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Perspectives of adolescent and young adults on poverty-related stressors: a qualitative study in Ghana, Malawi and Tanzania

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ABSTRACT

Objectives To define key stressors experienced and coping behaviours within poor agrarian communities in sub-Saharan Africa.

Design Descriptive qualitative study incorporating inductive thematic analysis.

Participants 81 participants purposely sampled, stratified by age (adolescents and young adults) and sex

Setting The study was conducted in villages in Ghana, Malawi, and Tanzania.

Results Stressors were thematically grouped into those directly related to poverty and the lack of basic necessities (eg, food insecurity), and additional stressors (eg, drought) that worsen poverty-related stress. Impacts on functioning, health and well-being and key coping behaviours, both positive and negative, were identified. The findings together inform a more nuanced view of stress within these contexts.

Conclusion Although participants were asked to provide general reflections about stress in their community, the salience of poverty-related stressors was ubiquitously reflected in respondents' responses. Poverty-related stressors affect development, well-being and gender-based violence. Future research should focus on interventions to alleviate poverty-related stress to achieve the United Nations Sustainable Development Goals.

Strengths and limitations of this study

- ► Interviews were conducted across three countries which enhance generalisability.
- ► Field work was conducted with support of local community leaders and experienced field-based researchers in the local context.
- ► Lack of familiarity with interview teams and a single interview may have contributed to participant reticence.
- ► Interviews only with younger participants limit generalisability to the entire community. Timing of the study did not consider environmental shocks, and this could have led to bias in the data

INTRODUCTION

Poverty is a key social determinant of population health.[1] Understanding the impact of poverty and poverty-related stressors is an important public health priority and critical to the 2030 Agenda for Sustainable Development. In low/middle-income countries (LMIC), stress is linked to non-communicable diseases including poorer mental health and diabetes,[2] and communicable diseases including sexually transmitted infections (STIs) and HIV.[3] At present, this literature relies on broad and non-specific measurement of stress (eg, perceived stress) and follows largely from theories developed in high-income country contexts. The current study describes key stressors in three sub-Saharan countries to sharpen the measurement of stress in these and similar contexts.

A stressor is an event or shock that evokes distress. Stressors are either acute (events that are time-limited, with clear onset/offset) or chronic (events that are less time-limited, and more open ended).[4] Chronic stressors in particular contribute to poor physical health. Biological evidence suggests that chronic stress wears down bodily systems and leads to deterioration and decline.[5 6] For children, neurocognitive development can be delayed or worsened.[7] Within LMIC, chronic poverty and low socioeconomic status are associated with higher levels of stress and poorer mental health.[8]

Prevailing stress theories are derived largely from high-income contexts and may not provide the most complete framework to understand stress globally and in non-Western LMIC countries in particular. The transactional stress theory defines stress as the experience of a stimulus as threatening and an appraisal of the degree to which this stimulus can be managed within a person's available coping repertoire.[9] This

model of stress has been critiqued as it suggests that appraisal (rather than objective reality) is central to the stress process. Others have argued that the possession of resources (eg, economic, material) determines whether a person can deal effectively with the demands of a stressor. According to the Conservation of Resources Theory, the ability to overcome stressors is predicated on the availability of needed resources that can be mobilised to overcome adverse events.[10] Further, losses and gains to resources are central to how a person experiences stress.

Within LMIC, chronic poverty largely shapes the availability of resources to mobilise and may set boundaries around adaptive coping processes.[11] Active and problem-focused coping strategies are associated with better health outcomes but are conditioned on the ability of a community to actively change aspects of their environment.[12 13] In contrast, avoidant coping, or emotion-focused coping, while less likely to alleviate the stressor directly, is often used when more active strategies are not possible. Within communities experiencing chronic poverty, these are often employed when environments cannot be changed.[14 15]

Communities cope with stressors by engaging in culturally meaningful strategies, to achieve goals and outcomes that are consonant with cultural values and norms. What constitutes a stressor and how it is experienced is a function of context and culture.[16] The cultural context largely influences the types of stressors encountered, the degree to which stressors are associated with distress, the coping strategies that are selected and different mechanisms available within the culture to cope (eg, social support). Some coping strategies may lead to additional disease burden. For example, poverty can lead to sexual risk-taking behaviours in service of resource acquisition. Studies demonstrate that lack of food, poor housing and healthcare is associated with riskier sex, including partner concurrency, condomless sex, and transactional sex.[17 18] These behaviours lead to increased risk of STIs and HIV.[3]

