Anthropological Aspect of Death in Dialyzed Patients

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A B S T R A C T

The aim of this article is to compare the incidence of thanatophobia in dialysed patients having Balkan endemic nephropathy (BEN) with a control group (N18) members where some of them have chronic renal failure (CRF), but not (BEN). We examined thanatophobia on a sample of 753 dialysed patients with chronic renal failure (CRF) in Bosnia and Herzegovina (B&H) during the period from 1st January 2000 to 31st December 2006. The first group is a cohort consisted of 348 patients with Balkan endemic nephropathy (BEN), and the control group consisted of 405 randomly selected patients with different diagnoses of CRF (N18). The measurement instruments used were: General data list, Eysenck's Personality Questionnaire (EPQ), Beck's Anxiety Inventory (BAI), Hamilton's Depression Rating Scale (HDRS), and Mini--Mental State Examination (MMSE). Univariante and multivariante statistical analyses were carried out. From the multivariante analysis, the highest correlations with thanatophobia were found in these variables: avoidance of dialysis in BEN group: R=0.985, OR=0.358, CI=0.483–0.728 (95%), and in control group: R=0.550, OR=0.935, CI=0.615–0.830 (95%), age, years on dialysis, education, pervasive fear with statistical significance P =0.001. BEN group differentiates from control group: BAI-total (R=1.110, OR=0.578 (95%), CI=0.770–0.890, P=0.001), HDRS-total (R=0.995, OR=1.290 (95%), CI=1.180–1.920 P =0.001. BEN group have lower scores than the control group in MMSE-total: (R=0.430, OR=0.023 (95%), CI=0.034–2.850, P =0.001) which represents the organic part of anxiety. Thanatophobia is present in both groups, but it is more frequent in the BEN (11.70%) than in control group (7.50%). We found that thanatophobia occurs before dialysis, and that it is structured as a pervasive fear of death and is associated with endemia, years spent on dialysis, and avoidance of dialysis.

Key words: thanatophobia, dialysis, Balkan endemic nephropathy, Bosnia and Herzegovina

Introduction

Thanatophobia is a structured, exaggerated fear of death[1] that emerges as normal fear and anxiety, and pathologically occurs within the scope of other mental diseases and behavioural disorders[2]. The semantic basis of the fear of death is as follows: thanatophobia (gr. *Tánatos* – death, *phóbos* – fear) is a dynamic interpretation of structured phobia[3]. Fear of death is an emotional reaction when facing the danger of dying and death[4]. Patients with terminal diseases[5] have fear of death due to many diseases[6]. At the end of life, hope can emerge in dif-

ferent forms: for recovery, for survival, for comfort, for dignity, or for intimacy[7].

Patients have the most serious psychological troubles during the initial phase after deciding to be dialysed; then there is a clear anxiety[8–10]. Age, gender, education, and occupation do not play a significant role in adaptation to dyalisis[11]. Psychonephrology is engaged in psychiatric effects of kidney dialysis and kidney transplantation[12], and in these patients there is a so called global psychosocial risk[13]. CRF is insufficient kidney function-

ing; it is marked as a diagnosed group N18 according to MKB-10[2] and it is defined by the glomerular filtration rate (GFR) and dialysis determines GFR values <10 mm/min[14].

BEN is present in the lowlands of B&H, Croatia, Serbia, Romania, and Bulgaria[15]. It is estimated that 25 000 people in the world have BEN, and an additional 100 000 have a risk for developing it[16]. Prevalence of the disease in the endemic regions[17] of B&H is 4%, reflecting a decline in prevalence. Still 10 000 people have the risk of developing BEN in B&H[9]. Phobias in patients with CRF are present in the prevalence[18] from 3.8% to 8.6% in males and from 14.5% to 25.9% in females[1]. In the USA specific phobias are present from 4.5% to 11.8% of cases, social phobias in 2.2% and agoraphobias up to 5.8%[19]. A change in classification and anthropology[20–21] change the meaning of thanatophobia and now it is an ecological destruction in B&H. This study is the first one of this kind in B&H. It was conducted on a sample consisting of people living in the community, giving it special significance.

The aim was to compare thanatophobia in dialysed patients with Balkan endemic nephropathy (BEN) with a control group (N18) which has different diagnoses and chronic renal failure (CRF). Patients from BEN group have higher incidence of thanatophobia compared to the patients with CRF and other renal diseases. Thanatophobia in patients from the BEN group compared to control group N18 is proven by socio-demographic and psychological predictors.

