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ENHANCING ACCESSIBILITY IN THERAPEUTIC ARCHITECTURE

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Abstract: Therapeutic architecture plays a crucial role in improving the physical, emotional and psychological well-being of individuals requiring healthcare services. Therapeutic architecture prioritizes accessibility ensuring all users regardless of their abilities are able to utilize the facility. This paper explores strategies for improving accessibility in therapeutic architecture with the aim of creating inclusive spaces that cater to the diverse needs of its users. Inclusive design is very key in all building types as it fosters a sense of dignity, independence and comfort for users across all demographics. It examines the various physical, sensory and cognitive barriers that limits ease of movement and outlines a framework for solving those challenges.

Keywords: Therapeutic Architecture, Accessibility, Disability, Healthcare.

Introduction

Architecture is crucial in the daily activities of mankind, it not only concerns the aesthetics but also the physical and mental wellbeing. The layout of a space impacts the level of mobility different users have and how a space is perceived. Therapeutic Architecture is the concept of healing through architecture. Humans' perception of the built environment is based on our ability to interpret adjacent environmental forces affecting bodily senses. Through our senses we form an image, and associate a memory with that image (Omar, 2014).

Certain basic factors are considered in the healing process to aid the patient back to life. Every aspect of the design process takes into consideration various categories of users ensuring that no demography is not catered for. Key aspects of Therapeutic Architecture include: Biophilic design, comfort and privacy, proper way finding and orientation, well ventilated spaces, safe and infection free zones, carefully designed interior spaces, acoustically designed spaces and also universal design (Nisreen, 2023). For the purpose of this research, universal design will be the key emphasis.

II. LITERATURE REVIEW

Universal design philosophy aims at creating environments that is suitable for all users irrespective of age, ability or status. Universal Design is a concept that proposes the creation of spaces with democratic use, guaranteeing egalitarian conditions in terms of quality of service (Gulliksen, 2018). Designing for all should be considered from the design stage and not a retrofitting or after thought process in order to accommodate people with disabilities. In the design of

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therapeutic facilities such as rehabilitation center, hospitals, clinics, laboratories each space should cater for the needs
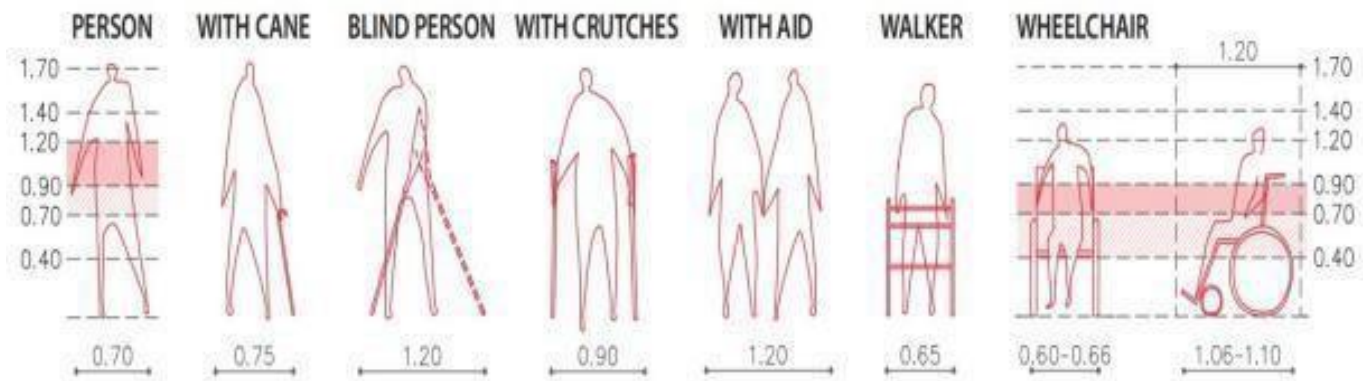
of people living with disabilities and be accessible not just physically but also considering other users.

Figure 1: Basic parameters for accessible elements and spaces

The perceived lack of market for specialized, accessible design services is a myth. At least 36 million Americans have permanent disabilities, and the rate of prevalence of severe disability has increased by 70% since 1966. In the growing population over 65 years of age, 46% have either limited or severe disabilities. The number may be even larger. The Arthritis Foundation places the number of people having only arthritic conditions capable of causing disabling conditions at 37 million. The magnitude of these figures obligates designers to consider the entire life span, including periods of temporary disability, of future users of the spaces or products being designed (Mace *et al*, 2011).

