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The Relationships between Self-Esteem, Emotional Reactions and Quality of Life in Pediatric Locomotory Trauma Patients

Suzana Jonovska[1], Vesna Šendula Jengić[1], Božidar Župančić[2], Miro Klarić[3], Branka Klarić[4], Marin Marinović[5], Cristophe Štemberger[6], Davorin Kozomara[7] and Željko Martinović[8]

[1] Department of Forensic Psychiatry, Psychiatric Hospital »Rab«, Rab, Croatia
[2] Clinic of Pediatric Surgery, Children's Hospital, Zagreb, Croatia
[3] Department of Psychiatry, University Hospital, Mostar, Bosnia and Herzegovina
[4] Department of Medicine, University Hospital, Mostar, Bosnia and Herzegovina
[5] Department of Surgery, University Hospital Centre, Rijeka, Croatia
[6] Department of Medicine, University Hospital Centre, Rijeka, Croatia
[7] Department of Surgery, University Hospital, Mostar, Bosnia and Herzegovina
[8] Department of Surgery, Hospital »Fra Mato Nikolić«, Nova Bila, Bosnia and Herzegovina

A B S T R A C T

The main aim of this study was to establish the relationships between several psychosocial characteristics in children and adolescents differently treated for isolated long tubular bones' fractures. Examined variables were: self-esteem, basic emotional reactions toward illness or injury including depression and anxiety, as well as perception of quality of life and social support during the treatment. Whole sample comprehends 135 patients, both gender, 10–18 years of age, treated for mentioned fractures in period 2003–2005 at the Departments of Pediatric Surgery of 3 hospitals: University Hospital Centre in Rijeka and Clinical Children's Hospital in Zagreb, both in Croatia and University Hospital in Mostar, BiH. 73 patients were treated conservatively (CT), 40 of them underwent Elastic Stable Intramedullary Nailing (ESIN) and 22 of them underwent other surgical techniques (OST). Basic methods of work were: interview to collect data for half-structured socio-demographical questionnaire, evaluation of medical records and self-reported questionnaires including: Rosenberg Self-esteem Scale (RSS), Children Depression Inventory (CDI), Spielberg State Trait Anxiety Inventory (STAI), Short Form 36 Health Survey (SF-36) and Test of Perception of Social Support (TPSS). RSS, CDI and STAI were administered to the patients at baseline and after 6 months of the trauma, while SF-36 and TPSS after 1 month of the trauma. Results of this study point to close and strong relationships between examined variables, mostly statistically significant at level $p<0.01$ in all patients with fractures, regardless of the type of the treatment. There were also statistically significant differences in all variables between first and second measure; self-esteem increased and depression and anxiety decreased during the time in all patients (with different dynamics regarding the type of treatment); higher perception of social support enhanced that effect. Perception of quality of life in whole sample in summary measures was statistically significant at level $p<0.01$ correlated positively with self-esteem and negatively with depression and anxiety, thus connection with perception of social support was statistically significant only in sibdomain of physical pain. There was also statistically significant difference in self-perception of quality of life related to psychosocial variables according to the type of treatment ($F=3.27$; $p=0.01$). Results of this study suggest that there are strong connections between physical trauma and different psychosocial variables in patients which point at need of understanding locomotory trauma in children in wider context including physical state and social functioning of the patient as well as the choice of type of treatment of fractures which influences complete process of healing.

Key words: *anxiety, children, depression, fractures, self-esteem, social support, quality of life*

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Introduction

Illness and injury traditionally have been viewed as strictly medical problems. According to the biomedical (dualistic) model, sickness is the result of a biological malfunction and it can be explained and treated without any reference to the patient's psychological state or social situation; the body and mind are thought to be two separate entities. The biopsychosocial (interactive) model, in contrast, holds that biological, psychological and social factors interact to affect the health. As this model views the body and mind working together, in that context health and illness are seen as continuum, rather than an either/or condition. Where as the biomedical approach focuses on containing illness, the biopsychosocial approach seeks to promote health[1,2]. The development of biopsychosocial approach is permanently connected to the development of psychosomatic medicine and consulting (liaison) psychiatry[3–5]. The need of its development appeared because of several factors like limitations of biomedical model which don't give always all answers; development of many medical border fields; greater need of interdisciplinary approach which aim is more effective treatment of illness and injury; as well as promotion of life quality during the treatment and in general. Finally, dualistic biomedical approach to health and illness evolved into integrative biopsychosocial approach understand health and illness as complex series of interactions of biological, psychological and socio-cultural influences with tendency to develop into integrative, biopsychospiritual approach of life quality with integration of body, psyche and spirit in quantum level[6].

