

Suicidal Behavior in Patients with Chronic Pain: A Systematic Review and Meta-Analysis

Chan-Young Kwon

Department of Oriental Neuropsychiatry, Dong-eui University College of Korean Medicine



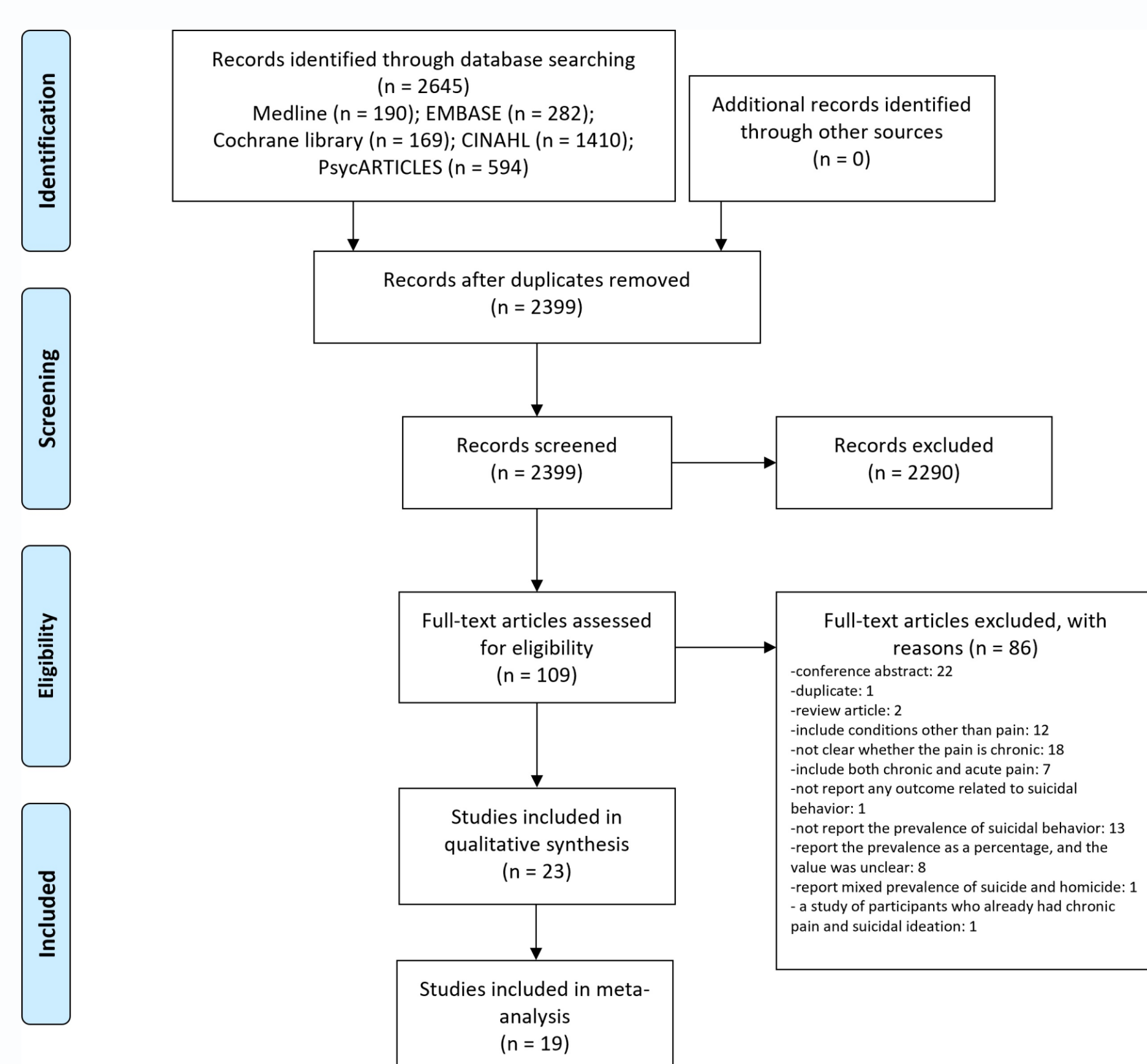
[Objectives]

- ✓ Chronic pain may contribute to suicidal behaviors by leading to some mechanisms including pain-related catastrophizing.
- ✓ This review aimed to investigate the prevalence and associated factors of suicidal behaviors including suicidal ideation and suicide attempt or its complete, in with chronic pain.

