

A systematic review of the relationship between childhood maltreatment and risk of adolescent drug use



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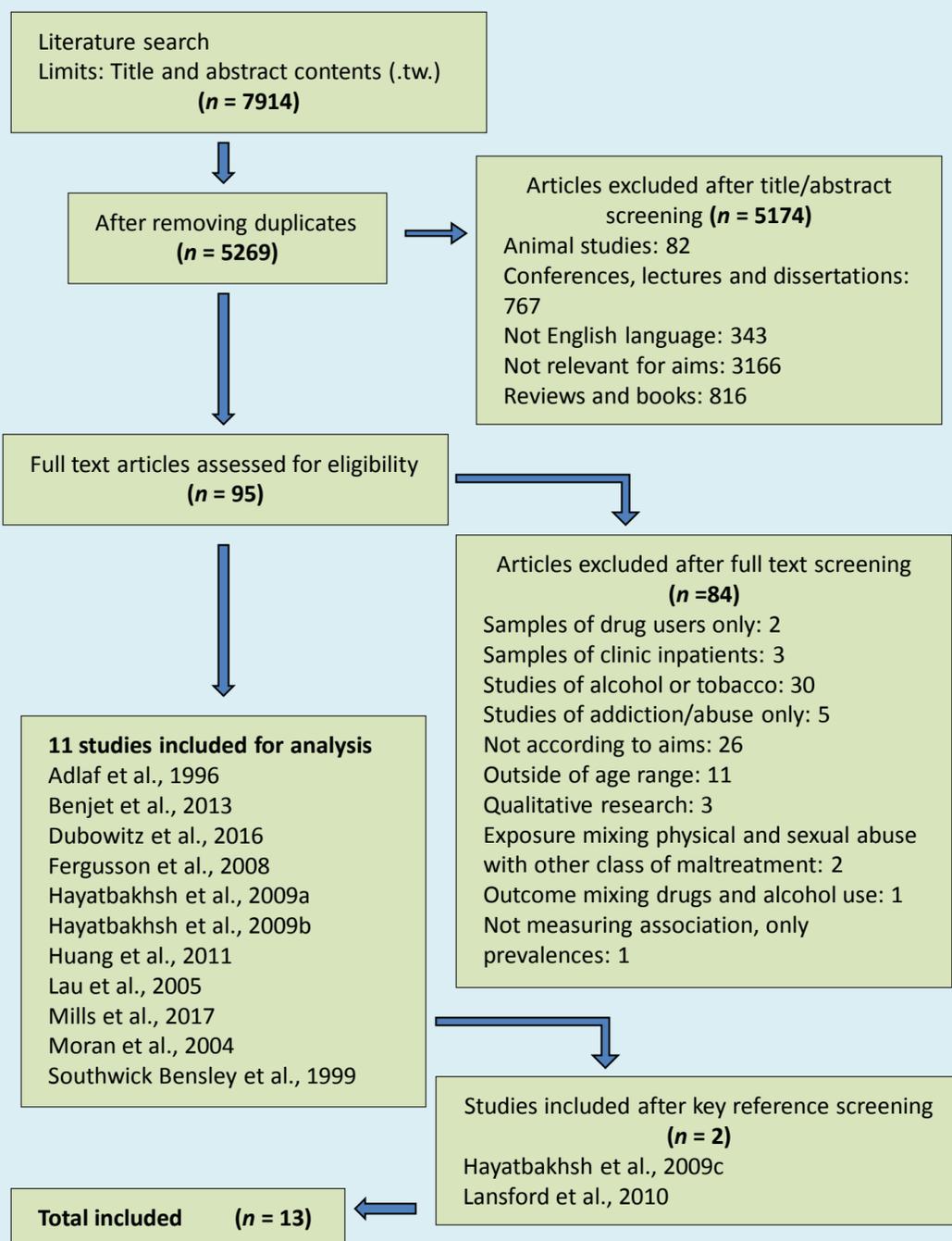
Background: Among adolescents, drug use and abuse is a health concern because of the risk of acute harms, and increased likelihood of development of dependence [1]. It has been shown that childhood maltreatment is associated with drug addiction in adulthood [2]. However, the sequenced progression from drug use to dependence indicates a better understanding of the relationship between maltreatment and drug use is needed to improve prevention and interventions [3].

Aim: To determine the association between exposure to the early life stress of childhood maltreatment, specifically physical and sexual abuse, with adolescent illicit drug use.

