

## REVIEW

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Regarding dissertation on the topic:

**"Assessment of non-suicidal self-injurious behaviour in a non-clinical population of adolescents aged 14 to 19 years in Varna"** with thesis supervisor Assoc. Prof. Petar Milchev Petrov, PhD, MD, DSc.

presented for defence before a scientific jury formed by order R-109-489 / 22.11.2021 of the Rector of MU-Varna for obtaining the educational and scientific degree of *Doctor* in the scientific specialty "*Psychiatry*" by **Dr RAYA ZLATISLAVOVA DIMITROVA**

### **Brief biographical information about the doctoral candidate**

Dr Raya Dimitrova is currently a teaching assistant at the Department of Psychiatry and Medical Psychology at Medical University Varna and a specialist doctor in child psychiatry at the Clinic of Child and Adolescent Psychiatry at University Hospital "St. Marina", Varna. She acquired the specialty "Child Psychiatry" in 2020. She has held the position of "Assistant professor" since 2017.

Non-suicidal self-injury, respectively non-suicidal self-injurious behaviour (NSSI, NSSIB) is a known phenomenon in psychiatric practice and is described in the psychiatric literature, it occurs in people with different psychiatric diagnoses and in people without "diagnosis" especially in times of distress. Cases of NSSI range from those of irreversible self-injury (self-disfigurement) - such as cutting off a part of the body - through stereotypic self-harm or behaviours with self-harming potential (such as repetitive hitting of the head), repetitive picking, repetitive pulling of hairs, mostly hairs on the head, eyelashes and eyebrows and lastly to damage the surface of the body (skin or mucous membranes) by cutting, deep scratching (scarification), piercing, burning, etc. This last form of self-injury, refined by additional diagnostic criteria, is included in DSM-5 in the section on disorders, requiring further study - called Non-suicidal self-injury (NSSI, NSSI Disorder). The severity and frequency of self-injury alongside adolescence as a period of life with an increased risk of impulsive actions (and acting on affect through behavioural acts) backed up by a need for extreme experiences show the importance and relevance of the topic chosen by the student, in conceptual, diagnostic and in terms of age.

The dissertation has 145 pages, includes 61 tables and 5 figures; contains the necessary sections - introduction, literature review, purpose and tasks, participants and methodology, results and analysis, conclusion, summary points, contributions, bibliography. A limitations section is also included, and the adapted questionnaire used is attached; the structure of the work is consistent and logical. The literary sources, understandably the vast majority of which are in English, are 193.

The **literature review** focuses on the history of the problem, the terminology used, the definition and epidemiological data such as gender distribution, the frequency of NSSI, as well as Bulgarian epidemiological data. Subchapter "Theoretical models" describes psychological and social factors, interpersonal models, neurobiology. Undoubtedly, the regulation of affect is an essential part of the NSSI models, without being the only one. An integrative model of NSSI is included. The review ends with "diagnosis" and "summaries and conclusions from the literature review". The need for NSSI to be differentiated from suicidal phenomena is described in "differential diagnosis", while NSSI within individual psychiatric disorders - in "comorbidity". As noted in the literature review, although there is no suicidal intent and a method dangerous to physical survival, self-injury, particularly repetitive and long-term, is associated with a higher risk of suicide.

The **aim** of the dissertation is formulated as "Assess the prevalence of non-suicidal self-injury in a non-clinical population of adolescents using the DSM-5 diagnostic criteria for Non-Suicidal Self-Injury Disorder and determine criteria categorizing a group with greater severity, chronicity, and intensity of self-harm"

The **tasks** are derived logically and clearly formulated from the aim: to conduct an epidemiological study among a diverse population of adolescents from high schools in the city of Varna; to use an adapted hybrid questionnaire; to establish the frequency of NSSIB; to apply the criteria for NSSID for the detection of a subgroup of adolescents with a more severe course; in three points are formulated the tasks for predisposing factors, methods and functions of self-injurious behaviour; the eighth task is to identify the trends for progress of the NSSI by assessing the addictive characteristics of the behaviour.

Particular attention should be paid to the hypotheses about the differences in the most commonly used methods of NSSI between the sexes, the presence of a more severe group of NSSI and the relationship with addictions.