Limited qualitative inquiries have attempted to define stress and sources of stress in LMIC. It is important to identify types of stressors since this information helps to focus potential intervention pathways, increase measurement specificity and lead to a richer conceptualisation of the burden of stress in these communities. Studies designed to rapidly assess important community-defined problems within vulnerable populations (eg, conflict-affected) within LMIC suggest that key stressors are related to economic conditions and social relationships.[19 20] Limited research was conducted within rural agrarian settings in sub-Saharan African countries. The results from these investigations show poor education, healthcare and water and food scarcity as commonly reported.[21 22] Evidence also showed that food insecurity is closely linked to poor mental health.[23–25] Additional studies are needed which focuses on defining stress within LMIC, to inform the measurement of stress within these contexts, since stress is theorised as a critical mediating pathway through which cash transfer interventions are effective.[26 27]

We chose to qualitatively investigate descriptions of key stressors within poor, agrarian communities in three African countries: Ghana, Malawi, and Tanzania. Each of these communities experience chronic poverty and have national large-scale cash transfer programmes aimed at poverty alleviation.[28 29] This makes these ideal settings to gain insights into how communities conceptualise stress, which stressors are most salient within this context and which types of stressors are likely to be affected through poverty alleviation efforts. This descriptive qualitative study focused specifically on adolescents and young adults, which is the age range during which many mental health problems first manifest[30] and may affect transitions to adulthood.

These three communities are similar but different enough to aid in developing an understanding of stress that may generalise across multiple contexts. There are several contextual and historical factors about these contexts worth noting. First, the prevalence of girls married by the age of 18 in Ghana, Malawi and Tanzania was 21%, 42% and 31%.[31] Second, according to World Bank 2017 data, there are uneven secondary school completion rates, with 70%, 38% and 26% gross secondary school enrolments in Ghana, Malawi and Tanzania. Third, all three countries were previously governed by the British. They gained independence in: 1957 Ghana; 1964 Malawi; 1964 Tanzania (merger of Tanganyika and Zanzibar). In 2017, the World Bank ranked Malawi and Tanzania as lower income countries and Ghana as a lower middle-income country. Fourth, according to the World Bank, each country has large rural population: 45% Ghana, 83% Malawi and 67% Tanzania. Fifth, according to the World Bank Enterprise Surveys, each country has a large informal sector. In Ghana, Malawi and Tanzania, 69%, 72% and 73%, respectively, of firms compete against unregistered or informal firms.

The purpose of the current qualitative study was twofold. First, we aimed to investigate the intersection of poverty and chronic stress in order to identify key stressors associated with poverty. Second, we aimed to identify coping strategies used within this context to deal with these stressors. These aims articulate with UNICEF's plan to develop a context-specific stress assessment tool and within the aim to examine impacts of poverty alleviation programmes on stress (ie, cash transfers).

METHODS

Study design

This study was a descriptive qualitative study using in-depth interviews. In all countries, adults provided informed consent for their own participation and consent for

Table 1 Demographic information

Country	Age group	Male (n=41)	Female (n=40)
Tanzania (n=40)	Below 18 years old	n=10 M=16.80, SD=0.63	n=10 M=16.50, SD=0.85
	Above 18 years old	n=10 M=25.00, SD=3.89	n=10 M=21.90, SD=4.31
Malawi (n=20)	Below 18 years old	n=5 M=16.20, SD=1.10	n=5 M=15.80, SD=0.84
	Above 18 years old	n=5 M=20.60, SD=1.14	n=5 M=22.20, SD=3.03
Ghana (n=21)	Below 18 years old	n=6 M=15.67, SD=0.82	n=5 M=16.20, SD=0.84
	Above 18 years old	n=5 M=25.20, SD=3.35	n=5* M=23.00, SD=5.60

*One participant did not know her exact age.

interviews with minors. Minors (<18 years old) provided assent, following standard ethnical procedures.

