Family Determinants of Depression in the Rwandan Geriatric Population

Case of elderly people from NSINDAGIZA Organization in Kigali City and Huye District.

Thesis submitted for the fulfilment of the requirements for the award of Master of Science in Clinical Psychology and Therapeutics to the school of Medicine and Pharmacy, College of Medicine and Health Sciences, University of Rwanda

By: NSHIMYUMUREMYI Eric

Registration number: 221027427

Supervisor: Doctor Augustin NSHIMIYIMANA

Co-supervisor: Doctor SEBATUKURA GITIMBWA Simeon

September, 2022

DECLARATION BY THE CANDIDATE

I declare that the whole content of the present work is original and was not presented anywhere else for academic purpose.

NAME OF THE CANDIDATE **29/09/2022**

Eric NSHIMYUMUREMYI

Reg. Number: 221027427

DECLARATION BY THE SUPERVISORS

This thesis has been submitted with our approval as university supervisors

NAMES OF SUPERVISORS

Dr Augustin NSHIMIYIMANA **02/10/ 2022**

Department of Clinical Psychology

School of Medicine and Pharmacy

College of Medicine and Health Sciences

University of Rwanda.

Dr SEBATUKURA GITIMBWA Simeon **1/10/2022**

Department of Clinical Psychology

School of Medicine and Pharmacy

College of Medicine and Health Sciences

University of Rwanda

DEDICATION

My thesis is dedicated to NSINDAGIZA Organization, AVEGA –AGAHOZO, the Government of Rwanda, and other local organizations that are interested in giving their attention, caring, and looking for elderly people. It is also dedicated to lectures and friends from the University of Rwanda who assisted my academic milestone. I can't forget my lovely wife "INGABIRE Sarah", who constantly encourages me and never let me give up on all my daily plans.

ABSTRACT

Background: According to WHO estimates, geriatric people between 10% and 20% worldwide suffer from geriatric depression. Scientific studies from the Rwandan context have focused on the prevalence and factors of depression in the general population and genocide survivors. However, the problem of geriatric depression remains unexplored. This study aims to investigate geriatric depression and associated family determinants among the Rwandan elderly.

Methods: The study adopted a community-based cross-sectional study design which was conducted on three groups of elderly people supported by the NSINDAGIZA organization. A convenience sample of 107 participants aged between 65-95 (20 males, 87 females, M=71.19, SD=10.13) participated in the study. Sociodemographic information such as marital status, gender, and education was first collected. Self-Rating Depression Scale (SDS), a short form of the Quality-of-Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q-SF), Los Angeles Loneliness Scale (UCLA Loneliness Scale), Family Support Scale for Elderly People (FSEP), Multidimensional Neglectful Behaviour Scale (MNBS) and Adult Attitude to Grief (AAG) scale were used for collecting relevant score while SPSS version 24 served for statistical analysis.

Results: Overall, 64.5% of the participants had significant symptoms of geriatric depression. Study findings revealed that 64.5% of the participants had significant symptoms of geriatric depression with higher symptoms in women than in males. Significant family determinants that were found to be associated with geriatric depression were gender (β= 6.12, t= 3.83, p <.001), family support (β = -0.11, t = -2.469, p<.05) and Quality of life enjoyment and satisfaction (β = -0.196, t = -2.747, p < .01).

Conclusions: Geriatric depression was relatively high in our participants. Adequate family-based interventions targeting improving the well-being of geriatric people in their respective families are needed.

Keywords: Geriatric depression, Family determinants,Elderly

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LIST OF ACRONYMS AND ABBREVIATIONS

AAG: Adult Attitude to Grief

APA: American Psychiatric Association

CMHS: College of Medicine and Health Science

FSEP: Family Support Scale for Elderly People

IRB: Institutional Review Board of University of Rwanda (IRB-UR)

MNBS: Multidimensional Neglectful Behaviour Scale

MRA: Multiple Regression Analysis

Q-LES-Q-SF: Quality-of-Life Enjoyment and Satisfaction Questionnaire short form

SDS: Self-Rating Depression Scale

SPSS: Statistical Package for Social Sciences

UCLALS: University of California, Los Angeles Loneliness Scale

UR: University of Rwanda

WHO: World Health Organization

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This is an opportune time to go back in the past and thank almighty God for the daily support and protection during my academic journey as well as address my thankful words to different people who have contributed to my academic achievement. First of all, my thanks go to the supervisors for this thesis, Dr. Augustin NSHIMIYIMANA and Dr SEBATUKURA GITIMBWA Simeon, for their remarkable contribution to make my research done on time. I also thank the University of Rwanda staff, especially the staff for the department of Clinical Psychology who acquainted me with various skills.

I am also grateful to 107 elderly people from NSINDAGIZA Organization for their willingness to provide pertinent information that helped me to understand deeply how the quality of family support can contribute to geriatric depression. Finally, I would like to express the most love, and adoration for my wife INGABIRE Sarah for her players, encouragement, unconditional love and support that facilitated my academic milestone**.**

CHAPTER I: INTRODUCTION

1.1. Opening section

Scholars have made significant contributions to understand geriatric depression, and this was revealed as the most common mental disorder among elderly people. In this regard, various factors affecting geriatric depression were highlighted. However, family determinants remain unexplored especially in post-genocide and developing countries like Rwanda. Therefore, the main goal of the current study is to assess family determinants that affect the prevalence of geriatric depression in the sample of Rwandan elderly people. This study comprises various sections such as background, research problem, critical literature review, hypotheses, objectives, methods, data presentation, and discussion of findings.

1.2. Background

Different authors noted that a variety of feelings, decreased energy, discouragement, guilt, hopelessness, irritability, low self-worth disinterest, sadness, and general lack of interest or enjoyment in life are all referred to as depression (Marcus et al., 2012; Cesar & Chavoushi, 2013; ADAA, 2019). Similarly, an individual is diagnosed depression if he/she presents at least five symptoms from the following: remarkable diminished interest or pleasure, psychomotor agitation or retardation, loss of energy or fatigue, indecisiveness or decrease of ability to think or concentrate, increase or decrease in either weight or appetite, hypersomnia or insomnia, frequent suicidal ideation or thoughts, feeling unworthy or guilty in inappropriate manner, or depressive mood (DSM-5, 2013).

Authors have developed three theories of depression (Blaney, 1977). First, cognitive theory which states that depression is caused by negative cognition brought on by shattered beliefs, such as all my experiences have resulted in failures, my future is hopeless, and I am an inadequate

person (Beck, 1967; Beck, 1974). Second, there is Seligman's learned helplessness theory with which the depression is developed when a person comes to the realization that their efforts to change their negative thoughts have done nothing (Seligman, 1974; Seligman, 1975). Therefore, individuals tend to accept things that happen to him/her without taking any participation and never complain about painful situations even though there is a way to escape (Seligman, 1974; Seligman, 1975). Finally, depression is due to an insufficient rate of reinforcement or pleasure (low rate of response contingent reinforcement theory of depression) gained via interactions of an individual and his/her surroundings (Lewinsohn, 1974a; Lewinsohn, 1974 b). Rarely making responses that would be reinforced due to the lack of personnel skills, benefiting from few reinforcing events in the community, and few reinforcing events are the root causes of the mentioned low rate (Lewinsohn, 1974a; Lewinsohn, 1974 b).

Additionally, between 3.8 and 15 percent of adults worldwide suffer from geriatric depression (Barcelos-Ferreira et al., 2013). For elderly people receiving institutional care, this rate rises to 46.5% (Damián et al., 2010). An estimated rate of 26.3% of African elder people suffer from geriatric depression, with women (43.10%) being more afflicted than males (30.90%) (Bedaso et al., 2021). According to different studies, geriatric depression is one of the primary causes of morbidity and mortality among older individuals (Reifler, 2006;Steffen et al., 2006). Compared to health problems like back pain, chronic lung diseases, diabetes, and hypertension, geriatric depression causes greater disabilities (Damián et al., 2010).

To conclude, we can mention that people with significant symptoms geriatric depression were found to have a lower quality of life than other people without such symptoms (de Araújo et al., 2016). Recently, one study showed that loneliness is significantly positively correlated with geriatric depression while social and family support highlighted the negative correlation

(Meawad Elsayed, 2019). Besides, a sample of older adults who had been subjected to various forms of abuse and neglect had a significant risk of geriatric depression (Aylaz et al., 2020). Another study reported the relationship between geriatric depression and grief (Treml et al., 2022).

