

RESEARCH PAPER

ACCESS TO HEALTHCARE SERVICES BY THE MOBILITY
IMPAIRED: STRUCTURAL OBSTACLES AND
EXPERIENCES IN TAMALE, NORTHERN GHANA

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ABSTRACT

Improved health promotes socio-economic mobility, and in turn, attenuates predispositions to illnesses that culminate in impairments. This research investigated access to health facilities by persons with mobility impairments through physical audits using universal design principles as indicators. Subsequently, a survey and interviews were conducted with persons with mobility impairments to explore their spatial experiences with respect to transportation, movements, access and utilization. The results suggest that, despite the passage of the Disability Act (715) nearly 15 years ago, the mobility impaired still encounter multiple physical and psychological barriers which impede access and utilization of health facilities with wide-ranging implications. These outcomes, reflect not only the lack of funding for retrofitting, but largely ingrained societal perceptions about disability which invariably feed into policy in the production of public spaces. The research calls for a deeper introspection through disability awareness and educational campaigns, an integrated approach to health policy and spatial planning, a review of the Disability Act to address its weaknesses and the passage of subsidiary legislations to spell out the rights, obligations and liabilities of health providers and built environment professionals.

Keywords: Access barriers, disability rights, built environment, healthcare, Ghana

INTRODUCTION

Access to healthcare services was first recognized as part of the bundle of human rights by the United Nations (1948). It was subsequently captured as a key component of the human development index (UNDP, 1990) and mainstreamed into the UNDP's Sustainable Development Goals (2015). Health and wellbeing are inextricably linked to life-expectancy, maternal

and infant mortality and socio-economic mobility as well as economic performance (Bloom *et al.*, 2003). In turn, socio-economic mobility attenuates predispositions to illnesses that could culminate in impairments (Cundiff *et al.*, 2017). Preventive health care and early health interventions, along with improved physical environment, potentially slow down or even reverse the disablement process (Clarke *et al.*, 2008).

The disabled have greater exposures to an array of diseases that require regular healthcare services (Moodley and Ross, 2015; WHO, 2011). Their reduced bodily functions, their relatively weak socio-economic backgrounds, along with structural barriers, unsuitable transport systems and psychological abuse, all combine to restrict access to advanced medical services (Moodley & Ross, 2015). For these reasons, the Convention on the Rights of Persons with Disabilities (CRPD, 2006) urged member states to identify and eliminate all forms of barriers to public spaces, and in buildings that provide public services. Many countries have responded to this call by enacting constitutional and legislative guarantees to promote universal access as well as providing curative, rehabilitation, educational and welfare programs. Examples abound in the American Disabilities Act (1990), the Malaysian Persons with Disability Act (2008), and the Ghana Persons with Disabilities Act, 715 (2006) (henceforth referred to as the Disability Act).

In spite of the significant progress made, many of the spatial needs of the world's disabled population remain largely unaddressed. For example, the wheelchair user (Yarfi *et al.*, 2017), the visually impaired (Mukhopadhyay and Moswela, 2020), females with disabilities (Ganle *et al.*, 2016), the hearing impaired (Ubido *et al.*, 2002), and all such persons living in underserved areas (Ahmad, 2013), encounter wide-ranging obstacles which disincentivize them from seeking medical and rehabilitative care. In fact, many would rather consult "quacks and traditional healers" than visit health facilities (Ahmad, 2013:258), a situation that potentially complicates their underlying comorbidities and with wide-ranging implications (Dhungana, 2006).

For persons with mobility impairments, access to healthcare services hinges not only on their diminished bodily functions but specifically on spatial connectivity as reflected by topographical features, transportation systems and structural designs (Rocha *et al.*, 2015). Similarly, affordability and quality of services as well as attitudinal barriers are key determinants of access to healthcare services (Mukhopadhyay and Moswela, 2020; Rocha *et al.*, 2015; Ahmad,

2013).

