this study. These disabilities were already diagnosed for more than 1 year on clinical presentations, examination finding, assessment by multidisciplinary team including developmental pediatrician, psychologist, speech therapist, occupational therapist and special need educationist and available investigations.

Age of mothers, educational levels of both parents, total number of children, number of disabled children, father and maternal occupation, socioeconomic status, family setup whether isolated or combine family system, mother working or house wife and residential

area of family were noted. Mothers having chronic diseases like diabetes mellitus, stroke, cardiac disease and hypertension or any other psychological illnesses (panic disorder, social phobia, obsessive-compulsive disorder and generalized anxiety disorder) within the past 6 months, or with a family history of depression and those not giving consent were excluded from the study. Age and type of disability of the child and their independence level on daily activities were also noted.

For detecting depression in mothers, we used BECK depression inventory (BDI) [10,11]. BDI is a 21-item, self-rating inventory that measures characteristic attitudes and symptoms of depression including mood, sense of failure, self-ideas, crying, irritability, social withdrawal, body image change, work difficulty, insomnia, fatiguability, loss of appetite, weight loss, loss of libido. It takes approximately 10 minutes to complete, all items have 4 ratings from zero to three to reflect their intensity. Educated Mothers filled the inventory questionnaire themselves and for illiterate mothers, psychologist filled with them. Total score ranges from 0 to 63. BDI cut-off scores were used. Mothers got scores from 0 through 9 indicated no depression; scores from 10 through 18 indicated mild to moderate depression; scores from 19 through 29 indicated moderate to severe depression; and scores from 30 through 63 indicated severe depression.

All the information was noted on a Performa. Data was analyzed by using SPSS version 21. Quantitative data (age, no of disabled and total children) were measured as mean and standard deviation, while qualitative data (educational level, occupation, socioeconomic status, residence, degree of independence, family setup, disability type,) were measured as frequency and percentages. Chi-square test was used to calculate probability value (p-value) of less than or equal to 0.05 was taken as statistically significant.

Written consent was taken from parents/caregiver. The study was approved from the institutional ethical committee. No conflict of interest was there. No financial support was taken from the institute or pharmaceutical company.

RESULTS

A total number of 122 participants were included in this study. The mean and SD of disabled kids and mothers is 1.96 (+/- 0.686) and 2.70 (+/- 0.677) respectively. The disabled kids were mainly male (63.9%), with male to female ratio of 2:1, predominant kids age group was 5-8 years (53.5%), and mothers of 30-40 years (45.9%) were involved. Majority were of average socioeconomic status (42.5%). Most of mothers were educated above matriculation level (56.6%), house wives (80.3%), had total 2-4 children (86.4%), one disabled child (74.6%). Mostly fathers were also educated above matriculation (74.6%). Significant

families were from combine family system (60.7%) and living in urban areas (63.1%). The included children were diagnosed mainly with intellectual disability (32%), Global development delays (30.3%), CP (22.1%) and different syndromes (15.6%). 75.4% children had single disability while 24.6% combination of two or more. 65.6% mothers were diagnosed with moderate

level of depression, 21.2% mild and 13.1% severe. (TABLE 1).

Age groups of both mother and kids, socioeconomic status, parental education, mother job and type of disability of the participants were statistically significant (p-value < 0.05) (Table: II).

Table 1: Basic charechtaristics of participants. (N= 122)

