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Well-being Gains and Losses from Unorganized Caregiving for Older Adults in Ghana

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Abstract

Background: In Ghana, where formal caregiving services are limited, unorganized caregivers play a vital role in supporting older adults, often at the cost of their well-being. Despite their significant contributions, this form of caregiving remains undervalued and unsupported, with its impact on caregivers' well-being still under-researched, revealing critical gaps in both understanding and policy.

Objectives: The study examined the relationship between caregiving and the well-being of unorganized caregivers in Ghana and explored how gender and the caregiver-care recipient relationship moderate this relationship. It also estimated the monetary value of well-being gains and losses associated with these caregiving tasks.

Results: Caregiving was significantly associated with reduced well-being among unorganized caregivers, with the greatest losses occurring in the physical and environmental domains. Male caregivers, supporting parents with household tasks, experienced more pronounced declines in well-being, while female caregivers were especially affected by providing mobility and errand support to partners and parents. In contrast, emotional support was positively associated with overall well-being, particularly in the social domain, with the strongest effects observed among those providing this support to spouses. For an average of 43.8 hours of care, providing an additional hour of caregiving resulted in a well-being loss valued at Ghanaian cedis (GHS) 62, representing 10.4% of the caregiver's monthly income. Conversely, an additional hour of emotional support was associated with a well-being gain valued at GHS 97.

Conclusion: The findings underscore the need for tailored, task-specific, and gender-responsive interventions to support unorganized caregivers, especially in resource-constrained contexts like Ghana, where formal care infrastructure is limited.

Keywords: Unorganized caregivers; Well-being; Well-being valuation method; Older Adults; Ghana

1.0 Introduction

As the population of older adults increases and formal health systems remain under-resourced, unorganized caregiving has become a critical yet undervalued component of long-term care in many low- and middle-income countries. Unorganized caregiving has been defined typically as care provided by family members, neighbors, or friends, without coordination beyond the household level[1]. In Ghana, such caregiving is largely performed within households and communities without formal recognition, financial compensation, or institutional support[2,3]. This form of care plays a vital role in contexts where access to professional services remains limited, especially for older adults living with chronic illnesses or disabilities[4].

Despite its essential function, unorganized caregiving often comes at a significant cost to caregivers. Research has consistently linked caregiving responsibilities to declines in physical, emotional, and social well-being [5]. Tasks such as personal care, household chores, and mobility assistance are physically demanding and time-consuming, leading to stress, fatigue, and social isolation[6,7]. Financial strain is also common, particularly when caregiving interferes with income-generating activities or reduces subjective well-being[8].

However, the effects of caregiving are not uniform; they are deeply shaped by gender norms and caregiving relationships. In many African settings, caregiving is culturally seen as a woman's responsibility, which often results in a disproportionate burden on women [9,10]. Women are more likely to engage in intensive and emotionally demanding care tasks and yet tend to receive less social and institutional support[11,12]. Furthermore, the caregiver and care recipient relationship, whether a spouse, parent, or non-relative, can influence the emotional toll and satisfaction associated with caregiving. Spousal caregiving, for example, may deepen emotional bonds, while intergenerational caregiving can introduce role conflict and emotional stress[13].

While existing studies have explored the dual nature of caregiving as both burdensome and rewarding, few have examined how these dynamics manifest in Ghana[14,15]. Even fewer have attempted to quantify the monetary value of caregiving-related well-being changes, despite caregiving's large but often invisible economic contribution. The well-being valuation method,

which estimates the trade-off between income and non-market activities, offers a promising way to assign economic value to caregiving's impact on well-being[16].

This study addressed these knowledge gaps through four main objectives: First, it examined the effects of caregiving and specific caregiving tasks, namely personal care, household support, mobility and errand support, and emotional support, on caregivers' overall well-being. While general caregiving burden has been widely associated with stress and lower well-being, disaggregating by task type provides a more nuanced understanding[5]. Tasks such as personal care may involve more physical labor and emotional intensity than household chores and thus may have more detrimental effects[7].

Second, the study investigated how caregiving, and task-specific caregiving influences different domains of well-being, including physical, psychological, social, and environmental dimensions. Previous research suggests that caregiving does not affect all aspects of life equally, for instance, emotional support may elevate psychological strain, while household tasks may impact physical health more directly[14,17]. A domain-specific approach can help identify where interventions are most needed and where caregiving might even provide benefits.

Thirdly, the study explored how gender and caregiving relationships interact with caregiving roles to affect overall well-being. Gendered expectations influence not only who provides care, but also the type and intensity of tasks undertaken. Women, especially daughters and daughters-in-law, tend to perform more emotionally taxing and time-consuming care [9,10]. Additionally, whether the caregiver is supporting a spouse, parent, or extended family member affects emotional outcomes, with spousal caregiving sometimes perceived as more rewarding, and intergenerational care often being more stressful[12,13].

Finally, the study quantified the monetary value of well-being gains and losses associated with caregiving using the well-being valuation method. This is especially relevant in contexts like Ghana, where caregiving is unpaid and unaccounted for in national economic planning. By estimating how much income would be required to offset the negative effects (or replicate the positive effects) of caregiving, this approach helps bring visibility to the real economic implications of informal care[16 17].

The study was grounded in Conservation of Resources (COR) theory which posits that individuals strive to retain, protect, and build resources, and that stress occurs when these resources are lost, threatened, or insufficiently replenished[18]. Applying this framework allowed a holistic understanding of how caregiving depletes or enriches caregivers' physical, emotional, and economic resources. Overall, the study contributed to the limited body of evidence on caregiving in low-resource settings and offered practical insight for designing policies that support unorganized caregivers, who remain the backbone of eldercare in Ghana and similar contexts.

2.0: Methods and Econometric Issues

2.1: Study design and participants

The design of this paper followed the same procedure as Offei et al. [19]. The study drew on data collected from three regions in Ghana, Greater Accra, Ashanti, and Northern Region, selected purposively to capture the country's geographic and socioeconomic variation. Greater Accra reflects a predominantly urban environment with better-developed infrastructure and access to formal services. Ashanti Region offers a mix of urban and peri-urban settings, characterized by relatively higher population density and middle-income socioeconomic features. In contrast, the Northern Region exemplifies a largely rural landscape with lower income levels and limited service availability. The inclusion of these diverse regions enables the examination of how caregiving tasks influence the well-being of unorganized caregivers across varied contexts, thereby enhancing the external validity and generalizability of the study's findings.

The sampling frame was based on the 2021 Population and Housing Census (PHC) conducted by the Ghana Statistical Service (GSS). Eligible households included those with at least one older adult (aged 60 or above) who reported difficulties in domains such as vision, hearing, mobility, cognition, self-care, or communication. Enumeration Areas (EAs), as defined by GSS, typically consist of about 750 households, though urban EAs tend to be larger than rural ones [20].

