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ORIGINAL ARTICLE

Discrepancy between readiness to change, insight and motivation in alcohol-dependent inpatients

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Abstract

BACKGROUND: Poland, Czech Republic, and the Slovak Republic are countries with high alcohol consumption, and alcohol-induced disorders are in the ten leading causes of Years Lost due to Disability. Therefore it is necessary to study factors as insight, motivation, and readiness to change for the better understanding the variables which are in probably connected with therapeutic effectiveness.
AIM: The purpose of the study was to examine the state of readiness to change at the beginning and the end of inpatient short (six weeks) and long (12 weeks) therapeutic program in the Slovak Republic, Poland, and the Czech Republic, and look for the relationship between readiness to change, insight, and motivation in alcohol-dependent persons.
METHODS: We studied a sample of 380 alcohol-dependent inpatients (282 men and 98 women) by Alcohol Use Disorders Identification Test (AUDIT), The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), Readiness to Change Questionnaire (RCQ), and Demographic Questionnaire.
RESULTS: The unmarried patients declare a higher severity of alcohol dependence than married or divorced ones in AUDIT questionnaire. At the beginning of the treatment, the majority of patients declared Action (68.5%) or Preparation (26.3%) motivation stage according to RCQ questionnaire. At the end of the treatment, married patients showed higher readiness to change in domain Taking steps of SOCRATES questionnaire. The unmarried patients displayed the decrease of domain Ambivalence. The duration of the completed therapeutic program may not be crucial for improvement in preparedness to change.
CONCLUSION: The intention and motivation to alcohol dependence treatment seem to be high at the beginning of the treatment, but recognition of the alcohol problems were low in highly dependent patients. Marital status was connected with an increased active component for readiness to change. The passive component (decreasing the ambivalence) was observed in the unmarried patients.

INTRODUCTION

Substance-related disorders are the global problem, affecting the persons of any nationality, race, social environment, education or gender. It is expected that about 50 million people are suffering from substance-related problem worldwide. The adverse use of alcohol results in 3.3 million deaths each year (WHO 2014). According to WHO, alcohol use disorders are among the ten leading causes of Years Lost due to Disability (YLD) in low-income, middle-income and also high-income countries (WHO 2014).

Understanding the processes that determinate the positive motivation to change in alcohol abuse is an area of active investigations (Huebner & Tonigan 2007). The processes go from *whether* people change to *how* people can change (Willenbring 2007). The treatment approaches are different in various countries, but clinical interventions such as building motivation, enhancing relapse prevention, improving problem-solving, strengthening relationships, and engaging in rewarding nondrug activities were mentioned as a key factor. Prochaska *et al.* (1992) suggest a transtheoretical model of behavior change to provide a comprehensive explanation of how people modify their behavior. The model describes a series of stages through people pass when attempting to change their behavior and it has been applied to the excessive alcohol use (Rubak *et al.* 2005, Miller & Rollnick 2009). According DiClemente *et al.* (2004) readiness to change (RTC) is an essential principle of the Transtheoretical Model of Intentional change. The concept of stages of change has obtained high popularity among researchers but also has been criticized due to various reasons by Davidson (1992, 1998), Sutton (1996, 2001), and West (2005). The main objection is that the model defines stages as exact phases, but they are more as subjective divisions on a continuum (Sutton 1996, 2001; West 2005).

Bertholet *et al.* (2009) studied how readiness to change predict subsequent alcohol consumption in medical inpatients with unhealthy alcohol use. They recognition of problems reflect more heavy drinking than readiness to change. Higher levels of Taking Action seem to predict less drinking. Skewes, Dermen, & Blume (2011) were studying the connection between readiness to change and post-intervention drinking among Hispanic college students. The results showed that higher readiness to change predicted decreased alcohol drinking only among the heaviest drinkers.

Motivation is an essential first step toward any action or change in behavior. Motivational interviewing (MI) is an empirically based psychotherapy method in which a clinician uses a non-confrontational, collaborative, and non-judgmental style to resolve a client's ambivalence to changing his/her behavior (Miller & Rollnick 2012). Motivation to change has been identified as a critical component of the reaction to alcohol interventions (Vasilaki *et al.* 2006). Studies have demonstrated the prominence of motivation for management in predicting adherence to the treatment and recovery of substance abuse patients (DeLeon *et al.* 1997, Simpson & Joe 1993). The motivation for the change of the alcohol drinking, however, is not the same as the motivation for the entering to the treatment. Many clients come to the therapy under pressure from social environment, and they are not ready to change drinking patterns and actively participate in treatment. Motivation "To Change" and "Motivation for Treatment" seems to be a critical component in persuading patients to search for, act by with, and complete the treatment as well as to make long-term positive changes (DiClemente & Scott 1997).