Participants

The focus of the study was on rural areas in Tanzania, Ghana and Malawi. Participants were purposively sampled to ensure representation of stressors across sex and age strata (adolescent/adult) within each village. The age range for adolescents was from 15 to 18, and young adults were between 18 and 24. In Malawi, 20 in-depth interviews were conducted in Salima district from the Mkhwidzi Group Village Head in the Ndindi Traditional Authority. In Tanzania, 40 in-depth interviews were conducted in two rural villages of Kisarawe and Morogoro districts. In Ghana, 21 in-depth interviews were conducted in the Northern and Upper East regions. Survey firms were asked to select villages that were representatives of the rural population in the country based on economic conditions and population demographics. Within villages, senior village members assisted in recruitment by selecting interviewees by age and sex strata. All interviews took place in locations that protected participant privacy and increased the participant comfort in answering questions. See table 1 for an overview of age and sex strata by country.

Interviews

Data were collected using in-depth interviews by local teams skilled in qualitative data collection. Data collection took place in May 2017 in Ghana, January 2017 in Malawi and November 2016 in Tanzania. These teams came from REPOA in Tanzania, The Centre for Social Research at the University of Malawi and Navrongo Health Research Centre in Ghana. All data collected were anonymised. Transcripts were translated into English for analysis. These research teams were not known to community members before the interviews took place. Despite cultural similarity between interviewers and community members, some participants may have been disinclined to share their information since interviewers were unfamiliar to them. Interviewers were matched to interviewees by sex to mitigate bias in the interviews. There were no interactions between the study authors and participants.

Training and piloting for the current study took place over 4 days in each country (2 days for training and 1 day each for pilot and debriefing) by UNICEF Innocenti Office of Research technical staff (JdH, AP, LP). Trainings included a study overview, a refresher on qualitative methods and research ethics, discussions on each question in the interview guide, consent/assent processes and role playing. Modifications to help with the interview flow were made based on interviewer feedback. Interview guides were translated into the local languages (Dagbani and Gurune in Ghana, Chichewa in Malawi and Swahili in Tanzania).

An interview guide was developed which asked the following questions:

- Please name all of the various events (difficulties, stressors) that occur in people's lives in your community. Please focus on major or important events.
- Please name all of the various challenges (difficulties, stressors) that occur in people's lives in your community. Please focus on everyday challenges.
- Please name all of the problems related to poverty that people in your community experience.
- How do people deal with these most important challenges?

Participants were asked to report about their community of similar age peers rather than personal experiences, to reduce potential the concealment of stressors that may evoke embarrassment or stigma. For each event that was named, follow-up questions were asked about consequent behaviours, thoughts, emotions and coping mechanisms. These follow-up probes were decided during field training by the interviewers and applied during interviews using local languages. All interviews were recorded and transcribed first into the local language and then translated once into English.

Data analysis

Data were analysed with NVivo 11 Plus[32] using inductive qualitative thematic analysis following a six-phase process.[33] This method was chosen given the descriptive study aims. We analysed data from Tanzania first and then created a coding frame. We then analysed data from Malawi and then Ghana using the coding frame. We expanded the initial coding frame by including new codes derived from the Malawi and Ghana data. Analysis began with a process of immersion where each author read several transcripts from

the Tanzania interviews. We discussed the emerging themes together to develop the coding frame. The Tanzania transcripts were then re-analysed (data coding and finalising themes) by the first and second authors (BJH, MRG) using the coding frame, with regular discussions with the other authors for their comments and suggestions. For remaining Malawi and Ghana transcripts, we coded text that discussed stressors, impacts and coping strategies. We collated codes into themes, and when relevant, subthemes. We reviewed the themes vis-à-vis the coded extracts. This step involved refining existing themes, creating new themes and reviewing extracts to form coherent patterns until we reached a fitting thematic map of our data. Lastly, in our synthesis of the thematic analysis, we provided ample textual extracts balanced by themes, country and strata.

Patient and public involvement statement

Patients were not involved in this research.

RESULTS

We organise the results in a broad framework encompassing (1) stressors related to poverty and the lack of basic necessities, (2) additional stressors that worsen poverty-related stress, (3) impacts of these stressors on functioning, health and well-being and (4) coping strategies used by community members. Participants report stress related to the lack of basic necessities, which is due to income generation issues and poor community infrastructure and facilities. Additional stressors, including environmental stressors, safety, weak social capital, unintended pregnancy and death of a parent or guardian, worsened poverty-related stress. These stressors were linked to difficulties in daily functioning, health, well-being and education. Coping repertoires were bound due to constraints of poverty, and negative and positive coping behaviours were identified.

Poverty-related stress and the lack of basic necessities

Participants reported lacking basic necessities as key stressors, which is poverty-related. These stressors are presented in table 2.

