

# The Impact of World Health Organization- 8 steps Guidelines in Manual Wheelchair Service Provision in Less Resourced Settings on Health, Education and Psychological Well-being of wheelchair Users with special reference to Chhatarpur, Madhya Pradesh

Dr. Mitali Bajaj\* Sheetal Kumari\*\*

\*Associate Professor (Education) Maharaja College, Ujjain (M.P.) INDIA  
\*\*Research Scholar, Maharaja College, Vikram University, Ujjain (M.P.) INDIA

**Introduction - "There is no greater disability in society than the inability to see a person as more."**

**- Robert M. Hensel**

The wheelchair is one of the most commonly used assistive devices for enhancing personal mobility, which is a precondition for enjoying human rights and living in dignity and assists people with disabilities to become more productive members of their communities. For many people, an appropriate, well-designed and well-fitted wheelchair can be the first step towards inclusion and participation in society.

In 2008, the World Health Organization (WHO) published Guidelines on the provision of Manual Wheelchairs in Less Resourced Settings (LRS), which emphasized the need for appropriate wheelchairs, with a provision system addressing design, production, supply and service delivery processes.

The Convention on the Rights of Persons with Disabilities and its Optional Protocol (1) were adopted by the United Nations General Assembly on 13 December 2006 to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity.

Articles 20 and 26 of the Convention affirm that States Parties (i.e. governments or authorities) shall take effective measures to ensure personal mobility and rehabilitation by facilitating access to good quality mobility aids, devices and assistive technologies at an affordable cost, and to encourage entities that produce mobility aids, devices and assistive technologies

These guidelines seek to promote personal mobility and enhance the quality of life of wheelchair users by assisting Member States in developing a system of wheelchair provision to support the implementation of the

Convention on the Rights of Persons with Disabilities. The guidelines focus on manual wheelchairs and the needs of long-term wheelchair users.

The guidelines are divided into five categories:

- Introduction
- Design and production
- Service delivery
- Training
- Policy and planning

Wheelchair services are commonly delivered in a sequence of steps. A summary of eight key steps typically involved in **wheelchair service delivery system**. This has been explained below:

- 1. Referral and appointment:** The system of referral will depend on existing services in the country. Users may self-refer or be referred through networks made up of governmental or nongovernmental health and rehabilitation workers or volunteers working at community, district or regional level.
- 2. Assessment:** Each user requires an individual assessment, taking into account lifestyle, vocation, home environment and physical condition.
- 3. Prescription (selection):** Using the information gained from the assessment, a wheelchair prescription is developed together with the user, family member or caregiver. The prescription details the selected wheelchair type, size, special features and modifications.
- 4. Funding and Ordering:** A funding source is identified and the wheelchair is ordered from stock held by the service or from the supplier.
- 5. Product Preparation:** Trained personnel prepare the wheelchair for the initial fitting. Depending on the product and service facilities, this may include assembly, and possible modification, of products supplied by manufacturers or production of products in the service

workshop.

**6. Fitting:** The user tries the wheelchair. Final adjustments are made to ensure the wheelchair is correctly assembled and set up.

**7. User training:** The user and caregivers are instructed on how to safely and effectively use and maintain the wheelchair.

**8. Follow-up, maintenance and repairs:** Follow-up appointments are an opportunity to check wheelchair fit and provide further training and support. If the wheelchair is found to be no longer appropriate, a new wheelchair needs to be supplied starting again from step 1.

**Background Of The Study:** The majority of studies find that persons with disability have lower employment rates and lower educational attainment than persons without disability. An analysis of the World Health Survey data for 15 developing countries suggests that households with disabled members spend relatively more on health care than households without disabled members.

People with disabilities are at greater risk of violence than those without disabilities. The ageing process for some groups of people with disabilities begins earlier than usual. People with disabilities are at higher risk of nonfatal unintentional injury from road traffic crashes, burns, falls, and accidents related to assistive devices. Mortality rates for people with disabilities vary depending on the health condition. Social deprivation has been a major contributor to these health inequalities, and people with mental health problems and learning disabilities were at a high risk of poverty. About 10% of the global population, i.e. about 650 million people, have disabilities. Studies indicate that, of these, some 10% require a wheelchair. It is thus estimated that about 1% of a total population – or 10% of a disabled population – need wheelchairs, i.e. about 65 million people world wide. In 2003, it was estimated that 20 million of those requiring a wheelchair for mobility did not have one.

