

## Studying the Relationship between Depression and Internal Stigma in Mothers of Children with Cerebral Palsy

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### Abstract

Among the variables affected by the presence of a disabled child in the family is the internal stigma that can cause or intensify depression in the mother of a cerebral palsy child. This study was conducted to determine the relationship between depression and internal stigma in mothers of children with cerebral palsy. This study was cross-sectional descriptive research that was conducted on 185 mothers of children with cerebral palsy. A demographic profile form, Beck depression questionnaire, and internal stigma questionnaire of mothers with mentally retarded children were used to collect data. All data were analyzed using SPSS version 23 software, descriptive statistics, and Pearson's correlation coefficient. The average score of internal stigma and depression in mothers of children with cerebral palsy was 83.33 out of 196 and 17.59 out of 63, respectively. High levels of depression were reported in 21.6% of mothers. Also, a direct and significant relationship was found between internal stigma and depression of mothers of children with cerebral palsy ( $P < 0.001$ ,  $r = 0.47$ ). From the results of the present study, it can be concluded that the internal stigma caused by having a child with cerebral palsy can be related to mothers' depression. Knowing as much as possible by health officials and policymakers about this relationship can show the importance of applying scientific and practical measures in the field of changing people's attitudes in this field and as a result reducing the internal stigma of mothers of children with cerebral palsy.

**Keywords:** Children, Depression, Internal stigma, Cerebral palsy, Mother

### Introduction

Cerebral palsy is a developmental disability that occurs along with motor, sensory, behavioral, communication, cognitive, epilepsy, and musculoskeletal problems. This disease leads to limitations in daily and social activities [1, 2]. People with cerebral palsy are significantly exposed to functional problems related to the central nervous system, including epilepsy, and sensory, learning, behavioral, and developmental disabilities. These injuries may begin in the early stages of life in the form of difficulty in sucking milk, irritability, and irregular sleep patterns. These life problems affect children's daily lives and can cause significant discomfort in children, parents, and caregivers [3-5]. Most statistics show that the prevalence of cerebral palsy is 2 cases per 1000 live births [6].

Because cerebral palsy is a heterogeneous and lifelong disorder, parents provide ongoing support to their children even into adulthood. This issue presents parents with many challenges in facing the long-term care of their child

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with cerebral palsy. This challenge probably affects the health and well-being of parents and they experience a lot of stress due to the problems and characteristics of their children [7-9]. Compared to families with healthy children, families with children with cerebral palsy have a lower emotional balance, and in their family relationships, they use more mutually avoidant and withdrawn communication patterns, which in the long run can cause problems for the family's mental health. Therefore, the birth of a child with cerebral palsy can cause damage to the functioning of the family by causing a change and transformation in the usual process of family members [10, 11].

Mothers, as the main caregivers of children with disabilities, usually experience a lot of psychological stress and this process causes damage to their other psychological processes. Stress and mental pressures on the mothers of these children are common and at the same time remarkable [12]. Among the psychological issues experienced by parents of children with cerebral palsy is the concept of internal stigma. Internal stigma is a psycho-social process that begins with labeling and leads to rejection and social isolation, in such a way that a person is separated from his environment due to physical or psychological reasons, and in the eyes of others, from a multifaceted person to a one-faceted person. And it is reduced to unimportant and a source of shame in society and it is put in the state of being awkward [13-15]. Based on the results of the study, it was determined that there is a statistically significant relationship between self-stigma and psychological burden caused by illness in families with mentally retarded children. Also, in this study, it was found that 46.6% of the study samples faced high degrees of internal stigma [16].

Mothers of children with cerebral palsy are more prone to depression than mothers of apparently healthy children. Depression hurts a person's feelings, views, and actions. This issue is a psychological pathology that often occurs, and mothers with cerebral palsy are more prone to depression. Depression and anxiety are evident in 71% of mothers with children with cerebral palsy compared to mothers of healthy children. Studies have shown that mothers who have children with cerebral palsy are in the high-risk group for depression [17]. Also, the increasing dependence of children with cerebral palsy on their mothers affects their expectations for the future, their emotional state, and their quality of life. The destructive effect of the combination of all these problems for mothers of children with cerebral palsy can lead to the collapse of their mental health [18]. Therefore, considering the importance of the topic and the lack of similar studies, this study was conducted to determine the relationship between depression and internal stigma in mothers of children with cerebral palsy.

