

(Research Article)

# Quality of Life and Self-Reported Common Mental Disorders: An Analysis of Patterns and Relationships in Ibadan Metropolis, Nigeria

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**Abstract:** Quality of life (QoL) is a major measure of health and wellbeing. Studies that have examined the quality of life of urban residents from a geographical view in developing countries are still emerging. This present study examines the relationship between urban residents' quality of life and its relationship with self-reported common mental disorders. The cross-sectional survey approach which entails data collection from 1200 respondents in Ibadan city, Nigeria. WHO-5 and SRQ-20 scales were adapted to obtain information on quality of life and self-reported common mental disorders respectively. Descriptive and inferential statistics were employed to establish associations and analysis were carried out at 0.05 significance-level. The spatial pattern of quality of life was found to be random although there are pockets of poor quality of life. Quality of life was found to be negatively related to self-reported common mental disorders ( $R = -0.396$ ). The urban ecological conditions of the study area indicate poor quality of life and this may be responsible for the increasing risk of common mental disorders in the city. The study concludes that common mental disorders exist in the urban settings and its occurrence is closely related to poor quality of life.

**Implications:** This study adds to knowledge by establishing the relationship that exists in between quality of life and self-reported common mental disorders among urban residents. There is a need for interventions by different urban managers to consciously address issues relating to the quality of life of urban residents as can either ameliorate or exacerbate mental health.

**Keywords:** Urban population; Residents; Self-reported; Environments; Well-being

## 1. Introduction

Quality of Life (QoL) is an indicator of population health and wellbeing. The World Health Organization defines Quality of Life (WHOQOL) as a comprehensive concept that involves not only physical health but also psychological state, level of independence, social relationships, personal beliefs and other characteristics involved in the environment of the individual. It also includes a system of values involving goals, expectations, standards and worries. Among the myriads of problems facing urban residents, mental health problems constitute a major proportion due to the ecology of the urban environment.

In many Low- and Middle-Income Cities (LMICs), liveability is a significant problem, and the issue of urban residents' quality of life is crucial. Liveability has been used in number of contexts such as in the field of planning, community development, transportation and resilience. However, the concept of liveability is generally associated with urbanization and includes well-developed infrastructure, increased opportunities in the society for publicly available healthcare, jobs of diverse disciplines denote liveable surroundings (Tennakoon and Kulatunga, 2019). The use of the concept of liveability in this paper generally boards on the local socio-economic status and overall health of residents in urban areas.

Some studies have looked at the quality of life of urban people in LMICs, but there is still much to learn about this subject. The difficulties of liveability in LMICs are caused by a number of reasons, including fast urbanization, poor infrastructure and services, and restricted access to resources like healthcare, education, and jobs. The quality of life of urban people, particularly those who are poor, can be significantly impacted by these difficulties.

Multidisciplinary approaches become necessary to better understand the quality of life of urban residents in LMICs. In most of the cities in LMICs, the challenge of liveability is a major one which brings the issue of the quality of life of urban residents to the fore. Studies that have examined the quality of life of urban populations in LMICs from geographical perspectives, especially in Nigerian cities are little. While some studies such as Akinyemi *et al.*, (2012) considered the quality of life of adult population, the study context was a sub-urban community in South-West Nigeria. Nantomah *et al.*, (2021) examined the psychological quality of life of older people in selected districts in Ghana. However, there is still a lot yet to be understood about the QoL of urban populations.

In Africa, urbanization is increasing rapidly with the urban population increasing from 14.5% to 32% between 1950 and 1990 (Antoine, 1995). Nigeria contains some of Africa's oldest and newest cities, with five of the 30 largest urban settlements on the continent, and is estimated to have the biggest urban population on the continent (Fox *et al.*, 2018). The rate of urbanization in Nigeria is rapid and haphazard. Like most urban areas in LMICs, Nigerian cities are usually not planned and the impact of the urban spread can be very chaotic. The problems of overcrowding, inadequate infrastructure, housing deficit, poor transport systems, rural-urban migration and high crime rate to mention a few daily bedevil the residents of Nigerian cities. The number of people residing in informal settlements in sub-Saharan Africa is over 60% (UN-Habitat, 2004).

