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CREATING INCLUSIVE ENVIRONMENTS FOR DIFFERENTLY ABLED INDIVIDUALS: INFRASTRUCTURE AND BEYOND

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Article Info

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Abstract

Disability transcends the boundaries of physical health, encompassing a broader spectrum of challenges that individuals encounter in their interactions with the environment. This paper delves into the multifaceted nature of disability, elucidating its diverse forms and the profound impact it wields on the lives of individuals across the globe. While conventional perceptions of disability often evoke images of individuals with mobility aids or sensory impairments, this study underscores that disability is a complex interplay between individual attributes and their surrounding environment. One of the quintessential manifestations of disability surfaces when communication breakdowns occur due to language barriers. Instances where conversations falter due to an inability to understand or convey messages reflect a form of disability that is often overlooked. This study underscores the need to broaden the scope of disability discourse to encompass such situations, highlighting that disability can transiently affect anyone. Drawing on a global perspective, it is evident that disability is pervasive, with approximately 15% of the global population encountering some form of disability, and 2-4% grappling with mobility challenges. Interestingly, the paradigm of disability has expanded to encompass more than just physical impairments. The escalating prevalence of persons with disabilities (PWDs) has been associated with an array of health issues, including mental disorders, cardiovascular ailments, respiratory illnesses, injuries, and cancer. Additionally, the aging process itself has emerged as a pivotal contributor to disability, with the elderly population facing an elevated susceptibility to impairment. In response to these challenges, creating an environment that fosters inclusivity and functionality for differently abled individuals is paramount. The configuration of disability-friendly infrastructure assumes a pivotal role in enhancing the quality of life for PWDs. However, the nature of this infrastructure is contingent upon the specific type of disability, underscoring the significance of tailoring solutions to the individual's needs. This paper contributes to a nuanced comprehension of disability, transcending traditional perceptions and

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advocating for a holistic approach to fostering inclusivity. By recognizing the myriad manifestations of disability and embracing a comprehensive strategy for accommodations, societies can better facilitate the integration and empowerment of differently abled individuals.

Introduction

We all faced disability for at least once in our life. For example, if we are going to interact with someone but somehow, we were not able to communicate with him or her due to barrier of the language, it is also considered as disability at some extent. Disability is not only about the health problem; it is the interaction between characteristics of the individual and the environment in which he/she lives. There are many conventional views of disability, such as it consists only wheelchair users or some other common disability like blind and deaf people. Disability affects hundreds of families in the world; around 15% of the world population faces some kind of disability out of which 2-4% population suffered with mobility problem. At present, rate of PWDs increases throughout the world and it associated with some other health problems like mental disorder, cardiovascular diseases, respiratory illness and injuries, cancer etc. Now a days ageing is a common cause of disability because in old age there is higher risk of disability **(World Health Organization 2011).** For these differently abled people special features infrastructure required for the barrier free working environment the facility was solely dependent on the type of disability this will provide an obstruction free environment for them to work more efficiently and with more easiness.

Person's working environment plays important role while doing the task, if it is not according to the need of the person it must be change very soon. The environment must be changed to improve the accessibility and health conditions of PWDs. Ramps and kerb for wheelchair user, signages and tactile marking for visually impaired, audio signals for deaf person, accessible doors and windows etc were should be there in-built environment for easy accessibility **(World Report on Disability 2016).** The Indian infrastructure in most of the places is not differently abled friendly. According to a survey, only 11% of the architects are aware about the accessibility design and information used for disabled people in buildings (Aggarwal 2017). In this context Mistry reported in his study that the differently abled student in the University of Gujrat did not have easy accessibility to classrooms, libraries, and academic and administrative buildings of the university. They were also not provided with any kind of learning resources including assistive technology (**Mistry 2012)**. Development in educational sector, industrial sector, health and care, employment, removing poverty zero hunger and equality all are interlinked with each other. It is worthless to think about the overall development without providing equal resources and opportunity to all. So, keeping all these points in mind the present study will be conducted to explore the infrastructure barrier in buildings under the following objectives.

Objective

I.To study the personal profile of the differently abled employs of University.

II.Study of infrastructure design of University as per differently abled people requirements

MATERIALS AND METHODS

The research was carried out in Chaudhary Charan Singh Haryana Agricultural University, Hisar (Haryana) to find out the accessibility for PWDs in build environment. The respondents were selected purposively, the sample size consist of 10 respondents that were working staff of the university and suffering from disability. The exploratory research design was implemented to carry out the research and the responses were recorded in a

structured interview schedule through personal contact. Statistical tool frequency, percentage, arithmetic mean and standard deviation used to analyse the results of the study.