Biopsychosocial model could be used for different medical problems in many medical fields to find better and more effective solutions. In this study interactive approach was used in paediatric population with locomotory trauma considering psychosocial aspects of physical trauma. There were several reasons to select this problem: 1. the population of patients in early and middle adolescence (10–18 years of age) is very specific regarding very intensive processes of psychological development in mentioned period and everything that disturbs its course, the scholastic achievements or the social life, and the limbs' trauma is exactly such event, which will influence the perception of one's own potentials and health, with possible consequences; 2. the incidence of limbs' fractures is quite great; isolated fractures of long tubular bones appear very frequently in everyday practice of paediatric surgeons; 3. approach to the treatment of long tubular bones' fractures in children and adolescents is not unique; paediatric surgeons' attitudes are divided between the conservative treatment (CT) and the active surgical treatment (AST) of the mentioned fractures[7,8]. There are also many surgical techniques for treatment of fractures; one of them is Elastic Stable Intramedullary Nailing (ESIN) which has many advantages compared to many other techniques[9,10]. Nowadays, the psychological characteristics of children and adolescents try to be included in the choice of the type of treatment of limbs' fractures as well as in very complex process of care for injured children[11–13]. Psychosocial variables investigated in paediatric patients with locomotory trauma and their relationships were: self-esteem, basic emotional reactions toward illness or injury-depression and anxiety (momentary and general), self-perception of quality of life during the treatment of fracture, as well as self-perception of social support during the treatment of fracture.

Self-esteem involves the evaluative and affective dimensions of self-concept. Nowadays, self-concept is considered as a multifaceted hierarchical construct which contains few domains such as physical and psychical domain with numerous, complex interactions between them and influences on many other variables like mood, self-motivation, self-perception of physical and mental health, health related behaviours, choice of physical activity, social communication and interaction etc[14–18]. In consideration of complex, multidimensional structure of the self, interactions of its domains, still have not been studied completely, and numerous developmental changes during the period of puberty and adolescence, it could be observed that any disease or injury in mentioned developmental period (particularly long-term ones) as additional stressor could have some influence on development of self-esteem[7].

There are two basic psychological aspects of physical illness or injury in child: psychological reaction to illness or injury and psychological consequences of illness or injury on child. Psychological reaction on illness or injury is determined by age, the nature of the illness and vulnerability of child (which is result of the interactive reaction of biological and genetic and adopted psychological factors)[19]. In every period of psychical development of child, everything important which happened in his/her life including illness or injury child live-through prism of specific characteristics of developmental phase and specific developmental conflicts. Most common emotional reactions toward illness or injury are depressive reaction or/and depression and anxiety (momentary, transitory or/and general), even though it is possible existence of aggressive behaviour, shame, introvert behaviour, changes in social comportment etc. Psychological consequences in paediatric surgical patients could be different and serious; they could be avoided by child psychological preparation for the surgical treatment including very important components of confidence, explanation of the treatment and expected outcome to the patient and timing of the preparation[20]. That is most frequently the duty of paediatric surgeon, rarely of general practitioner, paediatric psychologist or consulting psychiatrist.

The quality of life is also multidimensional concept including self-perception of numerous conventionally defined domains such as physical health, daily functioning, social interactions, economic status, well-being, satisfaction of life and other specific psychosocial and socio-cultural indicators for specific demographic, cultural or clinical populations. Data of quality of life are multiuse, particularly for: 1. evaluation of influences of different illness on functioning and well-being of person; 2. comparison of outcomes of different types of treatment for

certain illness or injury; 3. selection of type of treatment with lowest influence on mortality and/or morbidity[21–24].

