

# Prevalence and factors associated with poor self-rated health among community-dwelling older adults in Lomé (Togo) in 2019

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## Abstract

The number of older adults is increasing worldwide, including in sub-Saharan Africa (SSA). However, there is a paucity of data on the overall health status of older adults living in SSA. To assess the prevalence and factors associated with poor Self-Rated Health (SRH) among community-dwelling older adults in Lomé, Togo, we conducted a cross-sectional study from January to June 2019 in Lomé among community-dwelling older adults aged 50 years and older. A 30-minute questionnaire was used to collect socio-demographic characteristics, medical history, patterns of medication use and use of herbal products and dietary supplements during a face-to-face interview. SRH was assessed using a single item: *Overall, you would say that your health is... (1) excellent, (2) very good, (3) good, (4) fair and (5) poor* with response fair or poor defining poor SRH. A total of 344 respondents with median age 63 years, (IQR: 55-72) were enrolled in the study. Women represented 57.6% of the sample. Overall prevalence of poor SRH was 56.4% (95%CI: 51.0-61.9) and was the highest among females (62.6% vs 47.9%; P=0.007) and participants  $\geq 60$  years (61.5% vs 51.1%; P=0.021). Female sex, aged  $\geq 60$  years, osteoarthritis, hospitalization within the 12 months preceding the survey, polypharmacy, and the use of herbal products were factors associated with poor SRH (P<0.05). More than half of community-dwelling older adults had poor SRH in Lomé. Further studies are needed to guide policymakers in their efforts to design and implement meaningful policies to improve older adults health conditions.

## Introduction

With the improvement of hygiene and living conditions, life expectancy has gradually increased in all regions of the world. By 2050, there will be over 2 billion of people aged 60 years and older worldwide, and 80% of them will live in developing countries.<sup>1</sup>

Having the opportunity to live a long and healthy life is a challenging issue worldwide. As the number of older adults is increasing in all regions of the world, the World Health Organization (WHO) has urged national health stakeholders of member states to develop sound health strategies that promote *Healthy Ageing*. *Healthy Ageing* is defined as the process of developing and maintaining the functional ability that enables wellbeing in old age.<sup>2</sup> Indeed, with advancing age, the human body undergoes a series of transformations that causes the weakening and slowing down of vital functions, leading to physical and psychological changes. Also, old age is characterized by high prevalence of chronic diseases and disability with increased healthcare services utilization and high health expenditures. To frame programs that meet beneficiaries' needs, it is critical for policymakers to have detailed information on population's health status. One of the most widely used indicators to assess an individual's health status is Self-Rated Health (SRH), which measures self-perceived overall health status. SRH (also known as self-assessed health or self-perceived health) refers to a single-item health measure in which people are asked to assess their current health status on a five-point scale from *excellent* to *poor*.<sup>3</sup> Many studies have demonstrated that SRH is a reliable indicator of overall *subjective* and *objective* health status<sup>3,4</sup> and it has been recommended for monitoring the health and quality of life by the WHO.<sup>5</sup> Also, SRH has been found to be a predictor of mortality and functional disability, especially among older adults.<sup>6,7</sup>

The demographic transition has also begun in Togo where life expectancy has increased from 40.3 to 60.5 years between 1960 and 2017 and the number of people aged  $\geq 60$  years is expected to rise from 270 000 in 2010 to 670 000 in 2030.<sup>8,9</sup> Programmatic efforts are being made to support older adults in Togo as part of the national health strategic plan, but data on the health of older population are scarce. Moreover, there is a growing trend in the use of herbal products among older adults worldwide,<sup>10,11</sup> but data on SRH and herbal products use are rare. Also the use of herbal products is very common in sub-Saharan Africa.<sup>12</sup>

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Contribution: DKE, AA, and FAGK conceived the study and participated in its design and coordination. ABA, WICZC, NKK and MB participated in the study design and data collection. FAGK, MKT and DKE performed statistical analyses. DKE and FAGK wrote the first draft of the manuscript and AA, WICZC, ABA, NKK, MKT, and MB subsequently revised the manuscript. All authors read and approved the final manuscript.