Urban residents have a lot of social-economic stressors to contend with daily and these stressors have serious debilitating effects on the quality of life in different magnitudes. Adequate understanding of the quality of life of the urban population will be of immense importance to health and urban planning. Though, a lot of studies have attempted to examine the various factors that affect QoL (Akinyemi *et al.*, 2012), QoL of older people living in slums (Attafuah, 2021), QoL among patients with different physical health conditions (tuberculosis, HIV/AIDs etc), the general aim of this study is first, to describe the patterns of QoL and secondly, examine the relationship between QoL and Self-Reported Common Mental Disorders (CMDs) in an urban population. This study was therefore designed to understand the patterns of quality of life (QoL) and its relationship with self-reported CMDs in an urban setting with a view to making recommendations for policy implementation.

### Statement of Problem

The problems associated with city living are intricate and varied. It is crucial to acknowledge the advantages that cities can provide, even while it is true that urban areas can be connected to stress and detrimental societal conditions. Cities often provide easier access to services and amenities like healthcare, education, jobs and lots more. It is crucial to understand that cultural and systemic concerns like poverty, prejudice, and inequality frequently contribute to the problems that urban residents face. The effect of the urban environment on health appears in many folds.

Many studies have examined different ways in which the urban environment affects both physical and mental health of urban residents (Srivastava, 2009; Bonnel *et al.*, 2022; Kanning *et al.*, 2023). Majorly, the effect of urban residence on physical health is linked to exposure to the risks of infectious diseases and injuries often associated with poor sanitation, unsafe drinking water, heaps of solid waste, dangerous roads, polluted air, and toxic wastes (Aliyu and Amadu, 2017). Higher mental illness and unhappiness rates in cities may result largely from the concentration of people with elevated risk factors, such as poverty, disability and minority status. The higher concentration of these populations is due to the fact that cities attract different categories of people especially those seeking economic opportunities and services (Litman, 2017). The extent to which the urban environment affects mental health conditions in the cities of developing countries like Nigeria has not received much attention (Gong *et al.*, 2016).

However, not many studies have examined how the urban environment affects quality of life and consequently the relationship between quality of life and self-reported common

mental disorders (Al-Qawasmi *et al.*, 2021; Stangierska *et al.*, 2022). Deeper insights into the relationship between the built environment and quality of life in cities can play a catalytic role in shaping present and future urban development (Mouratidis, 2021). Further, the knowledge of geographic patterns is important in the study of different phenomenon and not many studies have really explored this.

### Conceptual Framework and Literature Review

Research interest in urban health birthed the concepts of the "*urban living conditions*", "*urban health penalty*" and "*urban health advantage*" (Wasylenki, 2001; Vlahov *et al.*, 2005; Freudenberg, 2005). These frameworks have proven to foster the understanding of the impact of city living on health. The *urban living condition* is an attempt to examine the interacting factors that shape the urban living conditions that determine the health of urban residents. The determinants of urban well-being continue to grow in importance as the effects of different indicators of living conditions on well-being continues to gain prominence. Living conditions such as quality of and access to nature (greenspaces), quality of housing, quality of public goods (i.e., water, air, and sewage systems) have the strongest associations with wellbeing of urban residents (Ruger *et al.*, 2023).

The concept of "*urban health advantage*" emphasizes the special resources and protective effects of cities on its residents. Urban environments play an essential role in shaping human health and wellbeing. Proponents of this school of thought believes that the urban environment as well as the process of urbanization presents various opportunities in terms of health and economic benefits, that positively shapes the quality of life and health of urban residents compared to the residents of other places (Vlahov *et al.*, 2005; Zhu *et al.*, 2021). Residential location has been shown to significantly impact mental health, with individuals in rural communities experiencing poorer mental health compared to those in urban areas (Cortina and Hardin, 2023)

While the foregoing may be true of the cities of the developed countries; it is not very clear if the cities in the developing countries present similar opportunities. The last concept, is the "*urban health penalty*" approach which posits that cities concentrate poor people and expose residents to unhealthy environments leading to a disproportionate burden of poor health, especially in what some have called "inner cities" (Zhu *et al.*, 2021). This concept explains the adverse effects of unplanned urbanization in terms of social and environmental health impacts, which hit the poorest and most vulnerable the hardest. The relevance of these three concepts to this study of quality of life and self-reported CMD cannot be overemphasized especially in the context of the study; an urban setting. The concepts explain the experiences of most urban residents in Nigerian cities as and by extension, the cities of other developing countries.

