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Insomnia in Africa: A Biopsychosocial and Public Health Perspective

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ABSTRACT

Insomnia in Africa is inseparable from the aforementioned issues and challenges, which in turn affect how sleep is understood, experienced, and constructed. The situation is further complicated by the fact that symptoms of insomnia tend to be quite prevalent in these populations, as they are suggested by survey data; however, such symptoms are still frequently regarded as normal and attributable to stress or other spiritual and social causes, thus leading to low rates of diagnosis and treatment [1]. Alongside the epidemic of insomnia, hyperarousal secondary to the situation most characterized by unemployment, food insecurity, gender, based violence and political instability is becoming a pervasive problem that particularly affects the female populations and the youth of Africa [2]. Moreover, insomnia is an Achilles heel for depression, anxiety, HIV infection, chronic pain, and cardiovascular diseases. These comorbidities in turn accelerate the cycle of poor sleep, poor health outcomes, and general well, being, thus deepening the relationship between them [3]. Regardless of these devastating outcomes, sleep health is relegated on the fringe of discussions on public health in Africa, reflected in the scarcity of research and lack of integration of screening protocols in the primary healthcare sector [4].

Solutions to this problem must not be confined to solely biomedical interventions as there is a need to act on multiple factors that contribute to it. Though one cannot deny the effectiveness of cognitive behavioural therapy for insomnia (CBT, I) and usage of pharmacological agents in the management of insomnia, the issue of access still represents a major obstacle due to the shortage of human resources, the high cost of services, and infrastructural limitations [5].

Keywords: Insomnia; Sleep disorders; Africa; Mental health; Public health; Social determinants of health

INTRODUCTION

In urban Africa, the loss of traditional environments that facilitated sleep has been hastened by factors such as overcrowded housing, shift work, lengthy commutes, noise pollution, and irregular access to electricity and safe sleeping conditions. These aggravators have a disproportionate impact on low, income urban populations and residents of informal settlements, where sleep is often highly fragmented and insufficient [6].

The increased use of smartphones and social media has, moreover, led to the alteration of circadian rhythms predominantly in adolescents and young adults, thereby resulting in increased sleep onset latency and night, time awakenings [7]. From a biopsychosocial standpoint, the prevalence of insomnia in Africa is indicative of the traumatic and stressful life experiences that have not been addressed and which psychosocial adversity has been accumulated, rather than the occurrence of isolated sleep pathology [2]. Consequently, poor

sleep is both a warning and a factor that deepens mental and physical health inequalities across the life span.

Insomnia, as a clinical condition, is poorly acknowledged in the healthcare systems of Africa where consultations are typically short and concentrate on acute infectious or somatic conditions. A considerable number of patients do not have the words or the conceptual framework to explain sleep disturbances, and therefore, they bring culturally meaningful idioms of distress like "thinking too much," bodily weakness, or spiritual imbalance [8].

Health workers, who might be insufficiently trained in sleep medicine, could give analgesics or sedatives to relieve symptoms without treating the underlying behavioral, psychological, or social factors of insomnia [9]. This, in turn, has resulted in the perpetuation of the disorder, functional decline, as well as a significant increase in the likelihood of depression, substance use, cardiovascular diseases, and diminished economic productivity [10]. Therefore, comprehending insomnia as a pathological entity and a sociologically shared experience is the crux of establishing well, effective, culturally respectful, and comprehensive, fare assessment and intervention methods across the whole African continent.

LITERATURE REVIEW

Epidemiology of insomnia in Africa

Population, based studies from sub, Saharan Africa and North Africa reveal that symptoms of insomnia have become the most common issues of sleep in the populations where poverty, conflict, and the burden of chronic diseases dominate. The prevalence of insomnia has been documented more frequently in females, the elderly, HIV, positive individuals, and the deprived groups, e.g., those who are unemployed or are lacking in food, thus demonstrating how social determinants affect sleep health [1,2]. People living in urban areas have been found to have consistently worse sleep than those living in rural areas; this difference has been explained by the presence of environmental noise, overcrowding, shift work, and also psychosocial stressors that accompany urban life [6]. Adolescents and young adults have become the most vulnerable groups of people, with the increase in insomnia being attributed to academic pressure, digital media use, and the uncertainty of getting a job [7]. On top of these facts, insomnia is still not very much talked about in national health surveys which lead to underestimating the extent to which it affects the population [4].