## Materials and Methods

The present study was a cross-sectional descriptive study that investigated the relationship between depression and internal stigma in mothers of children with cerebral palsy. The statistical population consisted of 185 mothers of children with cerebral palsy, who were selected from among those eligible to enter the study by the available sampling method.

The criteria for entering the study included a willingness to participate in completing the informed consent form, having a child with cerebral palsy aged 3 to 12 years, not suffering from specific psychological disorders such as schizophrenia, not using drugs or psychotropic substances, and having at least reading and writing literacy. The criteria for leaving the research included non-response to more than 20% of all items.

The data collection tools in this study were the demographic profile form, the Beck depression questionnaire, and the internal stigma questionnaire of mothers with mentally retarded children. The demographic information form included age, mother's education, and mother's occupation, number of children, age, and gender of the child with cerebral palsy. The internal stigma questionnaire has 49 items and is scored based on a Likert scale. The range of scores of this questionnaire is between 0 and 196. High scores indicate more internal stigma. The validity and reliability of the internal stigma questionnaire of mothers with mentally retarded children has been investigated and confirmed. Beck depression questionnaire was first developed in 1961 by Beck *et al.* This self-assessment questionnaire contains 21 multiple-choice questions from 0 to 3, which are designed to measure the feedback and symptoms of depressed patients. Scoring in this questionnaire is such that the selected answers for some options have the same score. For example, in question 90, the first option is given a score of zero, the second option is given a score of one, the third and fourth options are given a score of 2, and the fifth and sixth options are given a score of 3. This questionnaire is completed in five to 10 minutes and includes 5 subscales of affect (2 items), cognition (11 items), overt behaviors (2 items), physical symptoms (5 items), and interpersonal semiotics (1 item) in its range of scores is from minimum 0 to maximum 63, which determines different degrees of depression (least depression 0-13, mild 14-19, moderate 20-28, and severe 29-63) [19, 20].

Anonymous questionnaires were given to mothers after obtaining their written consent to participate in this study. First, the demographic information questionnaire and then the internal stigma and depression questionnaires were given to mothers participating in this research in printed and paper versions. The participants were requested to complete the questionnaires accurately and honestly in the presence of the researcher and they were assured about the confidentiality of the information of the participants in the research. Also, the contact number of the researcher was provided to the research units so that they can communicate with the researcher if needed.

Finally, the data collected by the researcher was analyzed using SPSS version 23 software, and descriptive statistics and Pearson's correlation coefficient were used to analyze the data. In this study, a p-value less than 0.05 was considered statistically significant.

## Results and Discussion

185 mothers of children with cerebral palsy participated in this study. Most of the research samples had a primary education level (35%) and in terms of employment status, they were housewives (90.3%). Also, regarding the gender of affected children, 66.5 were boys and the rest were girls (**Table 1**).

**Table 1.** Frequency distribution of demographic characteristics of mothers participating in the study.

	Variable	N	%
Mother's education level	Elementary	65	35
	Under diploma	33	17.8
	Diploma	54	29.2
	University	33	17.8
Mother's job	Housekeeper	167	90.3
	Employed	18	9.7
Gender of the child	Boy	123	66.5
	Girl	62	33.5

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The average age of mothers participating in this study was  $36.08 \pm 4.90$  years, and the average age of affected children was  $8.66 \pm 2.64$  months. Also, the average number of children of these mothers was equal to  $2.2 \pm 0.78$  (**Table 2**).

**Table 2.** Mean and standard deviation of quantitative demographic characteristics of mothers participating in the study.

Variable	Minimum	Maximum	Mean	Standard deviation
Mother's age (years)	21	45	36.08	4.90
Child's age (years)	3	12	8.66	2.64
Number of children	1	4	2.2	0.78

According to the results obtained from the present study, the mean internal stigma score of mothers with children with cerebral palsy was ( $83.33 \pm 49.62$ ) and the mean depression score was ( $17.59 \pm 13.53$ ) (**Table 3**). In determining the depression levels of mothers, it was found that 13.5% of them have mild depression, 18.9% have moderate depression, and 21.6% have severe depression (**Table 4**).

**Table 3.** Determining the average score of internal stigma and depression of mothers with children with cerebral palsy.

