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Review

Identified needs of peripartum adolescents in Sub-Saharan Africa from 2013 to 2021: a mapping of domains for strengthening psychosocial interventions

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Abstract

Adolescent pregnancy and early motherhood pose significant socioeconomic and health risks in Sub-Saharan Africa, leading to considerable morbidity and mortality. To learn more about the needs of this population, we reviewed 24 articles featuring 21 samples covering 12,490 adolescents from 14 countries. Our coding revealed that adolescent mothers were studied more (85.7% of samples) than pregnant adolescents (61.9%). We summarized needs as per six categories. Resource needs were most prevalent, reported by 100% of samples, followed by ecology (85.7%), mental health (76.2%), medical (61.9%), other (61.9%), and education (33.3%). The most frequently reported resource needs were low income and unemployment. Low social support, low family functioning, and exposure to negative cultural norms were ecological needs prevalent in most samples. Among mental health concerns, depression was the most commonly reported problem, whereas other problems, such as anxiety, substance use, and suicidality, were reported much less frequently. HIV-positive status was the most frequently reported medical concern. Intervention developers should consider the range of challenges when designing psychosocial services for this population.

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Peripartum adolescents, Mental health needs, Evidence based interventions, Sub-Saharan Africa.

Abbreviations

SSA, Sub-Saharan Africa; HIV, Human Immunodeficiency Virus; SRHR, Sexual and Reproductive Health and Rights; DREAMS, Determined, Resilient, Empowered, AIDS-free, Mentored and Safe; PEPFAR, the U.S. President's Emergency Plan for AIDS Relief; LMICs, Lower and Middle Income Countries.

Introduction

The rates of pregnancy and early motherhood in girls ages 10–19 years in Sub-Saharan Africa (SSA) continue to be the highest in the world [42]. Niger tops the list at 203.60 births per 100,000 teenage women, followed by Mali (175.44), Angola (166.60), Mozambique (142.53), Guinea (141.67), Chad (137.17), Malawi (136.97), and Côte d'Ivoire (135.46) [44]. Early and unplanned pregnancies are associated with adverse maternal and child health outcomes, social stigma, mental health problems, as well as poor access to care and opportunities [43,45]. Multiple risk factors for unplanned pregnancy have been identified: low self-esteem; poor family relationships; parental discord; high food insecurity; HIV or other chronic medical conditions; being out of school; peer pressure; trading sex for money or other resources; pre-existing mental health problems; substance use/exposure to drugs; and poor Sexual and Reproductive Health and Rights (SRHR) information [22, 29, 30, 40]. These influences are likely bidirectional, given that poor mental and psychological well-being are associated with coercive sex and abuse from male partners, low or incorrect use of contraceptives, and low parental communication [22].

Despite these well-documented risks and vulnerabilities, there are few mental health and psychosocial interventions for pregnant and parenting adolescents [31]. In SSA, there are few trained mental health professionals, limited maternal health services, and high unmet service demands [25]. In considering

Keywords

solutions, SSA country researchers and program officers must balance the scope and reach of interventions with their implementation burden, using local evidence to identify gaps in services and programs [29, 30]. As such, surveying the full scope of intervention targets is an important first step to intervention prioritization and resource or service allocation [11].

We sought to better understand the prevalence and scope of concerns related to resources, family and social ecology, mental health services, medical services, education, and other problems in pregnant and parenting adolescents and young adults in SSA. The breadth of identified concerns in this population highlights the range of needed psychosocial intervention targets, findings that can inform the development of a sufficient service system along with education and training to adequately prepare the workforce [12].

Methodology

Inclusion and exclusion criteria

Studies examining mental health outcomes in pregnant and parenting adolescents, the majority of whom were younger than 24 years of age and from SSA were selected. Studies covering SRHR and HIV were included as well. Studies on nonpregnancy or motherhood samples were excluded; adolescent boys were excluded. In cross-sectional studies, samples with adolescents older than 18 years were excluded (see search terms and key definitions in the [Supplementary Material](#)).