Disability and spatial accessibility

Improved physical conditions promote physical activity which invariably attenuates the risks of contracting illnesses that contribute to impairments (Cundiff *et al.*, 2017; Clarke *et al.*, 2008) with implications for mental and spiritual health (Woolf & Aron, 2013; Clarke *et al.*, 2008). The ability to navigate the built environment is key for the performance of one's daily routines and for accessing and utilizing socio-economic opportunities. Spatial accessibility shapes personal identity, the density of one's social networks and livelihood options as well as creating a sense of self-fulfillment (Imrie, 2000).

The general discomfort and anxiety about disability, as well as the negative perceptions and dominant social values (Bassoumah and Mohammed, 2020), all feed into public policy and the production of public spaces and infrastructural development, resulting in restrictive access to the mobility impaired. As Sackey (2015) points out, they have no political constituency and hardly participate in the political process, and so are hardly consulted in the production of public space and construction designs. Therefore, city planners, service providers, property owners and other professionals of the built environment have acted as gatekeepers and essentially excluded persons with disabilities, the aged, the infirm and even gender, with adverse implications on their health and socio-economic mobility. This suggests that disability emanates not necessarily from their reduced bodily functions but largely from the unequal power relations that culminate in social exclusion and the denial of their access rights to socio-economic opportunities to meet their individual and collective desires and aspirations (Imrie and Thomas, 2008; Clark *et al.*, 2008; Ubido *et al.* 2002).

This realization should prompt a rethink of access to social services and policies aimed at promoting socio-spatial inclusion. Therefore, the initial call by Lefebvre (as cited in Harvey, 2008) for deconstructing the ills associated with the production of public space is still relevant in the contemporary era for analyzing the prolonged struggle for access to the broad spec-

trum of mental, physical and socio-economic space by the mobility impaired. It is therefore possible to deconstruct disability by eliminating all forms of structural, institutional, cultural, psychological and transportation barriers that restrict access to the built environment.

This understanding reflects a shift away from biomedical models which emphasized personal biological limitations requiring rehabilitation and curative protocols (Abberley, 1987). However, Haegele and Hodge (2016) caution that the removal of all socially imposed barriers may not necessarily lead to unhindered access due to their own personal characteristics. Besides, their spatial geographies may vary depending on the type and intensity of their impairments, age groups (Wakely *et al.* 2018), gender (Ganle *et al.*, 2016), location and the prevailing socio-economic conditions (Maart *et al.* 2007). For example, rural residents lack access to high quality healthcare services due to their spatial distribution and poor transport connectivity (Wakely *et al.*, 2018; Maart *et al.* 2007). Similarly, the mobility impaired living in areas currently experiencing debilitating wars and political instabilities may experience greater access barriers than those living in relatively stable regions.

The paper which explores access barriers focuses exclusively on persons whose impairments in the limb, vision or parts of their bodies create difficulties in terms of movements, navigation and access to public spaces. While the research focuses on Tamale, northern Ghana, the findings may have wider implications for policy makers, city planners and other professionals of the built environment who seek to create socially inclusive environments.

The Ghanaian context and research setting

The 1993 Ghana Constitution mentions “health” 12 times and “disability” 11 times without directly connecting the two variables for greater impact on the wellbeing of the mobility impaired. Article 34 (Clause 2) of that constitution mandates the right to improved healthcare, while Article 29 (Section 6) states that “... as far as practicable, every place to which the public have access shall have appropriate facilities for disabled persons”. This

for inaction by service providers, public officials, property owners and professionals of the built environment.

However, the Disability Act explicitly connects disability, healthcare and space. Article 31 urges the Ministry of Health to formulate policies that provide “for free general and specialist medical care, rehabilitative operation treatment and appropriate assistive devices for persons with total disability”. Articles 6 and 7 of the Disability Act mandate universal design principles in buildings accessed by the general public, while Article 23 mandates the reservation of seats in buses for the disabled. To forestall psychological abuse, Article 4 (1) specifically states that, “A person shall not discriminate against, exploit or subject a person with disability to abusive or degrading treatment”. This suggests that the full implementation of the Disability Act could substantially improve access to health facilities for improved health and well-being with potentials for socio-economic mobility.

