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Epidemiological Characteristics of Frailty and Ageing: Case Study of Elderly Hospice Care Sites in Burundi

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Abstract

Frailty and ageing are bound together, and frailty is linked with reduced capacity and low ability to survive adverse health outcomes. While ageing is glowing globally, in Burundi, a lot has been done to protect and improving the lives of old people, however, multiple challenges persist and limit them from benefiting from their human rights. We, therefore, thought to assess for factors influencing their quality of life, and then to discuss about measures to be taken to ensure ageing in good health. A descriptive cross-sectional study was done in three hospice care sites in Burundi and 57 participants were interviewed using a questionnaire between 16 February and 28th March 2022. Data were analyzed using the Computer Software Statistical Product and Service Solutions (SPSS 20.0). The relationship was considered significant when the P-value was less than the level of significance (<0.05) at 95% confidence interval. The research found that social status is linked with physical frail (p=0.029), and marital status was associated with the apparition of physical signs of frailty (p=0.005); In addition, 47.32 % with the underlining condition were without medication, 90% attended to a clinic 2 times and plus while 28.07% were admitted, 50.87% complained about the limited access to medicine and medical care and 61.40% complained about the variety and the quality of food. These factors can impact ageing in good health, and we recommend that comprehensive support for elderly people be in place and future research compare home-based support and support from hospice care.

Keywords: *Access, Ageing, Frailty, Healthcare, Support.*

Introduction

Frailty is a state that increases an individual's vulnerability to developing dependence, and it is described as a deterioration of physiological reserves involving multiple organ systems [1]. Frailty is most likely to appear in old age [2]. The frail older adult population is diversified and needs to be judged depending on person-centered dignity and humanity [3]. It is known to be linked with long-term adverse health-related outcomes such as the increased risk of geriatric syndromes, dependency, disability, hospitalization, institutional placement, and mortality, but there is a need to include them in all plans for sustainable development [4-6].

According to WHO, by 2020, the number of people aged 60 and over will far exceed the number of children under 5, and all countries face the challenges of ensuring an adequate health and social protection system that can respond to this demographic transition [7].

In Burundi, according to a study conducted by the National Commission for Social Protection, the elderly people represents 4% of the general Burundian population (SEP/CNPS, 2016). Therefore, considering the demographic

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projection, persons with 60 years and older were around 441,527 at the end 2021 (ISTEEBU, Demographic Projections 2010-2050, 2013) [8].

A big progress has been made in Burundi in terms of increasing access to health services, such as free health services for children under five and pregnant women, performance-based financing, and free of charge during retirement for people from the formal sector. In terms of social protection, progress has been made [9-11] in the strengthening of existing social security structures through their public insurance, in particular the National Social Security Insurance (INSS), in the creation of the National Bureau for Pensions and Professional risks (ONPR), in putting in place the Social Protection Support Fund (FAPS), the National Commission for Social Protection (CNPS) and the creation and operationalization of Private Social Security Agencies (ex: SONAVI, SOLIS). However, challenges persist such as:

1. The legal and regulatory framework in governance.
2. Innovative financing of insurance.
3. Rationalization of social security insurance companies.
4. Rationalization and harmonization of pensions.

In addition to the private sector insurance, which is still low, the public sector has Public Service Mutuality (Public Medical Insurance) which covers about 10% of the total population. Moreover, some private organizations, including Catholic Nurse Congregations, have created Hospices Care sites for elderly people who cannot take care of themselves [12]. However, access to basic services, including access to health services, access to food, and even access to decent shelter, are missing [13]. The generalized poverty of families threatens the community care for the elderly people and pushes older people to continue working due to a lack of social protection [14]. Some of them are living isolated with less support from their single families and become more vulnerable. Elderly people who have no more support find themselves in the streets and therefore become vulnerable in a complicated situation of lack of access to health services [15].

According to a multidimensional concept of frailty integrating various domains of human functioning (Frailty Indicator by Gobbens et al., 2010b), physical, psychological, and social characteristics (dimensions) combined with ageing may affect in one way or the other the frailty [16-17]. Therefore, individuals with a frailty trend would be unhealthier and have increased mortality [18-19]. In sum, elderly people are affected in all dimensions of life, and this would be complicated due to a lack of access to health services and due to lack of daily living care and end up being depressed [20-21]. However, the 2030 Agenda for Sustainable Development Goal advocates for leaving no one behind and appeals for protecting and promoting the rights of older persons in its implementation [6].