The lack of food was a key issue mentioned. One participant said:

> About the food, it is a pity. I will look at my father, think and wish that I have money to buy enough food for us to eat in the house (Ghanaian, 17-year-old female).

Other necessities included school-related expenses (mentioned twice as often by younger participants), clothing and shoes, proper housing and medical care (mentioned almost twice as often by older participants).

They lack necessities due to limitations in income generation. Many have physically-demanding jobs that result in low and unstable revenues. This is illustrated in this excerpt:

> Farming is like gambling: you can get harvest or not get any. It is a game of chance. You spend a lot of money but end up getting nothing (Tanzanian, 20-year-old male).

Some women from rural areas of Ghana move to urban centres to work as porters in markets (ie, *kayayo*). Some community members in Malawi engage in short-term or casual jobs, called *ganyu*. These jobs include clearing others' land, carrying goods and mopping floors. They often receive in-kind compensation like food.

> Some when they feel they need to go to school still, they work hard on ganyu and other things (Malawian, 15-year-old female).

Lack of necessities is also due to poor community infrastructure and facilities, such as tractors and grinding mills for farming; public transportation; roads, markets and police stations, along with access to electricity and

Table 2 Lack of basic necessities and its causes

		Tanzania (n=40)		Malawi (n=20)		Ghana (n=21)	
Stressor	**Total (n=81)**		**%**		**%**		**%**
Lack of basic necessities	73	33	83	19	95	21	100
Food	70	31	78	19	95	20	95
School materials/fees	27	6	15	9	45	12	57
Clothing and shoes	26	6	15	11	55	9	43
Medical care	25	11	28	5	25	9	43
Housing	25	9	23	8	40	8	38
Water	20	6	15	2	10	12	57
Farming supplies	16	1	3	7	35	8	38
Causes of lack of basic necessities							
Income generation issues	74	34	85	20	100	20	95
Poor community infrastructure/facilities	50	25	63	11	55	14	67

Table 3 Stressors that exacerbate poverty

Stressor	Total (n=81)	Tanzania (n=40)		Malawi (n=20)		Ghana (n=21)	
		n	%	n	%	n	%
Environmental stressors	49	21	53	17	85	11	52
Security, safety and violence	44	31	78	10	50	3	14
Weak social capital	24	8	20	10	50	6	29
Unintended pregnancy	20	13	33	2	10	5	24
Death of a parent or guardian	12	8	20	4	20	0	0

water. Schools and hospitals are distant and at times inaccessible. One participant reported:

> Diseases, since they sometimes come in the middle of the night, we wait till morning to look for transportation (Malawian, 21-year-old male).

Additional stressors that exacerbate poverty-related stress

Additional stressors exacerbate poverty, making it more difficult to resolve problems (see table 3). These include environmental stressors; security, safety and violence; weak social capital; unintended pregnancy and death of parent or guardian. Negative coping also hinders stress reduction.

Environmental stressors

Environmental events were discussed, especially by Malawians and by male participants (31 vs 18 mentions). These events include extreme weather conditions such as drought and flooding.

> … when we farm and there happens to be flooding in that year, it will be difficult to get enough food especially maize as our staple food (Ghanaian, 16-year-old male).

There are land-related problems (ie, land of poor quality) and animal-related losses. Man-made losses occur when crop or bush-burning spreads before harvest, which destroy soil fertility.

> When he doesn't harvest on time and every other field around him is harvested, they burn the place and it finally affects the one left (Ghanaian, 17-year-old male).

Safety-related stressors

Participants mentioned physical assault, theft and intimate partner violence. Travelling long distances to get water makes people vulnerable to sexual assault. The young and women, in particular, are at risk of both physical and sexual assault:

> There is a man who hides and waits for girls who are going there to fetch water to rape them. When he sees a girl coming, he will call her and if she refuses, he will use cutlass [*a slashing sword*] to attack the girl … he attacked one girl and cut her fingers (Tanzanian, 16-year-old female).

Weak social capital

Living in impoverished communities translates to fewer chances of giving and receiving help from people who are already having a hard time meeting individual needs. Participants would rather prioritise their personal and familial needs.

> Everyone looks at their problems in their household, that even when they have a pail of flour, they cannot get and share. Helping each other stops because everyone does their own thing (Malawian, 21-year-old female).

Unintended pregnancy

School disruptions, difficulty finding employment and childcare expenses are associated with unintended pregnancy, which was mentioned more frequently by women than men (16 vs 4 times).