Material and Methods

Subjects

This study is a part of prospective, comparative and interdisciplinary clinical trial performed on random examinees' sample of children and adolescents with isolated long tubular bones fractures treated in paediatric surgery departments' of three hospitals in the period from October 2003 till March 2005[25]. The research comprehends 135 patients, 94 male and 41 female, aged 10–18 years, treated for mentioned fractures at the University Hospital Centre in Rijeka (n=120; 88,8%) and Clinical Children's Hospital in Zagreb (n=13; 9,7%) both in Croatia and at the University Hospital in Mostar, Bosnia and Herzegovina (n=2; 1,5%). The main excluding criteria for participation in research were: politrauma, fractures of all other bones except long tubular limbs' bones, the age under 10 years (because of used questionnaires' limitations) and age over 18 years (since young adults are not treated in children's hospitals). The main part of the research was accomplished at The Department of Pediatric Surgery at the University Hospital Centre in Rijeka in collaboration with The Department of Psychiatry and Psychological Medicine at the Medical Faculty University of Rijeka. Out of 282 children treated there for mentioned fractures in the above mentioned period, 123 of them have not complained with the criteria for participation and 39 of them who would complain with the criteria were not registered on time to be included in research. In that way 120 patients were mobilized in Rijeka, while 13 patients at the Clinical Children's Hospital in Zagreb and 2 patients at the University Hospital in Mostar were found by screening accomplished twice in the mentioned period. Finally, a total number of 135 participants in the research has been completed. 73 of them (53,3%) were treated conservatively; 40 of them (29,6%) underwent Elastic Stable Intramedullary Nailing (ESIN) and 22 of them (17,1%) were treated by other surgical techniques including AO-plates and K-wire ostheosintheses.

Methods

Basic methods of work were: 1. interview of the main researcher with the patient and his/her parent to collect the data for half-structured socio-demographical questionnaire constructed for needs of this study; 2. administration of self-reported questionnaires to the patients and 3. complete evaluation of the medical records of patients. Self-reported questionnaires administered to the patients to evaluate their self-perception of own state were, as follow:

1. Rosenberg Self-esteem Scale (RSS) to measure the general self-esteem[26];
2. Children Depression Inventory (CDI) to establish the existence and the level of depression[27];
3. Spielberg State Trait Anxiety Inventory (STAI) to establish the existence and the level of momentary (form STAI1) and general anxiety (form STAI2)[28];
4. Short Form-36 (Issues) Health Survey (SF-36) to measure the self-perception of quality of life during the treatment of fracture[29,30];
5. Test of Perception of Social Support (TPSS) to measure the self-perception of social support during the treatment of fracture[7];

All used questionnaires are standard, well known and widely used in researches except TPSS which has been constructed for the need of this study, RSS, CDI and STAI were administered twice: at baseline and after 6 months of the trauma, while SF-36 and TPSS only once, after 1 month of the trauma.

Procedure

During the first contact, all the examinees and their parents after have been informed about the purpose and procedures of the research, signed the informed consent. An interview with the parents and the children followed, including information about socio-demographic data. Finally, the patients registered RSS, CDI and STAI questionnaires on their own in the presence of the researcher in case of need of necessary details explanation. This first step of research (baseline) was accomplished during the first week of the treatment of the fracture. After 1 month of treatment during the visit of the hospital for follow-up assessments, everyone of the screened patients registered SF-36 and TPSS questionnaires, which was used just once. After 6 months from the injury and from the start of the treatment, patients were asked to visit the hospital to fill up control RSS, CDI and STAI questionnaires. At the same time the researcher completed the part of demographical questionnaire linked to the course of treatment and surgery by consulting the medical documentation. All the patients as well as their parents who were asked for participation in the study accepted it voluntarily, without any payment.

Statistics

The Statistical Package for Social Sciences (SPSS) was used for all the statistical analysis in this research including measure of reliability coefficients of the questionnaires, correlations, t-tests, variance analysis (ANOVA) and least square differences test (LSD). For all the adopted questionnaires the reliability of internal consistency expressed with Chronbach alpha coefficient was measured. Correlations between different variables was established and expressed with Pearson coefficient of correlation. For questionnaires administered twice (RSS, CDI and STAI) two-way variance analysis with one between factor (type of treatment) and one within-subject factor (first and second measure); while for questionnaires administered once (SF-36 and TPSS) one-way variance analysis was used. As a post-hoc test for all questionnaires LSD test was used for supplementary comparison between pair groups.

Results

As it is noted before, this article is only a part of wider research including more socio-demographic, clinical and psychosocial characteristics of patients treated for fractures. Detailed results of socio-demographic distribution, clinical characteristics of patients and particular results of all mentioned psychosocial variables as well as comparison of all variables according to type of treatment of fractures were presented elsewhere[7,8,25]. Here we are focused on the relationships between psychosocial variables in the complete sample of patients with physical trauma.

