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Assessment of the Reliability of the Serbian Version of the Sickness Impact Profile Questionnaire in Patients with Chronic Viral Hepatitis

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SUMMARY

Introduction Health-related quality of life (HRQL) of chronic patients has been researched as the ultimate goal of modern treatment of chronic diseases to improve patients' quality of life.

Objective The objective was to assess the reliability of the Serbian version of the Sickness Impact Profile (SIP) questionnaire on the sample of patients with chronic viral hepatitis.

Methods The research covered 102 patients with chronic hepatitis (47 type B and 55 type C). The assessment of the reliability of the SIP questionnaire was performed by testing the internal consistency of the questions by calculating the Cronbach's alpha coefficient. The factor analysis was used to assess whether the grouping of the questions within dimensions matches the distribution of the questions in the original English version of the questionnaire administered to U.S. patient population.

Results The Cronbach's alpha coefficient for the entire questionnaire is 0.925, 0.869 for the physical dimension, and 0.857 for the psychosocial dimension. After running a factor analysis of the psychosocial dimension, "emotional instability" was extracted as the key factor, confirming the results of previous research. Compared with the English version of the questionnaire, the Cronbach's alpha coefficient of the Serbian version does not diverge significantly, whereas the factor analysis confirms the classification of the questionnaire into two dimensions.

Conclusion Our study has shown that the Serbian version of the SIP questionnaire is a reliable tool for assessing the HRQL of patients with chronic hepatitis B and C before starting treatment.

Keywords: Sickness Impact Profile (SIP); questionnaire reliability; chronic viral hepatitis

INTRODUCTION

The health-related quality of life (HRQL) of patients suffering from chronic diseases has often been studied, as improved quality of life is the ultimate goal of modern treatments of such diseases. HRQL refers to the degree to which health condition or treatment impacts the usual or expected individual's physical, emotional and social wellbeing [1].

More often than not, diagnosed by chance, and frequently associated with liver cirrhosis and hepatocellular carcinoma, chronic hepatitis B and C are accompanied by a patient's fear of helping spread the infection, which is an additional burden on the patient. Previous studies indicate that the quality of life of patients suffering from chronic hepatitis B and C is lower compared to the healthy population [2-7].

The findings of most studies comparing the quality of life of the two cohorts indicate that patients with chronic viral hepatitis C have a lower quality of life [3, 8].

The Sickness Impact Profile (SIP) is one of the most frequently used generic questionnaires for HRQL assessment [9]. The SIP has been designed to record subjective perceptions of the impacts of the disease on physical, psychological and social functioning of respondents, assessing how illness leads to changes in behaviour and everyday activities [10]. The original 1976 version was developed by Bergner et al. [11]. The revised version (1981) had 136 question, i.e. defined activities, which can be responded to affirmatively only if the activity in question fully describes the subject's condition resulting from the disease [11]. The HRQL examination by using the generic SIP questionnaire on patients diagnosed with two types of chronic viral hepatitis makes it possible to identify the domain, dimensions of, and degree to which the adverse effects of the disease are recordable. The assessments of the reliability of the SIP questionnaire on the population of chronic hepatitis patients have not yet been conducted in our country.

OBJECTIVE

The objective of this paper was to assess the reliability of the Serbian version of the SIP

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questionnaire on the sample of patients diagnosed with chronic viral hepatitis.

METHODS

The study was conducted in the form of a prospective study at the Clinic for Infectious Diseases of the Clinical Centre of Kragujevac. It covered all patients whose diagnosis of chronic hepatitis B and C has been confirmed serologically and virologically (using the polymerase chain reaction technique), and who made appointments at the hepatology outpatient ward for regular check-ups or were admitted to hospital for treatment between December 2013 and August 2014. The hospitalised patients were interviewed before the commencement of therapy. The sample comprises 102 patients, 47 diagnosed with chronic hepatitis B, and 55 with chronic hepatitis C.

