

Impact of Emotional Intelligence on Mother's Mental Health having Children with Cerebral Palsy: Mediating Role of Family Support

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Abstract

Cerebral palsy (CP) is a group of disorders which affect a person's ability to move and maintain balance and posture known as motor disability in childhood. Caregivers of children with cerebral palsy suffer from a substantial psychosocial burden. Mothers are the most common caregivers of children with cerebral palsy. The main objective of this study was to find out the relationship among emotional intelligence, Family support and mental well-being along with mediating role of family support between emotional intelligence and mental well-being of mothers having cerebral palsy children. 100 mothers with the age ($M=35.79$ and $SD 5.93$) were recruited and convenient sampling strategy was used to collect responses. The Self-Report Emotional Intelligence scale (Wong & Law, 2004), Multidimensional Scale of Perceived Social Support (Zimet et al. 1998) and Warwick-Edinburg Mental Well-being Scale (Stewart- Brown et al. 2006) scales along with demographic Performa were used. Inferential statistics analysis was administered on quantitative data. Results revealed that there is significant positive correlation among emotional intelligence Family Support and mental well-being in mothers of children with cerebral palsy. Mediation analysis revealed that family support is a significant positive mediator in the relationship between emotional intelligence and mental well-being in mothers of children with cerebral palsy. Finding of this research will be helpful for families and mothers who have children with special need to cooperate with each other through psychological management, motivational strategies and psycho-education.

Keywords: Cerebral palsy, Caregivers, Emotional Intelligence, psycho-education.

Introduction

Cerebral palsy is a developmental disability associated with neuromuscular spasticity, cognitive dysfunction, behavioral abnormalities, speech, visual problems and problems in feeding and gastrointestinal functions. The global prevalence of CP has been estimated to be between two and three children per 1000 births and in Pakistan prevalence was two per 1000 births, in 0-14 years (Alimoradi & Asadi, 2014).

Children with CP are highly dependent on caregivers and mothers are the most common caregivers of children with cerebral palsy. In low- and middle- income settings these mothers are often burdened with the care of the family, earning a livelihood as well as caring for the child with CP. This puts substantial burden and stress on the parents due to the intersection between gender norms, poverty, social stigma and caregiving for a child with a disability (Vadivelan, Sekar, Sruthi & Gopichandran, 2020).

Diagnosis of mental or physical disability for children creates a lot of pressure on family members, especially on mothers as they are a primary caregiver of the special or disabled. So many authors have described that this is a stressful event for caregivers who may have stages of sorrow, shock, denial, anger, stress, depression. If this traumatic event continued in the early stages or parents upset, they cannot very well take care of special needs child (Vadivelan, Sekar, Sruthi & Gopichandran, 2020). Child caring is part of parenting, but the role of a child's functional limitations placed a huge pressure on caregiver's mental well-being. Pressure from care of child's special needs or disability, and the effect of the disability on family relations can change the mental well-being of parents especially mothers. As a result, caregivers feel more stress and reduced quality of life and this will lead towards low mental well-being (Panda, 2008).

Emotional Intelligence is an inherent capacity of thinking, using, communicating, identifying, recalling, learning, controlling, and knowing emotions (Patricia & Mihai, 2013). The ability to perceive, monitor, and assess emotions can be described as emotional intelligence (Johnson et al., 2009). This collection of characteristics, which address the perception, expression, control of moods and emotions indicates association between Emotional intelligence, physical and psychological health (Tsaousis & Nikolaou, 2005).

Emotional Intelligence has two trends: a) maximal performance measures which assessing real EI competency rates (known as EI competency) and b) self-report questionnaires which reflecting normal EI functioning (known as EI trait or emotional self-efficacy (Fernandez, & Pacheco 2005).

Model of Emotional Intelligence focused as a type of social intelligence that contains the capability to track, discriminate and use knowledge to direct one's thinking and behavior (Siegling, Nielsen, & Petrides, 2014). There are two model of emotional intelligence one is mixed model and the other one is ability model. Mixed models identified that "Emotional Intelligence is a collection of constant character aspects, socio-emotional abilities, motivational features, and different cognitive capabilities" whereas ability model stated that "Emotional Intelligence is a capacity to concentrate on emotional information processing (Fernandez & Pacheco, 2005).