Clients can be categorized into the different "stages of change" according to their preparedness to modify their drinking behavior. Subsequently, investigators have to reflect more seriously the character of motivation in the therapy and recovery. Therapists typically compare internally (e.g., feeling a sense of accomplishment) and externally driven sources of motivation (e.g., financial incentives) (Deci & Ryan 1987). In general, the internal motivation is accompanying with greater long-term changes than the external motivation (Deci & Ryan 1987). Unrelatedly to the level of external motivation, outpatients with low internal motivation had the worst treatment outcomes. Martin & Rehm (2012) found that motivational enhancement therapy (a variation of MI), behavior therapies, CBT, and brief therapies were the most efficient for alcohol use problems.

The main objective of this research was to examine the state of readiness to change at the beginning and the end of inpatient short (six weeks) and long (12 weeks) therapeutic program and look for the relationship between readiness to change, insight, and motivation in alcohol-dependent persons in the Slovak Republic, Poland, and the Czech Republic.

METHOD

The patients treated in Psychiatric hospital Predna Hora (OLUP, Slovakia), a Psychiatric hospital in Jemnice (PATEB, Czech Republic), and the hospital in Cracow (WOTUW, Poland) from September to December 2015 were included in the study. All hospitals have the similar specific program for alcohol abuse based mainly on the group and community psychotherapeutic approaches. The program takes 12 weeks (long program) in Slovakia, six weeks (short program) in Poland, and both (short or long) one in the Czech Republic, according to the patient choice. Experienced psychiatrists had diagnosed all patients according to the ICD-10 diagnostic system (WHO 1992), and indicated them for the treatment.

Measurements

Three basic questionnaires were used at the beginning of the treatment, after six weeks and also after 12 weeks period in patients with 12-week program. They are:

- The 10-items ***Alcohol Use Disorders Identification Test*** (AUDIT as a brief, rapid, and flexible tool consistent with ICD-10 classifications of alcohol dependence and harmful alcohol use. De Meneses-Gaya *et al.* (2009) found 47 studies that evaluated the AUDIT in different countries. The AUDIT was recognized as validate tool for the identification of harmful use, abuse, and dependence of alcohol. The mean value of Cronbach's alpha was 0.80, indicating high internal consistency. Most studies have found very favorable sensitivity for current ICD-10 alcohol use disorders (and lower but still acceptable specificity) for the cut-off eight points (Allen *et al.* 1997). Polish version of AUDIT has also shown reliable psychometric properties (Cherpitel *et al.* 2005).
- The ***Stages of Change Readiness and Treatment Eagerness Scale*** (SOCRATES). SOCRATES is a questionnaire designed to assess readiness for change in alcohol abusers. The instrument yields three factorial-derived scale scores: Recognition (Re), Ambivalence (Am), and Taking Steps (Ts). Psychometric analyses revealed the Cronbach alpha for ambivalence 0.60-0.88, for recognition 0.85-0.95, and for taking Steps 0.83 – 0.96. Test-retest reliability is excellent, from 0.83 to 0.94 in subscales (Miller & Tonigan 1996).

High *Recognition* scores mean that patients have difficulties associated with their drinking, have a tendency to express a wish for change and to recognize that impairment will persist if they avoid change. Low score mean disagreement that alcohol makes them severe difficulties. High *Ambivalence* rating means that person sometimes doubts if they are out of the control of the alcohol drinking, causing complications. Low *Ambivalence* scores mean that person "knows" that his/her drinking is causing complications (high Recognition), or because he "knows" that he does not have drinking difficulties (low Recognition). Thus a low *Ambivalence* score must be interpreted with adding the score of Recognition. High *Taking steps* score maps the willingness to make a constructive change in drinking. The change is underway. A high score has been found to be prognostic of successful change.