According to UN DESA, (2015), the categories of barriers that persons with disabilities encounter, which are often exacerbated for those living in rural areas or poor urban settings, include the following: Institutional barriers, Physical barriers, Informational barriers, Communication barriers, attitudinal barriers, Cultural barriers

The concept of universal design was brought about by the high rate of disabled soldiers returning home after the Second World War. The needs of older people and those with disabilities arose which led to the government introducing equal rights and anti-discrimination legislation. The term Universal design was coined in the United States by an architect, Ron Mace, who championed the need for accessible housing so that all people can easily use the design. The rise in social movements in the 20th century promoted social inclusion and prevented discrimination and pressured the design industry to meet the demands of creating accessible products, services and environments. This led to the concept known as barrier free design; which involved removing barriers for disabled people. In 1970, a more general term 'Accessible design" emerged and fostered the inclusion of accessible solutions into the general design of products, services and environments. Certain developments such as dropped kerb, ramps, automatic door openers, cabinets with pull out shelves, captioning feature are products as a result for the need for inclusion (Giovana, 2023). The principles of universal design were later developed in 1997 by a group of architects, engineer, environmental design researchers led by Ronald Mace in the North Carolina State University. The principles were created with a purpose to guide the design of environments, products and communications. The principles are Equitable Use, Flexibility in use, Simple and intuitive use, perceptible information, Tolerance for error, Low physical effort, Size and space for approach use.

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The discuss of accessibility most often considers the physical restrains people with disability face. Universal design in healing spaces goes beyond the physical changes made in design that the ordinary eyes can see, it encompasses a wide range from physical sensory and cognitive accessibility design. The International Organization for Standardization (2014) defines accessibility as the "extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use".

In therapeutic architecture, the principles of universal design created accessible and inclusive spaces that cater to the needs of its users and enhancing the healing experience.
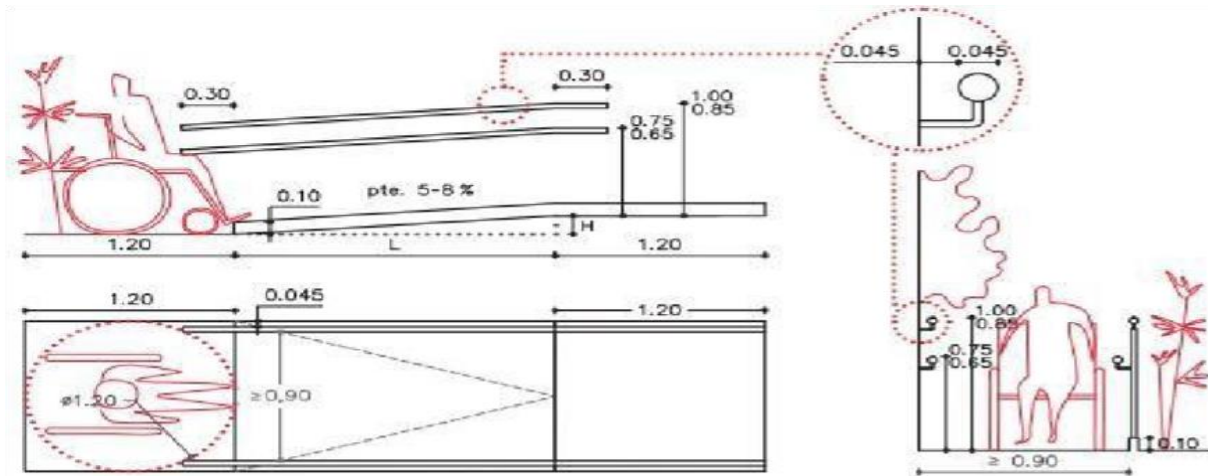
III. TYPES OF ACCESSIBILITY

Many people are born with a disability. Others acquire a disability later in life, from an accident, an illness, or the aging process. Many older individuals are diagnosed with chronic conditions that lead to functional or cognitive disabilities. The types of accessibility can be grouped into mobility, sensory and cognitive accessibility.

