



A Review on the Implications of the Prevailing Conceptual Model of Disability in Bangladesh

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ABSTRACT

There are significant variations in health outcomes between those with disabilities and those who do not. Persons with disabilities (PWDs) constitute a substantial and diversified minority community in Bangladesh. Accidents, inaccurate medical diagnosis, maternal malnutrition, a shortage of skilled birth attendants and nurses, polio, typhoid, crime and violence, acid burn, child marriage, marriage with relatives, and other reasons all contribute to disability in Bangladesh. Rehabilitation professionals must understand a number of disability models in order to work with people who have impairments. To establish a theoretical foundation for this review, the pros and cons of several models of disability are discussed, including the moral model, the medical model, the social model, the bio-psycho-social model, and the International Classification of Functioning, Disability, and Health (ICF) model. Despite the fact that there is a lack of recorded data and information on disability models in Bangladesh, the review article explored the ramifications of the prevailing disability model including the challenges and initiatives taken for PWDs in Bangladesh. The policy trend of progress clearly reveals that the disability model in Bangladesh is still under development. Bangladesh appears to be ramping up its transition from the Medical Model to the Bio-Psycho-Social Model.

INTRODUCTION

Disability is caused by a person's health conditions and/or impairments, interacting with a variety of contextual factors related to various environmental and personal factors, such as societal attitudes, including negative attitudes, inaccessible transportation and public buildings, and limited social support with discriminations (World Health Organization, n.d.). At some point in life, almost everyone will have impairment either temporarily or permanently. Nowadays, an estimated 1.3 billion people, or around 16% of the world's population, are with disability (World Health Organization, n.d.).

A significant portion of the disparities in health outcomes between persons with and without disabilities are the consequence of unjust or unfair circumstances that are modifiable and cannot be explained by the underlying health condition or limitation (World Health Organization, n.d.).

People in countries with longer life expectancies spend an average of 8 years, or 11.5 percent of their lives, living with disabilities (Disabled World, 2022). According to the United Nations Development Programme, eighty percent of disabled individuals live in developing countries. In most Organization for Economic Cooperation and Development (OECD) countries, women report higher cases of disability than men, and 19 percent of less educated individuals have impairments, compared to 11 percent of those with



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advanced degrees (OECD, n.d.). According to the World Bank, 20% of the world's poorest people have a disability, and they are frequently seen as the most disadvantaged in their own communities (United Nations, n.d.).

Persons with disabilities make up a sizable and diverse minority group in Bangladesh. According to Bangladesh's government's 7th Five-Year Plan (2016-2020), more than 9% of the overall population is disabled, with almost 500,000 people suffering from various impairments (NFOWD & HI, 2005). Accidents, incorrect medical diagnosis, maternal malnutrition, a shortage of competent birth attendants and nurses, polio, typhoid, crime and violence, acid burn, child marriage, marriage with relatives, and other causes all contribute to disability in Bangladesh (Hasan et al., 2018).

According to studies, individuals with disabilities in Bangladesh experience substantially greater levels of unmet needs, loneliness, stress, and their basic rights and entitlements are often denied. Most of them lack adequate access to food, education, and health care, putting them at risk of sickness and injury. As a result, they face widespread and well-documented poverty and misery (DFID, 2000; National Grassroots and Disabilities Organization et al., 2015; Sultana, 2010; Hussain, 2020). As a result, it is necessary to analyze Bangladesh's present disability model as well as the difficulties confronting persons with disabilities in Bangladesh. Despite the fact that there is a shortage of reported data and information on disability models in Bangladesh, the paper first explored the benefits and drawbacks of several conceptual models of disability in order to provide a theoretical foundation, and then it discussed the implications of the prevailing model of disability in Bangladesh.

Pros and Cons of the Conceptual Models of Disability

In order to work with persons with impairments, rehabilitation experts working in medical rehabilitation must comprehend a variety of disability models. There are several viewpoints and perspectives on the nature and definition of disability, among them the moral model, the medical model, the social model, the bio-psycho-social model, and the International Classification of Functioning, Disability, and Health (ICF) model are discussed in this section.

Moral Model

The moral model of disability holds that impairment is caused by a moral failing or sin on the part of the individual or his/her family members (e.g., parents) (Olkin, 2002). This model associates disability frequently with sin and is regarded as a source of shame; it may be perceived as a burden, particularly on families (Andrews, 2017). Historically, people with disabilities were referred to in ways that would now be deemed disrespectful within the moral paradigm. Such phrases reflected a pity-based or inferior attitude toward disability, as well as a society that saw people with disabilities as the result of sin or in need of charity.

Pros of the Moral Model

In some cultures, and communities, it promotes a belief in a specific relationship with God or a feeling of higher purpose to the situation (Olkin, 2002).

Cons of the Moral Model

The cons of the moral model are the concept of preventing people with disabilities from participating meaningfully in society; instead, this paradigm fosters social isolation and

may even lead to self-hatred (Andrews, 2017). The moral model is less widespread nowadays, although it still exists. Certain disability charity organizations, for example, seek compassion in order to gain donations or financial sponsors.

