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## Treatment Motivation Differences between Minnesota and Methadone Program Patients with Substance Use Disorder in Latvia

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### Abstract

Motivation is factor that induces patients to seek treatment options, accomplish treatment guidelines and perform constructive activities to achieve long-term result and positive changes. Aim of the study was to determine whether there is statistically significant differences in treatment motivation between substance use disorder patients participating in Minnesota program and Methadone program. There were 3 research tools: Demographic questionnaire, SOCRATES 8A/8D, and Treatment motivation questionnaire. It was found that mean values of substance use disorder patients in Minnesota program were statistically significantly higher than patients from Methadone program. Motivation aspects to treat are significant higher in respondents who participated in treatment with biopsychosocial intervention comparing to pharmacotherapeutic intervention.

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### 1. Introduction

For effective treatment of Substance use disorder (SUD) and achieving behavioural changes strong motivation from the patient is required.

Motivation of SUD patients has come into attention of researchers in the aspect of finding out how to improve motivation of addicted patients to cease the use of psychoactive substances (PAS) and start the treatment as well as to keep the positive dynamics after the treating process.

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As Miller (1999) pointed out, motivation is the key for changes, it is multidimensional, dynamical, fluctuating, has an impact on social interaction, which makes it important for the specialist to detect the characteristics of patient's motivation and gradually improve it.

On the way to achieving higher motivation and decision for participating in the treatment, PAS addict needs to find balance as well as take into account the advantages and disadvantages of stopping use of substances and/or participation in the treatment (Stevens et al., 2015). This heterogeneity of motivation can be explained by many internal and external factors, including demographic situation, ways of dealing with stress, severity of SUD,

consequences of substance misuse, psychiatric co-morbidities, the quality of environment and life and duration of positive results after previous therapies applied (DiClemente et al., 2009; Drieschner et al., 2004; Ryan, Plant & O'Malley, 1995).

Several studies show that individuals with advanced external motivation more frequently seek for ways of treating their condition, for instance, patients with more pronounced stress in life, problems with law or work (Weisner et al., 2002), under social pressure, with more severe disease and disease related problems (Tucker et al., 2004) or when difficulties occur which interfere with daily functioning (Simpson, Tucker, 2004; Ogborne, DeWit, 1999).

Often in cases where problem recognition or decision on quitting PAS use is required, the importance of internal motivation is emphasized (Plant & O'Malley, 1995; Le Berre et al., 2012; Cahill et al., 2003). Internal motivation is associated with greater patient involvement and retention in treatment (Ryan, Plant & O'Malley, 1995). The results of many studies show that subjects high in both internal and external motivation demonstrated the best attendance and treatment retention while those low in internal motivation showed the poorest treatment retention and the poorest treatment response, regardless of the level of external motivation (Ryan, Plant & O'Malley, 1995).

In Le Berre's study (Le Berre et al., 2012) it was concluded, that it is essential to improve cognitive abilities of patients eventually leading to better understanding of their addiction and solving their ambivalent thoughts and feelings towards their addiction, to activate the desire to alter their problematic behaviour. It can be achieved through motivational interviews, through patient centred and directive way of treating (Hettema et al, 2005; Miller, Rose, 2009).

Taking into account that substitution therapy does not require active participation in the psychosocial rehabilitation, apart from receiving the medicine, whereas in Minnesota program active participation is essential, which leads to assumption that Minnesota program participants ought to have higher motivation than participants of Methadone substitution program.

## 2. Material and methods

208 SUD patients took part in this study- 108 from Minnesota program and 100 from Methadone program. Participants were from 17 to 67 years old, all of them being diagnosed with Substance Use Disorder according to ICD-10 classification. All of participants gave an informed confirmation. For the purpose of this research, permission was received from Ethics Committee of Riga Stradins University.

Patients had to fill 3 questionnaires (Socio-demographic questionnaire, SOCRATES 8A/ SOCRATES 8D questionnaire and Treatment motivation questionnaire). The Socio-demographic questionnaire was developed by the authors of study. It consists of 19 questions, including basic information of the patient (gender, age, education, employment, and family status), the addictive substance used, consequences of addiction and patient's view on whether the addiction is present.

