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POVEZANOST STRATEGIJA ZA PREVAZILAŽENJE STRESA I SAMOHENDIKEPIRAJUĆIH STRATEGIJA SA PROCESOM PROMENA PONAŠANJA OPIJATSKIH ZAVISNIKA

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THE RELATION OF STRESS COPING STRATEGIES AND SELF-HANDICAPPING STRATEGIES TO THE PROCESS OF OPIATE ADDICTS BEHAVIOR CHANGES
Povezanost strategija za prevazilaženje stresa i samo-hendikepirajućih strategija sa procesom promena ponašanja opijatskih zavisnika

Abstract
Background/Aim. During progress of addictive behavior treatment, the strategies of coping with stress are engaged, but addicts may continue self-handicapping behavior which is opposite to change of a problematic behavior. The aim of this study was to examine the stress coping strategies (CS) and self-handicapping (SH) strategies in relation to the process of addictive behavior change. Methods. In the descriptive clinical study, the sample of 200 consecutive recruited inpatient opiate addicts was explored. They underwent methadone therapy. The general information questionnaire, CSI- indicator of coping strategies, SH- questionnaire for assessing self-handicapping behavior and URICA- questionnaire for the assessment of process of change were completed. The Student t-test, Pearson’s correlation coefficient and multiple regression analysis were applied. SPSS for Windows was used and the $p \leq 0.05$ defined as statistically significant. Results. Among CS there were significant correlations between avoiding problems strategy and all SH strategies ($p<0.02$). The social support was directly proportionate to the process of change ($p=0.03$, $\beta=0.35$). However, the process of change inversely correlated to internal handicaps in interpersonal relationships strategy (IHI) ($p=0.02$; $\beta=-0.54$) and strategy of focusing to the problem ($p=0.00$, $\beta=-0.44$). Conclusion. The significant positive predictor for the process of addictive behavior change was a strategy of social support, but focusing on the problem and the strategy of internal handicaps in achievement situations were significant negative predictors. The evaluation of motivation process and stress coping strategies could be useful for the creation of improved tailored treatment of opiate addiction.

Key words: opiate addiction, stress-coping strategies, self-handicapping behavior, the process of change.
Apstrakt

Uvod/Cilj. U tretmanu adiktivnog ponašanja koriste se strategije za prevazilaženje stresa-SC (stress coping), mada zavisnici često nastave samo-hendikepirajućim -SH (self-hendikeping) obrascem ponašanja, koji je u suprotnosti sa promenama problematičnog ponašanja. Cilj ove studije je bio da se ispitaju stres-koping strategije i self-hendikeping strategije u relaciji sa procesom promene adiktivnog ponašanja. Metode. U deskriptivnoj kliničkoj studiji, ispitan je uzorak od 200 konsekutivno rekrutovanih pacijenata koji se nalaze na bolničkom tretmanu zbog opijantske zavisnosti. Za prikupljanje podataka primenjeni su: Opšti informativni upitnik, CSI- indikator coping strategija, SH- upitnik za procenu self-handicapping ponašanja i URICA- upitnik za procenu procesa promena. Primjenjen je Studentov t-test, koeficijent Pearsonove korelacije i multipla regresiona analiza. Korišćen je SPSS za Windows, vrednost p ≤ 0.05 je definisana kao statistički značajan. Rezultati. Zavisnici su najviše koristili strategiju izbegavanja, a manje socijalnu podršku i fokusiranje na problem. Od CS značajna povezanost je bila utvrđena samo između ponašanja izbegavanja i svih SH strategija (p≤0.02). Sa procesom promene ponašanja jedino je socijalna podrška bila pozitivno povezana (p=0.03, β =0.35), dok su obrnutu proporcionalno sa procesom promene bili povezani fokusiranje na problem (p=0.00, β= -0.44) i strategija internalizovanog hendikepa u sagledavanju sutucije –IHI (p= 0.02; β= -0.54). Zaključak. Značajan pozitivan prediktor u procesu promena lečenih opijatskih zavisnika je strategija mobilizacije socijalne podrške, dok su negativni prediktori fokusiranje na problem i strategija internalizovanog hendikepa u sagledavanju sutucije. Procena motivacije i koping strategija bi bila veoma korisna u kreiranju poboljšanog tretmana zavisnika.