The sampling process was stratified by urban and rural zones within each region, resulting in six distinct strata. A two-stage sampling approach was employed. In the first stage, 200 EAs were selected proportionally to reflect the administrative structure of each stratum, 143 from urban areas and 57 from rural areas, serving as the primary sampling units (PSUs). In the second stage,

following a household listing within each selected EA, 10 households were randomly sampled to serve as the secondary sampling units (SSUs), yielding an initial sample of 2,000 households. This number was chosen to maintain a balance between statistical power and fieldwork feasibility.

With a response rate of 99.5%, the final analytic sample consisted of 1,990 households. Each household contributed one older adult care recipient (aged 60 or above and able to respond) and one corresponding caregiver aged 18 years or older.

2.2: Dependent Variables

The dependent variables assess the overall and different dimensions of well-being, using the revised WHO Quality of Life scale, known as WHOQOL-BREF, which is derived from WHOQOL-100. The updated version includes 26 items: two evaluate the overall quality of life and general health, while the remaining 24 are categorized into four domains, physical health, social relationships, psychological health, and environmental health. Each item was assessed using a 5-point Likert scale. Raw domain scores for the WHOQOL were converted to a 4–20 scale following WHO's 1996 Quality of Life measurement guidelines, with higher scores indicating better quality of life due to positive scaling. The domain score was determined by averaging the item scores within each quality-of-life category. The computed scores were then linearly transformed to a 0–100 scale, following the approach described in [21].

Overall well-being: In this study, overall well-being was assessed using a composite score derived from 24 items measuring caregivers' quality of life. Equal weights were applied across four key domains, physical, social, psychological, and environmental. Higher scores indicate better overall well-being, as the scale was positively oriented.

Physical well-being: This domain of overall well-being was based on 7 items covering different physical aspects related to caregiving such as pain and discomfort, energy and fatigue, daily activities, sleep and rest, mobility and work capacity of quality of life.

Social well-being: This domain was based on 3 items covering different social aspects related to caregiving such as personal relationships, relationships with care recipients and social support.

Psychological well-being: This domain was based on 6 items covering different psychological aspects of caregivers concerning caregiving such as positive and negative feelings, self-esteem, life satisfaction, body image as well as memory and concentration.

Environmental well-being: This domain was based on 8 items covering financial resources, physical environment, recreation, learning and skills training, home environment, health and social care access, transport, freedom, safety and security.

2.3 Main independent variables

2.3.1 Caregiving: Measured as a continuous variable indicating the total number of hours of caregiving per week.

The caregiving variable was divided into four distinct independent variables, namely, personal care, household support, mobility and errand support and emotional support.

2.3.2 Personal care: This refers to the number of hours per week on assisting with dressing, washing, grooming, toileting, eating, drinking, and taking medication.

2.3.3 Household support: This variable captures the total number of hours per week devoted to household or practical support tasks, including activities such as meal preparation, ironing, housework, and managing financial responsibilities like paying bills or handling financial transactions

2.3.4 Mobility and errand support: This variable is derived from the hours spent assisting the care recipient with mobility-related tasks, including walking or wheelchair use, moving within and outside the home, visiting family, attending medical appointments, shopping, and running errands.

2.3.5 Emotional support: This variable represents the time dedicated to offering emotional support, such as providing companionship, checking on the care recipient's well-being, assisting in coping with pain, disability, discomfort, anxiety, and worry, and engaging in quality time together or with family.

2.4: Other Independent Variables

The control variables included in the analysis were age, gender, educational attainment, marital status, employment status, personal monthly income, relationship to the care recipient, place of residence, living arrangement, and the number of Activities of Daily Living (ADL) limitations experienced by the care recipients.

2.5: Model Specification

According to the well-being valuation method, a caregiver's well-being is a function of personal income, caregiving activities, and other relevant factors (Fujiwara, 2013). Based on this framework, the econometric model used to estimate the impact of caregiving on caregivers' well-being is specified as follows:

$$w_i = \beta_0 + \beta_1 y_i + \beta_2 c_i + X_i' \beta_3 + \varepsilon_i \quad (1)$$

where w_i denotes the well-being of respondent i ; y_i is the personal income; c_i is the hours of care of caregiver i ; X_i is a vector of demographic and other independent variables; β_0 denotes the intercept term; β_1 , β_2 , and β_3 are the regression coefficients; and ε_i captures unobserved factors affecting well-being.

To explore the effect of caregiving hours on well-being moderated by the caregiver's gender and relationship to the care recipient, the model was extended to include a three-way interaction term and stated as:

$$w_i = \beta_0 + \beta_1 y_i + \beta_2 c_i + \beta_3 g_i + \beta_4 r_i + \beta_5 (g_i \times r_i \times c_i) + X_i' \beta_6 + \varepsilon_i \quad (2)$$

Where g_i denotes the gender of the caregiver i , r_i indicated the caregiver's relationship with the care recipient, and $(g_i \times r_i \times c_i)$ captures the three-way interaction effect. This specification allowed for the examination of whether the association between caregiving tasks and well-being differs across intersectional caregiver profiles, for example, female children and male spouses. The other variables remain as previously defined.

The estimated monetary value of an additional hour of caregiving was calculated as the marginal rate of substitution between income and changes in well-being, based on Equation (1), and is expressed as:

$$\frac{\partial y_i}{\partial c_i} = \frac{\partial w_i / \partial c_i}{\partial w_i / \partial y_i} = \frac{\beta_2}{\beta_1} \quad (3)$$

Equation (3) represents the amount of income required to offset the well-being loss or the gain resulting from a one-unit increase in a caregiving task.

2.6 Statistical Analysis

Analyses were structured using STATA 16 software. Descriptive statistics, including frequencies, means, and standard deviations, were calculated. Pearson correlation was applied to examine relationships among the four caregiving tasks. Initially, a univariate analysis was performed to explore significant associations between independent variables and well-being. Following this, a multiple linear regression analysis was conducted using the Ordinary Least Squares (OLS) technique to investigate how caregiving tasks influenced well-being.

To ensure the credibility and reliability of the regression findings, several diagnostic tests were carried out. These tests evaluated key OLS assumptions such as linearity, residual normality, homoscedasticity, and the absence of multicollinearity. Multicollinearity was specifically examined using the Variance Inflation Factor (VIF), confirming that there were no notable correlation issues between the predictors. Also, hours within the main independent variables were mean-centered to help interpret coefficients meaningfully, reduce multicollinearity, and improve numerical stability in the model with interactions. To address potential breaches of homoscedasticity, robust standard errors were employed, ensuring valid and accurate inferences.

Finally, the regression estimates, incorporating key independent variables and personal monthly income, were utilized to calculate the monetary value associated with well-being gains or losses. A significant level of $p < 0.05$ was maintained throughout the analyses.

