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Psychological distress among caregivers of child with developmental dysplasia of the hip

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Abstract

*Psychological Distress is a significant problem for caregivers. It can impact the providing effective care for their child, and also negatively impact the caregiver's mental health which can lead to a high risk of depression, anxiety, and stress. **Aim** This study aimed to assess the level of psychological distress among caregivers of child with DDH and to find out the relationships between psychological distress among caregivers of child with Developmental dysplasia of the hip and different socio-demographic characteristics. **Methods** A descriptive (cross-sectional) research design was used. This study was conducted in Najaf city hospitals. A non-probability (convenience) technique was used to collect data. The study subjects included (50) caregivers have been selected from Al-Najaf Province. The questionnaire is adapted and modified by the researcher to achieve the goals of the study. **Results** The results of the study revealed that caregivers of children with DDH have severe levels of psychological distress. There is a significant relationship ($P < 0.05$) between Psychological Distress and some of the socio-demographic characteristics (mothers age at childbirth, levels of education, child age). **Conclusion** There is a moderate level of psychological distress among caregivers of child with DDH. they needs for prevention and treatment of psychological problems among caregivers.*

Keywords: Psychological Distress, Caregivers, Children, Developmental dysplasia of the hip

Introduction

Globally, Mental health disorders are the most burdensome in the world, severely affecting individuals' daily functioning and quality of life and contributing significantly to global disability; Furthermore, as a result of depression, 80% individuals with mental health problems reported difficulties with work and other everyday task; additionally, psychological issues can have an impact on the social burden and economic downturn in a variety of societies around the world ¹. Psychological distress is a broad term that encompasses non-specific symptoms of stress, anxiety, and depression. High levels of psychological distress indicate poor mental health and may be suggestive of common mental diseases such as depressed and anxiety disorders ². Developmental dysplasia of the hip is a prevalent cause of disability in children; DDH refers to a spectrum of

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diseases affecting hip development in newborns and young children. It includes abnormal acetabulum and proximal femur development, as well as mechanical instability of the hip joint DDH affects 1 to 2 out of every 1000 live newborns³. Caregivers of children with DDH face significant challenges, such as emotional distress upon learning of the diagnosis, adjusting to extended periods of bracing, and stress associated with the possibility of surgery; these high levels of anxiety are likely to have an impact on the parents' health and ability to care for their children⁴.

Children with disabilities often cause their caregivers stress. Sometimes the sensations are the result of unresolved emotions brought on by difficulties with childbirth, money problems, or other societal ills. The symptoms of caregivers' emotional stress included feelings of loneliness, hurt, wrath, depression, and hopelessness. Caregivers had to deal with personal difficulty, financial hardship, and family conflicts on top of finding money to pay for transportation to the hospital. Stress among caregivers was increased by birth difficulties and poor prenatal care⁵. Illness and behavioral problems in a family can have a substantial influence on how family members express and regulate emotions over time. This can lead to new sources of family stress and conflict, as well as chances for growth and resilience⁶. While care is an important element of parenting, it may be a considerable strain when the demands are excessive and long-term. Caring for a child with a chronic disease or disabilities can be especially difficult. This much duty may have a negative impact on carers' physical and psychological health⁷. In addition to providing for the physical, emotional, and financial needs of family members, the majority of family caregivers are women who engage in time-consuming and difficult tasks like personal care. There are restrictions on social and recreational activities in addition to the financial impact⁸.

Methods

Design of the study

A descriptive (cross-sectional) study is a conducted through this research to identify the psychological distress among caregivers of child with developmental dysplasia of the hip. The study has been conducted between the 25th of September, 2022, and the 7th of June, 2023.

Ethical Considerations

Before beginning the study, a legal, governmental agreement was obtained from the National Research Ethics Committee approval for it to be ethically conducted in accordance with those requirements. Additionally, before data collection start the participants' consent was obtained to protect their rights.

Sample and Sampling of the Study

A non-probability sampling approach has been used (convenience sampling) of (50) caregivers of child with DDH. Were selected from,(Al-Sadder Medical City, Middle Euphrates Hospital, Al-Hakim General Hospital, Al-Najaf Al-Ashraf Teaching Hospital),in al Najaf province. The data were collected using the designed questionnaire and the self-reported technique in the Arabic

version of the questionnaire for those subjects included in the study.