Characteristics	Frequency(N)	%
Gender of disabled kid		
Male	78	63.9
Female	44	36.1
Age group	Mean=1.96 SD= 0.686	
1-5years	31	25.4
>5-8years	65	53.3
>8-10years	26	21.3
Mother age	Mean=2.70. SD=0.677	
>20-30	51	41.8
>30-40	56	45.9
>40	15	12.3
Socioeconomic		
Poor	43	35.2
Average	52	42.5
High	27	22.1
Total children		
1	13	10.7
2-4	106	86.9
>4	3	2.51
Total Disabled kids		
1	91	74.6
>1	31	25.4
Mother education		
Illiterate	7	5.7
Below matric	46	37.7
Above matric	69	56.6
Father education		
Illiterate	1	0.8
Below matric	30	24.6
Above matric	91	74.6
Family system		
Combined	74	60.7
Isolated	48	39.3
Area of living		
Urban	77	63.1
Rural	45	36.9
Mother job		
Working	24	19.7
Housewife	98	80.3
Type of disability		
CP	27	22.1
GDD	37	30.3
ID	39	32
Syndrome	19	15.6
No of disability		
Single	92	75.4
Multiple	30	24.6
Depression severity		
Mild	26	21.3
Moderate	80	65.6
Severe	16	13.1

Table 2: Comparison of Variables with Severity of Depression (n=122)

Variable	DEPRESSION SEVERITY			Total	P-value
	Mild	Moderate	severe		
Gender					
Male	15	54	9	78	0.525
Female	11	26	7	44	
Total	26	80	16	122	
Age groups					
1-5years	9(20%)	22(71%)	0	31(100%)	0.011
>5-8years	14(21.5%)	37(56.6%)	14(21.5%)	65(100%)	
>8-10years	3(11.5%)	21(80%)	2(7.71%)	26(100%)	
Total	26(21.3)	80(65.5%)	16(13.1%)	122(100%)	
Socioeconomically					
Poor	3(7%)	35(81.4%)	5(11.6%)	43(100%)	0.014
Average	18(34.6%)	27(51.9%)	7(13.5%)	52(100%)	
High	5(18.5%)	18(66.7%)	4(14.8%)	27(100%)	
Total	26(21.3%)	80(65.5%)	16(13.1%)	122(100%)	
Mother age					
>20-30	14(27.5%)	36(70.6%)	1(2%)	51(100%)	0.011
>30-40	9(16.1%)	36(64.35)	11(19.6)	56(100%)	
>40	3(20%)	8953.3%)	4(26.4%)	15(100%)	
Total	26(21.3%)	80965.6%)	16(13.1%)	122(100%)	
Total children					
1	3(23.1%)	7(53.8%)	3(23.1%)	13(100%)	0.656
2-4	23(21.7%)	70(66%)	13(12.3%)	106(100%)	
>4	0	3(100%)	0	3(100%)	
Total	26(21.3%)	80(65.5%)	16(13.1%)	122	
Total Disabled kids					
1	21(23.1%)	60(65.9%)	10(110%)	91(100%)	0.434
>1	5(16.1%)	20(64.5%)	6(19.4%)	31(100%)	
Total	26(21.3%)	80(65.5%)	16(13.1%)	122	
Mother education					
Illiterate	0(0%)	7(100%)	0	7(100%)	0.009
Below matric	4(8.7%)	33(71.7%)	9(19.6%)	46(100%)	
Above matric	22(31.9%)	40(58%)	7(10.1%)	69(100%)	
Total	26(21.3%)	80(65%)	16(13.1%)	122	
Father education					
Illiterate	0	1(100%)	0	1(100%)	0.018
Below matric	1(3.3%)	25(83.3%)	4(13.3%)	30(100%)	
Above matric	25(27.5%)	54(59.3%)	12(13.2%)	91(100%)	
Total	26(21.3%)	80(65.6%)	16(13.1%)	122	
Family system					
Combined	19(25.7%)	48(64.9%)	7(9.5%)	74(100%)	0.166
Isolated	7(14.6%)	32(66.7%)	9(18.8%)	48(100%)	
Total	26(21.3%)	80(65.6%)	16(13.1%)	122	
Area of living					
Urban	17(22.1%)	46(59.7%)	14(18.2%)	77(100%)	0.063
Rural	9(20%)	34(75.6%)	2(4.4%)	45(100%)	
Total	26(21.3%)	80(65.6%)	16(13.1%)	122	
Mother job					
Working	2(8.3%)	15(62.5%)	7(29.2%)	24(100%)	0.019
Housewife	24(24.5%)	65(66.3%)	9(9.2%)	98(100%)	
Total	26(21.3%)	80(65.6%)	16(13.1%)	122	
Type of disability					
CP	4(14.8%)	21(77.8%)	2(7.4%)	27(100%)	0.014
GDD	13(35.1%)	23(62.2%)	1(2.7%)	37(100%)	
ID	5(22.8%)	27(69.2%)	7(17.9%)	39(100%)	
Syndrome	4(21.1%)	9(47.9%)	6(31.6%)	19(100%)	
Total	26(21.3%)	80965.6%)	16(13.1%)	122	
No of disability					
Single	22	60	10	92(100%)	0.268
Multiple	4	20	6	30(100%)	
Total	26	80	16	122	