The purpose of the study was to assess old people's health conditions and profile, to assess for factors influencing their quality of life, and then to discuss measures to be taken to ensure protection and promote ageing in good health. Findings synthetized common health conditions associated with ageing, factors influencing frailty, comprehensive public health response to address the wide range of older people's needs, expectations of old people, and what the government and other institutions are doing to alleviate vulnerability for elderly people.

Materials and Methods

This study is a descriptive cross-sectional study using data from hospice care sites for old people in Rohero, in Kajaga and Gihanga and a questionnaire addressed to people aged 60 and plus living in Hospice Care. The choice of the sites was guided by easy access as they are not far from each other, and due to budget and time constraints, and above all this, all supported elderly people are accommodated in the site.

The hospice care of Rohero is in Bujumbura Maireship, the hospice of Kajaga is in the province of Bujumbura, known as Rural Bujumbura Province, and the hospice of Gihanga is in Bubanza province, located at less than 5 km from the one in Kajaga.

The approach involved both quantitative and qualitative methods of data collection. A discussion with the Permanent Executive Secretariat team in the National Commission for Social Protection (SEP/CNPS) was done to understand the protection framework and achievements in terms of the protection of old people. A field visit was conducted to all sites for introduction and permission requests before starting data collection. A well-prepared questionnaire was addressed and discussed.

Apart from the Key Informant Interviews, the research employed the observation method as one of the key approaches for collecting qualitative information. The key observation of old people's epidemiological characteristics, respondent social setup, and behavioral conduct of the assessed group was recorded and incorporated into this report. A Medical Doctor visiting the hospice care of Rohero twice a week was consulted to understand the epidemiological profile of people hosted there.

Data collection was done between the 16th of February and the 28th of March 2022, but preliminary site visits were done before. A questionnaire was addressed to all people aged 60 years and plus living on the site during that period and who accepted and were able to answer our questionnaire.

The sampling method considered all participants meeting inclusion criteria (Being aged 60 years and above, and being able to answer our questionnaire, very sick people were not considered). Therefore, the hospice care sites of Rohero considered 26 participants, the hospice care site of Gihanga considered 23 participants and the hospice care site of Kajaga considered 18 participants to make a total 67 participants meeting the inclusion criteria.

The size of the sample was calculated according to Bernoulli's formula (This sample size also corresponds to that of the sample size estimation table designed by Krejecie and Morgan [Francois, 2003]), which is as follows:

$$n = \frac{Z^2 \times N}{Z^2 + I^2(N-1)}$$

With:

n = size of the sample to be interviewed.

Z = reduced deviation corresponding to the 95% confidence level.

N = size of the total target population for our study.

I = width of the range expressing the margin of error.

Thus:

$$n = \frac{1{,}96^2 \times 67}{1{,}96^2 + 0{,}1^2(67-1)} = 57$$

In our study, data was collected for each dependent variable. Data processing was done using Word 2013 software, and the Computer Software Statistical Product and Service Solutions (SPSS 20.0) software was used for analysis and the presentation of results. The questionnaire was prepared using Sphinx Plus[2]. To test the association, the chi-square test was carried out under a non-parametric test. A p-value <0.05 was considered significant to confirm or not the hypothesis. The qualitative data collected through open-ended and closed questions in the questionnaires and interviews were categorized, summarized, organized, and analyzed.

Results

Table 1 shows that 38.60% were from the hospice care of Bene Mukama Gihanga, 21 participants from Bene Mukama Rohero (36.84%), and 14 participants (24.56%) from the Missionaries of Charity Mother Teresa of Calcutta (Mission de la Paix) based in Kajaga were interviewed; The group aged between 71-80 years old forms the majority with 47.37%, and almost 51% of the study participants are

Male; 56.14% has no education level; Majority (85.96%) were farmers, and widows constitute the majority (66.67%); 66.66% of participants have stayed in the hospice care site for more than 2 years while 5.26% do not remember when they reached the hospice care for having joined the hospice; Majority (91.23%) were staying alone, and 50.87 % had no children alive before joining the hospice care site.