- ***Readiness to Change Questionnaire*** (RCQ) is 12-items questionnaire which evaluates an individual's readiness to change the alcohol abuse (Heather *et al.* 1993). The questionnaire shows four stages of change: *Pre-contemplation* (no interest in change), *Contemplation* (considering a change), *Preparation* (ready to change) and *Action* (making a change) (Heather *et al.* 1991). Cronbach's alpha coefficients are follows: Pre-contemplation = 0.73; Contemplation = 0.80; Action = 0.85 (Rollnick *et al.* 1992).
- ***The demographic questionnaire*** contains basic information: sex, age, marital status, employment status, pension income, education, duration of alcohol abuse, the age of the disorder onset, the length of attending the adiktology services, the number of past hospitalizations, comorbid psychiatric disorders, including abuse or dependency on other psychoactive substances, reference and motivation to treatment.

Statistics

All analyses were calculated using the SPSS (Statistical Packages for the Social Sciences (SPSS 16.0) for Windows. Demographic and psychological data were analyzed using column statistics. The Shapiro-Wilk W test determined normal distribution of the demographic and questionnaire variables. Differences between scores measured have been computed by parametric or nonparametric pair t-tests, one-way ANOVA or Kruskal-Wallis test. The chi-square tests were used for the categorical variables. Correlations reflected relationships between treatment result and other factors. Differences were considered to be significant when p-values were less than 0.05.

Ethics

The investigation was performed in agreement with the Guideline for Good Clinical Practice (EMEA 2002/2009) and the latest version of the Helsinki Declaration. The local ethical committee of Faculty of Social Science and Health Care, Constantine the Philosopher University in Nitra accepted the study. Written informed consent was picked up from participants after the procedures were fully explained.

RESULTS

Sample

The research sample consisted of 380 inpatients suffering with alcohol dependence (mean age=44.6 ± 10.5); 282 men (mean age=44.0 ± 10.8) and 98 women (mean age=46.1 ± 9.4). The patients of OLUP Predna Hora (n=212) created the majority of the sample, followed by the patients of Wotuw Cracow (n=117) and patients of the psychiatric hospital in Jemnice (n=51). Almost half of the patients (46.5%) were unemployed, 36.4% had a stable employment, 6.9% of patients were receiving a disability pension, 9% were retired. There was also 1% of students. Around one-third of patients was married (37.4%), followed by a single (30.1%), divorced (28.7%) and widowed (3.8%). Statistical analysis shown that unmarried patients (26.50 ± 8.30) showed higher AUDIT score than married (23.96 ± 6.55) (Mann-Whitney U test: U=1423.50; $p<0.05$) or divorced patients (24.31 ± 6.89) (Mann-Whitney U test; U=1304.00; $p<0.05$).

Almost 60% of patients had at least one comorbid psychiatric disorder. As regard psychoactive substances the most comorbid disorders were following: abuse of tobacco (40%), sedatives and hypnotics (2,5%), cannabis (1%) or other specific combinations (3.5%). The presence of other disorders was following: affective dis-

Tab. 1. Means, medians and standard deviations of AUDIT and subscales of SOCRATES regarding occupational status of the patients

	AUDIT	Recognition	Ambivalence	Taking steps
Employed	24.39 ± 6.96	31.45 ± 4.03	16.59 ± 2.64	35.16 ± 4.23
Unemployed	25.64 ± 6.79	30.82 ± 5.46	16.64 ± 3.74	34.54 ± 5.47
Disability pension	23.40 ± 5.28	30.20 ± 4.94	15.60 ± 1.84	34.60 ± 3.27
Retired	23.94 ± 8.51	30.47 ± 4.61	16.00 ± 2.73	32.00 ± 6.06
Statistics	Kruskal-Wallis test: KW = 3.64; n.s.	Kruskal-Wallis test: KW = 1.18; n.s	Kruskal-Wallis test: KW = 2.90; n.s	Kruskal-Wallis test: KW = 4.98; n.s

Tab. 2. Stages of the Reason to change according to employment status

	Precontemplation	Contemplation	Preparation	Action
Employed	1 (1.4 %)	3 (4.2 %)	15 (21.1 %)	52 (73.2 %)
Unemployed	2 (2 %)	3 (3 %)	29 (29.3 %)	65 (65.7 %)
Disability pension	0	0	2 (20 %)	8 (80 %)
Retired	1 (6.3 %)	0	3 (18.8 %)	12 (75 %)
chi-square: $\chi 2$ (12) = 5.64, n.s.				

