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Socioeconomic status, perceived family support and psychological distress in older Kenyans: a cross-sectional study

James R. Muruthi^a , Christine Nyawaga^b, Risper Kirui^c, Lucy Maina^d and Elijah Mwega^e

^aDepartment of Counseling and Family Therapy, Drexel University, Philadelphia, PA, USA; ^bDepartment of Communication and Film, University of Memphis, Memphis, TN, USA; ^cMedical School for International Health, Ben Gurion University, Be'er Sheva, Israel; ^dDepartment of Sociology, Gender and Development, Kenyatta University, Nairobi, Kenya; ^eKARIKA Community Organization, Nairobi, Kenya

ABSTRACT

Objectives: Incidences of psychological distress are on the rise among older Kenyans. While socioeconomic status and family support have been shown to impact the mental health of older individuals, they remain understudied in the older Kenyan population. This study investigated the prevalence of psychological distress among older Kenyans and examined its relationships with economic status and perceived family support.

Method: Data came from a cross-sectional survey of 376 older Kenyans from four rural and urban areas in 2022. The survey collected demographic, global health, social support, socioeconomic, and psychological health variables. Structural equation modeling was used to test the relationship between socioeconomic status, family support, and psychological distress.

Results: Overall, 61% reported high psychological distress, with women experiencing significantly higher levels. Structural equation modeling results indicated that food insecurity, flooring material, material wealth, chronic health, self-rated physical health, sex, and education were significant predictors. The dimensions of family support were not significantly associated with psychological distress.

Conclusion: The findings illuminate that psychological distress is a critical health concern for the sample and needs targeted health interventions. They also underline the essential role of economic status in the psychological distress of older Kenyans. Future studies should explore these relationships using longitudinal, family-level, and representative data.

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KEYWORDS

Chronic health; family support; older in Kenya; psychological distress; socioeconomic status

Introduction

While Africa is the youngest continent with a rapidly growing population, a silent, growing older population—aged 60 and over—is also predicted to be the fastest growing globally by 2055 (Aboderin, 2017). The complexities of aging, such as declining mental and physical health, diminishing agency, and limited formal and informal support structures, make this group particularly vulnerable to poor health, discrimination, and isolation (Gyasi, 2020). With this growing population and increased vulnerability of the older population, there is increased interest in identifying occurrence rates and the risk and protective factors of mental health concerns in the continent's older population.

Psychological distress among the older population is a growing concern. It is a critical mental health measure that is evidenced by symptoms of anxiety and depression (Mirowsky & Ross, 2002). When unaddressed, psychological distress can lead to impaired functioning (Booth et al., 2001). Extant literature has highlighted the prevalence of mental health disorders such as depression among this group (Lloyd-Sherlock et al., 2019), which is compounded by a lack of social support (Gyasi et al., 2020) and low income (Thapa et al., 2014). Psychological distress negatively impacts their quality of life and functioning in the broader society (Ojagbemi et al., 2020). However, research on aging in sub-Saharan Africa remains scant, mainly concentrated in a few countries in South and West Africa (Aboderin, 2017).

Mental health also remains unprioritized in policy, practice, or scholarship, evidenced by meager investment in mental health by governments across the continent and underreported and under-treated mental health conditions, particularly for the older population (Duthé et al., 2016; Lloyd-Sherlock et al., 2019). Kenya, for instance, only recently passed its first mental health policy in 2016 (Bitta et al., 2017), and no targeted efforts have been made toward addressing mental health challenges among the older population. There are limited data, treatment, and management practices for psychological distress across all age groups in Africa due to the inadequate focus on psychological distress despite its adverse effects on health and related behaviors, such as treatment adherence (Mutumba et al., 2016). This limited attention to psychological distress limits a comprehensive understanding of the scope, predictors, and possible protective factors of psychological distress among older people in Kenya.

