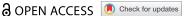




SHORT COMMUNICATION



Comparing rates of ICD-11 and DSM-5 Posttraumatic Stress Disorder in Austrian children and adolescents in foster care: prevalence, comorbidity and predictors

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ABSTRACT

Background: The diagnostic criteria for Posttraumatic Stress Disorder (PTSD) differ between the DSM-5 and the ICD-11, affecting prevalence and associated metrics of PTSD.

Objective: Investigating the effects of the diverging DSM-5 and ICD-11 PTSD conceptualizations on prevalence and comorbidity rates, as well as predictor impact in a sample of foster children and adolescents using manual-specific measures.

Method: The sample consisted of n = 145 foster children and adolescents. PTSD rates were assessed and compared utilizing the International Trauma Questionnaire - Child and Adolescent Version (ICD-11) and the Child and Adolescent Trauma Screen (DSM-5). PTSD comorbidities with Generalized Anxiety Disorder (GAD) and Major Depressive Disorder (MDD) were assessed. The predictive value of age, gender and cumulative trauma for PTSD was determined.

Results: A non-significant trend for higher DSM-5 (21.4%) vs. ICD-11 (16.7%) PTSD prevalence was observed. Significantly elevated DSM-5 vs. ICD-11 diagnostic rates were recorded in the re-experience (diff. = 18.3%) and hyperarousal (diff. = 10.1%) clusters. DSM-5 PTSD showed a non-significant trend for higher comorbidities with GAD and MDD. Gender and cumulative trauma predicted PTSD significantly and approximately equally according to both taxonomies.

Conclusion: The study supports the assumption that utilizing manual-specific PTSD measures in children and adolescents leads to higher rates of DSM-5 PTSD compared to ICD-11 PTSD. The exact methodological reasons for diverging diagnostic rates need to be analysed.

Comparación de las tasas de Trastorno de Estrés Postraumático entre DSM-5 y el CIE-11 en niños y adolescentes austriacos en programas de acogida familiar: prevalencia, comorbilidad y predictores

Antecedentes: Los criterios de diagnóstico para el trastorno de estrés postraumático (TEPT) difieren entre el DSM-5 y el CIE-11, lo cual afecta la prevalencia y las métricas asociadas al

Objetivo: Investigar los efectos de las conceptualizaciones divergentes del TEPT entre el DSM-5 y el CIE-11, utilizando medidas específicas del manual, en las tasas de prevalencia y comorbilidad, así como el impacto predictor en una muestra de niños y adolescentes en condición de acogida familiar temporal.

Método: La muestra consistió en un n = 145 niños y adolescentes en condición de acogida familiar temporal. Las tasas de TEPT se evaluaron y compararon utilizando el Cuestionario Internacional de Trauma - Versión para Niños y Adolescentes (CIE-11) y la Prueba de Detección del Trauma para Niños y Adolescentes (DSM-5). Se evaluaron las comorbilidades del TEPT, trastorno de ansiedad generalizada (TAG) y trastorno depresivo mayor (TDM). Se determinó el valor predictivo para TEPT de las variables edad, género y trauma acumulativo. Resultados: Se observó una tendencia, no-significativa, de una mayor prevalencia de TEPT para el DSM-5 (21.4%) comparado con el CIE-11 (16.7%). Se registraron tasas de diagnóstico significativamente elevadas en los grupos de re-experimentación (dif. = 18.3%) e hiperactivación (dif. = 10.1%) para el DSM-5 versus el CIE-11. El TEPT en el DSM-5 mostró una tendencia mayor, no-significativa, para las comorbilidades TAG y TDM. El género y el trauma acumulativo predijeron el TEPT de manera significativa, y aproximadamente equivalente en ambas taxonomías.

Conclusión: El estudio apoya el supuesto de que la utilización de medidas TEPT específicas para el manual en niños y adolescentes conlleva tasas más altas de TEPT para el DSM-5 en comparación con el CIE-11. Es necesario analizar las razones metodológicas precisas para estas tasas de diagnóstico divergentes.