Research on disability in Ghana has generally been centered on social stigma, discrimination and marginalization (Baffoe, 2013); disability rights (Ocran, 2019); attitudes of medical staff towards them (Badu *et al.*, 2016) and injury causing disabilities (Mock *et al.*, 2003). While this body of literature has contributed immensely to the general understanding of disabilities in Ghana, there is a paucity of knowledge on their actual experiences with respect to access and utilization of health services which is key for socio-economic mobility and national development. Since the introduction of National Health Insurance Scheme in Ghana (Act 2003, Act 650), concerns about financial accessibility appear to have been largely resolved. While analyses of structural designs and mobility obstacles have been carried out on major cities in southern Ghana (see Naami, 2019; Owusu-Ansah *et al.*, 2019; Yarfi *et al.*, 2017), the case of the relatively deprived northern Ghana which is characterized by patriarchal and religious values, ableism and ingrained negative perceptions about disability (Naami *et al.*, 2012; Alexander and Welzela, 2011) has been under-explored. This research intends to fill in the gap by connecting space and healthcare utiliza-

tion.

Based on the above submissions, the central research question in this paper is this: *Nearly fifteen years after the passage of the Disability Act, what transportation difficulties, spatial obstacles as well as psychological barriers still impede access to and utilization of health facilities by the mobility impaired?* The first part of the paper explores transportation difficulties, along with spatial obstacles and psychological encounters as they embark on their journeys to health facilities. The second section explores structural barriers and their individual experiences with respect to the utilization of services provided by health facilities.

This research is focused on Tamale which is located about 618 km north of the Ghanaian capital, Accra. Despite its status as the fourth most populous city and the largest city in northern Ghana, its population of 371,351 represents less than one-quarter that of Accra and Kumasi. The city's slow population growth, as reflected in its annual percentage change of 1.5 per cent between 2000-2010 (Ghana Statistical Service, 2013), may in part, reflect the north-south migratory flows which has characterized the northern part of Ghana for decades.

Despite the city's higher poverty head count of 24.6 percent (Ghana Statistical Service, 2013), the disabled population (estimated at 1.8 per cent) was found to be relatively lower than in

Kumasi and Accra. This suggests that the relationships between poverty and disability could be more complex than currently understood in literature (Eide and Ingstad, 2013). This lower incidence, may in part, reflect the persistence of infanticide of children born with severe deformities in some parts of northern Ghana (Naami *et al*, 2012). As Pisani and Grech (2017) have rightly pointed out, while some disabled are unable to migrate, others join the migratory stream to escape local insecurity, environmental disasters and poor socio-economic conditions. It is therefore possible that some of the disabled population may have joined the north-south migratory stream to escape negative perceptions and for better socio-economic opportunities.

Table 1 shows that, with the exception of the Kasbad Scientific Hospital which was built in 2007, the major hospitals in the city were established before the passage of the Disability Act in 2006. The Tamale Teaching Hospital, which is the largest facility, was originally opened in 1974 as a regional hospital and subsequently upgraded into a teaching hospital in 2005. The Tamale West Hospital was opened in April, 1998 as a polyclinic and upgraded into a district hospital years later. The Tamale Central Hospital, which is the oldest, was established in 1928 and operated until 1974 when it was closed down and re-opened in 2005. However, the capacities of these hospitals in Tamale pale in comparison with those in Accra

Table 1: Background information of the health facilities in Tamale

Health Facility	Year Established	Daily Out-Patient Attendance
Tamale Teaching Hospital ((TTH)	1974	350-400
Tamale West Hospital	1928	170-200
Tamale Central Hospital (TCH)	2004	90-110
SDA Hospital	1998	50-80
Kabsad Scientific Hospital	2007	60-90

Source: Authors' Fieldwork, June, 2017

and Kumasi which have expanded capacities and attend to more than 1500 out-patients daily. Under the Disability Act, a moratorium of ten years was provided to retrofit buildings to accommodate the spatial needs of persons with impairments.

METHODOLOGY OF STUDY

Following the receipt of ethical clearance from the university, preliminary visits were made to the hospitals and the offices of the Department of Social Welfare to establish an early rapport with key officials. During those visits, a list of 188 physically impaired and another list of 120 visually impaired were obtained from the Department of Social Welfare.