Studies have shown that socioeconomic status (SES) is a chief determinant of health for older persons in the continent, where low SES is associated with poor health outcomes. In the face of low socioeconomic status, family members are still the most relied-upon source of health and aging support among older Africans (Muruthi & Lewis, 2016). The literature has demonstrated that adequate family support and high SES are associated with better health outcomes in older populations (Oladeji, 2011; Oluwagbemiga, 2016). However, two main concerns persist in the literature on aging in Africa. First, socioeconomic

status and social support factors are usually measured as contextual rather than critical variables of interest, which limits their measurement to one or two indicators. This is a methodological flaw, given the multifaceted nature of these constructs. Second, a vast portion of evidence on determinants of health among older Africans is based on qualitative studies alone. While qualitative studies are vital in identifying the salient themes in health, their results can be complemented or enhanced using subjective measures based on more extensive data samples.

Socioeconomic status, family support and aging in Kenya

Socioeconomic status (SES) continues to be a crucial factor in the aging experience among Kenyan citizens. The global literature on this topic highlights that older individuals with higher SES have better access to health resources, such as health insurance, which leads to better mental health outcomes, including lower indicators of psychological distress (Muhammad et al., 2021; Zhou et al., 2021). Conversely, individuals with lower SES are more likely to report poor mental health due to financial strain, food insecurity, and limited access to healthcare (Miller et al., 2021; Panneh et al., 2022). The low SES among older Kenyans is caused by lifetime chronic poverty, reliance on small-scale farming, and structural marginalization. Older Kenyans with low SES are exposed to chronic stressful events, leading to emotional strain and increased vulnerability to more severe mental health conditions (Ondigi & Ondigi, 2012). Still, limited studies have investigated the independent relationships between commonly (and uncommonly) used SES factors and psychological health in older Kenyans.

In Africa, the responsibility of taking care of older individuals falls on their family members, both nuclear and extended (Gyasi et al., 2020). Research shows that assistance from family members can positively impact the older population, as it helps them access healthcare services and essential health information and resources, ultimately improving their overall health and psychosocial wellbeing (Oladeji, 2011). This trend can be attributed to the collectivist cultural practices emphasizing mutually supportive relationships and the limited state-led policies and support infrastructure for older adults. Additionally, research from Africa has shown that individuals tend to rely on their closest social connections before seeking assistance from those further away from their intimate circles (Muruthi et al., 2021). However, informal family support networks have weakened due to cultural shifts such as urban migration by working relatives, female caregivers entering the workforce, and a focus on nuclear families (Aboderin, 2004). These changes have weakened social ties, smaller family sizes, and cultural stigma towards older people, particularly women, further inhibiting social support (Braithwaite & Rosenberg, 2021). As a result, the declining social support, coupled with the almost non-existent public support systems for older people (Aboderin, 2004), have made older people a particularly vulnerable group.

Purpose of the study

The literature review identifies three key trends relevant to our investigation. First, the recent demographic changes have led to a surge in the number of economically disadvantaged older individuals in Kenya requiring social welfare and health assistance. Second, the traditional family support systems for older

Kenyans have weakened due to factors such as emigration, increased individualism, and women caregivers pursuing professional careers. Third, the prevalence of non-communicable diseases in Kenya has increased, contributing to a rise in mental health issues, including psychological distress. Despite these recent trends, the paths between informal family support, socioeconomic status, and psychological distress remain grossly unexplored among older individuals in Kenya. A clear understanding of psychological distress among older Kenyans and its relationship with economic status and perceived family support is a crucial first step toward identifying the critical factors for targeted interventions for the population.