1.3. Research problem

From 2018 up to 2021, I had been working with AVEGA –AGAHOZO, and FARG by proving psychosocial support to widow childless Genocide survivors "INTWAZA'' who live in «IMPINGANZIMA» retirement houses. Despite the regular provision of basic needs including food, clothes, a safe sleeping room, etc., I realized that they experience depression-related symptoms such as trouble sleeping at night, getting tired for no reason, irritability, rumination, etc. Between 2015 and 2018, I had been also volunteering in Huye District more precisely in NSINDAGIZA Organization. I had an opportune time to meet different elderly people in their respective groups, but surprisingly they were found in similar situations as the one experienced by "INTWAZA'' from «IMPINGANZIMA» retirement houses. After realizing that elderly people have a common denominator (depressive symptoms), and they rarely interact with their family members I thought how to examine the link that might be between family determinants and depressive symptoms experienced by elder people.

Depression is a remarkable burden of mental disorder in Rwanda because a 2021 Rwanda Mental Health survey showed that it is the most prevalent in both general population and genocide survivors (Kayiteshonga et al., 2021). Scientific studies coming out of Rwanda focus on the prevalence of depressive symptoms in general population and genocide survivors (Bolton et al., 2002; Kayiteshonga et al., 2021), co-morbidity of depression, and other somatic and psychological disorders (Schaal et al., 2009; Mukeshimana & Mchunu, 2017), while the

problem of dépression in elderly people remain unexplored.

The purpose of this study was to examine family determinants of depression among elderly people from NSINDAGIZA Organization. Sociodemographic variables of our participants were divided into age, sex, marital status, and education. Examination of sociodemographic variables is very important because it is possible to identify characteristics contributing significantly to depression. Then, the respondents were asked to rate plausible family determinants of depression such as quality of life enjoyment, loneliness, family support, neglect, and attitude to grief.

1.4. Literature review

1.4.1. Quality of life enjoyment

Individuals' perception of their situation in life in relation to their concerns, expectations, ambitions, and standards is referred to as their quality of life. This perception is influenced by the culture and value systems in which people are raised (Vahedi, 2010; HOQOL_Group, 1994). For elderly people aged from 65 years old and above, quality of live is composed primarily by social relationship, home and neighbourhood, and psychological well-being (Gabriel & Bowling, 2004). Through social roles and activities, financial situations, physical and mental health, and independence, one can improve their quality of life (Gabriel & Bowling, 2004). The absence of pain, happiness, vitality, and healthy senses are further characteristics of quality of life (Molzahn et al., 2010). People aged 80 years old and above were found to have a higher quality of life when they were able to adapt to the everyday changes brought on by aging and when they had a positive outlook on life (Borglin et al., 2005).

Previous studies found a negative association between quality of life and depression (Bilotta et al., 2011; Naumann & Byrne, 2004), quality of life and loneliness (Ylva et al., 2004), and

quality of life and living alone (Bilotta et al., 2011).Quality of life in older people can be assessed by the following generic utility measures like the EQ-5D, SF-6D, and HUI (Räsänen et al., 2006). The present study has used Quality of Life Enjoyment and Satisfaction for Adults (Bourion-Bédès et al., 2015).

1.4.2. Loneliness

Loneliness is defined as a state of solitude or being alone (Tiwari, 2013) or a worrying and uncomfortable feeling brought on by a lack of social connections, either quantitatively or qualitatively (Khan & Kadoya, 2021; Cacioppo et al., 2015; Perlman, D., Peplau, 1981). Therefore, a person experiences loneliness when his/her network of social contacts is insufficient on either a quantitatively (family, friends, and the number of people) or qualitatively (the level of satisfaction supported by the number and composition of the networks without forgetting what the network offers) (Khan & Kadoya, 2021; Cacioppo et al., 2015; Oni, 2011). Loneliness can last for a short period of time and can be a persistent or lifelong phenomena depending on a variety of situational conditions that interfere with the maintenance of social ties (Khan & Kadoya, 2021; Cacioppo et al., 2015; Oni, 2011). One study noted that loneliness is more dangerous than smoking (Tiwari, 2013).

Taking account of the foregoing, it was reported that being exposed to loneliness at older age is a risk fact for geriatric depression (Tiwari, 2013). Loneliness in older people can be assessed by Berkman–Syme Social Network Index, Steptoe Social Isolation Index, Lubben Social Network Scale, de Jong Gierveld Loneliness Scale, or Cornwell Perceived Isolation Scale (National_Academies_of_Science_Engineering_and_Medicine, 2020). The present study has adopted the Revised UCLA Loneliness Scale (Russell et al., 1980).

1.4.3. Family support

Family support for older people can be defined as any assistance to obtain problem-solving, health services, guidance, food preparation, financial support, daily activity assistance, and attention (Kristianingrum et al., 2018). A family is the primary asset to support older people in adaptation, development process, and maintenance of their health and wellbeing (Rekawati et al., 2019; Friedman, Bowden, 2003). But just a small rate of elderly people receives family support and care for their basic needs (Friedman, Bowden, 2003). The lack of family support for elderly individuals has been found to negatively impact their daily lives, resulting in the development of negative emotions, sadness, and frailty (Vilas et al., 2019). Measuring active family support allows for the description of elderly people's actual living conditions (Uddin, M. A., & Bhuiyan, 2019).

1.4.4. Neglect

Neglect occurs when a caregiver or another person in a trusted relationship fails to safeguard elderly people from harm or to take care of their fundamental needs such as food, hygiene, shelter, water, and required medical care (Jeffrey et al., 2016). Depending on age, health situation, and cultural standards, this failure may result in major health difficulties or safety risks. (Jeffrey et al., 2016). Older people with history of neglect can experience emotional problems (worries towards others, sadness, problems with trust, fearfulness, and anxiousness) (Santos et al., 2019; Jeffrey et al., 2016) and high rate of symptoms of depression (Dyer et al., 2000). Recently, the screening tool for neglect in the community setting was developed by Asiamah et al., (2021). The act of gathering information regarding abusive events in a familial or care connection from elderly or vulnerable elderly people who do not exhibit overt indicators of abuse, such as physical injuries, is known as screening for neglect and abuse in older people

(Nelson et al., 2012).

1.4.5. Attitude to Grief

Grief was defined as emotional suffering and mental anguish or agony of the soul, deep sorrow, and heaviness of the heart (Abi-hashem, 2021). Grief in older age is predicted by the female gender, having lost a sibling, partner, or a child, and more losses as well as mental health problems such as depression, life satisfaction, sleep problems, and quality of life (Treml et al., 2022). In case of lack of social support and loss of the closest loved one, elderly women experience more grief than men (Treml et al., 2022). Researchers can investigate grief in older people by using the Adult Attitude to Grief (AAG) scale (Sim et al., 2014a).

1.4.6. Depression

Although they co-occur, the symptoms of the depressive syndrome have diverse causes (Djukanovic, 2017). Depressive mood is one of the six fundamental emotions that make up a person's biological nature, but it is also one of the two key criteria for depression diagnosis (DSM-5, 2013). Various symptoms are reported for the depressive syndrome: first, lack of positive reinforcement, feelings of pleasure, and interest in the surrounding environment; second, feelings of anxiousness (internal anxiety and panic attacks); third, decreased emotional involvement (negative feelings, apathy, and emptiness); then, boredom and suicidal thoughts, followed by higher suicide risk; after that, lower concentration or making decision, passivity, and inefficiency; finally, somatic symptoms (fatigue, shortness of breath and tightness of the chest) (Djukanovic, 2017; DSM-5, 2013).

The most prevalent comorbidities of depression, such as decreased functioning, an increased risk of suicidal ideation, and physical sickness, put older persons with depression at higher risk (Fiske et al., 2009). Significant factors that raise the risk of depression include stroke in the past,

