

# Psychological and Mental Illness Correlates of Nicotine Withdrawal: A Systematic Review

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## Background

## Method

## Results

### ☐ Patients with MI

- MI was responsible for 44.4% of NW syndrome diagnoses.
- All MI categories (internalizing, externalizing, internalizing & externalizing, and psychotic disorders) had a greater likelihood to be diagnosed with NW syndrome as compared to smokers without MI. Especially for patients with psychotic disorder (relative risk = 3.45).
- Greater NW severity was associated with:
  - ✓ Being African American.
  - ✓ Being a woman.
  - ✓ Having greater psychiatric symptom severity.
  - ✓ Having a diagnosis of alcohol or other drug use disorders.
- Patients with anxiety disorders generally had a higher risk for smoking relapse due to NW.
- Lower patient confidence in quitting and receiving delayed nicotine replacement therapy after admission predicted greater NW in the context of psychiatric hospitalization.
- Finally, having a history of life-time major depressive disorder was also associated with a 2.5-times increased risk of relapse due to NW.

## Conclusion

- NW hinders smokers' abilities to quit smoking through enhancing risk for relapse.
- Researchers are encouraged to continue scrutinizing the nature and correlates of this phenomenon, particularly among people with MI, for better evidence-based treatment recommendations and to guide existing prevention policies.

### ☐ Patients without MI

- NW was associated with:
  - Declines in cognitive functioning, such as:
    - ✓ Attention.
    - ✓ Secondary memory.
    - ✓ Response inhibition (a consecutive function enabling individuals to suppress an action interfering with his/her goal-directed behavior).
  - Anxiety.
  - Depression.
- The number of cigarettes smoked per day predicted NW severity at 24 and 48 hours of smoking abstinence
- Quitting-related self-efficacy demonstrated a considerable trend towards predicting NW severity after 24 and 48 hours of smoking abstinence.
- NW intensity increased among smoking abstiners (i.e., 48 hours abstinence) in response to stress.
- Abstinent smokers (i.e., 48 hours) had lower stress-induced analgesia (pain tolerance) levels compared to non-smokers.
- NW negatively affected sleep quality in terms of:
  - ✓ Percentage of wake time after sleep onset.
  - ✓ Greater arousal index.
  - ✓ Lower sleep efficacy.
  - ✓ Reduced feeling of well-being in the evening during withdrawal.



- The PsychINFO, MEDLINE, and CINAHL databases were searched for articles addressing the adult population and were published within the past 10 years. Studies addressing pharmacological interventions to treat NW were excluded. The final databases search yielded 19 articles. See Figure 1. for articles selection process.

The PsychINFO, MEDLINE, and CINAHL with Full Text databases were searched using the following phrases:

- Nicotine withdrawal.
- Nicotine withdrawal syndrome.
- Nicotine withdrawal AND mental illness.
- Nicotine withdrawal AND smoke-free hospitalization.
- Nicotine withdrawal AND substance use.

### Limiters applied (inclusion criteria):

- Articles published in academic journals.
- English language publications.
- Adult population (≥18 years of age).
- Articles published in the past 10 years.

3,836 articles

140 articles

19 articles

### Abstracts reviewed, and the following exclusion criteria applied:

- Review articles.
- Animal studies.
- Qualitative studies.
- Genetic studies.
- Duplicates.
- Pharmacological intervention studies.
- Articles not addressing nicotine withdrawal as a primary or secondary outcome.

10 articles addressing psychological correlates of nicotine withdrawal.

9 articles addressing mental illness correlates of nicotine withdrawal.

Figure 1. Flow chart of articles selection process.

## Purpose

- The literature examining tobacco use and NW is extensive, ongoing, and constantly updating. To the best of our knowledge, systematic reviews specifically examining NW are scarce.
- The purpose of this systematic review was to synthesize the NW literature over the past decade in terms of its psychological and MI correlates.