The criteria for including patients in the study were the following: a hepatitis B or C diagnosis, older than 18 years, both sexes and voluntary participation. The exclusion criteria were the following: older than 65 years, people with hepatocellular carcinoma, people with decompensated cirrhosis, and those who refused to participate. All the patients signed a consent stating their voluntary participation. The study was approved by the Board of Ethics of the Clinical Centre of Kragujevac (01-39 of January 3, 2013).

The consent for the SIP questionnaire was obtained from the Mapi Research Trust on December 17, 2013.

The SIP examines quality of life across 12 domains. Physical dimensions are described by the following domains: ambulation (A) – 12 questions, mobility (M) – 10, and body care and movement (BCM) – 23 questions. Psychosocial dimensions are assessed through the following: emotional behaviour (EB) – 9 questions, social interaction (SI) – 20, alertness behaviour (AB) – 10, and communication (C) – 9. Independent categories (domains) are as follows: home management (HM) – 10 questions, recreation and pastimes (RP) – 8, work (W) – 9, sleep and rest (SR) – 7, and eating (E) – 9. The result of the questionnaire can be calculated for each domain, as a total score for physical and psychosocial dimensions and for the entire questionnaire. Higher scores indicate a lower quality of life. The questionnaires were filled out using 30-minute interviews.

Statistical data processing

First, a correlation matrix was established for all the questions. Then, Cronbach's alpha was calculated and values higher than 0.7 were considered significant. The former and the latter were done for both dimensions and for each domain. After that, a factor analysis was conducted on both the entire questionnaire and on its dimensions and individual domains, taking into consideration the factors with an inherent value (eigenvalue) higher than 1, if they were above the breaking point on the scree plot. Varimax rotation was used to extract factors.

RESULTS

The study encompassed 102 patients. Table 1 provides the respondents' sociodemographic characteristics. All the respondents reported that there had been no comprehensive limitations in performing everyday activities within certain domains (Table 2).

Table 1. Demographic characteristics of the respondents

Characteristic		N (%)
Age (years)	18–29	16 (15.7)
	30–39	31 (30.4)
	40–49	26 (25.5)
	50–59	23 (22.5)
	≥60	6 (6.9)
Sex	Male	66 (64.7)
	Female	36 (35.3)
Education	Primary	14 (13.7)
	Secondary	66 (64.7)
	College/University	22 (21.6)
Marital status	Married	63 (61.8)
	Unmarried	31 (30.4)
	Divorced	6 (5.9)
	Widow/er	2 (2.0)
Employment status	Employed	45 (44.2)
	Unemployed	49 (48.0)
	Retired	8 (7.8)
Etiology	Hepatitis B	47 (46.1)
	Hepatitis C	55 (53.9)

Table 2. Domains and questions to which all the patients responded negatively

Domain	Questions
BCM	I do not move into or out of bed or chair by myself…
	I move my hands or fingers with some limitation…
	I stand up only with someone's help
	I hold on to something to move myself…
	I do not bathe myself at all, …
	I use bedpan with assistance
	I do not have control of my bladder
	I do not fasten my clothing, …
	I do not have control of my bowels
	I get dressed only with someone's help
A	I get around in a wheelchair
	I do not walk at all
	I walk only with help
	I get around only by using a walker, …
M	I go to places with restrooms nearby
C	I communicate mostly by gestures, …
	I am understood with difficulty
E	I feed myself only by using specially prepared food or utensils
	I eat no food at all but am taking fluids
	I feed myself with help
	I do not feed myself at all, but must be fed
	I am eating no food at all (tubes or intravenous fluids)
HM	I am not doing any of the clothes washing that I would usually do

BCM – body care and movement; A – ambulation; M – mobility; C – communication; E – eating; HM – home management

Table 3. The reliability of the domains and dimensions of the generic Sickness Impact Profile (SIP) questionnaire in chronic viral hepatitis B and C patients