Table 1. Socio-demographic Profile of Respondents

Characteristics	**Bene Mukama Gihanga**	**Bene Mukama Rohero**	**MP Kajaga**	**Total**
	22 (38.60%)	**21 (36.84%)**	**14 (24.56%)**	**57 (100%)**
	Frequency (%)	**Frequency (%)**	**Frequency (%)**	**Frequency (%)**
Age-group				
60 – 70 years	1	0	7	8 (14.04)
71 – 80 years	11	9	7	27 (47.37)
81 – 90 years	10	9	0	19 (33.33)
91 years and plus	0	3	0	3 (5.26)
Sex				
Male	6	9	14	29 (50.88)
Female	16	12	0	28 (49.12)
Education level				
Primary	12	5	5	22 (38.60)
Secondary	1	1	1	3 (5.26)
None	9	15	8	32 (56.14)
Occupation prior joining the hospice care				
Farmer	18	20	11	49 (85.96)
Working for the Government	0	1	1	2 (3.5)
Working for Private Sector	2	0	2	4 (7.02)
None	2	0	0	2 (3.5)
Marital status				
Married	1	4	1	6 (10.53)
Single	4	3	2	9 (15.79)
Divorced	0	2	2	4 (7.02)
Widow	17	12	9	38 (66.67)
How long participants have stayed in the hospice care				
Less than a Month	1	1	3	5 (8.77)
6 – 12 Months	0	2	0	2 (3.5)
1 – 2 years	6	3	0	9 15.79)
2 – 5 years	7	5	7	19 (33.33)
More than 5 years	8	7	4	19 (33.33)
Do not know	0	3	0	3 (5.26)
Staying alone or not before joining the hospice care				
Yes	20	19	13	52 (91.23)
No	2	2	1	5 (8.77)

Number of children still alive before joining the hospice care				
0 Children	12	8	9	29 (50.87)
1 – 3 Children	10	10	4	24 (42.10)
4 – 6 Children	0	2	1	3 (5.26)
7 and above Children	0	1	0	1 (1.75)

Table 2 shows that the majority (78.95%) do not at all appreciate the contribution of their community and confirmed that they were not receiving any support from the community; Almost half of the study participants (49.12%) are satisfied and appreciate their status compared to other people of their age, many would say they are very happy they are still alive and are taken care of, as many others of their age have died; Majority of the study participants (40.35%) understand ageing in good health as being able to do what they like meaning they would appreciate to be independent in performing daily activities.

Table 2. Distribution of Participants according to their Satisfaction about the Community's Support and their Understanding about Ageing in Good Health

Characteristics	**Bene Mukama Gihanga**	**Bene Mukama Rohero**	**MP Kajaga**	**Total**
	22 (38.60%)	**21 (36.84%)**	**14 (24.56%)**	**57 (100%)**
	Frequency (%)	***Frequency (%)***	***Frequency (%)***	***Frequency (%)***
How much do participants appreciate the help from their community				
Very Good	1	0	0	1 (1.75)
Good	7	0	0	7 (12.28)
Poor	2	2	0	4 (7.02)
None	12	19	14	45 (78.95)
How much are participants satisfied compared to people of their age				
Very Satisfied	3	4	1	8 (14.04)
Satisfied	13	10	5	28 (49.12)
Not Satisfied	6	7	8	21 (36.84)
How do participants understand ageing in good health				
No Answer	0	0	1	1 (1.75)
Being able to do what I like	10	8	5	23 (40.35)
Living Longer	3	2	1	6 (10.53)
Not Suffering	4	3	2	9 (15.79)
Not Attending Physician for Consultation	2	2	0	4 (7.02)
Never Becoming Sick	2	5	5	12 (21.05)
Enjoying Life	1	1	0	2 (3.51)

Table 3 shows that marital status was associated with physical signs of frailty (p=0.005), while it had no association with psychological frailty (p=0.095); Physical dimension (walking problems, balance problems, and mobility issues) was associated with social status (staying alone, number of children alive and support from the community)

as p=0.029; Physical (unexplained weight loss, getting dizzy while rising from a seated position, unexplained fatigue, difficulty in mobility, arm weakness, leg weakness), p=0193 and Psychological frailty (memory problems, loss of appetite), p=0.152 were not associated to the social status.