Reliability of internal questionnaires' consistency expressed with Chronbach alpha coefficient was as follow: RSS (0.713; 0.675); CDI (0.780; 0.810); STAI1 (0.883; 0.810); STAI2 (0.863; 0.810); SF-36 (0.920) and TPSS (0.609). Since normal values vary between 0.600 and 0.900, it is evident that the used questionnaires mostly have great reliability.

All the correlations between results on scales measuring self-esteem (RSS), depression (CDI) and momentary and general anxiety (STAI1 and STAI2) measured particularly in first (baseline) and second measure (after 6 months) in whole sample are statistically significant at the level $p<0.01$, which means that all investigated psychological variables are closely connected to each other in all patients with fractures, regardless the type of treatment, before and after the treatment (Table 1).

Correlations between psychological variables (self-esteem, depression and anxiety) in whole sample between first and second measure were statistically significant at the level $p<0.01$ (except the one RSS1/STAI1-2 which was significant at the level $p<0.05$) which point to the fact that the previously mentioned 3 variables are correlated and change during the treatment of fractures (Table 2). This result was affirmed by using t-test for dependent patterns (made particularly for each scale in first and second measure) which assure the existence of difference between the first and the second measure with greater statistical significance at the level $p<0.001$. Self-esteem was higher in second measure (RSS: $t=-4.501$; $p<0.001$) which means it increased during the time, while depression and momentary and general anxiety were higher in first measure (CDI: $t=4.124$; $p<0.001$; STAI1: $t=4.448$; $p<0.001$; STAI2: $t=3.252$; $p=0{,}001$), which means that they decreased during the time (Table 3).

Table 4 presents the correlation between one psychological variable (self-esteem) and one social variable (perception of social support). It is obvious that the correla-

TABLE 1
CORRELATIONS BETWEEN RESULTS ON SCALES MEASURING SELF-ESTEEM (RSS), DEPRESSION (CDI) AND ANXIETY (STAI1 AND STAI2) PARTICULARLY IN THE FIRST AND THE SECOND MEASURE IN WHOLE SAMPLE

First measure				
Correlation	Scale			
Scale	RSS1	CDI1	STAI1-1	STAI2-1
RSS1	1	–0.524**	–0.386**	–0.538**
alphaCDI1	–0.524**	1	0.491**	0.678**
STAI1-1	–0.386**	0.491**	1	0.612**
STAI2-1	–0.538**	0.678**	0.612**	1
Second measure				
Correlation	Scale			
Scale	RSS2	CDI2	STAI1-2	STAI2-2
RSS2	1	–0.594**	–0.254**	–0.533**
CDI2	–0.594**	1	0.422**	0.561**
aspnumSTAI1-2	–0.254**	0.422**	1	0.608**
STAI2-2	–0.533**	0.561**	0.608**	1

** $p<0.01$

TABLE 2
CORRELATIONS AND DIFFERENCES BETWEEN THE FIRST AND THE SECOND MEASURE ON SCALES MEASURING SELF-ESTEEM (RSS), DEPRESSION (CDI) AND ANXIETY (STAI1 AND STAI2) IN THE WHOLE SAMPLE

Correlation	Scale/Second measure			
Scale/First measure	RSS2	CDI2	STAI1-2	STAI2-2
RSS1	0.491**	–0.323**	–0.181*	–0.276**
CDI1	–0.394**	0.618**	0.411**	0.465**
STAI1-1	–0.271**	0.307**	0.388**	0.392**
STAI2-1	–0.468**	0.482**	0.396**	0.544**

* $p<0.05$; ** $p<0.01$

TABLE 3
TESTING OF DIFFERENCES BETWEEN THE FIRST AND THE SECOND MEASURE ON ALL SCALES FOR MEASURING PSYCHOLOGICAL VARIABLES

Pairs	M	SD	t	p
Pair1: RSS1 – RSS2	–0.674	1.739	–4.501	<0.001
Pair2: CDI1 – CDI2	1.600	4.507	4.124	<0.001
Pair4: STAI1-1 – STAI1-2	3.962	10.353	4.448	<0.001
Pair5: STAI2-1 – STAI2-2	2.229	7.965	3.252	=0.001

TABLE 4
CORRELATIONS BETWEEN RESULTS ON SCALES FOR MEASURING SELF-ESTEEM (RSS) AND PERCEPTION OF SOCIAL SUPPORT (TPSS)

Correlation	Scale		
Scale	RSS1	RSS2	TPSS
RSS1	1	0.491*	–0.033
RSS2	0.491**	1	0.170*
TPSS	–0.033	0.170*	1

* $p<0.05$; ** $p<0.01$

tion between these two variables is positive and statistically significant at the level $p<0.05$, which means that higher perception of social support condition increasing of self-esteem during the time.