Senecal (2002) added that other aspects that may be used to identify quality of life include aesthetic value, satisfaction with one's home, and patterns of governance and there are also issues of perception that take into account people's experiences in the city, the routes they travel, and the sensory quality of their surroundings. Nowadays, cities have become the target of quality of life measurement since there exist differences in technological development and social progress. Indeed, the process of urban planning and management is aimed at raising quality of life, especially with regard to improvement of facilities and services that fulfil socio-economic needs such as education, health, housing, entertainment, and safety (Discoli, *et al.*, 2006).

Boelhouwer and Noll (2014) identified objective indicators as a measure of factual situation (e.g., the size of the house someone lives in), whereas subjective indicators are about an evaluation of that situation (e.g., how satisfied one is). Lam (2010) defined subjective QOL as a standard health outcome most especially for people with multiple, chronic, functional, psychological, or incurable illnesses. Also, often referred to as subjective well-being, which comprises life satisfaction (i.e. contentment with life overall), emotional well-being (also called affect or hedonic well-being), and eudaimonia (i.e. self-actualization and meaning in life). Subjective well-being has become a reliable and scientific way to measure quality of life (Diener, Oishi, & Tay, 2018; OECD, 2013).

According to the International Encyclopaedia of Public Health, (2008), Quality of life (QOL) is defined by the World Health Organization as 'individuals' perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns'. Skevington (2007) noted that earlier definitions of Quality of life contained terminological similarities to definitions of stress but has now become a key concept of contemporary health care and is often

confused with standard of living even though the later only refers to the possession of wealth or material goods. The factors of health status changes, social interactions, attitude toward life are fundamental to the understanding of quality of life concept.

In a study carried out in Ethiopia, Desalegn *et al.*, (2020) examined quality of life and its association with psychiatric symptoms and socio-demographic characteristics among schizophrenia patients and found that the respondents that scored the lowest in the social relationships domain of quality of life had socio-economic factors like being divorced, no formal education, age, and rural residency as key explanatory factors. The study of Ajiboye and Tanga (2017) showed that respondents with low level of life stressors reported higher scores on quality of life. The quality of life among rural dwellers was found to be significantly related to demographic characteristics (age, gender, marital status) and rural life stressors.

The findings of Otache *et al.*, (2022) on health-related quality of life among people with onchocerciasis showed that the illness tampers with the socio-economic and psychological wellbeing of infected persons and that limited studies exist on the health-related quality of life in people living with onchocerciasis.

Nantomah *et al.*, (2021) examined the Psychological Health Quality of Life (PHQoL) of older people with disability in some districts in Ghana. Whilst identifying some key social factors, the study found that those that had physical disabilities also had a higher mean score in Psychological Health Quality of Life than those with visual disabilities. The study advocates for geriatric policy interventions to improve the PHQoL of older people with disability. For Eni and Abua (2014), urban renewal projects positively impact quality of life of urban residents and this was demonstrated in the city of Calabar where the study was carried out.

Akinboro *et al.*, (2014), examined the quality of life (QOL) of people living with HIV/AIDS (PLWHA). The QOL was assessed using the World Health Organization Quality of Life Questionnaire for HIV-Brief Version (WHOQOL-BREF). This cross-sectional study selected 491 individuals; PLWHA aged  $\geq 18$  years. The results showed that the lowest mean QOL scores were recorded in the environment and social domains. Participants aged  $\geq 40$  years had better QOL in the environment and spirituality domains and those in relationships had better QOL in the social relationship domain. The participants with AIDS had significant lower QOL in the independence domain. Also, those without tuberculosis co-infection and those on antiretroviral therapy (ART) reported significantly better QOL in the physical, psychological, level of independence and spirituality domains.