Tab. 3. Stages of change measured by RCQ according to the marital status

	Beginning of treatment			End of treatment		
Marital status	**Recognition**	**Ambivalence**	**Taking steps**	**Recognition**	**Ambivalence**	**Taking steps**
Unmarried	31.18 ± 12.16	16.33 ± 2.91	34.56 ± 4.59	31.17 ± 4.83	14.32 ± 4.44	34.76 ± 6.16
Married	30.90 ± 4.98	16.55 ± 2.86	34.04 ± 5.74	32.57 ± 3.88	16.51 ± 3.14	37.33 ± 2.16
Divorced	30.84 ± 4.66	16.59 ± 1.3	35.16 ± 4.64	31.26 ± 10.16	15.05 ± 3.36	35.23 ± 3.72
Statistics	Kruskal-Wallis: KW=0.28; n.s.	Kruskal-Wallis: KW=0.39; n.s.	Kruskal- Wallis: KW=1.31; n.s.	Kruskal-Wallis: KW=3.21; n.s.	Kruskal-Wallis: KW=9.71; p<0.01	Kruskal-Wallis: KW=11.33; p<0.01

order (5.5%), neurotic, stress-related, and somatoform disorders (5%), personality disorders (4%), organic personality disorders (4%), pathological gambling (3.5%), and schizophrenia, schizotypal and delusional disorders (2%).

According to the demographic questionnaire most often verbalized motivation to the treatment was the own desire to stop drinking (35.2% of patients), followed by family pressure (20.3%), inability to manage everyday life (12.8%) and unpleasant health state (12.3%). There was also 12.3 % court-ordered patients, 4% of patients came on the recommendation of a friend or an ambulatory psychiatrist, and 2.2% were forced to treatment by their partners. There were no significant differences in the AUDIT score, SOCRATES (Recognition, Ambivalence, Taking steps) (Table 1), and stages of Reason to Change (Table 2), according to employment status. There were statistical differences between groups about marital status in SOCRATES at the beginning of the treatment (Table 3). After treatment, there were the differences between groups concerning the Ambivalence and Taking steps. However, the comparison of the beginning scores and end scores according to the marital status showed only change in married patients; they increased the-the mean score of Taking steps (Wilcoxon Signed Ranks Test: Z=2.95, p<0,01; r=0,61).

Readiness to change (RCQ)

Table 4 displays both absolute and relative numbers of patients in particular stages of change according to RCQ in various phases of treatment. The majority of patients were at the beginning of the treatment in the stage of Action (68.5%) or Preparation (26.3%) (Table 4). There was also no difference in stages of change at the end of the treatment among patients finishing the short program and patients finishing the long program (Table 4).

Alcohol Use Disorders Identification Test (AUDIT)

Total 212 patients completed AUDIT (mean score 25.0 + 7.0) after admitting to the hospital. Three patients (1.4%) scored like a normal alcohol drinking level, 13 patients (6.1%) scored as a middle level of problems with alcohol, 31 patients (14.7%) scored as a high level of problems with alcohol and 166 patients (75.9%) scored as a level of alcohol dependence.

Tab. 4. Number of patients in different stages of change measured by RCQ in a particular phase of the treatment

	Phase of treatment	N	Precontemplation	Contemplation	Preparation	Action
	The beginning	213	4 (1.9 %)	7 (3.3 %)	56 (26.3 %)	146 (68.5 %)
Long program	6th week	115	–	4 (3.5 %)	25 (21.7 %)	86 (74.8 %)
	Statistic	comparison with the beginning: Chi-square: $\chi 2$ (6) = 7.63, n.s.				
	The end in 12th week	95	1 (1.1 %)	2 (2.1 %)	24 (25.3 %)	68 (71.6 %)
	Statistic	comparison with the beginning: Chi-square: $\chi 2$ (6) = 10.73, n.s.				
Short program	The end after 6 week	73	1 (1.4 %)	2 (2.7 %)	7 (9.6 %)	63 (86.3 %)
	Statistic	comparison with the beginning: Chi-square: $\chi 2$ (6) = 3.80, n.s.				
Drop-out		9	–	1 (11.1 %)	1 (11.1 %)	7 (77.8 %)

Statistic (chi-square) – comparison of the treatment time frequencies against the beginning frequencies

Tab. 5. The correlation between RCQ sub-scales and AUDI

	Precontemplation	Contemplation	Action
AUDIT	r= -0.26**	r=0.29**	n.s.

