RELIGIOSITY AND DEPRESSION IN MOTHERS OF CHILDREN WITH CEREBRAL PALSY: CORRELATION ANALYSIS

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Abstract

The aim of this study was to evaluate the depression and religiosity of mothers of children with cerebral palsy, and to determine correlation between religiosity and depression with Pearson correlation coefficient. The survey included sample of 52 mothers of children with cerebral palsy, average age 36 ± 9.7 years, which are involved in educational and rehabilitative treatment in Center for Children with Multiple Disabilities "Koraci nade", in Tuzla. Quantitative measurement of depression was done with Zunge Self – Rating Depression Scale (Zung, 1965), which items are designed on the basis of diagnostic criteria, and are commonly used to characterize depressive disorders. To assess religiosity a Short Scale of Religiosity (Bezinović, 2004) was used which consists of five items and is formulated so that respondents estimate the frequency of their own religious experience or religious cognition. The results showed a mild depression in mothers of children with cerebral palsy, high level of religiosity and absence of correlation between religiosity and depression. Insignificant correlation implies use of unique measuring instrument based on the multidimensional assessment of religiosity.

Key Words: Mothers of Children with Cerebral Palsy, Religiosity, Depression, Correlation.

INTRODUCTION

There are different definitions of religion, but by their essential meaning, it refers to the belief. Thus English and English, according to Čorić (1998), within psychology, define religiosity as interest in religion, while religion is a "system of concepts, beliefs, behaviors, rituals and ceremonies, by which individuals or communities put yourself in a relationship with God or with the supernatural world and often in relationship with each other, and from whom (the system), a religious person gets a number of values by which he or she defines and assess the natural world." James (1994) for religiosity says that it is conceptualized at the individual level, where a person is described as a believer, and what implies adherence to certain religious beliefs. Religiosity can be defined as *iman* (belief), and the Islamic *ulema* defines *iman* as "firm belief with the heart, a manifestation with language and practical confirmation with deeds" (al-Hanefi, 1983: 373). *Iman* is truly a psychological belief that transcends every human doubt and meets both internal and external dimension of his personality. In this sense, Sheikh Yusuf al-Qaradawi (1998) says: "*Iman*, in essence, is not just the work of language, body or mind. It's more a psychological

state that reaches the depths of the human personality and touches all of its dimensions, cognitive, emotional, or wiling. " There are many studies worldwide that have focused on the study of religiosity and depression (Schuster et al. 2001: 1507 - 1512, Koenig, 1998: 213-224, D'Souza, 2002: 44-47, Koenig et al, 2001: 118-143, 216-217, 527-530, Smith et.al., 2003: 614-636), while in Bosnia and Herzegovina can find research Pajević (2003), which in his doctoral dissertation dealt with the question of the influence of religiosity on the mental health and maturity of adolescents.

Depression is one of the leading disease today, according to the assessment of scientists it covers over 120 million people around the world.[1] The birth of a handicapped child results with stress for parents and they often feel responsible. Emotional problems, worry about the child's future after their death, often result with depression (Götz, 2000: 121-127), as well as emotional and behavioral problems in mothers of handicapped children (Bristol et al, 1988: 441-451). Caring for a child imply considerable capacity, which include not only the emotional involvement, but both time and certain funds. In the situation of caring for a child with certain chronic conditions, requirements for these sources are significantly increased. Although many parents are faced increased requirements successfully, they may have implications on their psychological and physical health (Brehaut et al, 2004: 182-191, according to Dorčić, 2008: 63-78). One example of such a condition of child that place increased demands on the parents is cerebral palsy. There are several studies that have focused on the status of the mothers who have children with cerebral palsy. Ones et al (2005: 232-237) stated that mothers of children with cerebral palsy have increased depressive symptoms and poorer quality of life compared to mothers of children without cerebral palsy. Also, the study of Manuel et al (2003: 197-201) on a sample of 270 mothers of children with cerebral palsy showed that 30% of the mothers had symptoms of depression.

OBJECTIVE

The aim of this study was to evaluate the depression and religiosity of mothers of children with cerebral palsy, and Pearson's coefficient correlation to determine the correlation between religiousness and depression.