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The objective of this study was to assess the prevalence of poor SRH and associated factors among community-dwelling older adults in Lomé, Togo, in 2019.

## Materials and Methods

### Study design and settings

A cross-sectional study was conducted from January to June 2019 in Lomé, capital city of Togo.

Togo is a country of West Africa that

covers an area of 56,800 Km<sup>2</sup> with an average density of 145 inhabitants per square kilometer. The population was 7.89 million in 2018, of which 50.2% are women. Most of the population is young (60% of Togolese are under 25 years of age), and lives in rural areas (62%). Togo health system has a three-level pyramid structure: central, intermediate and peripheral levels. For each level, there are administrative and healthcare delivery components.

Regarding health care for older adults, no geriatric wards are available in the country.

### Study population

The recruitment process was carried out in three steps. On a selected day (January 4<sup>th</sup> 2019), all people  $\geq 50$  years who came to the 120 (over 163) participating community

pharmacies were approached for a one-day survey which aimed to describe older adults' reasons for visiting community pharmacies. Of the 1,322 older adults who participated in the one-day pharmacy survey, 1,203 accepted to participate in an in-home interview. Then, for the present study, we randomly selected participants among those who accepted to participate in the home survey and a research assistant contacted them to schedule in-home visits.

Community-dwelling older adults  $\geq 50$  years who could communicate verbally and give a signed informed consent were recruited for the present study.

### Sample size

Since no data on SRH were available in Togo, the sample size calculation was based on an expected prevalence of poor SRH in

people aged 50 years and older of 20.1% based on the estimate reported in a study conducted in Ghana, neighboring country of Togo,<sup>13</sup> with a precision of 5%, a significance level set at 5%, and a non-response rate of 10%; the minimum sample size was estimated at 271 participants.

### Data collection

A 30-minute standardized questionnaire was administered to selected elderly during a face-to-face interview by trained final-year medical and pharmacy students. To assess SRH, participants were asked to rate their current overall health status using a single item: *Overall, you would say that your health is...*, with a 5-point response scale ranging from (1) excellent, (2) very good, (3) good, (4) fair and (5) poor. This single question for SRH rating has been

**Table 1. Socio-demographic characteristics of community-dwelling older adults in Lomé, Togo in 2019 (N=344).**

	Total (N=344)		Male (N=146)		Female (N=198)		p value
Age (years) Median IQR	63 (55-72)		64 (55-72)		62 (55-71)		0.337*
50-59	139	(40.4)	58	(39.7)	82	(40.9)	0.825**
60	205	(59.6)	88	(60.3)	117	(59.1)	
Marital status, n(%)							<0.001***
Single	25	(7.3)	7	(4.8)	18	(9.1)	
Married/Living with a partner	198	(57.6)	114	(78.1)	84	(42.4)	
Divorced	26	(7.5)	11	(7.5)	15	(7.6)	
Widowed	90	(26.2)	14	(9.6)	76	(38.4)	
MD	5	(1.4)	0	(0.0)	5	(2.5)	
Education level, n(%)							<0.001***
No formal education	58	(16.9)	8	(5.5)	50	(25.3)	
Primary level	94	(27.3)	26	(17.8)	68	(34.3)	
Secondary level	124	(36.0)	65	(44.5)	59	(29.8)	
University level	66	(19.2)	47	(32.2)	19	(9.6)	
MD	2	(0.6)	0	(0.0)	2	(1.0)	
Work status, n(%)							<0.001***
Still work	139	(40.4)	54	(37.0)	85	(42.9)	
Retired, in activity	40	(11.6)	25	(17.1)	15	(7.6)	
Retired, with no activity	85	(24.7)	54	(37.0)	31	(15.7)	
No formal revenue	79	(23.0)	13	(8.9)	66	(33.3)	
MD	1	(0.3)	0	(0.0)	1	(0.5)	
Monthly income (euros), n(%)							<0.001***
<75	119	(34.6)	34	(23.3)	85	(43.0)	
75-150	41	(11.9)	16	(11.0)	25	(12.6)	
150-450	61	(17.7)	40	(27.4)	21	(10.6)	
450	11	(3.2)	7	(4.8)	4	(2.0)	
Did not want to disclose	112	(32.6)	49	(33.5)	63	(31.8)	
Family financial aid, n(%)							<0.001***
Yes	143	(41.6)	40	(27.4)	103	(52.0)	
No	187	(54.4)	96	(65.8)	91	(46.0)	
MD	14	(4.0)	10	(6.8)	4	(2.0)	
Have children, n(%)							0.078***
Yes	327	(95.1)	141	(97.2)	186	(93.5)	
No	16	(4.6)	3	(2.1)	13	(6.5)	
MD	1	(0.3)	1	(0.7)	0	(0.0)	
Health insurance, n(%)							<0.001***
No	216	(62.8)	68	(46.6)	148	(74.8)	
Public	98	(28.5)	58	(39.7)	40	(20.2)	
Private	22	(6.4)	15	(10.3)	7	(3.5)	
MD	8	(2.3)	5	(3.4)	3	(1.5)	