3.0 Results

3.1: Characteristics of the unorganized caregivers

Table 1 shows the characteristics of unorganized caregivers used in this study. The average age of the caregivers is 43.8 years with females constituting the majority. The average personal monthly income among respondents was 596.1 Ghanaian cedis (GHS). Regarding the relationship to the care recipient, 15% of caregivers provided care for their partners, 45.8% cared for their parents, 23.6% supported extended family members, and 15.6% cared for non-family members. Caregiving

demands vary by task. On average, caregivers spend 11.6 hours weekly on personal care, 17.7 hours on household assistance, 5.6 hours on mobility and errands, and 9.3 hours on emotional support. Well-being scores, on a scale of 0–100, reveal averages of 72.1 for overall well-being, 64.9 for physical well-being, 77.0 for social well-being, 77.3 for psychological well-being, and 69.3 for environmental well-being.

Table 1: Characteristics of the unorganized caregivers

Variables	N/(Mean)	%/(SD)	P-value ^a	P-value ^b	P-value ^c	P-value ^d	P-value ^e
Age (Mean, SD)	(43.8)	(14.7)	<0.001	<0.001	0.542	0.003	0.054
Gender:			0.123	0.066	0.942	0.032	0.497
Male	238	12.0					
Female	1752	88.0					
Educational Level:			<0.001	<0.001	<0.001	<0.001	<0.001
No Education	474	23.8					
Primary/JHS	1061	53.3					
SHS/Vocational/Tertiary	455	22.9					
Marital Status:			<0.001	<0.001	0.005	<0.001	0.008
Never Married	480	24.1					
Married/Partnered	1082	54.4					
Divorced/ widowed/Separated	428	21.5					
Employment Status:			0.005	0.004	0.017	0.569	0.001
Unemployed	523	26.3					
Self employed	1289	64.8					
Paid employed	178	8.9					
Personal monthly income(GHS)	(596.1)	(774.0)	<0.001	0.014	0.001	<0.001	<0.001
Relationship:			<0.001	<0.001	<0.001	<0.001	<0.001
Partner	299	15.0					
Parent	911	45.8					
Extended family	470	23.6					
Non-family	310	15.6					
Locality:			0.003	0.005	<0.001	<0.001	0.331
Rural	565	28.4					
Urban	1425	71.6					
Living Arrangement with CR:			0.001	<0.001	0.034	<0.001	0.117
Same household	1658	83.3					
Different household	332	16.7					
ADL Limitations	(1.2)	(1.9)	<0.001	<0.001	<0.001	<0.001	<0.001
Main independent variables:							
Caregiving	(43.8)	(24.0)	<0.001	<0.001	<0.001	<0.001	<0.001
Caregiving by task;							
Personal care	(11.6)	(11.7)	<0.001	<0.001	<0.001	<0.001	<0.001
Household support	(17.7)	(10.4)	<0.001	<0.001	0.019	<0.001	<0.001
Mobility and errand support	(5.6)	(6.7)	<0.001	<0.001	0.001	<0.001	<0.001
Emotional support	(9.3)	(8.7)	0.505	0.917	<0.001	0.001	0.026
Outcome Variables:							
Overall well-being	(72.13)	(20.7)					
Physical well-being	(64.9)	(26.0)					
Social well-being	(77.0)	(25.6)					
Psychological well-being	(77.3)	(23.6)					
Environmental well-being	(69.3)	(22.4)					

^aUnivariate analysis with Overall well-being; ^bUnivariate analysis with physical well-being; ^cUnivariate analysis with social well-being;

^dUnivariate analysis with psychological well-being; ^eUnivariate analysis with environmental well-being

Univariate analysis of the main independent variables revealed significant associations with most well-being dimensions, except for emotional support, which showed no significant relationship with overall and physical well-being. Detailed descriptive statistics, including demographic, socio-economic, caregiving task variables, well-being dimensions, and other univariate results, are presented in Table 1.

The internal consistency of the overall well-being score, constructed from four well-being domains, was assessed using Cronbach's alpha, which yielded a value of 0.927. This indicates excellent internal reliability and suggests that the items were highly correlated and measured by a common underlying construct. Table A1 displays the pairwise Pearson correlations between the overall well-being score and each of the four domains. The results revealed statistically significant positive correlations, further supporting the coherence of the composite well-being measure. Additionally, the Pearson correlation matrix in Table A2 showed low to moderate correlations among the caregiving task variables. The mean Variance Inflation Factor (VIF) was 1.67, confirming the absence of multicollinearity. Therefore, any changes observed in the coefficients of the main independent variables following the inclusion of additional variables cannot be attributed to multicollinearity.

3.2: Effect of caregiving on overall well-being (Main results)

Table 2 reports the core regression estimates assessing the relationship between caregiving and the overall well-being of unorganized caregivers. Caregiving was associated with a significant decrease in overall well-being. With respect to specific caregiving tasks, those that are more physically and logistically demanding, such as personal care, household support, and mobility or errand assistance, were significantly associated with declines in overall well-being. Conversely, the provision of emotional support demonstrated a positive association with caregivers' overall well-being.

Table 2: Effects of caregiving on Overall well-being (Main results)

Dependent Variable:		Overall well-being				
		Model 1	Model 2	Model 3	Model 4	Model 5
Caregiving		-5.82*** (0.788)				
Caregiving Task:						
	Personal care		-3.92*** (0.415)	-3.79*** (0.415)	-3.49*** (0.422)	-3.42*** (0.420)
	Household support			-1.33** (0.656)	-0.99 (0.654)	-1.48** (0.675)
	Mobility & errand support				-1.95*** (0.453)	-2.41*** (0.459)
	Emotional support					1.65*** (0.500)
Personal monthly income(log)		1.27*** (0.234)	1.10*** (0.226)	1.11*** (0.226)	1.12*** (0.227)	1.04*** (0.223)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations		1,990	1,990	1,990	1,990	1,990
R-squared		0.153	0.165	0.166	0.175	0.179

Notes: *** p<0.01, ** p<0.05, * p<0.1; Robust standard errors in parentheses; Full results in Table A3 in the appendix

3.3 Effects of caregiving on well-being domains

Table 3 presents the effects of caregiving on different domains of well-being. Caregiving had a significant negative impact across all domains, with the strongest effects observed in caregivers' physical and environmental well-being. Among specific tasks, providing personal care negatively affected all domains, with the greatest impact on physical well-being.