Domain	Min	Max	Mean	SD	Variance	Cronbach' s alpha	Cronbach' s alpha*
BCM	0.0	40.0	2.13	5.66	32.08	0.884	0.908
A	0.0	46.4	5.64	8.16	66.54	0.683	
M	0.0	75.5	7.49	13.82	190.94	0.806	0.813
EB	0.0	81.3	14.23	15.27	233.29	0.619	0.626
AB	0.0	100.0	13.82	18.16	329.73	0.731	
SI	0.0	74.0	17.43	16.69	278.62	0.819	
C	0.0	22.5	2.35	5.89	34.80	0.354	0.503
SR	0.0	83.2	17.27	18.68	348.89	0.522	0.590
E	0.0	24.8	4.81	5.64	31.85	0.570	
HM	0.0	70.1	9.89	14.52	210.77	0.710	
W	0.0	70.1	18.39	27.66	764.94	0.557	
RP	0.0	100.0	19.17	19.06	363.17	0.655	0.646
Physical dimensions	0.0	27.2	4.04	5.89	34.78	0.869	0.894
Psychosocial dimensions	0.0	58.4	13.05	11.26	126.80	0.857	0.865
SIP	0.52	38.25	9.80	8.01	64.10	0.925	0.929

* a calculated value after eliminating the questions which correlated negatively to the overall score of a domain, dimension or the entire questionnaire

BCM – body care and movement; A – ambulation; M – mobility; EB – emotional behaviour; AB – alertness behaviour; SI – social interaction; C – communication; SR – sleep and rest; E – eating; HM – home management; W – work; RP – recreation and pastimes; Min – minimum value; Max – maximum value; SD – standard deviation

The average value of the overall SIP score was 9.80, varying between 0.52 and 38.25. The questionnaire reliability was checked by calculating the Cronbach's alpha coefficient in the following manner: 0.925 for the entire questionnaire, 0.869 for the physical dimension, 0.857 for the psychosocial dimension. The reliability over 0.70 was recorded in the five domains. In certain domains the reliability (Cronbach's alpha) increased significantly after eliminating the questions in reverse relation to the overall domain score (Table 3).

Seven factors with an inherent value (eigenvalue) above 1 were extracted in the factor analysis of the answers under the physical dimension. Of these factors, the first two are the most important (Table 4).

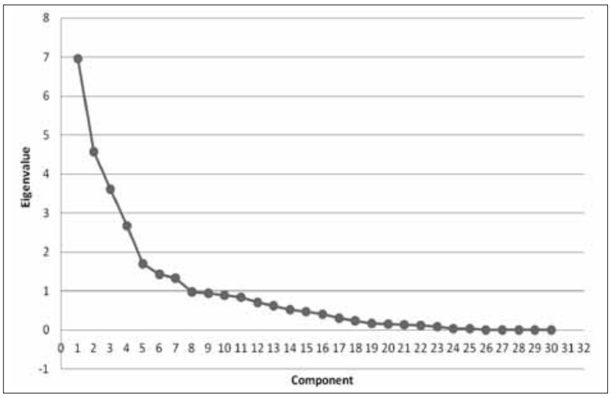
The first and most important factor accounts for 23.178% of variance and comprises the following questions: 'I make difficult moves with help...,' 'I stand only for a short time,' 'I do not maintain balance,' 'I kneel... only by holding onto something,' 'I am very clumsy...,' 'I get in and out of bed or chairs by grasping something for support...,' 'I require assistance with bathing' and 'I dress myself slowly,' which are an integral part of the BCM domain in the original questionnaire (Graph 1).

The other extracted factor (15.227% of overall variability) spans the following questions: 'I do not walk up or down hills,' 'I use stairs only with mechanical support...,' 'I walk up or down stairs only with assistance,' 'I walk by myself but with some difficulty...,' which imply one's ability to move, with the question concerning the ability to put one's shoes on.