As a first step, physical audits were conducted in the hospitals to assess compliance with universal design principles as mandated by the Disability Act. These audits focused exclusively on regularly used spaces including the approach routes, main entrances, parking facilities, toilets, as well as evaluating internal and vertical circulation. The physical characteristics and their dimensions (where necessary) were recorded in a tabular checklist. These health facilities were located in vicinities of the central business district (CBD); therefore, a second audit was conducted to assess structural obstacles in the CBD, focusing on streets, drains, crossings and pavements. The preliminary findings of these audits enriched the design of the survey questionnaire which were subsequently administered to explore the spatial perspectives of participants of the mobility impaired in terms of transport options and challenges associated with navigation and maneuverability in the CBD and within the hospitals. Participants on both lists provided by the Department of Social Welfare were contacted via phone to arrange for the questionnaire administration. The exercise was carried out by trained research assistants and supervised by the research team. Due to high levels of illiteracy, the questions were translated into the local Dagomba language and the responses filled in by the research assistants. While the intention was to reach all the 308 members on both lists, only 179 respondents could be accessed due to outdated contact information and also interview fatigue attributed to a high concentration of non

-governmental organizations in Tamale which regularly conduct surveys. Finally, face-face interviews were carried out with five visually impaired and five physically impaired who were all purposively selected to discuss key issues emanating from the survey.

RESULTS AND DISCUSSIONS

This section begins with an overview of the demographic characteristics of participants which provides the contextual understanding of the research followed by analysis of the physical audits, survey results and interview data on their spatial experiences with respect to access to health facilities.

Demographic characteristics of respondents

Despite the complexity of disabilities, the respondents were assigned into two mutually exclusive groups for ease of analyses (Table 2). According to the Ghana Statistical Service (2013), children with disabilities constituted about 19.3 percent of the city's disabled population. However, their details were not captured on the lists provided by the Department of Social Welfare, and so were excluded in this analysis. The majority of the respondents (i.e. 62 percent) were physically impaired, and that, males were slightly outnumbered by females. In a city with deep religiosity (about 95 percent of the population is Muslim (Ghana Statistical Service, 2013), and characterized by patriarchal cultural values (Naami *et al*, 2012), disabled females are perceived as more vulnerable (Bassoumah and Mohammed, 2020) and so may have registered in larger numbers for official assistance than their male counterparts. The disabled females in their productive ages were generally unmarried (but had a child or two), and were largely unemployed and poorer.

The aged tend to have diminished health statuses and therefore require regular and extensive health care (Jaul and Barron, 2017). Therefore, the substantial proportion of aged participants (about 17.9 percent) calls for measures that could enhance access to health services. If these access barriers become significant, some may be compelled to skip hospital visits altogether and turn to unproven traditional medicines as was the case in Punjab (Ahmad, 2013).

Table 2: Age-sex and impairment type

Age cohort	Visually impaired		Physically impaired		Total
	Male	Female	Male	Female	
15-24	2	1	8	5	16 (9)
25-34	6	4	7	13	30 (17)
35-44	11	13	10	16	50 (28)
45-54	7	12	12	13	44 (25)
55-64	4	5	6	9	24 (13)
65+	1	2	4	8	15 (8)
Total	31 (17)	37 (21)	47 (26)	64 (36)	179 (100)

Source: Authors' Fieldwork, June, 2017
Notes: Percentages written in parenthesis

The varying levels of severity of impairments among the respondents shown in Table 3 has implications for spatial and health needs. For example, 97% of the visually impaired had problems with both eyes and so experienced significant problems than those impaired in one eye. Similarly, those who were impaired in one leg (6%), both legs (89%), had varying levels of difficulties ranging from mild difficulties to inability to walk without assistance. Table 3 also shows that childhood diseases accounted for most of the impairments. Therefore, early detection and preventive healthcare to reduce the incidence of disabilities are critical elements in health policy and planning.

While higher educational attainment may not necessarily provide the gateway to high paying jobs, it may facilitate their access to improved health services and the capacity to adopt preventive actions for healthier lifestyles (Johnston, 2020; Gil-Lacruz, *et al*, 2020). Educational opportunities may enhance knowledge and understanding of their rights as outlined in the Disability Act and in the constitution, which are the legal bases for making legitimate demands for universal access.