Ključne reči: opijatska zavisnost, stress-koping strategije, samo-hendikepirajuće ponašanje, proces promene.
Introduction:

Substance use and drug and behavior addictions have recurrent characters that are multiply determined and lead to a significant impairment of quality of life (1, 2). In order to reach changes it will be required special efforts, but addicted persons often are motivated by short-term goals and their treatment acceptance may be the first step towards change (3). Miller and Rollnick indicate that it is necessary to observe the motivation for the change as a multidimensional phenomenon (4). It may eventually be developed in different directions by increasing or reducing the likelihood of change (5). Motivation is considered as a key component for starting change, reducing risky behavior and confidence in the treatment outcome. Motivation includes both a willingness to change and treatment resistance (lack of treatment confidence) (6).

Researchers gathered around Prochaska, DiClemente and Norcross conducted a series of researches and came up with several key constructs which may explain the nature of the change which they called the Transtheoretical Model of change. In this model, there are few basic stages of change: 1). temporal dimension of change and processes of change, 2) all those activities that people carry out or experiences that they used to change some of their thinking, behavior, 3). assumption experience (5,6,7). Stages of change in this model are: precontemplation, contemplation, preparation, action maintenance and termination (8).

However, there is a series of behavior that persons tend to hold selfimage and public image which are opposed to change of problematic behavior. At the end of the 70s Jones and Berglas called them self-handicapping (9). When failure is expected in an activity, a person is actively seeking or creating factors that may interfere the performance of these activities, which may serve as a justification for the potential failure (10). In these situations, the person suspects in self-efficacy which is defined as an individual's belief in his own ability to perform and execute a specific action (11). Many psychopathological symptoms are interpreted in the light of self-handicapping strategies and even the use of alcohol or drugs (10). Obstacles are created forward in a way that can be linked to failure, and that does not realistically represent the major obstacle to the success (12). In addition to these behavior, on progress in the process of change addictive behavior and maintaining achievement, changes may be affected by the strategies because stress is often cited as the cause of addiction (13). Addicts with extreme levels of stress show higher expectations of treatment (14). Jessor believes that drug abuse can be interpreted as a learned pattern of dealing with
the frustrations and the anticipated failure (15). These strategies of coping with stress allow adequate adaptation to circumstances and require significant efforts to problems solutions which eventually leads to psychological well-being (16, 17). In the case of addictions it is particularly important strategy of mobilizing social support because people with more social support less perceived stress and more successfully deal with stress (18). The aim of this study was to explore the stress coping strategies and self-handicapping strategies in relation to the process of addictive behaviour change.

**Methods**

**Subjects**

The sample consisted of 200 opiate addicts who were consecutively hospitalized at the Clinic for Psychiatry, Clinical Center of Vojvodina, Department of addictions in Novi Sad. The subjects involved in the study met the ICD-10 criteria for opiate addiction. There were 160 male (80%), and 40 (20%) female subjects. The average age of respondents were 35.6 years. The past year history of opiate use showed that the 68 respondents (34%) had no recidive, 64 patients (32%) had between 1 and 3 recidives and 68 patients (34%) had more than three recidives.

The study was conducted in the period 01.12.2013-01.04.2014. The study protocol was approved by the Ethics Committee of the Clinical Center of Vojvodina and prior to the investigation written informed consents from all the subjects were obtained. The self-questionnaires were anonymous, in accordance with the ethical principles of scientific research.

**Instruments**

The study participants filled out anonymously four questionnaires: questionnaire of general information (age, gender, job status, lifestyle, etc), CSI-indicator coping strategies, SH-assessment questionnaire for self-handicapping and URICA-questionnaire for the assessment stage of the change process which is the current process of personal change. General information questionnaire was designed for this study and contains 10 questions that include basic socio-demographic data (gender, age, education, employment status, marital status, current living conditions, socio-economic status), as well as questions related to the consumption of psychoactive substances, the family support and number of relapses in the previous period.

