COGNITIVE AND SOCIAL DETERMINANTS OF MEDICATIONS FOR OPIOID USE DISORDER: A SYSTEMATIC REVIEW

Alexandra Hernandez-Vallant[1,2], & Margo C. Hurlocker[1,2]

[1]University of New Mexico, Department of Psychology [2]University of New Mexico, Center on Alcohol, Substance Use, & Addictions (CASAA)

BEHAVIORAL HEALTH, IMPLEMENTATION, AND PREVENTION (BHIP) RESEARCH LAB

CENTER ON ALCOHOL SUBSTANCE USE & ADDICTIONS

INTRODUCTION

- Cognitive deficits are well documented among individuals seeking medications for opioid use disorder (MOUD) treatment
  - Yet, consensus on the neuropsychological domains most impacted by chronic opioid use and whether cognitive improvements are amenable to MOUD over time is lacking
- To clarify the utility of neuropsychological assessment as a part of routine MOUD care, greater attention is needed to the social determinants of health (SDOH)

Aims of the systematic review:

- Use an adapted SDOH framework to review the role of neuropsychological assessment in United States-based MOUD treatment research

METHODS

- We followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA)
- Inclusion criteria : peer reviewed articles focused on MOUD treatment that utilized validated neuropsychological assessments
- Extraction strategy was informed by the Healthy People 2030 Social Determinants of Health (SDOH) Framework[1] (**See Table 1**)

Table 1. SDOH Variables Extracted

Domain	Example variables
Economic Stability	Employment status, income, debt
Neighborhood & Built Environment	Housing, transportation, safety, geographic location
Education Access & Quality	Language, literacy, premorbid intelligence, early childhood variables, English language proficiency
Social & Community Context	Race, ethnicity, gender/sexual identity, social support/isolation, discrimination, stress, history of incarceration, mandated treatment
Healthcare Access & Quality	Healthcare coverage, provider availability, provider cultural/ linguistic competency, treatment setting, availability of counseling

Note. SDOH = Social Determinants of Health
[1]Ofice of Disease Prevention and Health Promotion

RESULTS

Table 2. Variables from the Health People 2030 Social Determinants of Health from Selected Articles of the Review

First author (Year)	MOUD	SDOH Domains*				Integrated SDOH	Examples of variables from the SDOH categories/integration**
		Economic Stability	Education Access & Quality	Social & Community Context	Healthcare Access & Quality		
Acosta (2012)	Methadone		X	XXX	X	No	**Education Access & Quality:** Educational attainment (i.e., years) **Social & Community Context:** Race; Ethnicity; Gender **Healthcare Access & Quality:** Comorbid conditions (i.e., HIV, HCV)
Appel (1976)	Methadone	X		X		Yes	**Economic Stability:** Employment status **Social & Community Context:** Gender • *Recruited health controls and methadone patients who were unemployed and working*
Applebaum (2010)	Methadone	X	X	XXXXXX		No	**Economic Stability:** Educational attainment (i.e., years) **Education Access & Quality:** Employment status **Social & Community Context:** Race; Ethnicity; Gender; Sexual orientation; Religion; Relationship status
Avants (2001)	Methadone		X	XXX		No	**Education Access & Quality:** Educational attainment (i.e., years) **Social & Community Context:** Ethnicity; Sex assigned at birth; Social support
Copenhaver (2021)	Methadone		X	XX		Yes	**Education Access & Quality:** Educational attainment **Social & Community Context:** Race/ethnicity; Gender • *Predictors of cognitive dysfunction: older age; racial/ethnic minority status; low educational attainment; cognitive characteristics*
Gruber (2006)	Methadone		XX	X		No	**Education Access & Quality:** Educational attainment (i.e., years); Estimated Premorbid Intelligence **Social & Community Context:** Gender
Mintzer (2005)	Methadone	X	XX	XX		No	**Economic Stability:** Employment status **Education Access & Quality:** Educational attainment (i.e., years); Estimated Premorbid Intelligence **Social & Community Context:** Race; Gender
Murray (2017)	Buprenorphine		X			No	**Education Access & Quality:** Educational attainment (i.e., years)
Rotheram-Fuller (2004)	Methadone	X	XX	XX		No	**Economic Stability:** Income **Education Access & Quality:** Educational attainment (i.e., years); Estimated Premorbid Intelligence **Social & Community Context:** Race/ethnicity; Gender
Sanborn (2020)	Methadone		X	XX		No	**Education Access & Quality:** Educational attainment (i.e., years) **Social & Community Context:** Race; Ethnicity
Scott (2017)	Buprenorphine /Naloxone		XX	XX		No	**Education Access & Quality:** Educational attainment (i.e., years); Estimated Premorbid Intelligence **Social & Community Context:** Race/ethnicity; Gender

*No studies included variables from the Neighborhood and Built Environment SDOH domain (see below); **If race/ethnicity reported here, these variables were conflated in the article

- Our systematic search resulted in 36 empirical articles that evaluated neuropsychological assessment in the context of MOUD treatment (**See Table 2 for selection of included articles and data extracted**)
- Education access & quality (n = 30; 83.3%)and social & community context (n = 36; 100%) were the domains most frequently represented, though few studies expanded beyond educational attainment, race, ethnicity, and gender
- To the extent it was reported, most of the research was conducted in urban settings (n = 26; 72.2%)
- Many studies excluded individuals with alcohol use disorder, use or intoxication (n = 15; 41.7%); and other substance use (n = 15; 41.7%)
- Few studies examined differences in neuropsychological performance over time or in response to intervention (n = 2; 5.6%)

CONCLUSIONS

- Current findings support a significant gap in the literature on whether longstanding neuropsychological deficits in individuals with OUD are amenable to treatment over time and across populations disproportionally disadvantaged by SDOH
- Research utilizing neuropsychological assessment with MOUD populations would benefit from greater inclusion of physical and mental health comorbidities, better characterization of samples with respect to SDOH and intersecting identities, and assessment at more than one timepoint

Email: ahernandezvallant@unm.edu
Twitter: @AlexHdzVallant

Full list of references available upon request. Poster presented at the annual American Psychological Association in August 2023 (Washington, DC).