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Original Article

FACTORS ASSOCIATED WITH FOOD INSECURITY AMONG ELDERLY RECEIVING SOCIAL GRANTS IN NAZIGO SUB COUNTY, KAYUNGA DISTRICT. A CROSS-SECTIONAL STUDY.

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ABSTRACT

Background
Food security is when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs. The study aims to assess the factors associated with food insecurity among the elderly receiving social grants in Nazigo sub-county, Kayunga district.

Methodology
A cross-sectional descriptive study design was employed, involving 120 elderly participants who were beneficiaries of the SAGE program. Data were collected using structured interviews and a pre-tested questionnaire and perceptions of the SAGE program. Descriptive and inferential statistics, including logistic regression analysis, were utilized.

Results
Elderly participants relying solely on pensions/SAGE as their primary source of income were found to have higher odds of experiencing food insecurity (OR: 2.12, 95% CI: 1.35–3.31) compared to those with diversified income sources such as small businesses and small-scale farming. Marital status was also a significant predictor of food insecurity. Those who were widowed or divorced had higher odds of food insecurity (OR: 1.75, 95% CI: 1.12–2.73) compared to those who were married or living with a partner. Female elderly participants had higher odds of experiencing food insecurity (OR: 1.57, 95% CI: 1.10–2.25) compared to their male counterparts. The number of household members was inversely related to food security. Households with more than five members were more likely to experience food insecurity (OR: 1.82, 95% CI: 1.14–2.91)

Conclusion
Gender, marital status, household size, education level, and source of income are all significant factors influencing food security.

Recommendations
Strengthening the SAGE Program: There is a need to increase the amount of the SAGE grant and integrate it with other social protection programs. This could enhance its impact on food security and overall well-being.

Keywords: *Food insecurity, Social grants, Elderly, Nazigo sub-county, Kayunga district*
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BACKGROUND

Food security is defined as the condition when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and preferences for an active and healthy life. It encompasses four dimensions: food availability, access, utilization, and stability. According to the United Nations Department of Economic and Social Affairs (UN DESA), elderly persons are those aged 60 years or older (United Nations, 2020). In 2019, Uganda's Ministry of Gender, Labour, and Social Development adopted this definition (MGLSD, 2018). In 2022, approximately 29.6% of the global population, or 2.4 billion people, experienced moderate or severe food insecurity, with 900 million people (11.3%) facing severe food insecurity (FAO et al., 2021). Uganda, with a population of 46.5 million, has about 1 million people (1.7%) aged 65 and above. Among these, 56% are females and 44% are males. Only 0.4% of the population is aged 80 years and above, with a higher proportion of females (UBOS, 2024). Food insecurity in Uganda was high in 2022,

with 48% of the population experiencing moderate food insecurity and 11% experiencing severe food insecurity. By the end of 2020, 69.2% of Ugandans, or 30.6 million people, were food insecure. In January 2023, the World Food Program (WFP) reported that 16.4 million Ugandans faced insufficient food consumption (World Bank, 2022).

Food insecurity among the elderly is linked to an increased risk of chronic conditions, inadequate nutritional intake, and reduced well-being (Arranhado, 2021). Rising medical expenses, limited access to food, and difficulties in preparing nutritious meals exacerbate these issues. These challenges increase anxiety about obtaining necessary food and limit the use of previously effective food management strategies, further straining the household budget and complicating food acquisition for the elderly (Vaudin et al., 2022). In Ethiopia's Metu district found malnutrition prevalence rates of 9.9% in urban areas and 25.2% in rural areas (Ferede et al., 2022). Malnutrition in older adults is caused by multiple factors, including inadequate food intake, poor food choices, increased nutrient loss, poor nutrient absorption, loss of appetite, difficulty chewing and swallowing, and increased use of prescription medications. Diseases, inactivity, and normal aging processes can lead to a gradual loss of muscle mass and strength, resulting in functional impairment. This underscores the need for comprehensive nutritional support for older adults. The study aims to assess the factors associated with food insecurity among the elderly receiving social grants in the Nazigo sub-county, Kayunga district.