IQR: Interquartile range; MD=Missing data. \*Mann U Whitney test; \*\*Chi2 test; \*\*\* Fisher exact test.

widely used in previous research studies among older adults.<sup>14-16</sup>

Other information collected included data on the respondents' socio-demographic characteristics (age, education level, monthly income, marital status), medical history (chronic diseases, number of medical visits and hospitalization within the year preceding the survey, having health insurance), patterns of medication use (number of medications, medications obtained with and without prescription) and use of herbal products and dietary supplements. Medical history and medication use patterns were assessed through self-reporting and /or based on the information recorded in health booklet whenever available. Caregivers or family members who assist the older adults were solicited to give responses regarding medical history.

**Measurements**

SRH was the main outcome of interest. Based on their response to the SRH item, study participants were grouped into two categories: good SRH (excellent/very good/good) and poor SRH (fair/poor). Having two or more chronic diseases was defined as multimorbidity and daily consumption of  $\geq 5$  drugs was defined as polypharmacy.<sup>17</sup>

**Ethical considerations**

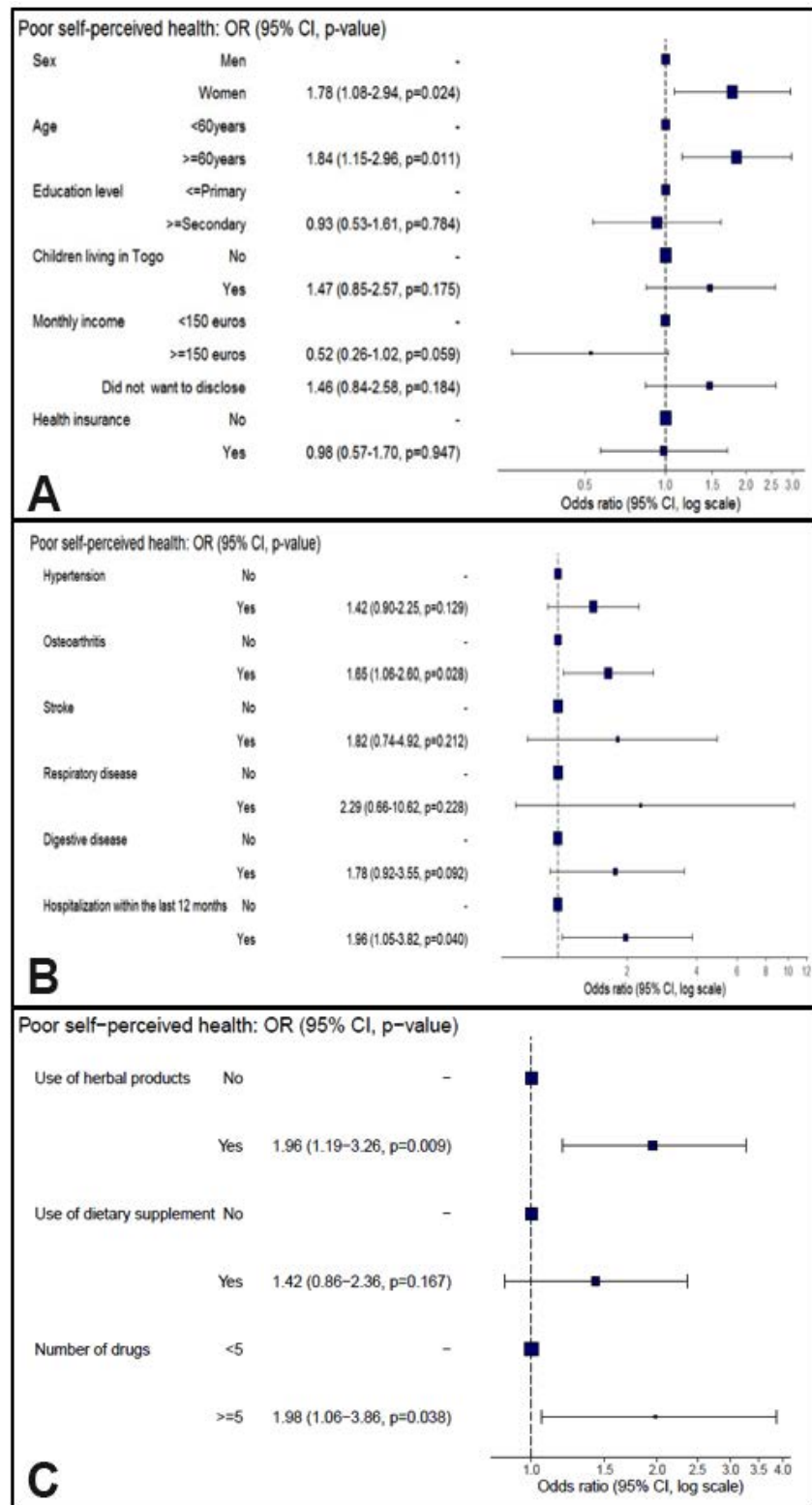
This study was approved by the Comité de Bioéthique pour la Recherche en Santé (Bioethic Committee for Health Research) of the Ministry of Health in Togo (n°09/2018/CBRS) and authorizations were obtained from the directors/licensed pharmacists of each participating community pharmacy. All respondents gave a signed informed consent before enrollment in the