Unfortunately, the research found that about 60

percent of the participants never attended school (Table 4). Their reasons ranged from mobility challenges to poor health, parent's financial difficulties and negative perceptions about their disabilities. This proportion was relatively higher compared to 25.9 percent in the general population in the city who never attended school (Ghana Statistical Service, 2013). More significantly, most of those who had attained tertiary education could not secure professional jobs, a fact which points to lingering perceptions about their productivity, despite data challenging such assertions (Hindle *et al.*, 2010).

The disabled are exposed to an array of diseases that require more financial resources to attend to their health needs (Moodley and Ross, 2015; WHO, 2011). However, due to their low educational attainments, along with job insecurity and low incomes, many would have been unable to afford high quality healthcare services without the National Health Insurance Scheme. In the context of job insecurity and the lack of welfare and rehabilitation programs, some respondents had resorted to begging for alms along the city's mosques and the streets as a means of survival.

Table 3: Descriptions and causes of impairments

	Visually Impaired	Physically Impaired	Total
Visual Impairment in One Eye	2 (3)		2 (1)
Visual Impairment in Two Eyes	66 (97)		66 (37)
Impairment in One Leg		7 (6)	7 (4)
Impairment in Two Legs		89 (80)	89 (50)
One leg and one hand		15 (14)	15 (8)
Total	68 (100)	111(100)	179 (100)
<i>Respondents' view of the causes</i>			
Born with Impairment	26 (38)	17 (17)	43(24)
Accidents/Injury	2 (3)	33 (30)	35 (20)
Childhood diseases	40 (59)	61 (55)	101 (56)
Total	68 (100)	111 (100)	179 (100)

Source: Author's Field Survey (June, 2017)

Notes: Percentages written in parentheses

Table 4: Education and employment statuses of the respondents

Level	Professionals	Technicians	Clerks	Services	Agriculture	Others	Total
Never attended school	-	-	-	-	38	69	107 (60)
Primary	-	-	-	-	4	16	20 (11)
Junior High	-	-	-	-	-	20	20(11)
Senior High	-	1	-	-	6	8	15(8)
Vocational	-	-	-	-	2	2	4 (2)
Tertiary	3		2	7	-	1	13(7)
Total	3 (1.7)	1(0.6)	2 (1.1)	7 (3.9)	50 (27.9)	116	179 (100)

Source: Author's Field Survey (June, 2017)

Notes: Percentages are shown in parentheses

Journey to the health facilities

Due to their poor educational backgrounds and low incomes, none of the participants owned a private car that could facilitate their journeys

health facilities. This means that these journeys were undertaken by public transport. The Disability Act (Article 23) mandates the reservation of seats in buses for PWIs. However, this clause

appears redundant as buses are not commonly used in Tamale. In fact, intra-city travels in the city are largely dependent on tricycles locally referred to as “yellow-yellow” as well as motor cycles, despite the fact they are unlicensed for commercial use. The limited spaces in the tricycles posed extreme difficulties in terms of boarding and exiting.

Naturally, the respondents were unable to board taxis due to the relatively higher fares. Besides, according to some respondents, some taxi drivers refused to pick them on the pretext that their personal mobility devices would not fit in their cars. In the words of a participant, “some drivers won’t even stop to pick you when they realize you are blind”. Due to these difficulties, a handful of the respondents reached hospitals with the help of mechanical devices such as wheelchairs, calipers, canes, locally assembled tricycles) or human support. The blind regularly lamented that, some taxi drivers and rickshaw operators intentionally took unnecessarily long

and winding routes whenever they picked them up, just to charge higher fees.

Upon reaching the central business district, participants were compelled to navigate their ways around the spatial disarray of motorbikes, tricycles and motorized vehicles (Fig. 1) in order to reach hospitals. The lack of pedestrian crossing lights and the presence of raised kerbs and open drains, all posed danger and impeded their movements and maneuverability. More significantly they also encountered verbal and attitudinal abuses as they navigated around pedestrians and traders displaying their wares on walkways.