Subjects and Methods

The subject of the study is an analysis of the incidence of thanatophobia in two groups of dialysed patients with CRF. There are 24 dialysis centres in B&H, with a total of 2770 patients where 14.7% of these patients have BEN. Their data were used to create the experimental and control group. The prevalence is 380.0 pmp, and in north-east of B&H – 840.0 and there are 520.pmp patients with BEN. The incidence of the newly dialysed patients is 105 pmp. Mortality of dialysed patients is 11.24, and 10.00% of the patients have BEN. Patients were observed in the period from 1st January 2000 to 31st December 2006, and the need to investigate emerged because of the high incidence of thanatophobia in CRF patients[9]. The research was multicentric, prospective, and the transversal cross-section has been made in 2007 at the Medical Faculties in Mostar, Belgrade and Foca.

Respondents' samples

1. The examined group consists of patients with Balkan endemic nephropathy – group BEN (N=348). Criteria for being included in the BEN sample (n=348) are: nephrologically diagnosed BEN, dialysis duration at least of 3 months, absence of other nephrological diseases, and somatic and mental disease that would influence the change of mental health and behaviour, so it is only observed under the influence of CRF. Respondents who were previously treated because of psychic difficulties, or respondents who were tested for other needs, were not included in this study. The number of excluded persons is n=137.

2. The control group – N18 of dialysed patients (n= 405) were included in the study according to these criteria: CRF (N18) and nephrological diagnosis of a disease with another (etio)pathogenesis. The group has 20% of chronic glomerulonephritis N08; 15% chronic pyelonephritis N11; over 7% polycystic kidney disease Q61; 8% of patients have diabetes N08.3; 1.03% – renal tuberculosis N29.1; and 10% are patients with other forms of CRF. Other somatic and mental disease in patients dialysed for 3 months, which would influence the change of mental health and behaviour, is also excluded. The number of excluded subjects on this basis is n = 1870.

Method

The study includes perceiving the anthropological significance of thanatophobia in patients depending on a dialysis machine. The patients were approached to the dialysis centres in order to recruit them to participate in the research. Diagnosis was established based on nephrologic findings. The study is an original research project, and the sample was drawn from an available database. The respondents lived among the residents of B&H, so the sample is a good representative, and anthropological aspect of thanatophobia with CRF in B&H. It is the first study of its kind, which gives it special importance.

Questionnaires used to determine the mental health variables are:

1. Personal questionnaires are adapted for research of the mental health in accordance with Renal Register of B&H. These are individual questionnaires for every patient and they include: sex, age, place of birth, place of residence, diagnosis of the primary renal disease, date of the first dialysis, type of dialysis, data on transplantation, presence of co-morbidity conditions in settlement and family, dialysis of the other members of the family, outcome of the disease, and mortality of the members of the family because of CRF. Data are analyzed and compared within the scope of all diseases in dialysed patients.

2. Beck's Anxiety Inventory – BAI consists of 21 questions, and it is one of the three most often used questionnaires in modern studies[22]. It has 21 questions related to the general anxiety symptoms. The patients answer each question estimating the level on Likert scale from 1 (not present) to 3 (very clear). The sum of all answers is 63 and it is the intensity of general anxiety symptoms. BAI items are marked from 1 to 21 as: 1. numbness (insensitivity) to touch or numbing, 2. sensation of heat, 3. unstability in legs, 4. inability to relax, 5. fear of the worst, 6. vertigo and dizziness, 7. heart palpitation and tachycardia, 8. instability, 9. horridness, 10. nervousness, 11. sensation of suffocation, 12. hand shaking, 13. sensation of trembling, 14. fear of losing control, 15. difficulties with breathing, 16. fear of dying, 17. anxiety, 18. di-

gestion difficulties, 19. faintness, 20. blush, 21. sweating (not caused by heat).

3. HDRS: Hamilton's scale of depression, with 21 questions from 1960[23]. The score of Hamilton's scale sets the degree of depression: 0–8 depression not present; 8–17 mild depression, 17–24 moderate depression; more than 24 is serious depression. HDRS items are analyzed in 5 groups: 1. depression, 2. anxiety/ agitation, 3. cognitive disorders, 4. retardation and 5. vegetative disorders and total score in the Hamiltonžs scale.

4. Mini Mental State Examination (MMSE) consists of 11 questions, and the maximum score is 30[24]. The maximum score for the first five questions is 21, and for the next six questions the maximum score is 9. A score under 23 indicates cognitive disorders. It was partly modified for this study. The scale comprises of the following questions: 1. orientation/time, 2. orientation/space 3. memorizing, 4. attention and calculation, 5. reproduction, 6. language-nomination, 7. repetition, 8. coordination, 9. practice 10. gnosis and 11. cognition.