Table 3. Relationship of Social Status with Physical and Psychological Dimensions' Impairment

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
Physical associated frailty signs (unexplained weight loss, unexplained fatigue, difficulty in mobility, getting dizzy while rising from a seated position, sudden loss of balance, arm weakness, leg weakness) in relation with marital status	32.647	15	.005
Psychological associated frailty signs (memory problems, loss of appetite) in relation with marital status	40.517	30	.095
Physical dimension (walking problems, getting dizzy while rising from a seated position, balance Problems and mobility issues) in relation with social status	43.884	28	.029
Physical frailty associated signs (unexplained weight loss, unexplained fatigue, difficulty in mobility, sudden loss of balance, arm weakness, leg weakness) in relation with social status	42.012	35	.193
Psychological frailty associated signs (memory problems, loss of appetite) in relation with social status	82.116	70	.152

Table 4 shows that most of the participants staying alone had a sick health status (38/52 = 73%) before joining hospice care. This shows majority were joining the hospice care site while sick; Participants with null children and with sick status were more likely to join the hospice care, and most of them had 0 children (22 out of 29 = 75%)

Table 4. Relationship of Health Condition before Joining the Hospice Care with Staying Alone Status and the Number of Children Alive

		Health condition before joining the hospice care			Total
		Fair	Poor	Sick	
Living alone status	Yes	2	12	38	52
	No	0	1	4	5
Number of children alive	0 children	1	6	22	29
	1-3 children	1	7	16	24
	4-6 children	0	0	3	3
	7 and above	0	0	1	1

Table 5 shows that when participants were asked if anyone has experienced any of the following signs or symptoms (unexplained weight loss, sudden loss of balance, unexplained fatigue, difficulty in mobility, arm weakness, leg weakness) in the last 3 months,

sudden loss of balance and unexplained fatigue come on top with 91.2%. In sum, anyone has experienced one or more physical impairment in the last 3 Months, but the sudden loss of balance and unexplained fatigue were common; When asked if anyone has experienced any of the following (memory problems, loss of appetite) in the last 3 Months, loss of appetite comes on top with 63.15% of the total participants while more than a half of participants confirmed having memory problems (50.87%); When asked if anyone has experienced the following difficulties (difficulty finding the right word when you are speaking, difficulty paying attention, difficulty remembering things or forgetting where you have put things, difficulty recognizing a friend, difficulty hearing a normal conversation) in the last three months, 35.1% have not experienced any of the related impairment signs while almost a quarter (24.56%) of participants have experienced a problem of hearing a normal conversation, and majority announced difficulty in remembering things (54.38%).

Table 5. Distribution of Study Participants by Impairment Signs Related to Ageing

	Frequency (out of a total of 57)	**Percent**
Unexplained weight loss	37	64.9
Sudden loss of balance	**52**	**91.2**
Getting dizzy while rising from a seated position	48	84.2
Difficulty in mobility	51	89.4
Unexplained fatigue	**52**	**91.2**
Leg weakness	51	89.4
Arm weakness	50	87.7
Memory problems	28	50.87
Loss of appetite	36	63.15
Difficulty paying attention	28	49.12
Difficulty remembering things or forgetting where you have put things	31	54.38
Difficulty finding the right word when you are speaking	23	40.35
Difficulty recognizing a friend	21	36.84
Difficulty hearing a normal conversation	14	24.56

Table 6 shows that the health condition changed after joining hospice care. The majority were taken to hospice care when they were looking sick (73.68%), but their situation changed after joining (71.93). The two graphs are asymmetric showing that the situation was reversed after joining hospice care. No one has good health conditions either before or after joining the hospice care; Only 28.07 % do not have an underlining disease, while high blood pressure constitutes 26.31% (alone or combined with Asthma) of participants. Other diseases such as Post Traumatic Syndrome Distress and others constitute the majority with 35.09%; When asked if they easily get medicine, only 7.02% said they get easily medicine while more than three quarter do not get it (this includes those without underlining disease); More than 90% of respondents announced they attended to a clinic 2 times and more. Old people attend a clinic consultation and are admitted to a hospital more than any other group age, and almost one-third of participants end up by being admitted (28.07%).