DISCUSSION

Sleep epidemiology in Africa is further complicated by methodological challenges, as the majority of studies are based on self, reported measures. These measures, which were developed in high, income countries, have limited cultural validation. Sleep problems may be influenced by linguistic differences, limited health literacy, and culturally unique expressions of distress. Consequently, these factors may affect the manner in which sleep problems are reported and understood, thereby leading to biased prevalence estimates [8].

The majority of the current literature relies on cross, sectional study designs, which hinder the elucidation of causal pathways and long, term effects of insomnia [3]. There is an urgent need for longitudinal, multi, country studies employing culturally adapted instruments to assess sleep duration, quality, and functional impairment in diverse African populations. Enhancing sleep epidemiology through local research capacity, regional collaboration, and integration into existing health surveillance systems is crucial for facilitating evidence, based policy and intervention planning [4,11]. In particular, urban dwellers suffer from extremely high rates of insomnia as a result of overcrowding, noise pollution, informal housing, crime, induced vigilance, and irregular work schedules. Women, older adults, healthcare workers, and individuals living with chronic illnesses are the groups that have been identified as being affected to a great extent (Figure 1).

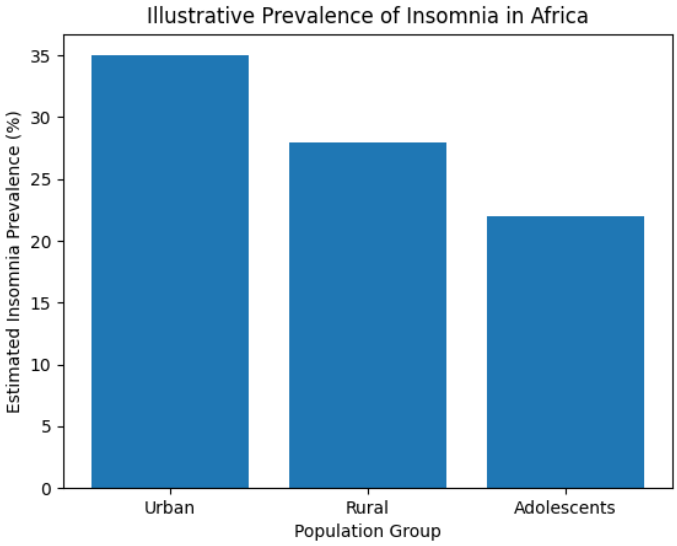

Figure 1: Illustrative prevalence of Insomnia in Africa.

Causes and risk factors

Within African contexts, biological vulnerability to insomnia is often aggravated by the presence of co, morbid physical health conditions such as HIV, tuberculosis, chronic pain disorders, and cardiovascular disease, all of which disrupt sleepwake regulation and increase nocturnal arousal [1,10]. The prolonged release of stress hormones, especially cortisol, changes circadian rhythms and interferes with sleep continuity, thus a cycle of fatigue, immune suppression, and emotional dysregulation is perpetuated [12].

Deficiencies in nutrition and irregular meal patterns associated with food insecurity may also impact neurotransmitter synthesis and sleep quality, particularly in the populations of children and older adults [2]. These biological stressors seldom come apart from each other, but rather they interact complexly with psychological and social adversity to result in persistent and treatment, resistant insomnia.

Insomnia that is psychologically rooted in African populations may be held in these populations by erroneous cognitive and behavioural patterns that have been influenced by a continuous state of uncertainty and trauma. Constant thinking about how to survive financially, taking care of the family, and being exposed to violence all keep a person's mind very active at night and hence the person delays going to sleep and also increases the number of times he/she wakes up during the night [6]. Emotional disclosure is a cultural norm that is discouraged by many cultures and hence people may tend to internalise their distress thus increasing rumination and anxiety related to sleep [8].