Statistical analysis

Statistical methods and procedures are standardized for: mean values, standard deviation, and incidence of results. Validity of the difference between group characteristics was done on all tests: BAI, HDRS, and MMSE. Mann-Whitney test is used for the comparison of the quantitative parameters and Chi square test, Mann-Whitney test signification and univariante analysis. For the analysis of the correlation of BEN and Control groups the multivariante analysis has been used. The hypotheses were tested on the level of statistical significance (alpha level) of 0.05, with OR (odds ratio) and CI (confidence interval) at 95% of significance. Statistical processing was performed on a PC using: Word, Excel 10 for data base and tables, and using »SPSS« statistical software 10.0 (SPSS Inc, Chicago, IL, USA)[25].

Results

The greatest number of patients with BEN lives in north-eastern part of B&H (84.0%), and patients from the control group N18 are from all parts of B&H. Socio-demographic data are presented in table 1.

Difference in gender is relatively small, with slightly more males than females in both groups. Both age difference and average years on dialysis are significant variables, for BEN=5.36. 12.90% of the dialysed patients have been on dialysis more than 120 months; 24.45% of

TABLE 1
LOGISTIC ANALYSES OF SOCIODEMOGRAPHIC DATA: BEN AND CONTROLS

№ of subjects = 753: BEN № = 348 and Controls N18 № = 405

Questionnaire	BEN $\mu\pm$SD	Controls $\mu\pm$SD	P[§]	OR	CI Lower	Upper
Gender (male/female)	183/165	208/197	0.050	0.870	0.110	0.830
Age (meanSD)	64.77±8.86	53.85±13.6	0.050	0.935	0.960	1.110
Years on dialysis	5.36±3.36	2.57±3.51	0.001	0.710	0.535	0.985
Marital status: Married / Single	212/136	207/155/46	0.003	0.120	0.320	0.380
Education: >8;12>12	170/70/8	244/128/33	0.001	0.910	0.670	1.210
Employment	133/215	217/188	0,001	0.975	0.150	0.990
Accommodation: House/Apartment	300/48	284/121	0.001	0.955	0.140	0.650
Abuse: alcohol/drugs/nicotine	300/48	239/166	0.001	0.750	0.210	0.470
Father's education:<8; 2;>12	336/12	345/60	0.001	0.835	0.435	0.490
Father's occupation: Worker/ Clerk	291/57	344/61	0.001	0.895	0.775	0.980
Mother' s education:<8;12; >12	346/2	383/22	0.012	0.420	0.270	0.730
Mother's occupation:Housewife/ Clerk	289/59	348/57	0.080	0.940	0.430	0.720
Settlement: rural/urban	236/112	252/153	0.001	0.570	0.770	0.910
Migration	113/235	163/242	0.001	0.250	0.870	0.970
Renal heredity	284/64	153/252	0.001	0.640	0.210	0.650
Avoiding dialysis: yes/no	104/244	129/276	0.011	0.810	0.720	0.910
Permanent fear: yes/no	319/39	306/99	0.267	0.970	0.510	0.970
Fear of everything: yes/no	141/207	90/315	0.001	0.650	0.540	0.730
Panic attacks: yes/no	85/263	170/235	0.432	0.710	0.580	0.790
Suicidal thoughts: yes/no	81/267	57/348	0.001	0.125	0.120	0.350

Sig: *P* level of significance, p calculated from univariante logistic regression

them, 60–119 months; 48.05%, 12–59 months, and 13.62% less than 12 months.

Endemic character of the disease in BEN group is proven 95% through Chi square analysis: staying in the house (χ^2=29.190, df=2 $P<0.001$), and years on dialysis (χ^2=28.438, df=3, $P<0.001$), employment (χ^2=50.192, df =4, $P<0.001$), father's occupation (χ^2=62.113, df=4, $P<0.001$) and renal heredity (χ^2=145.073, df=4, $P<0.001$). Permanent fear with 95% reliability is the most expressed (χ^2=75.753, df=3, $P<0.267$), and it is followed by fear of everything (χ^2=73.370, df=2, $P<0.001$), panic attacks (χ^2=89.781, df=3, $P<0.432$) and avoiding of dialysis (χ^2=9.043, df=2, $P<0.011$). Control group has 2.57 years on dialysis, and comparing to average years on dialysis, the difference between groups is $P<0.001$. Patients of control group, with the reliability of 95%, more frequent migrations (χ^2=4.874, df=2 $P<0.001$) misuse of PAS (χ^2=42.203, df=3, $P<0.001$) live in apartments and in the city. In the control group the permanent fear, with the reliability of 95% is the less frequent and it is followed by the fear of everything, panic attacks and avoiding of dialysis. Thanatophobia is present in both groups, but it is more frequent in BEN group (11.70%) than in control (7.50%).

There is a significant difference in the average values on the Beckžs Anxiety Inventory between the tested groups. Patients of BEN group had higher scores on each of 21 items compared to the patients of control group, which is shown in Table 2.

