

# INFLUENCE OF THE GENDER OF THE PARENT WHO SUFFERED A TRAUMATIC BRAIN INJURY ON THE FAMILY'S PHYSICAL AND MENTAL HEALTH

SILVIA CIOBANU<sup>1</sup>

<sup>1</sup>PhD Candidate "Carol Davila" University of Medicine and Pharmacy București

**Keywords:** family, physical health, mental health, brain injury

**Abstract:** The present study aims at analyzing the relationship between the family's physical and mental health and the gender of the ill parent, in a family where one of the parents has suffered a moderate or severe brain injury. The present study has included 58 families with a parent with moderate or severe brain injury. The instrument used to measure the family's physical and mental quality was Health Survey (SF8). Our results show that physical and mental health of the family is affected when one partner is ill, and shows differences in the way of assessing the situation based on the gender of the ill parent. This study has more than an informative value, as the study of these issues is almost non-existent.

**Cuvinte cheie:** familie, sănătate fizică, sănătate mentală, traumatism cranio-cerebral

**Rezumat:** Studiul de față urmărește analizarea relației dintre starea de sănătate fizică și mentală a familiei și genul părintelui bolnav din familia cu un părinte, cu traumatism cranio-cerebral mediu sau sever. În prezentul studiu au fost incluse un număr de 58 de familii cu un părinte cu traumatism cranio-cerebral mediu sau sever. Instrumentul utilizat pentru măsurarea calității fizice și mentale a familiei a fost Health Survey (SF8). Rezultatele ne relevă faptul că sănătatea fizică și mentală a familiei este afectată în situația în care unul dintre parteneri este bolnav și ne arată diferențe în modul de apreciere a situației în funcție de genul partenerului bolnav. Studiul de față are mai mult decât valoare informativă, întrucât studierea acestor aspecte este aproape inexistentă.

## INTRODUCTION

The occurrence of a disease in a family member can cause severe emotional reactions of the family, family life disorganization or disruption of quality of life as a whole. Recent studies show that severe traumatic brain injury is a significant source of morbidity of caregivers – of those who take care of the suffering person, even compared to other physical traumas. The caregivers of those with severe traumatic brain injury are subjected to extreme stress that is associated with the injury itself.(1) It seems that for families with a member with traumatic brain injury, the risk that the situation may generate psychological dysfunctions within is much higher than in other situations. Brain injury may have intense social, psychological and physical implications on the long term for parents, life partners and other caregivers.(2,3,4)

Clinical experience and empirical studies have shown that families face a multitude of difficulties in adapting to the overall experience of a member's traumatic brain injury.(5) In particular, the partner faces a formidable challenge as the primary caregiver of the ill. Responsibility of care involves significant risks, both for the one who cares and for the marital relationship itself.(6) The partner of a person with brain injury may develop affective or anxiety disorders in the months when he or she is dealing with care giving (7), being described in the literature as a person living in a "social retirement/oblivion", unable to mourn properly, unable to divorce with dignity or in clear conscience, and being frustrated by the non-fulfilment of sexual and emotional needs.(8)

Although there are few studies that compare diseases in relation to the consequences they have on the health of the caregivers (9,10), the results lead to the assertion that caring for people suffering from a serious illness has profound potential

effects on physical and mental health of the caregivers.(11)

The objective of this study is to analyze the physical and mental health of the family in relation to the gender of the ill parent in a family with one parent affected by moderate or severe traumatic brain injury. For this, we constructed a study hypothesis, which assumes that gender of the ill parent influences the physical and mental health of the family. We expect that families where the father is ill to be most affected in terms of physical and mental health than families where the mother is ill.

## METHODS

### Participants

For the present study there has been recruited a number of 58 families with one parent with medium or severe traumatic brain injury or severe environment. Of the 58 respondent parents, 23 (40%) were fathers and 35 mothers (60%). The support parent completed the questionnaires.

The general criteria for inclusion were: 1) for families: to have residence in București, children aged 4-18 years, to be a legally constituted family, both parents to be alive (typical family constellation); 2) for the ill parent: severity of trauma - score between 3 and 12 CGS (Glasgow Coma Scale) (3-7 severe, 8-12 moderate) from the neurosurgical protocol; hospitalization in the Department of Neurosurgery; without physical or mental health problems and no history of previous hospitalizations. 3) for the support partner / parent: signing the consent for participation in the study; Minimum 4 years of schooling; to speak, read and write in Romanian; without physical or mental health problems and no history of previous hospitalizations. General exclusion criteria: 1) for families: single parent; divorced; cohabitation.

<sup>1</sup>Corresponding author: Silvia Ciobanu, Str. Acad. Corneliu Micloși, Nr. 6, Timișoara, România, E-mail: silviamru@yahoo.com, Tel: +40744 269778  
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## Instruments

**Health Survey (SF8)**, Medical Outcomes Health Survey version (12), measures physical and mental quality of life. In the version used in this study, supporting parents were asked to assess the health status of the last four weeks, on a scale of 5 or 6 points. The questionnaire covers eight aspects of health: physical functioning, physical role (role limitations due to physical problems), physical pain, general health, vitality (energy/fatigue), social functioning, emotional role (role limitations due to emotional problems), and mental health (psychological distress and mental state of wellness) and two summary scales for Physical Component and for Mental Component.