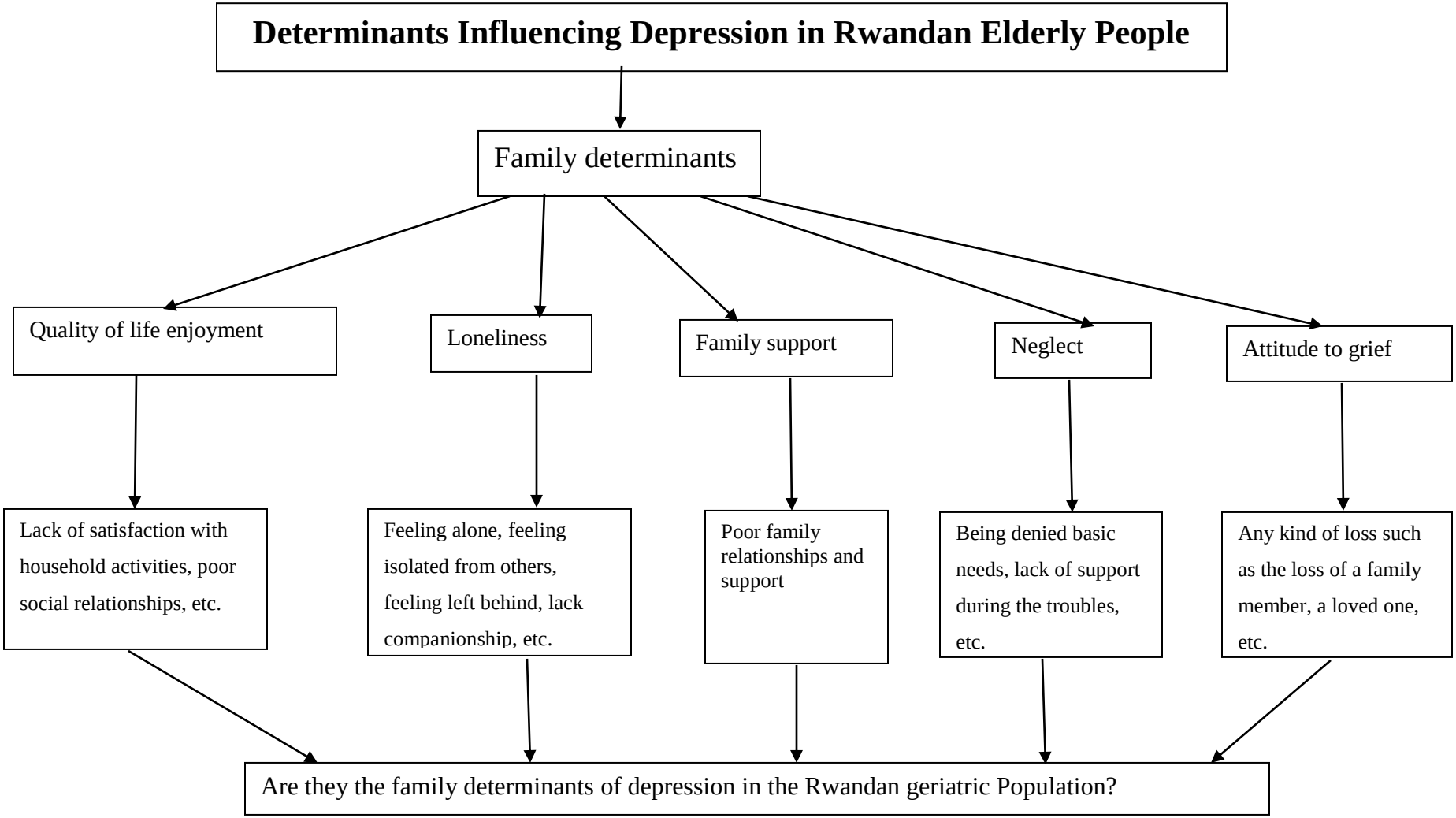
risky alcohol use, a poor social network, poor self-rated health status, functional disability, and female gender (Luppa et al., 2012). Previous studies showed that geriatric depression is associated with loneliness (Cacioppo et al., 2006), social support (Jongenelis et al., 2004), social network (Steunenberg et al., 2006), and quality of life enjoyment (Naumann & Byrne, 2004).

1.4.7. Rationale of the study

The studies that were conducted from 2000-2014 have focused on the prevalence of depression among older people as well as factors that can increase the risk of developing geriatric depression such as alcoholism, conflicts between old and new values, divorce, lack of physical activity and exercise, lack of social support, smoking tobacco, stress etc.(Mina, 2017). Other studies published from years 1997 to 2016 have also focused on prevalence but they included gender differences whereby older women were more affected by geriatric depression than men (Pilania et al., 2019). The rate of geriatric depression varied depending on geographic region, presence of dementia, sampling methods, and type of study tool (Pilania et al., 2019).

In short, the studies that were published twenty years ago have emphasized on the prevalence of geriatric depression and summarized associated factors; also significant in several studies, such as cognitive impairment, education, female gender, older age, and self-rated health (Maier et al., 2021). So far, little is known about factors arising from the family and their influence on depression in older adults. The reason is that the recent studies explored only the role of the neighbourhood environment (Maier et al., 2021) and social relationships such as diverse social networks, perceived emotional support and perceived instrumental support. The research question of the current study is: ***Are old people exposed to poor quality of life enjoyment, loneliness, poor family support, neglect, and attitude to grief, at risk of developing depression?***

1.4. Model analysis



1.5. Hypothesis

1.5.1. General hypothesis

Family influences a high rate of depression among elderly people from NSINDAGIZA Organization

1.5.2. Operational Hypotheses

- There is a high rate of depression among elderly people from NSINDAGIZA Organization
- There is a relationship between socio-demographic variables and depression among elderly people from NSINDAGIZA Organization
- Determinants of depression among the Rwandan Geriatric population are structured around: (1) quality of life enjoyment, (2) loneliness, (3) family support, (4) neglect, and (5) attitudes to grief

1.6. Variables

In our study, geriatric depression was a dependent variable while the quality-of-life enjoyment, loneliness, family support, neglect, and attitude to grief are independent variables. Sociodemographic variables such as age, sex, marital status, occupation, chronic disease, and education will also be assessed.

1.7. Objectives

1.7.1. General objective

To assess if elderly people experience depression, and assess the relationship between depression and family determinants such as quality of life enjoyment, loneliness, family support, neglect, and attitude to grief.

1.7.2. Specific objectives

- To determine the prevalence of depression among elderly people from NSINDAGIZA Organization

- To analyse the relationship between socio-demographic variables and depression among elderly people from NSINDAGIZA Organization
- To assess the relationship between depression and family determinants such as quality of life enjoyment, loneliness, family support, neglect, and alcohol use disorder among elderly people from NSINDAGIZA Organization

CHAPTER II: METHODS

2.1. Study design

This study adopted a quantitative approach with a community-based cross-sectional study design to assess family determinants of geriatric depression among elderly people from NSINDAGIZA Organization. Participants were older people who are usually assisted in Kigali and Huye NSINDAGIZA Organization. Both centres provide psychosocial support to older people who need social relationships. They were contacted during working hours between 9: 00 a.m and 17:00 pm (Monday-Friday) from the 1st to 24th December 2021.

2.2. Sample and procedure

The study adopted a community-based cross-sectional study design which was conducted on three groups of elderly people supported by NSINDAGIZA organization. A convenience sample of 107 participants aged between 65-95 (20 males, 87 females, M=71.19, SD=10.13) was selected for this study. We recruited beneficiaries of NSINDAGIZA Organization aged 65 and older, who are ready to participate voluntarily in the study and able to read and respond to the self-report questions of the research instruments. Participants were excluded from the study if they present communication problems, severe mental disturbance, or another severe illness that would affect their judgment.

Before starting the research, ethical approval was first obtained from the Institutional Review Board of the University of Rwanda, CMHS (IRB-CMHS). Then, we joined participants to explain to them details including the title of the study, its objectives, and the benefits to participate in the study. After that, participants signed a consent form before completing a questionnaire. Finally, participants were protected from any harm and were granted confidentiality, privacy, respect, and emotional support in case of distress generated by

participating in the research.

2.3. Data collection tools

Demographic characteristics: sociodemographic variables of participants including age, sex, marital status, and education were assessed.

Geriatric depression: depression in older people was assessed by the Self-Rating Depression Scale (SDS) which consists of 20 items (Zung, 1965). This is a well-established screening measure of adult depression severity with which depressive symptoms "over the past several days" are rated from 1 (little or none of the time) to 4 (most or all of the time) (Zung, 1965). Plausible scores range from 20 through 80, with higher scores indicating increased depressive symptoms (Zung, 1965). In this study, the coefficient of Cronbach alpha was .65

Quality of life enjoyment: it was assessed by the quality-of-life enjoyment and satisfaction of adults (Bourion-Bédès et al., 2015). This is a 16-item self-administered questionnaire that captures life satisfaction over the past week. Each question is rated on a 5-point scale from 1 (Very Poor) to 5 (Very Good). Scores from the individual items are added together and reported as a percentage maximum possible score (Bourion-Bédès et al., 2015)**.** The value of Cronbach's Alpha was .86 in the current sample.

Loneliness: It was assessed by the University of California, Los Angeles Loneliness Scale (UCLA Loneliness Scale) (Russell et al., 1980). This is a 20-item~~s~~ questionnaire designed to measure one's subjective feelings of loneliness as well as feelings of social isolation with which a participant is required to rate each item on a scale from 1 (Never) to 4 (Often) (Russell et al., 1980). The coefficient of Cronbach's Alpha was .81 in the current sample.