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PALABRAS CLAVE

TEPT; DSM-5; CIE-11; ITQ-CA; CATS: programas de acogida familiar: comorbilidad

PTSD; DSM-5; ICD-11; ITQ-CA; CATS; 寄养; 共病

HIGHLIGHTS

• ICD-11 and DSM-5 PTSD diagnostic rates were compared in a sample of foster children utilizina manual specific measures. • With 21.4% (DSM-5) vs. 16.7% (ICD-11) PTSD prevalence rates did not differ significantly according to the diverging taxonomies. PTSD comorbidities with GAD and MDD did not differ significantly according to DSM-5 and ICD-11.



奥地利寄养儿童和青少年ICD-11和DSM-5创伤后应激障碍的比较:流行率, 共病和预测因素

背景: DSM-5和ICD-11的创伤后应激障碍 (PTSD) 诊断标准不同, 影响了PTSD的流行率和相

目的: 在一个寄养儿童和青少年样本中, 使用特定手册测量工具, 考查不同的DSM-5和ICD-11 PTSD概念对流行率和共病率以及预测因素的影响。

方法: 样本包括145名寄养儿童和青少年。 PTSD的流行率由《国际创伤问卷-儿童和青少年 版本》 (ICD-11) 及《儿童和青少年创伤筛查量表》 (DSM-5) 进行评估和比较。对PTSD与 广泛性焦虑障碍 (GAD) 和重性抑郁障碍 (MDD) 的共病率进行了评估。确定了年龄, 性别 和累积创伤对PTSD的预测价值。

结果: 观察到DSM-5 PTSD流行率 (21.4%) 相较ICD-11 (16.7%) 不显著的升高趋势。DSM-5对 再体验 (差异= 18.3%) 和高唤起 (差异= 10.1%) 症状簇的诊断率比ICD-11显著提高。 DSM-PTSD与GAD和MDD的共病率表现出不显著的升高趋势。性别和累积创伤根据两种分类 法均能显著且大致等效地预测PTSD。

结论: 本研究支持以下假设:在儿童和青少年中使用特定手册PTSD测量工具, 会导致DSM-5 PTSD比率比ICD-11 PTSD更高。需要分析诊断率差异的确切方法学原因。

Since its introduction in 1980, the concept of Posttraumatic Stress Disorder (PTSD) has been repeatedly adapted, most recently in the latest diagnostic manuals, the DSM-5 (American Psychiatric Association, 2013) and the ICD-11 (World Health Organization, 2018). The conceptualizations in both taxonomies differ considerably in several points. To create a more distinct PTSD profile, ICD-11 entails a more restrictive conceptualization emphasizing the disorder's core elements (Maerker et al., 2013). ICD-11 PTSD thus contains three symptom clusters as opposed to four symptom clusters in DSM-5 PTSD and is operationalized with fewer items. Conceptual differences have been shown to affect rates of PTSD prevalence and comorbidities (Brewin et al., 2017) as well as the predictive value of associated criterion variables (Stein et al., 2014).

Prior studies in adult samples have almost exclusively reported higher estimates of PTSD prevalence according to the DSM-5 algorithm compared to the ICD-11 algorithm (e.g. Brewin et al., 2017). In contrast, the few studies conducted in children and adolescents (hereafter referred to as 'children', unless otherwise specified) yielded diverging evidence (Danzi & La Greca, 2016; Hafstad, Thoresen, Wentzel-Larsen, Maercker, & Dyb, 2017; Sachser et al., 2018). Lower rates of ICD-11 PTSD are frequently attributed to the especially restrictive conceptualization of the ICD-11 re-experience cluster (Hyland et al., 2016; Sachser et al., 2018; Shevlin et al., 2018). The requirement of more pronounced intrusive memories in the ICD-11 concept has been argued to be particularly important for lowering ICD-11 re-experience prevalence rates (e.g. Shevlin et al., 2018). According to DSM-5, experiencing intrusive thoughts or images of the traumatic event is sufficient to satisfy the re-experience criterion (American Psychiatric Association, 2013), whereas in ICD-11, the intrusive images additionally have to be experienced as vividly reoccurring (World Health Organization, 2018).

