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DATA NOTE

Prevalence and associates of depression among rural and urban Rwandan mothers and their daughters 26 years after the 1994 genocide against the Tutsi [version 1; peer review: awaiting peer review]

Celestin Mutuyimana ¹, Cindi Cassady², Vincent Sezibera¹,
Epaphrodite Nsabimana^{1,3}

¹Centre for Mental Health, University of Rwanda, Kigali, Rwanda

²Psychotherapy, Caraes Ndera Neuropsychiatric Hospital, Kigali, Rwanda

³Research and Learning, Hope and Homes for Children, Kigali, Rwanda

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Abstract

Background: Mental disorders continue to be a challenge for Rwandan society, especially for women after the genocide against the Tutsi. The risk of inheritance of mental disorders is eminent. We therefore conducted a study on the prevalence of depression among grandmothers and their daughters using quantitative data. This paper explains in detail why and how the dataset was created, and it describes the dataset itself. This will allow readers to easily access and use the data.

Methods: A sample of 309 dyads of mothers and daughters was recruited. Data were collected using the Mini International Neuropsychiatric Interview, Life Events Questionnaire and the Social Demographics Questionnaire. Data was analyzed using descriptive statistics, chi-square test, logistic regression, and one-way ANOVA.

Keywords

Depression, dataset, grandmothers, daughters, Rwanda, genocide, rural, urban

Corresponding author: Celestin Mutuyimana (clestino06@gmail.com)

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Introduction

Rationale

Data are one of the most important and crucial aspects of any research study. Scientific research is based on collecting and analysing data. Datasets are essential to promote the development of data analysis and sharing is an emerging practice of scientific communication and facilitates the advancement of science by making data accessible, verifiable and reproducible (Rowhani-Farid *et al.*, 2017). In this regard, we created a dataset after data collection to facilitate hypothesis evaluation through data analysis and data sharing. The aim of the study was to examine the prevalence of depression in Rwanda after the genocide in three groups of grandmothers and their adult daughters who had a child of their own. We examined women who were targeted during the genocide and referred to as “genocide survivors”, those who were in Rwanda during the genocide but were part of the “non-target group”, and those women who were outside Rwanda during the genocide and referred to as “1959 returnees”. Given that more than half of Rwanda’s population live in rural areas (National Institute of Statistics of Rwanda, 2018), this study was also interested in examining the impact of urban vs. rural residence on the prevalence of depression among participants.

Materials and methods

Recruitment of participants

Participants were selected according to their genocide survival category. 309 Dyads of mothers and their daughters from genocide survivors, non-targeted and 1959 returnees were selected in rural provinces and in the city of Kigali. Data were collected by a team of 6 local clinical psychologists with clinical backgrounds and experience in data collection. Prior to data collection, they received 2 days of training that enabled them to make a clinical diagnosis of depression using MINI and ethical considerations in data collection.

To reach participants, data collectors were assisted by local authorities who referred them to households with participants who met the study criteria. Participants were approached and the interview was conducted with those who agreed to participate. The interview was conducted in Kinyarwanda, the local language, in a secure room prepared for a face-to-face clinical interview. The interview was conducted in the participant’s home or in a nearby office of the local leader. Interview duration ranged from 15-20 min. The sample consisted of 309 dyads of mothers and their adult daughters, including 103 dyads of genocide survivors, 111 of non-targeted, and 95 dyads of 1959 returnees.

Mothers participants had to be Rwandan citizens and permanent residents of the country, a mother with an adult daughter who was able to complete a clinical interview. The daughter met the study criteria if she lived with her mother on a full-time basis or lived until she married.

Participants with communication difficulties, or who had experienced a mental health crisis at the time of the study, or who had recently experienced a traumatic event, or who refused voluntary participation were excluded. Ethical clearance

for this study was obtained from the University of Rwanda’ Institutional Review Board, College of Medicine and Health Sciences No 72/CHMS/IRB/2020. Written informed consent was obtained from the respondents before the interview.