**Statement Of The Research:** The present study is entitled “The Impact of World Health Organisation- 8 steps Guidelines in Manual Wheelchair Service Provision in Less Resourced Settings on Health, Education and Psychological Well-being of wheelchair Users with special reference to Chhatarpur, Madhya Pradesh”.

**Operational Definition Of The Problem:** World Health Organization Eight Steps Guidelines on Manual Wheelchair Service Provision The eight key steps typically involved in wheelchair service delivery are as follows:

1. Referral and appointment
2. Assessment
3. Prescription (selection)
4. Funding and ordering
5. Product preparation
6. Fitting
7. User training
8. Follow-up, maintenance and repairs

These guidelines focus on manual wheelchairs and the needs of long-term wheelchair users. These guidelines

seek to promote personal mobility and enhance the quality of life of wheelchair users. Some of the important terminologies and its meanings have been listed below:

#### **Terminologies Meanings**

**Wheelchair:** a device providing wheeled mobility and seating support for a person with difficulty in walking or moving around

**less-resourced setting:** a geographical area with limited financial, human and infrastructural resources to provide wheelchairs (a common situation in low- and middle-income countries, but also in certain areas of high-income countries)

**manual wheelchair:** a wheelchair that is propelled by the user or pushed by another person

**Appropriate wheelchair:** a wheelchair that meets the user's needs and environmental conditions; provides proper fit and postural support; is safe and durable

**wheelchair user:** a person who has difficulty in walking or moving around and uses a wheelchair for mobility

**personal mobility:** the ability to move in the manner and at the time of one's own choice

**wheelchair provision** an overall term for wheelchair design, production, supply and service delivery

**wheelchair service:** that part of wheelchair provision concerned with providing users with appropriate wheelchairs

**Health:** A wheelchair that is functional, comfortable and can be propelled efficiently can result in increased levels of activity, Independent mobility and increased physical function can reduce dependence on others making it an important factor in the Maintenance of Health. In addition to providing mobility, an appropriate wheelchair is of benefit to the physical health and a better quality of life of the user.

**Education:** Enhancing the scope of Education in Wheelchair users is a very important factor in the maintenance of a better and increased quality of life .

**Psychological Well-being:** Positive psychology is the scientific study of what makes life most worth living, focusing on both individual and societal well-being. It studies “positive subjective experience, positive individual traits, and positive institutions. It aims to improve quality of life.

Psychological wellbeing has two important facets. The first of these refers to the extent to which people experience positive emotions and feelings of happiness. Sometimes this aspect of psychological wellbeing is referred to as subjective wellbeing (Diener, 2000).

#### **Aims And Objectives Of The Study**

**Objectives :** To evaluate if WHO 8 steps guidelines in Service Delivery assist the wheelchair users get/optimize the Customized Wheelchair and appropriate services.

#### **Sub Objectives:**

1. To appraise how the First step – “Referral and Appointment” helps the Wheelchair users receive quality health care services
2. To assess how the Second step – “Assessment” supports the Wheelchair users go through proper channel of

Individual Assessment according to their individual needs.

3. To observe if the Third step – “Prescription (Selection)” assists the Health Personnel prescribe Specific wheelchair with detailing and special features for the Wheelchair users.

4. To analyze if the Fourth step – “Funding and Ordering” helps the Service Providers with the availability of the Wheelchair by the Suppliers.

5. To evaluate how the Fifth step – “Product Preparation” helps the Trained Personnel prepare the wheelchair for initial fitting for the Wheelchair users.

6. To judge if the Sixth step – “Fitting” assists the Wheelchair users perform the Trials of the wheelchairs followed by final adjustments.

7. To check if the Seventh step – “User Training” instructs the Wheelchair users and Caregivers use the wheelchair effectively and safely.

8. To measure how the Eighth step – “Follow-up, maintenance and repairs” provides opportunity to the Wheelchair users to check wheelchair fit and provide further training and support with advancing further repairs, maintenance and solving technical problems.

9. To assess if the WHO eight steps guidelines on Manual Wheelchair Service Provision are helping the wheelchair users to have an uninterrupted education.

10. To assess if the WHO eight steps guidelines on Manual Wheelchair Service Provision are assisting the wheelchair users gain Psychological Well-being (self-satisfaction, self-efficiency, sociable, mental health, interpersonal relationships).