A visually impaired person summed up their experiences in the following words:

One day I was walking with my friend who is also visually impaired. A bicycle rider came from behind and nearly knocked my friend down and then started to rain insults on us



Fig. 1: Part of the Central Business District of Tamale (Authors' Photo, 2017)

saying 'if you are blind you should be at home and don't come here to cause problems for us'.

Another visually impaired narrated that a motorist once bumped into her locally made tricycle resulting in the injury of her child. According to her, the motorist did not even stop to help. This shows that they encountered not only structural barriers and transportation difficulties but also attitudinal barriers even before they arrived at health facilities.

Structural evaluation of the health facilities

These barriers were not limited to the streets but also within the hospitals. Due to the wide range of services provided by the hospitals (ante-natal and post-natal clinics, pharmacies, surgeries, ENT, eye clinics, laboratory services), the expectation was that universal design principles would be adopted to facilitate entry, navigation and utilization of services by all groups of people. Therefore, the conditions in the hospital environments were evaluated for compliance with universal design principles, focusing on the approach routes and entrances, entry doors, signages, surfacing, slopes, parking facilities, as well as horizontal and vertical circulation.

Approach routes and primary entrance

Approach routes and primary entrance serve as first points of contact with hospital staff and also provide first impressions about security, quality healthcare services as well as hints of socio-spatial inclusivity (Ahmad, 2013). Apart from the lack of parking facilities for the exclusive use of the disabled, the Tamale Teaching Hospital had well-surfaced approach routes, a ramp equipped with hand rails (albeit on one side), a protective canopy that shielded clients from the weather elements, a wide entrance equipped with bidirectional doors, all of which create a first good impression about the facility (see Table 5 and Fig. 2).

The rest of the hospitals were characterized by unpaved approach routes and yards, poorly constructed and obstructed ramps, and in all cases, main entrances doubled as waiting areas hence obstructing movements and service utilization. A visually impaired respondent recount-

ed their experiences at the entrance of one hospital by saying that:

One time I went to the hospital on my own when my son was not around to guide me, all I had was my white cane. At the hospital main entrance, I bumped into an illegally parked vehicle...someone rushed to my aid and guided me through the hospital doors. The hospital record attendants were rude to me and said that next time I should let someone bring me to the hospital and not come by myself...

Horizontal and vertical circulation within the health facilities

Improved spatial orientation reduces stress and anxiety among clients (Jiang and Verderber 2017). Easy access to corridors, stairways and elevators potentially reduce the possibilities of falls and injuries. The results of the audits of the horizontal and vertical circulation in the health facilities are summarized in tables 6 and 7 respectively.

Once again, despite the availability of steps in the corridors and elevated pharmacy windows beyond the reach of the wheelchair user, the Tamale Teaching Hospital performed relatively better in terms of the indicators shown in Table 6. The rest of facilities were characterized by narrow corridors (which mostly doubled up as waiting areas), connecting doors (that only opened inwards), as well as steps in corridors. A participant recalled that they had to abandon their personal mobility devices and crawl through the corridors to utilize the services, thereby risking falls and injuries. In their own words:

... I have to park my tricycle outside the hospital and use my clutches to get into the building. One day I slipped and fell at the OPD due to the nature of the floor...the tiles were slippery and people had to come help me up which was really embarrassing to me.

A wheelchair user lamented that:

When I fall sick, I prefer to buy medicine from drug stores because when they take me to hospital, I must get out of my wheelchair