Table 6. Distribution of Study Participants by Health Conditions and Management

Characteristics			
Health condition	**Status**		
	Fair	**Poor**	**Sick**
Before joining the hospice care	2 (3.5 %)	13 (22.68 %)	42 (73.93 %)
After joining the hospice care	41 (71.93 %)	10 (17.54 %)	6 (10.53 %)
Characteristics	**Frequency**	**Percentage (%)**	
History of having underlining diseases or chronic diseases			
Alzheimer disease	2	3.51	
Asthma	3	5.26	
Diabetes	1	1.75	
High blood pressure disease	12	21.05	
High blood pressure and asthma combined	3	5.26	
Others (PTSD)	20	35.09	
None	16	28.07	
History of getting easily medication or not			
Yes, on Medication and can find Medicine easily and regularly	4	7.02	
Yes, on Medication but it is not easy to get Medicine	10	17.54	
No Medication	43	75.44	
Number of times the participant attended to a clinic for consultation in the course of last year			
Never	1	1.75	
Once	4	7.02	
Twice	16	28.07	
Three times and more	36	63.16	
History of hospital admission during the last year			
Yes	16	28.07	
No	41	71.93	

Characteristics by Plans and Future Perspectives, Issues, and Challenges, and Suggestions to Help Ageing in Good Health

When asked if they have any plans for the future, the majority said that they have no plans as they are waiting to die soon (about 51 out of 57 participants (89.47%)). While assessing the health issues and challenges they are facing as old people, and despite that some of them have chronic illnesses such as high blood pressure, asthma, diabetes, among others, the majority accuses chronic joint and back pain, and polyarthritis (37 out of 57 participants with 64.91%), and PTSD or other kind of depression were recognized among many of them (12 out of 57 participants with 21.05%). Other health issues that count are lack of vision, hearing problems, paralysis, dysarthria, erysipelas, and this is in addition to common frequent infectious diseases such as Malaria. Concerning issues related to access to healthcare, majority

of them complained about lack or limited access to medicine and medical care (this was said by 29 out 57 participants with 50.87%), lack or limited access to specialized medical care, and absence of regular medical checkups. When they were asked if they get basic needs, no one complained about water and housing, but some said: "the food is nice and enough, but it is the same food and no variety" (35 out 57 participants with 61.40%) and would appreciate to be supported from home where they may get what they need. They all requested the improvement of access to healthcare, medicine, and basic needs.

Discussion

Concerning the socio-demographic characteristics, our study shows that hospice care sites have almost the same number of participants except for the site of the Missionaries of Charity Mother Teresa of Calcutta (Mission de la Paix) based in Kajaga, where all females were moved due to flooding. This is due to the limited capacity of accommodation in each hospice care site, and at a certain time, they have to stop receiving new arrivals; The majority is aged between 71-80 years (47.37%), 56.14% has no education, and 85.96% were farmers. The age differs from what WHO says where it states that the number of persons aged 80 years or older is expected to triple between 2020 and 2050 to reach 426 million; in Burundi, people get older and die earlier compared to the world ranking due to low life expectancy [7, 22]. The education level in Burundi is low compared to other countries (UNESCO report, 2019), and majority of Burundian population is farmer (ISTEEBU, 2008 census) [23].

In our study, when trying to understand their satisfaction about the community's support and their understanding of ageing in good health, our study shows that 49.12% are satisfied and appreciate their old age status, the majority (78.95%) do not at all appreciate the contribution of their community and majority of study participants (40.35%) understand ageing in good health, as being able to do what they like. This means they would appreciate being independent in performing daily activities. Independence in performing daily duties is such crucial for human beings in such a way that it should be considered in old age management. Recent data published by WHO in 2018 showed life expectancy in Burundi was 60.1 (Male 58.5, female 61.8). This means that they are happy about their age, as many of those with the same age have died as the population of Burundi is young (ISTEEBU, National Census, 2008) [23].

For the relationship of health condition before joining hospice care with staying alone status and the number of children alive, the majority (91.23%) were staying alone before joining the hospice care and 50.88% of the study participants had no children alive before joining the hospice care. Fereshteh. M & François. B (2021) in "Frailty as a Moderator of the Relationship between Social Isolation and Health Outcomes in Community-Dwelling Older Adults," said that less social support from children and partners was related to comorbidity, depression, and cognitive decline [24].

Concerning the relationship of social status with physical and psychological dimensions' impairment, marital status (widows constitute 66.67%) was associated with physical signs of frailty (p=0.005); this shows that they constitute vulnerable categories, and majority ends up looking for support in hospice care. A multivariate logistic regression model showed similarities and demonstrated that widowers were at higher risk of frailty (OR = 1.43, 95% CI = 1.06–1.95, p = 0.02), while widows carried a lower risk of becoming frail than married women (OR = 0.77, 95% CI = 0.66–0.91, p = 0.002 [25]. In our study, social status was linked with physical frail (p=0.029) than psychological frail (p=0.152); the same study of Fereshteh. M & François. B (2021) showed that social isolation is linked to mental health rather

than physical health. The difference in the two studies may be explained by the fact that in Burundi, people choose to join hospice care when they cannot perform daily activities easily than when they are psychologically affected [25].