Indicator of coping strategies (CSI) questionnaire demands that respondents recall and describe in a few sentences a particular situation from personal experience in the past 6
months, which represent a problem for them and answer why they were concerned (19). After that, the subjects answered how they used each of the 33 individually listed strategies to overcome the stress caused by mentioned problem. The questionnaire was designed to measure three independent dimensions: focus on the problem, seeking social support and avoiding problems. Each dimension has 11 items with three-point Likert scale which indicate how often the subjects use (uses) them (20).

The self-handicapping questionnaire (SH) consists of four scales containing 34 items with a five-point Likert scales for answers (21). Each item is a combination of external or internal causes that person justifies the potential failure in interpersonal relationships or situations achievements. The first scale includes items related to self-handicapping external causes in interpersonal relationships, the second scale contains indicators of self-handicapping internal causes in interpersonal relationships. The third scale implies self-handicapping internal causes in situations of achievement, while the fourth scale refers to self-handicapping external causes in situations of achievement. The scales and a total SH questionnaire have adequate representativeness, reliability and homogeneity (12).

University of Rhode Island Change Assessment (URICA) is 32-items scale which assesses the stages of change (22). The questionnaire includes four scales obtained after performing the analysis components: the precontemplation, contemplation, action and maintenance changes. With this questionnaire, it is possible to calculate the scores for the individual stages of the change process as well as the total score, which is obtained by adding up the scores on the stages of contemplation, action and maintenance than their sum is subtracted score for the precontemplation stage.

Statistical analysis

Statistical analysis was performed in the program Statistica 0.7 and SPSS for windows, and from the analysis were used: descriptive analysis, correlation coefficients, hierarchical regression analysis, linear regression, analysis of variance and Student t-test. The p values of 0.05 or below were defined as statistically significant.

Results

There was a statistically significant difference in the self-handicapping strategies used among addicts (p = 0.02, F = 3.33). The most were used internal handicaps strategy in achievement situations (arithmetic mean 2.77) and external handicaps in achievement situations (arithmetic mean 2.60). The external handicaps in interpersonal relations
(arithmetic mean 2.31), and the internal handicaps in interpersonal relations (arithmetic mean 2.27) were less used (Figure 1).

(Figure 1 about here)

**Figure 1. The self-handicapping strategies among opiate addicts**

Self-handicapping strategies were borderline significantly associated with the process of change (p = 0.05; R = 0.425). Among SH strategies there was a statistically significant correlation only between internal handicaps in interpersonal relationships strategy (IHI) and processes of change (p = 0.02). The beta correlation coefficient was -0.54, which showed that more intensive use of this strategy slowed the progression of the process of change (Table 1).

(Table 1 about here)

**Table 1. The self-handicapping strategies in the prediction of progression through the process of change**

Besides self-handicapping strategies, the impact of stress coping strategies on the process of addictive behavior change was examined. There was a significant difference in the intensity of use of different coping strategies (F = 7.007, P = 0.00). Addicts mostly used avoidance strategy (arithmetic mean 9.64), then less used the social support (arithmetic mean 8.90), and at least focus on the problem (arithmetic mean 5.90) (Figure 2).

(Figure 2 about here)

**Figure 2. The stress coping strategies among opiate addicts**

The correlation between stress coping strategies and progress in the process of change was borderline significant (p = 0.05; R = 0.39).

Avoiding problems strategy was not significantly associated with the process of change but focused on the problem (p=0.00) and social support (p=0.03) were found to be statistically significantly associated (Table 2.).

(Table 2. about here)

**Table 2. The coping strategies in the prediction of progression through the process of change**

The strategy of focusing on the problem was inversely proportional to the change process, the beta coefficient of correlation was -0.44, showing that focusing on the problem led to
less progress in the process of change. The social support was directly proportionate to the process of change, beta coefficient of correlation was 0.35, indicating that more social support had impact to greater advancement in the process of change.

We have found that there were significant correlations between avoiding problems strategy and external handicaps in interpersonal relationships (p = 0.02), internal handicaps in interpersonal relationships (p = 0.00), internal handicaps in achievement situations (p = 0.00) and external handicaps in achievement situations (p = 0.02). These correlations were inversely proportional, more used avoiding strategy led to less self-handicapping behavior used (Table 3.).

