Opioid Crisis

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Selection of Studies

QUANTITATIVE STUDY:

Lim, T. Y., Stringfellow, E. J., Stafford, C. A., DiGennaro, C., Homer, J. B., Wakeland, W.,
Eggers, S. L., Kazemi, R., Glos, L., Ewing, E. G., Bannister, C. B., Humphreys, K.,
Throckmorton, D. C., & Jalali, M. S. (2022). Modeling the evolution of the US opioid crisis for
national policy development. Proceedings of the National Academy of Sciences, 119(23).
https://doi.org/10.1073/pnas.2115714119

QUALITATIVE STUDY:

Galarneau, L. R., Hilburt, J., O'Neill, Z. R., Buxton, J. A., Scheuermeyer, F. X., Dong, K.,
Kaczorowski, J., Orkin, A. M., Barbic, S. P., Bath, M., Moe, J., Miles, I., Tobin, D., Grier, S.,
Garrod, E., & Kestler, A. (2021). Experiences of people with opioid use disorder during the
COVID-19 pandemic: A qualitative study. PLOS ONE, 16(7), e0255396.
https://doi.org/10.1371/journal.pone.0255396

Article Summary (IMRAD)

QUANTITATIVE STUDY

Introduction

  Lim et al. (2022) conducted a study to model the evaluation of the US opioid crisis for
national policy development. In their research report, the authors discuss how the opioid crisis is
a significant public health concern in the United States. In the last 20 years, America has
experienced half a million deaths due to opioid overdose. An important data is that the death toll

due to the opioid crisis, which rose by about 70,000 in 2020, partly due to the increasing use of fentanyl alongside other synthetic opioids.

Method

Lim et al. (2022) created the SOURCE (Simulation of Opioid Use, Response, Consequences, and Effects), which is a data-driven model. SOURCE identifies the role of the feedback mechanism and shapes the evaluation of the opioid crisis.

Results

SOURCE can closely replicate the historical trajectory of the opioid crisis in the United States from 1999 to 2020. An average R^2 for the 15 times used in the model estimation is for simulated values against data. The R^2 is 0.756, while the mean errors are 12.7%. The ability of the model to simultaneously replicate different historical trajectories due to its endogenous structure results in confidence that the structure is a solid representation of the real system.

Discussion

The ability of SOURCE to simultaneously replicate various historical trajectories comes from its endogenous structure, which stipulates that structure represents the system. The SOURCE projects the potential future trajectories of the opioid crisis for application in policy analysis. The projections need baseline assumptions regarding the future trends in exogenous model inputs. Hence, the SOURCE is designed to enable flexible testing of optional baseline assumptions.

QUALITATIVE STUDY

Introduction

Individuals using drugs may be at a higher risk of Covid-19 infection and poor health outcomes as a result of underlying health conditions (Galarneau et al., 2021). According to Galarneau et al. (2021), persons using drugs face social inequalities that may hinder them from adhering to public health measures. A study of more than 73 million patients in the United States determined that individuals with opioid use disorder (OUD) had an increased risk of getting Covid-19 infection than individuals with other substance use disorders.

Methods

Galarneau et al. (2021) conducted a semi-structured interview using grounded theory. Grounded theory is a qualitative research method that uses iterative design, purposive sampling, and analysis alongside a constant comparison that establishes themes from the data (Galarneau et al., 2021). Galarneau et al. (2021) used the consolidated criteria for reporting qualitative research (COREQ). The researchers informed the participants of the study's intent before it began. The researchers then obtained written consent. Galarneau et al. (2021) applied a larger longitudinal study of patients with opioid drug disorder provided by the buprenorphine/naloxone initiation packs and intensive outreach follow-up after visiting an emergency department in Vancouver. Galarneau et al. (2021) excluded patients under 18 years and collected data using semi-structured interviews. The researchers transcribed the audio recordings of the interviews using Otter.ai transcription software (Galarneau et al., 2021). The authors also reviewed all the transcripts to determine their accuracy and remove all identifiers.

Results

Galarneau et al. (2021) contacted 26 people between June and September 2020. However, three individuals did not respond, while four did not attend the interviews. However, no person

declined to participate in the interview with the researchers (Galarneau et al., 2021). Galarneau et al. (2021) completed nine in-person and ten telephone interviews, each lasting between 45 and 90 minutes. The researchers contacted one participant for follow-up questions but failed. Most of the study participants were men with stable housing and reported not getting infected with the Covid-19 virus (Galarneau et al., 2021). Besides, many patients reported being less likely to access emergency departments and family doctors during the Covid-19 pandemic. The study participants had different levels of understanding of Covid-19 and the strategies to protect themselves. Most participants reported that they cared less and did not believe in the health risks of Covid-19, while some deemed Covid-19 as fake.