Table 3: Effects of caregiving on well-being domains (Main results)

Dependent Variable:		Physical Well-being		Social Well-being		Psychological Well-being		Environmental Well-being	
		Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b
Caregiving		-6.96*** (0.982)		-3.12*** (0.996)		-4.44*** (0.834)		-6.86*** (0.871)	
Caregiving Task:									
	Personal care		-3.87*** (0.551)		-3.18*** (0.528)		-3.74*** (0.476)		-2.89*** (0.466)
	Household support		-2.68*** (0.850)		-0.70 (0.865)		-1.02 (0.762)		-1.07 (0.738)
	Mobility & errand support		-2.55*** (0.580)		-1.45** (0.563)		-1.88*** (0.523)		-3.05*** (0.527)
	Emotional support		2.16*** (0.618)		2.83*** (0.646)		2.90*** (0.587)		-0.17 (0.548)
Personal monthly income(log)		1.14*** (0.275)	0.87*** (0.267)	1.06*** (0.288)	0.76*** (0.276)	1.37*** (0.275)	1.06*** (0.257)	1.40*** (0.255)	1.29*** (0.251)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		1,990	1,990	1,990	1,990	1,990	1,990	1,990	1,990
R-squared		0.155	0.176	0.097	0.121	0.131	0.163	0.095	0.110

*** p<0.01, ** p<0.05, * p<0.1; Robust standard errors in parentheses; Full results in Table A4 in the appendix

Household support was linked to a decline only in physical well-being. Mobility and errand support were associated with negative effects across all domains, particularly environmental and

physical well-being. In contrast, emotional support had a positive association with physical, social, and psychological well-being, but showed no significant effect on environmental well-being.

3.4 Effects of demographic and socio-economic factors on the overall well-being

Table A3 in the appendix presents the full regression results examining the association between caregiving and caregivers' overall well-being, alongside the effects of caregivers' demographic and socioeconomic characteristics. The results showed that caregivers with no formal education, or whose highest educational attainment is at the primary or Junior High School (JHS) level, experienced lower overall well-being compared to those with at least a graduate of Senior High School (SHS). Marital status also plays a role; caregivers who are divorced, widowed, or separated report significantly lower levels of overall well-being. Self-employed and paid-employed caregivers reported reduced overall well-being relative to their unemployed counterparts.

Living arrangements and caregiving context further influence outcomes. Caregivers residing in the same household as the care recipient, those caring for a partner or parent, and those providing care to individuals with high limitations in ADL were all negatively associated with overall well-being. The effects of other demographic and socio-economic factors on the well-being domains are found in Table A4 in the appendix.

3.4: Gender, Family Relations and Caregiving

This section presents the results of interaction effects between gender, caregiver–recipient relationship, and caregiving on caregivers' well-being.

3.4.1 Gender, family relation and overall caregiving

Fig. 1 displays the marginal effects of overall caregiving on caregivers' overall well-being by gender and caregiver-recipient relationship, based on Model 1 in Table A5. Both male and female caregivers providing care for parents experienced a decline in overall well-being, with the negative effect more pronounced among male caregivers.

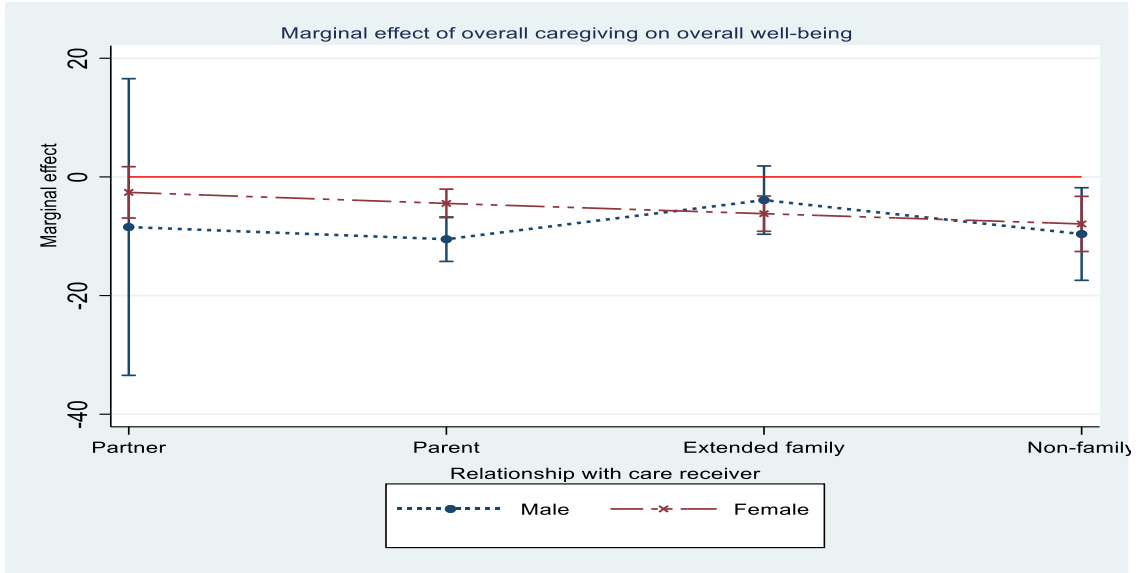


Fig. 1: Marginal effect of caregiving on overall well-being by relationship and gender

3.4.2 Gender, family relations and caregiving by tasks

Fig. 2, based on model 1 in Table A5, presents the results of the average marginal effect of personal care on overall well-being by gender and relationship interactions.

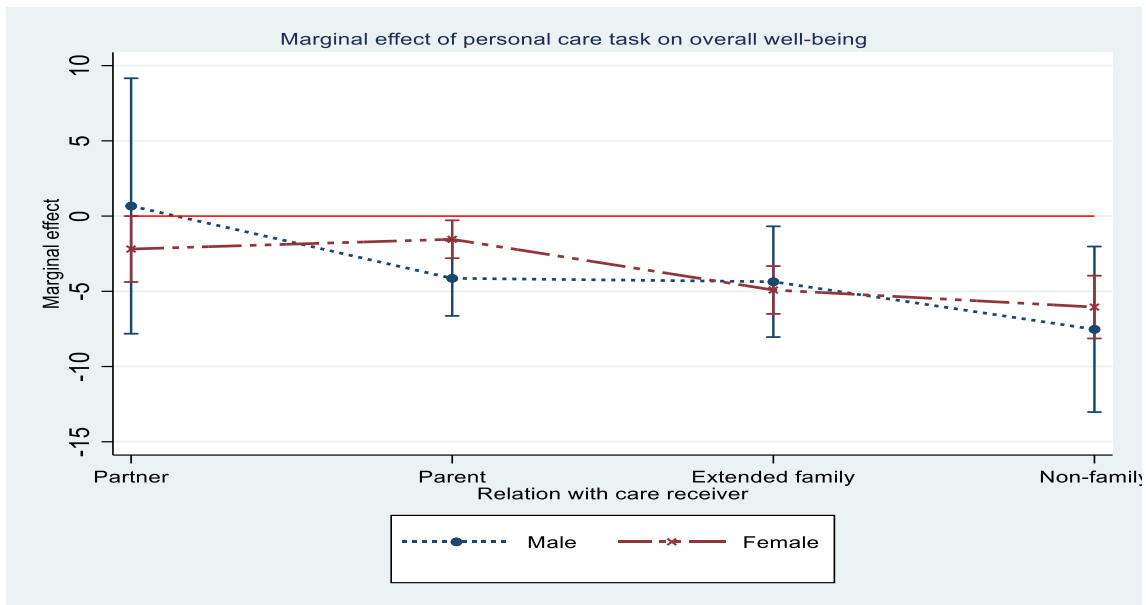


Fig. 2: Marginal effect of personal care task on overall well-being by relationship and gender