(Table 3. about here)

Table 3. Correlations between self-handicapping strategies and stress coping strategies

Discussion
Changing addictive behavior is a long process and requires maximum engagement of addicts to solve problems. Among self-handicapping (SH) strategies, in this study addicts mostly used strategy of internal handicaps in achievement situations (Figure 1). It could be explained that addict usually experienced the intrapersonal problem in the situations of possible success or failure. This result was in concordance with results from other researches which demonstrated the negative association of authenticity with self-handicapping. The few studies analyzed by Uysal and Knee, suggested that low trait self-control predicts self-handicapping, independent of self-esteem, self-doubt, social desirability or gender (23). The Turkish study from 2014 indicated that self-handicapping was positively predicted by self-alienation and accepting external influence, and negatively by authentic living (24). There was suggested that the addicts tended to see in advance these own failure without attempting of the action (9). This could be linked with a number of unsuccessful attempts of treatment, so work on motivation and rewriting irrational beliefs imposed as the most important. The conclusions of the study which was dealing with the coping strategies of Vietnam veterans who were treated for posttraumatic stress disorder and substance use disorder suggested that: “…substance abuse is associated with less efficient, avoidant ways of coping with problems in living; and two, that substance abusers with a background of traumatic and stressful experiences are readily distinguishable by even more avoidant coping styles” (25). If we consider self-
handicapping strategies used in the interpersonal relationships of addicts, the prominent was used the strategy of external handicaps in interpersonal relationships. It indicates that, as the culprits in the failure of achieving adequate interpersonal relationships, they see other people, not themselves. This may be due to the prejudice and discrimination they face daily.

Among SH strategies there were a statistically significant correlation only between internal handicaps in interpersonal relationships strategy (IHI) and processes of change. This correlation was inversely, indicated that this strategy led to less progression of the process of change (Table 1). We could explain it by the clinical observations that addicts often do not believe in the treatment success and the possibilities of addictive behavior change with doubting themselves and their own capacities. This data indicates the necessary of work on the addicts` motivation to change and to increase the self-confidence.

The results showed that among stress coping strategies the avoiding problems strategy was the most prominent among addicts (Figure 2.). This is consistent with previous findings that young people who abuse psychoactive substances predominantly used a strategy of avoiding problems (26). The strategy of avoiding problems can instantly help the addict to escape from the current problems, but its long-term use disturbs addicts to make progress in the process of change. Other authors also found that treated opiate dependent patients experienced higher level of stress and reported less use of adaptive coping strategies when compared to controls (27). Our study showed that the strategy of focusing on the problem was inversely proportional to the change process, which indicated that this stress coping strategy led to less progress in the process of change (Table 2.). However, the social support was directly proportionate to the process of change and led to greater advancement in the process of change. Some recent biological studies also indicate that social attachments protect against addiction and health consequences of stress, whereas drug abuse and chronic stress can undermine social attachments (28,29). These findings suggest that novel treatment approaches and improve social support could be important aspects of decreasing stress during early recovery from opiate addiction. This means that addicts on admission are seeking treatment mostly when they are forced by others, family or judicial authority (1), and they still do not see the problem in which they are located and are most likely in the precontemplation stage. Then, they use social support, which includes seeking informal support from the people in their environment, but also professional help. The other researches indicated that it is necessary to work on practicing different problem
solving strategies that would contribute to the maintenance of the achieved changes (16). Mobilizing social support is therefore in the proportional correlation with the progress in the process of change (17).

Obtained data from this study showed that more used the focus on the problem strategies lead to less progress in the process of change. This data can be linked to the fact that the search for possible solutions and actively coping is characteristic for the stage action, which is advancing higher when it comes to the maintenance stage then more pronounced is search for social support, both formal and informal, in order to maintain the changes achieved. These results are in concordance with the setting of Transtheoretical Model of change. It is believed that every addict average pass three times through the stages of change until it reaches the stage of maintenance. The person more often passes through these stages progressive spirally than linearly (30). This means that addicts go through the stages of change and each relapse does not mean a return to the very beginning of the fight, but every relapse is seen as a mistake from which to learn and each recurrence is a step closer to the maintenance changes. The spiral motion means that the relapse is rule, but upon returning to the previous stages, addict gets closer still maintaining changes (5,6,7,8,20,30). It is in concordance with our results which showed that the two thirds of addicts relapsed during past year, one third more than three times. It confirmed that the relapse could be expected during treatment.