For apparition of impairment signs related to ageing, sudden loss of balance and unexplained fatigue come on top with 91.2%. Mina et al (2017) in "A Review of Frailty Syndrome and Its Physical, Cognitive and Emotional Domains in the Elderly settings", confirmed existence of physical impairment such as shrinkage (weight loss), exhaustion, weaknesses, low gait speed and low physical activity in older adults [26]. Also, in our study, loss of appetite comes on top with 63.15% while almost a quarter of participants (24.56%) have a problem of hearing a normal conversation, and majority have a problem of remembering things (54.38%); According to Kota Tsutsumimoto et Al (August 2018) in "Ageing-related anorexia and its association with disability and frailty", anorexia may not have a direct effect on disability but may have an indirect relationship with it through frailty status [27]. Tino. P et al, 2017) found similar results in a review on 'the Impact of Common Dizziness Associated Symptoms on Dizziness Handicap in Older Adults where most patients reported swaying dizziness (60.6%) [28]. Jan Löhler et al (2019) said that hearing impairment was associated with ageing and was becoming more common in a review on detection, treatment, and associated risks of hearing impairment in old age [29].

Concerning health conditions and management issues, the health status changed after joining the hospice care as the majority were taken to the hospice care when they were sick (73.68%) before joining the hospice care. Lieve Van et al (2015) in "Palliative care for older people: A public health perspective", said that palliative care has an added value and can play a role in strengthening and complementing the care of older people. [30] In our study, 26.31% of participants had High Blood Pressure, and other diseases, such as PTSD constituted the majority, with 35.09%. Michelle in "Blood Pressure in Older Adults: The Importance of Frailty" confirmed that frail older adults might be at increased risk of hypotension [31].

In our study, 47.32 % of participants with underlining conditions were not on medication, 90% of all respondents attended a clinic 2 times while 28.07 ended up being admitted to a hospital or a clinic. Mit Philips et al (2004) said hundreds of thousands of Burundians have no access to basic health care because of their inability to pay for it [32]. Also, Aoife Leahy et al (2021) in a randomized trial, found that older people account for 25% of all Emergency Department (ED) admissions [33].

Coming to understanding their plans, their future perspectives, issues, challenges, and their suggestions about improving ageing in good health, 29 out 57 participants (50.87%) complained about lack or limited access to medicine and medical care. 35 out 57 participants (61.40%) announced a lack of variety of food they are given and would appreciate to be supported from home where they may get what they need. WHO calls for action that health systems are designed in a way that ensures affordable access to integrated services and that all services to be provided are oriented based on the needs and rights of older people [34]. The UN General Assembly (1999) announced several principles for old people among which one is saying that older persons should have access to adequate food, water, shelter, clothing, and health care through the provision of income, family and community support and self-help, and encouraged governments to incorporate them into their national programmes whenever possible [35].

Conclusion

This study shows that widows constitute 66.67% and marital status was associated with vulnerability, and therefore, increased the like

hood of joining hospice care. Social status such as staying, having no people around, having lost many children, and having no support from the community had a relationship with physical and psychological impairments. Depression was a common health condition and the health status changed after joining the hospice care; 47.32 % of participants with the underlining condition were not on medication. In addition, attendance to a clinic and admission was increased beyond the normal range in the context of lack of access to basic health care and other basic needs. The Government and other institutions should work to alleviate the burden of frailty due to ageing and support elderly people to get support in terms of access to basic needs; this may allow ageing in good health for old people. Integrated efforts are required to support the delivery of a social safety net for older people who are vulnerable, as well as social protection inventiveness that improves the quality of life. Future research should focus on assessing the type of frailty and comparing the quality of life between those living in theirsss homes and those who have moved to hospice care sites.

Conflict of Interest

The authors declare that there is no conflict of interest.

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References

[1] Kenneth, R., 2005, What would make a definition of frailty successful: age and ageing. Oxford University Press on behalf of the British Geriatrics Society, 34: 432–434, https://academic.oup.com/ageing/article/34/5/432/40406?login=true.