study. Participation in the study was voluntary and eligible older adults had the right to decline or to stop the interview at any moment. To maintain confidentiality, we did not record patients' names and unique participants' identification codes were generated and used for the purpose of the study. Only the principal investigator and the research assistant who scheduled the in-home visit had access to participants' contact information, which was stored in a password-protected database. After the in-home visit and validation of collected data, these informations were deleted from the database.

**Statistical analysis**

Descriptive statistics were performed and results were presented with frequency tabulations and percentages for categorical variables. Quantitative variables were presented as medians with their interquartile

range (IQR). The prevalence of poor SRH was estimated with corresponding 95% confidence interval (95%CI). Binary logis-

tic regression analyses were performed to identify factors associated with poor SRH. In the univariate logistic regression, vari-



**Figure 1. Factors associated with poor self-rated health (SRH) among community-dwelling older adults in Lomé, Togo, 2019. A) Sociodemographic factors associated with poor SRH; B) Health-related factors associated with poor SRH; C) Treatment factors associated with poor SRH.**

able with a P-value < 0.20 were fitted into the multivariate analyses. A backward procedure approach was performed for selection of variables and adjusted odds ratio (aOR) were reported with their 95% CI. All analyses were performed using Stata® software version 14 (College Station, Texas, USA). The significance level was set at 5%.