METHODOLOGY

Research design

This study employed a cross-sectional descriptive study design using quantitative approaches. The quantitative approach involved a cross-sectional survey to collect numerical data. The study design was strong in describing phenomena, identifying emerging conditions, and associated factors in gerontology, and cheap in economic terms.

Study Population

The study population comprised of elderly individuals aged 60 years and above who are beneficiaries of the SAGE program by the Ministry of Gender, Labour, and Social Development (MGLSD) of the Government of Uganda in Nazigo Sub-county, Kayunga District. This group was selected because they receive social grants intended to improve their livelihood and well-being.

Sampling size determination

Simple random sampling and systematic probability sampling techniques were used in the study. The study population was drawn using the Cochran formula (Kunzmann et al., 2021).

$$n = \frac{Z^2 * p(1-p)}{d^2}$$

z is the statistical confidence, 1.96 at 95% C.I
p = Expected prevalence, 18.9%. 150,000 out of 798,525 older persons in Uganda receive SAGE (MGLSD, 2020)
d = Intended precision, 5%
n = 120 older persons (60 years and above) receiving SAGE will be selected to participate in the study.

Sampling Procedure

A multistage sampling procedure was used. Firstly, a list of elderly beneficiaries of the SAGE program was obtained from the office of MGLSD at the Kayunga district office. From this list, participants were selected using systematic random sampling for the survey. For qualitative interviews, purposive sampling was employed to select individuals who provided detailed information about their experiences.

Data collection methods

In-depth Interviews

This method involved conducting face-to-face interviews with a subset of elderly beneficiaries using a semi-structured interview guide. The guide was structured to gather qualitative data on the Food Consumption Score (FCS) and Household Hunger Scale (HHC) inductors of food security and explore their perceptions and experiences in detail.

Questionnaires

The method involved the use of a predefined set of questions presented similarly to all respondents. The questionnaires included both closed and open-ended questions designed to gather quantitative data on socio-demographic characteristics, food security status, factors influencing food insecurity, and other relevant variables.

Data collection tools

Interview guides

Interview guides were developed and used to guide in-depth face-to-face interviews, focusing on the impact of the SAGE program on the food security and nutritional well-being of the elderly.

Questionnaires

A predefined structured questionnaire was designed to capture data on socio-demographic information, household food security status (using the Household Food Insecurity Access Scale - HFIAS), and other factors related to food insecurity.

Quality Control of data

Reliability

Pre-testing of the questionnaires and interview guides was done to ensure reliability. Questions adapted from the HFAIS guide and SAGE assessment guide of the MGLSD. Cronbach's alpha was used to assess the internal consistency of the questionnaire items.

Validity

Content validity was ensured by having experts review the instruments. Construct validity was checked through factor analysis to identify factors that explain patterns of correlation, cross-validation, and selecting factors of best represent the underlying construct.

Data Analysis Procedure

Analysis of quantitative data

Data from questionnaires were analyzed using descriptive statistics (frequencies, percentages) and inferential statistics (chi-square tests,)to identify factors associated with food insecurity.

Data from interviews were transcribed, coded, and analyzed thematically. Using the Statistical Package for Social Sciences (SPSS), cross-tabulations were conducted to identify key themes and patterns regarding the impact of the SAGE program on food security and nutritional well-being.

Ethical Considerations

Informed Consent: Participants were fully informed about the study's purpose, procedures, potential risks, and benefits. Written and signed consent was obtained before participation.

Confidentiality: Participants' privacy was protected by ensuring that all data collected was anonymized and securely stored.

Voluntary Participation: Participation in the study was entirely voluntary, and participants could withdraw at any time without any consequences.

