

Social Determinants of Health and Pain among People with Cancer in the United States: Scoping Review

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INTRODUCTION

- Social determinants of health (SDOH) are structural factors that yield health inequities¹, and can be classified into five domains²
- SDOH have a significant impact on various symptom burden
- Pain is one of the most frequently experienced symptoms in people with cancer³ and often remains uncontrolled and untreated, leading to negative health outcomes⁴
- It is important to understanding the relationship between SDOH and cancer pain to control cancer pain more effectively and appropriately

PURPOSE

- To describe SDOH measurements and domains in previous studies on cancer pain and synthesize its association with cancer pain

METHODS

- **Design:** Scoping review guided by the PRISMA guideline of Scoping Reviews⁵
- **Databases:** PubMed, CINAHL, and Embase
- **Eligibility:** Studies on cancer pain and SDOH for residents of the U.S.
- **Search date:** November 30, 2023
- **Critical appraisal:** Joanna Briggs Institute⁶

REFERENCES

¹ Rehman T., Wiler J. (2024). A missed opportunity: Reimbursing social determinants of health screenings and interventions in emergency departments. *Journal of Public Health Management and Practice*, 30(1), 8–11.

² Healthy People 2030. Social Determinants of Health. Retrieved November 14 from <https://health.gov/healthypeople/priority-areas/social-determinants-health>

³ McGuire D. B. (2004). Occurrence of cancer pain. *JNCI Monographs*, 2004(32), 51–56

⁴ Mantyh P. W. (2006). Cancer pain and its impact on diagnosis, survival and quality of life. *Nature Reviews Neuroscience*, 7(10), 797–809.

⁵ Tricco A. C., Lillie E., Zarin W., O'Brien K. K., et al (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, 169(7), 467–473.

⁶ Peters M. D., Godfrey C. M., McInerney P., Soares C. B., Khalil H., Parker D. (2015). The Joanna Briggs Institute reviewers' manual 2015: methodology for JBI scoping review.

CONTACT INFORMATION

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RESULTS

- A total of 20 studies were included for final synthesis
- Rising attention to SDOH and cancer pain since 2011 was noted
- Most studies were a cross-sectional design (75%), conducted in adults (90%), examined general pain (95%), regardless of cancer site (75%)
- Among five domains of SDOH defined by Healthy People 2023
 - *Social and community* domain was studied the most
 - *Neighborhood and built environment* domain was the least studied
 - *Economic stability* have shown a consistent relationship with cancer pain
 - Education has been measured the most

Characteristics (N=20)	n	%
Publication Year		
~2002	1	5
2003~2012	9	45
2013~2022	10	50
Study Design		
Quantitative study	19	95
Cross-Sectional	15	75
Longitudinal	3	15
Randomized controlled trial	1	5
Qualitative study	1	5
Population		
Children	1	5
Adult	18	90
Native Indians	1	5
Chinese American	2	10
Older adult	1	5
Cancer site		
Non-specific	15	75
Breast cancer	2	10
Breast, Colorectal & Prostate cancer	1	5
Colorectal & Lung cancer	1	5
Head and Neck cancer	1	5

Table 1. Study Characteristics

SDOH Domains & Concepts	Measurements	n
Economic Stability		11
→ Consistently shows a negative relationship with cancer pain		
Income	Demographic information	7
Wealth	Simple questions	1
Employment	Demographic information	3
Education Access and Quality		11
→ Mainly shows a consistent negative relationship with cancer pain		
Education level	Demographic information	11
Health care Access and Quality		5
→ Mainly shows a consistent negative relationship with cancer pain		
Healthcare Access	Simple questions	1
Insurance	Demographic information	4
Social and Community Context		13
→ Findings vary depending on the measures or categories used		
Marital Status	Demographic information	5
Acculturation	Survey language	3
	Acculturation scale	2
Social Isolation	PROMIS - Social Isolation	1
	Perceived social isolation	1
Emotional Support	PROMIS - Emotional Support	1
Neighborhood and Built Environment		2
→ Further investigations are warranted		
Neighborhood well-being	Poverty by Zip code	1
Built environment	Blight Prevalence by Zip code	1