Selection criteria and literature search

Our sample included 24 articles published between 2013 and 2021. When multiple articles included the same sample (e.g. using different study methodologies), they were coded as a single study sample and set of results. Four articles met this condition; thus, our final N included 21 study samples. We have provided a brief quality appraisal of these articles in [Table 1](#) (see description of quality appraisal domains in the [Supplementary Material](#)).

Quality	N	Articles
Poor (0–2)	0	
Borderline (3–5)	1	[1]
Appropriate (6–8)	23	[2, 4, 6, 7, 9, 14, 17–21, 23, 27–30, 32, 33, 35–39, 41]

Note. The article with borderline quality had fewer detailed descriptions of the problems and needs of the population.

Data coding

Coding was conducted using an amended version of the PracticeWise Clinical Coding System (PracticeWise, 2021), which summarizes the research literature as per multiple variables related to study design, sample characteristics, interventions, and results. The coding system focused on three sets of variables relevant to the aims of the current study: (1) study characteristics (i.e. design); (2) sample characteristics (e.g. ethnicity, age, maternal status, and locations); and (3) problems or concerns identified in the sample that could potentially be a target of intervention. Thirty-seven problem codes were used, which were grouped into the following six categories: ecology; education; medical; mental health; resources; and other. Problem codes were binary, such that if any participant reported a concern, the entire sample was coded as positive for that concern.

Some studies included participants who were not the primary focus of this review (i.e. pregnant and parenting adolescents and young adults; e.g. [28]). In those instances, we summarized the specific results when they were available; but otherwise, we coded the entire sample and results (e.g. [9]). Each article was coded independently by two coders, who were a postdoctoral fellow and a clinical-community psychology graduate student with training and professional experience using the PracticeWise Clinical Coding System. Each coder first coded four articles independently and then met to discuss amendments to the coding system. Coders then independently coded all articles with the new coding system. After independent coding, coders met to resolve discrepancies and produce a final set of coded data. Reliabilities for study and sample characteristics, as well as problem types, have been previously reported and shown to be good to excellent (i.e. kappas 0.66–1.00; [10]). The quality of included articles was also assessed by two independent coders who used a brief quality appraisal coding system). ICC estimates and their 95% confidence intervals were calculated using Statistical Package for the Social Sciences (SPSS) statistical package version 23 [24] based on a mean-rating, absolute-agreement, two-way mixed-effects model. Reliability for the quality coding was high (ICC [$k = 2$, model 3] = 0.97 (95% confidence interval: 0.92–0.98)). Only one study was found to be borderline as it did not adequately address adolescent characteristics or define mental health problem measurement and/or description domains.

Results

Study and sample characteristics

The most common study design was quantitative survey (41.7% of articles), whereas other study designs were much less common: focus groups (16.7%); interviews (16.7%); and combined focus group-interview (12.5%). Sample sizes ranged from 12 to 6791 (median = 76). The sample of studies included women between the ages of 10 and 40, with 17.4 as the median of the average

Table 2**Study (N = 24) and sample (N = 21) characteristics.**

Study characteristics	N	%
Design reported	24	100.0
Quantitative surveys	10	41.7
Focus groups	4	16.7
Interviews	4	16.7
Focus groups and interviews	3	12.5
Open trial	1	4.2
Quantitative surveys and interviews	1	4.2
Randomized controlled trial	1	4.2
Sample characteristics	N	%
Location reported	21	100.0
South Africa	7	33.3
Kenya	6	28.6
Ghana	3	14.3
Uganda	3	14.3
Niger	2	9.5
Nigeria	2	9.5
Angola	1	4.8
Burkina Faso	1	4.8
Burundi	1	4.8
Chad	1	4.8
Gambia	1	4.8
Mali	1	4.8
Mozambique	1	4.8
Swaziland	1	4.8
Education reported	16	76.2
Primary school	14	87.5
Secondary school	12	75.0
College/higher	4	25.0
No formal education	3	18.8
Maternal status reported	21	100.0
Mother	18	85.7
Pregnant	13	61.9
Other (e.g. ever pregnant)	2	9.5
Marital status reported	15	71.4
Married	11	73.3
Single	10	66.7
Cohabiting with partner	5	33.3
Other (e.g. separated, unmarried, and not cohabiting)	4	26.7
Living arrangement reported	12	57.1
Family of origin	9	75.0
Partner and partner's family	7	58.3
Alone	4	33.3
Homeless	1	8.3
Language reported	17	81.0
Swahili	4	23.5
Swati	4	23.5
Ga	3	17.6
Zulu	3	17.6
Xhosa	2	11.8
Ateso	1	5.9
Dholuo	1	5.9
Lugwere	1	5.9
Luo	1	5.9
Lusoga	1	5.9