HYPOTHESIS

In accordance with the defined goal, the following hypotheses were set:

H1. There is evident depression present in mothers of children with cerebral palsy.

H2. Mothers of children with cerebral palsy are religious.

H3. There is a correlation between religiosity and depression in mothers of children with cerebral palsy.

METHODS

The Sample

The study included an appropriate sample of mothers of children with cerebral palsy, which are included in educational and rehabilitative treatment in Center for Children with Multiple Disabilities "Koraci nade" in Tuzla. Total sample of respondents consisted of 52 mothers, average age 36 ± 9.7 years.

Measuring Instruments and Variables Sample

For the purpose of quantitative measurement of depression Zunge Self – Rating Depression Scale (1965: 63-70) was used, whose claims are designed on the basis of diagnostic criteria, and are commonly used to characterize depressive disorder. In constructing the scale the basic characteristics of depression were included: affective (depressed mood, sadness, tearfulness), physiological (nightly or early awakening, tachycardia, arrhythmias, decreased appetite); psychomotor (temporal and spatial slow movement, restlessness, spasms in certain muscles), and psychological disturbances (shakiness, confusion, frustration with inadequate life achieved, suicidal thinking). The scale contains 20 items, and for each claim can be answered on a four grades scale: never or very rarely, sometimes, often, mostly or always. The sum of all values for the 20 statements are divided by 80 and multiplied by 100. The overall result is formed as linear combination of estimates for each of the claims, and it ranges from 25 to 100. According to numerous papers where the Self – Rating Depression Scale was used patients with mild or moderate depression scored 50-59 points, those with moderate to severe depression 60-69 and patients with severe depression scored 70 and more than points (Mavar, 1991, by Lučev, 2006).

To assess religiosity a short scale of religiosity was used (Bezinović et al, 2004), which consists of 5 variables of the assessment: "I believe in God", "I feel that God protects me", "I fear God's punishment", "Faith helps me to deal with life difficulties and problems easier" and "I think a lot about faith, religion, God". An incidence of these responses is evaluated with five point Likert scale: 1 - never, 2 - seldom, 3 –sometimes, 4 - often, 5 - very often. The scale is formulated so that respondents estimate the frequency of its own religious experience and religious cognition. Although the assessment of intensity of belief in the statement "I believe in God" usually expect answers on dichotomic categorical scale (yes-no), or "I believe, I doubt, I don't believe" or intensity scale ranging from "completely inaccurate" to "completely correct", different formats of agreement with the statement can be found. Thus, in the European research Aufbruch (Aračić, Črpić, Nicodemus, 2003, by Bezinović et al 2004), one of the answers to the question about the attitude towards God, was "sometimes I believe in God, and sometimes not".

Way of Conducting Research

The survey was conducted during the period from August 2010. until November 2010. in the Center for Children with Multiple Disabilities "Koraci nade". The study was an individual, and the respondents were given instructions to complete the questionnaire.

Methods of Data Processing

Collected data were analyzed using descriptive analysis, the frequencies and percentages of applied variables were calculated, and Pearson's correlation coefficient tested relations between depression and Short scale of religiosity variables. Data were processed with Statistical program SPSS for Windows 16.0.

RESULTS

Table 1: Frequency analysis of depression in the applied sample

variable		f	%
depression	35	1	5,8
	42	1	9,6
	46	3	7,7
	47	3	5,8
	50	3	1,9
	52	5	3,8
	54	4	5,8
	55	1	5,8
	56	4	9,6
	57	3	7,7
	59	6	5,8
	60	3	1,9
	61	1	3,8
	62	2	5,8
	64	1	5,8
	65	2	9,6
	66	2	7,7
	67	2	5,8
	69	1	1,9
	71	1	3,8
	72	3	5,8

Table 1 shows the frequencies and percentages of depression in the applied sample of respondents. The table noted that depression scores are moving in the continuum of 35-72, higher scores indicate greater depression.