Informed by capital theory (Bourdieu, 1986), the current study was designed to address these knowledge gaps by investigating the profile of psychological distress and its relationship with economic status and perceived family support in a sample of older Kenyans. Capital theory stipulates that individuals possess economic, social, and cultural resources (capitals) that determine their social status and influence their social behaviors and health outcomes. The current study focuses on economic (material wealth and assets) and social (resources attained from informal family networks) determinants of mental health. The study objectives are: (1) To establish the distribution, mean scores, and frequency of psychological distress in a sample of older Kenyans and (2) To test the effects of economic status indicators and perceptions of family support on the psychological distress of the sample. Based on extant literature, we hypothesize that high socioeconomic status and perceived family support are negatively correlated with low psychological distress in the sample.

Methods

Participants

This cross-sectional study was conducted in urban and rural settlements in Kenya. Data was collected between August and October 2022. A convenient sample of 376 individuals (55 years and older) residing in four regions (two urban and two rural) of Eastern and Central Kenya were recruited for the study. We recruited through known community leaders and community-based organizations (CBOs) serving older people. The CBOs were non-profit (independent or religious) that offered regular health and wellness programs for older adults in their immediate communities. Eligibility criteria were: (1) age, (2) the ability to comprehend and speak Swahili, (3) cognitive and physical independence, and (4) community-dwelling at the time of the interview. Trained research assistants collected demographic, health, perceived family social support, and economic status data using computer-assisted-personal-interviewing strategies. The face-to-face interviews were conducted in community spaces provided by the community organizations.

Study procedures

This study was funded by the Mental Health Research Institute (California) and reviewed and exempted for low risk by the University of Oregon's Institutional Review Board. Data collection took place between May 2022 and August 2022. The researchers collaborated with community organizations that serve older individuals and their families to enhance participant recruitment. Following eligibility screening, the study's purpose was explained to the participants, who signed a written consent

form, allowing their deidentified data to be utilized for publications and other scholarly purposes.

Eligible participants underwent interviews facilitated through the computer-assisted personal interview (CAPI) method. CAPI is a cost-effective technique that gathers immediately available data from individuals with limited research experience or reading capacity (Brahme et al., 2018). Three trained research assistants and the lead author utilized handheld tablets for data collection. Interviews were conducted in small private offices at local community organizations catering to older adults. The questionnaires covered participants' demographic information, socioeconomic status, informal social support, and Swahili-translated psychological distress indicators. The collected data was securely uploaded onto the data collection software application later transferred to the HIPAA-compliant Microsoft OneDrive for storage.

Measures

Psychological distress

We measured psychological distress using the Kessler 6 (K6) scale (Kessler et al., 2002). A Swahili-translated version of this scale was validated for use among low-income older people in Kenya (Muruthi et al., 2024). Further, the scale has been validated in numerous studies in the region (Kessler et al., 2010; Tesfaye et al., 2010). The K6 contains six questions that ask respondents how frequently in the past 30 days they felt (a) hopeless, (b) nervous, (c) restless or fidgety, (d) worthless, (e) so depressed that nothing could cheer them up, and (e) that everything was an effort. The response categories included 'never,' 'a little of the time,' 'some of the time,' 'most of the time,' and 'all of the time.' Response values ranged from 0 to 4. The K6 scale is created by summing up the scores from 0 to 24. High scores signify higher rates of psychological distress. The summed-up K6 scale was used to explore the profile of psychological distress in the sample, while the path analysis assessed psychological distress as a latent variable. The K6 items showed high internal consistency (Cronbach's alpha = 0.83).

Perceived family support

We measured family support from a multidimensional lens that estimated key dimensions of support (emotional, tangible, and informational) provided by relatives. This approach aligns with theoretical philosophies that treat social support as a multifaceted construct (Tardy, 1985). Multidimensional measurements of social support have shown great reliability and validity in other studies (García-Martín et al., 2016). The frequency of the received support was measured for each of the three dimensions of support. A total of 10 questions were asked to capture perceived family support. Sample questions included, 'How often have family members comforted you by showing you physical affection?' 'How often have family members helped you with shopping?' The responses ranged from 1 (*never*) to 4 (*very often*) points. The items measuring emotional, tangible, and informational support exhibited good internal consistency with Cronbach's alphas of 0.86, 0.74, and 0.75, respectively.