**Design, researched population, methodology, methods:** Self-assessment was carried out by filling in appropriately selected, supplemented and adapted self-assessment questionnaires, and the organization of this "survey" was carried out through schools in Varna with the necessary consent of parents, school administration and adolescents.

The two instruments used by the student in a pilot study - ABUSI and ABASI are not included. Based on NSSIDS - Non-Suicidal Self-Injury Disorder Scale - and OSI - Ottawa Self-Injury Questionnaire - the candidate created and adapted a so-called "hybrid" questionnaire, which was used in the study - completed by the participating adolescents. Ultimately, complementarity has been achieved on a number of target characteristics, as well as the possibility of referring to the DSM-5 disorder criteria. The tools used correspond to the set goals / tasks and to the object of research (NSSI and NSSID among adolescents).

The study was conducted in a little over a one-year period - February 2020 to April 2021 - among a contingent of public high schools in Varna identified by RDE Varna with the approval of the Ethics Committee of MU Varna. Four schools are included. Out of about 1000 distributed informed consent forms for parents, little over half - 516 have answered / given consent, of which 294 adolescents gave their consent to participate. Of these, 267 completed the survey in full. It is very interesting that a very large part of the "respondents" are girls.

The statistical analyses are well selected, comprehensive and correctly placed in a logical sequence. They provide an opportunity to illustrate the basic distribution, as well as to perform analyses and demonstrate separate groups / mechanisms.

The obtained **results** are presented and well-illustrated in the following sections: 1. Assessment of the demographic indicators of the sample; 2. Assessment of the prevalence of non-suicidal self-injury; 3. Evaluation of the criteria proposed by DSM-5; 4. Assessment of main functions and predisposing factors; 5. Assessment of the subjective perception of the addictive potential and 6. Assessment of additional characteristics in relation to the importance of the problem in the target population.

The results clearly confirm the expected predominance of NSSI in adolescent girls, show a high percentage of NSSI among respondents (approximately a quarter of them), significant representation of NSSID - nearly 1 in 20 respondents and 1 in 5 of those with NSSI. Based on the data, the functions (in psychological / experiential terms) of the NSSI are differentiated, with the most frequent being to deal with unfavourable experiences / thoughts / events. Provoking factors of the episode of self-harm have been defined. The positive experience caused by NSSI was seen in a smaller portion of the adolescents.

The analysis of the possible connection between NSSID and addiction is impressive, which is made on the basis of statements included in OSI - part of the final questionnaire and diagnostic criteria for dependencies of DSM-IV. Certainly, some of the respondents have such characteristics in terms of NSSI, and there are differences. The candidate notes that the mechanism of reinforcement (of the act of self-harm) in most adolescents with NSSI is negative support (coping with negative stimuli), while in real addictions more characteristic is positive support (pleasure).

The reliability and validity of the NSSIB questionnaire were analysed. In terms of the relationship between the individual items, Cronbach's alpha is high enough. Factor analysis shows the distribution of the 16 items between 6 factors, some of which fully correspond to the questions covering the statements of a particular criterion, while others include questions from different criteria, but semantically related.

The cluster analysis distinguishes Cluster 1 called diagnostic in which more than 1/3 have met all the criteria of NSSID. The remaining of these cases in Cluster 1 did not meet all the criteria but were also apparently a group of greater clinical significance and risk of progression. Cluster 2 is "non-diagnostic". The candidate found that in the diagnostic cluster more often feelings of relief were reported after the act of the NSSI, which is understandable that it serves as a reinforcement. More often the participants in Cluster 1 experience the desire for self-harm as disturbing and more often they assess it as having an "obsessive character".

Over-engagement with thoughts of self-injury is the item that discriminates most clearly between the "diagnostic" and the "non-diagnostic" cluster. More than half of the adolescents in Cluster 1 do not report self-injury leading to problems with others, which in my opinion does not rule out that at some point in time it did, or it might.

The frequency of cases (from Cluster 1) where there is a tendency to increase and / or aggravate self-injuries is defined and shown in tables.