Theoretical explanations can substantiate both higher and lower rates of psychiatric comorbidities for ICD-11 vs. DSM-5 PTSD. For example, lower rates of ICD-11 vs. DSM-5 PTSD comorbidities might be attributed to the removal of non-PTSD-specific symptoms in ICD-11, which are also part of other disorders (see Maerker et al., 2013). On the contrary, higher rates of ICD-11 vs. DSM-5 PTSD comorbidities could be explained by the ICD-11 PTSD concept representing a more severe disorder, identifying individuals at higher risk for psychiatric comorbidities (see Shevlin et al., 2018). Previous studies mainly examined comorbidities of PTSD and Major Depressive Disorder (MDD) as well Generalized Anxiety Disorder (GAD), reporting mixed results (e.g. Hyland et al., 2016; Shevlin et al., 2018).

Factors consistently predicting PTSD include female gender (Brewin, Andrews, & Valentine, 2000) and cumulative trauma (e.g. Suliman et al., 2009), whereas age has not consistently been shown to affect PTSD prevalence rates systematically (see Ditlevsen & Elklit, 2010). Prior research indicated that various risk factors (e.g. trauma type; history of mental disorders) may have differential impact on PTSD according to diverging concepts (Stein et al., 2014). Differences regarding the influence of the predictors age, gender and cumulative trauma specifically on ICD-11 vs. DSM-5 PTSD however have not been investigated so far.

While the new ICD-11 PTSD concept has been validated in children (Haselgruber, Sölva, & Lueger-Schuster, 2020), studies comparing rates of ICD-11 and DSM-5 PTSD in children are scarce. A common limitation of existing studies was the lack of available measurements with precise symptom descriptions to assess ICD-11 and DSM-5 PTSD in children. In the present study manualspecific measurements for DSM-5 and ICD-11 PTSD were applied for the first time in a sample of children, utilizing precise symptom descriptions and thus aiming to enhance the accuracy of measurement and the clinical validity of the diagnoses. This sample consisted of foster

children, who have been shown to be a high-risk group for PTSD (Salazar, Keller, Gowen, & Courtney, 2013).

Four study aims were derived from the current state of knowledge:

- (1) Examining diagnostic rates of PTSD according to ICD-11 and DSM-5 algorithms.
- (2) Examining rates of comorbidity for ICD-11 and DSM-5 PTSD with MDD and GAD.
- (3) Examining the predictive value of age, gender and cumulative trauma for ICD-11 and DSM-5 PTSD.
- (4) Examining the impact of the re-experience cluster on differences in prevalence rates and the impact of the stipulation of more pronounced intrusive memories in ICD-11 PTSD.

1. Method

Data were collected within a research project (reference number of the vote of the ethics committee of the University of Vienna: 00328), funded by the government of Lower Austria. The assessments took place in six foster care facilities in Lower Austria from March to September 2019, using self-report measures. Inclusion criteria for participation were sufficient skills in German language, sufficient intellectual abilities, age between 10 and 19 years and stable mental health (i.e. no suicidality, psychiatric crisis or intoxication). A total of 161 children participated. Of these, 16 participants were excluded either because of the belated recognition of an exclusion criterion or apparent improper proceeding during the assessment. This resulted in a final sample of 145 participants ($M_{\text{age}} = 14.35 \text{ years}$, SD = 2.47, 69.7% male).

