SYSTEMATIC REVIEW ON THE IMPACT OF LIFESTYLE HABITS AND PROBLEM BEHAVIOUR ON NON-SUICIDAL SELF-INJURY IN ADOLESCENTS

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INTRODUCTION & AIM

Non-suicidal self-injury (NSSI) in adolescents has increased in recent years and constitutes a public health problem. A worldwide NSSI prevalence of 17.7% has been found, and it is higher in females.

Objective. Analyze and summarize the evidence on the association of lifestyle habits and problem behavior with NSSI in adolescents.

Systematic review question (PECO)

P: adolescent population (10 to 19 years, both included)

E: lifestyle habits and problem behaviours that could constitute risk factors for NSSI

C: no presence of lifestyle habits and problem behaviours that could constitute risk factors for NSSI

O: NSSI

METHOD

PRISMA (Protocol)
PROSPERO
(CRD42024501154)

Medline, EMBASE, APA PsycInfo

- Study eligibility criteria: prospective studies
- Selection of studies and data extraction: Rayyan software
- Quality assessment: The Newcastle-Ottawa Scale
- Statistical analyses: Review Manager 5.4 Software
- Certainty of evidence: GRADE

RESULTS & DISCUSSION
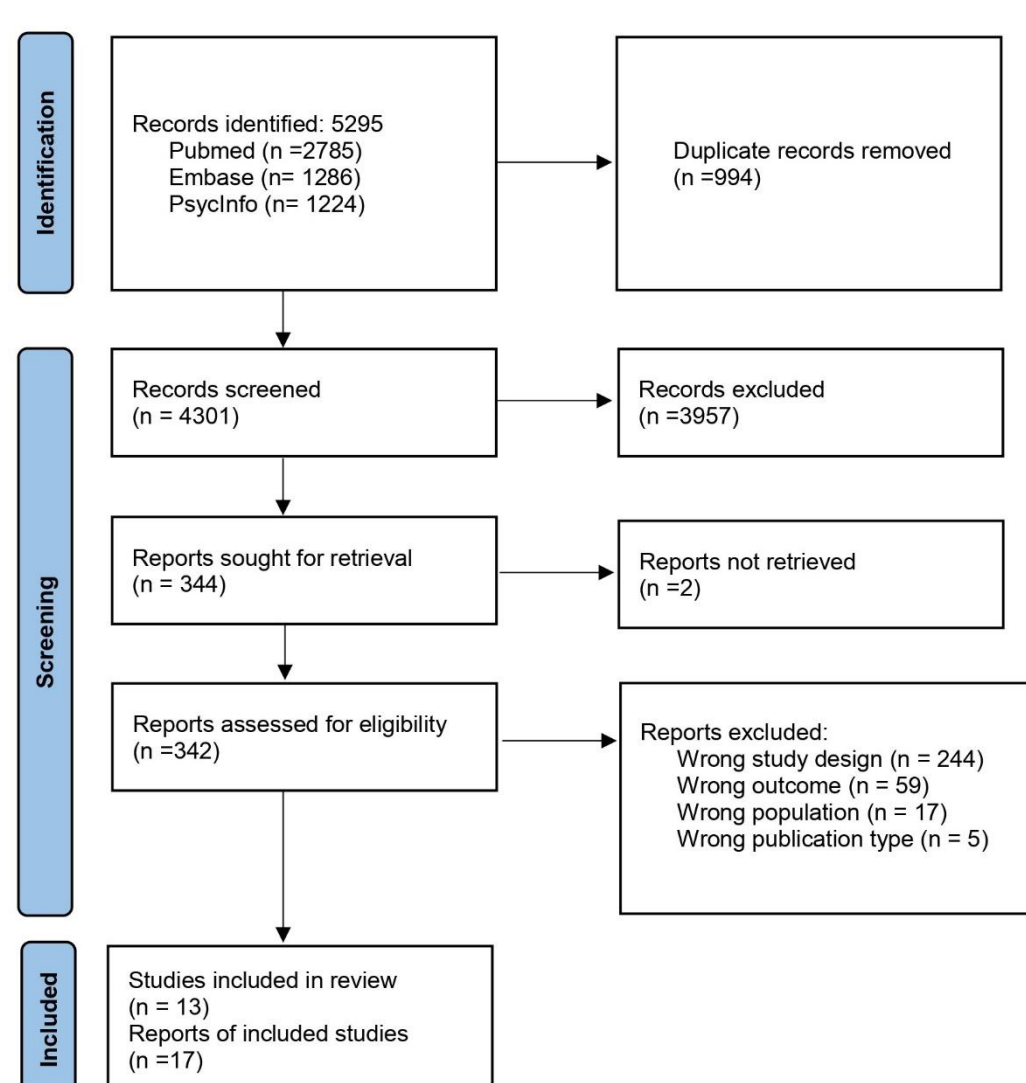
Figure 1. PRISMA Flowchart of the screening process