BAI test confirms thanatophobia in these features: expressive fear that the worst will happen at the 2nd, 3rd and 4th level in BEN=87.3% and in control = 61.7%; horrification at the 2nd, 3rd and 4th level in BEN=87.7% and in control = 61.9%; and expressive fear of death at the 2nd, 3rd and 4th level in BEN=89.0% and in control = 64.2%. Other features: fear of the worst ($\chi2$=206.375, df=2), heart palpitation ($\chi2$=217.554, df=2), suffocation ($\chi2$=210.849, df=2). fear of death ($\chi2$=191.759, df=3), anxiety ($\chi2$=171.297, df=3) and digestion difficulties ($\chi2$=127.122, df=2) have statistical significance $P<0.000$.

HDRS in the BEN group has higher values for depression, cognitive disorders, and retardation. In the control group values for anxiety and vegetative disorders are higher as can be seen in Table 3.

In the multivariate analysis, depression in BEN group is as follows: 29.6% of cases do not evidence depression, 23.6% evidence mild depression, 43.1% evidence moder-

TABLE 2
LOGISTIC ANALYSES OF ANXIETY OF THE GROUP BEN AND CONTROLS (BECK)

№ of subjects = 753: BEN № = 348 and Controls N18 № = 405

Questionnaire	BEN $\mu\pm$SD	Controls $\mu\pm$SD	P§	OR	CI	
					Lower	Upper
Numbness	2.08±0.80	1.03±0.92	0.001	0.636	0.925	1.175
Sensation of heat	1.84±0.71	0.85±0.93	0.001	0.630	0.926	1.174
Instability in legs	1.93±0.68	1.08±0.98	0.001	0.611	0.878	1.118
Inability to relax	1.86±0,64	0.99±0.88	0.001	0.599	0.880	1.116
Fear of the worst	1.86±0,80	0.82±0.97	0.001	0.622	0.719	0.964
Dizziness	1.79±0.67	0.93±0.94	0.001	0.605	0.722	0.960
Heart palpitation	2.34±0,84	1.15±1.03	0.056	0.568	0.752	0.975
Instability	1.77±0.68	0.89±0.92	0.001	0.554	0.755	0.973
Horridness	1.55±0,74	0.68±0,88	0.001	0.653	0.912	1.168
Nervousness	1.59±0,67	1.10±0,74	0.001	0.515	0.401	0.604
Sensation of choking	1.83±0,88	0.75±0.91	0.001	0.655	0.954	1.210
Shivering of hands	1.25±0.72	0.51±0.72	0.001	0.524	0.636	0.841
Sensation of shivering	1.13±0,70	0.49±0.71	0.001	0.515	0.531	0.734
Fear of losing control	1.40±0,77	0.55±0.78	0.001	0.565	0.735	0.957
Breathing difficulties	2.00±0.92	0.81±0.91	0.001	0.606	1.060	1.324
Fear of death	1.49±0.74	0.65±0.86	0.001	0.590	0.718	0.950
Frightfulness	1.32±0,69	0.61±0.76	0.001	0.533	0.605	0.814
Digestion difficulties	1.21±0.69	0.65±0.76	0.001	0.531	0.451	0.659
Unconsciousness	1.10±0.63	0.57±0.66	0.001	0.472	0.438	0.623
Blush	0.88±0.59	0.32±0.52	0.001	0.403	0.479	0.638
Sweating	0.93±0.66	0.46±0.60	0.001	0.459	0.384	0.564
BAI-total	33.14±15.82	10.24±13.52	0.001	0.578	0.770	0.890

§Sig. *P*: level of significance, p calculated from univariante logistic regression

TABLE 3
LOGISTIC ANALYSES OF THE GROUP BEN AND CONTROLS (HDRS)

№ of subjects = 753: BEN № = 348 and Controls N18 № = 405

Questionnaire	BEN $\mu \pm$SD	Controls $\mu \pm$SD	P§	OR	CI Lower	Upper
Depression	2,810±0.42	0.33±0.21	0.001	1.690	0.970	1.350
Anxiety	1.40±0.50	2.95±0.22	0.003	0.995	0.860	0.985
Cognitive disorders	1.66±0.43	0.33±0.21	0.002	0.995	0.810	0.945
Retardation	1.91±0.41	0.40±0.25	0.002	1.210	0.910	1.210
Vegetative disorders	1.12±0.25	2.36±0.24	0.005	0.975	0.925	1.120
HDRS-total	51.50±5.40	24.37±0.23	0.001	0.925	0.870	1.120

§Sig. *P*: level of significance, p calculated from univariante logistic regression

ate depression, and 3.7% evidence major depressions. In the control group 39.3% do not evidence depression, 28.3% evidence mild depression, 30.7% evidence moderate depression, and 1.7% of evidence suggesting major depression. On the same model the correlation between BEN and control group is HDRS-total: R=0.845, χ^2= 219.990, OR=0.925, CI=0.870–1.129 (reliability 95%) with significance *P*=0.001.