Socioeconomic status

Socioeconomic status (SES) was measured as a multifaceted concept using four key indicators. Other researchers have utilized this multi-index approach to measure participants' wealth and economic status in Africa (Houle et al., 2013; Kabudula et al.,

2017). Its strength overcomes the challenge of using monetary estimates of SES in populations from low-income settings (Howe et al., 2012). First, participants were asked to specify the floor type at their residence, choosing from concrete, earth/dirt, and other materials. Second, participants also reported their highest level of education by selecting from the following options: *no formal education, primary school, some secondary school, secondary school graduate, technical or training school, and university*. Third, they were asked whether they possessed 14 household items or utility services (such as electricity, radio, TV, mobile phone, and refrigerator), responding with either *yes* (1) or *no* (0). Fourth, the participants were asked four questions about food security over the past month. The questions estimated whether the participants had (a) forgone eating food for an entire day due to scarcity, (b) enough money to buy food, (c) worried about food availability, and (d) lacked adequate food. The response categories were *never true* (0), *sometimes true* (1), and *often true* (2).

Data analyses

Descriptive and scale reliability analyses were conducted using the statistical software SPSS. We calculated means, frequencies, distribution, and group comparison analysis to identify patterns in the data. We also explored Cronbach's alpha coefficients to determine the reliability of the measures. Thereafter, we conducted structural equation model (SEM) path analyses using Mplus (Muthén & Muthén, 2010). SEM path analysis is a robust method to simultaneously estimate the measurement of latent variables while testing for the relationships between the variables. To conduct the path analyses, we proposed a model with direct relationships between the independent and dependent variables. We correlated family support and the socioeconomic indicators, then separately regressed the input variables on psychological distress. Psychological distress, food security, and the three domains of family support were estimated as latent variables. We also accounted for sociodemographic (age, number of people living in the household, sex, locale, marital status, and level of education) and health status (self-rated physical health and an index of chronic diseases) confounding variables.

Results

Descriptive statistics

The complete sociodemographic characteristics of the study participants ($N = 376$) are summarized in Table 1, below. The mean age of the participants was 69.76 years ($SD = 8.46$). The participants were predominantly married ($n = 150$) and widowed ($n = 140$). They were also predominantly women ($n = 274$) and had primary school graduate certificates ($n = 150$). The individuals reported two chronic diseases on average.

Profile of psychological distress

The levels of the summed psychological distress score (K6) by sex are displayed in Figure 1. The K6 scores ranged between 0 and 24, and 230 participants reported high psychological distress (a score of 13 or above; $M = 14.34$). Women ($M = 15.12$) reported significantly higher ($t [376] = 4.2, p < 0.001$) psychological distress compared to men ($M = 12.34$). The K6 scale showed high reliability for the total sample ($N = 376$; Cronbach's alpha = 0.8395%; CI [0.81,

Table 1. Characteristics of the sample ($N=376$).

Characteristic	n (%)	M (SD)
Sex		
Men	98 (26.1)	
Women	274 (72.9)	
Relationship status		
Divorced	19 (5.1)	
Married	150 (39.9)	
Separated	38 (10.1)	
Single/never married	27 (7.2)	
Widowed	140 (37.2)	
Region of residence		
Urban	151 (40.2)	
Rural	220 (58.5)	
Highest level of education		
No formal education	147 (39.1)	
Primary school	150 (39.9)	
Some secondary school	53 (14.1)	
Secondary graduate	19 (5.1)	
Trade or technical school	2 (.5)	
Bachelor's degree	5 (1.3)	
Self-rated mental health		
Excellent	80 (21.3)	
Very good	72 (19.1)	
Good	101 (26.9)	
Fair	89 (23.7)	
Poor	33 (8.8)	
Self-rated physical health		
Excellent	27 (1.9)	
Very good	59 (15.7)	
Good	118 (31.4)	
Fair	123 (32.7)	
Poor	42 (11.2)	
Age		69.76 (8.17)
Chronic diseases		2.15 (1.47)
K6 score		14.34 (5.68)

Note. The percentages are not 100% because the missing tallies are left out.