In addition, Adeyeye *et al.*, (2014) observed that there is a paucity of information on the quality of life of patients with pulmonary tuberculosis in Lagos, Nigeria. Their study assessed the factors influencing the quality of life and the independent predictors of low quality of life scores among 260 patients with pulmonary tuberculosis. The result showed that the socio-demographic characteristics (low monthly income, unemployment, advancing age and male gender) of the patients were related to the various domains of quality of life of patients with tuberculosis and are predictive of poor scores. This study did not take cognisance of the urban determinants even though the study was carried out in a city.

While examining personal wellbeing among health professionals who have been observed to be a high-risk group in Nigeria especially when it comes to stress, burnout, and lower levels of wellbeing; Awosoga *et al.*, (2022) found out that more than half of health professionals reported poor quality of work life, quality of life and personal wellbeing and were mostly influenced by personal and work-related factors such as age, gender, designation, and work volume.

The study of Wokekoro and Owei (2014) reveals that residential quality of life in planned areas in Port Harcourt Municipality showed the absence of street lighting and the rampant occurrence of flood in the neighbourhoods. The study discovered that the improvement of conditions was important in raising residential quality of life. Thus, the need for provision of public services.

## 2. Methods

### Study Area



2007; Kessing *et al.*, 2006; Barua and Kar, 2010 and Momtaza *et al.*, 2011). Based on the above established studies, a score of less than 13 on the WHO-5 scale depicts poor QoL while a score above 13 can be interpreted as positive/good QoL. The total raw score of the 5 answers ranging 0 to 25. The score of 0 represents worst possible well-being and the score of 25 represents the best possible well-being.

Common mental disorders - CMDs are psychic distresses that include the groups of anxiety, depressive, and substance abuse disorders (mainly alcohol) which is often as significant as that seen in well-established psychiatric conditions (WHO, 2001). SRQ-20 was used to screen for self-reported CMDs. The SRQ-20 is an instrument with twenty simple to understand items which question respondents about symptoms and problems likely to be present in those with neurotic disorder. It includes binary (yes/no) questions only, with codes "1" which represents the presence of a symptom, and "0" if the symptom is absent. The SRQ-20 item questions reflect depression, anxiety and psychosomatic complaints, which are all together, grouped under the CMDs and have been found to detect probable cases of it with satisfactory accuracy. It has earlier been validated in Nigeria by other studies in medicine, epidemiology and public health. For instance, Adebowale and James, (2018) determined the prevalence, patterns and relationship between psychoactive substance use risk severity and psychiatric morbidity. Ola, Crabb, Tayo, Ware, Dhar and Krishnadas, (2011) adopted SRQ-20 to examine the determinants of antenatal mental disorder in West Africa. Also, in Nigeria, the study of Osasona *et al.*, (2015) used SRQ-20; thus affirming the adaptation of this tool to the Nigerian context historically. The tool has also been used in so many African countries like Ethiopia, South Africa and also in South American countries like Brazil and Mexico (Parreira *et al.*, 2017). It has acceptable levels of reliability and validity across different settings and is recommended by the WHO as a suitable instrument for screening CMDs (Ali *et al.*, 2016).

The study employed quantitative methods of correlation analysis and GIS analysis for spatial pattern analysis. Global Moran's I was employed to determine if any form of clustering exists in the datasets.

The ethical approval for this study was granted by the Social Sciences and Humanities ethics review committee (SSHREC) of the University of Ibadan with assigned number UI/SSHEC/2017/0012. In the course of the survey, respondents were assured of the confidentiality of the information gathered and that the study will in no way inflict any harm on the respondents. No respondent was forced to participate in this study.

### 3. Results

#### 3.1.1 Socio-Economic Characteristics

The socio-economic and demographic characteristics of the study sample which is made up of 52.3% male, predominantly Yoruba (84.6%) and married (94%). 74% of the respondents earn between N18,000.00 and N59,999.99. Also, 38.8% of the respondents have secondary education and self-employed (62.7%). Household heads were 45.72±10 years, estimated monthly income was N49,195.83 ± 57,165.3 and household size was 5.47±1.63.