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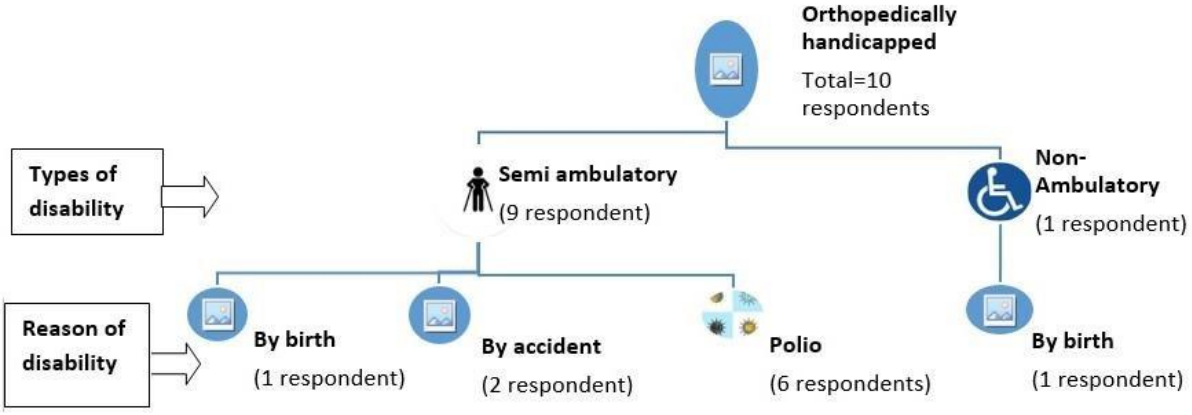

RESULTS AND DISCUSSION

Table-1

A number of profile characteristics were selected as independent variables to find out the profile of employs in the study area. The result obtained given in the table-1. It is obvious from the above table that 40% of the respondents between the age group of 26-33, followed by 33- 40 and 40-47 that was 30%. Majority of respondents (70%) were graduates. Data revealed that all of them were males (100%). Majority of them (70%) were married and 30 % were unmarried, whereas 50% of the respondents having joint family followed by nuclear family (30%). Maximum number of respondents were engaged in non-teaching type of job (80%) and very few (20%) respondents were have teaching as a occupation. As 60% of the respondents did their job as sitting and walking both, while 40% of the respondenst were doing their task as sitting. All of the respondenst were orthopedically handicapped. Majority of the respondents used personal vehicle (90%) as a means of transportation followed by public transport (10%), 50% of the respondents did their work on ground floor, equal number of respondents (20%) works second & third floor, a very few, 10 % have first floor as a working area. In response to their specific working environment, 60% had office work and followed by classroom and fieldwork (20%).

Table-2

Data regarding routine management of the respondents were taken (Table-2) to analyses how they perform their work, at work place as well as at home. At work place majority of the respondents (90%) did their office work as well as practical work independently, only few (10%) take partial assistance from their office staff. All of the respondents manage their lectures and seminar/conference related activities by their own. There was no any respondent who take assistance for toilet activity and majority of the respondents (90%) did field work independently followed by 10% taken partial assistance from their collogue. Further their home related activities were inspected, so according to findings 100% of the respondents did their eating, bathing and toilet activities by own self. Very less (10%) respondents were totally dependent on family member for cooking where as 90% did independently. Majority of the respondents (90%) were carried out their clothing related activities without any assistance 10% partially dependent on their family member. The entire respondent followed their activity at home like dressing/grooming, oral hygiene and hobbies by self.

Table-3

The quality of accessibility in the buildings of University Campus were assessed from the point of differently abled people. Regarding assessment of satisfaction level within the infrastructure of the building responses was collected from the respondents under table-3 and the result were as follows:

Ramp:

According to findings, 40% of the respondents ensured about the presence of ramp and satisfied with that in their working environment, whereas in rest of the buildings it was absent. Surface of the ramp was non-slippery but lacking from tactile marking at starting as well as at the end. It was facilitated with wooden handrails on the both side of the ramp.

The findings of the present study are inline with the oberservation of **Soyingbe. A *et al.*** **(2011)** who reported that out of 164 buildings only 40 building have provision of ramps.

Drooped kerbs:

Drooped kerb allows easy accessibility for wheel chair user from the pavement, so most of the respondents (70%) certify the existence of drooped kerbs in building design from which 60% and 10% were satisfied and neutral respectively.

