SOCIAL INTELLIGENCE INDICATORS FOR ADDICTION DISORDER PATIENTS

SOCIĀLĀ INTELEKTA RĀDĪTĀJI NARKOLOĢISKIEM PACIENTIEM

Velga Sudraba, MD
Riga Stradiņš University, Doctoral study program „Medicine", Riga Centre of Psychiatry and Addiction Disorders, Tvaika 2, Riga, LV-1005, Latvia
e-mail: velgasudraba@gmail.com; phone: +37129115522
Kristīne Mārtinsone, Dr.psych. Mg.sc.sal.
Riga Stradiņš University, Faculty of Rehabilitation, Assist. Professor,
Professional Master's study programme in health care „Arts therapies", head
Dzirciema 16, Riga, LV-1007, Latvia
e-mail: kristine.martinsone@rsu.lv; phone: +37129256229

Abstract. Alcohol and drug addiction is a bio-psycho-social illness that affects a person not only physically but also influences his psyche, thinking and behavior as well as his attitude towards himself and his closest friends and others. In this paper, particular attention is paid to the three components of addiction disorder patients' social intelligence (SI): social information processing (SIP), social skills (SS) and social awareness (SA). Using the Social Intelligence Test, 241 respondents were questioned; all Riga Center of Psychiatry and Addiction Disorder department patients. The mean arithmetical indicators were statistically relevant and significantly higher for males than females (in SIP factor); drug addict indicators were higher than those of alcoholics in all three SI factors. Male drug addict indicators were statistically relevant and significantly higher in the SIP and SA factors when compared to those of male alcoholics. For female drug addicts and alcoholics the SI factors had no significant statistical difference. In this paper, the research results were analyzed. The results allude to the respondents' difficulties in adequately and critically assessing their own aptitudes of social intelligence as well as their various ways of responding that are deemed socially acceptable.
Key-words: social intelligence, social skills, social information processing, social awareness, alcoholics, drug addicts, substance use disorders, gender.

Introduction

The leading health indicators of Latvian inhabitants are somewhat lower in general, when compared to the rest of the EU countries' health indicators. For example, the expected life span of Latvian inhabitants is one of the lowest in the EU: the average life expectancy of a female in the EU is 82.2 years while in Latvia it stands at 77.8 years; an EU male has an average life expectancy of 76.1 years while in Latvia it stands at only 67.0 years (Eurostat, 2010). This difference can be accounted for by an unhealthy and risky lifestyle involved with the prevalence of the various types and causes of death in Latvia. For instance, the death rates associated with heart ischemic illnesses, lung cancer, alcohol use as well as suicides and traffic accidents. (Cayotte, Buchow, 2009).

Substance addiction is still a very serious problem in Latvia. The spread of unhealthy habits among Latvian residents no only puts greater strain on the healthcare system (whose specialists

must try to avert the consequences of harmful lifestyle on health) but also creates inestimable losses in society through lost productivity and human-capital (resources). (Koroļeva, 2008).

According to the Health & Economy Center (HEC) Register data,[14] at the end of 2009, on the alcohol addiction (F10.2-9) diagnosis register there were 30,103 people (1,335/ 100,000), including 6,289 women or 21% of the total and twelve children and adolescents. In 2009, The HEC in-patient bed fund database attested that in-patient clinics with addiction disorder profile beds treated 7,384 patients in total with an alcohol addiction diagnosis; of this group 1,399 were women or 19% (VEC, 2010). During 2009, according to the HEC data analyzed by its specialists, 67 (60 men and 7 women) from the current HEC register committed suicide, which was 13% of all suicides committed in Latvia that year. In this group, those registered with alcohol-related problems, their suicide prevalence was 8.8 times greater than those in the general population in Latvia. (Pulmanis, 2011). In fact, women with alcohol addiction are becoming ill with alcoholism at an even greater rate. Thirty years ago the ratio of alcoholic men to alcoholic women was 12 to 1. In the past few years however, there has been a tendency for this ratio to increase for women and now stands at 5 to 1. (Osis, 2006). In 2009, first-time registered patients stood at 1,769 patients in total; in this group, 420 were women and three were girls, which represents 23.9% of all first-time registered alcoholic patients; moreover, more than half of this female group (242 women) were women aged between 30 and 49. (VEC, 2010).

