Selection And CBT Treatment Pilot Program Final Evaluation Using IORNS in Macedonian Male Prison Population

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Abstract

The treatment or the resocialization is the most important part of the prison sentence which methods can be individual and group. Motivated inmates and less resistance for the treatment are the main precondition for effective treatment. Appropriate behavior of personnel is the main factor for that result. Cognitive-behavioral therapy (CBT) as the most effective evidence based psychotherapy approach for offender population is a type for inmate treatment. CBT is a result of Aaron Beck pioneering work in the 1960s. CBT model is based on the triangle relationships between cognition, emotions and behavior. The cognition is defined as a product of the three levels: cognitive schemas, negative automatic thoughts and dysfunctional thinking or thinking errors.

The inventory of risk, need and strengths (IORNS), an risk assessment instrument, based on Risk, need and responsivity (RNR) model, was used for selection of (N=27) inmates and CBT treatment pilot program final evaluation, in Macedonian prison Bitola. The evaluation was done by comparing pre and post test measures in (N=12) male inmates, as optimal number for group psychotherapy treatment. According to the RNR model the treatment program needs to be oriented to the inmates needs. Implementing CBT treatment program for group psychotherapy and IORNS as short screening tool in Macedonian prisons was the aim of the project supported by the Council of Europe in this work.

The results showed significant lower Procriminal attitudes but higher Aggression because of higher Aggressive behavior in the post measures. Results and instrument can be used in next CBT programs evaluations for better rehabilitation of prison inmates and reducing recidivism.

Keywords: risk assessment; cognitive-behavior therapy; IORNS; prisons; operational psychology

Introduction

The **treatment** is defined as 'individually determined dynamic system of methods, measures and actions against the inmate in penitentiary institution for developing and realization of positive personality traits and capabilities of offender for his

resocialization or social adaptation in the community after serving the sentence' and can be penal and post-penal. The treatment results from *individualization* of the execution of the prison sentence that is based on the results of interdisciplinary organized personality test of offender in the admission department of the institution, by analyzing and synthesis of criminological-penological, sociological, psychological, medical and pedagogical and other similar examinations of the personality, as well as the length of the sentence, type and the gravity of the crime. Based on personality study results and risk assessment done in the admission department of the institution, his *classification* is carried out in a certain department and *placement* in certain treatment group for the purposes of applying of measures and influences from the same or similar type.

The treatment is realized trough general and specific treatment measures. The *general* treatment measures are: work, education, education by occupation, moral-ethic upbringing and inmates' self-organization and free activity, sport and recreation. *Special* treatment measures are organized for separate categories inmates, as: inmates that abuse drug and alcohol, sex offenders, violent offenders, crimes with elements of violence, younger adults, minors, women, life sentence inmates, and medical-psychological treatment of inmates, for which can be arranged outsourcing psychotherapists.

The penological treatment in the institutions is realized by methods of individual and group treatment. The *individual* treatment is planed influence for change of personality of inmate during which are realized positive treatment' results, which kind of methods are: interview, motivational interview, individual conversation, individual counseling and individual psychotherapy. The *group* treatment is simultaneously planed influence on a certain group of inmates with which are realized positive treatment results on the group as a whole and its members. Inmates are grouped in homogeneous and heterogeneous groups. Methods for group treatment are: group work, group motivational counseling, group counseling and group psychotherapy. (The guideline for determination of types and ways of treatment of inmates, published in "official gazette of Republic of Macedonia" No.173/2011)

The treatment activities with inmates in the institution in a priority are realized by the specialized team for inmates' resocialization (LES, art.54, par.2).

According the Criminal Law, beyond the realization of justice, the aim of the sentence is: 1. preventing the perpetrator from committing crimes and his re-education and 2. educationally to influence others not to commit crimes (CL, art.32). The prison sentence means deprivation of liberty of the persons that conduct crime, which main aim is protection of the community from crimes. So the resocialization process of inmates is the basic function of the penitentiary institution (LES, art.37, par.1) and the aim of execution of the prison sentence is enabling of inmates to involve in the society with the best

prospects for independent life in accordance with the law (LES, art.37, par.2). In order to achieve the goal of the sentence execution in inmates they are encouraged to accept and actively to participated in the treatment during sentence execution, motivated and oriented toward re-education and development of positive personality traits and capabilities that accelerates successful return to the society (LES, art.37, par.3) The persons against whom the sanctions are carried out are dealt with in a way that corresponds to their personality to the greatest extent possible (LES, art.5), humanely, with respect for the human personality and dignity, preserving their physical and mental health, taking into account the objectives of separate sanctions (LES, art.6). Prisons personnel should represent an example that inmates should look up to (Codex for behavior of officials in conducting the working tasks in penitentiary and educational-correctional institutions, 2018)

