

Social Determinants of Health (SDoH) and Medication Adherence Among Older Adults with Chronic Conditions: Cross-Sectional Analysis of National Health and Nutrition Examination Survey (NHANES) 2009-2018

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INTRODUCTION

- 4 in 10 older adults (65 years and older) in the US take 5 or more prescription medications¹
- The medication nonadherence rate was 20-60% and the avoidable cost is \$528.4 billion annually^{2,3}
- Hypertension (60%), high cholesterol (51%) and diabetes (27%) are leading chronic diseases⁴
- Inability to address SDoH negatively influences pharmacy adherence quality measures in older adults⁵

OBJECTIVE

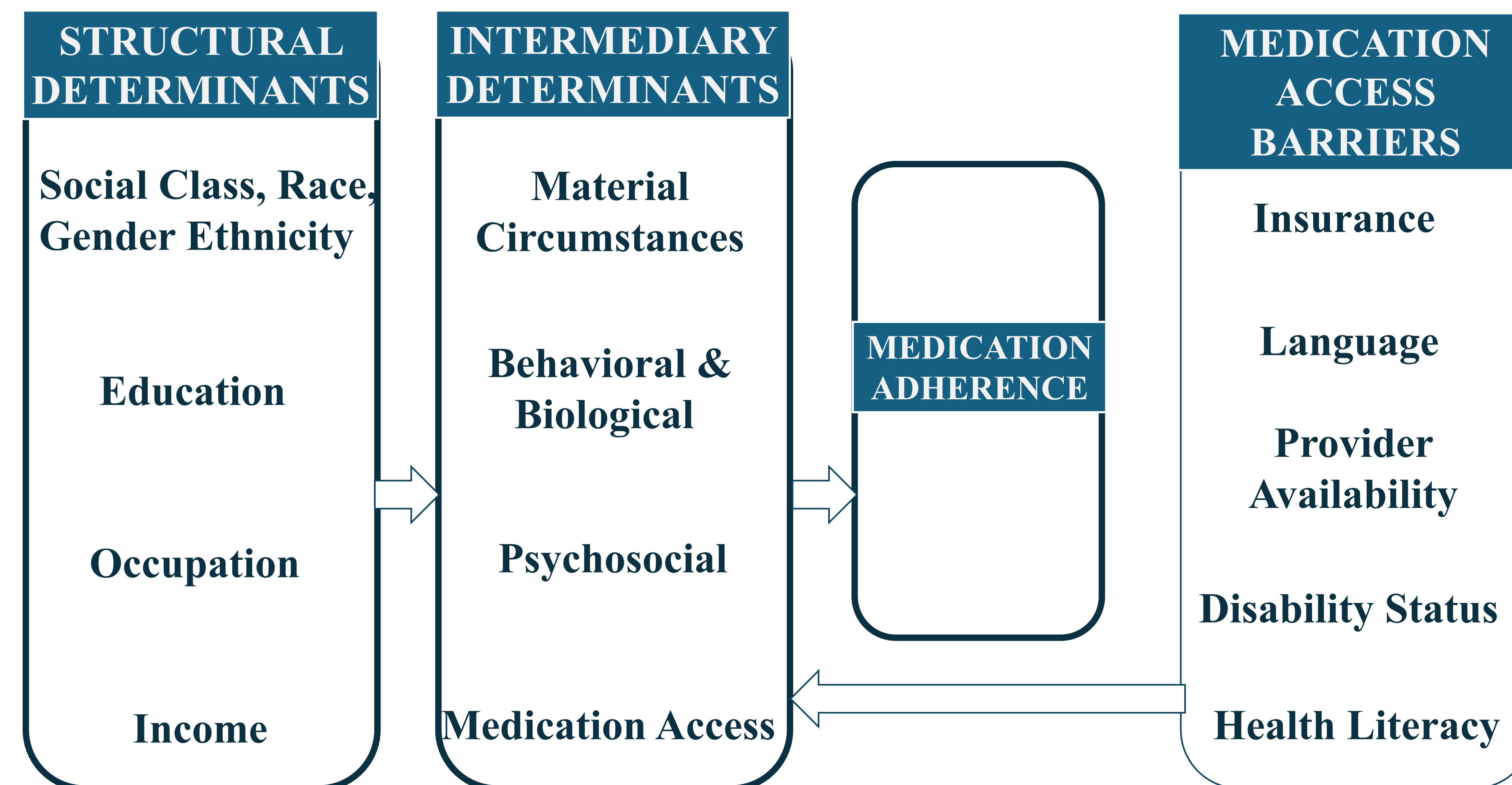
- Determine structural and intermediate determinants of medication adherence among older adults

METHODS

- **Data:** Secondary dataset from NHANES (2009 – 2018)
- **Population:** Individuals 65 years & older whose doctor prescribed at least one prescription for hypertension, cholesterol and/or diabetes
- **Outcome variable:** Self-reported whether they currently take all medications for high blood pressure, high cholesterol and/or diabetes
- **Univariate analysis:** Rao-Scott Chi-square for categorical variables and logistic regression for continuous variables
- **Multivariable analysis:** Logistic regression for covariates with p-value < 0.20 in the univariate analysis
- **Multicollinearity:** Predictors comparisons with Cohen's d value ≥ 0.5 were removed

CONCEPTUAL FRAMEWORK

Fig. 1. Integrated World Health Organization Commission on SDoH and Pharmacy Quality Alliance Medication Access Framework



PRIMARY RESULTS

Table 1. Multivariable Analysis of Overall High Blood Pressure, Cholesterol and/or Diabetes Medication Adherence (N=3,887)

Determinant Type	Covariates	Odds Ratio	P-value
Structural/ Intermediary	Gender/Marital Status		0.097
	Female Married vs Female Not Married	1.257	0.241
	Male Married vs Female Not married	1.337	0.055
	Male Not Married vs Female Not Married	1.492	0.026
Intermediary Determinants	Alcohol Consumption (Behavioral)		0.034
	Light vs Never	1.164	0.281
	Moderate vs Never	1.657	0.020
	Heavy vs Never	2.886	0.028
	Usual Place for Healthcare (Medication Access)		0.001
	Clinical/Health Center vs None	3.796	<0.001
	Doctor's Office or HMO vs None	4.297	<0.001
	Emergency Room vs None	2.341	0.068
	Hospital Outpatient vs None	4.068	0.002
	Other place vs None	1.964	0.265

RESULTS (Contd.)

- Study population: **5513**
- Prevalence of diseases:
 - High blood pressure - **78.7%**
 - High cholesterol - **65.6%**
 - Diabetes – **32.8%**
- Medication adherence:
 - Adherent – **79.4%**
 - Non-adherent - **20.6%**
- Mean prescription count – **5.2**

Several structural (gender, ethnicity, social class etc.) and intermediary (alcohol consumption, disability status, marital status etc.) determinants were statistically significant in univariate analysis

CONCLUSION

- Moderate and Heavy drinking associated with better adherence vs. never drinkers. Insurance is not significant. Going to clinic/health center, doctor's office, or hospital outpatient associated with better adherence vs. no place
- Pharmacists should prioritize SDoH when implementing medication adherence interventions
- Further study to elucidate the relationship between adherence and alcohol consumption

REFERENCES



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