At the end of 2009, there were 3,468 people (154.2/100 000) (F11-19. 2-9) on the patient register with a drug abuse diagnosis. (VEC, 2010). By doing research analysis and calculations, which were based on many years of cohort research, HEC researcher Trapencieris has concluded that there could be between 19,706 to 24,130 problematic drug abusers[15] in Latvia; of this group between 9,853 and 12,065 live in Riga. (EMCDDA, VEC, 2010).

According to HEC research, every fifth respondent personally knows someone who has tried drugs. In the youngest respondent group (aged 15-24) 50% of males and 39.7% of females know someone who has tried drugs. (Pudule et al., 2010)

These are only a few statistics, which describe the seriousness of the situation; not mentioning poisonings, accidents, criminal activity, vehicle crashes that were done under the

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[14] „With diagnosed diseases the Ill Patient Register of addiction disorder patients and individuals who use addiction-inducing substances"

[15] Those individuals, who used various therepeutic, legal, emergency care and social services, which were necessary to reduce the consequences of drug abuse.

influence of drugs or alcohol. In addition, the statistics of health problems and diseases (such as: heart disease, stomach and intestinal disease, psychiatric disease) caused by malignant and harmful use of psychotropic substances and drugs. Alcohol and drug addiction is a bio-psycho-social illness, which influences a person not only physically but also influences person's psyche, cognitive processes, behavior, his or her attitude to one-self, their closest family and friends and others. (Schuckit, 2007; Doweiko, 2009; Lesch, 2011). Therefore, psycho-active substances (PAS) for addict-patient care and therapy must be complex and focused on mitigating the possibility of disease relapse in order to improve the addict-patient quality of life; increase his or her self-esteem; and promote their re-integration into society. (Sudraba, 2009). Today, health problems need to be solved not only with limited traditional bio-medical methods but also using humanitarian and social science and their conclusions. Most of all, increasingly the patient himself must become more involved in their own treatment process. (Martinsone et al., 2008).

Due to the recent financial crisis several unfavorable tendencies have been observed in addiction disorder treatment and therapy: malignant psycho-active substance use has been increasing; at the same time, treatment, rehabilitation, and psycho-therapeutic programs have been reduced; planned patient counts have been decreasing; and patients have been coming for help too late. (HEC, 2010) The required bed count, short-term psycho-therapeutic program coverage, and overall access in Latvia are woefully inadequate; moreover, the addict disorder patient care provided does not conform to the bio-psycho-social development and resulting consequence model of addiction disease. At present, the main tendency in Latvia is to reduce the physical symptoms and problems instead of treating the equally as important part of the disease – to reduce the psychological and social symptoms; as well as improve the patient's psycho-social level of functionality.

Taking into account the aforementioned facts – the increased spread of substance addiction in Latvia, the disease bio-psychosocial etiology and its consequences, treatment methods focused exclusively on the biological part of the disease, and lastly, clinical experience - all provided impetus to commence a pilot-project to take an in-depth look at the addict disorder patient's Social Intelligence (SI), its components and how the results could be used to improve addiction disorder patient treatment and recuperation. This improvement in treatment and recuperation is achieved by not only reducing the physical suffering in a detoxification course but also teaching the patient to understand their illness as well as to control its manifestations and behavioral reactions. In this way, it is possible to improve the quality of life for the patients by returning to society work-able individuals and help families take responsibility and care for productive family members.