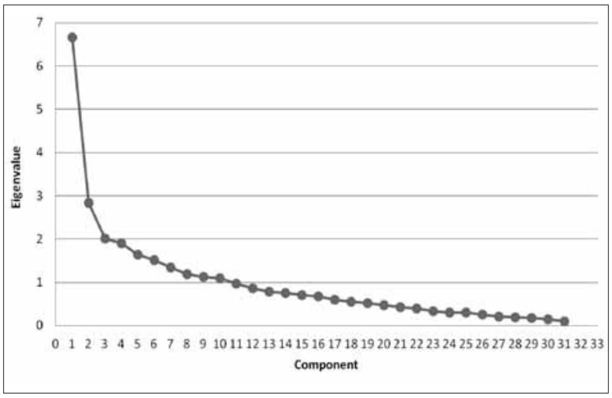
Table 5 gives the break-up of the factor analysis results obtained from the questions under the psychosocial dimension. This analysis yielded two most important factors, altogether accounting for 30.638% of variability.

In the first factor (21.503 % of variability) there are four important and interlinked questions, from the SI domain in the original version of the questionnaire ('I show less affection,' 'I am avoiding social visits from others,' 'I act disagreeable to family members...' and 'I have frequent outbursts of anger at family members...') and question 'I laugh or cry suddenly.' These questions show the degree of 'emotional instability,' which is the name of the first factor (Graph 2).

In the second factor (9.135% of variability), there are three questions which originally referred to the AB do-



Graph 1. Scree plot for the physical dimension after varimax rotation



Graph 2. Scree Plot for the psychological dimension after varimax rotation

Table 4. Factor analysis of the physical dimension

Questions	Factors						
	1	2	3	4	5	6	7
	Ability to take care of oneself	Ability to move	Physical mobility	Physical activity	Isolation due to physical difficulties	Physical fitness / stamina	Orientation in space
Difficulty in moving	**0.974**	-0.012	-0.039	0.027	0.075	-0.072	-0.036
Difficulty in standing	**0.536**	0.203	0.193	0.323	-0.041	0.223	-0.483
Inability to maintain balance	**0.594**	0.498	-0.028	-0.092	0.403	0.065	0.188
Difficulty in kneeling, stooping and bending down	**0.538**	0.519	-0.035	-0.079	0.107	0.078	0.069
Restricted position	0.481	-0.064	-0.036	**0.514**	0.357	-0.042	-0.169
Clumsiness in body movements	**0.761**	-0.050	0.318	0.170	-0.158	0.012	0.470
Support needed when sitting and getting up	**0.974**	-0.012	-0.039	0.027	0.075	-0.072	-0.036
Lying down most of the time during the day	-0.062	0.013	0.309	**0.836**	0.019	0.014	0.020
Frequent changes of position	0.294	0.179	0.395	**0.545**	-0.102	0.142	-0.188
Assistance needed when bathing	**0.974**	-0.012	-0.039	0.027	0.075	-0.072	-0.036
Trouble getting shoes on	0.544	**0.694**	0.006	-0.007	-0.021	0.140	-0.107
Most of the time spent partly undressed	-0.056	0.028	0.334	**0.835**	-0.031	0.039	0.008
Getting dressed slowly	**0.594**	0.498	-0.028	-0.092	0.403	0.065	0.188
Getting around only within one building	0.001	-0.035	0.848	0.109	-0.088	-0.057	0.234
Time spent within one room	0.097	-0.058	0.487	0.212	-0.297	0.089	**0.697**
Lying in bed	0.001	-0.104	0.844	0.139	0.080	0.054	-0.017
Most of the time spent in bed	-0.004	-0.099	0.874	0.152	0.144	0.006	0.001
Public transport not used	-0.042	0.287	0.678	0.072	0.197	0.002	0.181
Most of the time spent at home	0.101	0.007	0.219	0.137	**0.733**	0.194	-0.114
No visits to town	0.297	-0.135	0.140	**0.490**	0.168	0.084	0.266
Only brief periods of time spent away from home	0.181	0.025	0.065	0.179	**0.764**	0.290	-0.027
Inability to get around in the dark without someone's help	0.046	0.547	0.354	0.076	0.032	0.076	**0.706**
I walk shorter distances or stop to rest often	-0.039	0.022	-0.039	0.116	0.291	**0.776**	0.002
I do not walk up or down hills	-0.030	**0.404**	-0.065	0.023	-0.089	0.386	-0.036
Using stairs only with mechanical support	-0.059	**0.625**	-0.063	0.101	-0.230	0.090	-0.089
Assistance needed when using stairs	-0.032	**0.827**	0.010	-0.105	0.342	0.017	0.296
Difficulty in walking	0.011	**0.863**	0.047	-0.019	0.033	0.114	-0.043
Going up and down stairs more slowly	0.025	0.209	0.022	-0.083	0.114	**0.745**	-0.139
I do not use stairs at all	-0.065	-0.053	-0.267	**0.670**	0.282	-0.001	0.135
I walk more slowly	-0.048	0.069	0.073	0.074	0.073	**0.758**	0.197
The percentage of variability	23.178	15.227	12.061	8.912	5.688	4.803	4.424