CBT program. Cognitive approach of psychotherapy consists of pioneering work of Aaron Beck the cognitive-behavioral therapy, and Albert Elis rational emotive behavioral therapy, in the 1960s. CBT is based on triangle model of the relationship among cognition, emotion and behavior. In its simplest form, the cognitive model 'hypothesizes that people's emotions and behaviors are influenced by their perceptions of events' (Beck, 1964). In other words, how people feel is determined by the way in which they interpret situations rather than by the situations per se. So, CBTs are designed to help clients become aware of thought processes that lead to maladaptive behavioral responses and to actively change those processes in a positive way (Meichenbaum, 1995).

Beck (1976) outlined three levels of cognition: core beliefs or schemas, negative automatic thoughts and cognitive distortions or dysfunctional thinking (Fenn & Byrne, 2013).

Core beliefs, or schemas, are deeply held beliefs about self, others and the world, a framework which provides a filter for the perception of individual world. They are generally learned early in life and are influenced by childhood experiences. They are seen as absolute.

Negative automatic thoughts are defined as an individual's immediate, unpremeditated interpretation of event. They are thoughts that are involuntarily activated in certain situations. Experienced as spontaneous, they often couched in terms of "should", "ought" and "must", also are difficult to turn off. Negative automatic thoughts lead to negative feelings and behaviour but positive automatic thoughts lead to positive feelings and behaviour.

Cognitive distortions or errors in logic, which leads individuals to erroneous conclusion, are:

- *dichotomous thinking*: things are seen in two black and white categories with no shades of gray in between
- *over-generalization* - seeing a single negative event as a never-ending pattern of defeat

- *mental filter* - picking out a single negative detail and dwell on it exclusively so that the vision of all reality becomes darkened
- *disqualifying the positive* - rejecting positive experiences by insisting they "don't count" for some reason or other - maintaining a negative belief that is contradicted by the everyday experiences
- *jumping to conclusions* - interpreting the meaning of a situation with little or no evidence
- mind reading - arbitral conclusion that someone is reacting negatively to individual, and individual don't bother to check this out
- the fortune teller error – anticipation of that things will turn out badly, and feeling convinced that the prediction is an already-established fact
- *emotional reasoning*: making decisions and arguments based on how individual feel rather than objective reality
- *minimization*: positive characteristics or experiences are treated as real but insignificant
- *catastrophizing*: focusing on the worst possible outcome, however unlikely, or thinking that a situation is unbearable or impossible when it is just uncomfortable
- *should statements* concentrating on what you think "should" or "ought to be" rather than the actual situation you are faced with or having rigid rules which individual always apply no matter the circumstances
- *personalization, blame, or attribution*: assuming individual is completely or directly responsible for a negative outcome; when applied to others consistently, the blame is the distortion.

The thoughts are gained from the schemas, and schemas are activated in a concrete situations or conditions. Some of the schemas are flammable and so schemas lead to distorted perception or interpretation. Activated schemas create automatic thoughts that hovering at the edge of the consciousness where stay short, and which process is very quick. Thoughts also activate emotions and wishes that can stay with hours or days. Some of the automatic thoughts are hot because they activate strong negative emotions.

The techniques of cognitive behavioral therapy are:
- *Cognitive restructuring*: it is a group of therapeutic techniques that help people notice and change negative thinking patterns.
- *Psycho-education:* it can be used to change patients cognitively. It is a technique for changing how individual feel by learning something new. A crucial cognitive behavioral intervention is ensuring that clients have accurate information or *accurate interpretations* about the meaning of a situation, trigger, or event.

