

Title- I suggest including negative binomial regression at the title

## Introduction

Your introduction needs more detail. I suggest that you improve the writing of the sentences at line 87 to provide more clearer sentences, by adding 'behavior' instead of suicide to suicide behavior. Do the same thing for every word suicide which is to change suicide to suicide behavior.

Line 90- I suggest you improve the sentences from one to 2 sentences. Approximately 800,000 people worldwide die of suicide behaviour annually, meaning that on average, one person dies from suicide every 40 seconds (Martinez-Ales et al., 90 2020) is one sentence. Suicide accounts for a higher death rate compared to fatalities from malaria, HIV/AIDS, breast cancer, war, or homicide (Hisham et al., 2023) become one sentences. The English language should be improved to ensure that an international audience can clearly understand your text.– the current phrasing makes comprehension difficult. I suggest you have a colleague who is proficient in English and familiar with the subject matter review your manuscript, or contact a professional editing service in this sentences.

Line 108- I suggest that you improve the writing of the sentences at line 108 to provide more clearer sentences, by adding 'reported' before the word every 2 hours.

Line 111-I suggest that you improve the writing of the sentences at line 111 to provide more clearer sentences, by adding 'in the age of ...' Before 500,000 adults.

Line 116-I suggest that you improve the writing of the sentences at line 116 to provide more clearer sentences, by adding 'behaviour' before (Brenes et al, 2023).

Line 118- Your research gap needs more detail. I suggest that you improve the description at lines 118 to provide more justification for your study (specifically, you should expand upon the knowledge gap being filled).

## Ethics review

Remove 'Informed consent was not possible or needed since it was determined that it was not a human subjects study and study data only contained death records and no information on living individuals.' from the paragraph. Meanwhile, the remaining sentence 'This study was reviewed by the University of Tennessee, Knoxville Institutional Review Board (IRB) which determined that it was not human subjects research (IRB Number: UTK IRB-24-083540-XM) because all the information obtained from the secondary dataset that used in the study contains death data with no information on living individuals. Therefore, the review board determined that IRB oversight was not required' need for professional editing service in this sentences.

## Data sources

Line 143- I suggest improving the sentences to 'The secondary data used in the study were obtained from the Florida Department of Health (source). Then, the data were split according to county spatial and divided into 3-year periods: 2011-2013, 2014-2016, and 2017-2019'. It would be more appropriate to use the term "geographical " instead of "spatial " to maintain consistency in terminology throughout the text.

Line 145- I suggest improving the sentence to 'Death data records of all deceased Florida residents were needed in the study'.

Line 146- I suggest improving the sentences by adding 'The cause' to line 146. The cause of death from suicide was identified using the International Classification of Diseases, 10th revision (ICD-10) External Cause of Death Codes (X60-X84, Y87.0), which met the Centers for Disease Control and Prevention (CDC) National Violent Death Reporting System definition of suicide (Saman et al., 2012).

Line 149-152-I suggest adding citations in this line regarding the survey.

Line 164-166-I suggest adding 'and'. Additionally, smoothed risks were calculated using spatial empirical Bayesian (SEB) rate smoothing in GeoDa version 1.22.0.2 (Anselin, 2024), and using first-order queen contiguity spatial weights.

Line 178, 193,197- Why use alpha 0.2 instead of 0.05? Please justify.

Line 217- I suggest including the classification of these regions (such as northwest, central regions of Florida, etc) in the study area section. In the study area section, instead of discussing the ethnicity of the country, why not explaining the percentage of the population in each region?

Line 235- I suggest to improve the style of writing such as follows; Based on the final multivariable negative binomial model, the risk of suicide mortality risks tended to be high in counties with high percentages of population: aged 45-64 years (IQR=.....;p-value=.....) , aged 65 years (IQR=.....;p-value=.....), who drank alcohol excessively (IQR=.....;p-value=.....), with frequent mental distress (IQR=.....;p-value=.....), and who were veterans (IQR=.....;p-value=.....) (Table 4).

Line 257- I suggest to improve the style of writing such as follows; Results from this study also reveal that high-risk suicide clusters tended to occur in rural counties. These findings are consistent with those of some previous studies (Saman et al., 2012; Fontanella et al., 2015; Lee et al., 2023), but contrary to those of others (Casant & Helbich, 2022; Satherley et al., 2022).

Line 272- I suggest to improve the style of writing such as follows; A different study in Florida reported that areas with a high elderly populations were likely to be in high suicide mortality risk clusters (Johnson et al., 2017). I suggest to improve the style of writing such as follows; The finding consistent with those of the current study. It is noteworthy that suicide is the 8th leading cause of death among the 55-64 year olds and the 15th leading cause of death among those aged 65 and above in Florida (Hansen & Gryglewicz, 2016).

line 278- I suggest improving the style of writing such as follows; In the current study, clear patterns of the high proportion of elderly populations (aged 65 years), were observed in the northwestern region. This might explain, the high-risk clusters of suicide mortality risks observed in those areas in the elderly population. However, to avoid ecological fallacy, direct inference can only be made at the individual following individual level study that would assess if the high suicide mortalities in these areas are, in fact, due to seniors taking their own lives.

Overall

Need proofread. The English language should be improved to ensure that an international audience can clearly understand your text.

Must use consistent use of word such as spatial change to geographic.

Need to reduce the references because too many.

Need to reduce number of pages. The total current page number is 44. I suggest to reduce to 15 pages.