Variable	Range of scores	Minimum	Maximum	Mean	Standard deviation	Average percentage
Internal stigma	0-196	0	181	83.33	49.62	42.51
Depression	0-63	0	55	17.59	13.53	27.77

**Table 4.** Determining the levels of depression scores of mothers with children with cerebral palsy.

Severity rating of depression	Score	N	%
No or minimal depression	0-13	83	44.5%

Mild depression	14-19	25	13.5%
Moderate depression	20-28	35	18.9%
Severe depression	29-63	40	21.6%

In examining the linear relationship between internal stigma and depression of mothers with children with cerebral palsy, the results of the Pearson test showed that there is a direct and significant relationship between these variables ( $P < 0001$ ,  $r = 0.47$ ).

Based on the chi-square test results, no significant relationship was observed between the mother's education level, the mother's occupation, the gender of the cerebral palsy child, and the mother's depression (**Table 5**). Also, Pearson's correlation coefficient did not show a significant relationship between the mother's age and depression ( $P = 0.48$ ,  $r = 0.05$ ), and the cerebral palsy child's age and depression ( $P = 0.13$ ,  $r = 0.11$ ) (**Table 5**).

**Table 5.** Relationship between mother's education level, mother's occupation, gender of child with cerebral palsy, and depression.

Variable	Depression		Chi-square test results
	Mean	Standard deviation	
Mother's education level	Elementary	18.80	$X^2 = 214.18$ $P = 0.13$
	Under diploma	18.68	
	Diploma	16.77	
	University	11.30	
Mother's job	Housekeeper	18.23	$X^2 = 46.38$ $P = 0.53$
	Employed	11.66	
Gender of the child	Boy	15.73	$X^2 = 63.97$ $P = 0.06$
	Girl	21.29	

The results of the present study showed that internal stigma has a significant relationship with the depression of mothers of children with cerebral palsy. Past research has shown that parents whose children have disabilities are at increased risk of mental health problems, including higher levels of depressive symptoms [21, 22].

In the system of families with children with cerebral palsy, mothers are more stressed and depressed than fathers. Millaku and Kraja-Bardhi [23] in their study titled depression among parents of disabled children concluded that the rate of depression in mothers is much higher than this rate in fathers. This is probably due to more conflict between the mother and the child. As a result, the mother usually devotes most of her child care and communication time to her cerebral palsy child. Major tensions are directed at the mother because the child with cerebral palsy shows many problems in the areas of cognitive, emotional, and behavioral development. On the one hand, the mothers of these children do not have effective support resources, and on the other hand, they have dedicated themselves to the child [24]. Sometimes they support their child so much that they neglect themselves in all physical, mental, spiritual, and social dimensions [24]. The results of the present study showed that despite the average percentage of depression in mothers with children with cerebral palsy was 27.7 out of 100, 40.5% of mothers participating in the present study had moderate levels of depression (18.9%) up to reported severe (21.6%). In the study of Kaydok *et al.* [25], the burden of care and the frequency of depression in mothers of children with cerebral palsy were significantly higher than in mothers with healthy children. In Goheir *et al.*'s study [17], the results showed that mothers with children with cerebral palsy are more depressed than mothers with healthy children.

Mothers with children with cerebral palsy often worry about the reactions of others (stigma, especially perceived internal stigma), which is a source of increased stress and affects their mental health [24, 26]. The findings of Dako-Gyeke *et al.*'s study [27] indicated that caregivers of children with cerebral palsy are stigmatized and discriminated against by family and non-family members. In addition, family caregivers used various strategies such as avoidance, discounting, reaction, and acceptance to deal with associative stigma. Considering that caregivers' experiences of stigma and discrimination are often ignored, paying special attention to the impact of this and implementing interventions such as counseling and family education can help to challenge people's perceptions and negative beliefs about this disease because this can help improve the welfare of caregivers, especially mothers of children with cerebral palsy [27].

In the study of Rani *et al.* [28], it was found that most parents of children suffering from chronic seizures consider the reactions of others to be negative (53.3%), which limits social interaction and causes emotional reactions in the form of anger, guilt, fear, Anxiety, and depression become family [28]. The results of the present study are not consistent with the study of Chu *et al.* [29] in Malaysia. In Chu's study, parents did not feel stigma related to having a child with cerebral palsy. One of the interesting things in this study was that after controlling for demographic variables, it was found that people with high levels of stress had a high feeling of stigma, which is consistent with our study.

