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**Ocena znaczenia traumy dziecięcej u osób uzależnionych
od alkoholu**

**Rozprawa na stopień naukowy doktora nauk medycznych i nauk o zdrowiu
w dyscyplinie nauki medyczne**

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Summary

Significance of childhood trauma in alcohol use disorder

1. Introduction

According to current statistics, even one-third of all children may experience any kind of trauma. However, precise prevalence of trauma is difficult to estimate, because of unreported cases, as well as differences in how trauma is understood and defined. Importantly, trauma is not only physical, emotional or sexual abuse, it could also include physical and emotional neglect.

Individuals who experienced childhood trauma are at high risk of developing all different mental disorders (including alcohol use disorder) in adulthood. It is postulated, that as a consequence of dysfunctional relationship with caregiver, child may fail to develop ability to recognize, describe (alexithymia) and regulate own emotional states. It may conduce to experience emotions (emotional tone, anxiety, anger, sadness) as distressful. Importantly, alexithymia and poor emotion regulation strategies are considered to be one of the most important risk factors for alcohol use disorder. Surprisingly, relation between emotion regulation and childhood trauma in alcohol use disorder has not been extensively studied.

Current studies confirm that subsistent element of emotional processes are body sensations, from which physical pain seems to be prominent. Many studies, including those carried out on alcohol use disorder sample, describe significant relationship between difficulties in emotion regulation, higher pain sensitivity and lower pain tolerance. It is observed that individuals with childhood trauma may perceive pain stimuli as stronger in comparison to individuals without traumatic experiences in childhood. Moreover, in adulthood, they suffer from chronic pain and require medical interventions more often. At the time, there is no research done in this area in patients with alcohol use disorder, even though it is evident that they use alcohol for pain relief and pain ailments are risk factor for relapse to drinking.

Proper identification of one's mental state seems to be highly relevant in context of own emotional processing. Current studies confirm that childhood trauma may have significant impact on ability to recognize mental states of others', which is crucial for proper social functioning. Ability to identify and describe own emotional states is related to ability to recognize others' mental states (Theory of Mind). Importantly, low competencies regarding this skill are considered to be a relevant risk factor for alcohol use disorder. Surprisingly, those relationships have not been studied yet in context of childhood trauma.

In conclusion, current studies confirm that childhood trauma, emotional processing and physical pain have significant interactions and strongly impact risk and course of alcohol use disorder. As yet, there are no studies which precisely analyze relations between those variables in alcohol use disorder individuals.

2. Objectives

The overall objective of the study was to comprehensively evaluate relationships between experience of childhood trauma and emotion regulation, alexithymia, Theory of Mind and physical pain in individuals with alcohol use disorder.

The specific aims of the research study were to:

1. Analyze relationships between childhood trauma, difficulties in emotion regulation and pain tolerance in individuals with alcohol use disorder.
2. Investigate relationships between childhood trauma, alexithymia and mental state recognition in control group of healthy individuals.
3. Analyze relationships between childhood trauma, alexithymia and mental states recognition in individuals with alcohol use disorder.
4. Compare relationships between childhood trauma, alexithymia and mental states recognition in individuals with alcohol use disorder and subjects from the healthy control group.

3. Material and methods

The current data comes from a sample recruited among individuals with alcohol use disorder entering an inpatient alcohol treatment program. Healthy control group consisted of patients presenting to a general practitioner, for whom symptoms of AUD were excluded. The sample consisted of 255 AUD patients and 172 healthy controls. To evaluate variables of interest following questionnaires were used: 1) Childhood Trauma Questionnaire (CTQ); 2) Difficulties in Emotion Regulation Scale (DERS); 3) Pain Resilience Scale (PRS); 4) Reading the Mind in the Eyes Task (RMET) – to assess mental states recognition based on photographs of eye regions; 5) Toronto Alexithymia Scale (TAS-20) – to assess difficulties with identifying and describing one's own emotional state; 6) Beck Depression Scale and Brief Symptom Inventory – to assess severity of depressive symptoms and anxiety as a measure of negative affect (these results were used as control variables in statistic models).

4. Results

Statistical analysis demonstrated that individuals with alcohol use disorder reported more severe childhood trauma in comparison to healthy controls. Differences in all CTQ subscales (physical, emotional and sexual abuse, physical and emotional neglect) were statistically

significant. Individuals with AUD had significantly higher alexithymia (TAS subscales; difficulties in identifying and describing feelings), more severe depressive symptoms (BDI scale) and higher ability to recognize negative and neutral mental states of other people (RMET subscales).

Correlation analysis conducted on AUD sample revealed positive correlation between childhood emotional abuse and anxiety as well as emotion dysregulation and negative correlation between childhood emotional abuse and pain tolerance. Moreover, positive correlation between anxiety and emotion dysregulation and negative correlation between emotion dysregulation and pain tolerance were observed. Serial mediation model demonstrated indirect negative effect of emotional abuse on pain tolerance, with higher anxiety at first, and then higher emotion dysregulation as mediators. The model was a full mediation.

Further analysis, conducted separately for AUD group and HCs, demonstrated that AUD symptoms significantly moderated relation between alexithymia severity and negative mental states recognition. In HCs, more difficulties in describing one's own feelings (higher alexithymia) were significantly associated with worse negative mental states recognition. This correlation was not observed in AUD group.

Furthermore, study revealed indirect effect of higher childhood emotional trauma severity on worse negative mental states recognition. Higher alexithymia (difficulty in describing one's own feelings) mediated this relationship, and the model was statistically significant in HC group only.

5. Conclusions

- a) In individuals with alcohol use disorder, experience of childhood emotional abuse is significantly correlated with higher anxiety, worse emotion regulation and lower pain tolerance.
- b) In individuals with AUD, anxiety and emotion dysregulation mediate the relationship between emotional abuse and pain tolerance.
- c) Higher difficulty in describing one's own feelings (alexithymia) is associated with worse negative mental states recognition in healthy control group. This relationship does not exist in AUD group.
- d) In healthy control group (not in AUD), alexithymia mediates the relationship between childhood emotional trauma and negative mental states recognition.