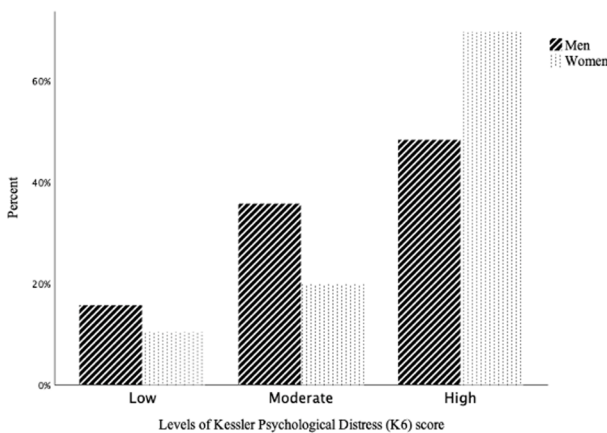


Figure 1. Levels of psychological distress (K6) score, compared by sex ($N=376$).

0.86]), men (Cronbach's alpha = 0.77; 95% CI [0.68, 0.83]), and women (Cronbach's alpha = 0.84; 95% CI [0.81, 0.87]).

SEM results

We used structural equation modeling analysis to estimate the relationships between the socioeconomic and family support indicators (see the hypothesized relationships in Figure 2). The analyses were based on maximum likelihood estimation. Model estimation indices showed that the test model fits the data very well. A comparison of Chi-Square outputs indicates that the test model ($\chi^2(350) = 707.97, p < 0.001$) is a better fit than the baseline alternative ($\chi^2(390) = 5047.72, p < 0.001$). According to Hu and Bentler (1999) the RMSEA (0.05), CFI (0.92), and SRMR (0.07) parameters further supported the fact that the model fits the

data very well. R^2 estimates indicate that our model explained 29.4% of the variance in psychological distress. Measurement results depicted that all indicators of the latent variables loaded significantly ($p < 0.001$) on their hypothesized factors.

The SEM results showed that all three family support indicators (emotional, informational, and tangible support) were not significantly associated with psychological distress in the sample. Of the *socioeconomic indicators*, semipermanent flooring material in the home ($\beta = -0.10, SE = 0.05, p < 0.05$) and material wealth ($\beta = -0.11, SE = 0.06, p < 0.05$) were inversely related to psychological distress. However, food insecurity was positively associated ($\beta = 0.21, SE = 0.06, p = 0.001$) with the outcome variable. Among the contextual variables, chronic health ($\beta = 0.26, SE = 0.05, p < 0.001$), self-rated physical health ($\beta = 0.28, SE = 0.05, p < 0.001$), and sex (Women, $\beta = 0.14, SE = 0.05, p < 0.05$) were positively associated with psychological distress. At the same time, the relationship was negative for participants' education levels ($\beta = -0.14, SE = 0.06, p < 0.05$).

Discussion

This study investigated the profile of psychological distress and its relationships with sociodemographic and family support indicators in a sample of 376 older Kenyans. Informed by capital theory (Bourdieu, 1986), we sought to estimate the effects of economic (wealth and socioeconomic factors) and social (perceived family support) capitals on psychological distress in the sample. Our findings add crucial contributions to our understanding of psychological health in this group. The main findings include (1) high psychological distress, especially among women, and (2) Four indicators of economic status were significantly correlated, while the three dimensions of family support were not significantly associated with psychological distress.