Family support: It was assessed by family support scale for elderly people in which the participant assessed perceived support for 20 areas: company, daily activities, emotional support,

food, happiness, health, help in problem-solving, important decisions, important people, information, love, money, personal needs, personal problems, religious activities, respect, satisfaction. sleep, social events, and treatment (Uddin & Bhuiyan, 2019). Each item is measured via a 4-point, Likert-style scale, with possible scores ranging from 0 (no) to 3 (much) (Uddin & Bhuiyan, 2019). Total possible scores are between 0 and 60. Higher scores reflect greater perceived family support for the elderly (Uddin & Bhuiyan, 2019). The Cronbach's alpha was .94 in the current sample.

Neglect: level of experienced neglect was assessed by the Multidimensional Neglectful Behaviour Scale (Straus et al., 2008). This is an eight items questionnaire rated on a Likert scale ranging from Strongly Disagree (1) to Strongly Agree (4)**.** This means that the resulting scores all have values that range between 1 and 4. Greater experienced neglect is reflected in higher scores. The current sample's Cronbach's alpha was .56.

Grief: We assessed the level of vulnerability in grief by using the Adult Attitude to Grief (AAG) scale (Sim et al., 2014a). It is composed of nine items total on a five-point Likert scale where each item ranges from strongly agree (score 4) to strongly disagree (score 0) (Sim et al., 2014a). A total score greater than 24 indicates severe vulnerability to grief, one ranging between 21-23 indicates higher vulnerability, and a score below 20 indicates lower vulnerability to grief (Sim et al., 2014b). In the current sample, Cronbach's alpha was .69

2.4. Data analysis

Microsoft Excel 2016 and Statistical Package for the Social Sciences (SPSS) version 24 were used to analyse descriptive statistics comparative and multiple regression analyses. Cronbach's alpha was performed to measure the reliability of our questionnaires while Pearson's correlation was performed to assess the relationships between variables. Before computing

multiple regression analysis, we checked the following assumptions: outliers, normal distribution, homoscedasticity, and multicollinearity. Multiple regression analysis helped to identify the contribution of each independent variable (family determinant) to geriatric depression. The contribution of each independent variable was reported as the coefficient β, the statistic t, and the p-value, and we considered $p<.05$.

CHAPTER III: RESULTS PRESENTATION

Chapter three presents data that were collected from the participants. It comprises the following subsections: socio-demographic data, internal consistency for items of questionnaires, descriptive statistics, normality testing, Pearson's correlation between variables under study, and hypothesis testing.

3.1. Sociodemographic data

The sample of the present study involved 107 elderly people with ages ranging between 65 and 95 years, with a mean age of 71.19 years, and 10.13 of SD (Table3). This sample was predominantly composed by female participants (87) than male participants (20). Three were single, thirty-five were legally married, fifty-five were widowed, two were divorced, and six were separated while other six participants didn't want to reveal their marital status. Thirty-three had not completed primary education, seventeen had completed primary education, six had done Technical and Vocational Education and Training (TVET), two had not completed secondary education, four had completed secondary education, and forty-five were illiterate. The results of sociodemographic characteristics are presented in Table 1.

Table 1: Sociodemographic characteristics of the participants

Marital status	**N**	**%**	**Education**	**n**	**%**
Single	3	2.7	Didn't complete primary school	33	30
Legally married	35	31.8	Completed primary school	17	15.5
Widowed	55	50	TVET	6	5.5
Divorced	2	1.8	Didn't complete secondary school	2	1.8
Separated	6	5.5	Completed secondary school	4	3.6
Other	6	5.5	Didn't attend school	45	40.9
Total	**107**	**97.3**	**Total**	**107**	**97.3**

Gender	**N**	**%**
Males	20	18.7
Female	87	81.3
Total	**107**	**100**

3.2. Internal consistency for items of questionnaires

Examination of the internal consistency of items of our questionnaires was done through Cronbach's alpha with which values go from 0 to 1. Scholars showed that when Cronbach's Alpha is below .50, the internal consistency is deemed to be unacceptable; when it is above .50, the internal consistency is deemed to be poor; when it is above .60, it is questionable; when it is above .70, it is acceptable; when it is above .80, it is good; and when it is above .90, it is excellent (Siti & Nyet, 2019; Koonce & Kelly, 2014; George, D., & Mallery, 2003). Our Cronbach's Alpha values range between .56 and .94 which means that no internal consistency was judged unacceptable (Table 2)

Table 2: Reliability of the questionnaires

Questionnaire	**Cronbach's Alpha (α)**	**Number of Items**
(1) Self-rating depression scale (SDS)	.65	20
(2) Family support scale for elderly people (FSEP)	.94	20
(3) Quality of life enjoyment and satisfaction questionnaire for adults (Q-LES-Q)	.86	16
(4) University of California, Los Angeles Loneliness Scale (UCLA Loneliness Scale)	.81	20
(5) Multidimensional Neglectful Behaviour Scale (MNBS)	.56	8
(6) Adult Attitude to Grief Scale (AAGS)	.69	9

3.3. Descriptive statistics and normality testing

To investigate the normality of the scale's distribution, study variables such as Age, Geriatric depression, Family support, Quality of life enjoyment and satisfaction, Loneliness, Neglect, and grief were screened for kurtosis and skewness. In this context, we assumed that the values of skewness and kurtosis falling between ± 2 are acceptable limits indicating a normal distribution (Gravetter & Wallnau, 2014) (George & Mallery, 2016). As we can see from table3,

no variable exceeded the cut-offs of ± 2. Consequently, the use of a parametric test is accepted for data analysis of the current study (Awang et al., 2015). Descriptive statistics such as minimum and maximum scores, mean, and standard deviation were presented in 3.1. section

Table 3: Descriptive statistics and normality tests

Statistics	Age	Geriatric depression	Family support	QLES	Loneliness	Neglect	Grief
Mean	71.19	50.88	34.24	47.36	41.31	15.81	10.98
Std. Deviation	10.13	6.85	14.73	9.23	10.05	4.18	5.33
Skewness	0.22	-0.19	-0.511	-0.02	-0.49	0.02	-0.11
Kurtosis	-0.53	0.50	-0.29	0.90	1.11	-0.66	0.26

3.4. Pearson's correlation between variables under study

Table 4: Correlations

		1	2	3	4	5	6	7	8	9	10
Geriatric depression	R	1	.35**	.14	.128	.03	-.34**	-.35**	.10	.04	-.02
	p-value		.000	.16	.19	.74	.000	.000	.29	.64	.87
Gender	R		1	-.13	.23*	.12	.04	-.08	.005	-.18	-.078
	p-value			.19	.01	.20	.71	.43	.96	.07	.42
Age	R			1	.15	.27**	-.15	-.01	.03	-.07	.15
	p-value				.12	.005	.12	.94	.76	.45	.13
Marital status	R				1	-.005	-.12	-.16	.12	.003	.22*
	p-value					.96	.23	.10	.23	.97	.02
Education	R					1	.02	-.01	.03	-.16	-.12
	p-value						.81	.90	.77	0.09	.23
Family support	R						1	.37**	-.38**	-.35**	-0.04
	p-value							.000	.000	0.000	.67
QLESQ	R							1	-.12	-.11	-.14
	p-value								.23	.279	.15
Loneliness	R								1	.28**	.18
	p-value									.003	.06
Neglect	R									1	.21*
	p-value										.03
Grief	R										1
	p-value										
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

Table4 showed that Geriatric depression (GD) was positively and significantly correlated with gender (r=.35**, p<.001), but negatively and significantly correlated with Family support (FS) (r= -.34**, p<.001) and Quality of life enjoyment and satisfaction (QLESQ) r= -.35**,

p<.001). However, it was not correlated with other variables such as age (r= .14, p= .16), marital status (r= .128, p > .19), education (r= .03, p=.74), loneliness (r= .10, p=.29), neglect (r= .04, p=.64), and grief (r= -.02, p=.87).

3.5. Hypothesis testing

3.5.1. Rate of geriatric depression among the participants

Due to the participants' higher rate of geriatric depression (Table5), the first hypothesis was largely confirmed. Study findings revealed that 64.5% of the participants had significant symptoms of geriatric depression. Table 5 showed that only 35.5% of the participants were in the normal range, 52.3% had mild symptoms of geriatric depression while 12.1% had moderate symptoms. However, no cases of severe depression were highlighted by analysis.

Table 5: Distribution of symptoms of geriatric depression

Level of symptoms of geriatric depression	Frequency	%
Normal Range (25-49)	38	35.5
Mildly Depressed (50-59)	56	52.3
Moderately Depressed (60-69)	13	12.1
Total	107	100.0

3.5.2. Relationship between sociodemographic variables and geriatric depression among the participants

According to Table 4, there was a significant correlation between Gender and GD (r=.35**, p<.001). Simple linear regression analysis (Table6) revealed that this unique socio-demographic variable (gender) has ability to predict positively GD (β= 6.12, t= 3.83, p <.001). These findings confirm the second hypothesis which states that there is a relationship between sociodemographic variables and geriatric depression among elderly people from NSINDAGIZA Organization.