- *Socratic dialog:* suggests to the individual away review his thoughts and distorted beliefs to burnout them through a confrontation in the form of a questionnaire himself.
- *Behavioral experiments:* they are planed experimental activities to test the validity of a belief. They are more effective than the verbal techniques.
- *Role plays*: involves the patient and therapist acting out scenarios to challenge negative thought patterns and behaviors.
- *Restructuring early memories*: memories related to core beliefs can be changed through the use of emotional and experiential techniques following the cognitive techniques. The therapist finds traumatic memories to change the meaning of the event during the imagining process.
- *Problem solving*: the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution. Patients must examine dysfunctional beliefs that prevent the problem-solving process from beginning.
- *Decision making:* The therapist guides the patient in evaluating options based on the pros and cons of the options during this process. The patient chooses the best option at the end of the dialog.
- *Refocusing through distraction:* The therapist guides the patient to recognize his or her own past strategies as the patient refocuses or distracts his or her attention. This same technique can be used as an imagination of possible strategies for refocusing distraction in the future. Some strategies include memory cards to recall motivating worlds in the past.
- *Relaxation:* with this training therapists teach techniques which are shown to help relax the body's stress response. As forms of relaxation can be mentioned: *progressive muscle relaxation* (contraction and relaxation in muscle groups), *visualization* (imagination of situations that cause relaxation), and *meditation* (acceptance of reality and suspension of circumstances) (Leahy, 1997, pp. 24-41).

What is most important is checking the readiness for treatment or motivation level before the beginning of the CBT program. Absolute denial of offences could be a barrier to participation although partial denial and minimisation can be worked with.

RNR model. This model identifies three principles at the core of effective programming and for addressing offender recidivism:

1. The ***Risk*** principle holds that supervision and treatment levels should match the offender's level of risk. That is, to reduce recidivism, its need to be ensured that there is reliable way of differentiating low risk offenders from higher risk offenders in order to provide appropriate level of treatment. So low-risk

offenders should receive less supervision and services, and higher-risk offenders should receive more intensive supervision and services.

2. The **Need** principle means assessment of offender's dynamic risk factors or criminogenic needs and targeting them in treatment services in order to reduce an offender's probability of recidivism. These criminogenic needs are directly related to criminal behavior and are subsumed under their major predictors referred to as "central eight" risk/need factors. Actually it's about seven risk/need factors: antisocial personality pattern, procriminal attitudes, social support for crime, substance abuse, family/marital relationships, school/work, prosocial recreational activities, that are a part of central eight together with static risk factor or criminal history as the eight factor. Criminal needs or dynamic factor are changeable but static risk factor can only be increased and is immutable to treatment intervention.

3. The **Responsivity** principle contends that treatment interventions for offenders should use cognitive social learning strategies and be tailored to an individual offender's specific characteristics (e.g., cognitive abilities, gender) that affect successful program outcomes. The treatment should not be oriented to non-criminal needs. There are two parts to this principle: *general* responsivity (calls for the use of cognitive social learning methods to influence behavior, which are most effective regardless of the type of offender) and *specific* responsiity (it is a 'fine tuning' of the cognitive behavior intervention, which takes in to account individual characteristics of the offender).

So risk principle speaks of who should be treated (the higher risk offenders), the need principle speaks to who should be treated (criminogenic needs) and the responsivity principle helps determine how to treat. (Bonta, Andrews,2007).

Relevant researches. The meta-analysis of CBT efficacy showed strong evidence-base of CBT. Results showed higher response rates in CBT than other treatments or control conditions in 7 of the reviewed studies and only 1 showed lower response rates. Four separate meta-analytic studies supported the efficacy of CBT for criminal offenders in reducing recidivism rates compared with other several theoretical orientation and types of psychological interventions for criminal activity (Hofmann, et al. 2012). CBT-based programs and models have been developed and showed efficacy for antisocial conduct in general (Tafrate et al., 2018), group therapy for offenders (Wilson, Bouffard, Mackenzie, 2005) as well as for specific offense types including drug (Bishop, 2014; Wanberg & Milkman, 2014), sex (Marshall & O'Brien, 2014; Wheeler & Covell, 2014, Mpofu, et al. 2018), violent offenses (Eckhardt, et al., 2014; Ronan, et al., 2014), and treatment of anger (Beck & Ferandez, 1998). Other study confirmed clear connection between type of programs that offender receive and the rate of recidivism in male African American measured by the IORNS.

Four themes related to recidivism emerged: lack of programs, lack of follow-up services, age of incarceration and lack of education (Seward, 2018).