Social Intelligence is defined as a personality's capacity, which is based on cognitive processes, emotional and social experience, understanding one-self and others and predicting his or her behavior. Social Intelligence describes and establishes a personality's skill: to successfully navigate through different social situations; to correctly define personal and external experiences; and allows taking adequate action in these situations. It should be emphasized that an individual's social intelligence cannot be assessed abstractly, rather it should be assessed taken together with different areas of interest and contexts in which it is expressed and the tasks in life that it serves. (Kihlstrom, Cantor**,** 2000). These tasks depend on the requirements, structures and limitations of the individual`s social environment (Silvera et al., 2001). In order to research social intelligence the Norwegian scholars David H. Silvera, Monika Martinussen un Tove Dahl (Silvera, Martinussen, Dahl, 2001) have created the Tromso Social Intelligence Scale (*Tromso Social Intelligence Scale, TSIS*), which contains three components (Social awareness, Social information processing, Social skills).

Social Awareness describes the ability to listen to others, understand fully what was not said or partially expressed thoughts and feelings; the ability of the individual to be part of a group or a team; the ability to take decisions; to recognize culture and value aspects and how these aspects influence an individual`s actions and behavior; a desire to help others in order to satisfy his or her needs as well as to comprehend other people's needs before they are defined. (Silvera et al., 2001; Friborg et al., 2005; Gini, 2006).

Social Information Processing describes social interaction within current cognitive processes: the awareness and acceptance of social situations, the defining and setting of targets, the searching of feedback or social solutions, the taking of optimal decisions, the implementation of chosen action, while at the same time observing its effectiveness. (Silvera et al., 2001; Friborg et al., 2005; Gini, 2006).

Social Skills encompass responsibility, self-control, persistence, and cooperation. A high social intelligence has to do with interest of social issues with a necessity to work with others and often is involved with developed organizational skills. People with a developed social intelligence usually have a desire to explore one-self and to develop reflexive abilities. These people are able to find suitable means of communication with various people from all walks of life in various situations. These individuals possess a repertoire of many character roles and have a tendency to neuroplasticity in character role playing (Silvera et al., 2001; Friborg et al., 2005; Gini, 2006).

Social skills are first obtained from the family. From a psycho-dynamic viewpoint, Ego organization dysfunction, which is promoted by low levels of education, inconsistent upbringing in

the family, violence experienced in family and elsewhere, and a general lack of social knowledge (Meade, Slesnick, 2002, Latvala et al., 2011; Lesch et al.,2011), creates dysfunction of perception, which in turn leads to emotional loss and the loss of differentiating emotional meaning, and dysfunction in object relationships. This dysfunction is often involved in primitive psyche defense mechanisms, difficulties with frustration and toleration, affect and impulse control dysfunction, and in difficulties in taking decisions. Alcohol and drug abuse becomes a way to strengthen a weakened Ego (Lesch et al., 2011).

Moreover, the level of education reduces the meaning of genetic and environmental influence in relation to alcohol problems and possibly, reflects the differences in the social control mechanisms, which are related to the level of education. A drug addict individual's priority is a primitive, simplified need to achieve a level of satisfaction, which is further enhanced by a low level of education. The research attests to the fact that heroine users had a low level of education in 80% of their cases, which is far lower than the in the general population (2005-25, 5%) (Lee, Pang, 2008).

As pointed out by Ham and Garcia (2010) social intelligence skills are directly related to alcohol and drug usage. In fact, the lower the skills, the higher the risk the addict will use drugs and vice versa; substance abuse creates disorders for social intelligence skills. Similar observations were made by American researchers Scheier, Botvin, Diaz, and Griffin. Males were at greater risk for poor refusal skills and reported higher alcohol involvement. Youth characterized by poor social skill development reported lower refusal efficacy, lower grades, poor competence, and more alcohol use. Poor refusal efficacy was associated with more risk-taking, lower grades, less competence, and more alcohol use. High personal competence was associated with lower alcohol use in both the eighth and tenth grades, but had no long-term effects on alcohol use (Scheier, Botvin, Diaz, Griffin, 1999).