Both male and female caregivers providing personal care were found to experience a significantly significant loss in well-being, with a higher impact for those providing personal care to non-family members. In Fig. 3, based on model 2 in Table A5, a notable gender difference also emerged in the

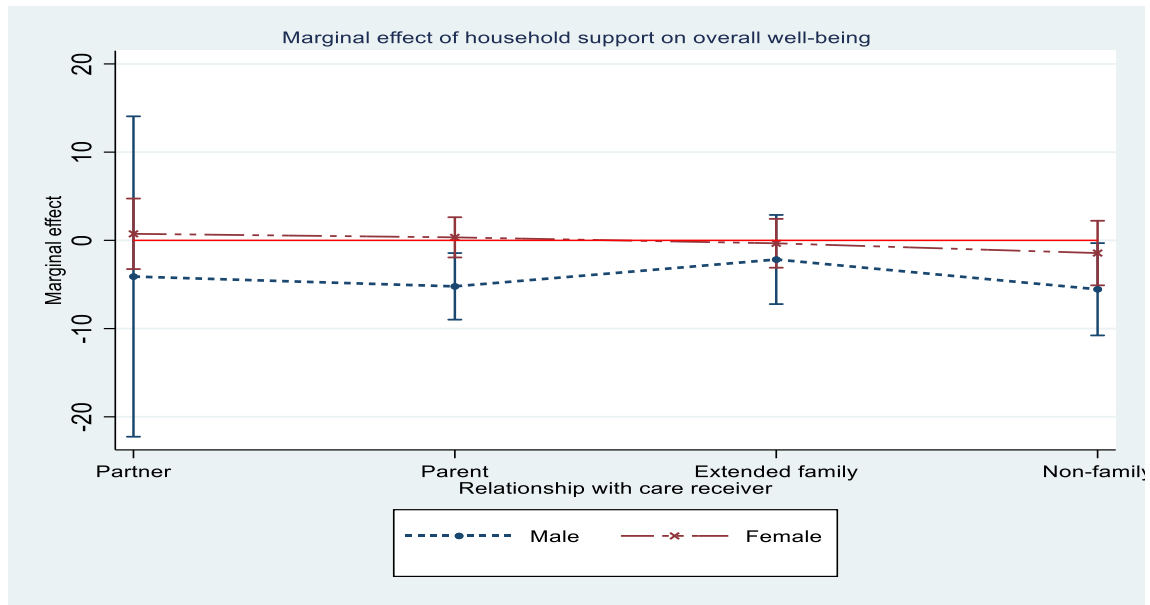


Fig. 3: Marginal effect of household support on overall well-being by relationship and gender

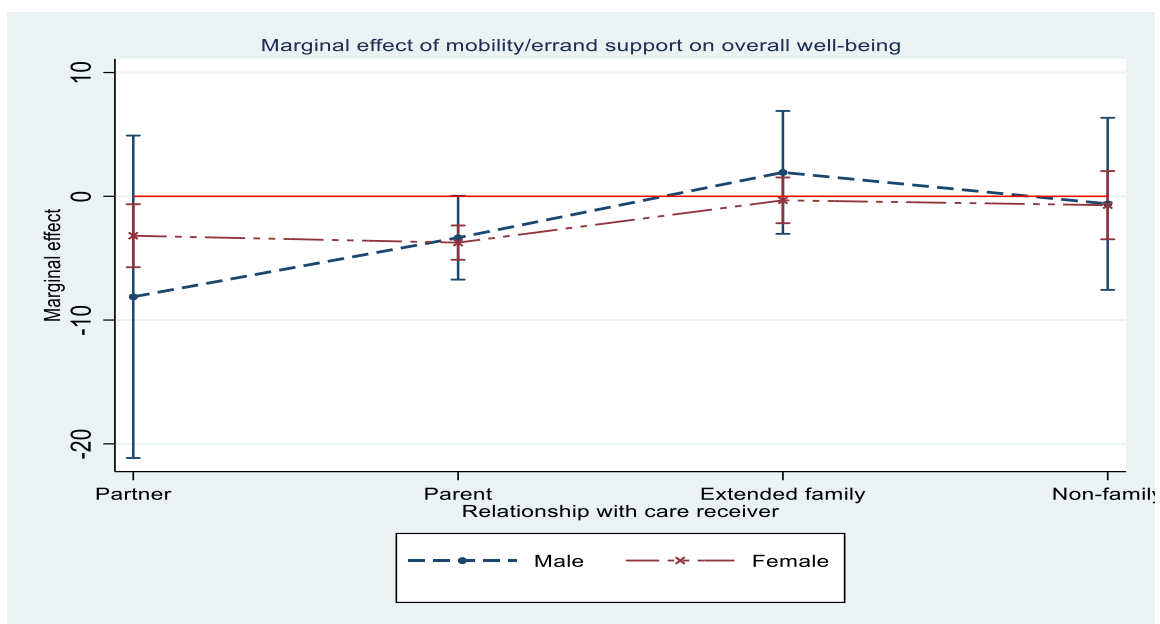


Fig 4: Marginal effect of mobility & errand support on overall well-being by relationship and gender

As illustrated in Fig. 4 and based on Model 3 in Table A5, mobility and errand support had a statistically significant negative effect on the well-being of female caregivers who provided care to partners and parents. For Fig. 5 and based on Model 4 in Table A5, providing emotional support to partners was positively associated with overall well-being among both male and female caregivers.

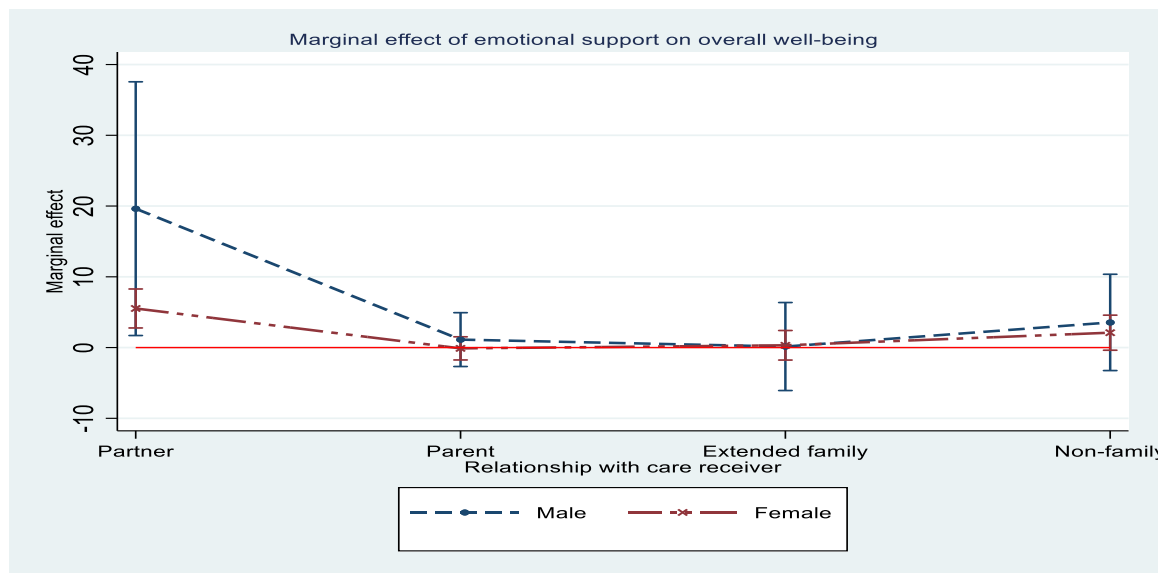


Fig. 5: Marginal effect of emotional support on overall well-being by relationship and gender