#### 3.1.2 Negative Wellbeing/Poor Quality of Life

Spatial autocorrelation results for "negative mental wellbeing" revealed that there was some degree of clustering as the Moran's index was positive (0.0910) but the degree of clustering was slightly significant given a z-score of 1.803. Further analysis could be recommended to see the locations where clustering occurred. See result below

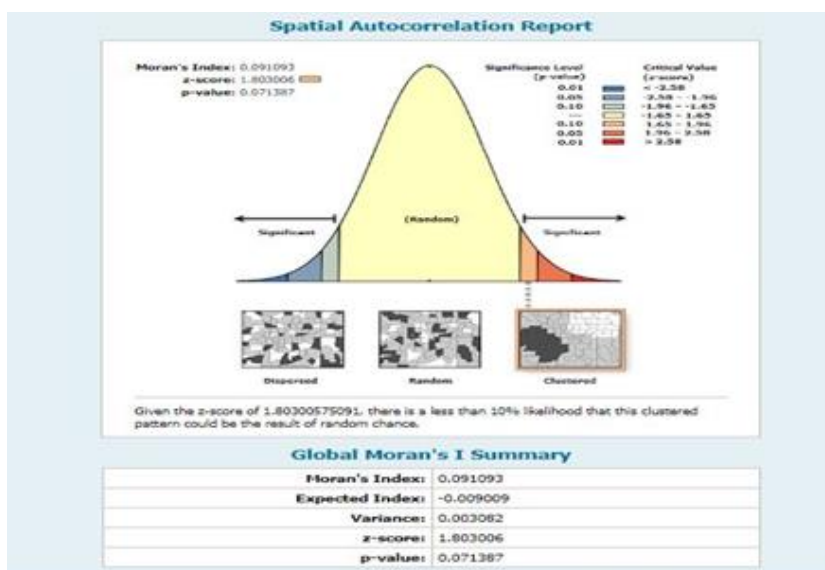


Figure 2 Spatial Autocorrelation of Poor quality of life/Negative mental wellbeing

### 3.1.3 Positive Wellbeing/Good Quality of Life

The results showed of positive mental wellbeing revealed that there was slight degree of clustering among the datasets with a global Moran's index of 0.0839 and z-score of 1.6723. Further Analysis such as Anselin's local Morans's I or the Getis-Ord Gi hotspot analysis, would be recommended to determine the communities where the clustering is predominant.

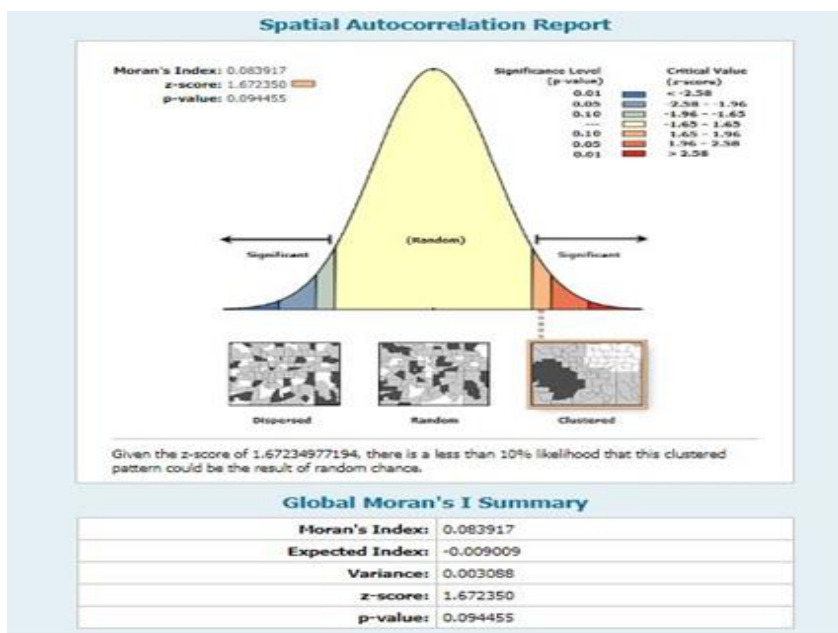


Figure 3. Spatial Autocorrelation of Good Quality of life/Positive mental wellbeing

Further, the results of self-reported cases and non-cases of common mental disorders, had a random pattern when analysed with Global Moran's I.