ICD-11 PTSD was assessed using the International Trauma Questionnaire - Child and Adolescent Version (ITQ-CA; present sample α =.88; Cloitre et al., 2018). It contains six items to measure PTSD symptoms and five items to measure functional impairment. DSM-5 PTSD was assessed using the Child and Adolescent Trauma Screen (CATS; present sample $\alpha = .90$; Sachser et al., 2017). It contains 20 items to assess PTSD symptoms and five items to assess functional impairment. Traumatic experience was assessed using the 15-item Life Events Checklist, included in the CATS. Current psychiatric comorbidities were assessed using the nine-

item Patient Health Questionnaire (PHQ-9; present sample $\alpha = .88$; Kroenke & Spitzer, 2002) for MDD and the seven-item Generalized Anxiety Disorder Screener (GAD-7; present sample $\alpha = .86$; Spitzer, Kroenke, Williams, & Löwe, 2006) for GAD. PTSD diagnoses were determined using categorical algorithms. A cut-off score of ≥ 10 was used to determine GAD and MDD diagnoses (see Kroenke & Spitzer, 2002; Spitzer et al., 2006).

Prevalence rates were compared for statistically significant differences using McNemar-tests. Cohen's Kappa (κ) determined diagnostic concordance for ICD-11 and DSM-5 PTSD. Logistic regression models were estimated to determine the predictive value of age, gender and cumulative trauma for ICD-11 and DSM-5 PTSD diagnosis vs. non-diagnosis.

2. Results

On average, participants reported 3.9 traumatic experiences (Mo = 2). Prevalence rates of MDD (29.4%) and GAD (19.0%) were high. PTSD prevalence rate was higher for the DSM-5 algorithm but the difference was non-significant (21.4% vs. 16.7%; see Table 1), $\chi^2(1, N = 144) = 1.03$, p = .310. The difference was predominantly accounted for by significantly different prevalence rates in the re-experience cluster (DSM-5 57.9% vs. ICD-11 39.6%), $\chi^2(1,$ N = 144) = 17.36, p < .001. The perception of heightened current threat/hyperarousal cluster also showed significantly higher prevalence according to the DSM-5 (DSM-5 55.2% vs. ICD-11 45.1%), $\chi^2(1,$ N = 144) = 4.02, p = .045.

Data did not indicate, prevalence of the ICD-11 reexperience cluster was lower due to the requirement of more pronounced intrusive memories. The ITQ-CA item containing the ICD-11-specific requirement of experienced reoccurring of the traumatic event was not endorsed to a lesser extent than its otherwise analogical counterpart in the CATS, which contains intrusive thoughts and images, $\chi^2(1, N = 143) = .00$, $p_{approx.} = 1.000$. None of the other five ITQ-CA items differed significantly from their substantively equivalent correspondents in the CATS in their rate of endorsement. Diagnostic concordance of ICD-11

Table 1. Percentage of participants exhibiting PTSD symptoms according to DSM-5 and ICD-11.

	Re- experience	Avoidance	Perceptions of heightened current threat ^a / Hyperarousal ^b	Negative alterations in cognitions and mood	Functional impairment	PTSD prevalence
DSM-5	57.9	43.4	55.2	44.1	66.0	21.4
ICD-11	39.6	42.0	45.1	-	61.1	16.7
Difference	18.3**	1.4	10.1*	-	4.9	4.7
K	.52**	.34**	.42**	-	.71**	.22**

Note. Difference = Difference in prevalence per cluster; κ = Cohen's Kappa. ^aTerm in the ICD-11. ^bTerm in the DSM-5. *p <.05. **p <.01.

and DSM-5 PTSD was low throughout the symptom clusters and the overall PTSD diagnoses.

Rates of psychiatric comorbidities between PTSD and MDD as well as GAD were as follows: Comorbidity between DSM-5 PTSD and MDD was 62.5% and between ICD-11 PTSD and MDD 54.5%. Comorbidity between DSM-5 PTSD and GAD was 45.8% and between ICD-11 PTSD and GAD 40.9%. Examination of the 95% confidence intervals showed no significant differences between comorbidity rates.