Pearson r; ** p<0.01 two-tailed significance

Tab. 6. Means, medians and standard deviations of subscales scores of SOCRATES at the end of the treatment regarding treatment duration

	Recognition	Ambivalence	Taking steps
12 Weeks treatment (n=150)	31.02 + 3.95	16.12 + 2.76	34.49 + 4.08
6 Weeks treatment (n=68)	32.41 + 4.55	15.31 + 4.49	36.66 + 4.13
Statistics	Mann-Whitney U-test: U=2443.50, p<0.001	Mann-Whitney U-test: U=3180.50, n.s	Mann-Whitney U-test: U=2568.00, p<0.01

Pearson and Spearman's correlation were used for evaluating the relation between RCQ sub-scales and the final score in AUDIT. There is a negative correlation between the score of AUDIT and the scale of *Precontemplation* and a positive relationship between the AUDIT score and the scale *Contemplation* (Table 5). It seems that patients with a higher AUDIT scores (i.e., higher severity of alcohol dependence) are more probable in the stage of *Pre-contemplation*.

We tested the difference in AUDIT score according the stages of the change. Patients in the stage of *Action* (n=144; M=23.94 ± 7.11) reached significant lower mean score in AUDIT than patients in the stage of *Preparation* (n=55; M=27.58 ± 5.77) (Mann-Whitney U-test: U=2647.50; p<0.01; r=0.26).

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)

The SOCRATES questionnaire was repeatedly administered to patients to evaluate their ability to recognize their problems with alcohol *(Recognition)*, the ambivalence towards their control of drinking *(Ambivalence)* and their active attitude to the treatment *(Taking steps)*. At the beginning of the treatment 30% of patients displayed high *Recognition* of their problem with alcohol, 36.7% showed intermediate *Recognition* of this issue, and 33.3% exhibited low *Recognition* of their problem with alcohol.

Forty percent of patients showed considerable *Ambivalence* towards their problem with alcohol, 46.6% displayed intermediate *Ambivalence*, and only 13.3% presented low *Ambivalence*.

Fifty percent of patients had a high score on the level of *Taking Steps*, 35.2% had a middle score in *Taking Steps* scale, and 15.3% had a low level of *Taking Steps*.

We tried to identify the differences in the three subscales of SOCRATES regarding the duration of the treatment (Table 6). Patients finishing the treatment at the sixth week showed the significantly higher level of *Recognition in* compared to the patients finishing the treatment in the 12th week. Patients finishing the treatment at the sixth week also showed the significantly higher level of *Taking Steps* than the patients, who finished the treatment in the 12th week. There were no significant differences between these patients

Tab. 7. The relation between SOCRATES the RCQ sub-scales and AUDIT

	Precontemplation	Contemplation	Action	AUDIT
Recognition	r= -0.42**	r= 0.45**	r= 0.18**	r=0.37**
Ambivalence	r= -0.19**	r= 0.40**	r= 0.18*	r=0.14*
Taking steps	n.s.	r= 0.30**	r= 0.54**	n.s.

r=Pearson r *sig<0.05; **-sig.<0.01 two-tailed significance level

in the degree of *Ambivalence* according to the duration of therapy (Mann-Whitney U-test: U=3180,50, n.s.).

In next step, we tried to find the relations between SOCRATES questionnaire, the RCQ sub-scales, and AUDIT questionnaire. The results showed significant negative correlations between *Precontemplation* stage of change (not ready to change) and *Recognition* of the problem and *Ambivalence*. *Contemplation* (getting willing to change) correlated positively with Recognition of the problem, *Ambivalence* and *Taking Steps*. Stage of *Action* correlated positively with *Recognition* of the problem, *Ambivalence* and *Taking Steps*. The score of AUDIT (severity of alcohol dependence) correlated positively with recognition and ambivalence.

DISCUSSION

According to the results, there were mostly middle-aged patients, predominantly men, half of them were unemployed, only third had a stable job, and just over a third of them were married. It is corresponding with Evren *et al.* (2006) findings. The unemployment rate may reflect the social impacts of alcohol dependence because the unemployment range is between 6% to 11% of the general population of studied countries at that time. The high level of unemployment was also found in another Slovak study of hospitalized alcohol-dependent patients (Benkovic *et al.* 2012), which found that 58.2% of them were unemployed. Interestingly, the rate of divorced patients is almost the same as in the general population (37%) in Slovakia (Podmanicky & Podmanicka, 2013).