main ('I forget things...,' 'I make more mistakes than usual' and 'I have difficulty doing activities involving concentration and thinking') and another question from the C domain ('I often lose control of my voice...'). This factor was named "attention and focus."

DISCUSSION

The SIP is a generic questionnaire, which uses 136 questions to describe changes in an individual's behaviour which have occurred as a result of the impact of illness, and which is evident at the time of filling in the questionnaire. The respondents are asked to confirm the presence of only those changes in performing everyday activities for which the respondents are sure to be characteristic of them at the time of conducting research, and which can be ascribed to the impact of their illness. Low SIP score values correlate with a better quality of life, and vice versa.

The questionnaire has been used in studies involving populations with a wide range of illnesses, mostly chronic ones [10]. However, the reliability of the SIP questionnaire on the population of chronic hepatitis patients has not been assessed in our country.

The content of the statements which were denied by all the respondents, and which were consequently excluded from the analysis, goes to show that this illness does not lead to absolute limitations in domains of taking care of oneself, mobility, ambulation, communication, nutrition and home management.

The questions negatively correlating to the overall score in separate domains or the entire questionnaire should be eliminated from the Serbian version when used for HRQL assessment in chronic hepatitis patients. Those question are the following: 'I am lying down most of the time' and 'I spend most of the time partly undressed or in pajamas' in the BCM domain, which were answered affirmatively only by the patients (9.08%) who were hospitalised for treatment at the

Table 5. Factor analysis of the psychosocial dimension

Questions	Factors						
	1	2	3	4	5	6	7
	Emotional instability	Ability to maintain attention and concentration	Somatic manifestations of emotional reaction	Social interaction	Frustration tolerance threshold	Basic insecurity	Mental functions efficiency
I say how bad or useless I am	0.119	0.085	0.016	0.158	0.081	0.069	-0.024
I laugh or cry suddenly	**0.352**	0.217	0.342	-0.208	0.338	-0.118	0.047
I often moan and groan in pain	0.079	0.041	**0.858**	0.128	0.056	0.067	0.018
I act nervous	-0.001	0.050	-0.019	0.085	**0.760**	0.105	0.047
I keep rubbing or holding areas of my body that hurt	0.241	0.241	**0.772**	0.098	-0.124	0.127	0.029
I act irritable with myself	0.253	-0.105	-0.058	0.161	**0.607**	0.002	0.212
I talk about the future without hope	0.095	-0.033	0.259	-0.119	-0.059	**0.621**	0.019
I am visiting people less	0.015	0.104	0.104	**0.788**	0.206	-0.024	0.013
I act irritable toward those around me	0.435	0.155	-0.251	0.032	**0.447**	0.004	0.048
I show less affection	**0.570**	-0.265	0.161	0.306	0.234	-0.250	0.218
I am doing less social activities	0.279	-0.005	-0.131	**0.592**	-0.174	-0.244	0.050
I am cutting down the length of visits	0.171	0.140	0.104	**0.626**	0.123	0.041	0.106
I am avoiding visits from others	**0.481**	-0.114	0.293	0.432	0.087	0.075	-0.058
My sexual activity is decreased	-0.060	0.063	0.052	0.192	0.098	0.038	0.016
I often express concern over my health	0.267	0.333	0.079	0.130	**0.393**	-0.305	-0.045
I talk less with those around me	0.255	0.144	0.374	**0.462**	0.431	0.017	0.001
I stay alone most of the time	0.108	0.111	0.141	0.080	0.035	-0.055	0.033
I act disagreeable to family members	**0.727**	0.130	0.165	0.240	0.255	0.135	0.026
I have frequent outbursts of anger at family members	**0.793**	0.238	0.174	0.065	0.014	0.040	0.126
I isolate myself from the rest of the family	0.183	0.258	0.267	0.276	**0.463**	0.181	-0.007
I refuse contact with family members	-0.094	0.165	**0.405**	0.045	0.206	0.192	0.107
I am not joking with family members	0.133	**0.685**	-0.018	0.129	0.166	0.032	0.018
I start several actions at a time	0.313	0.037	-0.057	0.052	0.138	0.059	**0.688**
I have more minor accidents	0.043	0.341	-0.139	0.080	0.071	0.346	**0.521**
I react slowly	-0.408	-0.035	0.285	-0.020	0.006	-0.099	**0.661**
I do not finish things I start	0.138	0.080	0.144	0.065	0.021	0.178	**0.519**
I forget a lot	0.393	**0.497**	-0.047	-0.019	-0.041	0.067	0.409
I make more mistakes than usual	0.020	**0.675**	0.330	0.152	0.063	0.293	0.099
I have difficulty doing activities involving concentration and thinking	-0.038	**0.787**	0.073	0.005	-0.080	-0.107	0.091
I often lose control of my voice	0.217	**0.631**	0.348	-0.004	0.121	0.380	-0.030
I do not speak clearly when I am under stress	-0.010	0.180	0.019	0.016	0.166	**0.829**	0.166
The percentage of variability	**21.503**	**9.135**	6.471	6.144	5.281	4.874	4.341