Medical Model

Disability is equivalent to sickness in the medical model of disability. The medical model regards disability as a flaw that must be corrected by the medical community and healthcare professionals. This suggests that medical therapy may "cure" defects and disabilities. According to a primarily medical model of disability, any person with pathology, regardless of severity, is eligible for social assistance and accommodations regardless of the level of function (Marshall, Doone, & Price, 2019).

Pros of the Medical Model

The medical model identifies the underlying issue through good symptom identification and analysis. It also provides a treatment-first strategy to address concerns about comfort and safety, as well as a thorough technique for eliminating potential factors to increase diagnostic precision.

Cons of the Medical Model

The medical model has drawn criticism in three ways: a. it promotes the incorrect concept of the health philosophy, in which biological and psychological issues are treated separately; b. it places an excessive emphasis on disability rather than an individual's potential; and c. it promotes paternalism (Mwendwa, Murangira, & Lang, 2009). It is more preoccupied with what is "wrong" with the person than with what they truly need. People lose their freedom and control over their own lives as a consequence, which lowers their expectations. The main criticism raised against this model is that the practices of confinement and institutionalization are associated with the sick role, while persons with disabilities are perfectly capable of functioning in society (Olkin, 1999).

Social Model

Disability is portrayed as a neutral feature or attribute in the social model, rather as a medical ailment that must be remedied or a representation of moral failure. Disability is defined in the context of an environmental setting by social views about disability. The social model of disability identifies institutional impediments, stigmatizing beliefs, and unintentional or intentional social exclusion as factors that render it hard or impossible for individuals with disabilities to perform their preferred functions (Paley, 2002). According to some studies, societal discrimination is the most significant impediment and the root of many challenges associated with disability (Andrews, 2017).

Pros of the Social Model

This model shifts the focus away from individuals and their disabilities toward attitudes, structural obstacles, and general environmental barriers that prohibit persons with disabilities from fully participating in society. Many individuals believe that the change from a medical to a social approach symbolizes fairness and equality for disabled persons (Craddock, 1996). The social model makes it possible to identify impediments that make living more difficult for persons with disabilities. Eliminating these barriers promotes

equality and offers persons with disabilities more independence, opportunity, and authority (Heer, Rose, & Larkin, 2012).

Cons of the Social Model

The social model has been criticized for failing to depict the realities of those suffering from anxiety, despair, chronic pain, or chronic fatigue. It has, however, not been without criticism. Opponents argue that the social model fails to specify who classifies as disabled or how disability is characterized or confirmed (Peterson & Elliott, 2008).

Bio-Psycho-Social Model

The Bio-psychosocial model of disability is not a medical nor a social phrase; rather, an effort was made to combine the two concepts into bio-psycho-social models. This model conforms to a philosophy that combines the social and medical models of disability in the sense that it acknowledges disability discrimination, individual limits, and adverse societal expectations as influencing variables (Penney, 2013). As a consequence, the bio-psycho-social model is based on the concept that disability is caused by a combination of three types of factors: physical (age and gender), psychological (behavior), and social (social and cultural circumstances) (Bath et al., 2014).

Pros of the Bio-Psycho-Social Model

The bio-psycho-social model may be used by primary care physicians to better understand the interplay between biological and psychological components of ailments in order to strengthen the dyadic relationship between clinicians and their patients and multidisciplinary approaches to patient treatment (Joseph, 2007). Disability, according to the bio-psycho-social model, is caused not only by impairments or pathophysiological reasons but also by some psychosocial and lifestyle factors²⁵. This perspective largely rejects medical and social explanations of disability because it believes those are insufficient to capture the whole picture (Gatchel, 2015).

Cons of the Bio-Psycho-Social Model

One of the major issues with the bio-psycho-social model is the absence of a genuine model that incorporates biological, psychological, and social components. When applied to research and clinical practice, the model has been criticized for favoring or underrepresenting each of the three domains (biological, psychological, and social), as well as being insensitive to people's subjective experiences and "personal meaning," especially in cross-cultural settings (Hatakeyama, n.d.).

International Classification of Functioning, Disability and Health (ICF) model

The World Health Organization (WHO) recognized that the medical model and its associated International Classification of Diseases (ICD, 12) could not address the consequences of chronic diseases, therefore the ICIDH model was developed (Stucki & Melvin, 2007). To address the limitations of the medical model and incorporate components of the social model of disability, the World Health Organization (WHO, 2011) established a complete bio-psychosocial model (the International Classification of Functioning, Disability, and Health (ICF) (World Health Organization, n.d.). This model distinguishes between disability, health, and functional impairment rather than equating impairment and disability with poor well-being and performance.