In the present study, it was found that the internal stigma caused by having a child with cerebral palsy can be related to mothers' depression. Based on the knowledge gained from this relationship, health officials and policymakers can plan and implement practical and interventional measures to reduce internal stigma.

## Conclusion

This study was conducted to determine the relationship between depression and internal stigma in mothers of children with cerebral palsy. The average score of internal stigma and depression in mothers of children with cerebral palsy was 83.33 out of 196 and 17.59 out of 63, respectively. High levels of depression were reported in 21.6% of mothers. Also, a direct and significant relationship was found between internal stigma and depression of mothers of children with cerebral palsy. From the results of the present study, it can be concluded that the internal stigma caused by having a child with cerebral palsy can be related to mothers' depression. Knowing as much as possible by health officials and policymakers about this relationship can show the importance of applying scientific and practical measures in the field of changing people's attitudes in this field and as a result reducing the internal stigma of mothers of children with cerebral palsy.

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## References

1. Prabha J, Alam A, Kumar C, Kumar R, Kohli N. Neuroradiologic features associated with severe restriction of functional mobility in children with cerebral palsy in north India. *J Child Neurol.* 2021;36(9):711-9. doi:10.1177/0883073821993613
2. Damiano DL, Pekar JJ, Mori S, Faria AV, Ye X, Stashinko E, et al. Functional and structural brain connectivity in children with bilateral cerebral palsy compared to age-related controls and in response to intensive rapid-reciprocal leg training. *Front Rehabil Sci.* 2022;3:811509. doi:10.3389/fresc.2022.811509
3. Farajzadeh A, Maroufizadeh S, Amini M. Factors associated with quality of life among mothers of children with cerebral palsy. *Int J Nurs Pract.* 2020;26(3):e12811. doi:10.1111/ijn.12811
4. Lee MH, Matthews AK, Park C. Determinants of health-related quality of life among mothers of children with cerebral palsy. *J Pediatr Nurs.* 2019;44:1-8. doi:10.1016/j.pedn.2018.10.001. Epub 2018 Oct 11. Erratum in: *J Pediatr Nurs.* 2019 Nov - Dec;49:114. doi:10.1016/j.pedn.2019.06.014
5. Gugała B, Penar-Zadarko B, Pięciak-Kotlarz D, Wardak K, Lewicka-Chomont A, Futyma-Ziaja M, et al. Assessment of anxiety and depression in Polish primary parental caregivers of children with cerebral palsy compared to a control group, as well as identification of selected predictors. *Int J Environ Res Public Health.* 2019;16(21):4173. doi:10.3390/ijerph16214173
6. Pashmdarfard M, Amini M, Mehraban AH. Participation of Iranian cerebral palsy children in life areas: A systematic review article. *Iran J Child Neurol.* 2017;11(1):1.
7. Alae N, Shahboulaghi FM, Khankeh H, Mohammad Khan Kermanshahi S. Psychosocial challenges for parents of children with cerebral palsy: A qualitative study. *J Child Family Stud.* 2015;24:2147-54. doi:10.1007/s10826-014-0016-3
8. Seroke S, Mkhize SW. Psychosocial experiences of mothers caring for children with cerebral palsy in the eThekweni district. *Health SA.* 2023;28:2072. doi:10.4102/hsag.v28i0.2072
9. Guimarães A, Pereira A, Oliveira A, Lopes S, Nunes AR, Zanatta C, et al. Parenting in cerebral palsy: Understanding the perceived challenges and needs faced by parents of elementary school children. *Int J Environ Res Public Health.* 2023;20(5):3811. doi:10.3390/ijerph20053811