## Results

A total of 1,322 older adults were recruited in the one-day pharmacy survey, and 1,203 accepted to participate in the home survey, yielding a response rate of 91.0%. Among them, 344 older adults were randomly selected for the home survey.

### Socio-demographic characteristics and past medical history

The median age of recruited partici-

pants was 63 years (IQR: 55–72). Women represented 57.6% of the sample and they were more likely to be widowed, have no formal or primary level education, and have no health insurance ( $P < 0.001$ ). Socio-demographic characteristics of study participants are summarized in Table 1.

### Medical history and multimorbidity

The main medical conditions were hypertension ( $n=203$ ; 59.0%), osteoarthritis ( $n=173$ ; 50.3%), visual/hearing impairment ( $n=89$ ; 25.9%), and diabetes ( $n=61$ ; 17.7%) (Table 2). Any-type cancer was reported among three (0.9%) participants, and among male, prostate adenoma was reported among eight (5.4%) participants (data not shown).

The prevalence of multimorbidity was 56.7% (95%CI: 49.3–60.1) with no statistical difference according to sex ( $P=0.205$ ). The majority of participants ( $n=283$ ;

82.3%) have seen a health professional at least once within the 12 months preceding the study while at least one hospitalization was reported for 16.3% older adults within the same time period (Table 2).

### Distribution of self-rated health

Nine (2.6%) and 20 (5.8%) older adults rated their health as *excellent* and *very good*, respectively. Almost half (49.7%) of older adults rated their health as *fair* with the highest proportion among females (56.6% vs 40.4%;  $P=0.022$ ) and participants aged 60 years and older (53.7% vs 43.9%;  $P=0.117$ ).

The overall prevalence of poor SRH was 56.4% (95%CI: 51.0–61.9) and was the highest among females (62.6% vs 47.9%;  $P=0.007$ ) and participants aged 60 years and older (61.5% vs 51.1%;  $P=0.021$ ) (Table 3).

Regarding medication consumption patterns, older adults who were on

**Table 2. Clinical characteristics of community-dwelling older adults in Lomé, Togo in 2019 (N=344).**

	Total (N=344)		Male (N=146)		Female (N=198)		p value
Hypertension, n(%)							0.484*
Yes	203	(59.0)	83	(56.9)	120	(60.6)	
No	141	(41.0)	63	(43.1)	78	(39.4)	
Osteoarthritis, n(%)							<0.001*
Yes	173	(50.3)	56	(38.4)	115	(58.1)	
No	171	(49.7)	90	(61.6)	83	(41.9)	
Sensory impairment a, n(%)							0.955*
Yes	89	(25.9)	38	(26.0)	51	(25.8)	
No	255	(74.1)	108	(74.0)	147	(74.2)	
Diabetes, n(%)							0.042*
Yes	61	(17.7)	33	(22.6)	28	(14.1)	
No	283	(82.3)	113	(77.4)	170	(85.9)	
Digestive diseases, n(%)							0.191*
Yes	50	(14.5)	17	(11.6)	33	(16.7)	
No	294	(85.5)	129	(88.4)	165	(83.3)	
Stroke, n(%)							0.417*
Yes	26	(7.6)	13	(8.9)	13	(6.6)	
No	318	(92.4)	133	(91.1)	185	(93.4)	
Dyslipidemia, n(%)							0.442*
Yes	23	(6.7)	8	(5.5)	15	(7.6)	
No	321	(93.3)	138	(94.5)	183	(92.4)	
Other cardiovascular disease, n(%)							0.257*
Yes	12	(3.5)	7	(4.8)	5	(2.5)	
No	332	(96.5)	139	(95.2)	193	(97.5)	
Respiratory disease, n(%)							0.986*
Yes	13	(3.8)	7	(4.8)	6	(3.0)	
No	331	(96.2)	139	(95.2)	192	(97.0)	
Multimorbidity, n(%)							0.205*
Yes	195	(56.7)	77	(47.3)	118	(59.6)	
No	149	(43.3)	69	(47.3)	80	(40.4)	
Hospitalization within 12 past months, n(%)							0.108**
Yes	56	(16.3)	18	(12.3)	38	(19.2)	
No	284	(82.5)	125	(85.6)	159	(80.3)	
MD	4	(1.2)	3	(2.1)	1	(0.5)	
Have seen a health professional within past 12 months, n(%)							0.380**
Yes	283	(82.3)	117	(80.1)	166	(83.8)	
No	60	(17.4)	28	(19.2)	32	(16.2)	
MD	1	(0.3)	1	(0.7)	0	(0.0)	