RESULTS

Social Demographic Characteristics of Respondents

A total of 120 elderly individuals participated in the study. Among these, 55.8% (n=67) were female, while 44.2% (n=53) were male. The age distribution revealed that the majority of respondents, 54.2% (n=65), were aged between 60-69 years, followed by 33.3% (n=40) who were between 70-79 years. Only 12.5% (n=15) of the respondents were aged 80 years and above. 37.5% (n=45), were widowed, 35.8% (n=43) were married, and 26.7% (n=32) were either divorced or separated. A significant proportion of the elderly, 58.3% (n=70), had no formal education. Meanwhile, 33.3% (n=40) had completed primary education, and only 8.3% (n=10) had attained secondary education or higher. The majority of the participants, 60.8% (n=73), were engaged in subsistence farming. 20.8% (n=25) of remittances and about 18.3% (n=22) depended on the Pensions and SAGE program as presented in Table 1.

Table 1: Socio demographic Characteristics of Respondents

Variables	Category	Frequency (n=120)	Percentage (%)
Age	60 - 69 years	65	54.2
	70 - 79 years	40	33.3
	80 years and above	15	12.5
Gender	Male	53	44.2
	Female	67	55.8
Marital Status	Married	40	33.3
	Widowed	60	50
	Single	10	8.3
	Divorced/Separated	10	8.3
Number of Household Members	None	14	10.2
	2 - 5 members	68	57.6
	Above 5 members	38	32.2
Education Level	No formal education	70	58.3
	Primary education	40	33.3
	Secondary education and above	10	8.3
Main Source of Income	Subsistence farming	73	60.8
	Remittances	25	20.8
	Pension/SAGE	22	18.3

Food Security Status

The results from the analysis of HFIAS data indicated that 54.2% (n=65) of the respondents were either moderately or severely food insecure with over 37.5% (n=45) classified as moderately food insecure, while 16.7% (n=20) classified as severely food insecure. Only 16.7% (n=20) of the respondents were found to be food secure, with about 29.2% (n=35) experiencing mild food insecurity.

Table 1: Food Security Status of Respondents

Food Security Status	Frequency (n=120)	Percentage (%)
Food Secure	20	16.7
Mildly Food Insecure	35	29.2
Moderately Food Insecure	45	37.5
Severely Food insecure	20	16.7

The data indicated that female respondents were more likely to experience food insecurity compared to their male counterparts. Specifically, 62.5% of females (n=40) were either moderately or severely food insecure, compared to 45.5% of males (n=25) as shown in Figure 1. Households with more than five members were more likely to be food insecure, with 65.2% (n=30) of these households experiencing moderate or severe food insecurity. Likewise, widowed or divorced respondents were more likely to experience food insecurity, with 63.6% (n=35) being moderately or severely food insecure, compared to 47.1% (n=30) of those who were married or living with a partner.

Table 2: Food security status per the social demographic variables of the participants

Socio-Demographic Factor	Food Secure (%)	Mildly Food Insecure (%)	Moderately Food Insecure (%)	Severely Food Insecure (%)
Gender				
Male (n=55)	11 (20.0)	19 (34.5)	17 (30.9)	8 (14.5)
Female (n=65)	9 (13.8)	16 (24.6)	28 (43.1)	12 (18.5)
Number of Household Members				
1-5 Members (n=70)	18 (25.7)	20 (28.6)	20 (28.6)	12 (17.1)
>5 Members (n=50)	2 (4.0)	15 (30.0)	25 (50.0)	8 (16.0)
Marital Status				
Married/Living with Partner (n=65)	15 (23.1)	19 (29.2)	20 (30.8)	11 (16.9)
Widowed/Divorced (n=55)	5 (9.1)	16 (29.1)	25 (45.5)	9 (16.4)

Factors Influencing Food Insecurity

The logistic regression analysis was conducted to identify the key factors independently associated with food insecurity. Elderly participants relying solely on pensions/SAGE as their primary source of income were found to have higher odds of experiencing food insecurity (OR: 2.12, 95% CI: 1.35–3.31) compared to those with diversified income sources such as small businesses and small-scale farming. Marital status was also a significant predictor of food insecurity. Those who were widowed or divorced had higher odds of food insecurity (OR: 1.75, 95% CI: 1.12–2.73) compared to those who were married or living with a partner. Female elderly participants had higher odds of experiencing food insecurity (OR: 1.57, 95% CI: 1.10–2.25) compared to their male counterparts. The number of household members was inversely related to food security. Households with more than five members were more likely to experience food insecurity (OR: 1.82, 95% CI: 1.14–2.91) compared to those with fewer members. Table 4 shows a detailed summary of the factors associated with/influencing food insecurity per the logistic regression analyses.