SOCRATES 8A/ SOCRATES 8D questionnaires (*The Stages of Change Readiness and Treatment Eagerness Scale*, Miller & Tonigan, 1996) consist of 19 questions and 3 subscales, five-point Likert scale (1=strongly disagree; 5=strongly agree) are used. The first subscale 'Recognition', possible score being from 7 to 35, showed whether the subject recognizes his problems and whether he is willing to embrace changes (for example, *I have serious problems with drugs*). The second subscale 'Ambivalence' (4-20 points) shows openness to reflection (for example, *Sometimes I wonder if my drug use is hurting other people*). The third subscale 'Taking Steps' (8-40 points) shows whether the subject is already doing something to make a positive change in his behavior (for example, *I am actively doing things now to cut down or stop my use of drugs*). The Socrates questionnaire data were processed in SPSS program and it was found that the Cronbach's alpha for the questionnaire is 0.71 thus meaning that the questionnaire is consistent.

Treatment motivation questionnaire (TMQ; Ryan, Plant & O'Malley, 1995) consists of 26 questions which are arranged in 4 subscales, seven-point Likert scale (1=not at all; 7=very true) are used. The first subscale 'External Reasons' consisted of items reflecting the subject's perceived lack of choice in seeking treatment and the experience of external pressure to remain in treatment (for example, *I'll get in trouble if I don't remain in the treatment*). The second subscale 'Internal Reasons' consisted of items reflecting identified and interjected motivational dynamics (for example, *I came for treatment at the clinic because it is important to me personally to solve my problems*). The third subscale 'Confidence' consisted of items reflecting the subject's expectation of a positive treatment outcome (for example, *I am confident this program will work for me*). The fourth- 'Help Seeking' measured motivation to share problems and relate to others during the course of treatment (for example, *I want to openly relate with others in the program*). It was found that Cronbach's alpha value was 0.73, meaning that the research tool is consistent.

### 3. Data analysis

For socio-demographic questionnaires the descriptive statistics analysing method was used. Concluding statistics analysing method was used by Statistical Package for the Social Sciences (SPSS), 17th version. Data were calculated with T-test, as the results correspond to normal distribution from Kolmogorov- Smirnov test.

### 5. Results

208 SUD patients were questioned during the research (108 from Minnesota and 100 from Methadone program), 201 questionnaires were completed thoroughly and therefore valid for further evaluation. All in all, data about 102 Minnesota program patients and 99 Methadone program patients were analysed. Respondents were 17 to 67 years old (mean  $38.24 \pm 10.28$ ), 36.3% women and 63.7% men. Demographic data are shown in table 1.

Table 1. Demographic data of Respondents

		Minnesota program (n=102)		Methadone program (n=99)	
		N	%	N	%
Gender	Women	38	37.3	35	35.4
	Men	64	62.7	64	64.6
Age		41.03±11.80		34.48±8.88	
Education	Primary	17	16.7	28	28.3
	Secondary	35	34.3	28	28.3
	Secondary-professional	39	38.2	32	32.3
	Higher	11	10.8	11	11.1
Employment	Yes	32	31.4	39	40.0
	No	70	68.6	60	60.0
Family Status	Married	29	28.4	19	19.2
	Divorced	16	15.7	13	13.1
	Widower	6	5.9	5	5.0
	Lives alone	15	14.7	16	16.2
	Unregistered relationship	22	21.6	25	25.3
	Lives with parents	14	13.7	21	21.2
Denies SUD		1	1.0	0	0

While comparing both respondent group (Minnesota and Methadone program) results of TMQ, it can be seen that statistically significantly higher mean values are for respondents from Minnesota program (Table 2), for instance, in 'Internal Reason' subscale (M=70.83; SD=6.87; p=0.015), 'Help Seeking' subscale (M=37.46; SD=5.18; p=0.007) and 'Confidence' subscale (M=29.36; SD=5.94; p=0.000), in comparison with mean values of Methadone program respondents (M=67.56; SD=11.49 and M=34.82; SD=8.23 and M=22.04; SD=6.95, respectively).