Despite treatment challenges, the cognitive behavioral therapy (CBT) for substance use disorders demonstrated efficacy as part of combination treatment strategies and consisted of heterogeneous treatment elements, such as operant learning strategies, cognitive and motivational elements, and skills building interventions (31). In this study results showed that there was a statistically significant correlation between strategy of avoiding problems and self-handicapping strategies. This correlation was inversely proportional, which means that more used the strategy of avoiding problems the self-handicapping strategy was less used (26). We could assume that if addicts do not face the problem, there was no need to rationalize their dysfunctional behavior. Self-handicapping strategies were used in situations where a person was expecting failure of the taken action.

Limitations

There are several limitations of the generalization of the findings in this study. The observational descriptive study was used in relative small sample, thus the observed
characteristics and relations of coping and self-handicapping strategies among treated opiate addicts do not provide explanation whether they are the causes or consequences of addiction. Furthermore, the inpatients are likely to have more severe psychopathology compared to addicts from general population. Also, patients' assessments were not pre-morbid and chronic opiate use may modify the assessment of these strategies. The larger prospective study is need for further study of complex interplay between addiction and coping and self-handicapping strategies among treated opiate addicts. In this sense strategies that addicts use in coping with stress are important as same as self-handicapping strategies that can slow down the process of change. Thus, these findings might inform early interventions and treatments that target opiate addicts at risk in the early dependence recovery.

**Conclusion**
The results suggested that opiate addicts most significantly used the internal and external self-handicaping (SH) strategies in achievement situations. Among coping strategies the avoidance strategy was the most prominent and inversely correlated with all self-handicapping strategies. The social support significantly positive correlated and could predict the process of change among addicts. The change process inversely correlated to focus on the problem and to internal handicapping interpersonal relations.
The assessment of coping and self-handicapping strategies and early motivational interventions could improve behavioral change and treatment of opiate addicts

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**References**
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Tables and figures

Figure. 1 The self-handicapping strategies among opiate addicts
Legend: IHA- internal handicaps in achievement situations; EHA-external handicaps in situations of achievement; EHI- external handicaps in interpersonal relationships; IHI-internal handicaps in interpersonal relationships.

Table 1. The self-handicapping strategies in the prediction of progression through the process of change

<table>
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<td></td>
<td>BETA</td>
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<tr>
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<td>EHA</td>
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</table>

Legend:
EHI-external handicaps in interpersonal relationships; IHI-internal handicaps in interpersonal relationships; IHA internal handicaps in achievement situations; EHA-external handicaps in situations of achievement.
Figure 2. The stress coping strategies among opiate addicts

Table 2. The coping strategies in the prediction of progression through the process of change

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<th>P</th>
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<td>Focus on the problem</td>
<td>-0.44</td>
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### Table 3. Correlations between self-handicapping strategies and stress coping strategies

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<th>IHI</th>
<th>IHA</th>
<th>EHA</th>
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<td></td>
<td>p 0.56</td>
<td>0.57</td>
<td>0.84</td>
<td>0.86</td>
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<tr>
<td>Social support</td>
<td>R -0.84</td>
<td>-0.06</td>
<td>0.10</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>p 0.56</td>
<td>0.65</td>
<td>0.94</td>
<td>0.57</td>
</tr>
<tr>
<td>Avoiding problems</td>
<td>R -0.31</td>
<td>-0.38</td>
<td>-0.49</td>
<td>-0.32</td>
</tr>
<tr>
<td></td>
<td>p 0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
</tr>
</tbody>
</table>

**Legend:**

- EHA-external handicaps in situations of achievement
- IHI-internal handicaps in interpersonal relationships
- IHA internal handicaps in achievement situations
- EHI-external handicaps in interpersonal relationships