High psychological distress in the sample

Our first finding aligns with previous studies that observed poor psychological health among older Sub-Saharan Africans living in socioeconomically marginalized regions (Animasahun & Chapman, 2017; Sanuade et al., 2014). Disproportionately low socioeconomic and health challenges are associated with poor mental health in this population (Animasahun & Chapman, 2017; Gyasi et al., 2020). Beyond these indicators, the high psychological distress can also be explained by the lack of attention given to mental health in this population (Adamek & Kotecho, 2023). Cultural stigma, limited and ageist health services, and lack of awareness have been highlighted as predictors of high rates of mental health outcomes in the region (Gyasi, 2020; Gyasi & Phillips, 2020).

Higher psychological distress among women

The findings highlighted gender disparity in the levels of psychological distress by depicting that women reported significantly higher levels. One explanation of the finding is that lifetime cumulative disadvantage in sociocultural and economic opportunities increases the vulnerability of older Kenyan women to poor mental health (Kimani & Maina, 2013). Hence, Kenyan women are more likely to age in poverty than their male counterparts. Also, our study sample had a high proportion of widows. Widows are more vulnerable to mental health challenges due to customary practices that inhibit property own-

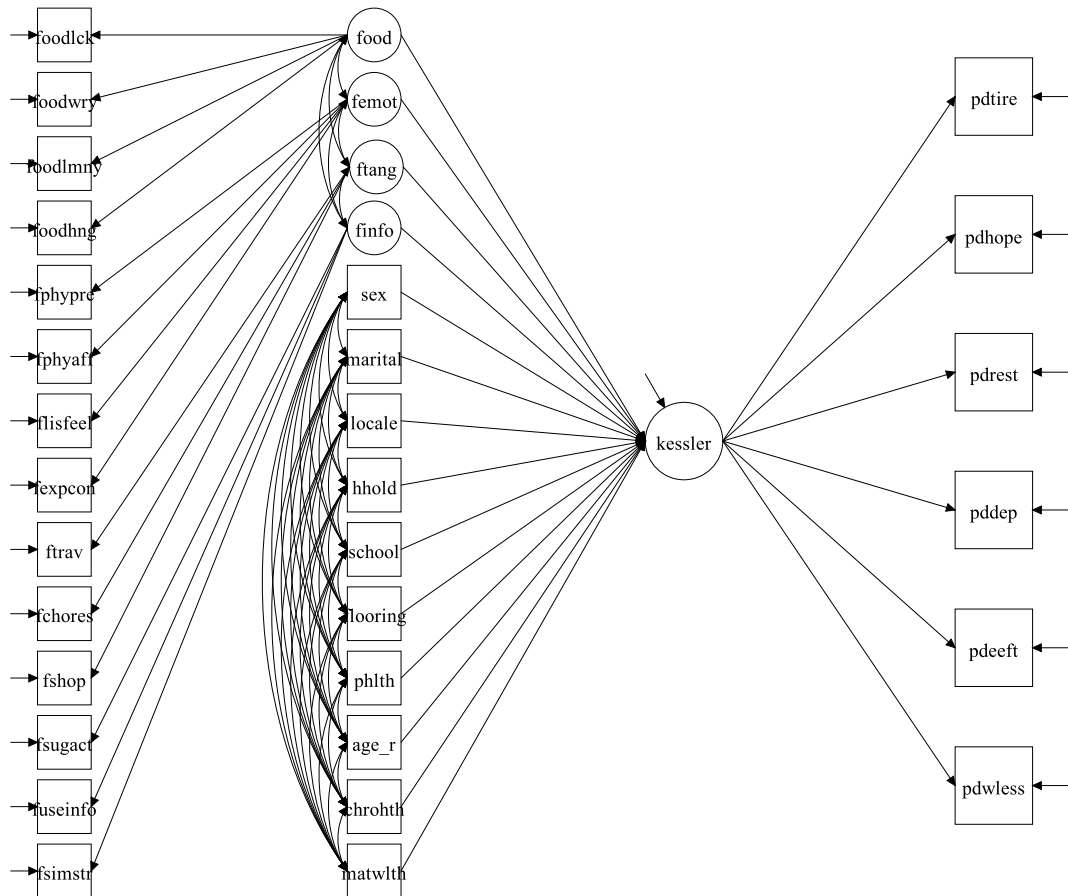


Figure 2. Hypothesized pathways between study variables.

ership by women, overwhelming household tasks, and grief-related stress (Guo et al., 2021; Lloyd-Sherlock et al., 2015).