All the study participants knew about the multiple public health strategies like wearing masks, avoiding touching their faces, keeping social distance, and sanitizing their hands frequently (Galarneau et al., 2021). However, the participants mentioned fearing the impact of the pandemic and the virus. More than half of the public members were scared of helping a person having an overdose due to the possibility of catching the virus. The participants frequently had anxiety and stress.

Discussion

Galarneau et al. (2021) conducted a qualitative study to determine the experiences of people with opioid use disorder (OUD) during the pandemic to better inform the programs serving them. Galarneau et al. (2021) gathered opinions of individuals with opioid use disorder to help inform programs serving them during the Covid-19 pandemic. Most study participants had difficulty accessing social support, medical support, and harm reduction during the Covid-19 pandemic (Galarneau et al., 2021). Most participants reported changing their behaviors to minimize the risk of Covid-19 infection by wearing masks, keeping social distance, and regularly

sanitizing their hands (Galarneau et al., 2021). Hence, the public health measures during the Covid-19 pandemic increased how often individuals with OUD use drugs alone.

Critique

QUANTITATIVE STUDY: Critique based on the guide by Coughlan et al. (2007).

The purpose of the study by Lim et al. (2022) is to present SOURCE (Simulation of Opioid Use, Response, Consequences, and Effects), a data-driven simulation model established to respond to the recommendations for preventing opioid use disorder. The steps of the study flow logically, beginning with an abstract, introduction, methods, results, discussion, and conclusion. The literature has a logical organization with a balanced critical analysis. However, the authors do not describe a given theoretical framework called the SOURCE. Lim et al. (2022) defined all the terms, concepts, and theories mentioned. However, the researchers did not mention the number of study participants. The methodology used in the study is the SOURCE, a dynamic and continuous time differential equation model for tracking the United States' noninstitutionalized opioid-using population twelve years and above.

Lim et al. (2022) analyzed the data using a model base case projections for selected model outcomes. The data analysis method was appropriate. However, Lim et al. (2022) did not mention the number of samples who participated in the study. The findings are significant because the SOURCE model provides a focal point for problem-structuring discussions with policymakers and subject-matter experts. The findings are linked back to the literature review. Lim et al. (2022) identified the hypothesis, supported it with literature, and discussed the general strengths and limitations of the study. For instance, the SOURCE does not address co-occurring

stimulant use's increasing and intertwined challenges. The study has references for the journals and other sources used.

QUALITATIVE STUDY: Critique based on guide by Coughlan et al. (2007).

The purpose of the study by Galarneau et al. (2021) is to "capture the pandemic experiences of individuals with opioid use disorder (OUD) to better inform programs that serve them." The article follows a logical scientific step with an aim, design, setting, participants, measurements, results, and a conclusion. The literature review has a logical organization and offers a balanced critical analysis of the literature. Galarneau et al. (2021) used purposive sampling, collected data through semi-structured interviews, and used the Consolidated Criteria for Reporting Qualitative Research (COREQ). The theoretical framework of the study by Galarneau et al. (2021) is COREQ.

Galarneau et al. (2021) identified the purpose of the study. The participants informed the participants about the study to gain their informed consent. Galarneau et al. (2021) defined all the concepts and terms used in the study alongside defining the research design of semi-structured interviews using grounded theory. The researchers conducted the interviews until they reached the theme situation and developed a codebook of emerging themes. The data analysis using the Otter.ai transcription software. The study findings are linked to the literature and answer the study hypothesis. The authors identified the strengths and limitations. The authors have recorded references from all the journals and books used as sources for the study, making it a credible source.

Research Question In adult patients with opioid dependency (P), how does prescription drug monitoring and self-management (I), compared to the lack of monitoring (C), identify and minimize opioid use disorder (O)?

References

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Galarneau, L. R., Hilburt, J., O'Neill, Z. R., Buxton, J. A., Scheuermeyer, F. X., Dong, K., Kaczorowski, J., Orkin, A. M., Barbic, S. P., Bath, M., Moe, J., Miles, I., Tobin, D., Grier, S., Garrod, E., & Kestler, A. (2021). Experiences of people with opioid use disorder during the COVID-19 pandemic: A qualitative study. *PLOS ONE*, *16*(7), e0255396. https://doi.org/10.1371/journal.pone.0255396

Lim, T. Y., Stringfellow, E. J., Stafford, C. A., DiGennaro, C., Homer, J. B., Wakeland, W., Eggers, S. L., Kazemi, R., Glos, L., Ewing, E. G., Bannister, C. B., Humphreys, K., Throckmorton, D. C., & Jalali, M. S. (2022). Modeling the evolution of the US opioid crisis for national policy development. *Proceedings of the National Academy of Sciences*, *119*(23). https://doi.org/10.1073/pnas.2115714119