Table 3: Factors influencing food insecurity among the elderly population

Variable	Category	Crude OR (95% CI)	Adjusted OR (95% CI)	p-value
Gender	Male	1.00 (Ref)	1.00 (Ref)	-
	Female	1.23 (0.80–1.88)	1.15 (0.72–1.85)	0.55
Age Group	60–69 years	1.00 (Ref)	1.00 (Ref)	-
	70–79 years	1.48 (0.91–2.40)	1.35 (0.82–2.22)	0.23
	80+ years	1.75 (0.98–3.12)	1.52 (0.83–2.79)	0.17
Marital Status	Married	1.00 (Ref)	1.00 (Ref)	-
	Widowed	1.85 (1.14–3.00)	1.78 (1.10–2.89)	0.02
	Divorced/Separated	1.64 (0.88–3.06)	1.58 (0.83–3.00)	0.15
Number of Household Members	None	3.10 (1.42–6.75)	2.85 (1.28–6.35)	0.01
	2 to 5	1.45 (0.85–2.48)	1.35 (0.79–2.30)	0.27
	Above 5	1.00 (Ref)	1.00 (Ref)	-
Educational Level	No Education	2.28 (1.49–3.50)	2.12 (1.35–3.30)	0.001
	Primary Education	1.45 (0.90–2.34)	1.38 (0.84–2.28)	0.2
	Secondary Education or Higher	1.00 (Ref)	1.00 (Ref)	-
Source of Household Income	SAGE	2.08 (1.29–3.36)	1.95 (1.20–3.17)	0.01
	Small-Scale business/farming	1.00 (Ref)	1.00 (Ref)	-

DISCUSSION

Factors Influencing Food Insecurity

The logistic regression analysis identified several key factors associated with food insecurity among the elderly. Gender, marital status, household size, education level, and source of income were all significant predictors of food insecurity.

Female respondents had higher odds of experiencing food insecurity compared to males, with an adjusted odds ratio (OR: 1.57, 95% CI: 1.10–2.25). This finding is consistent with previous research that shows women are more vulnerable to food insecurity due to systemic inequalities in access to resources and opportunities (Smith et al., 2020). Gender disparities in food security are often exacerbated in rural areas, where traditional gender roles limit women's economic activities and decision-making power.

Widowed respondents had a significant association, p=0.02, and higher odds (OR: 1.78, 95% CI: 1.10–2.89)of food insecurity with over 1.78 more times compared to those who were married or living with a partner. This finding underscores the vulnerability of widowed elderly individuals, who often face economic challenges and social isolation. The absence of a spouse can lead to a decrease in household income and labor capacity, making it difficult to secure sufficient food (FAO, 2021).

Households with more than five members were 1.82 times more likely to experience food insecurity. This result reflects the increased demand for food in larger households, which may not be met by the available resources, particularly in subsistence farming households. Larger households also tend to have higher dependency ratios, further straining the household's ability to secure sufficient food (Smith & Subandoro, 2020).

CONCLUSION

Gender, marital status, household size, education level, and source of income are all significant factors influencing food security.

RECOMMENDATIONS

There is a need to increase the amount of the SAGE grant and integrate it with other social protection programs.

Special attention should be given to widowed, divorced, and female elderly individuals, who are more vulnerable to food insecurity.

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LIST OF ABBREVIATIONS

FAO: Food Agricultural Organisation
FCS: Food Consumption Score
MGLSD: Ministry of Gender, Labour and Social Development
SAGE: Social Assistance Grants for Empowerment
UBOS: Uganda Bureau of Statistics
WFP: World Food Programme

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CONFLICT OF INTEREST

The author did not declare any conflict of interest.

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