a. MOBILITY ACCESSIBILITY: People with disabilities are often faced with barriers moving from one space to another. Designing spaces that cater to this demography facilitates ease of movement for individuals using wheelchairs, mobility aids, such as ramps, elevators, wide doorways, disabled parking spaces.
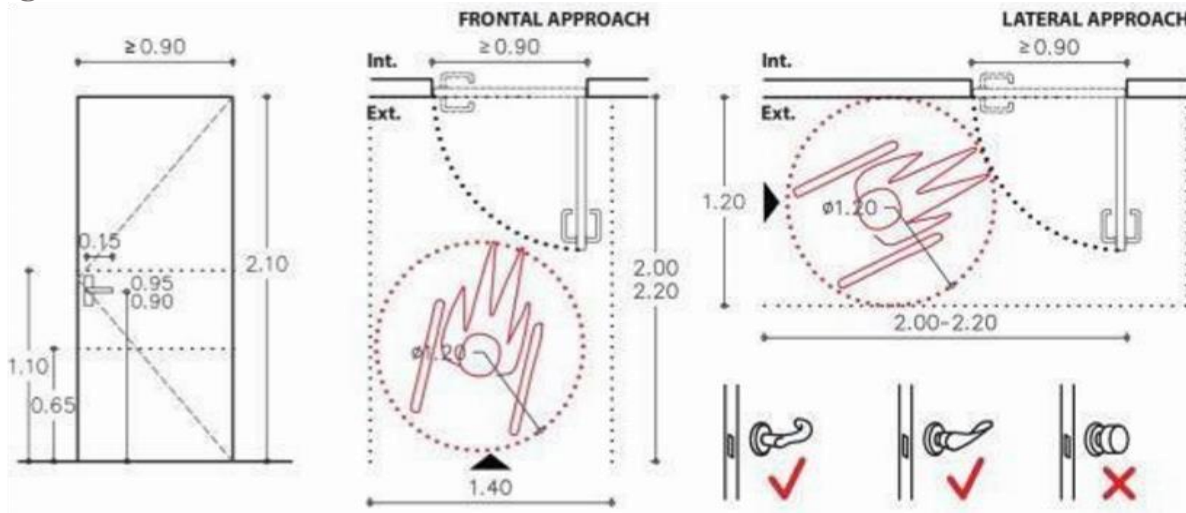
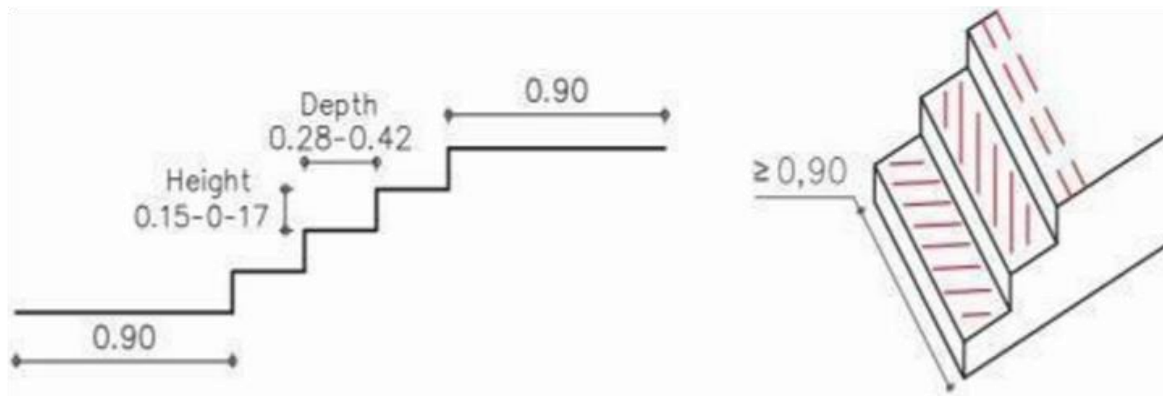**Original Article**

Figure 2: Door width and frontal approach

Figure 3: Ramps and stairs

Figure 4: Balustrade and Handrails

b. SENSORY ACCESSIBILITY: Sensory impairments such as visual or auditory impairments require alternative methods of communication. Way finding elements such as visual cues, clear signage, braille signage, deaf space, tactile maps and audio cues for ease of navigation. Visual impairments limit people who have difficulty seeing, colour blind or totally blind. Auditory disabilities result in partial or total inability to perceive sounds and audio based information. Accessibility for auditory disabilities are closed captions and transcripts for audio and video content, visual cues for alarms and notification, hearing aids and loops alongside interpreters for live events.

c. COGNITIVE ACCESSIBILITY: Cognitive disability or Neuro-diversity involves difficulty in processing information, concentrating or remembering complex steps. Barriers people with cognitive disability experience include: use of overly complex/advanced language, inconsistent navigation, excessive amount of content, unexpected actions, reading and comprehension. Cognitive impairments can be congenital or the result of injury. Accessibility for cognitive disability are similar to other accessibility types because patients with Neurodiversity often have auditory, visual or mobile impairments. They include high relief models, contracted tactile floor tiles, magnetic hoops, screens, Navilens or Qr codes, careful design layout with simple orientation and identifiable landmarks.

V. CONCLUSION

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Accessibility in therapeutic architecture is fundamental to the wellbeing and a necessity for users of a facility. It is essential to ensure that people with disabilities have access to information services and products without barriers, discrimination and with little or no assistance. It increases their overall health and fosters better healing environment while making their lives easier and more comfortable.

The integration of universal design is key in ensuring that the built environment is accessible and responsive to all forms of physical, sensory and cognitive abilities. Well planned circulation routes and adaptive interior finishing, sensory- friendly elements and smart technologies that aid in the process of accessibility can transform the healing process and support the overall efficiency and effectiveness of the health care system. The concept of accessibility in therapeutic architecture goes beyond meeting building standards and codes; it encompasses a deep understanding of user needs and a commitment to inclusion. By creating spaces that transcends generations, the potential of therapeutic spaces can be unlocked revealing the sanctuaries of healing that nurture the mind, body and spirit of its users.

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