Table 2. Newcastle-Ottawa Quality Assessment Scale for exposure and outcome of interest

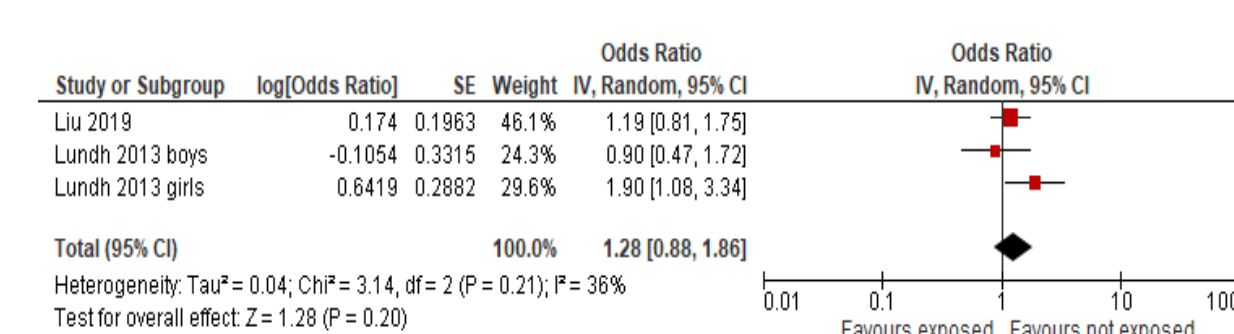|	Selection				Comparability	Outcomes			Score
	1	2	3	4	1	1	2	3	Total
Asarnow 2020		*	*		*	*	*		5/9
Fang 2022	*	*			**		*	*	6/9
Few 2016	*	*	*	*	**		*	*	8/9
Garisch 2015	*	*	*				*		4/9
Korhonen 2018	*	*	*		**		*	*	7/9
Lai 2021	*	*					*		4/9
Larsson 2008	*	*		*	**		*	*	7/9
Lundh 2013	*	*		*	*		*	*	6/9
Ma 2023	*	*			**		*		6/9
Marin 2020	*	*					*		4/9
Nguyen 2023		*			**		*	*	5/9
SABHC study	*	*			**		*	*	6/9
Tuisku 2012-14		*				*	*	*	4/9

Figure 2. Forest-plot for poor sleep quality

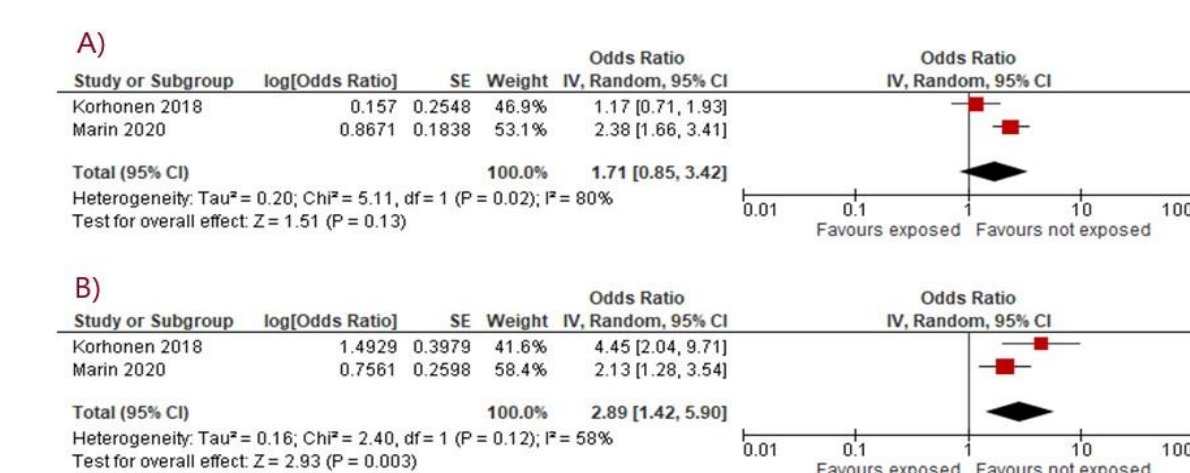Figure 3. Forest plot for A) Experimenting smoking and B) Regular smoking