Table 2: Depression categories on Zunge Self – Rating Depression Scale

categories of depression	f	%
normal range (<50)	8	15,4
mildly depressed (50 - 59)	26	50
moderately depressed (60- 69)	14	22,9
severely depressed (70-79)	4	7,7

Table 2. presents the summary results of the percentages of Zunge Self – Rating Depression Scale variables. Based on frequency analysis, it can be concluded that 15,4% of respondents don't have depression, 50% of patients have mild depression, 22,9% of subjects have moderate depression, while 7,7% of the respondents have severe depression. Based on research of Sajedi et al (2010), who assessed depression of mothers of children with cerebral palsy, using the Beck Depression Scale, the opposite results were obtained, when it comes to the category of "no depression". In relation to the category, in this study was found that 15,4% don't have depression while Sajedi et al (2010) found that 55,8% of respondents don't have depression. The same results in both studies were obtained in the category of "severe depression". However, it should be emphasize that different measurement instruments were used for assessing depression.
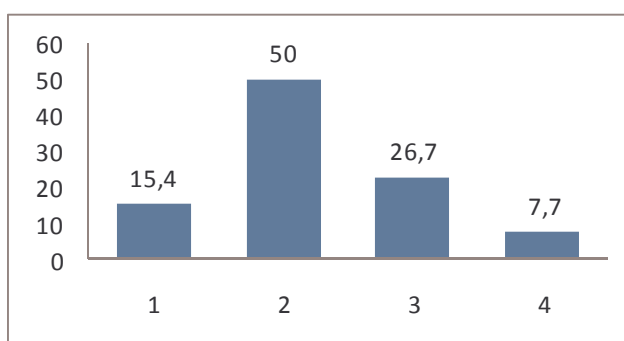

Figure 1: Summary percentage of depression categories on Zunge Self – Rating Depression Scale

Table 3: Frequency analysis of the applied variable of Short Scale of Religiosity

Variables	Never		Rarely		Sometimes		Often		Very often	
	f	%	f	%	f	%	f	%	f	%
1	0	0	0	0	3	5,8	13	25,0	36	69,2
2	0	0	2	3,8	5	9,6	16	30,8	29	55,8
3	1	1,9	0	0	9	17,3	12	23,1	30	57,7
4	0	0	1	1,9	6	11,5	16	30,8	29	55,8
5	0	0	1	1,9	9	17,3	22	42,3	20	38,5

Legend: 1 - I believe in God; 2 - I have a feeling that God protects me; 3 - I fear God's punishment; 4 - Faith helps me to deal with life difficulties and problems easier, 5 - I think a lot about faith, religion, God.

Table 3 presents the results of frequencies and percentages for the Short Scale of Religiosity, which consists of 5 variables. The variable "I believe in God" is an explicit statement of the main indicator of religious affiliation and attitude, and is the basic determinant of beliefs. In a number of studies measuring religiosity was found centrality of belief in interdimensional level, according to which belief in God is extracted as a separate central category (Bezinović, et al, 2004).

By looking at Tables 3 for the variable "I believe in God", we can see that the majority of respondents, 69,2%, agree with this statement, 35% often agrees, while 5,8% of respondents sometimes agree with the statement. In assessing the variable "I feel that God protects me", which reflects the protective function of religious beliefs, 55,8% of respondents very often agree, 30,8% of respondents

often agree, 9,6% of respondents sometimes, while 3,8% of respondents rarely have the feeling that God protects them. In assessing variable "I fear God's punishment", which reflects the emotions of fear, and is closely associated with feelings of guilt because inadequate actions or thoughts, 57,7% of respondents agree very often, 23,1% of respondents agree often, 17,3% agree sometimes, while one respondent is never afraid of God's punishment.

Assessment of variable "Faith helps me to deal with life difficulties and problems easier ", showed that 55,8% of respondents agree very often, 30.8% of respondents often, 11.5% of respondents occasionally, while one of the respondents rarely agree with this statement.