Table 6: Estimation of the relationship between geriatric depression and gender

	Unstandardized Coefficients		**Standardized Coefficients**		
	B	Std. Error	Beta	**T**	**Sig.**
(Constant)	39.777	2.964		13.420	0.000
Gender	6.123	1.598	0.350	3.831	0.000
a. Dependent Variable: Geriatric depression					

Although geriatric depression was predicted by gender, we thought it could be clearer when we clarify which gender makes significant predictions. Consequently, a comparison of the mean score was done by using independent samples tested between men and women for geriatric depression. As presented in table7, a statically significant difference was found in geriatric depression (t (105) = -3.83, p<.001) between women group (M=52.02, SD=6.24) and men group (M=45.9, SD=7.27). These results irrevocably confirm that women are more vulnerable to geriatric depression than men.

Table 7: Independent Samples Test

					Levene's Test for Equality of Variances		**t-test for Equality of Means**		
	Groups of participants	N	M	SD	F	Sig.	t	df	Sig. (2-tailed)
Geriatric depression	Male	20	45.9	7.27	0.653	0.421	-3.83	105	0.000
	Female	87	52.02	6.24			-3.48	25.821	0.002

3.5.3. Significant family determinants of geriatric depression among the participants

Before assessing the significant determinant of geriatric depression among the participants, we first analysed the plausible family correlates of dependent variables (geriatric depression). Study findings reported that Geriatric depression was negatively and significantly correlated with Family support and Quality of life enjoyment and satisfaction (see table4). These findings confirmed that Family support and Quality of life enjoyment and satisfaction might be

significant family determinants or predictors of Geriatric depression in study participants. Then, they were put in a regression analysis model to see if they could predict.

Table 8: Fit of regression model

	Sum of Squares	df	Mean Square	F	Sig.
Regression	858.639	2	429.319	10.856	.000[b]
Residual	4112.782	104	39.546		
Total	4971.421	106			

a. Dependent Variable: Geriatric depression

b. Predictors: (Constant), QLESQ, Family support

Findings showed that the overall goodness of fit of the fitted regression model was significant when the Family support, and Quality of life enjoyment and satisfaction were entered F (2, 104) = 10.85, p <.001) (Table8). These two kinds of variables namely family support (β = -0.11, t = -2.469, p<.05) and Quality of life enjoyment and satisfaction (β = -0.196, t = -2.747, p < .01) (Table9) were found to be negative family determinants influencing geriatric depression in our participants. These findings can be explained as follows: lower levels of family support and quality of life enjoyment and satisfaction among elderly people increase the level of geriatric depression.

Table 9: Significant determinants of geriatric depression

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	63.926	3.202		19.965	0.000
Family support	-0.110	0.045	-0.237	-2.469	0.015
QLESQ	-0.196	0.071	-0.264	-2.747	0.007

a. Dependent Variable: Geriatric depression

CHAPTER IV: RESULTS DISCUSSION

While the majority of a recent study on geriatric depression has focused on improved diagnostic tools (Krishnamoorthy et al., 2020; Dias et al., 2017; Sun, Li, Yu, 2017; Pocklington et al., 2016), prevalence (Pilania et al., 2019); Manandhar et al., 2019; Ismail et al., 2017; Padayachey et al., 2017), comprehension of differences in demographic traits (e.g., occupation status, gender, age, marital status, health status, and social support) (Amha et al., 2020), and the associated risk factors (Disu et al., 2019; Zhao et al., 2018**;** Pramesona & Taneepanichskul, 2018**),** our study investigated the rate of geriatric depression and the contribution of socio-demographic characteristics among the Rwandan elderly people supervised in social support groups. Specifically, it assessed family determinants of geriatric depression.

Overall, results showed that 64.5% of the participants had significant symptoms of geriatric depression. This rate is higher than the one recently observed in developing countries (40.78%) and developed countries (17.05%) (Zenebe et al., 2021). This difference can be explained by the fact that Genocide against the Tutsi has left a long-lasting effect on both mental (Munyandamutsa et al., 2012; Rieder & Elbert, 2013) and physical well-being (Munyandamutsa et al., 2012). Additionally, results argued that female participants are more vulnerable to geriatric depression than men. This finding is similar to one reported in the previous cross-sectional studies (Bhavna et al., 2020; Zou et al., 2018). Consistently, theories hold that women are generally more likely to develop more symptoms of depression than men due to internalizing behaviour, the effect of the menstrual cycle and time surrounding menopause (Wharton et al., 2012), socialization effect that requires girls to be more caring while boys are required to be more independent (Altemus et al., 2014; Wide et al., 2011), the society Undervaluation of women's roles and responsabilities (Mayor, 2015), the use of ruminative

coping style which leads to the development of depressive symptoms (Johnson & Whisman, 2013), and stressful life events encountered generally by more women than men (Cohen et al., 2019; Hamilton et al., 2015).

Further, geriatric depression was negatively associated with family support. This means that a decrease in perceived social support results in an increase in geriatric depression. A recent integrative literature review conducted by Vilas showed that the lack of family support is the root cause of geriatric depression in elderly people (Vilas et al., 2019). Similarly, numerous studies have demonstrated that geriatric depression symptoms decrease significantly with increased support from spouses, children, or other potential family members (Lee et al., 2018; Hung et al., 2017; Wang & Zhao, 2012). Finally, a significant negative association was also observed between geriatric depression and quality of life enjoyment and satisfaction. That is, ~~a~~ low quality of life enjoyment and satisfaction leads to geriatric depression among elderly people. Geriatric depression and ~~a~~ low quality of life enjoyment were recently observed in the sample of elderly people (Jemal et al., 2021). Other scholars found that a lower level of quality of life enjoyment among elderly people was significantly associated with a higher level of geriatric depression symptoms (Jemal et al., 2021; Lia Juniarni & Sani Sri Wulandari, 2020; Cao et al., 2016; Akyol et al., 2010).

The primary strength of the study is that it was conducted in a country where there are scarce studies, especially on psychosocial wellbeing in the elderly. The study showed that symptoms of geriatric depression are higher in the sample but female participants were more vulnerable than male participants. This study revealed that lower levels of family support~~,~~ and quality of life enjoyment and satisfaction were associated with increased symptoms of geriatric depression. Results imply that family support and quality of life should be improved to prevent

geriatric depression in the elderly by focusing specifically on women. Another implication of the findings is that in close collaboration with policy makers and decision-makers; family members should be encouraged and supported to plan and implement family-based interventions targeting to improve the wellbeing of elderly people in their respective families. The reason is that observed geriatric depression can be mitigated or generated by the quality of life and received family support.

Limitations

One of the study limitations is the exploration of family determinants of geriatric depression. The contribution of community factors and comorbidity should be also investigated in this sample for advanced support. Another limitation is methodological in which a cross-sectional study design was adopted. With this design, data concerning the rate and determinants of geriatric depression were highlighted but the direct cause-effect relationship was not assessed. So, a similar study with a longitudinal study design is needed to test the cause-and-effect relationship. Finally, family determinants such as intimate partner violence and perceived poverty that might be plausible determinants should also be assessed.

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Annexes

Annexe 1: Consent form (Kinyarwanda version)

I.INYITO Y'UBUSHAKASHATSI

Impamvu zituruka mu muryango zishobora kuba intandaro z'indwara y'agahinda,mu cyiciro cy'abasheshe akanguhe mu Rwanda.

II. UMUSHAKASHATSI

- **Amazina:** NSHIMYUMUREMYI Eric
- **Aho abarizwa :** Kaminuza y'uRwanda, Koreje y'Ubuvuzi n'ubuzima
- **Telefoni:** (+250)788503349/ (+250)76309102
- **Email:** nshimyeric317@gmail.com

III. INTEGO Y'UBUSHAKASHATSI

Kumenya no kumva neza Impamvu zituruka mu muryango zishobora kuba intandaro z'indwara y'agahinda,mu cyiciro cy'abasheshe akanguhe mu Rwanda.

IV. IBISABWA NUKO BIZAKORWA

Nuramuka wemeye kuba umwe mubazatanga amakuru muri ubu bushakashatsi, uzuzuza ibibazo ubazwa byose. Kubyuzuza bizagutwara nibura iminota mirongo ine n'itanu (45mns). Nyuma yo kuzuza ibibazo amakuru watanze azakusanyirizwa hamwe nayabandi batanze, hanyuma byiganwe ubushishozi hakoreshejwe mudasobwa n'ubuhanga buhanitse bw'abashakashatsi. Hanyuma ibyavuye mu bushakashatsi bizatangazwa kandi nawe uzaba ubifiteho uburenganzira. Biranashoboka kandi ko waba umwe muzakenerwa mu kugirana ibiganiro byihariye n'abashakashatsi.