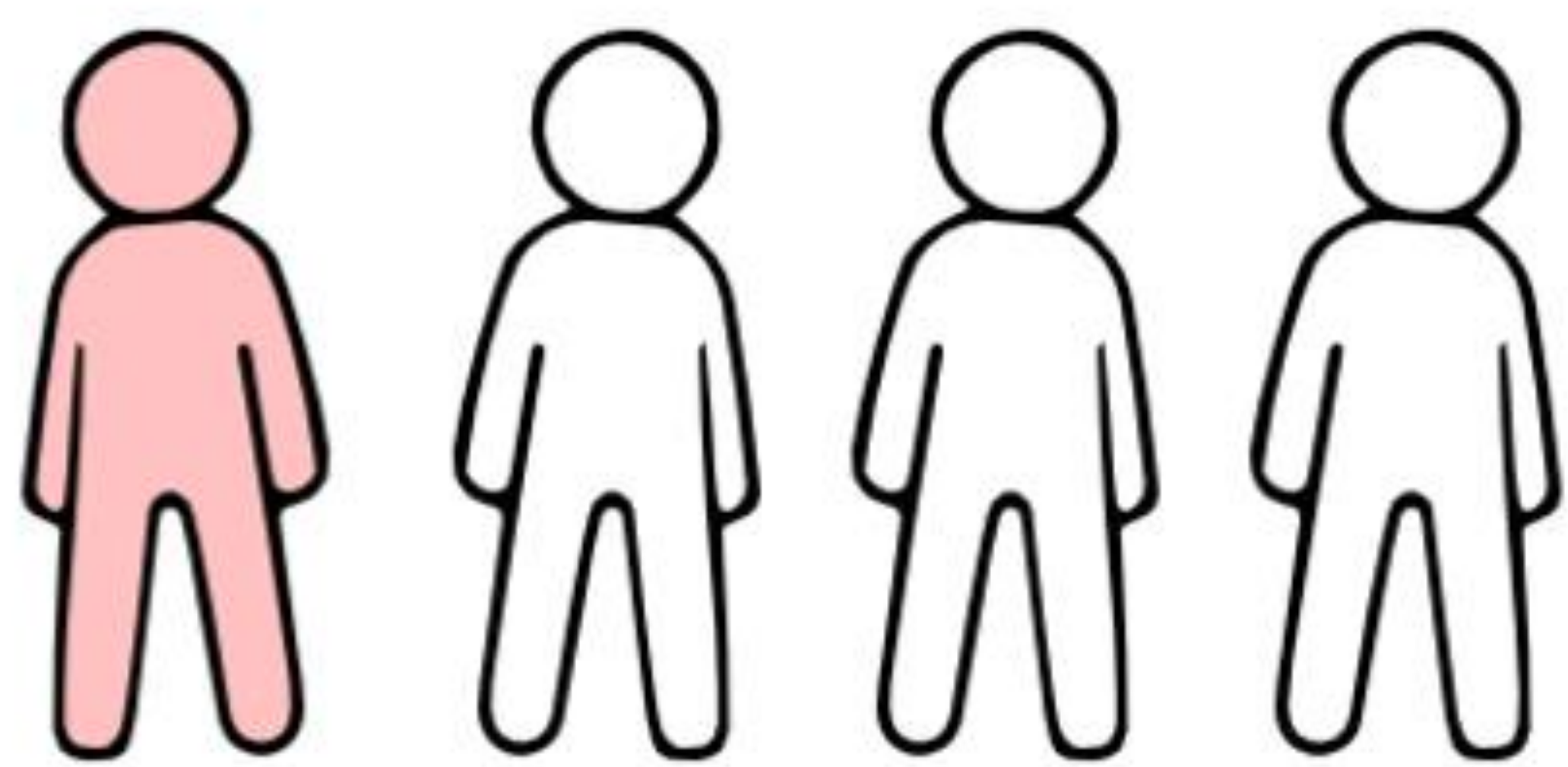
[Methods]

- ✓ By comprehensive searches in five databases, observational studies published up to up to October 4, 2022, investigating the prevalence of suicidal behavior in chronic pain patients were included.
- ✓ By using the command 'metaprop' was used in STATA/MP 16, a meta-analysis was conducted to quantify the prevalence of suicidal behavior in chronic pain patients.