Social support is the interaction mechanism in relationships that enhance coping, respect, belonging and competence through real or perceived exchange of physical or psychosocial resources (Gottlieb, 2000). It improves mental wellbeing and serves as a defense against traumatic life experiences (White & Hastings, 2004). Social help comes from a family, friendly, and community-based network of people (Awang, Kutty & Ahmad, 2014). Evidence from studies shows a strong adverse association between social support and psychiatric conditions like depression and stress (Alimoradi & Asadi, 2014).

In a study it is indicated that family support has a substantial effect on personal growth (Awang et al. 2014). It is the assistance of others that a person may experience, recognize or embrace. Social assistance, as a significant environmental factor, affects a person's physicality and mental health and behavior habits, and has a very similar relationship to depression generation, growth, control and prevention (Gottlieb, 2000).

Mental health (MH) is defined according to the World Health Organization (WHO) as a state of well-being in which the person knows his or her own abilities, can cope with the normal stresses of life, can work productively and can contribute to his or her society. (Peterson, 2018).

Mental well-being is the ability to live creative life and be versatile in dealing with life's ups and downs. It's about our emotions and our views. It requires an appreciation of our feelings and perceptions as well as the feelings of others. This also needs the ability to control emotions and

associated behaviors. This awareness enables us to create healthy relationships and cope with stress (Peterson, 2018). Generally, it is recognized as representing two perspectives: a). the subjective experience of happiness (the effect) and enjoyment of life and b). Positive psychological functioning, good relations with others and self-realization. The latter includes ability to develop oneself, positive relationships with others, autonomy, self-acceptance and competence (Greenberg and Seltzer, 2011).

In the light of previous literature, it has been shown that mothers of cerebral palsy children's typically have physical and mental health impairments; however, there is no consensus on the relationship between these impairments and the degree of motor disability of the infant (Long, Byrne, Hurley, Daly & Vandenberg, 2014). This lack of consensus indicates that, aside from those specifically linked to the child and his or her illness, other factors affect the reciprocal transition between parents and children (Rani, Ehsan, Sheraz & Arshad, 2016).

A study was conducted to assess the level of stress and caregiver burden among caregivers of children with cerebral palsy in Lahore City. This was an observational cross-sectional analysis performed at Children's Hospital Lahore's physical therapy OPD, and Fatima Memorial Hospital. Data was collected from caregivers of 196 cerebral palsy children. Self-administered questionnaires based on scales named as caregiver burden inventory and caregiver stress self-assessment were used to find out the level of stress and caregiver burden. The majority of cerebral palsy children were females (52.55%). The caregivers of cerebral palsy children experienced moderate level of stress owing to the care-giving process (Di Fabio & Kenny, 2012).

Research conducted on Burden of caregivers of children with cerebral palsy in India. They conducted qualitative in-depth interviews to mothers of children with cerebral palsy attending a physiotherapy facility. Mothers from rural and peri-urban areas in Tamil Nadu, India, were purposefully approached till the point of data saturation. They analyzed the transcripts using the socio-ecological model to identify the major dimensions of psychosocial burden among these mothers. Finding of this study revealed that the mothers perceived aches and pains due to the heavy physical activity of caregiving. They also suffered from a feeling of guilt about the child's condition. Due to the difficulty in balancing family and work, they had significant financial burdens (Vadivelan, Sekar, Sruthi & Gopichandran, 2020).

In previous research it was found that the quality of life and well-being of mothers of mentally disabled children was also especially important for the education and mental wellbeing, and these children's emotional status and quality of life need to be upgraded to this mother group. Research indicates that further training of retarded children of non-depressed mothers has become successful and that the cycle of learning for those who appear to be sluggish with backward children of depressed mothers. Recent research also indicate that it is terrible that social support and high access apps and community programs for mentally disabled children and the access of facilities that offer appropriate preparation for families of children with disabilities or mental retardation, opportunities for parents of children with enhanced life satisfaction and improved quality of life (Maria, Ilias., Sarah, & Jenny, 2015).