Table 2. SDOH measurement

CONCLUSION

- Despite increased attention to SDOH, the majority of studies used a single dimension variable derived for demographic data
- Given economic, cultural, and social factors are intertwined closely, future research needs to explore the intersectionality of SDOH domains and their impact on cancer pain
- Further studies are needed for children and older adults, specific pain (i.e. neuropathic pain), as well as *neighborhood and built environment* domain of SDOH
- To address existing disparities and reduce cancer pain, intervention studies are warranted

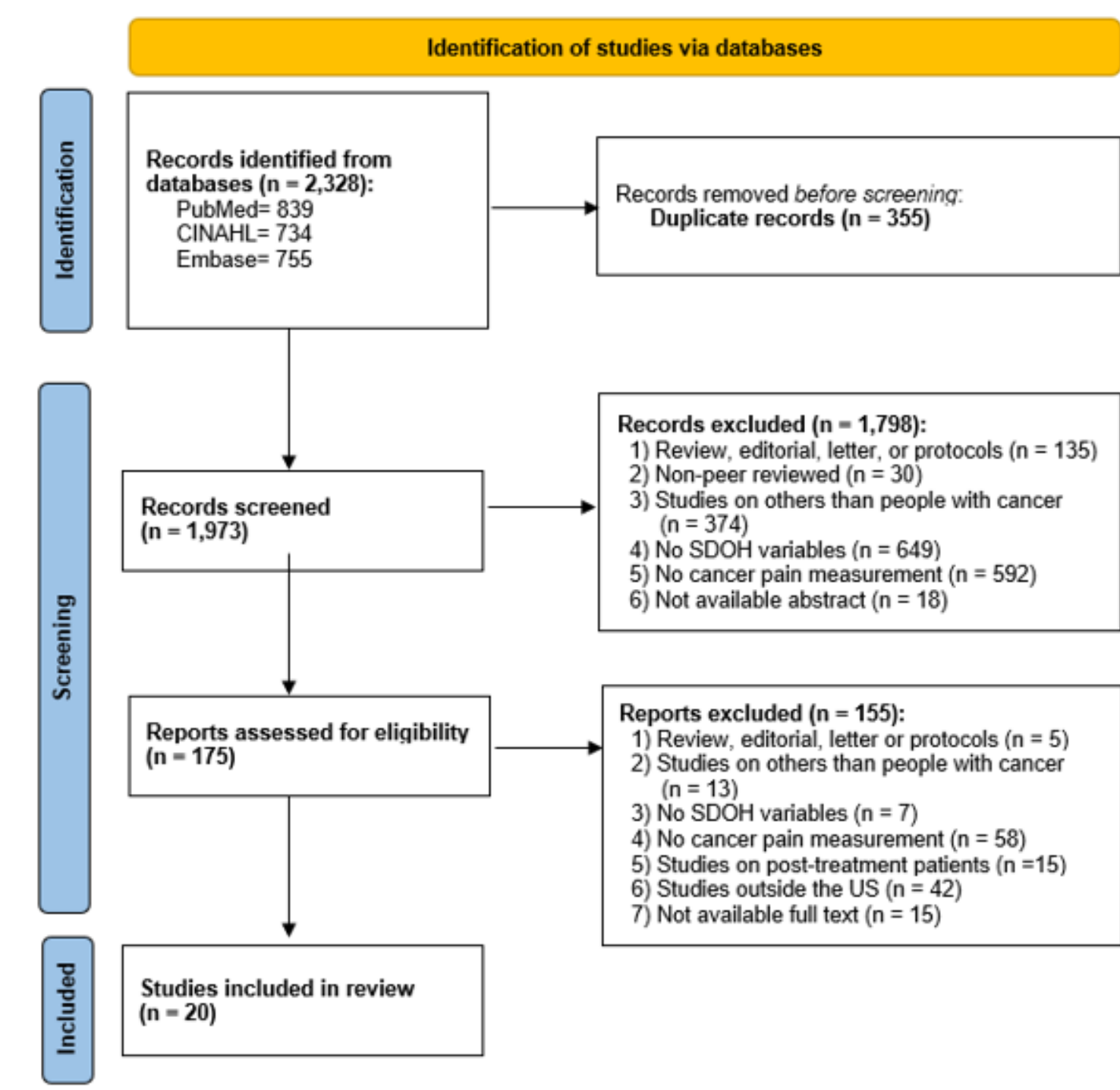


Figure 1. PRISMA 2020 flow diagram

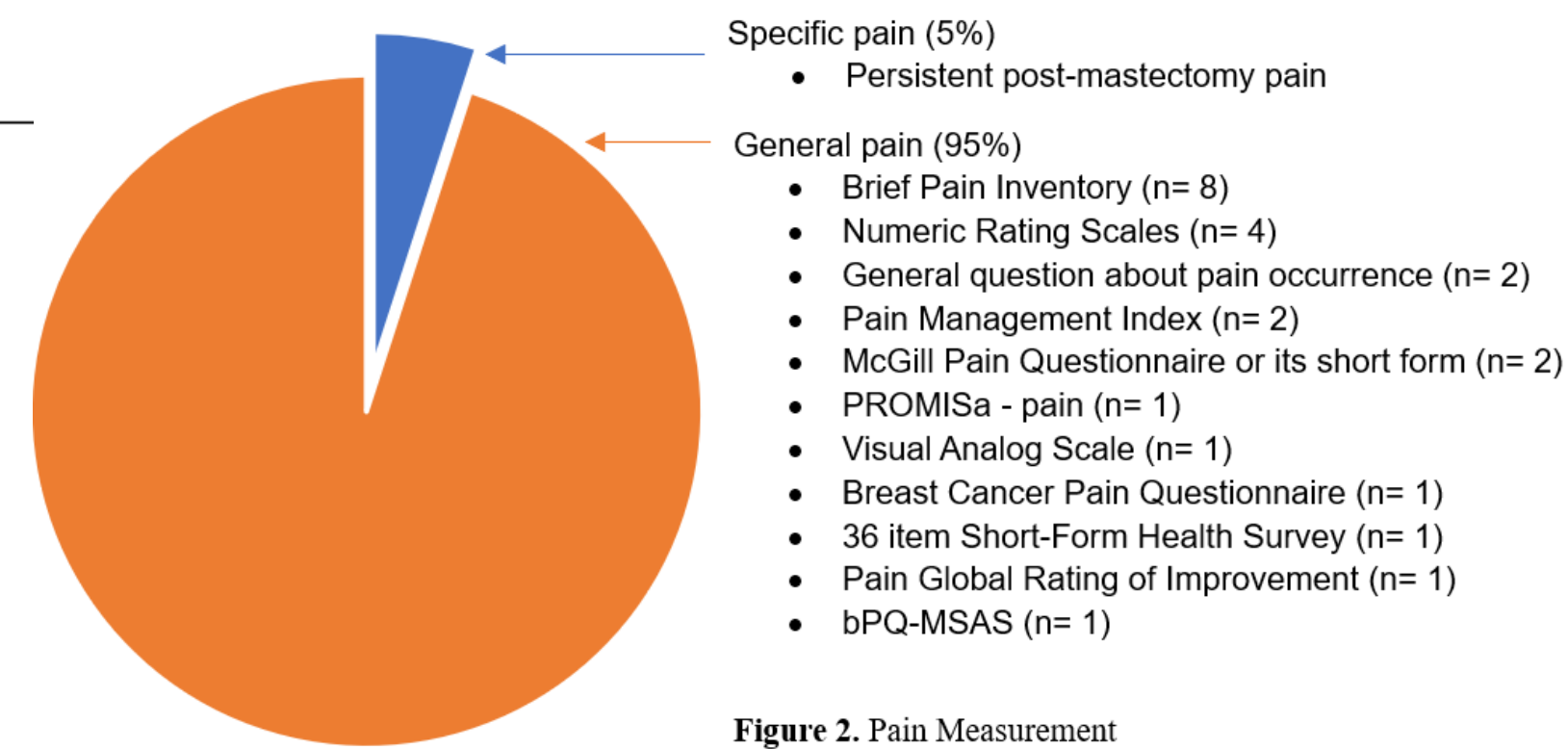


Figure 2. Pain Measurement