a: Sensory impairment= visual and hearing problems. \*Chi2 test; \*\* Fisher exact test

polypharmacy, use herbal products, and dietary supplements were more likely to rate their overall health as *poor* ( $P < 0.05$ ). For the use of herbal products specifically, poor SRH was more commonly reported among older adults who use garlic, *Moringa oleifera*, onion and *Morinda citrifolia* ( $P < 0.05$ ) (Table 4).

### Factors associated with poor self-rated health

In multivariate analysis, female sex (aOR= 1.78, 95%CI: 1.08-2.94) and age  $\geq 60$  years (aOR= 1.84, 95%CI: 1.15-2.96) were sociodemographic factors associated with poor SRH (Figure 1A). For health

related factors, older adults who reported medical history of osteoarthritis (aOR= 1.65, 95%CI: 1.06-2.60) and those who were hospitalized within the 12 months preceding the survey (aOR= 1.96, 95%CI: 1.05-3.82) were more likely to rate their health as poor (Figure 1B). Finally, regarding treatment patterns, the use of herbal products (aOR= 1.96, 95%CI: 1.19-3.26) and consumption of more than 5 drugs daily (aOR= 1.98, 95%CI: 1.06-3.86) were associated with poor SRH (Figure 1C).

## Discussion

This cross-sectional study was conduct-

ed among 344 people  $\geq 50$  years living in community dwellings of Lomé. Only nine (2.6%) of recruited older adults rated their health as excellent and more than half (56.4%) of the study population reported poor SRH. Female sex, aged  $\geq 60$  years, osteoarthritis, hospitalization within the previous year, polypharmacy, and the use of herbal products were associated with poor SRH. Besides, at least three older adults in ten (34.0%) reported using herbal products, and garlic and *Moringa oleifera* were the most commonly used herbal products.

The prevalence of overall poor SRH in our study is among the highest observed in previous studies. Few studies have been conducted on SRH among adults in sub-

**Table 3. Self-rated health according to sex and age group among community-dwelling older adults in Lomé, Togo in 2019 (N=344).**

	Total (N=344)		Male (N=146)		Female (N=198)		p value	50-59 years (N=139)		$\geq 60$ years (N=205)		p value
	N	%	n	%	N	%		n	%	n	%	
Self-rated health							0.022*					0.117*
Excellent	9	(2.6)	5	(3.4)	4	(2.0)		6	(4.3)	3	(1.5)	
Very good	20	(5.8)	7	(4.8)	13	(6.6)		8	(5.8)	12	(5.8)	
Good	121	(35.2)	64	(43.9)	57	(28.8)		57	(41.0)	64	(31.2)	
Fair	171	(49.7)	59	(40.4)	112	(56.6)		61	(43.9)	110	(53.7)	
Poor	23	(6.7)	11	(7.5)	12	(6.0)		7	(5.0)	16	(7.8)	
Overall poor self-rated health							0.007**					0.021**
Yes	194	(56.4)	70	(47.9)	124	(62.6)		71	(51.1)	126	(61.5)	
No	150	(43.6)	76	(52.1)	74	(37.4)		68	(48.9)	79	(38.5)	

\* Fisher exact test; \*\*Chi2 test

**Table 4. Self-rated health according to medications consumption patterns among community-dwelling older adults in Lomé, Togo in 2019 (N=344).**