Alcoholism occurs differently in men than in women. For men between the ages of 17-20 alcoholism can go hidden for years and surface only at the age of 30. For women on the other hand, the beginning of alcoholism is typically later. Spontaneous remission for men is possible between the ages of around 50-60 while for women these kind of remissions are extremely rare. (Каплан, Сэдок, 1998; Osis, 2006). Somatic disorders appear for women only after five years of harmful usage while for men somatic disorders tend not to be appear for twelve years or even longer (Lesch et al., 2011). Alcohol abstinence syndrome for women is full of emotions, mainly, bouts of depression and depression-dysphoric disorders. (Osis, 2006). Addict women are usually left by

their husbands while the wives of addict men tend to stay even if there is verbal and physical aggression. (Lesch et al., 2011).

Research on alcohol use and problems has demonstrated a much higher rate of alcohol use disorders among men compared with women. The research reviews the most frequently researched biological and psychosocial factors that may play a role in the gender differences in alcohol use and problems. Among the biological factors, women might carry a lower genetic risk for alcohol use disorders and tend to suffer more negative biological consequences from drinking as compared with men. Regarding psychosocial factors, men appear to be more likely than women to manifest certain risk factors for alcohol use and problems (e.g., fewer perceived social sanctions for drinking, positive expectancies for alcohol use, personality traits such as impulsiveness) and have fewer protective factors. (Nolen-Hoeksema, Hilt, 2006).

When analyzing the gender differences between addicts, differences can be observed in social intelligence skills and competency. It was observed in research of schoolchildren and their addiction substance abuse that higher levels of social skills were associated with boys' smoking and girls' alcohol consumption; a lower level of social information processing was associated with boys' smoking; a lower level of social awareness was associated with boys' alcohol consumption (Orosova, Gajdošova, 2009).

Gender moderates (Walitzer, Dearing, 2006; Schneider et al., 1995) the association between marriage and alcoholism relapse. For women, marriage and marital stress were risk factors for alcohol relapse; among men, marriage lowered relapse risk. Alcoholic women are more likely to be married to heavy drinking partners than are alcoholic men; thus, alcoholic women may be put at risk of relapse by marriage and alcoholic men may be protected by marriage. Women relapsing to substance use appear to be more sensitive to negative affect and interpersonal problems. Men, in contrast, may be more likely to have positive experiences prior to relapse. Several studies have confirmed (Foran, O'Leary, 2008) that men become violent more often than women do. Chronic substance use was associated with higher levels of different factors of trait aggression in females than in males. Data suggest that aggression of substance dependent females is more easily provoked by chronic use of alcohol and drugs than males. (Bácskai et al., 2011).

In studies of alcoholism and drug addiction it can be found that the significant main effect of alcoholism was associated primarily with negative emotionality, whereas the significant drug use disorder main effect was associated primarily with constraint. (McGue et al., 1999)

Therefore, it can be concluded that there were differences in social intelligence competency involved with both the type of addiction and gender. In following, this research target is to clarify

which are the social intelligence indicators (social information processing, social skills, social awareness) for addict disorder patients; are there differences in gender and addiction differences in the SI indicators; and how the results could be made to improve the recuperation of addict disorder patients. This is why four research questions were put forth:

1) Are there differences in the SI indicators between addict women and addict men?

2) Are there differences in the SI indicators between alcoholics and drug addicts?

3) Are there differences in the SI indicators between alcoholic men and drug addict men?

4) Are there differences in the SI indicators between alcoholic women and drug addict women?

Research methods

*Research Instruments***:** The Tromso Social Intelligence Scale, TSIS (*Tromso Social Intelligence Scale, TSIS*), and its authors: David H. Silvera, Monika Martinussen and Tove Dahl (Silvera, Martinussen, Dahl, 2001) was adapted in Latvia, by Ilona Krone (Kuzņecova) and Ieva Šlosberga in 2006. (Kuzņecova, Šlosberga, 2006).