Study instrument

the research instrument is divided into two parts: Part one included socio demographic data of Caregiver characteristics including who are caregiver ,gender, age, mothers age at child's birth, number of children, marital status, level of education, Primary knowledge about DDH, job, monthly income, residency area, family history of DDH, and do you have any psychiatric disorders. And Child Characteristics including gender, age, birth order of the child in the family, types of delivery, Type of treatment. Part two included the Kessler Psychological Distress Scale (K10) is a tool for assessing of psychological distress symptoms, It is a 10-item questionnaire was created to provide a global assessment of distress based on questions regarding anxiety and depressive symptoms felt in the previous four weeks. The scale used a five-value response option for each question – (all of the time, most of the time, some of the time, a little of the time, and none of the time).

Statistical Analysis

After the data are prepared for statical analysis, the descriptive and inferential statistics employ for data analysis using the Statically Package of the Social Sciences (SPSS), version (IBM 21) as follows:1.Descriptive statistics:(Frequency and percentage tables : Mean and standard deviation. 2.Inferential statistics: Cronbach's Alpha, Analysis of Variance (ANOVA): It is conducted for determining the difference in study variables such the relationship between self-esteem overall scores and socio demographic data.

Results

Table (1) Statistical Summary of the Socio-Demographic Data related to the Study Sample

Socio -demographic data	Ranking and Interval	Freq.	%
Who are caregiver	Father	5	10.0
	Mother	43	86.0
	Sister	2	4.0
Gender	Male	5	10.0
	Female	45	90.0
Age	<= 27	21	42.0
	28 – 37	21	42.0
	38+	8	16.0
	Mean	30.26	
	SD.	6.369	
Mothers Age at Child's Birth	<= 27	29	58.0
	28 – 35	14	28.0
	36+	7	14.0

	Mean	28.6	
	SD.	5.53	
Number of children	<= 3	33	66.0
	4 – 6	16	32.0
	7+	1	2.0
Marital status	Married	48	96.0
	Divorced	2	4.0
Level of Education	Literate	11	22.0
	Primary	19	38.0
	Secondary S.	10	20.0
	College /High Education	10	20.0
Primary knowledge about DDH	Not Once	48	96.0
	The once	2	4.0
Working	Employed	9	18.0
	Free Work	6	12.0
	Unemployed	33	66.0
	Student	2	4.0
Monthly Income	Sufficient	14	28.0
	Barely Sufficient	28	56.0
	Insufficient	8	16.0
Residency area	Urban	31	62.0
	Rural	19	38.0
Family history of DDH	Yes	19	38.0
	No	31	62.0
Do you have any psychiatric disorders	Yes	0	0.0
	No	50	100.0
Child characteristics			
Gender of the Child	Male	8	16.0
	Female	42	84.0
Age of the Child	<= 1	15	30.0
	2	17	34.0
	3	14	28.0
	4	2	4.0
	5+	2	4.0
	Mean	2.10	
	SD.	1.16	
Birth order of the child in the family	1	16	32.0
	2	10	20.0

	3	8	16.0
	4	9	18.0
	5	5	10.0
	6	2	4.0
Types of delivery	Normal Vaginal Delivery	18	36.0
	Caesarean Section	32	64.0
Type of treatment	Surgical	29	58.0
	Non-Surgical	21	42.0

Table (1) shows the socio demographic data of The caregivers in this study are within mother caregiver (86%), female caregivers (90%), caregivers between the ages 18-27 and 28-37 with percentage (42%) , mother's age at child birth was the ages <= 27 (58%),those who are number of children was less than 3 (66%), those who are married (96%) ; those are primary level of education (37%); those who were not trained for developmental dysplasia of the hip (96%) ; those who are housewives (66%); those with barely sufficient monthly income (56%); those who live in urban areas (62%); those with no family history of DDH(62%); those with no psychiatric disorder (100%) . And the Child Characteristic has the highest percentage of : female child gender was (84%), age of the child was 2 years with percentage (34%),birth order of the child was 1 sequences (32%) ; those with caesarean section of delivery (64%); those with surgical treatment (58%) .