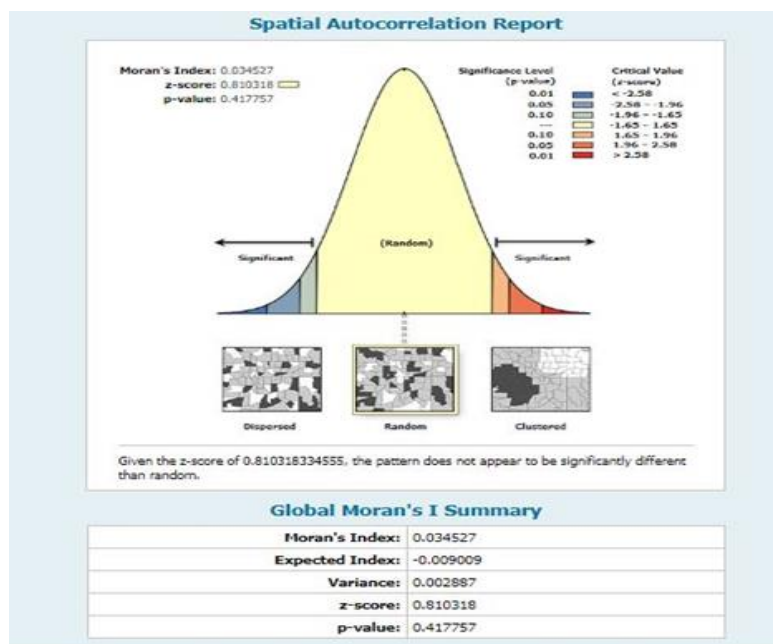


Figure 4 Spatial Autocorrelation of Self-Reported Common Mental Disorders

### 3.1.4 The Pattern of Poor Quality of Life/Negative mental well-being

The Hotspot analysis result (Getis-ord Gi) indicated that communities with higher numbers of persons with negative mental well-being were clustered around the boundaries of Ibadan North and Ibadan North-west covering Adamasigba, Inalende, Oniyan and Idikan, other locations where clustering occurred within the Negative well-being datasets were around the shared boundary of Ibadan South-East and Ibadan-north-East; they are Kosodo, Oranyan and Eleku as well as one exclusive case of high prevalence located in Ibadan South-west community of Osasami. Cold spots: these are communities with lowest cases of persons with negative well-being and are clustered around the east-end of Ibadan North-West, they comprise of NIHORT, Idishin, Jericho, GRA and a lone case at D-Rovans in Ibadan South-West. Generally, the health and well-being of citizens is strongly associated with the living quality of the high-density urban environment, for example: crowdedness, compactness, pollution, and urban heat islands. Elderly people are particularly vulnerable as their mental health can be less resilient (Lau, 2017). See Fig. 4.4 below.