Table 5: Audit of approach routes and entrances of the five health facilities

Specifications	Tamale Teaching Hospital	Tamale Central Hospital	SDA Hospital	Tamale West Hospital	Kabsad Scientific
Disabled parking	No	No	No	No	No
Visible signage at entrance	Yes	Yes	Yes	Yes	No
Ease of locating main entrance	Yes	Yes	No	Yes	Yes
Entrance free from obstructions	Yes	Yes	No	Yes	Yes
Protective canopies at entrance	Yes	No	No	No	No
Direction of swing	Both ways	Open space	N/A	One way	One way
Extent of swing	Full extent	N/A	N/A	Full extent	Full extent
Width of Entrance (Ideally 1800mm)	Yes-1800mm	Yes-1850mm	Yes-1800mm	No-1400mm	Yes-1900mm
Presence of ramp at entrance	Yes	N/A	No	Yes	Yes
The ramp should at least 1200mm wide	Yes-1200mm	N/A	N/A	Yes-1200mm	Yes-1300mm
Guard rail for ramped area	No	N/A	No	No	No
Landing surfaces	Yes	N/A	No	No	Yes
Handrails/guardrails on ramps	On side	N/A	N/A	N/A	N/A
Tactile mats at appropriate locations	No	No	No	No	No
Complementary stairs with ramp	Yes	N/A	Yes	N/A	Yes
Guard rails for steps	Yes	N/A	Yes	N/A	No
Paths free from obstructions	Yes	No	No	No	No

Source: Fieldwork (June, 2017)

Notes: *N/A: Not applicable

and crawl inside the hospital. My wheelchair cannot enter corridors due to the steps.

Analyses of the vertical circulation were centered only on Tamale Teaching Hospital and SDA Hospital which were accommodated in four story and two-story buildings respectively and therefore required steps, risers and elevators (see Table 7). The other hospitals were housed in single story buildings and so the vertical circulation did not apply.

Despite its superior performance on horizontal circulation, the Tamale Teaching Hospital failed on a number of indicators under vertical circulation (see Table 7). Its elevators were non-functional (at the time of the audits) and so hospital clients were compelled to use the flight of stairs to access facilities housed on the upper floors. Tactile mats at the beginnings and ends of stairs were clearly missing thereby creating additional barrier for navigation by the vision impaired. However, the SDA Hospital performed poorer than Tamale Teaching Hospital



Fig. 2: Entrance to the Tamale Teaching Hospital

Table 6: Audits of horizontal circulation

General Requirements	Tamale Teaching Hospital	Tamale Central Hospital	SDA Hospital	Tamale West Hospital	Kabsad Scientific
Presence of step (s) between corridors and rooms.	Yes	No steps	Yes	No steps	No steps
Width of corridors 1200mm – 1800mm from single traffic to frequent two-way traffic	Yes- (1800mm)	No	Yes- (1200m m)	Yes	No (900mm)
Corridors free from protruding or obstructing objects	Yes	No- Used as waiting areas	No- Used as waiting areas	No- Used as waiting areas	Yes
Direction of swing of connecting doors	Yes-Both ways	Yes- Inward	Yes- Inward	Yes- Inward	Yes-Inward
Stable, firm, slip- resistant floors	Yes	Yes	Yes	Yes	Yes
Ease of reach and use of the emergency exits	Yes	Yes	Yes	Yes	Yes
Availability of emergency exit	Yes	Yes	Yes	No	Yes
Low windows at pharmacy	No	No	No	No	No

Source: Authors' Fieldwork (June, 2017)

Table 7: Audits of vertical circulation

General Requirements	Tamale Teaching Hospital	SDA Hospital
Ramps or risers linking floors	No- steps	No steps
Tactile mats at appropriate areas of stairs/ramps	No	No
Handrails/guardrails on stairs /ramps linking floors	Yes	No
Lifts for vertical circulation	Yes	No
Accessible elevator buttons and handrails	Yes	N/A
Braille code and voice projection	No	N/A
The door should not be less than 900mm wide	Yes (900mm)	N/A
Lighting	Poor	Poor
Tactile mats and reflectors	None	None
Stable, firm, slip- resistant stairs and steps	Yes	Yes

Source: Authors' Fieldwork (June, 2017)

on nearly all indicators.

Naturally, the respondents expressed concerns about space utilization. Table 8 illustrates the concerns expressed about the multiple structural barriers which posed danger and threats to harms and injuries. In particular, they raised concerns about the suitability of washrooms, ramps and staircases which effectively discouraged them from visiting the health facilities. A wheelchair user expressed the following sentiments with respect to washrooms:

When I was admitted into the Tamale Central Hospital, I could not use the washrooms in the hospital with ease. The door was narrow and the entrance was raised and so it was difficult to get my wheelchair through. I crawled into the washroom but it was impossible to use the toilet bowl and so I crawled out.