Poor housing, overcrowding, noise, and living in unsafe neighbourhoods are some of the factors at the socio, environmental level that have an impact on sleep as they make conditions for sleep that is refreshing impossible [8]. Working in shifts in informal and service sectors, especially low, income workers, separates them from the natural sleep, wake cycle making them circadian rhythmally misaligned further deepening social sleep health inequalities. Hence, it is necessary that proper treatment of insomnia includes interventions which are integrated that they accomplish simultaneously targeting neurobiological regulation, psychological resilience, and structural determinants of well, being [11] (Table 1).

Table 1: Key Risk factors for Insomnia in Africa.

Category	Examples	Key References
Biological	HIV, TB, chronic pain	Peltzer & Pengpid (2019)
Psychological	Stress, trauma, rumination	Kagee et al. (2020)
Social	Poverty, overcrowding, shift work	WHO (2022)

Consequences of insomnia

In various parts of Africa, the adverse physiological impacts of chronic insomnia are commonly aggravated by the scarcity of preventive healthcare and the late diagnosis of non, communicable diseases. Extended sleep deprivation changes metabolic and inflammatory pathways, and these changes are the main causes of poor glycaemic control, high blood pressure, and reduced immune resistance against infectious diseases such as tuberculosis and HIV, and related opportunistic infections [13,14]. Insomnia in an elderly population fuels the worsening of the functional decline, frailty, and cognitive impairment. Consequently, this leads to a greater dependence on family and community care systems which are already overstrained [10].

Chronic insomnia, in a case of women, particularly in pregnancy and lactation period, is associated with adverse maternal mental health outcomes and decreased caregiving capacity, which, in turn, causes intergenerational effects on the child's growth [2]. These health effects serve as examples of how insomnia escalates the existing vulnerabilities at different stages of the life course.

The societal and economic consequences of insomnia in Africa go beyond individual suffering and end up undermining national development goals. Fatigue, related errors are a major cause of occupational injuries in the sectors of mining, construction, transport, and healthcare, which are most at risk and where staff shortages and long shifts are common [15]. Sleep, related cognitive impairment in students has a negative effect on learning, school retention, and human capital development, thus creating a vicious cycle of poverty and inequality that persists [16].

On a macroeconomic level, the lowered productivity, absenteeism, and increased use of healthcare services place a heavy financial burden on low, and middle, income countries, where social protection systems are weak [11]. Insomnia, however, is still a neglected problem in policy discourse despite these costs, which is why there is an urgent need to acknowledge sleep health as one of the factors determining economic resilience and social well, being [4] (Table 2).

Table 2: Health, social, and economic consequences of chronic Insomnia in Africa.

Domain	Consequences	Supporting Evidence
Health	Depression, cardiovascular disease, immune suppression	Buysse (2013); Irwin (2015)
Social	Family strain, caregiving burden, reduced quality of life	Lund et al. (2018)
Economic	Reduced productivity, absenteeism, workplace accidents	Patel et al. (2018)

Management and interventions

In African health systems, the deployment of CBT, I is limited due to factors such as a lack of specialist training, high patient, to, provider ratios, and the predominance of acute and infectious conditions being addressed in primary care settings. Consequently, insomnia is most often treated by the use of short, term sedative medication, which may alleviate symptoms for a short period but has the potential to cause dependence, tolerance, and rebound insomnia, especially in situations where there is limited monitoring [17].

The use of task, shifting strategies in which nurses, community health workers, or lay counsellors are trained to deliver simplified CBT, I components, have been found to be effective in addressing common mental health conditions and may provide a viable way of extending insomnia care [18]. Furthermore, the use of digital CBT, I platform via mobile phones may also be feasible considering the widespread mobile technology across Africa. However, the issues of digital literacy and data access need to be resolved before the implementation of this program [5].

Prevention and early intervention ought to be population level measures that not only address sleep hygiene, stress management, and physical activity but are also accompanied by formal clinical interventions. Compliance with behavioural sleep recommendations can be improved through culturally tailored psychoeducation that is in accordance with local beliefs regarding rest, spirituality and communal living [8]. Collaboration with traditional healers and faith leaders might help to ease the pathways to referral and reduce stigma if such partnerships are founded on ethical practice and mutual respect [11].

Community integrative care models that incorporate not only biomedical evidence but also indigenous knowledge systems are more likely to resonate with community values and to have a positive influence on help, seeking behaviour. Therefore, strengthening policy support, workforce training, and research on culturally responsive interventions for insomnia is a

prerequisite for being able to close the treatment gap in Africa [19,20].