Research conducted in Bangladesh identified some main factors which contributing to the increased vulnerability of children included living in rural areas, low family income, non-alphabet mothers and least contact with disability recovery services (Zuurmond et al. 2015). Then the training program was built through a 12-month action study phase, involving the participation of parents, kids, community staff, and a multi-disciplinary therapist team. It explored the outcomes of young children with cerebral palsy and highlighted the very high mortality rates which exist and

suggested how best services could be given to families of children with cerebral palsy. (Montes-Berges and Augusto, (2007).

The main theoretical approach of this exploration was the socio-ecological model of health. Bronfenbrenner's socio-ecological model of health states that an individual's mental health is influenced by multiple layers ((Peterson, 2018). In current research it has been applied to understand the stressors and mental well-being of caregivers of children with CP. The theoretical assumption is that the caregivers' mental well-being is influenced by the caregiver's characteristics, interpersonal relationships, family support and social interactions.

Independent variable: Emotional Intelligence (EI)

Mediator: Family Support (FS)

Dependent Variable: Mental Well-being (MWB)

Rationale: Disability is viewed as a stigmatizing illness and childbirth is related to the work of the supernatural powers (Moshe & Gerald, 2016).). The birth of children with disabilities is perceived as punishment from God for sins committed by a family member. Caregivers and specially mother who are primary caregivers of children with cerebral palsy face a lot of psychological, emotional, personal, social criticism from society in their upbringing. In under developing countries they also face lack of resources, family pressure, socio- economic status, educational dependence, myth of Gunnha and criticism from society (Tsaousis, & Nikolaou, 2005). Current study tries to figures out the mediating role of family support in establishing good mental well-being in mothers of children with cerebral palsy. It can cause positive or negative impact on their mental well-being with the use of emotional intelligence.

Objectives: Main Objectives of the study are:

- 1: To find out the relationship among Emotional Intelligence, Social Support and Mental Well-being in mothers of children with cerebral palsy.
- 2: To find out the mediating effect of Family Support between Emotional Intelligence and Mental Well-being in mothers of children with cerebral palsy.
- 3: To investigate the difference on the basis of type of disorder (spastic and mixed types) in relation to Emotional Intelligence, Social Support and Mental Well-being in Mothers of children with cerebral palsy.

Hypotheses

H1: There would be a significant positive relationship among Emotional Intelligence, Family support and Mental Well-being in Mothers of children with Cerebral Palsy.

H2: Family Support would be positively mediate the relationship between Emotional Intelligence and Mental Well-being in Mothers of children with Cerebral Palsy.

H3: Mothers of Children with Cerebral Palsy with spastic type of disorder would have high higher level of Emotional Intelligence as compare to mixed type of disorder.

Scope of the study: Disability in children perceived as stigmatization, persons with disabilities are hidden from the wider community by family members, and in extreme cases children with disabilities are killed to avoid the shame that this brings to the family. This study is carried out to

find the role of emotional intelligence and family support in order to deal with society and maintain mental well-being of mothers having children with cerebral palsy. Children with CP needs a high degree of physical care and emotional support from primary caregivers. This indicates that awareness, training program and support services should provide to primary caregivers in order to enhance their well-being. Information and resources about rehabilitation, training and management of such children and their caregivers should provide which help them to cope well with CP child care demands. This study will draw attention to government policies which should be formulated in the favor of such audience so they can do well and minimize their stress level.