Regression analyses evidenced gender and cumulative trauma as significant predictors for both ICD-11 and DSM-5 PTSD, whereas age was not predictive for either. Female participants had 2.93 times higher odds of meeting ICD-11 PTSD diagnoses and 4.55 times higher odds of meeting DSM-5 PTSD diagnoses. Each additional trauma increased the odds of ICD-11 PTSD by a factor of 1.29 and DSM-5 PTSD by a factor of 1.30. The 95% confidence intervals showed neither of these differences were significant.

3. Discussion

Prevalence rates of PTSD, MDD and GAD were strongly elevated compared to the general population (Wittchen et al., 2011), corroborating foster children as a risk group for developing PTSD and other mental disorders. ICD-11 PTSD vielded a non-significant trend for lower prevalence compared to DSM-5 PTSD. This trend corresponds with results reported in the majority of studies in adult samples (Brewin et al., 2017; Shevlin et al., 2018). Though prior studies conducted in children evidenced mixed results, the trend in our data supports the assumption that applying ICD-11 PTSD criteria may lead to a decrease of positive cases, also in children (see Sachser et al., 2018).

ICD-11 criteria showed a non-significant trend to reduce psychiatric comorbidities, affirming the notion of a more distinct ICD-11 PTSD concept compared to the DSM-5 concept to a limited extent. Consistent with prior results, female gender and cumulative trauma were identified as significant risk factors for PTSD. Confidence intervals for the predictive value of identical predictors for ICD-11 and DSM-5 PTSD showed strong overlap, indicating that the investigated person characteristics do not have a differential impact according to the diverging taxonomies.

Like repeatedly observed in prior studies comparing ICD-11 and DSM-5 PTSD, the difference in diagnostic rates of the re-experience cluster was the biggest, indicating that the cluster has the strongest impact on the diverging ICD-11 and DSM-5 PTSD prevalence rates. Ostensibly however, the additional requirement for the intrusive memories to be experienced as reoccurring did not lead to lower endorsement of the re-experience cluster in ICD-11 PTSD compared to DSM-5 PTSD. Thus, it is questionable whether children answer the items on the exact level that is preconditioned according to the theoretical conceptualization of the measures.

Noticeably, only the PTSD clusters conceptualized markedly broader in the DSM-5 were found to yield significantly higher rates of endorsement. Since no significant differences in the rate of endorsement of all ITQ-CA items and their substantively equivalent correspondents in the CATS were observed, prevalence rates in the CATS may be increased simply through the offer of additional items.

A limitation of the statistical analyses was relatively low statistical power. Furthermore, the rates of comorbidities presumably psychiatric a slight increase due to non-trauma-related but difficult life circumstances. Additionally, rates of diagnostic concordance between ICD-11 and DSM-5 PTSD were low according to κ. Strengths of the study were the examination of the PTSD risk group of foster children, close supervision during the assessment and the utilization of manual-specific PTSD measures. The notion that applying ICD-11 PTSD criteria leads to a decrease of positive cases also in children has an important implication for clinical treatment. By utilizing ICD-11 PTSD criteria, fewer children might be diagnosed with PTSD. Thus fewer, but perhaps especially children with a particularly strong indication for trauma-specific treatment, get treatment access. Moreover, the tendency for low diagnostic concordance between ICD-11 and DSM-5 PTSD in samples of children (see Danzi & La Greca, 2016; Sachser et al., 2018) indicates, that it could be particularly challenging to convey ideal treatment options based on self-report measures. The utilization of clinical interviews, which enable a more in-depth assessment, thus seems to be of particular importance for children. The present results should stimulate further research comparing ICD-11 and DSM-5 PTSD in samples of children utilizing manual-specific instruments. In particular, upcoming studies should examine the exact methodological reasons for the frequently reported diverging rates of ICD-11 and DSM-5 PTSD. Such examinations should include test features like item position effects, the effect of varying scales and the influence of single items on the PTSD diagnosis.

Disclosure statement

No potential conflict of interest was reported by the authors.

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