Attitudes exhibited by the hospital staff

The research found that access to hospitals went beyond structural obstacles and availability of appropriate infrastructural systems. The participants regularly encountered unprofessional attitudes by hospital staff which were seen as more debilitating than their encounters with structural obstacles. A visually impaired

woman shared her experiences in the following words:

...My son took me to hospital one day and in the consultation room the doctor asked my son to explain what was wrong with me. I told the doctor I could speak for myself. When I started narrating what was wrong with me, he suddenly interrupted and said I was talking too much and that he didn't believe I was truly ill.

Another physically impaired participant who requested to be tested for HIV recounted the unsolicited references to their sexuality by hospital staff in the following words:

I went to the hospital and I needed directions to the laboratory to be tested for HIV. The receptionist at the OPD asked me what I did, as a cripple, to become infected with HIV. She could not hide her surprise that I wanted to take the HIV test.

These negative attitudes by the hospital staff and the general public reflect the widespread stigmatization and discrimination against the disabled (Bassoumah and Mohammed, 2020). Therefore, efforts at improving access to health services with a view to promoting social mobil-

Table 8: Concerns expressed about facilities in hospitals

Indicators	Physically impaired	Visually impaired
Ramps (absence, grab rails, slope)	47 (42.3) *	15(22.1)
Washrooms (door, guardrails, surfacing)	70 (63.1)	40 (58.8)
Staircases/non-functioning elevator	35 (31.5)	33 (48.5)
Corridors (width, obstructions)	29 (26.1)	25 (36.8)
Slippery floors	27 (24.3)	30(44.1)
High dispensing counters	20 (18.0)	2 (2.9)
Tactile mats and reflectors	5 (4.5)	25 (36.8)

Source: Field Survey (June, 2017)

*Multiple responses; percentages in brackets

ity and inclusivity should also address these negative attitudes which largely emanate from the lack of understanding and appreciation of disablement.

CONCLUSIONS

If the United Nations (1948) was right in its human rights declarations, then PWIs has the same right to access public spaces and infra-structural facilities to meet their spatial needs and aspirations, just like their non-disabled counterparts. However, the research has shown that health facilities and the built environment were, in general, designed for non-disabled persons, and that the multiple structural barriers, along with psychological abuses, infringe on their human dignity and limit their access rights to public space and social services. These outcomes cannot be solely attributed to the lack of funding for retrofitting, but more so, the lack of political will to pass subsidiary legislative instruments that enables the Disability Act to be enforced. While it is possible to institute legal action against public institutions for these violations, they face an uphill battle due to their poor socio-economic backgrounds as well as their limited knowledge and awareness of disability rights and the deep-seated societal perceptions about disability. Besides, legal opinions warn that, such actions are unlikely to succeed due to the lack of subsidiary legislations spelling out liabilities of city officials, services providers and professionals of the built envi-

ronment and implementation protocols. Therefore, the lack of legislative instruments to enforce the Disability Act compromise their well-being and opportunities for upward socio-economic mobility.

Clearly, there is the need for innovative and integrated approaches to health policy and spatial planning to transform the urban realm to accommodate the spatial and health needs and aspirations of diverse population groups. This calls for a review of the Disability Act through participatory approaches involving the disabled groups and city planners as well as other key stakeholders and the eventual passage of subsidiary legislative instruments by the government. Under the current legislative regime, members on the National Council for Disability are appointed by ruling political parties and so they have no appetite for confronting their political bosses for the denial of disability rights.

Short-term measures to enhance understanding of the disablement process and to provide assistance in health facilities should include disability awareness campaigns, the creation of dedicated front desks in social facilities, investments in low-floor minibuses, the installation of pedestrian signals at crossing points, the removal of obstacles in walkways and provision of covered open drains. Short of these measures, access rights for persons with disabilities will remain a mirage. While this re-

search is focused on a specific geographical area, findings have wider implications for not only the health care providers but also for policy makers and professionals of the built environment who seek to create inclusive and sustainable urban environments.

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