Measures

The Mini International Neuropsychiatric Interview (MINI) questionnaire (APA, 2013) (<https://harmresearch.org/index.php/product/mini-international-neuropsychiatric-interview-mini-7-0-2-13/>) (An open-access alternative tool is the Patient Health Questionnaire (PHQ-9) (Kroenke *et al.*, 2001). The tool is available at <https://patient.info/doctor/patient-health-questionnaire-phq-9>.) and socio-demographic questionnaire were completed with mothers from rural and urban areas of Rwanda. Participants also completed Life Events Questionnaires DSM-5 (Weathers *et al.*, 2013) and a short form of the Perception of Parents Questionnaire (Pasquali *et al.*, 2012). Data were entered into an online system tool (Aspa-net: vision studio 2008. Dotnet framework 3.5) (open-access software providing an equivalent function: Microsoft Excel) during fieldwork from which data were retrieved for statistical analysis in SPSS version 27 (<https://www.ibm.com/support/pages/downloading-ibm-spss-statistics-27>) (As an open-access software alternative to SPSS, data is also stored in JASP version 0.14.1 format).

The dataset was created with 86 variables. Since the sample was composed of the grandmothers and their adult daughters who completed the questionnaires separately, we created one dataset. The first 309 cases are the data for the grandmothers while from 310 to 618 are the data for their daughters. The last four variables, which include depression, place of residence (urban or rural), generation (grandmother or daughter), and survivor status (genocide survivor, non-survivor, and 1959 returnee), were coded separately to facilitate the analysis (Mutuyimana *et al.*, 2021b).

Before the analysis was performed, relevant assumptions of the statistical analysis were checked. First, it was verified that there were no missing values or outliers. The exploratory data showed that there were no missing values or outliers. Examination of the independence of the independent variables revealed that there was no multicollinearity and all independent variables were not highly correlated. To obtain the socio-demographic characteristics of the participants, a descriptive statistical analysis was performed. To test the difference in trauma exposure between the three survival categories of mothers and daughters, the one-way test ANOVA was used. Since the results indicated significant differences, a Tukey HSD post-hoc test was conducted to find these specific differences. A chi-square test was performed to examine prevalence differences of depression in the sample of mothers and daughters by survival category and place of residence. To test associates of major depression, a four-level hierarchical logistic regression was performed for the sample of mothers and a six-level logistic regression for the sample of daughters. Depression score of the mothers and daughters, were the dependent variables. The common independent variables in both samples were survival status, residence, and trauma exposure, while mothers’ depression

and trauma exposure in the daughters' sample were additional independent variables. Each independent variable was entered into the model individually. Age, education level, marital status and occupation were entered together as covariates at the last level.

Data validation

Data validation was performed using SPSS version 27 to identify suspect and invalid cases, variables, and data values. At the first level, basic checks were performed, including maximum percentage of missing values (100), maximum case in a single category (100), maximum percentage of categories with a count of 1 (90), maximum standard deviation (0), and maximum coefficient of variation (.001). At this level, all cases passed the test. At the second level, rules were defined for individual variables (Name of variable, type of variable, and specify the minimum and maximum value of each) to see if there is no variable that falls outside the defined rules and all cases passed the required test. At the third level, cross-variable validation rules were created, displayed and modified and no violation was found, only gender violated the rules, but this was because the participants were only female. At the last level we saved the output and it was found that all cases did not violate any rules and the data was validated for analysis (Mutuyimana *et al.*, 2021c). The names of the variables represent the limitation of the dataset.

Data availability

Underlying data

Zenodo: Questionnaires used in the study rural-urban depression prevalence in Rwanda <https://doi.org/10.5281/zenodo.4914716> (Mutuyimana *et al.*, 2021a)

This project contains the following underlying data:

- Questionnaires: rural urban depression prevalence (Kinyarwanda/English)

Zenodo: 'Rural-urban differences in the prevalence of depression among Rwandan grandmothers and their daughters 26 years after the 1994 genocide against the Tutsis',

<https://doi.org/10.5281/zenodo.4723384> (Mutuyimana *et al.*, 2021b).

This project contains the following underlying data:

- Data file 1. Depression prevalence.sav
- Data file 2. Depression prevalence.jasp

Zenodo: 'Output of analysis for Urban-rural depression prevalence in Rwanda', <http://doi.org/10.5281/zenodo.4741243> (Mutuyimana *et al.*, 2021c).

This project contains the following underlying data:

- Data file 1. Depression prevalence analysis.spv
- Data file 2. Output analysis excel format.xlsx

Data are available under the terms of the [Creative Commons Attribution 4.0 International License](#) (CC-BY 4.0)

Consent

Written informed consent was obtained from the participants before the interview. Ethical clearance for this study was obtained from the University of Rwanda' Institutional Review Board, College of Medicine and Health Sciences No 72/CHMS/IRB/2020.

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