The reliability and initial validity of IORNS was examined in a sample of pre-release offenders assessed for risk and treatment needs. It was found moderate to high levels of internal consistency and identical IORNS scale results across race and the IORNS indexes, scale and subscales display good convergent validity with self-report and interview measures of static risk, dynamic risk, antisocial behavior, psychopathy, personality pathology, substance abuse, depression and anxiety. Initial predictive validity examination of IORNS indicates that several of the indexes, scales and subscales are able to differentiate offenders of those who were send back to prison for half-way house role violations from those who did not violate roles (Miller, 2006b). In a study of examining Dynamic Needs Index and Protective Strength Index in the IORNS pre and post-treatment, was found that measurement properties of the DNI are acceptably invariant over time, although there is evidence that the score on Alcohol/Drug Problems Scale is higher after treatment, while the score of Intra/Interpersonal Problems Scale is lower. Also was found that DN latent variable decreased and PS latent variable increase trough treatment (Bergeron & Miller, 2013). In other study of measuring the relationship between PTSD and re-offending risk in prisoner man and women population, the second was measured by IORNS, it was found that 30,7% were significantly higher than the cut-off scores that means was shown at risk of re-offending. Findings showed that women were at lower risk than men. Mediation analyses supported the hypothesis of a mediation effect of worry and a negative perception on this relationship and increased risk of re-offending (Ardino, et al., 2013). On the other hand, it was not found significant gender difference in overall risk of recidivism as assessed by the IORNS in other studies (Gajeweski, 2020, Bawani, 2023). It was found IORNS indexes related to substance use and mental health concerns in reality, that means it is able to identify potential difference between the correctional settings amongst African American adult males (Bawani, 2023).

Methods

Aim. The aim of this study is checking the effectiveness of CBT treatment pilot program by using IORNS as relevant instrument that match with RNR model in relevant size of inmates group, selected as well with IORNS, in male prison Bitola. Prison Bitola is an institution of an male adult and semi-opened type (The Rulebook for the type of penitentiary institutions, published in "official gazette of Republic of Macedonia" No.10,2020), that means where is executed sanction in duration not higher than three years and prison sentence not higher than six months in case of inmates for crimes committed in recidivism (LES, art.50).

Subjects. From approximately N=120 male inmates in total in Prison Bitola, were selected (N=27) inmates to be a part of the CBP pilot project treatment program.

Then those inmates were tested by IORNS and selected (N=12) final sample group in order to be a part of CBT pilot program, number optimal for group psychotherapy treatment. The inmates with low and very high risk or with high scores on validity scales were rejected from the sample. The group was in age of M=26,8 years, in nationality Macedonian and N=3 Roma inmates.

Measures. The IORNS is 15-20 minutes test, contains of 130 true/false questions and is comprised of four indexes, ten scales, fourteen subscales, and two validity scales. The *Overall Risk Index* (ORI) is gained by summing Static Risk Index (SRI) and Dynamic Need Index (DNI) and subtracting Protective Strength Index (PSI). The *Static Risk Index* (SRI) consists of 12 items that assess unchangeable/historical factors related to re-offence. The *Dynamic Need Index* consists of 79 items on the six scales and their subscales: Criminal orientation (consists of subscales: Procriminal Attitudes-PCA and Irresponsibility-IRR), Psychopathy – PPY (consists of subscales: Manipulativeness-MAN, Impulsivity-IMP and Angry Detachment-AND), Intra/Interpersonal problems – IIP (consists of subscales: Esteem Problems-EST and Relational Problems-REL), Alcohol/Drug Problems – ADP, Aggression – AGG (consists of subscales: Hostility-HOS and Aggressive Behaviors-ABX), and Negative Social Influence – NSI (that consists of subscales: Negative Friends-NFR and Negative Family-NFA). *Protective Strength Index* consists of 26 items and is sum of two scales: Personal Resources – PER (consists of subscales: Cognitive/Behavioral Regulation-CBR, Anger Regulation-ANR and Education/Training-EDT) and Environmental Resources (ENV). There are also two validity scales: *Inconsistent Response Style* (IRS) and *Favorable Impression* (FIM). Items scores ranging from 0 to 1 must be converted to T scores and percentiles by age and gender criteria. Cronbach's α for IORNS ranged between .91 and .73 (Miller, 2006).