3.5 Monetary value of well-being gain and loss

Table 4 presents the estimated monetary values, in GHS, of well-being gains and losses associated with a one-hour increase above the average in total caregiving hours and specific caregiving tasks. For a caregiver earning an average monthly income of GHS 596 and providing 43.8 hours of care per week, the well-being loss from one additional hour of caregiving is valued at GHS 62, equivalent to 10.4% of their monthly income.

Table 4: Monetary value of overall well-being gain and loss

Caregiving Type	GHS [95%CI]	% of monthly income
Overall Caregiving		
43.8hr [#] -44.8hr	62 [33-122]	10.4
Caregiving Tasks:		
<i>Personal care task</i>		
11.6hr [#] -12.6hr	161 [99-357]	27.2
<i>Household Support task</i>		
17.7hr [#] - 18.7hr	47 [3.5-151]	7.8
<i>Mobility/Errand Support task</i>		
5.6hr [#] - 6.6hr	227 [100-536]	38.0
<i>Emotional Support task</i>		
9.3hr [#] - 10.3hr	97 [68-108] [@]	16.2

Notes: GHS: Ghana Cedis; 1\$:GHS 11.6 as at 2023; [#]Average hours of caregiving type.; [@]Well-being gain.

On average, caregivers provide 11.6 hours of personal care and 5.6 hours of mobility and errand support. An additional hour of personal care results in a loss of well-being valued at GHS 161, while an extra hour of mobility and errand support leads to a loss of GHS 227. Although caregivers provide a higher average of 17.7 hours of household support, an additional hour results in a loss of well-being valued at GHS 47. In contrast, for those offering an average of 9.3 hours of emotional support, one extra hour yields a well-being gain valued at GHS 97, representing 16.2% of their monthly income.

Table A6 reports the estimated monetary values of domain-specific well-being gains and losses associated with caregiving and specific caregiving tasks, derived from the results in Table 3 and Equation (3). The most substantial well-being losses were observed in the physical and environmental domains. Notably, physical well-being exhibited the greatest decline, particularly in relation to tasks involving personal care and mobility or errand support. Conversely, emotional support was associated with the highest well-being gains, especially within the social well-being domain. Table A7 presents the estimated well-being gains and losses associated with a one-hour increase from the first-quartile, median, and third-quartile caregiving hours across each caregiving task category. The results indicate that well-being gains or losses are greater at lower levels of caregiving hours, while increases from the third quartile are associated with smaller changes in well-being.

4.0: Discussion

This study examined the impact of caregiving, both in general and across specific tasks, on the overall and domain-specific well-being of unorganized caregivers in Ghana. In addition, it explored how gender and familial relationships shape caregiving experiences and well-being outcomes, while also estimating the monetary value of well-being gains and losses associated with caregiving. The findings offer important insights into how various caregiving responsibilities, income levels, gender dynamics, and family ties interact to influence caregivers' well-being in a low-resource context.

In general, caregiving was significantly associated with a decline in the overall well-being of unorganized caregivers. This finding is consistent with prior research showing that informal caregiving, particularly when unsupported, imposes emotional, physical, and financial burdens on caregivers [8,22]. In low-resource settings like Ghana, where long-term care systems are underdeveloped, caregivers often face high levels of role strain due to the lack of institutional support and the expectation to balance care with other responsibilities [23]. A study emphasized that prolonged caregiving stress can erode well-being through mechanisms such as role overload and emotional exhaustion [24]. Furthermore, the absence of financial compensation and formal recognition in unorganized caregiving contributes to psychological distress and economic insecurity, further lowering caregivers' overall well-being [25].

Consistent with previous studies, we found that personal care, household support, and mobility and errand support significantly reduce caregivers' well-being [8]. The burden of personal care tasks, such as feeding, bathing, and medication management, had the most pronounced negative effect. This aligns with findings from meta-analysis, which showed that personal care tasks were physically demanding and emotionally exhausting and often led to burnout [22]. In Ghana, where caregiving support is limited and often gendered, the burden may be more acute due to a lack of technologies and facilities needed for mobility assistance [23]. The results for household support tasks suggest that caregivers who manage day-to-day household responsibilities face additional time constraints and role overload. This finding is in line with a study that observed that caregivers often juggle multiple roles, leading to stress, fatigue, and diminished quality of life [26]. Interpreted through COR theory, personal care, household support, and mobility and errand support represent substantial resource drains, including loss of time, physical strength, sleep, social engagement, and economic opportunities.

Conversely, emotional support was positively associated with caregivers' well-being. This may be attributed to the intrinsic rewards that many caregivers derive from their caregiving roles, such as a heightened sense of purpose and meaning [27]. Providing emotional support may also foster a sense of connection and appreciation, which can serve as a protective factor against the adverse effects of more physically and logistically demanding caregiving tasks. COR theory helps explain this through the concept of resource gain, wherein certain caregiving activities generate emotional rewards, strengthened relationships, enhanced meaning, and social appreciation.

The finding that both male and female caregivers providing care for parents experience a decline in overall well-being, though more pronounced among male caregivers, adds nuance to existing evidence on gender and caregiving. While caregiving is traditionally considered a female role, emerging research suggests that when men assume intensive caregiving responsibilities, especially for aging parents, they may be less prepared emotionally and socially, leading to greater stress and adverse well-being outcomes [28,29]. Men are also less likely to seek emotional or social support, which can intensify the psychological toll of caregiving [30]. In the Ghanaian context, where cultural expectations assign caregiving largely to women, men who take on such roles may face additional stress due to societal perceptions and role oddness, potentially explaining the greater decline in well-being among male caregivers.

Male caregivers providing household support to parents and non-family members experienced a significant decline in well-being, suggesting that such tasks may be particularly burdensome for men, possibly due to lower role preparedness or societal expectations that do not traditionally associate men with domestic caregiving responsibilities [30]. These findings align with evidence that male caregivers often report higher stress when performing tasks perceived as outside traditional masculine roles [28].