Policy Implications and future directions

Embedding sleep health into national public health priorities would allow African governments to consider insomnia not only as a preventive and therapeutic priority but also as a symptom that rarely presents itself in isolation [21]. The adoption of sleep indicators in current non, communicable disease surveillance systems would lead to the early detection of populations at risk and provide a more accurate measure of the social burden of poor sleep [4].

Equipping primary healthcare workers with the skills to regularly identify through short and culturally adapted instruments the presence of insomnia in patients would be a strategy that could enable timely treatment and thus, have a considerable impact in halting the progression of chronic mental and physical health conditions [9].

This integration would also open the door to collaborative efforts between various sectors such as health, education, labour, and housing, which are aware that good sleep is the result of social and environmental policies [11,22]. Therefore, the consolidation of political will towards sleep health is the key to open the door to fair and lasting health improvements throughout the continent (Figure 2).

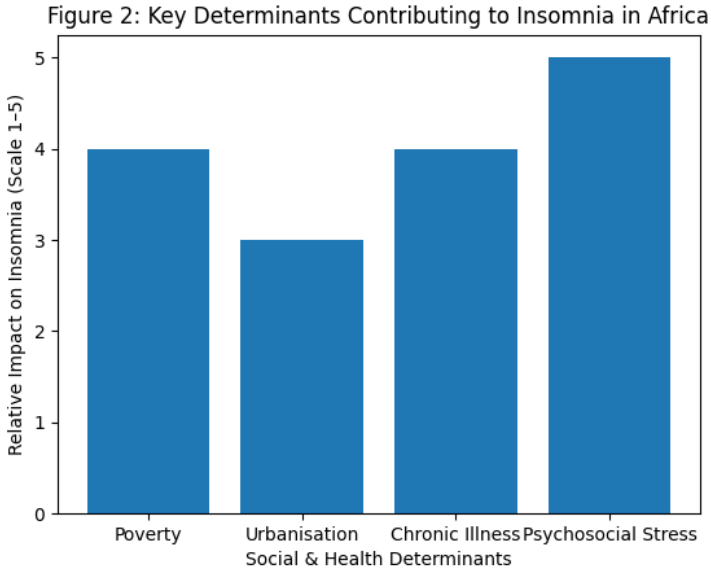

Figure 2: Key determinants contributing to Insomnia in Africa.

CONCLUSION

Insomnia in Africa is a public health challenge that is not only complex but also deeply rooted. The issue goes beyond the scope of individual pathology and is a reflection of the structural, social, and psychological hardships that characterize the region. The paper demonstrates that sleep disturbance is a phenomenon that is closely linked to poverty, urbanization, gender inequality, the burden of chronic diseases, and exposure to persistent stress and trauma. These factors, in a collective way, determine the experience, understanding, and treatment of insomnia in different African contexts, which in turn makes it often difficult for standard biomedical interventions to have single, agent efficacy.

The reviewed literature shows that insomnia is a cause of, and a result, of impaired mental and physical health, thus, leading to further vulnerabilities in the life course. Even so, sleep health has been given little attention in health policy and clinical practice in African countries, despite its enormous effect on wellbeing, productivity, and national development. The lack of culturally appropriate tools for assessment, limited epidemiological surveillance, and restricted access to evidence, based treatments such as CBT, I, are some of the reasons for the treatment gap, and thus, the perpetuation of health inequalities.

Addressing insomnia in Africa calls for a paradigm shift to an integrated biopsychosocial and public health approach. It involves incorporating sleep health into non, communicable disease strategies,

enhancing primary healthcare capacity, broadening task, shifted and digital interventions, and establishing respectful collaboration with traditional and community, based systems of care. Seeing sleep as a basic determinant of health and social wellbeing, policymakers, researchers, and practitioners are able to move forward fairer, culturally appropriate, and lasting solutions that help to increase population health throughout the continent.

DECLARATIONS

Conflict of interest

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The author contributed to the conception, design, analysis, interpretation, and writing of this manuscript.

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Declaration of interest

The authors declare no conflicts of interest related to this work.

Availability of data and materials

All data generated or analysed during this study are included in this published article.

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