### Hypotheses

**Null Hypothesis:** There will be no significant relationship between WHO 8 steps Guidelines in Service Delivery to wheelchair users and obtaining a customized wheelchair as far as their health is concerned.

### Sub Hypotheses:

1. There will be no significant relationship between First step – “Referral and Appointment” and receiving of quality health care services by users.

2. There will be no significant relationship between the Second step – “Assessment” and users going through Individual Assessment.

3. There will be no significant relationship between the Third step – “Prescription (Selection)” and assisting the Health Personnel with the detailing of the prescribed wheelchair.

4. There will be no significant relationship between the Fourth step – “Funding and Ordering” and the Service Providers with the availability of the Wheelchair by the Suppliers.

5. There will be no significant relationship between the Fifth step – “Product Preparation” and the Trained Personnel prepare the wheelchair for initial fitting for the Wheelchair users.

6. There will be no significant relationship between the Sixth step – “Fitting” and Wheelchair users performing the

Trials of the wheelchairs followed by final adjustments.

7. There will be no significant relationship between the Seventh step – “User Training” and instructions made to the Wheelchair users and Caregivers to use the wheelchair effectively and safely.

8. There will be no significant relationship between the Eighth step – “Follow-up, maintenance and repairs” and providing opportunity to the Wheelchair users to check wheelchair fit and provide further training and support with advancing further repairs, maintenance and solving technical problems.

9. There will be no significant relationship between WHO eight steps guidelines on Manual Wheelchair Service Provision and wheelchair users having an uninterrupted education.

10. There will be no significant relationship between WHO eight steps guidelines on Manual Wheelchair Service Provision and the wheelchair users gaining Psychological Well-being (self-satisfaction, self-efficiency, sociable, mental health, interpersonal relationships).

**Methodology:** Methodology in research is defined as the systematic method to resolve a research problem through data gathering using various techniques, providing an interpretation of data gathered and drawing conclusions about the research data. Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study’s overall validity and reliability.

**Variables:** WHO Eight Steps Guidelines on Manual Wheelchair Service Provision in Less Resourced Setting is Independent variable.

Health of the Wheelchair Users is Dependent variable. Education of the Wheelchair Users is Dependent variable.

**Population And Sample:** In this study the Wheelchair users or persons having the need of mobility aids of the organization, Christian Hospital located at Chhatarpur, Madhya Pradesh constitute as the Population of the study.

The sample size for the study will be estimated based on the population statistics on locomotor disability and the access to Wheelchairs as an assistive technology device. The Purposive Sampling Technique will be used in the study.

**Data Collection:** The data will be collected from the organization, Christian Hospital located at Chhatarpur, Madhya Pradesh based on the fact that Eight steps guidelines of World Health Organisation are being followed there. The needs of the Wheelchair users will be assessed thoroughly before making the prescription (selection) of the wheelchair along with appropriate wheelchair. Then new wheelchair would be delivered and fitted to the participant. During the same appointment, he/she would be trained on how to handle it, how to transfer, basic maintenance, and how to contact the Service Providers if they happen to face any issue going further. In this whole procedure the Eight Steps Guidelines of WHO will be followed by the Hospital. Versions of ICF by WHO like WHODAS 2.0, ICF-CY and



PWBS-2012 developed by Dr. Devender Singh Sisodia and Pooja Choudhary would be used as tools for the study.

**Tools:** The International Classification of Functioning, Disability and Health (ICF)

The International Classification of Functioning, Disability and Health (ICF) is a framework for organizing and documenting information on functioning and disability (WHO 2001). . It integrates the major models of disability - the medical model and the social model - as a “**bio-psycho-social synthesis**”.