Table (2) Overall Assessment of Psychological Distress among Caregivers of Child with Developmental Dysplasia of the Hip by the Kessler Psychological Distress Scale

Levels	Freq.	%	Ms.	Asses.
None of the time	1	2.0	3.556	Moderate
A little of the time	4	8.0		
Some of the time	12	24.0		
Most of the time	23	46.0		
All of the time	10	20.0		

Freq.: Frequency; **MS:** Mean of Scores; Low: **MS = 1-2.33**; Moderate: **MS = 2.34-3.67**; High: **MS 3.68-5**

Table (2) displays the overall assessment (mean and ratio of scores) of Kessler Psychological Distress Scale for the study subjects. They show that the overall assessment of Kessler Psychological Distress Scale is (moderate) at mean of scores equal to 3.556

Table (3) ANOVA table for the relationships between psychological distress among caregivers of child with Developmental dysplasia of the hip and different socio-demographic characteristics

Socio-Demographic Data	Ranking and Interval	Mean	SD.	F	Sig
Who are caregiver	Father	3.10	0.59	1.09	0.35
	Mother	3.60	0.75		

	Sister	3.70	0.28		
Gender	Male	3.10	0.59	2.19	0.15
	Female	3.61	0.74		
Age (Years)	<= 27	3.53	0.79	2.63	0.08
	28 – 37	3.39	0.61		
	38+	4.06	0.74		
Mothers Age at Child's Birth (Years)	<= 27	3.49	0.77	4.40	0.02*
	28 – 35	3.35	0.54		
	36+	4.26	0.55		
Number of children	<= 3	3.48	0.76	2.05	0.14
	4 – 6	3.64	0.63		
	7+	4.90	.		
Marital status	Married	3.53	0.72	1.37	0.25
	Divorced	4.15	1.20		
Level of Education	Literate	3.95	0.69	3.08	0.04*
	Primary	3.68	0.75		
	Secondary S.	3.32	0.58		
	College /High Education	3.12	0.68		
Primary knowledge about DDH	Not Once	3.53	0.74	1.37	0.25
	The once	4.15	0.35		
Working	Employed	3.06	0.66	2.42	0.08
	Free Work	3.32	0.66		
	Unemployed	3.72	0.73		
	Student	3.80	0.14		
Monthly Income	Sufficient	3.37	0.84	0.62	0.54
	Barely Sufficient	3.61	0.69		
	Insufficient	3.68	0.72		
Residency area	Urban	3.50	0.82	0.47	0.50
	Rural	3.65	0.59		
Family history of DDH	Yes	3.68	0.64	0.93	0.34
	No	3.48	0.79		
Child Characteristics					
Gender of the Child	Male	3.71	0.79	0.43	0.52
	Female	3.53	0.73		
Age of the Child (Years)	<= 1	3.57	0.81	3.21	0.02*
	2	3.68	0.57		
	3	3.15	0.67		

	4		4.15	0.49		
	5+		4.70	0.42		
Birth order of the child in the family	1		3.71	0.69	1.51	0.21
	2		3.17	0.74		
	3		3.51	0.87		
	4		3.74	0.26		
	5		3.26	1.00		
	6		4.35	0.78		
Types of delivery	Normal Delivery	Vaginal	3.42	0.69	1.01	0.32
	Caesarean Section		3.63	0.76		
Type of treatment	Surgical		3.52	0.83	0.16	0.69
	Non-Surgical		3.60	0.60		

* Significant at $P < 0.05$; ** "Do you have any psychiatric disorders" is a constant Variable

Table (3) elucidate the relationship between overall score of psychological distress among caregivers of child with Developmental dysplasia of the hip and different socio-demographic characteristics. It indicates that there is no significant relationship between psychological distress among caregivers of child with Developmental dysplasia of the hip and different socio-demographic characteristics at ($P > 0.05$), except the Mothers Age at Child's Birth it has a significant relationship with psychological distress of caregivers at (P value = 0.02); Level of Education (P value = 0.04), and Age of the child (P value = 0.03).