The procedure. The project supported by the Council of Europe was conducted to implement short screening tool and CBT treatment program in Macedonian prisons, for which pilot project was decided to be realized in Prison Bitola. At the first phase selected inmates by the resocialization personnel psychologist were interviewed N=27 in order to gain informant consent for the participation in the project. Then those inmates were selected by IORNS for risk assessment N=12 as the second phase. After finishing the 30 sessions CBT general program in a length of 2,5 month (from 05 February 2015 to 15 April 2015) as the third phase, subjects were tested for post-test measures again with IORNS as the fourth phase.

Results and Discussion

In Figure 1 are shown the group IORNS profiles, received before and after the program, and presented in % iles (obtained as Mean of respondents' % iles).
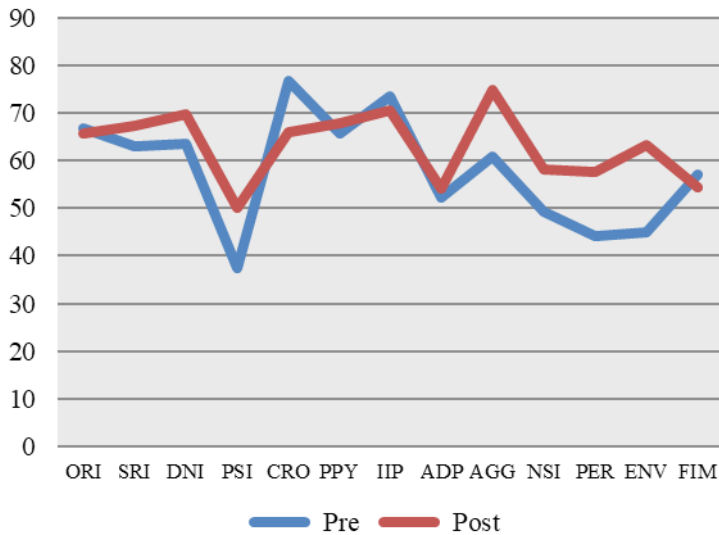
Figure 1: Results on IORNS, pre and post measures in % iles
Source: Author

It can be concluded that the *participated sample, before starting the program is within the Average category of Risk (34-75%) to all indicators, with Strengths that are low in the same category (as a good precondition) and Validity that shows suitability for further work (FIM <75 or 90%, and IRS <4)* (Figure 1). Static risk (SRI) is almost equal to the Dynamic (DNI). The highest are the Needs of CRO-Criminal orientation which goes slightly in High risk category (especially PCA-Procriminal Attitudes), and IIP-Interpersonal problems (where EST-Esteem Problems are in Very High risk category, and REL-Relational Problems in High risk category), while the lowest is Risk of NSI-Negative Social Influence.

T scores indicate an average risk and needs of the group, that are moving around T=50, for all indicators.

Therefore, it can be concluded that *treatment should put an accent on changing pro-criminal attitudes and overcoming the problems with making interpersonal relations (primarily with the self-esteem), for which Strengths can help, mostly environmental resources - as slightly stronger.*