[2] Emma, G., L., 2019, Frailty in Tanzania: a longitudinal mixed methods study. Newcastle University, Doctor of Philosophy, Institute of Health, and Society, https://theses.ncl.ac.uk/jspui/handle/10443/4917.

[3] David, R. L., Eilann, C. S., Joan, C. L., Miranda, L. R. W., Mary, P. & Nancy, P. G., 2018, Understanding functional and social risk characteristics of frail older adults: a cross-sectional survey study. NIH, National Library of Medicine, National Center for Biotechnology Information, 19(1):170, https://pubmed.ncbi.nlm.nih.gov/30340530/.

[4] Eva, T., 2008, Ageing, disability and frailty. NIH, National Library of Medicine, National Center for Biotechnology Information, 52 Suppl 1:6-11, https://pubmed.ncbi.nlm.nih.gov/18382070/.

[5] AgeUK, Understanding Frailty, last updated 21/07/2020, https://www.ageuk.org.uk/our-impact/policy-research/frailty-in-older-people/understanding-frailty/.

[6] UNDP, Ageing, Older Persons and the 2030 Agenda for Sustainable Development, 12/07/2017, https://www.undp.org/publications/ageing-older-persons-and-2030-agenda-sustainable-development.

[7] WHO, Ageing and Health, 01/10/2022., https://www.who.int/news-room/fact-sheets/detail/ageing-and-health.

[8] Republique Du Burundi, Rapport des Projections Démographiques 2008-2030, ministère des Finances et de la Planification Economique, Institut de Statistiques et d'Etudes Economiques du Burundi (ISTEEBU) Bujumbura, 11/12/2021, https://www.isteebu.bi/wp-content/uploads/2020/04/Projection-de-la-population-bdi-2008-2030.pdf.

[9] REPUBLIQUE DU BURUNDI, Plan National de Développement du Burundi (PND BURUNDI) 2018-2027, 23/3/2022, https://www.presidence.gov.bi/strategies-nationales/plan-national-de-developpement-du-burundi-pnd-burundi-2018-2027/.

[10] Republique Du Burundi, Document de Politique Nationale de Protection Sociale au Burundi, 12/04/2022, https://www.refworld.org/pdfid/609ed3e74.pdf.

[11] Republique Du Burundi, Protection Sociale au Burundi, 21/5/2022, https://cnps.gov.bi/quest-ce-que-la-protection-sociale/.

[12] Republique Du Burundi, ministère de l'Intégration Nationale, des Affaires Sociales, des Droits de la Personne Humaine et du Genre, Secrétariat Exécutif Permanent de la Commission Nationale de Protection Sociale (SEP/CNPS), 2016, Etude de Base sur le Programme de Financement de l'Accès aux Soins de Santé pour les Personnes Agées au Burundi, Rapport définitif, Réalisé par I.C.G.C, page 23.

[13] Republique Du Burundi, Commission Nationale de protection Sociale/Secrétariat Exécutif Permanent (SEP/CNPS), 2019, Livret Synthèse de la restitution de l'Etude sur la Situation des Personnes Agées dans les Provinces de Gitega, Muramvya et Mwaro, rapport définitif.

[14] UN, HelpAge International, Ageing, Older Persons and the 2030 Agenda for Sustainable Development, 17/2/2022, https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2017/08/Ageing-Older-Persons-and-2030-Agenda_Issues-Brief-low-resolution-.pdf.

[15] Republique Du Burundi, ministère de l'Intégration Nationale, des Affaires Sociales, des Droits de la Personne Humaine et du Genre, Stratégie de la Protection Sociale au Burundi, 03/02/2022, https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/110614/137626/F444053803/BDI-110614.pdf.

[16] Lieve, J., Hoeyberghs, J. M. G. A., Schols, D. V., Nico, D. W. et al, 2019, Psychological frailty and quality of life of community dwelling older people: a qualitative study. Applied Research in Quality of Life, 15, 1395–1412 (2020), https://link.springer.com/article/10.1007/s11482-019-09735-y.

[17] Magdalena, S., Jerzy, S. & Katarzyna, W. T., 2020, Determinants of multidimensional and physical frailty and their individual components: interactions between frailty deficits, observational study. NIH, National Library of Medicine, National Center for Biotechnology Information, 21, 17(22):8656, https://pubmed.ncbi.nlm.nih.gov/33233408/.