Comorbidity with other psychiatric disorders is relatively common, especially with tobacco dependence. The high comorbidity with tobacco dependency was also published by Benkovic *et al.* (2012). The most of the major diagnosis like depression, schizophrenia, and anxiety disorders were lower in our sample than was described in the six-months Slovakian prevalence study (Heretik *et al.* 2013). The rates of comorbidity in inpatients with alcohol dependence in Slovakia, published by Benkovic *et al.* (2012) was more close to our data.

The research was focused on the addiction symptoms of patients when were entered to the treatment. Most patients (3/4) scored at the level of alcohol dependence in the AUDIT questionnaire. The single patients had significantly higher AUDIT results than married or divorced ones. It can be interpreted that alcohol driven behavior is more frequent or riskier in singles, who are probably less controled by significant others, and on the other hand, drinking is more important part of their way of life. Originally we expected that unemployment would increase the severity of addiction. However, there is no difference between the results of the AUDIT between the unemployed and the employed patients.

Most patients coming to the treatment declared the high readiness for change. According to RCQ data, the vast majority of them were in the stage of *Action* (i.e., they have a plan and make changes accordingly). It is corresponding to the outcome of other studies (Kim *et al.* 2007, Le Berre *et al.* 2012). High level of declared readiness to change may have various explanations. The first may be an effort to meet the anticipated wishes of the therapists or want to fulfill other social pressures (consciously or unconsciously). The second explanation can be a "Syndrome of false hope" (Polivy 2001). According to this syndrome, self-change efforts (coming to the treatment) provide strong initial rewards. Feelings of control and optimism frequently accompany the early stages of self-modification efforts. Also, unrealistic expectations regarding the speed, ease, possible degree of change, and supposed benefits of changing may overcome the knowledge of one's prior failures. Further research is needed to confirm this interpretation.

The outcomes of our study also show the patients in *Action* stage deny that the abuse of alcohol is a serious problem for them in SOCRATES questionary. Paradoxically, patients expressed a particularly high readiness to change, but the relatively small insight of the harm of alcohol in their life. We suppose that this high level of readiness to change can reflect the situation in which they have already finished the painful process of decision-making.

Interestingly, the patients who were treated in the short program (6 weeks) showed more readiness for change than patients in the long program (12 weeks) at the end of the treatment. We do not know the exact explanation of this fact, and we can only speculate that the shorter treatment for some patients is more motivational to change. The short program only was provided in Poland, so we suppose that patients are coming to the treatment there are more motivated for inpatient treatment.

Patients in the stage of *Action* showed lower scores in the AUDIT than patients in the stage of *Preparation*. This result shows that people abuse alcohol less are

more prepared for change. Patient in *Precontemplation* stage of change (not ready to change) is characterized by significantly lower *Recognition* of the problem and *Ambivalence*. In the stage of *Contemplation* (getting willing to change) they are more able to *Recognize* the problem, be more *Ambivalent* and are prone to *Taking Steps* to solve it. Stage of *Action* is characterized with *Recognition* of the abuse problem, *Ambivalence*, and tendency to *Taking Steps*. The severity of alcohol dependence correlated with *Recognition* and *Ambivalence*.

Patients in the stage of action showed lower scores in the AUDIT than patients in the stage of *Preparation*. This result shows that people abuse alcohol less are more prepared for change.

At the beginning of the treatment, there was no difference in *Recognition*, *Ambivalence* or *Taking Steps* according to the marital status. However, after the treatment, there was the difference in *Ambivalence* and *Taking Steps* according to the marital status; *Ambivalence* is lower in the single patients, and *Taking Steps* is higher in the married group. Post-hoc analysis of time changes in sub-groups was shown an increase of *Taking Steps* in the married group. It could be interpreted that married patients are motivated to the treatment more because of the higher responsibility to the family or due to family pressure. It could be the theme for subsequent studies.

The results of the six weeks treatment appear to be slightly better than 12 weeks program. The cost difference is substantial. The reason for this unexpected outcome is unknown and need additional investigation.