**WHODAS 2.0:** The World Health Organization Disability Assessment Schedule is a generic assessment instrument developed by WHO to provide a standardized method for measuring health and disability across cultures

There are three modes of administering WHODAS 2.0: self-administered, by interview and by proxy. The WHODAS 2.0 raw item scores can be used as an ordinal scale that reflects the level of difficulty (starts from “**no difficulty**” and increases in an ordered fashion to “**mild**”, “**moderate**”, “**severe**” or “**extreme**” difficulty). Each level indicates a higher degree of difficulty. The scale consists of **36 items** and covers six domains of life namely – **Cognition, Mobility, Self-care, Getting Along, Life Activities and Participation.**

**ICF-CY:** The **International Classification of Functioning, Disability and Health for Children and Youth (ICF-CY)** is derived from the International Classification of Functioning, Disability and Health (ICF) (WHO, 2001) and is designed to record the characteristics of the developing child( **birth to 18 years of age**) and the influence of its surrounding environment

**Psychological Well-being Scale:** In the present research, **Psychological Well-being Scale (PWBS-2012)** developed by **Dr. Devender Singh Sisodia and Pooja Choudhary** would be used. The scale consisted of 50 items and covered five dimensions, namely – satisfaction, efficiency, sociability, mental health and interpersonal relations. The test retest reliability was found to be 0.87 and the overall consistency value of the scale was 0.90.

**Variables Of The Study:** In the present study WHO Eight Steps Guidelines on Manual Wheelchair Service Provision in Less Resourced Setting is Independent variable.

In the present study Health of the Wheelchair Users, Education of the Wheelchair Users and Psychological Well-being of the wheelchair users are Dependent variables.

**Sample And Sampling Technique:** Sample refers to the proper representation of population. Sampling is the process of selecting a group of individuals from a population to study them and characterize the population as a whole.

In this study the Wheelchair users or persons having the need of mobility aids of the organization, Christian Hospital located at Chhatarpur, Madhya Pradesh constitute as the Population of the study. The Purposive Sampling Technique will be used in the study.

**Research Design:** This study employs a Quasi Experimental Research Design that aims at CAUSE AND

EFFECT RELATIONSHIP like True Experimental Design. Quasi Experimental Research Design has following features :

1. No Random Assignment
2. Manipulation of an Independent Variable
3. Observes the effect of a dependent variable
4. Cause and Effect relationship
5. Emphasizes External Validity
6. Used in Field setting (Natural Setting)

The researcher has chosen to conduct experiment by employing **TIME SERIES DESIGN** among various designs that come under **Quasi Experimental Research Design.**

#### References:-

1. Nannar, Ramdas Kisan. (2008). Standardization of emotional intelligence inventory for school students. 22-04-2023, shodhganga, <http://hdl.handle.net/10603/302235>
2. Saha, Shovan. (2015). Outcomes of assistive technology in Indian population with locomotor disability. 12-03-2022, shodhganga, <http://hdl.handle.net/10603/44846>
3. Tripathi, Sunita. (). A study on socio economic empowerment of women with disabilities. 12-03-2022, shodhganga, <http://hdl.handle.net/10603/221778>
4. Routhier, François. (2003). Mobility of wheelchair users: A proposed performance assessment framework. 12-03-2022, Researchgate, <https://www.researchgate.net/publication/10929445>
5. Gupta, Shivani. (2019). Barriers to using mobility devices in rural homes in low resource settings. 12-03-2022, researchgate, <https://www.researchgate.net/publication/348834889>
6. Retrieved February 14, 2023, from [https://www.who.int/disabilities/publications/technology/English%20Wheelchair%20Guidelines%20\(EN%20for%20the%20web\).pdf](https://www.who.int/disabilities/publications/technology/English%20Wheelchair%20Guidelines%20(EN%20for%20the%20web).pdf) Retrieved February 23, 2023, from <https://wheelchairnetwork.org/>
7. Retrieved March 24, 2023, from <https://en.wikipedia.org/wiki/Disability#Terminology>
8. Retrieved March 24, 2023, from [https://en.wikipedia.org/wiki/Physical\\_disability](https://en.wikipedia.org/wiki/Physical_disability)
9. Retrieved April 3, 2023, from <https://www.who.int/publications/i/item/9789241547482>
10. Retrieved April 3, 2023, from <https://www.statisticsolutions.com/dissertation-resources/research-designs/quasi-experimental-research-designs/>
11. Retrieved January 7, 2023, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4722611/>
12. Retrieved April 14, 2023, from <https://www.mygreatlearning.com/blog/introduction-to-sampling-techniques/>
13. Retrieved April 14, 2023, from [https://en.wikipedia.org/wiki/Positive\\_psychology](https://en.wikipedia.org/wiki/Positive_psychology)
14. Retrieved April 14, 2023, from <https://www.robertsoncooper.com/blog/what-is-psychological-wellbeing/>