[18] Bruno, B., Oscar, R., & Tiago, C., 2018, Assessing the social dimension of frailty in old age: A systematic review, Archives of Gerontology and Geriatrics, 78, 101-113, https://doi.org/10.1016/j.archger.2018.06.005.

[19] Fried, L. P., et al, 2001, Frailty in older adults: evidence for a phenotype. NIH, National Library of Medicine, National Center for Biotechnology Information, 56(3):M146-56, https://pubmed.ncbi.nlm.nih.gov/11253156/.

[20] Gobbens, R. J. J.& van, A. M. A. L. M., 2014, The prediction of quality of life by physical, psychological, and social components of frailty in community-dwelling older people. Quality of Life Research, 23, 2289–2300, https://doi.org/10.1007/s11136-014-0672-1.

[21] UNHCR, RefWorld, Burundi: At what age are people considered elderly, treatment of the elderly by society and the authorities, including those who are political militants, 26/02/2018, https://www.refworld.org/cgi-bin/texis/vtx/rwmain?docid=5acf85d74.

[22] WORLD HEALTH RANKINGS, Live Longer Live Better, Burundi, 16/03/2022, https://www.worldlifeexpectancy.com/burundi-life-expectancy.

[23] Buchman, A. S., Wilson, R. S., Bienias, J. L. & Bennett, D. A, 2009, Change in frailty and risk of death in older persons. Experimental Ageing Research, pages 61–82, https://doi.org/10.1080/03610730802545051.

[24] Fereshteh, M. & François, B., 2021, Frailty as a Moderator of the relationship between social isolation and health outcomes in community-dwelling older adults. Environmental Research and

Public Health, 18(4): 1675; https://doi.org/10.3390/ijerph18041675.

[25] Caterina, T. et al, 2016, Marital status and frailty in older people: gender differences in the Progetto Veneto Anziani, longitudinal study. Journal of Women's Health, 25, 6, https://doi.org/10.1089/jwh.2015.5592.

[26] Mina, K., Phyo, K. M., Christopher, M. N. & Alison, D. M. A., 2017, Review of frailty syndrome and its physical, cognitive, and emotional domains in the elderly. Geriatrics, 2(4), 36; https://doi.org/10.3390/geriatrics2040036.

[27] Kota, T. et al, 2018, Ageing-related anorexia and its association with disability and frailty. NIH, National Library of Medicine, National Center for Biotechnology Information, (5):834-843, https://pubmed.ncbi.nlm.nih.gov/30109778/.

[28] Tino, P. Alexander, W., Hannah, M. Z., Sigrid, F. & Hubertus, A., 2021, Impact of common dizziness associated symptoms on dizziness handicap in older adults. Frontiers in Neurology, 12, 801-499, https://doi.org/10.3389/fneur.2021.801499.

[29] Löhler, J. & al, 2019, Hearing impairment in old age: detection, treatment, and associated Risks. Dtsch Arztebl International, 116(17), 301–310, https://doi.org/10.3238/arztebl.2019.0301.

[30] Van, D. B. et al, 2015, Palliative care for older people: A public health perspective. Oxford Academy accessed 11 Nov. 2022, https://doi.org/10.1093/acprof:oso/9780198717614.001.0001.

[31] Michelle, C. O., Pamela, R. B. & Carmen, A. P., 2017, Blood pressure in older adults: The Importance of Frailty. Springer Link, (7): 55, https://doi.org/10.1007/s11906-015-0564-y.

[32] Mit, P., Gorik, O., Sally, H. & Andrew, D., 2004, Burundi: a population deprived of basic health care. British Journal of General Practice, 54(505): 634–635, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1324857/.

[33] Aoife, L. et al., 2021, The impact of frailty screening of older adults with multidisciplinary assessment of those at-Risk during emergency hospital attendance on the quality, safety and cost-effectiveness of care (SOLAR): a randomized controlled trial. Trials, 22: 581 (2021), https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-021-05525-w.

[34] WHO, Clinical Consortium on Healthy Ageing (frailty and intrinsic capacity), 23/04/2022, https://apps.who.int/iris/bitstream/handle/10665/272437/WHO-FWC-ALC-17.2-eng.pdf.

[35] UN General Assembly, Department of Economic and Social Affairs Ageing. International Year of Older Persons 1999, (Principles for older persons), 24/04/2022, https://www.un.org/development/desa/ageing/resources/international-year-of-older-persons-1999/principles.html.