Cognitive lesions bring MMSE into the analysis. On the MMSE test, there is not a statistically significant difference between BEN and control groups in orientation; and in other variables BEN group has lower scores than the control which is shown in Table 4.

On MMSE test total for orientation (1+2) in BEN group is at 9th and 10th level 97.1% in relation to control 95.3% U=67398.0; memorizing is at 2nd and 3rd level 99,1% and 98.9% in Mann-Whitney test U= 59211.5; focusing and calculating – at 4th and 5th level BEN: 87.1%

and control 83.5%, U=56864.0; reproduction – at 2nd and 3rd level 97.4% and 95.5% and U=56864.0. The following 6 variables: language-nomination: at 1st and 2nd level 98.6% and 98.5% U=51437.0; repetition: 2nd level: 21.3% and 57.8%, coordination at 2nd and 3rd level 93.8% and 94.9%, practice: 94.8% and 93.9%, gnosis: at 2nd level 63.2% and 75.8%; and cognition: 19.5% and 4.1%. On Chi-square test there is a high significance χ^2=78.910, df=3, *P*<0.001 and patients of the BEN group have lower scores than the control group which represents organic part of anxiety.

On the multivariante analysis the highest level of correlations with thanatophobia include these variables: avoiding dialysis in BEN group: R=0.985, OR=0.358 (95%), CI=0.483–0.728, and in control group R=0.550, OR=0.935 (95%), CI=0.615–0.830, age: R=0.815, OR= 0.880 (95%), CI=0.790–098; years on dialysis: R=0.925 OR=1.45 (95%), CI=0.980–1.335, education: R=0.810, OR=0.391 (95%), CI=0.22–0.70, pervasive fear: R=0.975,

TABLE 4
MINI-MENTAL STATE EXANIMATION (MMSE)

№ of subjects = 753: BEN № = 348 and Controls N18 № = 405

Questionnaire	BEN $\mu \pm$SD	Controls $\mu \pm$SD	P§	OR	CI Lower	Upper
Orientation/time	9.73±0.90	9.77±0.98	0.052	0. 693	–0.175	0.097
Orientation/space	9.61±0.90	9.71±0.87	0.049	0.689	–0.174	0.095
Memorization	2.57±0.51	2.72±0.48	0.001	0.363	–0.227	–0.085
Focusing/Calculating	4.05±0.75	4.20±1.09	0.005	0.698	–0.293	–0.019
Reproduction	2.31±0.53	2.47±0.70	0.001	0.465	–0.252	–0.069
Language–nomination	1.40±0.52	1.67±0,49	0.001	0.371	–0.347	–0.201
Repetition	0.21±0.40	0.57±0.49	0.001	0.334	–0.430	–0.299
Coordination	2.22±0.60	2.45±0.72	0.001	0.483	–0.327	–0.137
Practice	063±0.48	0.75±0.42	0.001	0.332	–0.191	–0.061
Gnosis	0.33±0.47	0.75±0.43	0.001	0.320	–0.481	–0.351
Cognition	0.19±0.39	0.65±0.47	0.001	0.323	–0.519	–0.393
MMSE-Total	23.69±3.05	26.07±3.94	0.001	0.590	–0.350	–0.075

§Sig. *P*: level of significance, p calculated from univariante logistic regression

OR=0.300(95%), CI=0.110–0.870 with statistical significance P=0.001. BEN group differentiates from control group: BAI-total (R=1.110, χ2=156.510, OR=0.578 (95%) CI=0.770–0.890, P=0.001), HDRS-total (R=0.995, χ2= 97.650, OR=1.290 (95%); CI=1.180–1.920 P=0.001. BEN group have lower scores than the control group in MMSE-total: (R=0.430, χ2=36.130, OR=0.023 (95%); CI=0.034–2.850, P=0.001).

Discussion

The first result characterizing depersonalization is confirmation of the endemic character of BEN present in the north-eastern part of B&H (84.0%) as well as in its other regions (16.0%). Patients from the control group N18 come from all regions of B&H. Patients with the BEN are socio-demographically endangered on several bases, especially with family and endemic renal co-morbidity. The results suggest that social deprivation, anomia and poverty are very expressed in dialysed patients, and that it is more related to male patients, patients from endemic areas, and migrants. Socio-demographic conditions, living conditions, heredity and endemic factors in different intervals of dialysis produce a structured fear of death. Rural living conditions and family losses because of CRF, support the thesis of a quick end for the dialysed patient. This does not prove personal constitution in psychological and behavioural sense, but there is a disposition to develop anxiety[25], depressive[26] and cognitive disorders[27] and to come to the suicide of the patients with BEN[28]. Fear of death is incorporated through the loss of close persons and those with the same disease, and as a direct relation to the duration of life and dialysis.