The Social Intelligence Scale contains 21 assertions. There are seven assertions in each Social Intelligence component (social information processing, social skills and social awareness). The research subjects must assess themselves by giving an assessment from one to seven; one meaning''completely unsuitable'' and seven meaning ''completely suitable.'' The points are then tallied making sure to re-code the questions with a negative meaning beforehand. In Latvia, for the scale of the adapted version's acquired Cronbach's alpha indicators were as follows: Social Information processing 0.60; Social Skills scale 0.67; Social Awareness Scale 0.60 (Kuzņecova, Šlosberga, 2006).

Research Members: „Riga Centre of Psychiatry and Addiction Disorders" patients came from two departments: Detoxification and the Minnesota Program (n=241). 154 (63.9%) men and 87 (36.1%) women aged from 18 to 66, average age was 36.4. Of these patients 185 were alcoholics (76.8%) and 56 were drug addicts (23.2%).

Inclusion criteria: the patient was given an addiction diagnosis (F10.2-F19.2) according to ICD-10; the patients are at least 18 years of age; were found in the in-patient clinic departments: Detoxification department for alcoholics following a five day course therapy to reduce acute symptoms and for drug addicts following a 10 day course therapy to reduce acute symptoms; and for patients in the Minnesota program, which ensured these patients had a similar condition using PAS (MP requirement was at least five days without PAS usage); were not in an acute condition; understood Latvian; and agreed to provide informed consent and filled out the forms completely.

Exclusion criteria: Patients that have come only to the Motivational course (7-12 days long); patients who either refused to fill out or filled-out the forms incompletely.

In the Minnesota Program department from 1.01.2010 to 31.12.2010 of the 167 patients who matched the inclusion criteria 105 patients (62,9%) filled out the forms. In the Detoxification department from 1.06.2010 to 1.10.2010 of the 618 patients who were receiving treatment and matched the inclusion criteria 136 patients (22%) filled out the forms. Most of the other patients or 78% consisted of patients who refused to fill out the forms basing their refusal on disinclination to do so or doing so would give no benefit to themselves or filled out the forms incompletely.

This research was approved of by the RSU Ethical Committee.

The data processing was done using SPSS 16th version and Excel programs. Descriptive statistical methods and conclusive statics were used in the data analysis (Student's t-test).

Results and discussion

In order to address the first question of this research to see if statistical relevant differences exist between genders in the SI indicators, descriptive statistical indicators were calculated for each group and the differences were verified in the three SI components by using the t-test.

Table 1. SI statistical indicator (mean arithmetical, standard deviation and p-value) comparison for addicted men and women.

	Male (n=154)		Female (n=87)		p-value
	Mean	SD	Mean	SD	
Social information processing (SIP)	**4,38**	**0,901**	**4,14**	**0,940**	**0,044**
Social skills (SS)	4,27	0,866	4,15	0,957	0,296
Social awareness (SA)	4,25	0,866	4,04	1,023	0,085

When comparing SI component mean indicators (see Table 1) it can be seen that *social information processing* component (SIP) indicators were statistically significant and higher in men (M=4,38; SD=0,901; p=0,044). The other two components did not have statistically significant differences (p>0,05), even though there was a tendency for men to show higher values in mean indicators on the whole.

In order to address the next question in this research whether statistically significant differences exist in the SI indicators or not, alcoholic and drug addict respondents were compared. Mean indicator comparisons were done by calculating the t-criteria.

Table 2. SI statistical indicators (mean arithmetical, standard deviation and p-value) comparing alcoholics to drug addicts.