DISCUSSION

To date, this study was the most comprehensive assessment of depressive symptoms in mothers with children having disabilities of CP, GDD, ID and syndromes. As mothers are primarily care givers of children with chronic disorders, so are more vulnerable for mental disturbance [12].

The current study showed that the mothers, of 30-40years, housewives belonging to average socioeconomic status, living in urban areas, combine family system, having male kid with age group of 5 – 8 years with a single disability especially ID and GDD had more depression. Maternal and kid age and socioeconomic status, paternal education and job are statistically significant.

These findings are very much similar to a study conducted at El minia upper Egypt which stated that psychological problems including severe depression were significantly present in mothers having male children of 6-18yrs with mental disability and were mainly house wife mothers who had low socioeconomic status [13]. But their study's affected mothers had severe problems, low education level, had less knowledge about their kid's disease, male child with syndromic diagnosis [13] which differ from us, may be due to a different population, social settings and inclusion criteria.

Azar R also favored our finding that mothers having male children with disability suffers more depression [14] Another longitudinal study also determined significant depression in mothers when their affected child were 2 years old or even younger [15].

Education may be helpful for mothers to accept the disease and manage it well and working ladies have more exposure and experience in communities, which help them to deal with their special need children. However, in our study we found that educated parents and unemployed mothers were affected more, this may be due to other related factors like lack of social and physical support. Child behavior problems, maternal stress, family conflict, maternal self-efficacy, monthly house hold income, coping style and support level are significantly related to depressive symptoms¹⁶ as revealed by reviews [16,17].

Support from a social network particularly from immediate family member is very beneficial for a mother of a child with delays to cope with their depressive symptoms [18].

In our study the type of child disability is statistically significant. Most mothers had a child with GDD and with a single disability.

A comparative prospective study in Riyadh Saudi Arabia, revealed significant depression in mothers

with disabled child as compared to control. These mothers have mostly male kids, of 1 to 4 years, with CP, single disability, mostly mothers' education was under graduates, and had more than one disabled child [19].

Along with child disability, socioeconomic factors including family income and parents' education level exerted a main effect on maternal health [20].

Good mental health is very important for a mother to take care of their child and thus impacts the child's developmental outcomes. So, more attention and psychological support is required for such mothers, so that they may participate properly in rehabilitation strategies

LIMITATION

The study generated cross sectional data about depressive symptoms, in mothers of children with disability in one centre only and with less number of disabilities involved. Longitudinal, comparative, multicenter studies must be planned.

CONCLUSION

Mothers having children with disability are susceptible to depressive illness. Important contributing factors are average socioeconomic status, living in urban areas, combine family system, having male kid with age group of 5 – 8 years with a single disability especially ID and GDD

SYNOPSIS

Objective: To describe the frequency of maternal depression and associated factors in families having children with different disabilities.

Location: Outpatient department (OPD) of the DEVELOPMENTAL AND BEHAVIORAL PEDIATRIC DEPARTMENT AT THE CHILDREN HOSPITAL AND THE INSTITUTE OF CHILD HEALTH MULTAN

Duration: August 2023 to August 2024

Study design: Descriptive cross-sectional study

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