10. Wang Y, Huang Z, Kong F. Parenting stress and life satisfaction in mothers of children with cerebral palsy: The mediating effect of social support. *J Health Psychol.* 2020;25(3):416-25. doi:10.1177/1359105317739100
11. Park EY. Longitudinal changes in the parenting stress of mothers of children with cerebral palsy and their relationship with children's gross motor function system levels. *Healthcare.* 2023;11(9):1317. doi:10.3390/healthcare11091317
12. Krstić T, Milić I, Branković J. "Our Story": Exposition of a group support program for parents of children with developmental disabilities. *Child Care Pract.* 2021;27(4):406-21. doi:10.1080/13575279.2019.1664991
13. Davis JL, Goar C, Manago B, Reidinger B. Distribution and disavowal: Managing the parental stigma of children's weight and weight loss. *Soc Sci Med.* 2018;219:61-9. doi:10.1016/j.socscimed.2018.10.015
14. Haqq AM, Kebbe M, Tan Q, Manco M, Salas XR. Complexity and stigma of pediatric obesity. *Child Obes.* 2021;17(4):229-40. doi:10.1089/chi.2021.0003
15. Patel D, Krems JA, Stout ME, Byrd-Craven J, Hawkins MAW. Parents of children with high weight are viewed as responsible for their child's weight and thus stigmatized. *Psychol Sci.* 2023;34(1):35-46. doi:10.1177/09567976221124951
16. Hartatik TWS, Supriati L. Internal self-stigma and external factors of social support with burden in families with mental retardation. *Int J Psychiatr Nurs.* 2019;5(2):1-6. doi:10.5958/2395-180X.2019.00019.7
17. Goheir A, Jadoon A, Fayyaz SS, Kiran N, Akhtar N, Qamar Z. Severity of depression in mothers of children suffering from cerebral palsy. *Pak J Med Health Sci.* 2022;16(08):18. doi:10.53350/pjmhs2216818
18. Gilson KM, Davis E, Johnson S, Gains J, Reddihough D, Williams K. Mental health care needs and preferences for mothers of children with a disability. *Child Care Health Dev.* 2018;44(3):384-91. doi:10.1111/cch.12556
19. Beck AT, Steer RA, Carbin MG. Psychometric properties of the beck depression inventory: Twenty-five years of evaluation. *Clin Psychol Rev.* 1988;8(1):77-100. doi:10.1016/0272-7358(88)90050-5
20. Divsalar P, Zamani Zadeh S, Gozashti MH. Suicidal ideation and depression in hospitalized patients with metabolic syndrome. *Curr Psychosom Res.* 2022;1(1):84-99. doi:10.32598/cpr.1.1.30.1
21. Pellet J, Golay P, Nguyen A, Suter C, Ismailaj A, Bonsack C, et al. The relationship between self-stigma and depression among people with schizophrenia-spectrum disorders: A longitudinal study. *Psychiatry Res.* 2019;275:115-9. doi:10.1016/j.psychres.2019.03.022
22. Song J, Mailick MR, Greenberg JS. Health of parents of individuals with developmental disorders or mental health problems: Impacts of stigma. *Soc Sci Med.* 2018;217:152-8. doi:10.1016/j.socscimed.2018.09.044
23. Millaku J, Kraja-Bardhi E. Depression among parents of disabled children. *Int J Innov Res Sci Stud.* 2023;6(1):9-19. doi:10.53894/ijirss.v6i1.1062
24. Vadivelan K, Sekar P, Sruthi SS, Gopichandran V. Burden of caregivers of children with cerebral palsy: An intersectional analysis of gender, poverty, stigma, and public policy. *BMC Pub Health.* 2020;20:1-8. doi:10.1186/s12889-020-08808-0
25. Kaydok E, Solum S, Cinaroglu NS. Comparison of the caregiver burden of the mothers of children with cerebral palsy and healthy children. *Medicine.* 2020;9(1):67-72. doi:10.5455/medscience.2019.08.9136
26. Zuurmond M, Seeley J, Nyant GG, Baltussen M, Abanga J, Polack S, et al. Exploring caregiver experiences of stigma in Ghana: They insult me because of my child. *Disabil Soc.* 2022;37(5):827-48. doi:10.1080/09687599.2020.1851172
27. Dako-Gyeke M, Boateng DA, Mills AA, Kodom RB, Appiah-Kubi J. Known by the children's condition: Associative stigma among family carers of children with cerebral palsy. *Glob Soc Welfare.* 2021;8(4):379-92. doi:10.1007/s40609-021-00203-w
28. Rani A, Raman J, Antony S, Thirumoorthy A, Basavarajappa C. Abuse experienced by persons with severe mental illness. *Soc Sci Protoc.* 2020;3:1-16. doi:10.7565/ssp.2020.2813
29. Chu SY, Rafi ABM, Lee J, Fierro V, Gan CH, Joginder Singh S, et al. The relationship between affiliate stigma, stress, and quality of life for parents of individuals with cerebral palsy in Malaysia. *Disabil Rehabil.* 2022;45(24):4035-47. doi:10.1080/09638288.2022.2153304