	Total (N=344)	Good (N=150)	Poor (N=194)	p value	
Total number of conventional drugs <sup>a</sup>					
Median IQR	1	1-3	2	1-3	0.265*
Number of drugs 5, n(%)					0.043**
Yes	52	(15.1)	16	(10.7)	
No	292	(84.9)	134	(89.3)	
Self-medication, n(%)					0.705***
Yes	88	(25.6)	40	(26.7)	
No	252	(73.3)	109	(72.6)	
MD	4	(1.1)	1	(0.7)	
Dietary supplements, n(%)					0.011**
Yes	117	(34.0)	40	(26.7)	
No	227	(66.0)	110	(73.3)	
Herbal products, n(%)					0.001**
Yes	118	(34.3)	37	(24.7)	
No	226	(65.7)	113	(75.3)	
Type of herbal products, n(%)					
<i>Aloe vera</i>	16	(4.7)	5	(3.3)	0.307**
<i>Moringa oleifera</i>	88	(26.0)	31	(21.1)	0.070**
<i>Garlic</i>	92	(26.7)	29	(19.3)	0.006**
<i>Morinda citrifolia</i>	51	(14.8)	13	(8.7)	0.005**
<i>Soy</i>	20	(5.8)	5	(3.3)	0.084**
<i>Onion</i>	57	(16.6)	18	(12.0)	0.045**
Herbal products used with conventional drugs, n(%)					0.007**
Yes	198	(34.0)	72	(48.0)	
No	117	(57.6)	62	(41.3)	
MD	29	(8.4)	16	(10.7)	

<sup>a</sup>Conventional drugs, including prescription drugs and over-the-counter (OTC) drugs; IQR: interquartile range; MD: missing data. \*Mann U Whitney test; \*\*Chi2 test; \*\*\*Fisher exact test.

Saharan Africa. In South Africa, based on data from the Study of Global Ageing and Adult Health (SAGE), poor SRH prevalence was 23.2% among older adults  $\geq 50$  years,<sup>18</sup> while in Mozambique higher prevalence of poor SRH (53.8%) was reported in a younger population ( $\geq 40$  years).<sup>19</sup> Within the West Africa region, estimates vary greatly between countries, ranging from 20.1% in Ghana<sup>13</sup> to 55.9% in Senegal.<sup>15</sup>

In developed countries, according to the Survey of Health, Ageing and Retirement in Europe (SHARE) Wave 4 among people  $\geq 50$  years, the prevalence of poor SRH was higher than 50% in only four countries out of 16, with the highest prevalence being reported in Estonia (70.7%).<sup>14</sup> Also, in Canada, poor SRH ranged between 13.2% among participants aged 40-64 years and 24.4% among those aged 65 years and older.<sup>16</sup> Several factors could explain these differences such as the availability of health insurance and access to geriatric services.

Female sex and increasing age were the sociodemographic factors associated with poor SRH and our results align with findings reported in the literature.<sup>13,16</sup> Indeed, there are gender differences in SRH because, compared with men, women are more likely to communicate about their symptoms, seek professional care and prone to report worse SRH.<sup>15,20</sup> In addition, men, especially in the African context, still perceive healthcare seeking as a sign of weakness, delaying disease diagnosis.<sup>20</sup> As a result, there is a gender-paradox, with women reporting worse SRH but showing lower mortality rates.<sup>15,20</sup> There is a need to develop health promotion strategies aiming to address this gender gap and to improve older men's health and wellbeing.

Although the absence of health insurance was not a factor associated with poor SRH in our study, in the US, underinsured (aOR=1.39; 95%CI: 1.33-1.44) and never insured (aOR=1.59; 95%CI: 1.50-1.68) working-aged adults were more likely to rate their overall health as poor, compared with those who were adequately insured.<sup>21</sup> Only one third of older adults in our study population was insured and it is known that older adults have low financial resources, reducing their ability to purchase healthcare services.<sup>13</sup> In fact, in many sub-Saharan African countries, older adults are not covered by health insurance except from three countries (Ghana, Senegal and South Africa) where there is free access to healthcare or older people are exempted from paying health insurance premiums.<sup>22</sup> In the surge of the implementation of universal health coverage in sub-Saharan Africa, specific social and health care needs of older

adults should be carefully considered by policymakers in order to design sound healthcare systems that are inclusive for all.