[Results]



- ✓ Total 19 studies were included (N = 3,312,343).



- ✓ The pooled lifetime prevalence of suicidal ideation and suicide attempt was 28.90% (95% CI: 17.95%, 41.26%) and 10.83% (5.72%, 17.30%), respectively, in a mixed sample.
- ✓ Also, The pooled prevalence of past 2-week suicidal ideation was 25.87% (18.09% to 34.50%) in this sample.

[Conclusion]

- ✓ Around 1 in 4 chronic pain patients had suicidal ideation within the last 2 weeks.
- ✓ However, there was considerable heterogeneity in the pooled prevalence of suicidal behavior in this population.

| | SI | | | | SA | | | Suicidal behavior |
|--|-------------------------|--------------|-----------|-----------|-----------------------------|-----------|-----------|-------------------|
| | current | past 2 weeks | past year | lifetime | not specified | past year | life time | past year |
| 1-1. Pain conditions | | | | | | | | |
| 1. Headache | | | NS§ | | +\$ | | | |
| ↳Migraine | | | +\$ | | | +\$ | | |
| ↳Medication overuse headache | | | | +\$ | | | +\$ | |
| 2. Musculoskeletal pain | | | | | | | | |
| ↳Arthritis | | | NS§, +* | | | NS§, +* | | |
| ↳Backache | | | +\$ | | | +\$ | | |
| ↳Neuropathic pain | pSI, +\$; aSI, +\$ | | | | | | | |
| 3. Abdominal pain | pSI, +\$; aSI, NS§ | | | | | | | |
| 4. Fibromyalgia | | | NS§, +* | | | NS§, +* | | |
| 1-2. Characteristics of pain | | | | | | | | |
| 1. Pain severity | NS**§§ | NS§ | NS§ | | | | | |
| 2. Pain location | NS* | | | | | | | |
| 3. Pain duration | | NS§ | | | | | | |
| 4. Number of pain conditions | | | NS§ | | | | | |
| 5. Functional disability | NS* | NS§ | | | | | | |
| 1-3. Psychological effects of pain | | | | | | | | |
| 1. Pain catastrophizing | NS* | | | | | | | |
| 2. Pain interference | NS*, +* | NS§ | NS§ | | NS* | | | |
| 3. Pain coping and self-efficacy | NS* | | NS§ | | | | | |
| 4. Self-worth | | -§ | | | | | | |
| 1-4. Other factors | | | | | | | | |
| 1. Oral morphine equivalent | | | NS§ | | | | | |
| 2-1. Mental conditions | | | | | | | | |
| 1. Depressive disorders | NS*, +\$ | +\$§ | | | +\$ | | | |
| ↳History of depression | NS* | | +\$ | | | | | |
| ↳Past year depression | | | | | | | | + |
| 2. Anxiety disorders | | | | | | | | |
| ↳Past year anxiety disorders | | | NS§ | | | NS§ | | + |
| ↳Obsessive-compulsive disorder | | | | | +\$ | | | |
| 3. Substance use disorders | | | | | | | | |
| ↳Alcohol use disorder | +\$ | | | | | | | |
| ↳Past year alcohol use disorder | | | | | | | | + |
| ↳Drug use disorder | NS§ | | | NS§, +**§ | | | | |
| ↳Past year drug use disorder | | | | | | | | NS* |
| 4. Personality disorders | | | | | | | | |
| ↳Borderline personality disorder | | | NS§ | | +\$ | | | |
| ↳Antisocial personality disorder | | | | | +\$ | | | |
| ↳Dependent personality disorder | | | | | +\$ | | | |
| ↳Narcissistic personality disorder | | | | | +\$ | | | |
| 5. Trauma and stressor-related disorders | | | | | | | | |
| ↳Posttraumatic stress disorder | +\$ | | | | +\$ | | | |
| ↳Past year posttraumatic stress disorder | | | NS§ | | | NS§ | | + |
| ↳Adjustment disorder | | | | | +\$ | | | |