Discussion

Table(1) The analysis of findings revealed that most of sample were married mothers of children with Developmental Dysplasia of the hip, fall in the age group (≤ 27) years old and age group(28-37), the highest percentage of the study sample can primary school with barely sufficient monthly income. These findings have revealed that parenting of DDH children fell overwhelmingly on the hands of mothers more than fathers, they was observed that more mother had responsibility of caring in the family, Mothers play greater roles in their children's care than fathers, while fathers role in business life, or sometimes no role at all. This finding approves with study of ⁹, The study results indicate that the more caregiver is the mother's (93.9%). Concerning The results showed that the majority of the subjects' job (66%) are housewife, this is may be due to the majority of research participants did not complete their education, and mother are in charge of the household and children care all time. This results is comes along with ¹⁰ who found that sample are (70%) of housewives.

In regards to the primary knowledge about DDH, According to the findings in current study, caregivers who no have primary knowledge about DDH the largest proportion of those with knowledge. This result agrees with ¹¹ This study found that the majority had a low knowledge level

regarding DDH. Regarding to the family history, the study states that no found in more sample study (62%). these finding comes along with the study of ¹² find that most of participant are negative results of family history in (77.8%). The characteristics of children revealed that most of the children were girl. Such finding could be explained by the incidence ratio of DDH, which reflect that the incidence rate of DDH is higher in female than male because of the effects of more estrogen generated by the female. A study presented supportive to this result by ¹³ who found that the gender of child is girls (92.6%). The distribution of DDH children according to their age indicated that the majority of them were fall in the age of two years old (34%). This results agrees with ¹⁴, who found that the majority of child with DDH was aged 1-2 years. Regarding the birth order of the child, According to the findings, the first order of child in family is highest (32%). This results similar to ¹⁵. Who found the first child was higher than that in the second child and later. Because when the mothers birth the first child the uterus and abdominal wall tightened and the pelvis is not exposed to pressure, it is more flexible and subject to deformation. The study sample were delivered through caesarean section (64%). This result is similar to a study done by ¹⁶ who find that most (63.1%) of the delivered through caesarean section. Table (2) assert that the majority of caregivers have moderate of K10 Scale assessment. This results were interpreted due to there is a moderate level of psychological distress on caregivers may experience uncertainty and anxiety about their child's condition, treatment, these may feeling of stress and anxiety which may contribute to psychological distress. This result is agreeing with the study of ¹⁷ Found that the findings showed that parents have moderate level of psychological distress correlated to parenting of their children. Additionally supporting was done by ⁷ who reported that caregivers have moderate level of psychological. Table (3) display that there is a significant relationship between psychological distress among caregivers of DDH children and mothers age at child birth, These finding may be interpreted Perhaps because at this age, the mother is low experience in life and exposed to many life pressures, they are more responsible than members of other groups to caring of child disability, and may face challenges such as managing the family and social relationships This finding support from the study of ¹⁸.

Regarding the levels of education, there is a significant relationship between psychological distress among caregivers of DDH children and primary level of education. This result almost agree with a study by ¹⁹ who found that there is significant association between educational status and depression, anxiety, and stress scores. The reason for this is most of the participants are unaware of the disease's severity as well as the possibility of treatment. The current result that there is a significant association between age of the child and psychological burden of caregivers ²⁰ who found a positive association between the child's age and all measures of caregiver burden. The key predictors of caregiver burden include the child's age. This result is contradict with the study of ²¹ where the researchers discovered significant levels of distress, clinical anxiety, and worry among parents when the child one year old. also disagree with a study of ²² who finding there is significantly more burden parents whose child (aged under three months old), the suggestion for this result in current study that they are positively associated, the child's age rises as the respondent's

burden increases and type of treatment is become more complex.

Conclusion

The current study concluded that most of the caregivers were to have moderate psychological distress. The socio demographic variables of the caregivers (Mothers age at child's birth, Level of education, Age of the child) were statistically significant with psychological distress. While other socio demographic variables of were not significant. All of the caregivers were under the age of fifty, and more than fifty percent of the caregivers' children were females (mothers). The highest of the subjects were married, unemployed job, had a primary degree of education, and had a barely monthly income.

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