Research Methodology

Correlational research design was used to investigate the relationship among emotional intelligence, social support and Mental Well-being of Caregivers having children with cerebral palsy. In this study emotional intelligence has been taken as independent variable family support as mediator and mental well -being as dependent variable. Sample size was determined through G-Power and sample of 100 mothers with CP children were approached from different special education schools of Lahore with age $M=35.79$ and $SD 5.93$. To collect responses from participant's convenient sampling strategy was applied. Mothers who have at least one child with cerebral palsy and duration of diagnosis should be 4-6 months with only spastic and mixed types of CP disorder were included. Age of the CP children and mothers who have any physical disability or psychiatric history were excluded.

Table 1

Socio Demographic Characteristics of the participants (N=100)

Demographic Characteristics	<i>f</i>	%
Type of disorder		
Spastic	52	52.0
Mixed	48	48.0
Duration of treatment		
Less than 1 year	63	63.0
2-3 years	33	33.0
3-5 years	14	14.0
Gender of children		
Boys	53	53.0
Girls	47	47.0

Note. N=100, f=Frequency

Table 1 showed mothers of spastic and mixed CP children were taken almost equally with minimum 5 years treatment duration. Sample were selected from different special education schools of Lahore.

Assessment Measures

Demographic Performa: it consists of questions related to age, types of disorder, duration of treatment, and gender of child.

Self -Report Emotional Intelligence Scale: It is developed by Wong & Law in 2004. It has 33 items and 5-point Likert scale. For present study Urdu translated version emotional Intelligence scale provided by Kausar (2007) was used. Reliability is 0.90 and Cronbach coefficient alpha was .86.

The Multidimensional Perceived Social Support Scale (MSPSS): It is developed by Zimet et al. (1998). It has 12-item designed to measure perceived social support from three sources: Family, Friends, and Significant Others. In current study Family subscale was uses to find out the mediating role. Test has 12 items and 7-point Likert scale. It has high internal consistency (Cronbach's alpha value 0.89) and good test-retest .76 reliability. For present study Urdu translated version of social support scale provided by the author (2012) was used.

Warwick-Edinburg Mental Well-being Scale: It was developed by Stewart- Brown et al. (2006). It has 14 items scale with 5-point Likert scale ranging from 1= none of the time to 5= all of the time. The Cronbach alpha reported by author was.89. Current study, Urdu translation of the scale provided by the author was used.

The study was approved by the Departmental Board of Studies and Board of Advance Studies and Research, Lahore Garrison University, Lahore. In the present research, first of all, permissions were taken from the authors to use their scales before collecting data. The permission was taken from both English and Urdu authors. Translated scales were used and permission from the author who has translated the scale was also taken. Then an authority letter was signed by the Department of Psychology, Lahore Garrison University, Pakistan. The permission from the seven special education schools was taken to collect data from mothers of CP children. For data collection, the author explained the nature and purpose of the study to the participants. Informed consent was signed by the participants. It was assured to participants that their information will be kept confidential and private. The consent was taken by the participant and also given information about the nature of the research. Total 149 forms were distributed in seven private special education schools and 100 forms were received in complete form whereas 14missing forms, 22 incomplete form and 13 blank forms were discarded. For the analysis of the result, the statistical package for social sciences (SPSS) 21 was used.

Data Analysis and Results

Before carrying out correlation analysis, assumptions i.e., assessing the linearity through scatter plot, checking the outliers, normality and independence of observations for the analysis were met. Pearson product moment correlation coefficient (r) was used to find out the relationship among emotional intelligence, family support and mental well-being in mothers of CP children. Mediation analysis was carried out to find out the family support as a mediator in relation between emotional intelligence and mental well-being in mothers of CP children. To examine this, Baron and Kenny's Method for mediation through hierarchical regression was applied. All assumptions were showed significant mediating role of family support in relation between emotional intelligence and mental well-being and Sobel test also indicates full mediation. Independent sample T test also revealed significant difference with respect to spastic and mixed type of CP.

Table 2

Inter-correlations of Emotional Intelligence, Social Support and Mental Well-being in mothers of children with Cerebral Palsy (n=100)

Variables	1	2	3
1.Emotional Intelligence	-	.17	.31**
2.Family Support		-	.50**
3.Mental well being			-

Table 2 showed that there is significant positive relationship of emotions intelligence, family support and mental well-being of CP mothers. All study variables have signification association among each other's.