Limitations of the study

The main limitation of this study is the fact that AUDIT, RCQ, and SOCRATES were not standardized in Slovakia, Czech Republic nor Poland (expect AUDIT in Poland). It is also questionable whether RCQ is appropriate for the differentiation of change stages in various phases of treatment. Another limitation is using mainly the subjective questionnaires.

The research group was from three different countries, with slightly different treatment approach and the length of the treatment.

CONCLUSION

One of the most important research questions was in which stage of change patients at the beginning of the treatment are. The results show that majority of patients find themselves on the stage of *Action* or *Preparation*. The research was also focused on the severity of addiction in the initial phase of treatment. Contrary to the low proportion of patients with high *Recognition* of alcohol problems, these results suggest that there was a significant population of highly dependent patients with low *Recognition* of their alcohol problems. We emphasize that a motivational interview should be an effective intervention for them.

Future research could be more focus on the "False hope syndrome" and should be more directed to examine whether the level of recognition of alcohol problems predict treatment outcome.

REFERENCES

1 Allen JP, Litten RZ, Fertig JB, Babor T (1997). A review of research on the Alcohol Use Disorders Identification Test (AUDIT). Alcoholism: Clinical and Experimental Research **21**(4): 613–619.
2 Benkovič J, Mišurdova J, Grossmann J (2012). Niektoré typy závislosti a ich najčastejšie psychické komorbidné poruchy. In Slovak language [Some types of addictions and their most commonly comorbid psychiatric disorders.] Psychiatria pre prax. **13**(1): 21–24.
3 Bertholet N, Cheng MD, Palfai TP, Samet JH, Saitz R (2009). Does readiness to change predict subsequent alcohol consumption in medical inpatients with unhealthy alcohol use? Addictive Behaviors. **34**: 636–640.
4 Cherpitel CJ, Ye Y, Moskalewicz J, Swiatkiewicz G. (2005). Screening for alcohol problems in two emergency service samples in Poland: Comparison of the RAPS4, CAGE, and AUDIT. Drug and Alcohol Dependence. **80**: 201–207.
5 Davidson R (1992). Prochaska and DiClemente's model of change: a case study? British Journal of Addiction. **87**: 821–822.
6 Davidson R (1998). The Transtheoretical Model: a critical overview. In W.R. Miller & N. Heather (Eds.), Treating addictive behaviors (2nd ed., pp. 25-38). New York: Plenum.
7 De Meneses-Gaya C, Zuardi WA, Loureiro SR, Crippa SAJ (2009). Alcohol Use Disorders Identifcation Test (AUDIT): An updated systematic review of psychometric properties. Psychology & Neuroscience. **2**(1): 83–97.
8 Deci EL, Ryan RM (1987). Support of autonomy and the control of behavior. Journal of Personality and Social Psychology. **53**: 1024–1037.
9 DeLeon G, Melnick G, Kressel D (1997). Motivation and readiness for therapeutic community treatment among cocaine and other drug abusers. American Journal of Drug & Alcohol Abuse **23**: 169–189.
10 DiClemente CC, Schlundt D, Gemmell L (2004). Readiness and stages of change in addiction treatment. American Journal on Addictions. **13**: 103–119.
11 DiClemente CC, Scott CW (1997). Stage of change: Interaction with treatment compliance and involvement. In: Onken LS, Blaine JD, Boren JJ (eds): Beyond the Therapeutic Alliance Keeping the Drug-Dependent Individual in Treatment. Rockville, MD: National Institute on Drug Abuse. NIDA Research Monograph No.**165**: 131–156.
12 Evren C, Can S, Evren B, Saatcioglu O, Cakmak D (2006). Lifetime posttraumatic stress disorder in Turkish alcohol-dependent inpatients: relationship with depression, anxiety, and erectile dysfunction. Psychiatry Clin Neurosci. **60**(1): 77–84.
13 European Medicines Agency (2002). Guideline For Good Clinical Practice ICH. Harmonised Tripartite Guideline. 59p. (http://www.edctp.org/fileadmin/documents/EMEA_ICH-GCP_Guidelines_July_2002.pdf)
14 Heather N, Gold R, Rollnick S (1991). Technical Report 15. Kensington, Australia: National Drug and Alcohol Research Centre, University of New South Wales; Readiness to change questionnaire: User's manual.
15 Heather N, Rollnick S, Bell A (1993). Predictive validity of the readiness to change questionnaire. Addiction. **88**: 1667–1677.
16 Heretik A, Pecenak J, Heretik A jr, Ritomsky A (2013). 10 rokov epidemiologickeho vyskumu psychickych poruch na Slovensku (studie EPIx). Psychiatria-Psychoterapia-psychosomatika, **20**(3): 25–28.
17 Huebner RB, Tonigan JS (2007). The search for mechanisms of behavior change in evidence-based behavioral treatments for alcohol use disorders: Overview. Alcoholism: Clinical and Experimental Research.**31**(3): 1–3.