Comparison with other studies in this sense is difficult, because they all include »optimal attention of the patient and family«[29]. Thanatophobia also emerges as an endemic influence on a disease. It does not exclude its existence in a group of other diseases with terminal CRF. Patients with BEN had significant results connected to the place of living, migration, and renal co-morbidity. This part of endemic labelling of BEN is later directly associated with significant results of the anxiety and depression tests.

Patients with BEN have more expressed anxiety than the others from the control group which is confirmed by BAI scale. The difference between the groups of patients with BEN and other dialysed patients is highly significant for numbness, fear that the worst will happen, and fear of death (BAI), depression, suicide, and depersonalization (HDRS) and all the values for cognitive damage (MMSE). Fear of death is a part of normal fear and it is expressed by interpersonal experience of the fear of death, and interpersonal fear of death of the close persons[30]. There are many studies on thanatophobia even in the frame of other clinic entities[31], and fear of death, loss of sense, and fear of separation are mentioned as significant factors[32].

Thanatophobia found in dialysed patients gives researchers and clinicians the possibility to interpret fear of death as a pervasive anxiety[33]. The fear that the worst will happen is a strong fear of immediate death. Comparisons are not easy, but the epidemiological theses are similar as well as the theses on the significance factors for sustaining the hope to stay alive[34]. Anxiety is dominant in the first three months of dialysis, in the first hour of dialysis, and in the last hour of dialysis procedure. Fear emerges at all levels, and in almost half of the patients it is at the highest level (BAI).

Thanatophobia of high intensity as a fear of death, and as a horrification is present in more than half of all patients. In the conditions of dependability of the patients upon the dialysis machine thanatophobia emerges more often[12]. At the beginning, fear of disease (nosophobia) points to thanatophobia, as well as occurrence of frequent and intensive symptoms of bodily anxiety. In a terminal phase it is the fear of full dependability of the patients on the machine and the managing team. Fear of death is pervasive, associated with the underlying disease, as well as with the dialysis process.

The results of feeling guilt, fear that the worst will happen, and the fear of death (HDRS) suggest pre-suicidal manifestations[35]. Cognitive lesions exist in all dialysed patients. Most results of the patients from the BEN group showed lower average scores than the patients from the control group, except on orientation feature. This absence of good communication with the environment and endangered mental health and inter-personal relations can lead to panic, which with the depression manifests presuicidal behaviour[36]. Other results are similar in the sense of emergence of depression in dialysed patients, as well obtained as a consequence of weak functioning in dialysed patients[37]. Patients with BEN have clearly more expressed depression than the control's patients.

The current situation of dialysis of the patients with BEN and the future of CRF treatment is completely uncertain. BEN has its clinical course which leads to depression and thanatophobia[38], and treatment of the dialysed patient clearly suggests transplantation. This disproportion of the current, endemic condition of the patients with CRF in this country and the future of living with a transplant under our conditions is in a total clash and it is less a psychiatric and more of a ethically-social problem[39]. All patients in MMSE scale have cognitive lesions which contribute to thanatophobia.

Thanatophobia emerges even within the scope of other clinical entities. Fear of death emerges as a phobic condition with the clear conflict which is easily recognizable[27]. This is also shown in HDRS related to hypochondria, where the differences are not statistically significant, but thanatophobia is a part of hypochondria[6]. In the study the relation thanatophobia-depression results in a form of pre-suicidal condition in a large number of patients (HDRS), which is a replacement for the sense of life[40]. In other studies, patients with thanatophobia meet the requirements for great depression and the correlation of thanatophobia and co-morbid depression[41] is significant.

Dialysed patients have depressive discomfort, but they neither experience them qualitatively nor present them in the same way[42]. All signs of bodily and masked depression are significant. In this way depersonalization develops, which is the same symptom in younger patients and at the beginning of the dialysis, and in later periods it is a form of depression or cognitive lesion. The aspect of obsessive and compulsive symptoms in the study (HDRS) is similar, but there are few interpretations for them in the literature. Difficulties in the form of obsessions are significant part of fear that increases with the dialysis process. Making decision for continuation of the same actions, without any change in a behavioural sense, and compulsiveness can be risk. This is confirmed by patients who avoid regular dialysis procedure. Depression is easy to prove clinically in patients with CRF[43,] but that is not the aim of this study.