V. INGARUKA

Ntangaruka nimwe uzahura nayo igihe wakwemera gutanga amakuru arebana n' ubu bushakashatsi. Ariko ushobora kwanga gusubiza kimwe cyangwa bimwe mu bibazo wabazwa cyangwa se ukareka kwitabira ubushakashatsi.

VI. IBYIZA BY'UBU BUSHAKASHATSI

Ntanyungu z'ako kanya uzahahita ubona. Ariko twizeyeko amakuru azava muri ubu bushakashatsi azafasha mu gukumira ko ibyababayeho byakongera kubaho kubandi bagore ndetse n'abana babo

VII. KUBIKA AMABANGA Y'IBYAVUYE MU BUSHAKASHATSI

Ibyavuye mu bushakashatsi bibikwa mw'ibanga rikomeye. Hazafatwa rero ingamba zikomeye mu kurinda amakuru watanze. Icyambere, amakuru azakoreshwa mu rwego rw'ubushakashatsi gusa. Icya kabiri, Kaminuza y'uRwanda na Guverinoma y'urwanda nibo bonyine bemerewe gukoresha ubu bushakashatsi. Igihe bibaye ngombwa ko umuntu yandika ubuzima bw'umuntu ku giti ke; nta mazina agaragara mubyanditswe. Ibyo kandi niko bigenda igihe ibyavuye mu bushakashatsi bigiye gutangazwa mu rwengo mpuzamahanga. Impapuro zakoreweho ubushakashatsi zibikwa mu kabati gafunze n'ingufuri, kandi ibishyizwe muri mudasobwa bifungwa n'imfunguzo z'ikoranabuhanga zabigenewe.

VIII. IBYEREKEYE IBIHEMBO

Nta gihembo gihabwa uwatanze amakuru muri ubu bushakashatsi. Kuyatanga ni ubwitange.

IX. UWO WAKWIYAMBAZA IGIHE UGIZE IKIBAZO

Uramutse ugize ikibazo kijyanye n'ubu bushakashatsi cyangwa izindi ngaruka zitewe no kuba wagize uruhare mu bushakashatsi, wavugana n'ukuriye ubushakashatsi ugendeye ku myirondoro yatanze haruguru. Niba ufite ikibazo kijyanye n'uburenganzira bwawe cyangwa se ikindi kibazo udashaka kubwira ukuriye ubushakashatsi ushobora no guhamagara umugenzuzi w'ubushakashatsi ariwe Dr. Augustin NSHIMIYIMANA kuri telefoni nimero 0788452875 cg kuri email ye nshimiyea2019@gmail.com cyangwa Dr Simeon SEBATUKURA GITIMBWA kuri telefoni 0788527341 cyangwa kuri email : sebatusim@gmail.com . Ushobora kandi guhamagara muri komite ishinzwe ubuziranenge mu bushakashatsi muri kaminuza y'urwanda

kuri nimero 0788563311 cyangwa e-mail: fsunday@khi.ac.rw

X. KWITABIRA UBUSHAKASHATSI KUBUSHAKE

Kugira uruhare muri ubu bushakashatsi ni ubushake. Niwowe ufata umwanzuro niba ugira uruhare muri ubu bushakashatsi cyangwa ubireka. Niba ubyemera, urasinya inyemezabushake. Numara gusinya, uraba ugifite uburenganzira bwo kuva mubushakashatsi igihe cyose ubishakiye udasabwe ibisobanuro. Kureka kwitabira ubushakashatsi ntibizakugiraho ingaruka nimwe. Niba uretse kwitabira ubushakashatsi mbere yo kurangiza ikusanyamakuru, amakuru watanze tuzayagusubiza cyangwa se ahinduke imfabusa.

INYEMEZABUSHAKE

Njyewe…….nemeye kugira uruhare mu bushakashatsi bwa bwana NSHIMYUMUREMYI Eric ku kumenya no kumva neza Impamvu zituruka mu muryango zishobora kuba intandaro z'indwara y'agahinda, mu cyiciro cy'abageze mu zabukuru mu Rwanda. Amaze kumbwira icyo agamije, uburyo akoresha, igihe buzamara; maze kwibutswa uburenganzira bwanjye bwo kwanga kubugiramo uruhare n'ubwo kubuvamo ntabisobanuro nsabwe kandi igihe nshatse , maze guhabwa icyizere kw'ibanga ku makuru yose nzatanga muri ubu bushakashatsi bikaba ibanga ry'akazi. Maze gusobanurirwa kuburyo buhagije ibyo byose.

Nemeye kugira uruhare muri ubu bushakashatsi.

Nemeye gutanga amakuru mu nyandiko kandi ibi mbyemeye ku bushake bwanjye ntagahato

Bikorewe i……..Kuwa……./……../2022

Umukono……

Annexe 2: Consent form (English Version)

I.TITLE OF STUDY

Family determinants of depression among Rwandan geriatric population

II. PRINCIPAL INVESTIGATOR

- **Names:** NSHIMYUMUREMYI Eric
- **Address :** University of Rwanda-College of Medicine and Health Sciences-School of Medicine and Pharmacy- Department of Clinical Psychology
- **Phone Number:** (+250)788503349/ (+250)786309102
- **Email:** nshimyeric317@gmail.com

III. PURPOSE OF STUDY

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. The purpose of this study is to explore the ***Family determinants of depression among Rwandan geriatric population***

IV. STUDY PROCEDURES

If you decide to participate you will be asked to complete a questionnaire, and we think this will take you at least forty-five minutes. We will ask you to have positive collaboration because data will be collected using a questionnaire and the analysis will be done by computer software.

V. RISKS

No risk you will face if you participate in this research. However, you may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

VI. BENEFITS

There will be no direct benefit to you for your participation in this study. However, we hope that the information obtained from this study may help to prevent maternal filicide and heal the wounds of existing filicidal mothers

VII.CONFIDENTIALITY

Your responses to this study will be anonymous. Different measures will be taken confidentiality and for information protection from unauthorized disclosure, tampering, or damage. First, the data from the research will be available only for academic reasons (by students, and universities) and research. Second, the University of Rwanda and the government of Rwanda are two institutions authorized to use the data. During the publication at the international level, no names of participants will be mentioned. We assure you that your personal information will be confidentially kept. The data files will be kept in locked cabinets, and soft files will be kept on a computer, with a password known only by the people authorized to correctly use the data.

VIII. COMPENSATION

Participation is for free and no compensation that is designed for the participants.

IX. CONTACT INFORMATION

If you have questions at any time about this study, or you experience adverse effects as a result of participating in this study, you may contact the researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise that you do not feel you can discuss with the Primary Investigator, please contact the research supervisor Dr. NSHIMIYIMANA Augustin at 0788452875 or email: nshimiyea2029@gmail.com and Dr. Simeon SEBATUKURA at 0788527341 or email: sebatusim@gmail.com. You can also contact the ethical committees of the University of Rwanda via 0788563311 or e-mail: fsunday@khi.ac.rw .

X. VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I,……accept to participate in Mr. NSHIMYUMUREMYI Eric's research related to Family determinants of depression among the Rwandan geriatric population

. After receiving the explanation of the objectives, methods, and techniques, my rights of participating or withdraw and leave this study without any explanation, after being secured about the confidentiality of the information that I will give and that, this will be used for scientific interest and after being well informed about the whole procedure:

I accept to participate in this research

I accept to be recorded during the interview and I accept all of these voluntarily.

