

# PHYSICAL PAIN – SUICIDALITY ASSOCIATION IN ADULTS: A META-ANALYSIS

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## ABSTRACT

**Objective:** Providing a data update about physical pain – suicidality association in adults only.

**Methods:** After searching on Pubmed, data were extracted from articles comparing the rates of current and lifetime suicidal thoughts and behaviors (death wish, suicidal ideation, suicidal planning, suicide attempt and suicide death: DW, SI, SP, SA, and SD) in adults with any type of physical pain and in individuals who did not report this condition. Data were analyzed with Cochrane Collaboration Review Manager software (RevMan, version 5.4).

**Results:** 28 studies were included. Although high between-study heterogeneity was detected in most analyses (which however underwent a reduction in sensitivity analyses), results suggested that adults with physical pain are more likely to report any form of suicidal outcome, except for SD, compared to individuals not affected by pain. No evidence of publication bias was reported in the main analysis (lifetime SA).

**Conclusions:** Need for screening and assessing suicide risk in adults with physical pain.

## BACKGROUND

Multiple epidemiological and clinical studies have explored the relationship between physical pain and suicidal thoughts and behaviors. It is also supported by many theories, such as Interpersonal Theory of Suicide<sup>1</sup>.

## OBJECTIVE

Providing an update of the data already present in literature about this specific association in adults. Meta-analyses have a strong statistical and clinical impact. We decided to focus on **adults only** (18-65 years old) in order to reduce between-study heterogeneity.

## METHODS

### DATABASE RESEARCH

- **Pubmed** (from 2015/05/01 to 2020 03/31) + Calati et al., 2015<sup>2</sup>
- **Inclusion/exclusion criteria:**
  - cases vs controls (pain vs no pain)
  - suicidal outcome rates for both groups
  - adults only (18-65 years old)

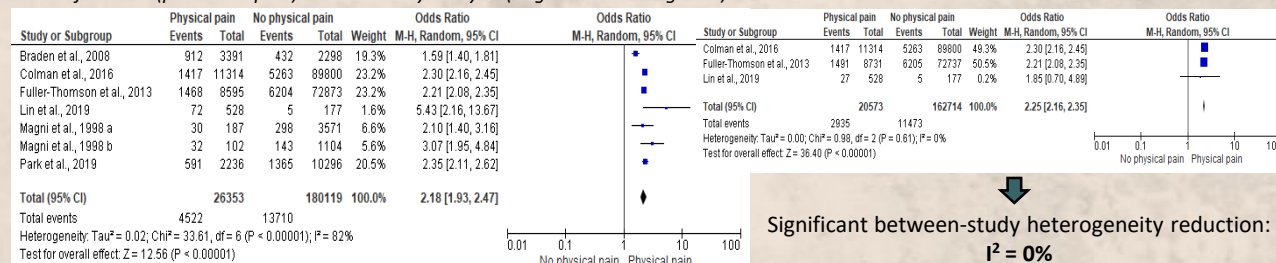
### STATISTICAL ANALYSES

- **Meta-analyses: RevMan 5.4:**
  - Random effect framework
  - Individual and pooled ORs, with 95% CIs
  - Overall effect size: Z test
  - Between-study heterogeneity:  $\chi^2$  test of fit and  $I^2$
- **Sensitivity analyses**
- **Funnel plot and Egger's Test**

## RESULTS (total included studies: n=28)

**Significant associations** with physical pain detected for all suicidal outcomes (current and lifetime DW, SI, SP, SH and SA) except for SD. **No evidence of publication bias.**

### 1.1 Lifetime SI (pain vs no pain) and sensitivity analysis (migraine vs no migraine).



### 1.2 Lifetime SA (pain vs no pain) and sensitivity analysis (clinical population only).

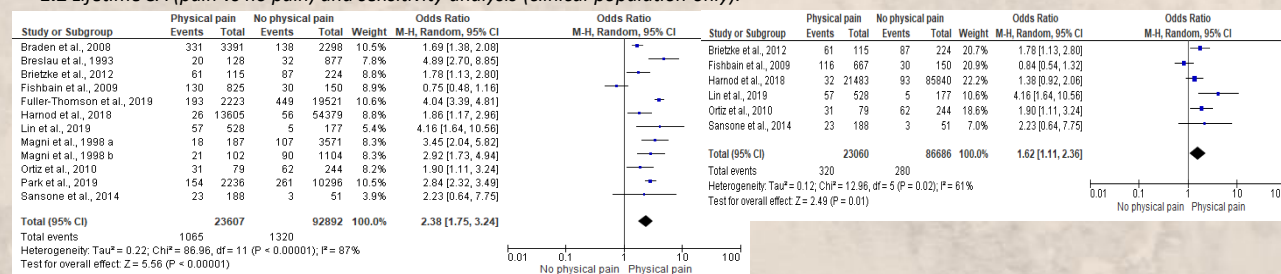


Fig.1 Forest plots of the main analyses and associated sensitivity analyses (conducted on specific subgroups of articles).

## CONCLUSIONS

➔ **Physical pain is a consistent risk factor for suicidality in adults**

Results in line with previous literature, which underlined the need for screening and assessing suicide risk in patients reporting physical pain. **Future aims:** investigating the impact of intervening variables through meta-regressions.

### Strengths:

- Large number of included studies;
- Any suicidal outcome and any type of physical pain;
- Focused on adults only.

### Limitations:

- High between-study heterogeneity;
- High clinical and methodological variability;
- Inclusion of alternative forms of physical pain.

## REFERENCES:

1. Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner, T. E. (2010). The Interpersonal Theory of Suicide. *Psychological Review*, 117(2), 575–600
2. Calati, R., Laglaoui Bakhiyi, C., Artero, S., Ilgen, M., & Courtet, P. (2015). The impact of physical pain on suicidal thoughts and behaviors: Meta-analyses. *Journal of Psychiatric Research*, 71, 16–32.