Table 2 (continued)

Study characteristics	N	%
Maasai	1	5.9
Runyakitara	1	5.9
Shangaan	1	5.9
Tswana	1	5.9
Twi	1	5.9
Yoruba	1	5.9
Other local Kenyan languages	1	5.9

Note. The sum of location and language categories exceeds 100% because a study could include samples that were from more than one country and that could represent multiple languages.

ages. More than half of samples came from South Africa (33.3%) and Kenya (28.6%). Samples included adolescents and young adults who were already mothers (85.7%) or currently pregnant (61.9%). Samples included those who were married (73.3%) or single (66.7%). In addition, samples included those who lived with their families of origin (75.0%) or with their partner and partner's family (58.3%). Other study and sample characteristics are presented in [Table 2](#).

Problems

The six categories of problems coded across the 21 samples are shown in [Table 3](#). Problems related to having adequate resources were most common (reported by 100% of samples), followed by concerns related to the social or community ecology (85.7%), followed by mental health concerns (76.2%). Across samples, the specific problems that were most prevalent were income (reported by 85.7% of samples) and unemployment (76.2%), reflecting their ubiquity among this population. Among mental health concerns, depression (including feelings of shame and guilt) was by far the most common (71.4%), showing up in more than three times as many study samples as the next most common concern. Also notable was that the socioecological problems of limited social support, poor family functioning, and negative cultural norms for these teens and young adults were reported in more than 60% of samples. Among medical issues, samples reported that being HIV+ was important concern (57.1%). Problems coded in the 'other: other-risk' category included lack of support from a partner, no prior experience with contraception, exposure to substance users, and lack of knowledge about effective parenting.

Discussion

A range of challenges exist in SSA samples of adolescents and young adults who are pregnant or experiencing early motherhood. Mental health concerns were only the third most reported problem in our review, with material resource issues and family or community relationships (threats/adjustments in the family or community) being the top two commonly reported lived experiences. Our

Table 3**Presence of problems across the coded samples (N = 21).**

Problem	N	%
Resources	21	100.0
Low income	18	85.7
Unemployment	16	76.2
Food insecurity	10	47.6
Poor access to health-care services	9	42.9
Poor quality/negative experiences with health-care services	7	33.3
Poor access to education about reproductive/sexual health	7	33.3
Prostitution	6	28.6
Low mental health literacy	4	19.0
Treatment engagement	1	4.8
Ecology	18	85.7
Low social support	13	61.9
Family functioning	13	61.9
Negative cultural norms	13	61.9
Exposure to violence (physical and verbal)	12	57.1
Early sexual debut	8	38.1
Exposure to sexual abuse	7	33.3
Threat to be disowned	6	28.6
Removed from home	3	14.3
Exposure to other abuse	3	14.3
Positive cultural norms	2	9.5
Parental pathology	1	4.8
Mental health	16	76.2
Depressed mood	15	71.4
Anxiety	4	19.0
Substance abuse/substance use	4	19.0
Suicidality	4	19.0
Activity involvement	3	14.3
Grief	3	14.3
Traumatic stress	3	14.3
Self-injurious behavior	2	9.5
Willful misconduct/delinquency	2	9.5
Sleep disturbance	1	4.8
Low self-esteem	1	4.8
Medical	13	61.9
HIV-positive	12	57.1
Other medical issues	4	19.0
Education	7	33.3
Academic achievement	7	33.3
Other	13	61.9
Other risk	10	47.6
Peer/sibling conflict	2	9.5
Personal hygiene	1	4.8

observations are consistent with a recent systematic review showing that resources and ecological concerns such as rural residence, being out of school, marital history, no maternal or paternal education, and lack of parent to adolescent communication of SRHR were factors associated with early pregnancy [26].