Done at …….on……./……/2022

Signature……

Annexe 3: Umwirondoro

NIMERO:

1.Itariki :

2.Imyaka:

3.Irangamimerere

a. Ingaragu/wibana
b. Uwubatse mu buryo bwemewe n'amategeko
c. Uwubatse mu buryo butemewe n'amategeko
d. Umupfakazi
e. Uwatandukanye nuwo bashakanye mu buryo bwemewe n'amategeko
f. Utakibana nuwo bashakanye
g. Ubundi buryo butavuzwe haruguru

4. Amashuri wize

a. Abanza (P1,P2, P3, P4, P5, P6)
b. Ayimyuga:
c. Ayisumbuye (S1, S2, S3, S4, S5, S6)
d. Kaminuza:
e. Sinize

Annexe 4: Identification

Number:

1. **Date:**
2. **Age:**
3. **Gender:**
4. **Marital status**
    - **a.** Single
    - **b.** Legally married
    - **c.** Illegally married
    - **d.** Widowed
    - **e.** Divorced
    - **f.** Separated
    - **g.** Other
5. **Education**
    - **a.** Didn’t complete primary school
    - **b.** Completed primary school
    - **c.** TVET
    - **d.** Didn’t complete secondary school
    - **e.** Completed secondary school
    - **f.** Didn’t attend school

Annexe 5: Zung Self-Rating Depression Scale (SDS)-kinyarwanda

NIMERO:

Amabwirizwa: Kuri buri nteruro ikurikira, turagusaba gushyira akamenyetso ka **(v)** mu kazu ugagaragaza neza uko wiyumvaga nuko witwaye mu minsi ishize.

shyira akamenyetso ka (v) mu kazu kari ngombwa.		**Gake**	**Rimwe na rimwe**	**Kenshi**	**Buri gihe**
1	Numvise umutima wanjye ushengutse.				
2	Mu gitondo nibwo mba numva meze neza				
3	Mba numva narira nta mpamvu igaragara indijije ako kanya.				
4	Ngira ibibazo byo kubona ibitotsi nijoro.				
5	Ndya cyane birenze uko naryaga mbere.				
6	Ndacyanyurwa n'imibonano mpuzabitsina.				
7	Ndimo gutakaza ibiro.				
8	Mfite ibibazo byo kunanirwa kwituma.				
9	Umutima wanjye uratera cyane birenze ibisanzwe.				
10	Mpora naniwe kandi ntacyo nakoze.				
11	Ntekereza neza uko bikwiriye.				
12	Biranyorohera gukora ibyo nari nsanzwe nkora.				
13	Ndahangayika ariko simbihorana.				
14	Mfite ikizere gihagije cy'ejo hazaza.				
15	Nsigaye ngira umunabi bidasanzwe.				
16	Biranyorohera gufata ibyemezo.				
17	Numva ndi uw'agaciro kandi nkenewe.				
18	Ubuzima bwanjye ni bwiza cyane.				
19	Numva ndi ikibazo mu bandi.				
20	Ndacyanyurwa nibyanshimishaga.				

Annexe 6: Zung Self-Rating Depression Scale (SDS)-English

Number:

For each item below, please place a check mark (V) in the column which best describes how often you felt or behaved this way during the past several days

Place check mark (V) in correct column.		**A little of the time**	**Some of the time**	**Good part of the time**	**Most of the time**
1	I feel down-hearted and blue.				
2	Morning is when I feel the best.				
3	I have crying spells or feel like it.				
4	I have trouble sleeping at night.				
5	I eat as much as I used to.				
6	I still enjoy sex.				
7	I notice that I am losing weight.				
8	I have trouble with constipation.				
9	My heart beats faster than usual.				
10	I get tired for no reason.				
11	My mind is as clear as it used to be.				
12	I find it easy to do the things I used to.				
13	I am restless and can’t keep still.				
14	I feel hopeful about the future.				
15	I am more irritable than usual.				
16	I find it easy to make decisions.				
17	I feel that I am useful and needed.				
18	My life is pretty full.				
19	I feel that others would be better off if I were dead.				
20	I still enjoy the things I used to do.				

Annexe 7: Family Support Scale for Elderly People: Kinyarwanda

Amabwiriza: Ibi ni ibibazo bigendanye n'uburyo umuryango wawe ukwitaho,shyira akamenyetso ka ku gipimo kijyanye nuko bikumereye.

NO	IKIBAZO	Oya	Gake	Rimwe na rimwe	kenshi
1	Umuryango wanjye urankunda	0	1	2	3
2	Umuryango wanjye uranyubaha	0	1	2	3
3	Umuryango ***wanjye*** umfasha ***mu*** bikorwa bya buri munsi	0	1	2	3
4	*Umuryango **wanjye** umfasha **mu** bihe byo gusenga*	0	1	2	3
5	Umuryango ***wanjye*** umpa amakuru y'ingenzi	0	1	2	3
6	Umuryango ***urampumuriza***	0	1	2	3
7	*Umuryango **wanjye** ungezaho imyanzuro y'ingenzi ireba umuryango*	0	1	2	3
8	Umuryango wanjye wumva ibyifuzo byanjye bwite	0	1	2	3
9	***Umuryango wanjye umfasha kwitabira ibirori***	0	1	2	3
10	Umuryango wumva ibibazo byanjye	0	1	2	3
11	Umuryango umfasha gukemura ibibazo byanjye bwite	0	1	2	3
12	***Umuryango wanjye usobanukiwe n'ubuzima bwanjye***	0	1	2	3
13	Umuryango wanjye umfasha kwivuza	0	1	2	3
14	Umuryango wanjye umfata nk'umuntu w'ingenzi	0	1	2	3
15	Umuryango wanjye umpa amafaranga iyo	0	1	2	3

	nyakeneye				
16	Umuryango wanjye wita ku mirire yanjye	0	1	2	3
17	***Umuryango wanjye ukurikirana niba naraye neza***	0	1	2	3
18	*Umuryango* ***wanjye*** *umfasha mu busabane*	0	1	2	3
19	Umuryango wanjye umfasha guhora nishimye	0	1	2	3
20	Nyuzwe nuburyo umuryango wanjye unyitaho	0	1	2	3

Annexe 8: Family Support Scale for Elderly People: Kinyarwanda

Direction: These are questions about your family support. Please tick the one option that is most appropriate for you

NO	IKIBAZO	No	Little	Some	Much
1	My family loves me	0	1	2	3
2	I get respect from my family	0	1	2	3
3	My family helps me with daily activities	0	1	2	3
4	My family helps me with religious activities	0	1	2	3
5	My family gives me useful information	0	1	2	3
6	My family give me emotional support	0	1	2	3
7	My family shares important decisions with me	0	1	2	3
8	My family understands my personal desires	0	1	2	3
9	My family helps me to participate in social events	0	1	2	3
10	My family listens my problems	0	1	2	3
11	My family helps to solve my problems	0	1	2	3
12	My family is aware of my health	0	1	2	3
13	My family helps in my treatment	0	1	2	3
14	My family treats me as an important person	0	1	2	3
15	My family gives me money when I need it	0	1	2	3
16	My family is careful about my food	0	1	2	3
17	My family is careful about my sleep	0	1	2	3
18	My family gives me companionship	0	1	2	3
19	My family helps me to stay happy	0	1	2	3
20	I am satisfied with my family support	0	1	2	3

Annexe 9: Quality of life enjoyment and satisfaction questionnaire - short form Q-LES-Q-SF Kinyarwanda

IBIKORWA RUSANGE	**IGIPIMO CYO KUNYURWA MURI RUSANGE**				
Turebeye hamwe muri rusange ikintu kimwe ku kindi, kunyurwa kwawe byari bimeze gute mu cyumweru gishize?	Bibi cyane	Bibi	Mu rugero	Byiza	Byiza cyane
1...mu mubiri?	1	2	3	4	5
2..mu byiyumviro ?	1	2	3	4	5
3..mu kazi ?	1	2	3	4	5
4…mu bikorwa byo mu rugo?	1	2	3	4	5
5……mu mibanire n'abandi?	1	2	3	4	5
6…..mu mibanire n'abagize umuryango ?	1	2	3	4	5
7…..mu gihe cy' ibikorwa by'imyidagaduro ?	1	2	3	4	5
8…..mu bushobozi bwo kurangiza inshingano za buri munsi?	1	2	3	4	5
9…..mu bushobozi n'ubushacye bw'imibonano mpuzabitsina?	1	2	3	4	5
10…..mu byubukungu	1	2	3	4	5
11……mu mibereho yo murugo muri rusange					
12…..mu bushobozi bw'umubiri ntakigukomye mu nkokora?	1	2	3	4	5
13…mubijyanye n'ubushobozi uzaba ufite bwo gukora cyangwa se ku bijyanye n'ibyagushimisha	1	2	3	4	5
14…….mubijyanye no kumva ubayeho neza muri rusange?	1	2	3	4	5
15.. mu bijyanye n'imiti ufata	1	2	3	4	5
16.. ni kukihe kigero unyuzwe n'ubuzima ubayemo nibura mu cyumweru cyose gishize?	1	2	3	4	5

Annexe 10: Quality of life enjoyment and satisfaction questionnaire - short form Q-LES-Q-SF English

This questionnaire is designed to help assess the degree of enjoyment and satisfaction experienced during the past week.