	Alcoholics (n=189)		Drug addicts (n=52)		p-value
	Mean	SD	Mean	SD	
Social information processing (SIP)	4,21	0,883	4,68	1,022	0,002
Social skills (SS)	4,16	0,873	4,48	0,953	0,027
Social awareness (SA)	4,10	0,904	4,50	1,004	0,007

As shown in the research result summary, when alcoholics and drug addicts were compared the SI mean indicators (see Table 2), had statistically significant differences. In all three SI components the drug addicts had higher scores than the alcoholics: in the *SIP component* (M=4,68; SD=1,022; p=0,002), in the *social skills component (SS)* (M=4,48; SD=0,953; p=0,027) and in the *social awareness component (SA)* (M=4,50; SD=1,004; p=0,007).

In order to properly address the third research question as to whether or not statistically significant differences exist in the SI indicators for male alcoholics and male drug addicts, the mean indicators were compared.

Table 3. SI statistical indicator (mean arithmetic, standard deviation and p-value) comparison of male alcoholics to male drug addicts.

	Male alcoholics (n=124)		Male drug addicts (n=30)		p-value
	Mean	SD	Mean	SD	
Social information processing (SIP)	4,31	0,871	4,78	0,904	0,009
Social skills (SS)	4,22	0,834	4,51	0,899	0,094
Social awareness (SA)	4,19	0,839	4,60	0,929	0,019

When comparing male alcoholic to male drug addict SI mean indicators, it can be observed (see Table 3) statistically significant and higher indicators for men with drug addiction in both the *SIP component* (M=4,78; SD=0,904; p=0,009) and in the *SA component* (M=4,60; SD=0,929; p=0,019).

In order to answer the final research question whether or not statistically significant differences exist in the SI indicators for female alcoholics and female drug addicts, the mean indicators were compared.

Table 4. SI statistical indicator (mean arithmetic, standard deviation and p-value) comparing female alcoholics to female drug addicts.

	Female alcoholics (n=65)		Female drug addicts (n=22)		p-value
	Mean	SD	Mean	SD	
Social information processing (SIP)	4,03	0,886	4,52	1,201	0.059
Social skills (SS)	4,06	0,944	4,42	1,076	0.176
Social awareness (SA)	3,92	1,012	4,34	1,127	0.132

When comparing SI indicators for female alcoholics and drug addicts, it can be seen (see Table 4) that female drug addict and female alcoholic mean indicators have no significant statistical differences (p>0.05). Even so, the SIP component had a tendency to be higher for female drug addicts than for female alcoholics.

The research results acquired show that the respondents had high test score indicators. Therefore, they should have been individuals with a highly developed social intelligence. Nonetheless, the reality of the situation and other studies (Scheier, Botvin, Diaz, Griffin, 1999; Nolen-Hoeksema, Hilt, 2006; Orosova, Gajdošova, 2009; Ham, Garcia, 2010; Lesch et al.,2011) have shown the contrary; in fact, they revealed that their social intelligence was weakened. When interpreting the acquired results it must be taken into account that the respondents showed comparatively high results, which could point to a tendency of insufficient ability to critically assess their own social intelligence skills and competency. In fact, they demonstrate themselves in a socially acceptable light of not being able to differentiate reality from the desirable or imaginary.

The research data show that the SI component mean indicators for men are higher than for women. Moreover, in the SIP component the values showed a statistically significant difference. These results differ from results in other studies (Vasilova, Baumgartner, 2005; Baumgartner, Vasilova, 2005; Silvera, Martinussen, Dahl, 2001), where female SI indicators were higher than male SI indicators. In addition, in research done by the Slovak researchers Baumgartner and Vasilova both the SA and SS components had a statistically significant difference. This possibly means that individuals without substance use disorders diagnosis are able to assess their social intelligence skills more objectively and in a way that reflects reality.

As shown in the research results, when comparing alcoholic and drug addict mean indicators it can be observed that drug addicts have higher values than alcoholics do. Moreover, there were statistically significant differences in all three SI components. In addition, these indicators were higher when also compared to male alcoholic and drug addict SI indicators and female alcoholic and drug addict SI indicators.