Deontologically, the role of the therapist is important when there are CRF, depression, geriatric co-morbidity, and the possibility for treatment in anomie, poverty and lack of understanding of the treatment concept[44]. In this way the aim of this study is completely confirmed in the form of an analysis of socio-demographic and psychopathological characteristics of the patients with CRF in B&H in the period from 1st January 2000 to 31st December 2006. Pervasiveness of the fear of death is thus shown in connection with the underlying disease (CRF) and its endemic characteristic. A decrease in the cognitive function is probably dependent on depression and suicide[45], and this closes the circle of pervasive fear of death.

Anthropological aspect of death and thanatophobia on dialysis

Patients with CRF in B&H are endangered endemically; they are archaically bound to the land and water which culturologically[21] remains among the civilization in B&H. An examination of anxiety and thanatophobia in dialysed patients gives us an opportunity to interpret the fear of death in a pervasive form for the period longer than one human life[33].

Thanatophobia can be understood (similarity with hypochondria), in our opinion, even as a consequence, that is, as a part of a manifestation of the narcissistically organized structure, which experiences every imperfection of self, especially the permanent one, self-destructively and disintegratively, and all this potentiates the fear of death and the end[6]. Hereditary, violent, and a pre-suicidal state as a substitution for the meaning of life[44], pervasiveness of death and thanatophobia are dependent on depression and are an open path to suicidal thinking[30], which is in contrast to duration of human life and natural death.

Conclusion

Anthropological experience of thanatophobia in the study has been proven as a pervasive fear of death and fear that the worst will happen as an equivalent to quick approach of death. Fear in the form of despair is even a more pervasive fear and it occurs in both groups, but more often in the group of patients with BEN. In dialysed patients thanatophobia is more often associated with the dialysis procedure, suppression as well as co-morbid with the obsessive projection. Initial fear leads to depression and despair through emotional and cognitive lesions. Nephrological and psychiatric care for the treatment of the patient gives deontological meaning which humanizes the dialysis procedure.

Acknowledgements

R E F E R E N C E S

1. Diagnostic and Statistical Manual of Mental Disorders (Washington DC, APA, 1994). — 2. WHO: Icd-X International Statistical Clasification Of Diseases And Related Health Problems (WHO, 1993). — 3. FAVA GA, FABBRY S, SIRRI L, WISE TN. Psychosomatics, 48 (2007)103. — 4. WATNICK S, JAMA, 287 (2002) 1262. — 5. BLOCK SD, JAMA, 285 (2001) 2898. — 6. ABRAMOWITZ JS, BRADDOCK AE, Psychiatr Clin North Am, 29 (2006) 503. — 7. SULLIVAN MD, Am J Geriatr Psychiatry 11 (2003) 393. — 8. STOJČEVA-TANEVA O, SELIM GJ, ZAFIROVSKA K, POLENKOVIĆ M, prolozi, 27 (2006) 37. — 9. MESIĆ E, LUKIĆ LJ, DOLENC L, STIPANCIC Z, RESIC H, TRNAVCEVIC S, HALILBASIC A, Med Arh, 60 (2006) 240. — 10. HEAF JG, 67 (2007) 96. — 11. PRESCOTT M, Nephrol News Issues, 20 (2006) 36. — 12. KORNFELD DS, Am J Psychiatry, 159 (2002) 1964. — 13. SHAPIRO PA, WILLIAMS DL, FORAY AT, GELMAN IS, WUKICH V, SCIACCA R, Transplantation, 60 (1995) 1462. — 14. BATUMAN V, Kidney Int, 69 (2006) 644. — 15. DIMITROV PS, SIMEONOV VA, GANEV VS, KARMAUS WJ, 50 (2002) 38. — 16. BUKVIC D, MARIC I, ARSENOVIC A, JANKOVIC S, DJUKANOVIC L, Kidney Blood Press Res, 30 (2007) 117. — 17. KEANE WF, COLLINS AJ, Am J Kidney Dis, 23 (1994) 282. — 18. KIMMEL PL, THAMER M, RICHARD CM, RAY NF, Am J Med, 105 (1998) 214. — 19. GREGOOR PJ, — 20. MAYOU R, KIRMAYER LJ, SIMON G, KROENKE K, SHARPE M, A J Psychiatry, 162 (2005) 847. — 21. J Physiol Anthropol Appl Human Sci, 24 (2005) 351. — 22. BECK AT, EPSTAIN B, BRAWN G, STEER RA, J Consult Clin Psychol, 56 (1988) 893. — 23. HAMILTON M, J Neurol Neurosurg Psychiatry, 28 (1960) 56. — 24. FOLSTEIN MF, FOLSTEIN SE, MCHUGH PR, J Psychiat Res, 12 (1975) 189. — 25. STATA (IL, USA. 2001). — 26. MORSCH CM, CONCALVES LF, BARROS E, 15 (2006) 498. — 27. DUNER DL, Depress Anxiety, 13 (2001) 57. — 28. AL-HIHI E, AWAD A, HAGEDOR, Mo Med, 100 (2003) 266. — 29. WANG PL, WATNICK SG, 17 (2004) 237. — 30. NOVAKOVIC M, ILLE T, TIOSAVLJEVIĆ-MARIĆ D, MUNDŽIĆ I, Med Arh, 60 (2006) 44. — 31. MISRA S, GANZINI LJ, Gen Intern Med, 21 (2006) 1207. — 32. FUKUNISHI I, KITAOKA T, SHIRAI T, KINO K, KANEMATSU E, SATO Y, Nephron, 91 (2002) 344. — 33. NOVAKOVIC M, MARIĆ-TIOSAVLJEVIĆ D, GAJIĆ M, , 63 (2006) 397. — 34. CALVIN AO, J Adv Nurs, 46 (2004) 558. — 35. KURELLA M, KIMMEL PL, YOUNG BS, CHERTOW