Mediation through Hierarchical Regression by Baron and Kenny's Method

To find out the mediating role of family Support in relation between emotional intelligence and mental well-being in mothers of children with Cerebral Palsy following assumptions of mediation has been attested through regression analysis.

Table 3

Emotional Intelligence predicts Mental Well-being in mothers of children with Cerebral Palsy

Variable	β	S.E
Emotional Intelligence	.31***	.15
R	.31	
R ²	.10	
F	10.82	

Note. N=100 *** $p < .001$. Results shows that emotional intelligence predicts significant positive mental well-being

Table 4

Emotional Intelligence predicts Family support in mothers of children with Cerebral Palsy

Variable	β	S.E
Emotional Intelligence	.17*	.09
R	.17	
R ²	.03	
F	3.14	

Note. N=100 * $p < .05$.

Results shows that emotional intelligence predicts significant positive family support.

Table 5

Family Support predicts Mental Well-being in mothers of children with Cerebral Palsy

Variable	β	S.E
Family Support	.50**	.14
R	.50	
R ²	.25	
F	33.81	

Note. N=100 **p<.01.

Results shows that family support predicts significant positive mental well-being.

Table 6

Relationship between Emotional Intelligence and Mental Well-being is zero; when Family Support controlled

Variable	Block 1		Block 2	
	β	S.E	β	S.E
Block 1				
Family Support	.50 **	.14	.50	.14
Block 2				
Emotional Intelligence			.23**	.14
R	.50		.50	
R ²	.25		.31	
F	33.81		33.11	

Note. N=100 **p<.01.

Results shows that emotional intelligence predicts significant positive mental well-being.

Table 7

Sobel test to check the Significance of Mediation

Variable	Soble test	S.E	P
Emotional Intelligence	-1.07	.07	.08

Note. N=100

In Tables 7 full mediation has been determine indicated by this sobel test which revealed that family support is playing the significant mediating role between emotional intelligence and mental well-being in mothers of children with cerebral palsy.

Figure 1

Emergед Model of Research

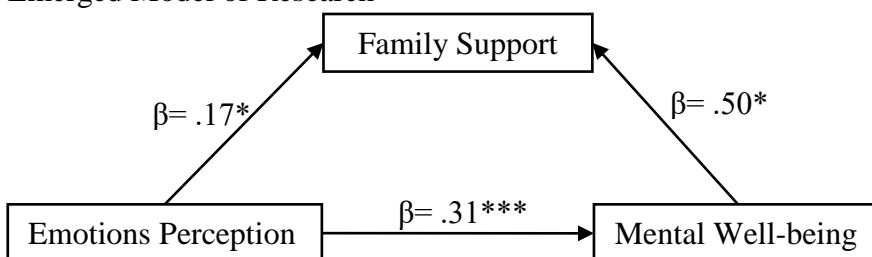


Table 8

Independent Sample T- test showing differences in Spastic and Mixed type of disorder on Emotional Intelligence, Social Support and Mental Well-being of mothers of children with Cerebral Palsy

Types of Disorder	
Spastic	Mixed

Variables	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>T</i>	<i>P</i>	<i>Cohen's d</i>
Emotional Intelligence	28.46	5.39	26.08	4.72	2.32	.02	.46
Family support	17.96	3.98	18.27	5.74	-1.01	.31	.12
Mental well-being	44.20	7.99	48.18	8.28	2.42	.01	.48

Note. *N*= 100. *M*= Mean; *SD*= Standard Deviation

Table showed that CP mothers with spastic type have higher scores on emotional Intelligence as compare to mixed type of cerebral palsy. There is no difference in family support but mother of CP children has good mental well-being with mixed type as compare to spastic type.