These results were surprising. J. Mayer (Mayer, 2001) pointed out that those individuals who were better able to recognize and understand their own emotions as well as those of others in complicated social situations were also able to use this information in planning their activities and relied less on negative peer influence and kept open the possibility to adequately plan their actions in the social activity context at hand. Addict disorder patients especially drug addicts, demonstrated that they poorly understand the connection between actions and their consequences. Often, they engaged in aberrant activities including criminal activity resulting in dangerous situations because they lacked sufficient orientation in the generally accepted norms and rules of acceptable behavior. (Foran, O'Leary, 2008; McCutcheon et al., 2011) Drug addicts in the SIA component had the highest indicators, which was surprising because in Latvia it is illegal to use drugs, which carries with it criminal liability. Even so, the drug user acquiring illegal drugs and using them does not link this action to breaking social norms or violating the law. This in turn, can be interpreted that there exist structural and functional brain changes, the complex interplay between cognition, brain maturation, psychopathology and drug exposure, with drug neuro-toxic impact on the brain that lead to cognitive impairments in which memory dysfunction is prominent (Yücel et al., 2007; Robbins et al., 2008; Schoenbaum, Shaham, 2008), which manifests itself in cognitive and perception disorders that markedly disturb the drug addict from assessing a situation in a realistic way.

These deficits could be one of the causes why drug addicts and alcoholics perceive their reality around them as exaggeratedly idealized denying any possibility of deficiencies or as potentially malignant and threatening, which further exhibits their inability to properly assess the reality around them by swinging rapidly from one extreme to the other. If it is viewed from a psychodynamic perspective, it can be seen that for addiction disorder patients certain defense mechanisms of the psyche such as projection, projective identification, denial, ending relationships, which are characteristic of addict disorder patients. Often they misinterpret non-verbal signals relying instead on their inner conviction that they are the bad ones or conversely, that the world is a bad place. (McWilliams,1994; Kaplan et al., 2007; Francis et al., 1999; Ferrari et al., 2008; Lesch, 2011).

Taking into account the situation in Latvia, having to do with the spread of addiction disorder the influence of treatment methods mainly on the reduction of acute symptoms (excluding the disease's psychosocial part and the research established high social intelligence indicators especially for drug addicts) one must develop a critical attitude to one-self and their environment so essential in working with alcoholics and drug addicts. Special consideration should be given to

detoxification department patients who receive only a short treatment course to reduce only acute symptoms. It would be prudent to develop guidelines to motivate patients to continue treatment, teach the patients to understand their illness and its manifestations. In working with alcoholics and drug addicts it is important to focus on mitigating the positive effects (or highs) and to develop an adequate self assessment to reduce immature psyche defense mechanism influence thus, improving the patient's ability to admit their difficulties. A program must be drawn up that addresses not only in-patient care but also out-patient care in order to ultimately reduce relapse risk and improve the patient's quality of life.

In assessing the research results one would have to take into account the limitations and risks, which reduced the validity of the research; the research used only an available sample with no control group for comparison.

Conclusions

1. The SI indicators for drug addicts were statistically significant and higher in all components when compared to alcoholics.
2. The SI indicators for men were statistically significant and higher than those of women in the SIP component but did not have a statistically significant difference in the SA and SS components.
3. The male drug addicts had a statistically relevant and higher result than male alcoholics in the SIP and SA components while differing very little in the SS component.
4. Among women there were no statistically relevant differences in any of the SI components.
5. It can be observed that the SI indicators for drug addicts had a tendency to noticeably higher indicators. This in turn, leads one to believe that drug addict patients have significant difficulty to be critical of themselves, of current situations and their illness and of other people in their lives.
6. Continued research in this area is warranted. The research subject group could be widened, and results compared to the data of the control group; this in turn, could strengthen the validity of the overall research results. The respondent testing should be repeated three to six months following treatment.
7. In working with alcoholics and drug addicts it would be beneficial to ensure activities to promote critical attitude development to oneself and to his or her surrounding

environment. This in turn, should mitigate the use of immature psycho-defense mechanisms.

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