On the assessment of " I think a lot about faith, religion, God," which reflects the essential importance of "mature religion", 38,5% respondents agreed often, 42,3% respondents agreed very often, 17,3% of respondents agreed occasionally, while one of the respondents rarely agree with this statement.
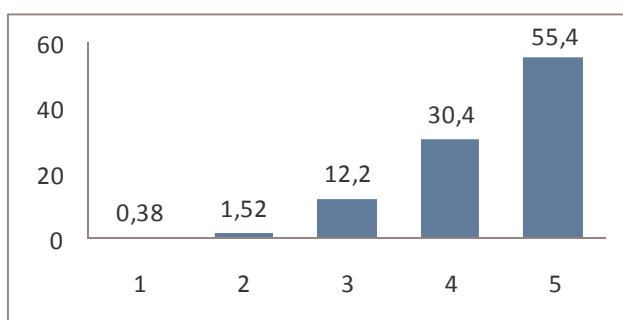

Figure 2: Summary results of the percentages of the applied variable of Short Scale of Religiosity

The second chart presents the summary results of the percentages of applied variable of Short Scale of Religiosity. From the chart it is evident that the majority of respondents, 55,4%, very often agree with the statement, 30,4% of respondents often, 12,2% respondents sometimes, 1,52% of the respondents rarely, while 0,38% of the respondents have never agree with the statement.

Table 4: Correlation analysis of variables of depression and religiosity

Variables	1	2	3	4	5	6
1	1	-0,02	0,09	-0.12	0,03	0.15
2	-0,02	1	**0,65	**0,49	**0,49	**0,52
3	0,09	**0,65	1	**0,45	**0,52	**0,56
4	-0,12	**0,49	**0,45	1	**0,60	**0,44
5	0,03	**0,47	**0,52	**0,60	1	**0,62
6	0,15	**0,52	**0,56	**0,44	**0,62	1

Legend: 1 - depression; 2 - I believe in God; 3 - I have a feeling that God protects me; 4 - I fear God's punishment t; 5 - Faith helps me to deal with life difficulties and problems easier; 6 - I think a lot about faith, religion, God.

Table 4 presents the results of Pearson's correlation between depression and religiosity. It is obvious from the table that there is no connection between depression and religiosity, but it is interesting to note the variable "I believe in God", because in the empirical research it is basic indicator of religiosity (Bezinović et al, 2004). The correlation coefficient is negative, which is a good indicator, but due to insignificant correlation, it is not possible to link depression and religion. Since it is difficult to find similar studies, which are by their research concept based on the same measuring instruments, it is useful, in order to create a better picture of the relation of depression and religiosity, to refer to research that generally dealt with this issue. In a meta-analysis, which included 147 studies, a sample of 98 975 patients, Smith et.al. (Pajević 2003: 614-636), also achieved insignificant correlation between religion and depression ($r = -0,096$).

Also, in the table 4, variables from 2 to 6, that represent a Short Scale of Religiosity, show intercorrelations ranging from 0,49 to 0,65, at $p < 0,01$. The highest correlation was made between variable "I believe in God" and "I have a feeling that God protects me" as well as the variable "Faith helps me to deal with life difficulties and problems easier" and "I think a lot about faith, religion, God". Coefficient of internal consistency, Cronbach alpha of applied variables of Short Scale of Religiosity was 0,85, which

indicates the high homogeneity of variables, based on which one can reasonably conclude that the variables "I believe in God", "I have a feeling that God protects me", "I fear God's punishment", "Faith helps me to deal with life difficulties and problems easier" and "I think a lot about faith, religion, God" could be viewed as a summary scale of religiosity. Similar results were obtained by Bezinović et al (2004), who had a brief validation of the scale of religiosity, and get that internal consistency is 0,88.

CONCLUSION

Based on the results, it can be concluded that in mothers of children with cerebral palsy the most common category of depression is mild depression, which confirmed the first hypothesis of this research. Results of Short Scale of Religiosity indicated clearly that mothers of children with cerebral palsy are religious which confirmed the second hypothesis of this research. Also, by examining the survey results, it is apparent that there is no correlation between religiosity and depression, which rejected the third working hypotheses. The question that rises from this research is whether the mothers would by mildly or more depressed if they were not religious, or less religious, which indicates the need for further complex research, which would deal with this issue. Results of the correlation analysis lead to the conclusion that the study of religion is much more complex phenomenon, which cannot be viewed as a single construct, but as a multidimensional phenomenon with different elements of assessment. Also, considering that the survey included an appropriate sample of respondents, reduces the possibility of generalizing results, and recommends larger number of respondents. Future surveys should be conducted using a unique instrument for measurement of religiosity.