time of filling in the questionnaire. Statement, 'I stay away from home only for brief periods of time' in the M domain, with which almost one-fifth of all the respondents agreed (19.61%), might be interpreted as the impact of the disease on a patient's psychological health, and not on the physical condition which the question should be treating. Also, in the EB domain, the question on attempted suicide was answered affirmatively by the patients (1.96%) whose way of contracting the disease is linked with the intravenous use of narcotics; 'I get sudden frights' was stated by one-fifth of the respondents (19.61%). In the C domain the following questions should be eliminated: 'I often lose control of my voice when I talk...' (2.94%); 'I don't write except to sign my name' (1.96%); 'I carry on a conversation only when very close to the other person...' (0.98%) and 'I do not speak clearly when I am under stress' (5.88%). Given that hepatitis diseases are not normally accompanied by communication problems, their random presence within the given population leads to a conclusion that such findings might be the effect of comorbidity. In the SR domain, the question which should be eliminated is, 'I sit around half-asleep' (12.74%), while in the RP domain the following should be left out: 'I am not doing any of my usual inactive recreation and pastimes...'

The results obtained through the SIP questionnaire confirm the existing results of the studies into this population. The SIP questionnaire contains specific problems which these patients have to deal with, as well as everyday activities affected by the problems.

Using the SIP questionnaire, Davis et al. [12] assessed the impact of illnesses and treatments on HRQL of patients with chronic hepatitis C. The results of this study suggest that this questionnaire could be a valid and reliable instrument for describing the impact of chronic hepatitis C on one's quality of life, but that it is not the best instrument for the assessment of the impact of the interferon treatment on this population [12].

Blasiole et al. [13] have used the SIP questionnaire to investigate the impact of social support on physical and psychological symptoms in the population of patients with chronic hepatitis C. The findings of this study indicate that a patient's quality of life is directly linked to the amount of social support patients get. Comparing the average domain scores of the abovementioned study and the findings of our study, higher scores were recorded in domains within physical and psychosocial dimensions, i.e. a lower quality of life of the patients in the study by Blasiole et al. [13] than is the case with the patients in our study. This can be attributed to the fact that the patients participating in our study had not started with their interferon treatment, while those from the study by Blasiole et al. [13] did so before, during and after the treatment.