Correlations between perception of life quality (results on SF-36 Scale) in all summary measures and subscales with all other investigated psychosocial variables are presented in Table 5. All summary measures of SF-36 Scale (general and particular for domains of physical and mental health) were statistically significant correlated (at level $p<0.01$) positively with self-esteem and negatively with depression and momentary and general anxiety. Correlations between SF-36 subdomains and other variables varied from high statistical significance (at level $p<0.01$) in subdomains general health, vitality and mental health to statistically significant correlations only in first measure in subdomains physical functioning, role-physical, social functioning and role-emotional). There is no statistically significant correlation between perception of social support (results on TPSS) and results in any SF-36 measures except with the result in subdomain physical pain which is very interesting result proving connection between some physical and social variable.

There were statistically significant difference in self-perception of life quality related to psychological and social variables according to the type of treatment of fractures ($F=3.27$; $p=0.014$). In group of conservatively treated patients, summary measure of SF-36 was related to all other variables except RSS1 and TPSS statistically significant at level $p<0.01$; on which level there were some significant correlations between SF-36 measure and all other variables (except RSS2 where the significance was at level $p<0.05$) in ESIN method treated patients. It is interesting that in the group of other methods treated patients there was no statistically significant correlation except the correlation SF-36/STAI1-2 which was significant at the level $p<0.05$ (Table 6).

Finally, Table 7 presents the correlation of social variable (perception of social support) with all psychological variables. There were statistically significant correlations only with results in second measure: positively with self-esteem ($p<0.05$) and negatively with depression ($p<0.01$) and momentary anxiety ($p<0.01$), while correlation with general anxiety was not statistically significant. Therefore, as much as the perception of social support was higher in first measure, there were in second measure higher self-esteem and lower depression and momentary anxiety. There were no statistically signifi-

TABLE 6
COMPARISON OF RESULTS ON SCALES MEASURING THE LIFE QUALITY (SF-36) AND ALL OTHER PSYCHOLOGICAL VARIABLES (SELF-ESTEEM, DEPRESSION AND ANXIETY) IN PATIENTS DURING THE TREATMENT ACCORDING TO THE TYPE OF TREATMENT

S F – 3 6	Type of treatment		
Scale	CT	ESIN	OSM
RSS1	0.134	0.464**	0.131
CDI1	–0.394**	–0.739**	0.003
STAI1-1	–0.583**	–0.680**	0.028
STAI2-1	–0.492**	–0.742**	0.045
RSS2	0.303**	–0.377*	–0.005
CDI2	–0.319**	–0.552**	0.151
STAI1-2	0.322**	–0.564**	0.442*
STAI2-2	–0.410**	–0.478**	0.415
TPSS	0.175	0.282	0.066

* $p<0.05$; ** $p<0.01$
CT – conservative treatment; ESIN –ESIN method treated patients; OSM – other surgical methods.

TABLE 5
CORRELATIONS BETWEEN RESULTS ON SCALES MEASURING LIFE QUALITY (SUMMARY MEASURES AND SUBSCALES) AND ALL OTHER VARIABLES IN WHOLE SAMPLE (SELF-ESTEEM, DEPRESSIION, ANXIETY AND PERCEPTION OF SOCIAL SUPPORT) IN THE FIRST AND THE SECOND MEASURE