Mobility and errand support significantly reduced the well-being of female caregivers, particularly when caring for partners and parents. These tasks often involve physical exertion and time demands, which, when combined with other caregiving duties and household responsibilities, may disproportionately affect women's health and well-being [31]. In contexts like Ghana, where women are expected to shoulder the bulk of caregiving without adequate support, the burden of physically and time-intensive tasks like mobility support may intensify emotional and physical strain.

Emotional support to partners was positively associated with overall well-being for both male and female caregivers. This underscores the potentially rewarding and reciprocal nature of emotional caregiving. Emotional support often strengthens interpersonal bonds and fosters a sense of purpose and connectedness, which are known to enhance caregivers' psychological well-being [32]. This positive association may be especially pronounced in spousal relationships, where emotional intimacy and mutual dependence are higher, and caregiving can reinforce relationship quality [33].

For both genders, the act of offering emotional support may contribute to feelings of competence, emotional closeness, and meaningful protective factors against caregiver stress. In Ghana, where family ties are highly valued, emotional caregiving may align with cultural norms around reciprocity and duty, further reinforcing its positive impact. These results suggest that not all caregiving roles are detrimental and that supporting the emotional dimensions of care can be a pathway to improved well-being for caregivers.

The findings revealed that caregiving was associated with well-being losses in the physical and environmental domains, underscoring the physically taxing and disruptive nature of caregiving in unstructured settings. Tasks such as personal care, mobility, and errand support often require sustained physical effort, which can lead to fatigue, muscle and bone problems, and reduced time for self-care, factors commonly linked to declines in physical health among caregivers [5]. Additionally, environmental well-being may be compromised when caregiving interferes with the caregiver's ability to maintain a stable, organized, or comfortable living environment, especially when caregiving occurs within the home and without formal support [24].

Across all monetary value estimations, higher caregiving task hours were associated not only with lower per-hour compensation for well-being loss but also with diminished well-being gains. This pattern suggests a diminishing marginal impact or gains of caregiving intensity on overall well-being, where each additional hour of care provides less emotional benefit or incurs a smaller perceived loss similar to the findings of Liu et al. [34]. This may be due to the development of coping mechanisms over time, which may help mitigate the burden of each additional hour [35].

This study had notable strengths. One of its key strengths lies in its robust and representative data collection methodology, which ensures a broad and diverse sample across Ghana's demographic and geographic landscape. This enhances the generalizability of the findings, making them more applicable to various caregiving contexts. Additionally, the study employs the well-being valuation method, which is less prone to non-responsiveness compared to stated preference approaches. This is particularly important in caregiving research, as assigning a monetary value to caregiving responsibilities can be ethically and emotionally challenging, leading to biases in traditional stated preference methods.

Another strength of this study is its focus on specific domains of well-being in addition to the aggregated measure of overall well-being. By examining the physical, social, psychological, and environmental dimensions of caregiving, the study provided a more nuanced understanding of how different caregiving tasks affect well-being. The disaggregated approach allows for a more comprehensive assessment of caregiving's impact.

However, the study also has limitations. We acknowledge that endogeneity could arise if unobserved characteristics, such as pre-existing health conditions, personality traits, or intrinsic caregiving motivations, influence both caregiving intensity and well-being. However, several factors mitigate this concern in our context. First, the caregiving intensity (hours of care provided) is largely determined by the care receiver's functional limitations and health status, rather than by the caregiver's latent traits. Second, we include extensive controls, such as age, education, income, marital status, and measures of functional ability (ADL), that capture much of the variation related to both caregiving and well-being. Third, caregiving in Ghana is often a familial obligation rather than a personal choice, which further reduces the likelihood that individual traits such as altruism or personality drive both caregiving intensity and well-being simultaneously.

Also, given the limited number of male caregivers in the sample, the gender-disaggregated findings should be interpreted with caution and viewed as indicative rather than conclusive. The predominance of female caregivers reflects the broader gendered nature of care provision in Ghana, as indicated in some national and international findings [36,37]. Therefore, the estimates for male caregivers, particularly those in specific relationship categories, should be interpreted with caution due to smaller subsample sizes.

Another limitation of the paper is that, although the well-being valuation method provides a useful framework for estimating the overall impact of caregiving, particularly through the marginal rate of substitution between income and well-being, it may not fully capture individual preferences or the subjective nuances of caregiving experiences. Alternative approaches, such as the contingent valuation method, conjoint analysis, or discrete choice experiments, may offer a more detailed assessment by explicitly incorporating caregivers' personal choices, trade-offs, and value judgments in real-life caregiving contexts. These alternative approaches could provide deeper insights into how caregivers perceive and prioritize different aspects of well-being, potentially strengthening the study's findings.

5.0 Policy Recommendation

The findings call for a set of targeted, task-specific, and gender-sensitive interventions within Ghana's existing health and social care system. First, community-based training on personal and mobility care, delivered through Community-Based Health Planning and Services (CHPS) compounds, would help reduce the physical strain associated with demanding tasks. Gender-responsive programs, such as household management support for male caregivers and provision of assistive mobility devices for women, would directly address the gendered burden patterns found in this study. Strengthening emotional well-being through caregiver support circles and recognition schemes can enhance resource gains and buffer stress. Additionally, financial measures such as small caregiver stipends, tax relief for care-related expenses, and distribution of basic home-care supplies would mitigate economic insecurity. These interventions can be implemented incrementally through Ghana's Ministry of Health, Ghana Health Service, District Assemblies, and the Ministry of Gender, Children and Social Protection, ensuring feasibility in a low-resource setting.

6.0 Conclusion

This study demonstrates that caregiving in Ghana has uneven effects on the well-being of unorganized caregivers, with physically demanding and time-intensive tasks driving significant losses in overall and domain-specific well-being, while emotional support tasks generate meaningful well-being gains. Interpreted through the Conservation of Resources theory, the findings highlight how resource losses accumulate through burdensome care activities, whereas emotional support serves as an important compensatory resource. The accompanying monetary valuation further underscores the economic significance of these well-being changes. Together, the results point to the need for targeted, task-specific, and gender-responsive policies to strengthen caregiver support within Ghana's emerging long-term care landscape.

Authors' contributions

DO, CGA, UE and RDO jointly conceptualized the study. DO conducted the data coding and analysis, drafted the manuscript, and played a central role in revising and finalizing subsequent versions. CGA, UE and RDO critically reviewed the initial draft and provided substantive feedback. All authors reviewed and approved the final version of the manuscript.

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Availability of data and materials

The datasets analyzed during the current study, along with related materials such as the survey questionnaire, are available from the corresponding author upon request.

Ethics approval and consent to participate

Ethical approval for this study was obtained from the Ethical and Protocol Review Committee (EPRC) of the College of Health Sciences, University of Ghana. The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. All participants were fully informed about the purpose of the study, and written informed consent was obtained from each participant prior to their participation in the survey.