The factor analysis of the psychosocial dimension has yielded two key factors. The first one covers questions by which it is possible to determine the degree of 'emotional instability.' The results of the research conducted by Janke et al. [14] in a population of patients with chronic hepatitis C point specifically to emotional instability, which ranges from irritability to outbursts of anger, which has a significant influence on patients' self-confidence and their interrelation with people in their surroundings, and is frequently at the heart of social exclusion.

The questions on 'the ability to maintain attention and focus,' with the items such as 'I frequently lose control of my voice' (found in a mere 2.94% of the subjects) and 'I don't joke with family members' (stated by 11.8% of the subjects), are grouped around the second factor. The grouping of the responses makes sense even though the abovementioned questions seem to be unrelated. Confronting the problems caused by an illness is likely to lead to changes in the behaviour of an individual, especially within a family, because of the uncertainty of the outcome on the one hand, and the chances of passing on the disease on the other. The positive responses to these questions are probably the consequences of a patient's difficulty with maintaining attention and focus, but they can also be attributed to one's coming to terms with the disease. Monaco et al. [15] stated that more than a half of the patients with chronic hepatitis C stress problems with concentration and poor memory regardless of the stage of the disease.

The factor analysis of the physical dimension has yielded two key factors which group the responses to the questions assessing the ability to take care of oneself and move, as it was done in the original version. Although there are no absolute limitations in these domains, it is evident that due to the disease or its accompanying extrahepatic manifestations (arthralgia) some difficulty in performing everyday activities was recorded by the SIP questionnaire. The results conform with the existing studies into the population of patients with chronic hepatitis B and chronic hepatitis C, which stress that mental and physical health are the domains affected by this disease [7, 16].

CONCLUSION

Our study has shown that the Serbian version of the SIP questionnaire is a reliable tool for measuring the HRQL in patients with chronic viral hepatitis before starting treatment. The factor analysis confirms the separated dimensions of questionnaire. Although two factors were extracted for the psychosocial dimension, the first one, which relates to emotional instability, is the most characteristic of that dimension, which was further confirmed in the studies using the original version. Further research of the Serbian version of this questionnaire should assess its reliability on patients with hepatitis B and C who receive biological treatment.

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Процена поузданости српске верзије упитника *Sickness Impact Profile* код болесника с хроничним вирусним хепатитисом

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КРАТАК САДРЖАЈ

Увод Квалитет живота у вези са здрављем (*HRQL*) особа с хроничним обољењима често је истраживан, јер је побољшање квалитета живота болесника крајњи циљ савремених процедура у лечењу од ових болести.

Циљ рада Циљ рада је био да се испита поузданост српске верзије упитника *Sickness Impact Profile* (*SIP*) на узорку испитаника оболелих од хроничног вирусног хепатитиса.

Методе рада Истраживање је обухватило 102 болесника с хроничним хепатитисом: 47 с хепатитисом Б и 55 с хепатитисом Ц. Поузданост генеричког упитника *SIP* процењена је кроз испитивање интерне конзистентности питања помоћу израчунавања Кронбаховог (*Cronbach*) коефицијента алфа. Факторском анализом је процењивано да ли груписање питања унутар димензија одговара дистрибуцији питања у оригиналној енглеској верзији упитника испитаној на популацији болесника из Сједињених Америчких Држава.

Резултати Вредност Кронбаховог коефицијента алфа за цео упитник била је 0,925, за физичку димензију 0,869, док је за психосоцијалну димензију била 0,857. Факторском анализом психосоцијалне димензије је као кључни фактор издвојена „емоционална нестабилност“, што потврђује резултате досадашњих истраживања у овој популацији. У односу на енглеску верзију упитника, Кронбахов коефицијент алфа српске верзије се не разликује значајно, а факторска анализа потврђује издвојене димензије упитника.

Закључак Наша студија је показала да је српска верзија упитника *SIP* поуздан инструмент за процену квалитета живота у вези са здрављем код особа оболелих од хроничног хепатитиса Б и Ц који још нису започели лечење.

Кључне речи: *Sickness Impact Profile* (*SIP*); поузданост упитника; хронични вирусни хепатитис

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