Table 3. Summary of findings

Exposure	Nº studies (nº participants)	Relative effect (RR or OR, 95%CI; I²)	Certainty of the evidence (GRADE)
Sleep	5 (10751)	Poor sleep quality: OR 1.28 (0.88-1.86); I² 36%; 2 studies Asarnov 2020: one SD increase in PSQI (sleep quality) aOR 2,0 (1.06, 3.81). p-value correcting for multiple testing 0.076 Nguyen 2023: sleep disturbance did not predict NSSI at 6-month follow-up (p 0,987) Fang 2021: vs persistent sleeping ≥8 h/day: aOR 2.58 (1.92-3.45) for moderately decreasing sleep duration; aOR 4.16 (2.86- 6.04) for rapidly decreasing group Liu 2019: aOR for <6h nocturnal sleep time 1.32 (0.89–1.97)	Very low (⊕○○○)[a]
Tobacco	4 (16.910)	Experimenting smoking: OR 1.71 (0.85-3.42); I² 80%, 2 studies Regular smoking: OR 2.89 (1.42-5.90); I² 58%; 2 studies Liu 2021: ever cigarette smoking OR 1.52 (1.12–1.80) for repeated NSSI Larsson 2008: significant sex by smoking interaction (girls who smoked "sometimes or daily" self-harmed more often than boys) (OR 2.2 [1.3–3.5])	Very low (⊕○○○)[a]
Alcohol	2 (7211)	Liu 2021: OR 1.85 (1.41–2.44) for repeated NSSI Tuisku 2014: alcohol use according to AUDIT score aOR 1.07 (1.00-1.14)	Very low (⊕○○○)[b]
Cannabis	1 (6.009)	Few 2016: early vs later cannabis use (before/after 17 years) aOR 1.42 (1.13-1.75)	Very low (⊕○○○)[c]
Substance use	1 (495)	Garisch 2015: non-significant association in a cross-lag correlation (standardised coefficient 0.11)	Very low (⊕○○○)[b]
Mobile phones	1 (7072)	Wang 2020: Mobile phone use ≥2 h/day on weekdays: aOR 0.81 (0.46-1.44). Mobile phone use ≥4 h/day on weekends: aOR 0.76 (0.47-1.20). It was associated with recurrent NSSI	Very low (⊕○○○)[d]
Internet	2 (8602)	Ma 2023: Internet addiction. Moderate aRR 2.25 (1.59–3.19). Severe aRR 2.39 (1.17–3.08) Wang 2020: internet use Weekdays ≥ 2 h aOR 1.02 (0.58-1.79); internet use Weekends ≥ 3 h aOR 1.16 (0.76-1.77). They were associated with recurrent NSSI	Very low (⊕○○○)[a]
Physical activity	1 (2744)	Lai 2021: OR 0.49 (0.41-0.58)	Very low (⊕○○○)[b]

AUDIT score: Alcohol Use Disorders Identification Test; OR: odds ratio; PSQI: Pittsburgh Sleep Quality Index; RR: relative risk

a) Downgraded one level for inconsistency
b) Downgraded one level due to risk of bias (low quality)
c) Downgraded one level due to indirectness
d) Downgraded one level for imprecision

CONCLUSION

- The available evidence suggests that there may be an association between adolescent lifestyles and problem behaviours with NSSI.
- Substance use, low physical activity and internet addiction have shown significant associations with NSSIs.
- Inconsistent results have been found in relation to the amount of time spent of electronic device use and sleep deprivation.

FUTURE WORK

- Longitudinal evidence is currently very limited.
- These findings highlight the importance of further investigating their potential as risk markers in longitudinal studies.