GM, J Am Soc Nephrol, 16 (2005) 774. — 36. COHEN LM, GERMAIN MJ, Semin Dial, 18 (2005) 147. — 37. CLEARY J DRENNAN J, , 51 (2005) 577. — 38. PHILIPI N, Nurs Inq, 14 (2007) 51. — 39. LOPEZ ND, PAGLIUCA LM, Rev Lat Am Enfermagem, 10 (2002) 825. — 40. JEDRAS M, ZAKRZEWSKA-PNIEWSKA B, GELLBERT R, DEBROWSKA M, WOJTASZEK E, MUSZYNSKI J, BATAA O, Przegl Lek, 59 (2002) 807. — 41. PAUL N, LABISCH A, Gesundheitswesen, 64 (2002) 614. — 42. KURELLA M, SURI RS, CHERTOW GM, , 18 (2005) 132. — 43. BARSKY AJ, AHERN DK, JAMA, 291 (2004) 1464. — 44. FLORENZANO R, PINERA B, VALDES S, ARMAS R, Rev Med Chil, 125 (1997) 1517. — 45. STACK S, Death Stud, 31 (2007) 363.

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ANTROPOLOŠKI ASPEKT SMRTI KOD PACIJENATA NA DIJALIZI

S A Ž E T A K

Cilj ovog članka je dokazati tanatofobiju kod pacijenata na dijalizi sa Balkanskom endemskom nefropatijom (BEN) u usporedbi sa kontrolnom grupom (N18) koja ima drukčije dijagnoze i kronični renalni poremećaj (CRF). Testirali smo tanatofobiju na uzorku od 753 dijalizna pacijenta sa kroničnim renalnim poremećajem u BiH u razdoblju od 1. siječnja 2000. do 31. prosinca 2006. Prva grupa je kohorta i čine je N=348 pacijenata sa BEN i kontrolne grupe N18 koji čini 405 izabranih pacijenata sa različitim dijagnozama CRF-a. Instrumenti za mjerenje su bili: Test opštih podataka, Ejzenkov personalni upitnik (EPQ), Beck-ov test anksioznosti (BAI), Hamiltonova skala jačine depresije (HDRS) i Mini-Mental State egzaminacija (MMSE) sa jednovarijantnim i multivarijantnim statističkim analizama. Na miltivarijatnoj analizi visoku značajnost sa tanatofobijom imaju sljedeće varijable: izbjegavanje dijalize u BEN grupi: R=0,985, OR= 0,358, CI=0,483–0,728 (95%) i u kontrolnoj R= 0,550, OR=0,935, CI=0,615–0,830 (95%), godine, godine dijaliziranja, edukacija, prožimajući strah sa statističkom značajnošću P =0.001. BEN grupu razdvaja od kontrolne: BAI-ukupno (R=1,110, OR = 0,578 (95%) CI= 0,770–0,890, P =0,001), HDRS-ukupno (R=0,995, OR=1,290 (95%); CI=1,180–1,920 P =0,001. BEN grupa ima manju vrijednost u odnosu na kontrolnu grupu u MMSE-ukupno: (R=0,430, OR=0,023 (95%), CI= 0,034–2,850, P =0.001) što predstavlja organski dio anksioznosti. Tanatofobija je prisutna u obje grupe, ali je učestalija u BEN grupi (11,70%) nego u kontrolnoj (7.50%). Tanatofobija počinje prije dijalize te se oblikuje u prožimajući strah od umiranja i povezana je sa endemijom, godinama provedenim na dijalizi i izbjegavanju dijalize.