Perceptions of substance use disorder in rural areas: How the brain disease model impacts public stigma

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INTRODUCTION

- Early prevention efforts for SUD have focused on urban populations, leaving rural communities with scarce resources.[1] At the time of the study, 64 of 66 SD counties were designated rural (97%).[2]
- Public stigma of SUD impedes access and utilization of treatment and support services for SUDs and is associated with greater public support of punitive policies.[3,4]
- The brain disease model of SUD relies on advances in neurobiology to understand SUD as a chronic relapsing disorder of the brain. This model is shown to be less stigmatizing.[5,6]
- In a novel study in 2021, Lanzillotta-Rangeley et al. showed that respondents who believed that SUD was a disease (48.5%) were more likely to support evidence-based treatment practices, show less stigma, and support harm reduction services.[7]

OBJECTIVES

The aim of this study was to:

- Conduct a survey in South Dakota using an adapted version of the survey developed by Lanzillotta-Rangeley et al.
- Compare data from the 2021 study conducted in rural Ohio with results in South Dakota

METHODS

- A 23-item survey was adapted from Lanzillotta-Rangeley and colleagues.[7] 19 survey items were maintained for comparison between the two studies.
- Data was obtained from August 2022 to November 2022 via convenience sampling at two wide-spread public events in South Dakota.
- Participants completed an online consent form and survey.
- Analysis was completed utilizing descriptive statistics of the categorical responses, a Fisher's exact test, and a Chi square test.

RESULTS

- Those residing in South Dakota were significantly more likely to agree that addiction is an illness like diabetes and heart disease (84.8%), compared to those from Ohio (48.5%).[7]
- South Dakota respondents had a significantly higher rate of non-stigmatizing responses across nine of the 19 survey questions, and trended toward significantly more likely on Q14, compared to Ohio respondents.
- Overall, respondents from South Dakota had a higher rate of non-stigmatizing responses compared to Ohio across all four categories.

Figure 1. SD vs. OH Statistically significant responses

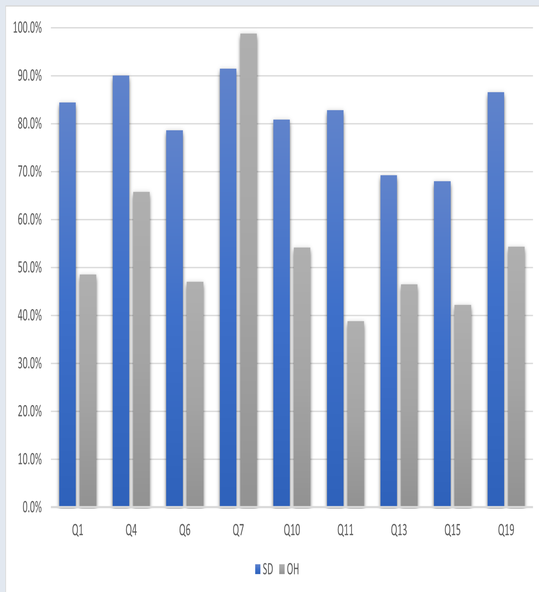

Table 1: Results of Cross-Tabulation of Key Indicators, Ohio (2019) and South Dakota (2022)

* Indicates statistically significant results

Survey Questions	Indicated Response	Location: South Dakota	Location: Ohio[10]	p-value
Knowledge: Disease Related				
Q1) Addiction is an illness like diabetes and heart disease.	Agree	84.8%	48.5%	<0.001*
Q2) Anyone can become addicted to pain medications.	Agree	94.6%	90.1%	0.385
Q3) If a person is addicted to drugs, they can stop using if they really want to.	Disagree	56.3%	38.4%	0.059
Knowledge: Evidence-based Treatment Related				
Q4) Abstinence based therapy is the only successful form of treatment for substance use disorders.	Disagree	90.0%	65.7%	0.009*
Q5) Individuals who receive rehab or treatment will just use or overdose again.	Disagree	89.7%	75.7%	0.096
Public Stigma Questions				
Q6) I would willingly live in the same neighborhood as an individual with a substance use disorder.	Agree	78.6%	47.0%	0.002*
Q7) Substance use disorders only affect individuals with low incomes.	Disagree	91.4%	98.8%	0.035*
Q8) I can easily spot an individual in my community with a substance use disorder.	Disagree	81.8%	73.3%	0.300
Q9) I would be embarrassed to tell people that someone close to me has a substance use disorder.	Disagree	61.8%	77.5%	0.054
Q10) Individuals with a substance use disorder are likely to be dangerous.	Disagree	80.8%	54.1%	0.010*
Q11) An individual with a substance use disorder should have the same right to a job as anyone else.	Agree	82.8%	38.8%	<0.001*
Q12) It is important for individuals with a substance use disorder to be part of a supportive community.	Agree	97.3%	88.2%	0.096
Naloxone-related Questions				
Q13) Naloxone should be administered to every individual who is experiencing an overdose, every time.	Agree	69.2%	46.5%	0.031*
Q14) I would willingly administer naloxone to a stranger in any overdose situation.	Agree	75.0%	58.0%	0.088
Q15) There should be a limit to how many times an individual can receive naloxone for an overdose.	Disagree	68.0%	42.2%	0.015*
Harm Reduction Questions				
I would support the following harm reduction services in my county:				
Q16) HIV and Hepatitis C testing	Yes	73.0%	72.3%	0.929
Q17) Condom distribution	Yes	73.0%	60.7%	0.161
Q18) Syringe exchange	Yes	48.6%	31.8%	0.051
Q19) Medications to treat SUDs	Yes	86.5%	54.3%	<0.001*

IMPLICATIONS

- Higher belief in the brain disease model aligned with reduction in other stigmatizing beliefs and increased support for evidence-based practices and harm reduction services.
- The correlation between belief in the brain disease model of SUD and reduced public stigma aligns with findings from other studies.[7-9]
- Factors that may have contributed to differences in responses include place and the time difference between studies.
- Overall, public health and anti-stigma work should focus on increasing the understanding of the brain disease model for SUD as it leads to associated supportive beliefs and reduced stigma.
- Results will be used to implement an anti-stigma campaign in five target SD counties.

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