Discussion

Theorists believe that those who are capable to properly manage their emotions in everyday events are more likely to show high level of mental well-being and helpful for the reduction of diagnostic symptoms, internalizing disorders such as stress and anxiety (Naidoo, & Pau, 2008).). Finding of this study revealed that there is a significant positive relationship of utilizing emotions with MWB which reflects that when emotional intelligence of CP mothers increases than mental well-being will also increases. Higher EI is correlated with better psychological and physical health, and a meta-analysis further underlines the significance of the correlation between the EI trait and mental well-being (Greenberg, Seltzer 2011).

Another study also supports the finding of current study by concluding that people with higher mental health are more capable of monitoring their emotions, have more ability to compensate for negative emotional states by participating in pleasant activities, and establishing positive social relationships, and emotional abilities to control stress. People with high emotional intelligence evaluate their mental state clearly and know how and when to express their emotions and control them, so that they are not overwhelmed in times of stress. High level of self-awareness and clear insight of the stressful situation able them to better control on problems without ignoring their presence (Fernandez & Extremera 2005).

The present study concluded that at first mothers received Social Support from their families. Research conducted in Middle East explored that the subjects revealed their closest relatives as the most often used supporters. This is may be due to that family bonds are strong in the Middle East and this is playing a positive role to improving the mental well-being. Many people with mental illness live with their families including parents, spouses, siblings, and children or have consistent contact with their relatives. The social support provided by spouses seems to be an important element in the family of the participants and the lack of a spouse support was associated with stress. Poor spouse and family support are shown to the happening of higher levels of mother's childcare stress (Greenberg, & Seltzer 2011).

Awang, Kutty, & Ahmad, in 2014 examined that parents who have children with disabilities but receive social support are capable of giving sense to life issues, mental stress, physical disabilities and consequently decreasing mental stress. The significance of social support for families of children with CP was noted in a literature review conducted by Oliveira and Dounis (2012). They are conducting a search for Brazilian papers published between 2000 and 2010, the results showed that poor quality of life and stress rates are higher among cares of children with CP who have low family and professional social support compared to those who have provided social support.

Family Support would positively mediate the relationship between Emotional Intelligence and Mental Well-being in mothers of children with cerebral palsy. Results showed that family support predict significant positive mental well-being which has great influence on parental sense of

competence and productive cognitive processing of stress leading to growth (Rosenbaum, Paneth, & Goldstein, 2006). Moshe & Gerald, (2016) published a study on family-centered treatment and health of parents with children with disabilities. The findings showed that providing more family care was a Child behavioral disorders are significant predictor of parents 'psychological well-being, through their effect on family self-perception and function. Results revealed that CP mothers with spastic type have high level of emotional intelligence as compare to mixed type of cerebral palsy but mental well-being was found high in mixed type. In a research study it was reported that maternal caregivers 'physical and mental wellbeing was highly affected by infant activity and care burdens. Strategies for optimizing physical and psychological wellbeing caregiver in children with CP provide strategies for behavioral therapy and day-to-day practical tasks, as well as methods for stress reduction and self-efficacy (Fernandez & Extremera 2005).

Conclusion

It is concluded that the relationship among emotional intelligence family support and mental well-being is significantly positive in mothers of CP children. Research also revealed that family support significant positively mediate in relationship between emotional intelligence and mental well-being in mothers of children with cerebral palsy. Furthermore, those mothers of children who have with spastic type have higher level scores on emotional intelligence as compare to mixed type of cerebral palsy. In this study there were some words in measurement tools which made difficulties to understand meanings for participants. It is also difficult to access to the mothers of CP children. It is suggested that various variables such as educational level, and socio-economic status on the mental well-being of mothers of cerebral palsy children should be studies in future. Longitudinal study should be conducted in future in reference to time duration. Age of diagnosed child of cerebral palsy should be consider in future study. This study will be helpful to arrange counselling sessions and motivational lectures for mothers who have CP children. There is the need for the establishment of support groups by social workers in communities and hospitals for mothers of children with CP. This research will be helpful for society, family members, educationists and special school counsellors / psychologist in order to design and implement more appropriate interventional and innovative programs for the management of caregivers specially mothers' psychological distress and social adjustment who have children with special needs.

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