LITERATURE

Arapić P, Črpić G. i Nikodem K. (2003). Postkomunistički horizonti, Đakovo, Teologija.

Bezinović P, Marinović A, Marinović D. (2004). Kratka ljestvica religioznosti: Validacija na uzorku adoloscenata. Zagreb: Institut za društvena istraživanja.

Bristol MM, Gallagher JJ, Schopler E. (1988). Mothers and fathers of young developmentally disabled and nondisabled boys: adaptation and spousal support. DevPsychol, 24(3):441-51.

Brehaut, J.C., Kohen, D.E., et.al. (2004). The health of primary caregivers of children with cerebral palsy: How does it compare with that of other canadian caregivers? Pediatrics, 114:182-191.

Ćorić, Š.Š. (1998). Psihologija religioznosti. Jatrebarsko: Naklada Slap.

Dorčić, M.T. (2008). Razlike između majki i očeva djece s cerebralnom paralizom u rizičnim i zaštitnim faktorima te prilagodbi. Hrvatska revija za rehabilitacijska istraživanja, Vol 44, br. 2, str. 63-78

D'Souza R. (2002). Do patients expect psychiatrists to be interested in spiritual issues? Australas Psychiatry, 10:44-47.

El-Hanefi, I.E-I. (1983). Šerhul-akidet-Tahavijje. Bejrut : El-mektebul-islami, str.373.

Götz I, Götz M. (2000). Cystic fibrosis: psychological issues. Paediatr Respir Rev, 1(2):121-7.

James, W. (1994). The varieties of religious experience: A study in human nature. Cambridge, MA: Harvard University Press.

Koenigm HG (1998). Religious beliefs and practices of hospitalized medically ill older adults. Int J Geriatr Psychiatry, 13:213-224.

Koenig HG, McCullough ME, Larson, DB (2001). Handbook of religion and health. New York (NY):Oxford University Press, 118-143, 216-217, 527-530.

Lučev, E (2006). Anksioznost i depresivnost kod cerebrovaskularne bolesti. Diplomski rad. Sveučilište u Zagrebu: Filozofski fakultet, Odsjek za psihologiju, 2006.

Manuel J, Naughton MJ, Balkrishnan R, Paterson Smith B, Koman, LA (2003). Stress and adaptation in mothers of children with cerebral palsy. J Pediatr Psychol, 28(3):197-201.

Mavar, M (1991). Ispitivanje razine depresije i anksioznosti kod alkoholičara i nealkoholičara u funkciji kompleksnog liječenja. Filozofski fakultet. Sveučilište u Zagrebu. Odsjek za psihologiju.

Ones K, Yilmaz E, Cetinkaya B, Caglar, N (2005). Assessment of the quality of life of mothers of children with cerebral palsy (primary caregivers). Neurorehabil Neural Repair, 19(3):232-7

Pajević, I (2003). Utjecaj religioznosti na psihičko sazrijevanje i zdravlje adolescenata. Doktorska dizertacija. Medicinski fakultet Univerziteta u Tuzli.

al-Qaradawi, Y (1998). El-iman wel-hajat (Iman i život), Bejrut: Er-Risale, str. 30. Preuzeto iz Shafiq Falah Alawneh, Human Motivation: An Islamic Perspective", The American Journal of Islamic Social Sciences 4,25.

Sajedi F. et.al. (2010). Deppresion in Mothers of Children with Cerebral Paralsy and Its Relation to Severity and Type of Cerebral Paralsy. Acta medica Iranica, Vol.48, No.4.

Schuster MA, Stein BD, Jaycox LH, et al. (2001). A national survey of stress reactions after the September 11 , 2001, terrorist attacks. N Engl J Med, 345:1507-1512.

Smith TB, McCullough ME, Poll, J (2003). Religiousness and depression: evidence for a main effect and the moderating influence of stressful life events. Psychol Bull, 129:614-636.

Zung WWK, Durham NC (1965). A self-rating depression scale. Arch Gen Psychiatry, 12: 63-70