Accessible toilets:

Majority of the respondents (90%) revealed that absence of accessible toilets in campus buildings only presence in very few (10%) and they were satisfied with the accessible toilets. **Illumination/lighting:**

All of the respondents were stated that sufficient lighting provided at their work place as well as classroom, laboratory, stairs, corridors, toilets etc.

Lift: Most of the respondents (60%) were facing difficulty due to the absence of lift in most of the buildings, 40% of the respondents who worked in the same building, were ensured the presence of lift and satisfied with the accessible feature provided like handrails, control panel, lift hall signals, sufficient landing space etc.

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Stairs:

All the respondents were agreed with the existence of stairs at working buildings, out of them, 60% of the respondents were totally satisfied with the tread surface, provided handrails, sufficient lighting for easy accessibility. 30% respondents were faced difficulty due to absence of non slippery tread surface as well as hand rails with proper grip. Rest of the respondents were unaffected by these building design features.

Entrance:

Majority of the respondents (70%) were satisfied because of easy accessibility, as level difference filled by the detachable wooden ramp at entrance. 20% respondents were neutral with that feature but 10% respondents were unsatisfied due to level difference and faced difficulty in moving.

The findings of the present study are contradictory with the oberservation of **Bisht, H et al (2018)** who reported that entrance of every building have staircase and no side rails.

Accessible door:

Accessible door feature is important to provide accessibility to all. door should be containing extra pull handles, operable handle etc. Majority of the respondents (90%) were satisfied with all the assessable feature of doors in campus buildings, a smaller number of respondents (10%) were unaffected.

Signages & information panel:

The whole campus buildings were filled with the signages and information panels. All the respondents were satisfied with the signages and information panels provided at the

University's building such as at entrance, room number/hall number, etc.

Table- 4

The comparative study carried out between existing building design features and recommended standard dimensions by AICTE for differently abled people. Building of Basic Sciences and Humanities of the Campus selected purposively for the study. The findings are as followes:

Recommended width of the ramp is 1.5m- 2.00m and during the study it was found as 1.714m which is significant. Wooden haindrails were provided on the both side whereas tactile marking were absent at the starting and top of the ramp. Surface of the ramp was found non slippery as prescribed for differently abled people. Accessible toilets was absent in that building. Lghting/ Illumination in the lift suggested by AICTE was 100 lux and measured reading by the lux meter found, 185 lux which was more than enough but on the stairs 150-200 lux was recommended whereas 90 lux was measured which is less than standard. 190 lux found on the reception which was nearer to the prescribed reading (200 lux). Standard dimensions of the lift cabin is 1.3m x 1.00m and existing dimensions was 1.12m x 1.30m, height of lift hall signal 1.80m from the floor and control panel of the lift present on the flank wall which was same as prescribed in the manual of AICTE. Width of the door of the lift also up to the mark (0.85m). Handrails of the stairs was 0.813m from the floor finish almost similar to standard dimension (0.70-0.80m and 0.90-1.00m). Tread and riser of the steps was deep as 0.35m and 0.17 respectively which was in line with the recommended dimensions (tread- 0.28m deep, riser- 0.15 to 0.18). Width of the stairs was found 1.80m and suggested value is 1.50m. At the entrance/exit height of the signages and information panels was measured as 1.70m from the floor which was more than recommended value (1.30m to 1.60m), whereas pictograms was absent. On the reception area height of the reception desk was found 0.82m which was in between prescribed dimention (0.75 to 0.90m) and knee space was absent.

CONCLUSION

The study concluded that majority of the respondents were under the age group of 26 to 33, having education upto graduation and all the respondents were male. Most of the respondents were married, having Joint type of family and were engaged in non-teaching type of occupation. Majority of the respondents were having sitting cum walking types of work at job. Workers were found to be using personal vehicle as a mean of transportation. Most of them were having work place at ground floor, but besides this 20 per cent respondents were found to be working at 3rd floor.

Regarding routine management, majority of the respondents were doing their work independently, due lack of support and resources at work place. There was no special provision of assistance/help was provided by the university. Some time workers were found to be taking help form their colleagues for accomplishment of tasks.

In the respond to the satisfaction level with the building designs majority of the features drooped kerbs, illuminating/lightning, stairs, entrance, accessible doors, signage's and information panels were present in almost buildings except ramp, lift and accessible toilets which is present in only a few buildings of the university campus by which employes faced difficulty in doing their work due to lack of accessible building design feature. 101

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