GENERAL ACTIVITIES	**OVERALL LEVEL OF SATISFACTION**				
Taking everything into consideration, during the past week how satisfied have you been with your	**Very Poor**	**Poor**	**Fair**	**Good**	**Very Good**
1... physical health??	1	2	3	4	5
2.. mood?	1	2	3	4	5
3.. work?	1	2	3	4	5
4… household activities?	1	2	3	4	5
5…… social relationships?	1	2	3	4	5
6….. family relationships?	1	2	3	4	5
7….. leisure time activities?	1	2	3	4	5
8….. ability to function in daily life?	1	2	3	4	5
9….. sexual drive, interest and/or performance? *	1	2	3	4	5
10….. economic status?	1	2	3	4	5
11…… living/household situation?					
12….. bility to get around physically without feeling dizzy or unsteady or falling	1	2	3	4	5
13… your vision in terms of ability to do work or hobbies? *	1	2	3	4	5
14……. overall sense of wellbeing?	1	2	3	4	5
15.. medication? (If not taking any, check here and leave item blank)	1	2	3	4	5
16.. How would you rate your overall life satisfaction and contentment during the past week?	1	2	3	4	5

Annexe 11: Loneliness Scale-Kinyarwanda

NIMERO:

Amabwirizwa: Izi nteruro ziragaragaza uko abantu biyumva rimwe na rimwe. Kuri buri nteruro, garagaza uko wiyumva ushyira umubare mu kazu bijyanye.

		Nta narimwe (1)	**Gacye (2)**	**Rimwe na rimwe (3)**	**Buri gihe (4)**
1	Ni inshuro zingahe wumva ko uhuza n'abantu bagukikije?				
2	Ni inshuro zingahe wumva ko ubuze ubusabane n'abandi?				
3	Ni inshuro zingahe wumva ko ntawe ushobora kwitabaza?				
4	Ni inshuro zingahe wumva uri wenyine?				
5	Ni inshuro zingahe wumva uri umwe mubagize itsinda ryinshuti?				
6	Ni inshuro zingahe wumva ko ufite byinshi uhuriyeho n'abantu bagukikije?				
7	Ni inshuro zingahe wumva ko nta muntu ukuri hafi?				
8	Ni kangahe wumva ko inyungu zawe n'ibitekerezo byawe bidasangiwe nabagukikije?				
9	Ni inshuro zingahe wumva ushaka gusabana n'abandi kandi ufite urugwiro?				
10	Ni inshuro zingahe wumva wegereye abantu?				
11	Ni inshuro zingahe wumva warirengagijwe?				
12	Ni inshuro zingahe wumva ko imibanire yawe n'abandi ntacyo ivuze?				
13	Ni inshuro zingahe wumva ko ntamuntu numwe ugufiteho amakuru meza?				
14	Ni inshuro zingahe wumva warahejejwe mu bandi bantu?				
15	Ni inshuro zingahe wumva ushobora kubona uwo musangira ibyishimo igihe ubishaka?				
16	Ni inshuro zingahe wumva ko hari abantu				

	bashobora kukumva?				
17	Ni inshuro zingahe wumva ufite isoni?				
18	Ni inshuro zingahe wumva ko hari abantu bakuri hafi ariko mu byukuri mutari kumwe?				
19	Ni inshuro zingahe wumva ko hari abantu wagira icyo ubwira bakakumva?				
20	Ni inshuro zingahe wumva ko hari abantu ushobora kwitabaza?				

Annexe 12: Loneliness Scale-English

Instructions: The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided.

		Never (1)	**Rarely (2)**	**Sometimes (3)**	**Always (4)**
1	How often do you feel that you are in tune with the people around you?				
2	How often do you feel that you lack companionship?				
3	How often do you feel that there is no one you can turn to?				
4	How often do you feel alone?				
5	How often do you feel part of a group of friends?				
6	How often do you feel that you have a lot in common with the people around you?				
7	How often do you feel that you are no longer close to anyone?				
8	How often do you feel that your interests and ideas are not shared by those around you?				
9	How often do you feel outgoing and friendly?				
10	How often do you feel close to people?				
11	How often do you feel left out?				
12	How often do you feel that your relationships with others are not meaningful?				
13	How often do you feel that no one really knows you well?				
14	How often do you feel isolated from others?				
15	How often do you feel you can find companionship when you want it?				
16	How often do you feel that there are people who really understand you?				

17	How often do you feel shy?				
18	How often do you feel that people are around you but not with you?				
19	How often do you feel that there are people you can talk to?				
20	How often do you feel that there are people you can turn to?				

Annexe 13: The multidimensional neglectful behaviour scale Kinyarwanda version

Amabwiriza: kuri buri nteruro, garagaza icyo ivuze ku buzima bwawe n'ababyeyi bawe. Ca akaziga kuri (4) igaragaza «***Ndabyemera cyane***» niba bisobanura neza umwe cyangwa ababyeyi bawe bombi. Ca akaziga kuri (1) igaragaza «**Ndabihakana cyane**» niba interuro itabisobanura na gato. Hitamo ndabyemera cyangwa ndabihakana niba iyi nteruro ibisonura mu buryo buringaniye.

		Ndabihakana cyane 1	**Ndabihakana 2**	**Ndabyemera 3**	**Ndabyemera cyane 4**
1	Ibyo ntashoboye kumva, barabinsobanurira.				
2	Ababyeyi banjye ntibamfasha kwiga neza.				
3	Iyo nkoze ibintu bibi nko kwiba ababyeyi banjye ntibabyitaho.				
4	Ababyeyi banjye ntibita ku bibazo mpurira nabyo ku ishuli.				
5	Igihe nagize ibibazo ababyeyi banjye baramfashije.				
6	Ababyeyi banjye ntabwo bampumurije mu gihe nari mpangayitse.				
7	Ababyeyi banjye bampa imyenda ihagije y'imbeho.				
8	Ababyeyi banjye ntibangirira isuku.				

Annexe 14: The multidimensional neglectful behaviour scale English version

Instruction: For each of the following statements, decide how well it describes your life with your parents. circle (4) for "Strongly Agree" if it is a very good description of either or both of your parents or a (1) for “Strongly Disagree” if it does not describe either of them at all. Choose “Agree” or “Disagree” if the description falls somewhere between.

		Strongly Disagree 1	**Disagree 2**	**Agree 3**	**Strongly Agree 4**
1	Helped me when I had trouble understanding something (R)				
2	My parents did not help me to do my best in school				
3	My parents did not care if I did things like shoplifting				
4	My parents did not care if I got into trouble in school				
5	My parents helped me when I had problems (R)				
6	My parents did not comfort me when I was upset				
7	My parents gave me enough clothes to keep me warm (R)				
8	My parents did not keep me clean				

Annexe 15: Adult Attitude to Grief scale_Kinyarwanda

NIMERO:

Ushingiye ku nteruro zikurikira, garagaza uko ubyifatamo ushyira aka kamenyetso **(√)** ku gipimo bijyanye

Imyitwarire ugira itewe n'intimba yo kubura ibyawe cyangwa uwawe wakundaga	**Ndabyemera rwose (0)**	**Ndabyemera (1)**	**Simbyemera sinanabihakana (2)**	**Ndabihakana (3)**	**Ndabihakana rwose (4)**
1.Numva nshoboye guhangana n'intimba izanwa no kubura ibyanjye cyangwa abanjye					
2.Ku bwanjye, biragoye kuvana ibitekerezo ku muntu nabuze					
3. Rwose niyumvamo imbaraga iyo mpuye n'intimba yo kubura ibyanjye cyangwa abanjye					
4. Nizera ko ngomba gutinyuka nkahangana n'intimba iterwa no kubura ibyanjye cyangwa abanjye					
5. Nuymva nzahora mfite umubabaro utewe n'intimba yo kubura ibyanjye cyangwa abanjye					
6. Kubwanjye numva ari ngombwa guhora ngenzura intimba iterwa no kubura ibyanjye cyangwa abanjye					
7.Ubuzima ntacyo buba buvuze cyane kuri njye nyuma yo kubura ibyanjye					

cyangwa abanjye					
8. Ntekereza ko ibyiza ari ugukomeza ubuzima kandi sintekereze cyane ku byanjye cyangwa abanjye nabuze					
9. Ntabwo akenshi bishoboka ariko nizera ko nzabasha kunesha iyi intimba iterwa no kubura ibyanjye cyangwa abanjye					

Annexe 16: Adult Attitude to Grief scale English

Ushingiye ku nteruro zikurikira, garagaza uko ubyifatamo ushyira aka kamenyetso (√) ku gipimo bijyanye

	Strongly agree (4)	**Agree (3)**	**Neither agree nor disagree (2)**	**Disagree (1)**	**Strongly disagree (0)**
1. I feel able to face the pain which comes with loss					
2. For me, it is difficult to switch off thoughts about the person I have lost					
3. I feel very aware of my inner strength when faced with grief					
4. I believe that I must be brave in the face of loss					
5. I feel that I will always carry the pain of grief with me					
6. For me, it is important to keep my grief under control					
7. Life has less meaning for me after this loss					
8. I think its best just to get on with life after a loss					
9. It may not always feel like it but I do believe that I will come through this experience of grief					