Interventionists and researchers developing mental health solutions and services for this population should

have a broad awareness of the interrelated social, health, educational, economic, and cultural drivers associated with these populations. For example, although depression is highly prevalent (reported by 71% of the samples), psychosocial interventions designed to prioritize depression as a treatment target could be insufficient to help this population without additional supports or features to address coexisting social and ecological challenges. For example, additional resources might be needed for managing negative cultural experiences, exposure to violence, poor family functioning, poverty, or social ostracization owing to early pregnancy, all of which may be drivers of mental illness.

Some specific problems are more notable. About 57% of samples reported a concern related to HIV, and almost 85% of the samples reported concerns related to low income. Food insecurity, poor knowledge, and access to health-care services and discriminatory, and poor-quality care are serious impediments to the long-term well-being of this population. These social determinants also point toward the need for health systems strengthening measures including building community safety nets with a concomitant focus on infusing physical and mental health interventions with economic incentives such as cash transfers or educational subsidies [15]. Both intervention developers and researchers should seek to address social determinants that are common to pregnant and parenting adolescents [31].

Psychosocial intervention development in lower and middle-income countries has only recently embraced the multilevel approach to addressing systemic and cultural factors impacting these vulnerable populations [16]. There is a need for future research to illuminate the contextual realities associated with poor mental health, making culture, economic, and health disparities more visible when thinking about mental health interventions as well as knowing which facets of mental health treatments to adapt further [3].

In terms of the mental health needs of this population, depression was most identified as the chief concern given its prevalence. However, substance abuse, stigma, grief, injuries, and other psychological competencies such as self-efficacy, body image, and interpersonal and assertiveness skills are also relevant and poorly understood. Depression rarely occurs alone, thus addressing comorbidities and subsyndromal patterns that may intensify over time would be important to consider. In our coding, over 85% of studies focused on adolescent mothers compared with roughly 62% of studies that focused on pregnant adolescents. There is a need for future studies to consider whether different strategies and support systems are needed for pregnant vis-a-vis already parenting adolescents.

Our review identified very few randomized intervention trials, and this paucity of intervention research for pregnant and parenting adolescents in SSA thus warrants attention. More rigorous and adaptive research designs are needed to address ways of scaling up and sustaining interventions [5], given the complex needs of this population. Despite emerging programs like Partnership to reduce HIV/AIDS in adolescent girls and young women (DREAMS), funded by US Agency for International Development (USAID)/The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) [34,8], the integration of mental health and psychosocial interventions remains fragmented.

Services and research implications

High-quality services with universal health coverage need to be a priority. It is imperative that intervention developers, country-level adolescent health and mental health program managers, and decision-makers have a long-term vision to mitigate harmful intergenerational impact of the disempowerment and lack of formal supports for these adolescents [13]. Multisectoral coordination across sectors and researchers is needed to move the needle on achieving health equity for adolescents.

Limitations

Although we included studies involving samples of pregnant and parenting adolescents, some studies included additional individuals (e.g. parents or health providers of adolescents) who were not the primary focus of our review. A decision to exclude these studies from an already small sample of studies would have limited our coding and the strength and generalizability of the findings. Given that the focus of all studies was the experiences of pregnant and parenting adolescents, we believe that the inclusion of these studies did not unduly bias the results. From our quality appraisal, all but one article was found to have appropriate quality across critical domains, although there was room to improve design, analysis, and reporting of findings. We do think caution is still warranted, as the methodologies used by the different studies do not allow us to disentangle the perspectives of those who were not the primary focus of the review. Future research might examine the convergence of perspectives of adolescents with their caregivers or health providers to further enhance our understanding of the perceived needs of this population.

Conclusion

Our review helped identify a set of sociodemographic, ecological, and mental health characteristics of pregnant and parenting adolescents in SSA. We underscore the multiplicity of needs and domains of this demographic that mental health interventions need to consider. Our review points interventionists and researchers to the urgent need to develop more targeted psychosocial and

mental health interventions that can efficiently address these identified challenges.

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Conflict of interest statement

Nothing declared.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.copsyc.2021.12.003>.

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