For data processing we used the SPSS statistical software (version 20.0).

## RESULTS

To see if there are differences among families concerning their physical and mental life quality, in relation to the gender of the ill parent, we separated the groups by gender. We then calculated the means and standard deviations for both the entire group and separately by the gender of the ill parent. Data were analyzed by comparing two independent samples using t-test, and the equality of the variants of the populations where our samples come from using the LEVENE test. Let us not forget that as lower scores are more physical and mental quality of life is affected.

The overall scores obtained from parents of both components indicate that both physical and mental health of the family is affected. Scores were lower in mental component ( $M = 37.44$ ,  $SD = 10.92$ ) than in the physical component ( $M = 45.11$ ,  $SD = 11.27$ ) (table no. 2). In terms of gender, at the physical component, the supporting parent (mother) obtained  $M = 43.56$ ,  $SD = 12.58$  compared to support parent (father) who obtained  $M = 47.39$ ,  $SD = 8.74$ , and at the mental component, support parent (mother) obtained  $M = 34.00$ ,  $SD = 8.72$  compared to support parent (father) who obtained  $M = 42.52$ ,  $SD = 12.00$  (table no. 1). We can say that physical and mental health of the families is more affected where the ill parent is the father.

**Table no. 1. Means and standard deviations for total and separate SF8 components, depending on the gender of the ill parent**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
t0 SF8 Physical component summary	total	58	45.11	11.27	1.49
	male	35	43.56	12.58	2.15
	female	23	47.39	8.74	1.82
t0 SF8 Mental component summary	total	58	37.44	10.92	1.44
	male	35	34.00	8.72	1.49
	female	23	42.52	12.00	2.50

Variances of populations which our samples come from are equal,  $F = 4.213$ ,  $p = 0.045$  in the physical component and  $F = 2.253$ ,  $p = 0.139$  in the mental component (table no. 2). After testing the differences between physical and mental quality of life depending on the gender of the ill parent, we see that, in the physical component, there are no significant differences between the physical quality of life depending on the gender of the ill parent ( $t = -1.356$ ,  $p = 0.181$ ), since the values were not different from one group to the other. But, in the mental component, significant differences appear between the quality of mental life when the father is ill and in the quality of mental life when the mother is ill ( $t = -3.106$ ,  $p = 0.003$ ), meaning that the mental health of the family suffers more when the father is ill, than when the mother is ill.

## DISCUSSIONS

With this study, we aimed at discovering whether in the family with a parent who suffers a traumatic brain injury, there were differences in the perception of physical and mental health in relation to the gender of the ill parent. We note that there are differences in how the situation is assessed in relation to the ill parent and in relation to the physical or mental component to which reference is made. Scores obtained by respondents from both components indicate that physical and mental health of the family is affected with increased emphasis on mental component. If the ill partner is the father, physical and mental health of the families is more affected. Our results also show that, when fathers are ill, the quality of physical and mental life of the family is more affected than when the mothers are ill.

Regarding gender differences in physical component no significant differences appear between the physical quality of life depending on the gender of the ill parent ( $t = -1.356$ ,  $p = 0.181$ ), since the values were not different from one group to another. Significant differences appear only between the quality of mental life only when the father is ill and in the quality of mental life when the mother is ill, meaning that women, whose husbands are ill, will be affected in terms of mental health more than men whose wives are ill. Therefore, our hypothesis is confirmed only in the aspect of mental health, not in terms of physical health. Similar results argue that although wives are more likely than husbands to deal with caring aspects, they report higher levels of burden than husbands, with inherent psychological consequences.(13,14) Maybe because that in comparing the two spouses, wives are more willing to offer help and support to their ill partners by themselves, unlike husbands who ask for the help of other family members and of assistance services.(15)

Despite the survey results, there are a number of limitations that must be taken into account. Limitations do not necessarily have an effect on the results, but may have an influence on the interpretation. The small group of participants gives one of the limitations and results mostly from the division into two groups depending on the gender of the ill parent.

## CONCLUSIONS

Our results show that the presence of a parent with traumatic brain injury in a family is a situation that may cause dysfunction at family level. The gender of the ill parent is a variable with a significant influence on physical and mental health of the family experiencing a traumatic life event. Since there are few studies in the field, a deeper look at the aspect of the gender of the ill parent in relation to the family and to its members can be helpful in future, in addressing and dealing with intervention on families with a member with traumatic brain injury.

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**Table no. 2. Testing differences between physical and mental quality of life depending on the gender of the ill parent**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig.	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
t0 SF8 Physical component	Equal variances assumed	4.213	.045	-1.266	55	.211	-3.832	3.027	-9.898	2.233
	Equal variances not assumed			-1.356	54.937	.181	-3.832	2.826	-9.496	1.831
t0 SF8 Mental component	Equal variances assumed	2.253	.139	-3.106	55	.003	-8.522	2.744	-14.021	-3.023
	Equal variances not assumed			-2.922	37.355	.006	-8.522	2.916	-14.428	-2.615

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