18 Kim KM, Kim JS, Kim GJ, Kim SS, Jung JG, Kim SM, Pack HJ, Lee DH. The readiness to change and insight in alcohol-dependent patients. J Korean Med Sci. 2007 Jun; **22**(3): 453–8.
19 Le Berre AP, Vabret F, Cauvin C, Pinon K, Allain P, Pitel AL, Eustache F, Beaunieux H (2012). Cognitive barriers to readiness to change in alcohol-dependent patients. Alcohol Clin Exp Res.**36**(9): 1542–1549.
20 Martin GW, Rehm J (2012). The effectiveness of psychosocial modalities in the treatment of alcohol problems in adults: A review of the evidence. Canadian Journal of Psychiatry/La Revue Canadienne De Psychiatrie. **57**(6): 350–358
21 recognitionMiller WR, Rollnick S (2009). Ten things that motivational interviewing is not. Behav Cogn Psychother. **37**(2): 129–140.
22 Miller WR, Rollnick S (2012). Motivational interviewing: Preparing people for change (3rd ed.). New York, NY: Guilford Press
23 Miller WR, Tonigan JS (1996). Assessing drinkers' motivation for change: The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). Psychology of Addictive Behaviors. **10**: 81–89.
24 Podmanicky I, Podmanicka Z (2013). Demografický a spoločenský aspekt fenoménu rozvodovosti na Slovensku. Studia Aloisiana. **4**(2): 49–68.
25 Polivy J (2001). The false hope syndrome: unrealistic expectations of self-change. International Journal of Obesity. **25**(1): 80–84.
26 Prochaska JO, Diclemente CC, Norcross JC (1992). In search of how people change: Applications to addictive behaviors. American Psychologist. **47**(9): 1102–1114.
27 Rollnick S, Heather N, Gold R, Hall W (1992). Development of a short 'readiness to change' questionnaire for use in brief, opportunistic interventions among excessive drinkers. British Journal of Addiction. **87**: 743–754.
28 Rubak S, Sandbaek A, Lauritzen T, Christensen B (2005). Motivational interviewing: a systematic review and meta-analysis. Br J Gen Pract. **55**(513): 305–312.
29 Simpson DD, Joe GW (1993). Motivation as a predictor of early dropout from drug abuse treatment. Psychotherapy. **30**(2): 357–368.
30 Skewes MC, Dermen KH, Blume AW (2011). Readiness to change and post-intervention drinking among Hispanic college students living on the US/Mexico border. Addictive Behaviors. **36**: 183–189.
31 Sutton S (1996). Can 'stages of change' provide guidance in the treatment of addictions? In G. Edwards & C. Dare (Eds.), Psychotherapy, psychological treatments and the addictions (pp. 189–205). Cambridge UK: Cambridge University Press.
32 Sutton S (2001). Back to the drawing board? A review of applications of the transtheoretical model to substance use. (Special Issue: Theories of Addiction) Addiction. **96**: 175–186.
33 Vasilaki EI, Hosier SG, Cox WM (2006). The efficacy of motivational interviewing as a brief intervention for excessive drinking: A meta-analytic review. Alcohol Alcsm. **41**: 328–335.
34 West R (2005). Time for a change: Putting the Transtheoretical (Stages of Change) Model to rest. Addiction. **100** (8): 1036–1039.
35 World Health Organization (1992). The ICD-10 classification of mental and behavioral disorders: Clinical descriptions and diagnostic guidelines.
36 WHO - World Health Organization (2004). The global burden of disease: 2004 update. World Health
37 WHO. World Health Organization (2014). www.who.int/substance_abuse/facts/alcohol/en/
38 Willenbring ML (2007). A broader view of change in drinking behavior. Alcoholism: Clinical and Experimental Research. **31**:84–86.