| IORNS Scale/ Subscales | Measures | | | | | | Correlation | | T-Test | | | | | | η² |
| | Pre | | | Post | | | | | Paired Differences | | | | | | |
	M	σ	N	M	σ	N	r	Sig.	M	σ	Std ErM	t	df	Sig. (2-tailed)	η²
ORI – Overall Risk Index	58,08	11,10	12	58,75	16,91	12	0,61	**0,04**	-0,67	13,44	3,88	-0,17	11	0,87	0,003
SRI – Static Risk Index	5,67	2,84	12	5,92	2,68	12	0,84	**0,00**	-0,25	1,54	0,45	-0,56	11	0,59	0,028
DNI – Dynamic Risk Index	27,08	5,93	12	29,42	7,08	12	0,27	0,40	-2,33	7,94	2,29	-1,02	11	0,33	0,086
1 CRO – Criminal Orientation	2,92	2,23	12	2,17	2,41	12	0,78	**0,00**	0,75	1,54	0,45	1,68	11	0,12	0,205
PCA – Procriminal Attitudes	2,42	1,83	12	1,58	1,68	12	0,77	**0,00**	0,83	1,19	0,34	2,42	11	**0,03**	0,347
IRR – Irresponsibility	0,50	1,17	12	0,58	1,08	12	0,61	**0,03**	-0,08	1,00	0,29	-0,29	11	0,78	0,008
2 PPY - Psychopathy	9,67	3,26	12	10,17	4,24	12	0,54	0,07	-0,50	3,68	1,06	-0,47	11	0,65	0,020
MAN – Manipulativeness	3,75	1,66	12	3,83	1,64	12	0,68	**0,01**	-0,08	1,31	0,38	-0,22	11	0,83	0,004
IMP - Impulsivity	2,75	1,91	12	2,92	1,93	12	0,41	0,18	-0,17	2,08	0,60	-0,28	11	0,79	0,007
AND – Angry Detachment	3,17	1,59	12	3,42	1,73	12	0,73	**0,01**	-0,25	1,22	0,35	-0,71	11	0,49	0,044
3 IIP – Intra/Inter Personal Problems	2,67	2,06	12	2,50	2,47	12	0,66	**0,02**	0,17	1,90	0,55	0,30	11	0,77	0,008
EST – Esteem Problems	2,00	1,48	12	1,92	1,83	12	0,60	**0,04**	0,08	1,51	0,43	0,19	11	0,85	0,003
REL – Relational Problems	0,67	1,15	12	0,58	0,90	12	0,82	**0,00**	0,08	0,67	0,19	0,43	11	0,67	0,017
4 ADP – Alcohol/Drug Problems	3,42	1,98	12	3,58	1,88	12	0,54	0,07	-0,17	1,85	0,53	-0,31	11	0,76	0,009
5 AGG - Aggression	5,17	2,92	12	7,08	2,78	12	0,66	**0,02**	-1,92	2,35	0,68	-2,82	11	**0,02**	0,420
HOS - Hostility	1,58	1,08	12	2,08	1,56	12	0,56	0,06	-0,50	1,31	0,38	-1,32	11	0,21	0,136
ABX – Aggressive Behaviors	3,58	2,07	12	5,00	1,91	12	0,67	**0,02**	-1,42	1,62	0,47	-3,03	11	**0,01**	0,454
6 NSI – Negative Social Influence	3,25	1,82	12	3,92	1,98	12	0,39	0,21	-0,67	2,10	0,61	-1,10	11	0,30	0,099
NFR – Negative Friends	2,75	1,54	12	3,25	1,29	12	0,40	0,20	-0,50	1,57	0,45	-1,11	11	0,29	0,100
NFA – Negative Family	0,50	0,90	12	0,67	1,15	12	0,78	**0,00**	-0,17	0,72	0,21	-0,80	11	0,44	0,056
PSI – Protective Strength Index	21,67	2,84	12	22,67	2,93	12	0,48	0,12	-1,00	2,95	0,85	-1,17	11	0,27	0,111
1 PER – Personal Resources	16,17	2,86	12	16,58	3,23	12	0,51	0,09	-0,42	3,03	0,87	-0,48	11	0,64	0,020
CBR – C/B Regulation	7,92	1,78	12	8,33	1,15	12	0,41	0,18	-0,42	1,68	0,48	-0,86	11	0,41	0,063
ANR – Anger Regulation	4,08	1,16	12	4,08	1,73	12	0,76	**0,00**	0,00	1,13	0,33	0,00	11	1,00	0,000
EDT – Education/Training	4,17	0,58	12	4,17	0,94	12	-0,22	0,48	0,00	1,21	0,35	0,00	11	1,00	0,000
2 ENV – Environmental Resources	5,50	1,09	12	6,08	1,00	12	0,13	0,70	-0,58	1,38	0,40	-1,47	11	0,17	0,163
FIM – Favorable Impression	4,42	2,02	12	4,25	2,09	12	0,51	0,09	0,17	2,04	0,59	0,28	11	0,78	0,007
IRS – Inconsistent Response Style	2,17	0,94	12	1,67	1,30	12	0,12	0,70	0,50	1,51	0,44	1,15	11	0,27	0,107

Table 1. Paired Samples T-Test of Pre and Post measures by IORNS
Source: Author

In order to statistical confirmation of the program effects' significance in terms to its evaluation, statistical procedures are applied. In Table 1 are presented descriptive statistics (M, σ, N) of the raw scores for pre and post measures to each scales / subscales on IORNS and T-Test for significance of the differences between the means for correlated samples, with Eta square of impact, and in addition are given correlations between the two measurements, as a control test. Processing of results is performed with the statistical package SPSS 15.0.