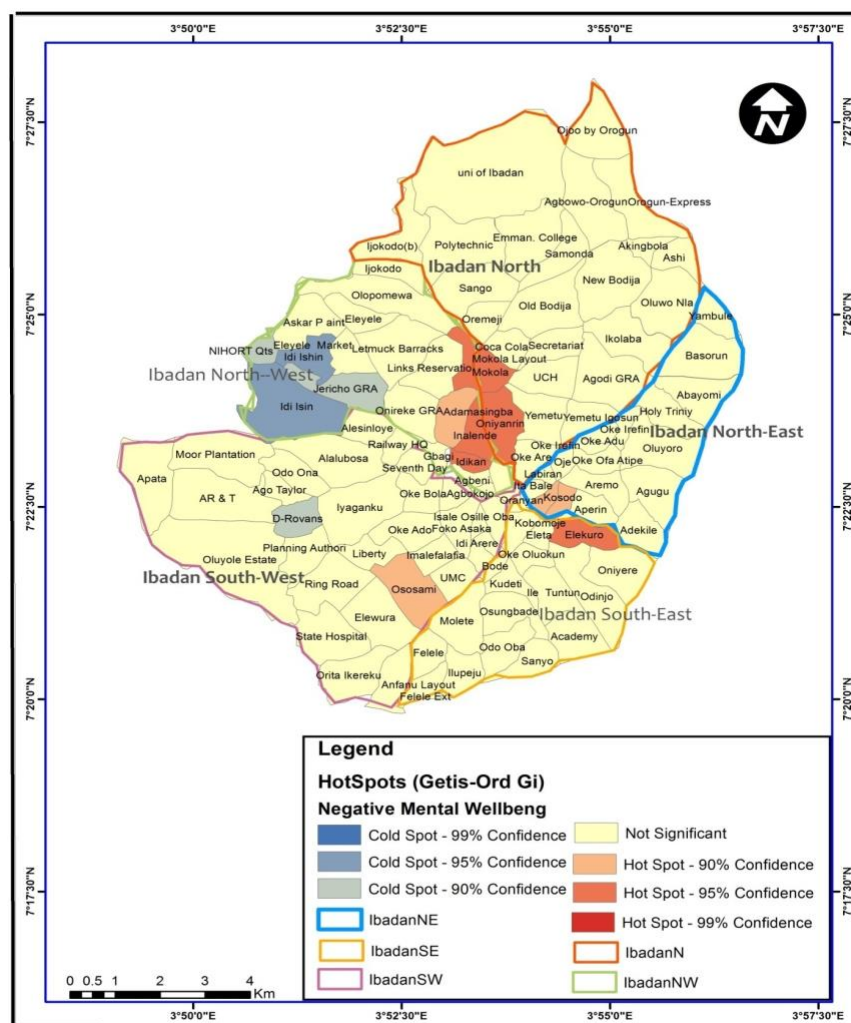


Figure 5. Hotspots of Poor Quality of Life/Negative Mental Wellbeing

### 3.1.5 The Pattern of Good Quality of Life/Positive Mental Wellbeing

Hotspot analysis conducted for datasets of positive mental wellbeing indicates that there exists clustering of communities with the highest cases of persons with positive mental wellbeing in Ibadan north, those communities include Ojoo, Samonda, New Bodija, Agbowo, Old Bodija, Oluwo Nla, Yambule, UCH, Ikolaba, Yemetu, Ashi, Akingbola, Agodi Garden, except for Yambule and Anfani layout that are located in Ibadan north-east and south-West respectively.

**Cold Spots:** The analysis also indicated that Oranyan, Itabale, Labiran, Kobomoje, Ile oba, Popoyemoja and Foko-Asaka, where places where clustering of the lowest outcomes in the datasets (which is communities with the lowest number of persons with positive mental wellbeing) occurred. Communities with darkest shade of red in the map display areas with highest values of clustering (99% confidence) and vice-versa (See Fig 4.6 below).

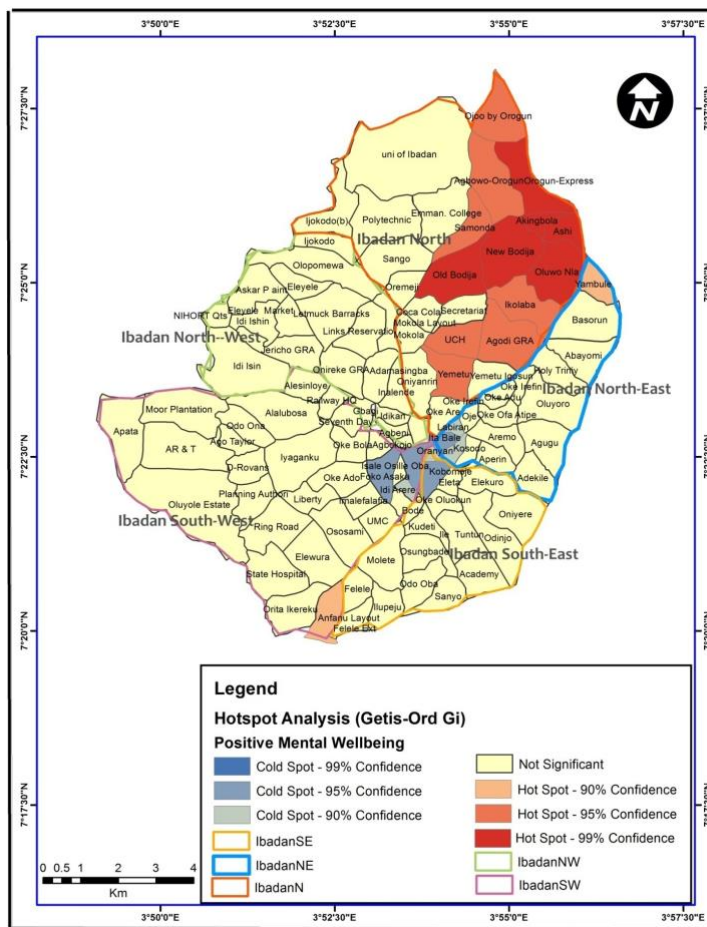


Figure 5 Hotspots of Positive Mental wellbeing/Good Quality of Life

Table 4.1a and 4.1b below depicts the correlation results of self-reported common mental disorders (measured by the SRQ scores) and the quality of life (measured by the WHO-5).