Methods: A systematic search strategy was applied Embase, PsycINFO and Ovid MEDLINE(R) databases. Methods were based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines. Inclusion and exclusion criteria were applied. See Figure 1 for search strategy and search terms.

Results: Of 7914 identified articles, 13 were included. A significant association between childhood maltreatment and adolescent drug use was shown in 11 studies. Six studies assessed both physical abuse and sexual abuse separately; when comparing them four showed a stronger association with physical abuse in comparison with sexual abuse, one showed a stronger association with sexual abuse and one did not show differences among abuse categories. The effect of covariates was demonstrated by comparing unadjusted and adjusted models. It was shown that the number of times that each traumatic event occurred may increase the association between exposure and outcome. Cannabis was the most studied drug. It was shown that even when studying an individual drug, rather than any illicit drug use, association persisted in most cases.

Study	Physical abuse	Sexual abuse	Physical and sexual abuse	N
Adlaf et al., 1996	b = 0.049 (β = 0.015)		b = 0.156 (β = 0.038)	217
Benjet et al., 2013	2.07 (1.02-4.23) p < 0.0001	1.68 (0.52-5.42)		3005
Dubowitz et al., 2016	Heavy use 1.23 (0.72-2.08)	Heavy use 0.80 (0.47-1.37)		702
Fergusson et al., 2008	B = 0.56 (S.E.= 0.14) p < 0.0001	B = -0.02 (p > 0.70)		1265
Hayatbakhsh et al., 2009a		3 or more times 2.0 (1.1-3.5) p < 0.05		2373
Hayatbakhsh et al., 2009b		Penetrative 1.8 (1.3-2.7) p < 0.01		3754
Hayatbakhsh et al., 2009c		3 or more times O 2.1 (1.4-3.3) F 3.6 (2.0-6.4) p not reported		3285
Huang et al., 2011	Past year 1.40 (1.10-1.78) p < 0.01	Past year 0.80 (0.47-1.36)		4882
Lansford et al., 2010	Positive significant correlation			585
Lau et al., 2005	Beaten to injury 2.07 p < 0.001			95788
Mills et al., 2017	1.74 (0.91-3.34) p = 0.095	1.45 (0.77-2.72) p = 0.247	1.60 (1.08-2.39) p = 0.020	3778
Moran et al., 2004	2.91 p < 0.001	3.74 p < 0.001	17.38 p < 0.001	2164
Southwick Bensley et al., 1999		L 2.8 (1.8-4.4) H 3.4 (1.9-5.9) p not reported		4790



Teenage	Maltreatment	Misuse	Drug	Alcohol
Adolescent	Child abuse	First use	Illicit drug	Chemsex
Adolescence	Sexual abuse	Initiation	Cannabis	NPS
Youth	Physical abuse	Illicit use	Marijuana	Legal high
Child	Adverse experience	Use	Hash*	Ecstasy
	Trauma	Abuse	Skunk	Cocaine
	Stress	Experimentation	Opiate	Meth
			Heroin	Tobacco
			Stimulant	Nicotine
				Cigarette

Conclusions: Evidence supports a relationship between childhood maltreatment and adolescent drug use, although relevant differences in association between classes and subtypes of maltreatment can be found. The vast majority of the included studies are confirming the hypothesis that childhood maltreatment is indeed a risk factor for the onset of drug use during adolescence, which increases risk for addiction problems in adulthood. It is important for policy makers to incorporate this knowledge into public health agendas, focusing on early life stages and ways to avoid and address trauma and stress. Regarding clinical practice, it is important to acknowledge this in order to proficiently identify and screen high risk subjects during clinical appointments.

Figure 1. Flowchart of search results and clusters of search terms

References:
 [1] Hines, L., Morley, K., Strang, J., Agrawal, A., Nelson, E., Statham, D. et al., 2015. The association between speed of transition from initiation to subsequent use of cannabis and later problematic cannabis use, abuse and dependence. *Addiction* 110(8), 1311-1320.
 [2] Benjet, C., Borges, G., Medina-Mora, M., Méndez, E., 2013. Chronic childhood adversity and stages of substance use involvement in adolescents. *Drug And Alcohol Dependence* 131(1-2), 85-91.
 [3] Hines, L., Morley, K., Mackie, C., Lynskey, M., 2015. Genetic and Environmental Interplay in Adolescent Substance Use Disorders. *Current Addiction Reports* 2(2), 122-129.