Significant association of socioeconomic indicators

Food insecurity, low education status, non-permanent floor material, and less material wealth were associated with higher psychological distress. These findings reiterate literature indicating that low economic status is associated with high psychological distress in older populations (Muhammad et al., 2021; Zhou et al., 2021). Low economic status increases vulnerability to high psychological distress through direct and indirect mechanisms such as limited access to mental health services. People with high psychological distress are also likely to drop to a lower economic status when mental health challenges inhibit economic production. A related explanation is that people of lower socioeconomic status are more likely to engage in risky lifestyle behaviors (e.g. low physical activity) that increase their vulnerability to poor mental health (Wang & Geng, 2019).

Scholars have established that health inequalities are influenced by factors in early life. Indeed, cumulative disadvantage theory suggests that socioeconomic disadvantage throughout the life course can lead to further health disparities in older ages, as determined by differential exposure to risk factors (DiPrete & Eirich, 2006). While not emphasized in this study, structural risks can also lead to cumulative disadvantages in older people (O'Rand, 2002). Despite the explained cumulative SES-related health risks for the sample, we must note that our cross-sectional results do not provide enough data to make conclusive claims on the cumulative effects of earlier life circumstances.

Contrary to our expectations, family support indicators were not significantly associated with the outcome variable. This

result suggests that the other factors (economic and health) play a more prominent role in the psychological well-being of the participants. Family members may be supportive but are of similar economic status and cannot alleviate critical health stressors for older relatives who need better economic power (Muruthi & Lewis, 2016).

Physical health matters

Physical health (measured by self-rated reports and the number of chronic illnesses) was also significantly associated with psychological distress. This finding confirms the positive association that has been observed between these two variables in the health and aging literature (Dantas et al., 2023; Nabi et al., 2008; Surtees et al., 2008). The literature depicts two explanations for the interplay between mind and body. First, mental distress can cause somatic symptoms in the body (Nieuwenhuijsen et al., 2010). Second, physical illness can also cause mental distress due to associated worry and pain (Kroenke et al., 1994).

Limitations and conclusion

Our study is the first to investigate the influence of informal family support and socioeconomic indicators (beyond the typical demographic factors) on psychological distress in a sample of older Kenyans. Our results provide crucial support for the significant influence of socioeconomic factors on mental health in the older Kenyan population. We also provided vital insight into the profile of psychological distress in the sample, which highlights high rates in the sample, with women experiencing significantly higher cases. Despite these

contributions, a few caveats should be considered when interpreting our results.

First, this study used a cross-sectional design due to its exploratory nature. However, such designs out-rule causal associations between the variables under study. As such, we cannot ascertain the predictive nature of the input variables on psychological distress. Second, the data was collected from a convenient population served by community-based organizations. This non-representative condition limits the generalizability of the results to the general Kenyan population. Third, the sample was mostly women, which adds caution to the generalizability of the results to the general population.

These limitations notwithstanding, our study uses multidimensional measures to estimate the effects of economic status and informal family support on psychological distress among older Kenyans. Our results highlight the importance of addressing economic vulnerability, physical health, and gender disparities to promote better psychological health in older Kenyans. Addressing these needs will require longitudinal investigations to ascertain the causal pathways between the variables studied here. Such studies should emphasize food insecurity, holistic economic interventions considering cultural contexts, and vulnerable older women groups, such as widows.

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Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

James R. Muruthi  <http://orcid.org/0000-0001-7667-7622>

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