Table 4.1a Result of Correlation Analysis

	SRQ	WHO-5
SRQ Pearson Correlation	1	-.396**
Sig. (2-tailed)		.000
N	1200	1200
WHO-5 Pearson Correlation	-.396**	1
Sig. (2-tailed)	.000	
N	1200	1200

Table 4.1b

	r	p
Self-Reported Common Mental Disorders (SRQ-20) vs Quality of Life (WHO -5)	-0.396	0.000

The correlation analysis result ( $r = -0.396$ ) implies a negative correlation and significant relationship between quality of life and self-reported common mental disorders. This suggests that any increase in quality of life will likely reduce the risk of common mental disorders. This position is similar to the conclusion of Wokekoro and Ower (2014). The findings of this study show that just as various physical health conditions (diabetes, HIV/AIDs, tuberculosis etc.) relate to quality of life, individual's mental health condition is also dependent on quality of life and for urban residents in particular.

Evidence suggesting that certain features of the environment contribute to the well-being of individuals. Factors such as, temperature, rainfall, greenspace, crowding, and pathogens can significantly influence many aspects of human behaviour as well as the thoughts and feelings of people. One of the important decisions urban residents take is finding the right place to live as this determines so much about the well-being of people (Rentfrow, 2018). Similarly, the environment where people reside provides a lot of insight in terms of the prevalent characteristics in the communities and offers valuable clues about the social and economic factors that might enhance it (Baum et al., 2020). Except for a few of the communities mentioned above, most of the communities with positive well-being/good quality of life are low density communities while a most of the communities that reported negative mental well-being or poor mental well-being or few of the medium and high-density residential were featured under the poor mental well-being. The study made use of self-rated tools; they are often times referred to as subjective in terms of outcome measures. For instance, an outcome measure is or adopts an instrument to evaluate a patient's clinical status at a point in time however, the subjective measures rely on human judgment (Mobbs, 2021). Future studies can include some other variables that whose effect can be determined using regression models to identify explanatory variables.

## 5. Conclusions

This study sets out to identify the pattern of quality of life in a Nigerian city whilst also establishing its relationship with self-reported common mental disorders. The study showed that the distribution of poor quality of life and good quality of life lacked any definite order in the settlement. The implications of this for healthcare service provision is the need to urgently attend to the social, economic and environmental correlates of quality of life. Further, the significant relationship between QoL and SRCMD also stresses the fact that if quality of life is compromised, mental health would be adversely affected. As the dual processes of influx of rural urban dwellers and fertility continues to swell the population of most cities, it is important that urban areas are continually planned and the development controlled in a way that does not compromise the well-being of residents. The concept of sustainable cities has pervaded recent literature in urban health studies especially with increasing concerns for the United Nations' Sustainable Development Goals - SDG. There is a need to ensure cities are not only livable for the present generation but also for the future generations.

Quality of life addresses peoples' perceptions of their position in life in relation to their culture, values, and expectations. There is a need to enhance quality of life of urban residents through sustainable development, particularly at the city level, through continuous urban development and planning. That is, urban planning that takes into cognisance evidence-based residential impacts on well-being as well as health of the populace in the present and in the future. Concerns of quality of life and the mental health effects remains a fundamental issue that has to be addressed by different

stakeholders' given the uncontrolled and rapid nature of urbanization in Ibadan environ, where absence of proper and continuous urban planning, that is, planning that is sensitive to wellbeing and is being monitored and reassessed. This has tremendous implications for urban liveability and wellbeing.

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**Conflicts of Interest:** The authors declare no conflict of interest.

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**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Data is unavailable due to privacy or ethical restrictions.

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