> … they get a boy who can give them money, they start dating the guy and eventually get pregnant. The problem is, if their parents had the money to take care of them, they wouldn't have followed the guy in the first place (Ghanaian, 19-year-old female).

Some women experience relational health problems due to arguments or abandonment by partners, family members, or peers, and they are targets of gossip in their community. Unintended pregnancy is also associated with mental health issues.

> The thoughts of why questions, why my husband has left me, wondering what is wrong with me, why life has to be this way, and for major challenges one just gets thoughts of, thinking of giving up and not knowing what to do. Start to think that everything has fallen apart (Tanzanian, 18-year-old female).

Death of parent or guardian

Death of parent or guardian results in loss of care and support. It is also associated with weight loss and headaches, mental health problems, and school discontinuation.

Table 4 Impacts on functioning, health and education

Stressor	Total (n=81)	Tanzania (n=40)		Malawi (n=20)		Ghana (n=21)	
		n	%	n	%	n	%
Daily functioning	40	12	30	13	65	15	71
Health	76	36	90	19	95	21	100
Mental health	69	29	73	19	95	21	100
Physical health	61	24	60	18	90	19	90
Relational health	58	26	65	15	75	17	81
Education	42	15	38	11	55	16	76

> Those without parents, they will be thinking how they can get food and sustain themselves. They face very difficult conditions, sometimes they sit down and cry (Tanzanian, 17-year-old female).

Impact on functioning, health and education

Lack of necessities, income generation issues and poor infrastructure and facilities make people vulnerable to more stressors impact daily functioning, health, well-being and educational opportunities (see table 4).

It becomes more difficult to work and be productive as lack of nourishment depletes energy, whereas poor infrastructure restricts mobility:

> If you did not eat how can you work? You would be there thinking about food and not about the work you are even supposed to do (Ghanaian, 28-year-old male).

Stress and work take a physical toll and signs of stress manifest by weight loss, looking unclean, not washing and appearing older. A participant said:

> … one gets affected and say, 'The way I am looking, do I look like a human being or what? What should I do to make myself look like the way my friends look?' (Malawian, 23-year-old female).

Poor infrastructure and lack of clean water lead to gastrointestinal diseases and vector-borne disease. Malnutrition and stunted growth occur due to lack of nourishment. High blood pressure also occurs, which may attribute to mental health problems. Accidents that lead to injuries, such as riding feeble carts to fetch water and driving *bodaboda* (motorcycle taxis common in East Africa) or bicycles, are common.

> You may have diarrhea, since you picked something bad to eat (Malawian, 21-year-old female).

In terms of well-being, the most common are feeling depressed and ashamed, which leads to withdrawal and isolation.

> Sometimes I feel like crying … I will be thinking about how my parents are not able to get my needs for me and tears will be dropping from my eyes (Ghanaian, 16-year-old female).

Others mentioned anxiety, worry and fear about meeting basic needs:

> You can get thin because of thinking too much … You think about the future and wonder if you will manage alright (Malawian, 17-year-old male).

Relational health is also affected. They displace the stress they experience to others. They do not socialise much because they have no money to spend, feel tired or sick, or are preoccupied with resolving or thinking about their problems:

> Sometimes you can come back home very angry because you have not succeeded to get money, you can quarrel and fight with your wife because you are very angry and don't like to talk to anybody including your wife (Tanzanian, 20-year-old male).
>
> One has to go to other communities to grind and if at the time you have to go to mill and there is any social event in the community, the person cannot attend both (Ghanaian, female (>18)).

Lastly, students find difficulty attending school and studying due to lack of supplies and distance needed to travel. There are students whose studies get disrupted because they work:

> … pupils absent themselves from going to school as they opt to work as laborers so that they can earn some money (Tanzanian, 17-year-old male).

Coping responses to stress

Negative and positive coping strategies were reported by participants

Negative coping

Poverty is also experienced in terms of constraints in availability or access to coping behaviours (see table 5). Some resort to risk-taking or relating poorly with others.

Risk-taking occurs through stealing to gain resources. Risk-taking also manifests through sexual behaviours. Unsafe or transactional sex and partner concurrency exposes women to unintended pregnancy or contracting STIs or HIV. Substance misuse as coping further diminishes finances and capacity to work, family neglect and intimate partner violence. It can lead to engagement in transactional sex or stealing to have money to buy drugs or alcohol.