Regarding health-related factors, hypertension and diabetes were not associated with poor SRH in our study. Contrasted findings have been reported in the literature and significant association between SRH and these chronic conditions have been observed in some studies<sup>16,23</sup> while other research studies have not uncovered any association with SRH.<sup>15,24</sup> In fact, SRH is a multidimensional indicator which is not only determined by medical and biological health, but also functional, coping and well-being factors which may affect day-to-day living.<sup>25</sup> Thus, hypertension and diabetes which are termed *silent killers* and are pauci-symptomatic in earlier phases without complications may not be associated with poor SRH. Conversely, osteoarthritis with pain as its main symptom was a significant factor of poor SRH in our study as in previous studies.<sup>16,25</sup> However, pain assessment and treatment is still insufficient in sub-Saharan Africa which accounted for only 0.2% of global morphine consumption in 2010.<sup>26,27</sup>

In older adults, hospitalization is a strong predictor of adverse health outcomes such as readmission, functional disability, falls and death.<sup>6,7</sup> However, inpatient rehabilitation programs, especially those designed for older adults, have the potential to improve outcomes related to function, admission to nursing homes, and mortality.<sup>28</sup> In Italy, the number of older adults who appraised favorably their health increased significantly between admission and discharge from geriatric rehabilitation wards.<sup>29</sup> In our study, older adults who were hospitalized within the year preceding the survey were twice more likely to report poor SRH. Indeed, in Togo, most health practitioners are not trained to treat older adults and there are no geriatric wards, especially geriatric rehab departments. Further studies are needed to better document outcomes after hospital discharge in older adults in Togo.

While the literature abounds with studies on SRH and polypharmacy, only few have explored the association between herbal products and SRH among older adults whom consumption of herbal products is on the rise.<sup>11</sup> Contradictory results have been reported in the US. Arcury *et al.*, observed that older adults  $\geq 65$  years who rated their health as excellent were almost twice likely to report the use of herbal products<sup>30</sup> while Rashrash *et al.*, found no association between the use of herbal products and SRH.<sup>10</sup> In the present study, older adults who use herbal products were twice likely to report poor SRH. An

explanation could be that in Africa, people tend to self-medicate first, therefore delaying diagnosis and care for chronic conditions. Further studies are needed to clarify this relationship. This study has some limitations. In Togo, there is no geriatric setting where we could recruit older adults and recruitment in the community requires important logistical resources. Therefore, we cannot exclude selection bias with recruitment in pharmacies. Also, the study was not conducted in rural areas where older adults might face more socioeconomic hardship compared with their urban counterparts. Another limitation is the design of the survey, which is cross sectional. Thus, we cannot infer causality between the use of herbal products and SRH. Moreover, the study was solely conducted in the capital city of Lomé and the use of herbal products might be less frequent compared to rural regions. Despite these limitations, to our knowledge, this is the first study in sub-Saharan Africa that explored the association between the use of herbal products and SRH. In addition to that, there is a paucity of data on older adults' health in Togo, and findings from our study may be used as evidence to support the design and implementation of health policies for older adults in this country.

## Conclusions

SRH is an important and reliable indicator of overall health status in older adults. This first study on SRH in Togo showed a high prevalence of poor SRH among older adults with almost three out of five community living older adults reporting worse health. Poor SRH was found to be associated with female sex, age  $\geq 60$  years, osteoarthritis, hospitalization within the previous year, polypharmacy, and the use of herbal products.

With the growing number of older adults in Togo, more studies are needed to guide policymakers in their efforts to design and implement meaningful policies to improve older adults' health conditions.

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