Competing interests

The authors declare that they have no competing interests.

Supplementary Information

All tables in the appendix are included in the supplementary information accompanying this paper

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References

1. World Health Organization. Towards long-term care systems in sub-Saharan Africa. Geneva: WHO; 2017.
2. Nortey ST, Aryeetey GC, Aikins M, Amendah D, Nonvignon J. Economic burden of family caregiving for elderly population in southern Ghana: the case of a peri-urban district. *International journal for equity in health*. 2017 Jan 14;16(1):16.
3. Aboderin I. Intergenerational support and old age in Africa. London: Routledge; 2017.
4. World Health Organization. World report on ageing and health. Geneva: WHO Press; 2015.
5. Schulz R, Sherwood PR. Physical and mental health effects of family caregiving. *Journal of Social Work Education*. 2008;44(sup3):105-13.
6. Pinquart M, Sörensen S. Differences between caregivers and noncaregivers in psychological health and physical health: a meta-analysis. *Psychology and aging*. 2003;18(2):250.
7. Beard JR, Officer A, De Carvalho IA, Sadana R, Pot AM, Michel JP, Lloyd-Sherlock P, Epping-Jordan JE, Peeters GG, Mahanani WR, Thiyagarajan JA. The World report on ageing and health: a policy framework for healthy ageing. *The lancet*. 2016;387(10033):2145-54.
8. Van den Berg B, Fiebig DG, Hall J. Well-being losses due to care-giving. *Journal of health economics*. 2014 May 1;35:123-31.
9. Asuquo EF, Etowa JB, Akpan MI. Assessing women caregiving role to people living with HIV/AIDS in Nigeria, West Africa. *Sage Open*. 2017;7(1):2158244017692013.

10. Curreri NA, McCabe L, Robertson J, Aboderin I, Pot AM, Keating N. Family beliefs about care for older people in Central, East, Southern and West Africa and Latin America. *International Journal of Care and Caring*. 2023;7(2):343-63.
11. Sharma N, Chakrabarti S, Grover S. Gender differences in caregiving among family-caregivers of people with mental illnesses. *World journal of psychiatry*. 2016;6(1):7.
12. Rexhaj S, Nguyen A, Favrod J, Coloni-Terrapon C, Buisson L, Drainville AL, Martinez D. Women involvement in the informal caregiving field: A perspective review. *Frontiers in Psychiatry*. 2023 Jan 18;14:1113587.
13. Penning MJ, Wu Z. Caregiver stress and mental health: Impact of caregiving relationship and gender. *The gerontologist*. 2016;56(6):1102-13.
14. Pristavec T. The burden and benefits of caregiving: A latent class analysis. *The Gerontologist*. 2019;59(6):1078-91.
15. Methi F, Nes RB, Skirbekk V, Hansen T. The double-edged sword of becoming a caregiver: dynamic impact on four dimensions of well-being in Norway. *BMC psychology*. 2024;12(1):120.
16. Ferrer-i-Carbonell, A. and Van Praag, B.M., 2002. The subjective costs of health losses due to chronic diseases. An alternative model for monetary appraisal. *Health economics*, 11(8), pp.709-722.
17. Van den Berg B, Brouwer WB, Koopmanschap MA. Economic valuation of informal care: an overview of methods and applications. *The European Journal of Health Economics*, formerly: HEPAC. 2004;5(1):36-45.
18. Hobfoll SE. Conservation of resources: a new attempt at conceptualizing stress. *American psychologist*. 1989;44(3):513.
19. Offei D, Enemark U, Osei RD, Gyasi RM, Ackah CG. Caregiving dynamics and labor market outcomes of unorganized caregivers of older adults in Ghana. *Journal of health, population and nutrition*. 2025;44(1):320.
20. Ghana GS. Population and housing census general report. GSS: Accra, Ghana. 2021:1-81.
21. Skevington SM, Tucker C. Designing response scales for cross-cultural use in health care: Data from the development of the UK WHOQOL. *British journal of medical psychology*. 1999 Mar;72(1):51-61.

22. Pinquart M, Sörensen S. Associations of stressors and uplifts of caregiving with caregiver burden and depressive mood: a meta-analysis. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*. 2003;58(2):P112-28.
23. Kyei-Arthur F, Codjoe SN. “Caring for the elderly is very difficult”: challenges and coping strategies of caregivers in urban poor Accra, Ghana. *Clinical Nursing Research*. 2021 Jun;30(5):662-9.
24. Pearlin LI, Mullan JT, Semple SJ, Skaff MM. Caregiving and the stress process: An overview of concepts and their measures. *The gerontologist*. 1990;30(5):583-94.
25. Lilly MB, Laporte A, Coyte PC. Labor market work and home care's unpaid caregivers: a systematic review of labor force participation rates, predictors of labor market withdrawal, and hours of work. *The Milbank Quarterly*. 2007;85(4):641-90.
26. Lindt N, van Berkel J, Mulder BC. Determinants of overburdening among informal carers: a systematic review. *BMC geriatrics*. 2020;20(1):304.
27. Carruth AK, Tate US, Moffett BS, Hill K. Reciprocity, emotional well-being, and family functioning as determinants of family satisfaction in caregivers of elderly parents. *Nursing Research*. 1997;46(2):93-100.
28. Lopez–Anuarbe M, Kohli P. Understanding male caregivers’ emotional, financial, and physical burden in the United States. In *Healthcare* 2019; (Vol. 7, No. 2, p. 72). MDPI.
29. Labbas E, Stanfors M. Does caring for parents take its toll? Gender differences in caregiving intensity, coresidence, and psychological well-being across Europe. *European Journal of Population*. 2023;39(1):18.
30. Calasanti T, King N. Taking ‘women's work’ ‘like a man’: Husbands' experiences of care work. *The gerontologist*. 2007;47(4):516-27.
31. Aboderin I. Modernisation and ageing theory revisited: current explanations of recent developing world and historical Western shifts in material family support for older people. *Ageing & Society*. 2004;24(1):29-50.
32. Roth DL, Fredman L, Haley WE. Informal caregiving and its impact on health: A reappraisal from population-based studies. *The Gerontologist*. 2015;55(2):309-19.
33. Bookwala J. The impact of parent care on marital quality and well-being in adult daughters and sons. *Journals of Gerontology: Series B*. 2009;64(3):339-47.

34. Liu W, Zhang H, Yuan S, Lyu T. Well-being losses by providing informal care to elderly people: Evidence from 310 caregivers in Shanghai, China. *Health & Social Care in the Community*. 2021;29(3):694-702.
35. Gaugler JE, Kane RL, Newcomer R. Resilience and transitions from dementia caregiving. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*. 2007;62(1):P38-44.
36. World Health Organization. Decade of healthy ageing: baseline report. Geneva: WHO; 2021.
37. Aboderin IA, Beard JR. Older people's health in sub-Saharan Africa. *Lancet*. 2015;385(9968):e9–e11.

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