| ↳History of abuse | + | | NS§ | | | | | |
| ↳Burdensomeness | +\$ | | | | | | | |
| ↳Hopelessness | + | | | | | | | |
| 6. Schizophrenia spectrum and other psychotic disorders | | | | | | | | |
| ↳Schizophrenia | | | | | +\$ | | | |
| ↳Schizoaffective disorder | | | | | +\$ | | | |
| ↳Delusional disorder | | | | | +\$ | | | |
| 7. Bipolar disorder | | | | | +\$ | | | |
| 8. ADHD | | | | | +\$ | | | |
| 9. Sleep disorders | NS** | | NS§ | | | | | |
| 10. TBI | NS§ | | | | +\$ | | | |
| 11. Suicide behavior-related | | | | | | | | |
| ↳Suicide item of BDI | pSI, NS§; aSI, NS§ | | | | | | | |
| ↳History of suicide ideation | NS* | | | | | | | |
| ↳History of suicide attempt | NS*, +* | | +\$ | | | | | |
| 2-2. Family history of mental conditions | | | | | | | | |
| 1. Family history of depression | ++ (pSI, +\$; aSI, NS§) | | | | | | | |
| 2. Family history of suicidal behavior | NS* | | | | | | | |
| 2-3. Other factors | | | | | | | | |
| 1. Current benzodiazepine | | | NS§ | | | | | |
| 3-1. Demographic and social factors | | | | | | | | |
| 1. Individual factors | | | | | | | | |
| ↳Age | NS**§§ | NS§ | NS§ | | -§ (age at diagnosis) | NS§ | | -.* (over 60 yr) |
| ↳Sex/gender | NS**§§, +* (male) | | NS§ | | +\$ (male) | NS§ | | NS* |
| ↳Race/ethnicity | NS§, +*§ (White) | NS§ | | | +\$ (Asian) | | | |
| | | | | | -§ (Black, hispanic/latino) | | | |
| ↳Education | | | | | | | | NS* |
| ↳Work/school disruption | NS* | | | | | | | |
| ↳Subjective physical health | | | | | | | | + |
| ↳Physical health (SF-12) | | | NS§ | | | NS§ | | |
| ↳Employed | | | NS§ | | | | | NS* |
| ↳Income | | NS§ | NS§ | | | | | |
| 2. Social factors | | | | | | | | |
| ↳Marital status | NS§ | | NS§ | | | | | -.* |
| ↳Family discord or family functioning | NS* | NS§ | | | | | | |
| ↳Social support | | | NS§ | | | | | |
| ↳Socially withdrawn or loneliness | + | NS§ | | | | | | |
| ↳Thwarted belongingness | NS* | | | | | | | |

Regarding the color of cell shading, red (symbol, "+") indicates factors significantly associated with an increased risk of suicidal behavior; green (symbol, "-") indicates factors significantly associated with reduced risk of suicidal behavior; and gray (symbol, "NS") indicates factors not significantly associated with risk of suicidal behavior. "*" indicates the regression analysis result without adjusting for psychiatric symptoms, and "§" indicates the regression analysis result with psychiatric symptoms such as depression being adjusted. The number of "*" or "§" refers to the number of studies reporting that result.

- ✓ Potential protective factors against suicidal behavior in chronic pain patients included pain coping and self-efficacy, older age, certain race/ethnicity groups, and marriage.

[Acknowledgement]

This research was supported by a grant of the Korea Health Technology R&D Project through the Korea Health Industry Development Institute (KHIDI), funded by the Ministry of Health & Welfare, Republic of Korea (grant number: HF22C0039).

[Notice]

The study was published in a SSCI-indexed journal, Frontiers in Psychology.



Ministry of Health
and Welfare