Correlation	SF-36 Scale (summary measure)	Subscale: Physical Functioning	Subscale: Role-Physical	Subscale: Bodily Pain	Subscale: General Health	Subscale: Vitality	Subscale: Social Functioning	Subscale: Role-Emotional	Subscale: Mental Health	Physical Health (summary measure)	Mental Health (summary measure)
RSS1	0.328**	0.227**	0.184*	0.273**	0.250**	0.265**	0.127	0.135	0.304**	0.323**	0.300**
CDI1	–0.537**	–0.377**	–0.283**	–0.366**	–0.419**	–0.502**	–0.222**	–0.178*	–0.431**	–0.514**	–0.485**
STAI1-1	–0.566**	–0.332**	–0.258**	–0.433**	–0.314**	–0.538**	–0.362**	–0.319**	–0.505**	–0.457**	–0.580**
STAI2-1	–0.518**	–0.336**	–0.264**	–0.305**	–0.360**	–0.527**	–0.294**	–0.207*	–0.442**	–0.450**	–0.518**
RSS2	–0.308**	0.118	0.112	0.173*	0.361**	0.275**	0.123	0.079	0.341**	0.268**	0.315**
CDI2	–0.388**	–0.154	–0.142	–0.183*	–0.465**	–0.349**	–0.250**	–0.119	–0.347**	–0.337**	–0.378**
STAI1-2	–0.294**	–0.117	–0.101	–0.237**	–0.226**	–0.303**	–0.138	–0.111	–0.294**	–0.227**	–0.311**
STAI2-2	–0.344**	–0.163	–0.111	–0.235**	–0.340**	–0.344**	–0.162	–0.067	–0.332**	–0.300**	–0.346**
TPSS	0.148	0.028	0.058	0.181*	0.136	0.145	0.100	0.093	0.114	0.120	0.147

* $p<0.05$; ** $p<0.01$

TABLE 7
CORRELATIONS BETWEEN PERCEPTION OF SOCIAL SUPPORT (RESULTS ON TPSS SCALE) AND ALL OTHER PSYCHOLOGICAL VARIABLES (SELF-ESTEEM, DEPRESSION AND ANXIETY)

Correlation	Scale
Scale	TPSS
RSS1	–0.033
CDI1	–0.145
STAI1-1	–0.123
STAI2-1	–0.070
RSS2	0.170*
CDI2	–0.283**
STAI1-2	–0.312**
STAI2-2	–0.168

* $p<0.05$; ** $p<0.01$

cant difference in perception of social support according to the type of treatment of fractures ($F=2.32$; $p=0.102$).

Discussion

Fractures of the limbs', besides injuries of the head, burns and lacerated wounds of the tissue, in psychological sense are particularly traumatic, stressful experiences for the patient, especially if patients are children, because of the complex process of development which has been interfered.

Psychological aspects mostly affected in the stress process are self-esteem and anxiety.

Self-esteem in stress process. Many aspects of the self-concept are strongly influenced by several factors such as sense of identity, opinion and judgement of others on one's as well as social comparisons (perception of self in relation to the others)[31]. Researches on self-esteem like evaluative aspect of the self-concept and reactions on positive/negative life events started recently. As self-esteem has been perceived as stable characteristic and a state in the same time, in stress process it could be studied as a deductor of the stress, moderator, mediator and predictor of stress consequences[32,33]. Self-esteem has an influence on the way of coping with stress. It has already been proved that in generally self-esteem has been negatively connected to depression and anxiety, i.e. persons with higher self-esteem has been less depressed and anxious. In this study has been proved the negative correlation between self-esteem and the basic emotional reactions to the illness/injury like depression and anxiety in specific population of children and adolescents with locomotory trauma. This effect is more expressed in female than in male and according to the results of this study it could be enhanced by positive and higher perception of social support. All mentioned effects are result of moderator role of the self-esteem between hard life events and depression respectively gender in relations between gender, self-esteem and mental health[34]. It has to be noted that the influence of gender and age on mentioned variables and their relationships will be the goal of our next research.

Anxiety in stress process. The conception of anxiety very frequently has been identified with conception of stress[35]. But, according to the transactional model, anxiety has been just a initiation in stress process, i.e. its component (domain), regarding that stress reactions have been very different such as emotional, cognitive (assessments and reassessments) and behavioural. Endler's model distinct individual dispositions (characteristic, trait of anxiety) and actual responses (state of anxiety)[36,37]. However, anxiety has been a complex concept which is tried to be explained by multidimensional model like self-esteem and life quality.

Stresses provoked by illness/injury are numerous and important; including stress of illness/injury itself, type of treatment and hospitalisation which could provoke processes of isolation and deindividuation. Children, especially adolescents pass through that situation very frustrated.

Perception of quality of life. Research on life quality of patients during the treatment of illness/injury have been pretty new. Unfortunately, they have not been numerous in pediatric population with physical trauma. Competent research in that field mostly refer to a politrauma with primary direction to mortality as a primary outcome measure without better understood impact of physical trauma on children as whole[38]. We did not find any research of life quality in pediatric population with isolated limbs' fractures which contributed to the originality of this study. Our findings of connections of perception of life quality with all variables except perception of social support with statistically significance at the level $p<0.01$ positively with self-esteem and negatively with depression and anxiety have been very logical and understandable. Proved statistically significant correlation of perception of social support and somatic pain has been very interesting result proving the connection between these physical and social variables.