In 'External Reason' subscale no statistically significant (p>0.05) differences were found, but the mean values for Minnesota program respondents were lower.

Table 2. Treatment motivation questionnaire (TMQ) comparison of mean values between Minnesota and Methadone program patients

Subscales	Minnesota program (n=102)		Methadone program (n=99)		p
	Mean	SD	Mean	SD	
External Reasons	15.43	5.43	16.90	5.70	0.063
Internal Reasons	70.83	6.87	67.56	11.49	<b>0.015</b>
Help Seeking	37.46	5.18	34.82	8.23	<b>0.007</b>
Confidence	29.36	5.94	22.04	6.95	<b>0.000</b>

In SOCRATES questionnaire (Table 3) within scales of ‘Recognition’ ( $p=0.001$ ) and ‘Ambivalence’ ( $p=0.032$ ) are statistically significant differences, higher mean values being within Minnesota program respondents ( $M=32.51$ ;  $SD=3.21$  and  $M=17.19$ ;  $SD=2.22$ , respectively), in comparison with mean value results from Methadone program respondents ( $M=31.02$ ;  $SD=3.33$  and  $M=16.49$ ;  $SD=2.42$ , respectively).

There are no statistically significant differences in ‘Taking Steps’ scale ( $p>0.05$ ).

Table 3. SOCRATES questionnaire’s mean value comparison between Minnesota and Methadone program

Subscales	Minnesota program (n=102)		Methadone program (n=99)		p
	Mean	SD	Mean	SD	
Recognition	32.51	3.21	31.02	3.33	<b>0.001</b>
Ambivalence	17.19	2.22	16.49	2.42	<b>0.032</b>
Taking Steps	34.20	4.20	34.33	3.08	0.800

## 6. Discussion

An important aspect of SUD patients starting the treatment is recognizing their problem and active help seeking. The internal, subjective factors play a major role for developing motivation for participation (Ryan, Plant, & O’Malley, 1995). Undoubtedly when speaking about SUD patients, external factors also have an impact on patient’s motivation, for instance, external pressure from family members, friends, or an event in patient’s life (Drieschner et al., 2004). However it is thought that primarily the motivation is regulated by internal processes of PAS addicted patient and external factors contribute for development of exactly internal motivation (Cahill et al., 2003).

As the results of this research show, participants of Minnesota program have statistically significantly higher values in both SOCRATES (Recognition, Ambivalence subscales) and TMQ questionnaires (Internal Reasons, Help Seeking and Confidence subscales). In order to succeed in applying for Minnesota program, patient needs to have high motivation, the will of understanding himself better and recognition of the present addiction, whereas patients of the more passive substitution therapy are more likely to only receive the drug and less likely to admit the problem.

Recognizing ambivalence indicates that patient can accept conflicting aspects of himself and his addiction, without denial (Miller & Tonigan, 1996). ‘Ambivalence’ together with higher rates of ‘Recognition’ shows that patients starting Minnesota program admit their addiction more and are usually ready for the treatment.

Values of ‘Internal Reasons’ together with ‘Help Seeking’ and ‘Confidence’ reflect the subject’s expectation of a positive treatment outcome, motivation to share problems and relation to others during the course of treatment (Ryan, Plant & O’Malley, 1995).

## 7. Limitation

As a limiting factor one should mention the use of the convenience sample. Although the study used a psychometrically validated SOCRATES and TMQ survey, it is still a self-assessment questionnaire, and taking into account the personality structure of SUD patients, their difficulties in adequately assessing the reality and the lack of compliance, this might have influenced the results obtained.

Also into account should be taken the fact that in Methadone program only drug addicted patients are taking part, whereas in Minnesota program both- drug as well as alcohol addicted patients participate. It might influence the

results, as the personality damage of drug addicts is more permanent, the use of primitive defence mechanisms more pronounced and with this, also the ability to admit their addiction can be disturbed.

## 8. Conclusions

Patients of Minnesota program show higher motivation rates in TMQ and SOCRATES questionnaires meaning higher motivation for treatment in comparison with patients of Methadone program.

It is desired to continue research and compare addiction influence on motivation.

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