Figure 1 and means in Table 1 indicate that as a result of the program is appeared a decrease to the values of CRO-Criminal orientation (especially on PCA-Procriminal attitudes) and a mild decline of IIP-Interpersonal problems, as well, while for all other parameters of the test are shown tendencies towards a slight or stronger increasing. Besides the DNY-Dynamic factor and Strengths, the increase is most evident in AGG-Aggression (to both subscales) and in NSI-Negative Social Impacts (especially in NFR-Negative friends), while increased are showed the SRI-static factor and PPY-Psychopathy (especially AND-Angry Detachment, which is most present), as well. On the other hand, there is a negligible decrease in validity values, indicating slight tendency to honesty increasing, influenced by the program.

T-test confirms the statistical significance of the differences between pre and post measures only for three IORNS indicators, i.e. the pilot program results in significant reducing of PCA-Procriminalnite attitudes (t = 2.42, p<.03) and significant increasing of AGG-Aggression (t = 2.82, p <.03), especially of ABX-Aggressive behaviors (t = 3.03, p<.01) among inmates, which changes are moderate, according to the Eta square. The correlation indicates relevance of the test and measurement, so that are shown moderate to high positive relationships for the most of IORNS indicators, and most of coefficients are statistically significant. The lowest are shown correlations in IRS-Inconsistent responding style, ENV-Environmental resources and Education and training as PER-Personal resources, and is show a negative correlation only for the last scale.

T-test indicates that program participants gained knowledge that they have wrong attitudes which are the reasons for their crimes and behavior, but unfortunately change has not occurred on emotional level i.e. does not come to a real change in their thinking, but the answers are only learned. This is due to the lack of the process thought-emotion-behavior during the sessions, while the approach of attitudes presentation by the facilitators that inmates should accept, increases their aggression. The inmates have to accept that they are responsible for criminal acts by themselves, even though they did not reached to the right way for change of the link, or the change is happened only on a conscious level. On the other hand, is possible that inmates truly don't agree with those attitudes neither on a conscious level (but it keeps silent due to such approach by facilitators). In any case, looks like the process is only

started (happened at the end of the program), and it is not closed, so as psychological pressure creates anger and aggression, which is increased in prison conditions, and reflects on the behavior. Indicator for raising awareness is the increase on NFR-Negative social influences from friends, (which is most easily to be accepted - it is easier to transfer the fault to someone else's than to themself), and the increase in the SRI-Static factor, PPY-Psychopathy (especially AND-Angry detachment), ADP-Drug abuse/substitutes (even situations in reality are not changed, but/or are criminal) or in Strengths (which increasing is desirable to be accepted since they are "positive"), as well. This can be a result of higher honesty also.

It is recommended a completion of the process within this group (members), in order to prevent escalation of the problem in their further behavior. In the future it will be good the process to begin earlier, such would have time to be closed during the program and the change to happened on subconscious level, as well. To put an emphasis on application of CBT approach in all exercises and putting bigger accent on the assessment of criminogenic needs of inmates before the beginning of the CBT program. Necessary is more exercising or providing additional training to prison resocialization personnel about the CBT techniques and therapeutic skills, firstly at individual then on the group level, given they are experts in other approaches of psychotherapies. The treatment to be conducted in accordance with the good knowledge of the theory of criminal behavior and in connection with the results of IORNS.

Conclusion

Besides the imprisonment, the treatment is the main function of the penitentiary institution realized by the specialized resocialization team in Macedonian prisons. CBT is one of the most used approaches created separately for all the psychological problems, as well as for offenders' population, by itself. It is a structured, didactic, and goal-oriented form of therapy, related with the science. The RNR model is a set of guidelines and principles on how to deliver treatment based on a general personality and cognitive social learning theory of human behavior. It outlines how to approach the assessment and implementation of empirically supported treatment practices with offender population. The IORNS is evidence based tool constructed in coordination with the RNR model mostly used for risk assessment of the prison population. Better assessment of needs for CBT group psychotherapy is important to be done in the next CBT programs of inmates in Macedonian prisons.

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