Limitation of this study has been the lack of measured stress variables.

As a conclusion it could be said that holistic scientific concept in clinical medicine has been manifested as biopsychosocial concept promoting individual multifactoral approach to the pacient as a whole[39]. There are more and more research in the area of connecting of physical trauma and its psychosocial repercutions[40–43]. This study tried to give some contribution in the research on the field of psychosomatic medicine and consulting psychiatry as well as in the pediatric surgery considering the treatment of isolated limbs' fractures as a very important issue in pediatric surgery.

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S. Jonovska

Department of Forensic Psychiatry, Psychiatric Hospital »Rab«, 51280 Rab, Croatia
e-mail: sjonovska@yahoo.com

ODNOSI IZMEĐU SAMOPOŠTOVANJA, EMOCIONALNIH REAKCIJA I KVALITETE ŽIVOTA U PEDIJATRIJSKIH PACIJENATA S LOKOMOTORNOM TRAUMOM

SAŽETAK

Glavni je cilj ovog istraživanja bio utvrditi odnose između nekoliko psihosocijalnih karakteristika u djece i adolescenata različito liječenih zbog izoliranih prijeloma dugih cjevastih kostiju. Ispitivane su slijedeće varijable: samopoštovanje, osnovne emocionalne reakcije na bolest ili ozlijedu uključujući depresivnost i anksioznost te percepcija kvalitete života i socijalne potpore tijekom liječenja. Kompletni uzorak uključuje 135 pacijenata, oba spola, dobi 10–18 god. liječenih zbog navedenih prijeloma u periodu 2003.–2005. na Odjelima dječje kirurgije triju bolnica: Kliničkog Bolničkog Centra u Rijeci i Kliničke Dječje Bolnice u Zagrebu, Hrvatska te Kliničke Bolnice u Mostaru, BiH. 73 pacijenata bilo je liječeno konzervativno, 40 njih elastičnom stabilnom intramedularnom osteosintezom, a 22 njih drugim kirurškim metodama. Metode rada: semi-strukturirani sociodemografski upitnik, evaluacija medicinske dokumentacije te samoprocjenski upitnici među kojima: Rosenbergova Skala Samopoštovanja (RSS), Upitnik Dječje Depresivnosti (CDI), Spielbergov Upitnik Trenutne u Opće Anksioznosti (STAI), Kratki Oblik Upitnika Kvalitete Života (SF-36) i Test Percepcije Socijalne Potpore (TPSS). Upitnike RSS, CDI i STAI pacijenti su ispunjavali na početku(unutar 1 tjedan) i 6 mjeseci nakon traume, dok SF-36 i TPSS 1 mjesec nakon traume. Rezultati ukazuju na bliske i jake veze između ispitivanih varijabli (većinom statistički značajne na razini $p<0.01$) u svih pacijenata s prijelomima, bez obzira na vrstu liječenja. Također postoje statistički značajne razlike u svim varijablama između prvog i drugog mjerenja: samopoštovanje se povećava, a depresivnost i anksioznost smanjuju tijekom vremena u svih pacijenata (ali s različitom dinamikom obzirom na vrstu liječenja prijeloma); veća percepcija socijalne potpore pojačava ovaj efekt. Percepcija kvalitete života u cijelom uzorku u ukupnim mjerama statistički je značajna na razini $p<0.01$, povezana pozitivno sa samopoštovanjem, a

negativno s depresivnošću i anksioznošću, dok je povezanost s percepcijom socijalne potpore statistički značajna samo u subdomeni tjelesna bol. Također postoji statistički značajna razlika u samopercepciji kvalitete života tijekom liječenja u odnosu na psihosocijalne varijable obzirom na vrstu liječenja prijeloma ($F=3.27$; $p=0,01$). Rezultati ovog istraživanja sugeriraju da postoje jake veze između tjelesne traume i različitih psihosocijalnih varijabla kod pacijenata što ukazuje na potrebu od razumijevanja lokomotorne traume u djece u širem kontekstu uključujući psihološko stanje i socijalno funkcioniranje pacijenata kao i vrstu liječenja prijeloma što sve utječe na kompletni proces ozdravljenja.