In addition, to indicate (possible) similarities of some of the cases with dependencies (defined by 6 statements, in the sense of DSM-IV), a two-step cluster analysis was conducted, where cluster 2 includes cases with addictive characteristics and at the same time more severe course (more than half of those with the disorder).

It is very appropriate to include "Additional characteristics of NSSI". The "contagiousness" of a number, incl. dangerous, adolescent behaviours, classic example are suicide attempts and suicides, is well known. It is logical to look for such "contagiousness" in

NSSI. About 70% of the "disorder" cases - NSSID - report that the idea of self-harm is theirs. In her interpretation, the candidate supports the thesis of the individual in the causes, but if we assume that suggestive cases are in "nests", that they are probably more common in milder and short-term forms of NSSI and that NSSI behaviours are often hidden from others, the remaining 30% which report having seen / heard about NSSI is not small at all.

Failure and abandonment are the most common reasons for NSSI. They are intrapersonal factors that the candidate identifies as prevailing over interpersonal ones. This is again a good topic for reflection, because we can assume that adolescents with intrapersonal "weakness" / problems are more vulnerable to adverse interpersonal influences / events.

The **summary points** (15 in number) are significant and clearly formulated. The most significant are those concerning the criteria for NSSID and the corresponding items of the diagnostic questionnaire. The criteria, at least on the basis of the studied and obtained data, need to be optimized, and some of the questions can be removed because they do not demonstrate informative value.

Self-cutting is most commonly used for NSSI; both boys and girls have thoughts of hurting themselves, but girls realize them twice as often; intrapersonal reasons are cited as the most common reasons, and in most cases, there is no "copying". Boys, unlike girls, use punching rather than cutting. The stronger urge for self-injury, over-preoccupation with thoughts about it, the longer duration of NSSI in time, the reported greater influence of interpersonal relationships by NSSI correlate with the existing NSSID.

The **contributions** are grouped as theoretical (original and confirmatory) and applied. They are related both to a contribution to the methodology (hybrid adapted questionnaire) and to the analysis and summarization of the obtained results.

Undoubtedly the most significant is the original contribution that the results show the validity of defining a clinically significant disorder with non-suicidal self-injury, we would say as a constellation requiring a higher degree of timely and in-depth clinical attention.

The possible **limitations** of the work are described especially comprehensively and clearly - the peculiarities of the age, the possible (disclosure) discussion of the problem identified in the adolescent with his / her parents, the research centres and the nature of the attitude of school administration towards research, the epidemic situation are taken into account.

We can hypothesize that among the non-participating adolescents, the number of those with self-injurious behaviour, NSSID and severe forms is higher.

Attached to the abstract is a list of three **publications** on the topic, in Bulgarian, in which Dr. Dimitrova is the first author. They also illustrate the long-term research interest in the topic, as well as the gradual development of her achievements as a researcher of non-suicidal self-injury in adolescence.

**Critical remarks:** The description would benefit from a more extensive and focused definition of the target behaviours used in the research / work (NSSI, NSSIB). In the study "NSSI (B)" includes all self-injurious behaviours (including within the framework of "stereotypical movements" and "trichotillomania"), while in the NSSID these misconceptions are naturally excluded. Non-suicidal self-injury in the context of NSSID includes cutting, puncturing, burning, severe scratching and others self-injuries of the skin, relatively superficial, but definitely painful / "bloody." Not always the very presence of NSSID means in itself a greater severity than even

isolated NSSI. Severe self-harm, and even if just an attempt, to auto-mutilate (remove) a part of the body, at least in a physical sense, may carry more severity and risk.

This is not a weakness of the work, but it would be useful and easier for the reader if it is included in more detail in the text and / or in a more visible - distinctive - way.

It would be interesting to analyse NSSI within the diagnostic criteria of DSM-5, which are different from those of DSM-IV.

In conclusion, I believe that the dissertation of Dr. RAYA ZLATISLAVOVA DIMITROVA meets the requirements for awarding the scientific and educational degree "Doctor", field of *medicine*, scientific specialty *psychiatry*, which I offer to the esteemed jury formed by order R-109-489 / 22.11 .2021 of the Rector of MU-Varna to pronounce POSITIVE for her award.

07.12.2021

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