Risk-taking was mentioned more frequently by Tanzania participants:

> Some engage in theft because they don't have anything to support their family … you can decide to steal some jackfruits and eat (Tanzanian, 17-year-old male).

Table 5 Negative and positive coping strategies

Coping strategy	Total (n=81)	Tanzania (n=40)		Malawi (n=20)		Ghana (n=21)	
		n	%	n	%	n	%
Negative coping	59	34	85	14	70	11	52
Risk-taking behaviours	52	34	85	10	50	8	38
Relating poorly	23	9	23	8	40	6	29
Positive coping	79	39	98	20	100	20	95
Problem-focused coping	70	33	83	19	95	18	86
Social coping	63	30	75	19	95	14	67
Spiritual coping	21	9	23	5	25	7	33
Preventive coping	18	16	40	2	10	0	0
Emotion-focused coping	13	8	20	4	20	1	5

> The girl was nine months pregnant but still sleeps with men so that she can have something to eat (Tanzanian, 17-year-old female).

Others abandon their family. Some abandon their partners who then become single parents, whereas children are left with relatives.

> Because you lack food, you suffer at home. Sometimes it's the wife who runs away from you, like, 'I'm gone,' because a person lacks food (Malawian, 19-year-old male).

Positive coping

Five positive coping responses were discussed by participants.

First is problem-focused coping, including working hard, starting a business or changing jobs. Included is planning for the future, like investing and saving money or crops; going to school or sending children to school; helping improve community infrastructure; finding additional employment and caring for their health.

> They go early to the bushes to handpick shea nuts before going to school … that is what they will sell to be able to buy some of those things (Ghanaian, 15-year-old male).

Second is social coping by providing help and advice to others, seeking help or opening up to others, improving relationships and paying off debts.

Third is spiritual coping by turning to God.

Fourth is preventive coping by avoiding problematic people, being cautious in public places, driving safely and avoiding risky behaviours.

Last is emotion-focused coping, by being positive, being persistent, and tolerating their situation.

> The person thinks deeply, like these things that I have found, they shouldn't elude me in a short time, no. So, the person works hard, with the intention of adding more to it (Malawian, 21-year-old male).

DISCUSSION

In this descriptive qualitative study, we contextualised key stressors, their consequences and coping behaviours within poor sub-Saharan African agrarian communities in Ghana, Malawi and Tanzania. The general framework that emerged from this study involved two main sources of stress—all related to poverty. This is notable as the interview questions did not specifically focus on poverty-related stressors. The first key stressor highlighted across settings was the lack of basic necessities, characterised by lacking basic needs and difficulty in income generation. This finding, ubiquitous across interviews, highlighted the degree to which economic conditions predominate the local conceptualisation of stress. The second source of stress were additional stressors that are associated with poverty and that exacerbate poverty-related stress. Poverty-related stressors were worsened by these additional downstream consequences of poverty and environmental concerns. Importantly, these findings suggest a feedback loop whereby stress leads to further stressors, which in turn can be exacerbated by poor coping. For example, food insecurity is worsened by drought, which lead to further precarity. The lack of needed resources to protect against the influence of drought (eg, loans) worsens stress. This is supported by the loss spiral concept in conservation of resources theory,[34] which states that losses to economic resources and other resources beget further losses. Stress related to poor weather conditions, poor education and safety and security, all intensify the impact of economic challenges such that there is a multiplicative effect of these other stressors on economic-related stressors. With regard to mental health in particular, previous reviews document the association between mental ill health and poverty.[8] In this study, poverty was associated with impacts on health status, along with educational and economic advancement opportunity.

Intimate partner violence was a key finding linked to poverty-related stress, and this is supported by national statistics. For example, in Ghana, 41% of women experience intimate partner violence in their lifetime, and rates were even higher (64%) among women in rural, poor households in northern Ghana, similar to the area where current sample comes from.[35 36] Further, in Malawi and Tanzania, 42% and 50% of ever-married women, respectively, have experienced physical, sexual or emotional intimate partner violence.[37 38]

Key coping processes were highlighted by participants. Negative coping strategies involved risk-taking behaviours including stealing and transactional sex. These lead to further stressors including STIs and unintended pregnancy, which sets up a continuing cycle of

resource depletion, stress and unsafe health practices. This is supported by previous research linking risky behaviours, STIs and poverty.[39] Engaging in avoidance coping included using alcohol and other drugs, which in turn led to relational health challenges and gender-based violence (GBV). These findings fit within a syndemic conceptualisation where substance abuse, violence and STIs are mutually enhancing and co-occur,[40] driven by poor economic conditions. Findings also highlight how adolescent girls often find themselves uniquely vulnerable to stressors related to the intersection of poverty and gender, including early pregnancy, school dropout and GBV.

