

# An integrative review of fatigue in adults with type 2 diabetes mellitus: Implications for self-management and quality of life

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## Introduction:

People with type 2 diabetes mellitus (T2DM) experience various symptoms that are likely to worsen mental and physical well-being. Fatigue, a subjective feeling of tiredness, is one of the most prevalent symptom that likely hinders diabetes self-management and quality of life for adults with T2DM.

## Purpose:

The purposes of this integrative literature review were:

1. To examine the socio-demographic, physiologic, and psychosocial factors related to fatigue
2. To explore the associations among fatigue, diabetes self-management and quality of life in adults with T2DM

## Methods:

- A review of the literature published from inception to December 2020
- Searched databases: PubMed, PsycINFO, and CINAHL (Figure 1)
- Inclusion criteria: studies that recruited adults with T2DM, were peer-reviewed, were written in English, and investigated fatigue as a primary or secondary outcome
- Exclusion criteria: Studies that included people with type 1 diabetes, gestational diabetes, or pancreatogenic diabetes, review articles, commentaries, letters to editors, and unpublished manuscripts
- Search Terms: “type 2 diabetes” OR “type ii diabetes” AND “adults” AND “fatigue”
- Two investigators independently appraised the quality of the studies using the Joanna Briggs Institute (JBI) critical appraisal tools and extracted the data

## Results:

- Twenty-nine high-quality articles met the inclusion criteria
  - Observational studies: 23
  - Experimental studies: 2
  - Qualitative studies: 3
  - Quasi-experimental study: 1
- Participants were predominantly middle-aged or older adults (range from 40 to 82); non-Hispanic White and Black were the most studied
- Most studies measured fatigue using the Multidimensional Fatigue Inventory (n = 6) and 8 other measures
- Socio-demographic (e.g., sex, education, social support), physiological (e.g., T2DM duration, complications, inflammatory biomarkers), and psychological factors (e.g., diabetes distress, depression, sleep quality) were related to fatigue in adults with T2DM.
- Fatigue was negatively associated with both diabetes self-management and quality of life

## Conclusions:

- Most studies examined physiological factors related to fatigue using a cross-sectional design
- Research demonstrates significant relationships between fatigue and self-management and quality of life in adults with T2DM
- Gaps in the literature include the multiple dimensions of fatigue, effective of interventions (e.g., sleep interventions) to alleviate fatigue, and unique experiences of fatigue in under-represented populations.

## Figure:

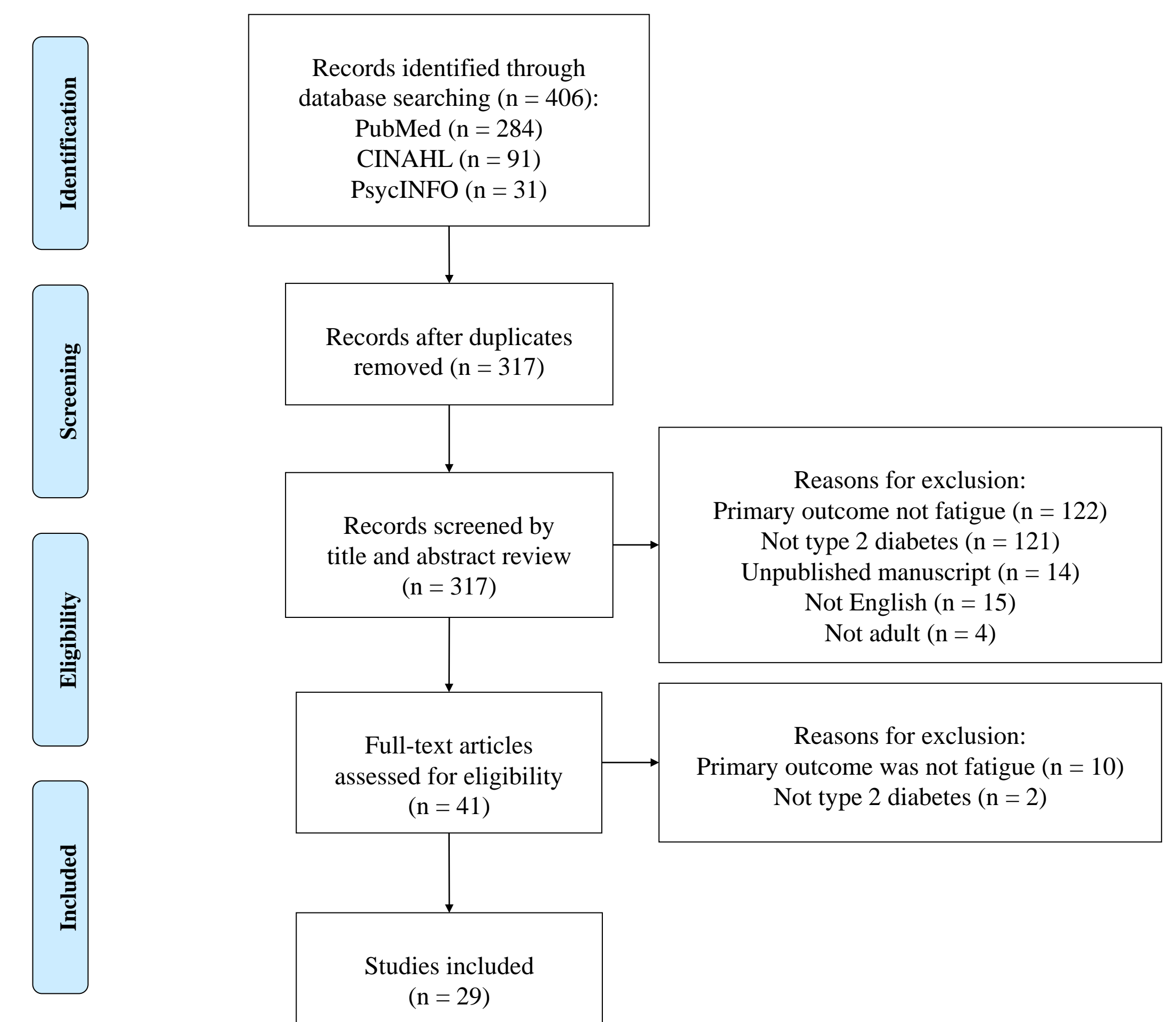


Figure 1. The PRISMA flow diagram of the study selection process