Appraisals about the nature of stressors and available coping resources did not emerge in the community narratives, which did not lend support to the transactional stress model.[9] Rather, coping processes were described as bounded within the economic and resource constraints in the communities. Poverty restricts the coping repertoires available within the community.

Despite their challenging circumstances, participants also used healthy and positive coping strategies. Problem-focused coping strategies revolved largely around work, contingency planning for crop and other losses and caring for their health. Social networks were also an important source of coping support, but this resource is bounded by the availability of people who possess the capacity to provide the specific support needed.[41] Poverty drove partner and child abandonment, suggesting that when resources are lacking, familial and kinship network members are seen as a liability for survival.

The current findings have implications for intervention programmes within these contexts. Given the emergence of poverty as a key underlying factor, and linkages between health, stress and poverty,[8 42] cash transfer interventions are hypothesised to lead to reductions in stress; however, the empirical evidence is mixed.[26 43] While a study in Kenya did find that cash transfers reduced self-perceived stress (but not cortisol, a biological marker for stress),[44] two unconditional cash transfer programmes in Zambia were successful at reducing poverty but had no impacts on self-perceived stress.[26]

The current study should be viewed in light of several limitations. First, the study was not able to adequately differentiate between chronic and short-term stressors. All stressors were reported as chronic by study participants. This limits our understanding of how daily hassles interact to produce stress within the community. Second, since we were focused on describing stressors, caution should be exercised when viewing this data as it may present an overly negative portrayal of life within these communities. Third, the age range of our participants may not reflect the breadth of stressors experienced by older community members. Finally, we cannot rule out the possibility of seasonal variation in the salience of stressors experienced in these villages given their agrarian nature. We did ask about stressors throughout the year in order to mitigate this concern.

Our findings suggest that cash transfer and other poverty alleviation programmes could reduce mental health and physical health problems, particularly as they relate to those stressors that have direct relationships with poverty. This provides greater specificity for the pathways on which economic interventions are predicted to be effective. Poverty alleviation programmes may also promote resiliency, reducing the need for negative coping strategies in the face of shocks and non-poverty stressors such as droughts and floods.[45] However, despite their ability to mitigate the impacts of poverty and feedback loops related to coping, these programmes are unlikely to address structural factors related to poverty, such as lack of access to schools and quality health facilities, which were often mentioned by respondents.

The current study demonstrated a specific mix of stressors largely focused around poverty. Most stress studies in LMIC rely on the Perceived Stress Scale, which was validated among a largely educated populations in the USA and elsewhere[46] and was intended for use among people with at least a junior high school education level.[27] Outside this population, this scale may not capture important features of stress. Moreover, a new stress scale could be designed to be more specific about the sources of stress, which focuses on the levels of stress experienced in a community. Differentiation between poverty and non-poverty-related stressors enables a more nuanced view of the source and type of stressors experienced. Key aspects of income generation, food and water insecurity, relational factors and exposure to violence would be a specific measurement of stress within agrarian regions of African countries experiencing ongoing poverty.

In summary, we described stressors in rural, agrarian populations in sub-Saharan African and respondents' descriptions of how they experience and cope with these stressors. The salience of poverty-related stressors was reflected in these descriptions and suggests that stress should be considered in understanding pathways between poverty alleviation programmes and health and general well-being, and that adequate measures of stress may need to be further contextualised and adapted to these settings.

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Contributors BJH led the research design, qualitative analysis and wrote the first draft of the paper. MRG conducted the analysis, wrote the results and edited the paper for intellectual content. JdH jointly conceptualised the research with TMP, led the field data collection training, contributed to the analysis and edited the paper for intellectual content. AP collected data in the field, contributed to the analysis and edited the paper for intellectual content. LP collected data in the field, contributed to the analysis and edited the paper for intellectual content. TMP jointly conceptualised the research with JdH, supervised the project, contributed to the analysis, edited the paper for intellectual content and secured project funding. All authors approved the final paper for publication.

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