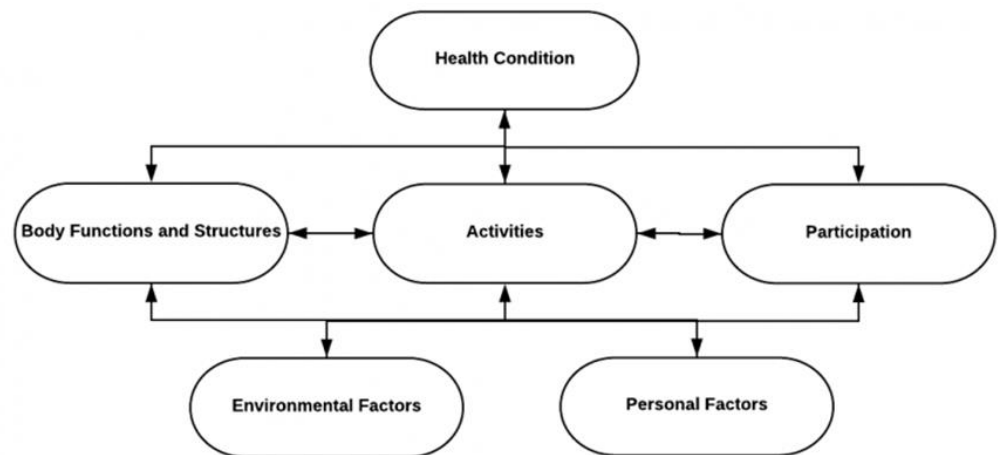


Figure 1: Components of ICF and the flow of interactions among them²⁸.

Pros of the ICF Model

The WHO ICF also addresses "contextual variables" that influence a person's functioning. Technology, attitudes, and services are aspects of "environmental elements" that impact an individual's experience (Andrews, 2017). The most recent and comprehensive model of functioning and impairment is the International Classification of Functioning and Disability (ICF). Stucki (2005) thanked the World Health Assembly's approval of the ICF in 2001, and stated that "we can now rely on a global and widely recognized model and taxonomy of human functioning" (Stucki, 2005).

The ICF's main advantages are its comprehensive image of the individual, appraisal of functional complexity, uniform language, and ability to provide quick and easy insight into functioning. Yet, when carrying out activities in the ICF approach, a person may encounter participation barriers (Mole, 2013). It replies to these criticisms by including environmental and human variables as contextual factors and by using more neutral terminology (Stucki & Melvin, 2007). Sometimes impairment results in no functional limitations. Disability does not usually follow an injury. Environmental factors may influence activity constraints. This model, as opposed to more simplified theorizing, better reflects the changing nature of disabilities and functional limitations (Andrews, 2017).

Cons of the ICF Model

The difficult terminologies and subjectivity of the assessors are two drawbacks of ICF. At the same time, the regulation only looks at the ICF's physical operation, which presents a challenge to users' also (Ptyushkin et al., 2011).

Implications of the Prevailing Conceptual Model of Disability in Bangladesh

Persons with disabilities face a variety of challenges and disadvantages, which are worsened by cultural and institutional constraints, as well as environmental factors. They lack basic necessities such as education, employment, housing, transportation, appropriate healthcare, and so on (Padmamohan et al., 2009; Ribas et al., 2015; Tan, 2015). Additionally, they confront societal stigma, adverse community beliefs, and gender inequities in Bangladesh. Although Bangladesh has made some commendable steps to improve the lives of people with disabilities by allocating new policies and initiatives more drastic measures are required to break down societal and structural barriers (Alam, Bari, & Khan, 2005). The trend of policy developments in Bangladesh hints that the Bio-Psycho-Social conceptual model of disability is under consideration for the development of an age and disability-friendly environment. In this section of the paper, the prevalence, challenges and policies regarding PWD will be discussed along with the implications of the bio-psycho-social model of disability in the context of Bangladesh.

Prevalence of Disability in Bangladesh

According to the World Health Organization (WHO), less than 20% of people with disabilities in developing countries have access to rehabilitation services (World Health Organization, 2004). In Low and middle-income countries (LMICs), the primary barriers to rehabilitation are insufficient or improper service distribution, transportation challenges, and out-of-pocket payments (World Health Organization, n.d.). Poverty and disability are connected in a loop in which poverty can cause disability and disability can result in financial hardship (Banks, Kuper, & Polack, 2017). Bangladesh is the world's sixth most densely populated country, with a population of 163 million people (World Health Organization, n.d.). Bangladesh's health system, like that of many LMICs, is afflicted by inequitable resource distribution and acute shortages of health workers (Ramke et al., 2017). Healthcare accounts for only 2% of the country's Gross Domestic Product (Fricke et al., 2018). Additionally, in Bangladesh, a high out-of-pocket cost (63% of total health spending) is a barrier to healthcare uptake (IAPB, 2020).

In Bangladesh, the prevalence of disability is estimated to be between 1% and 9% (Allain et al., 1997; Scottish Intercollegiate Guidelines Network, 2011). Disability is substantially more prevalent in rural areas (3% in urban areas and 5% in rural areas), among females (4% in males and 5% in females), and among the elderly (3% in 15-59 years while 16% in 60 years) (Bernabe-Ortiz et al., 2016). Many studies in Bangladesh have reported on the current structure and development potential, with an emphasis on governance and leadership, service delivery, and rehabilitation professionals. But nonetheless, all of those studies focused exclusively on physical limitations (Padmamohan et al., 2009; Ribas et al., 2015; Tan, 2015).

Challenges experienced by Persons with Disability in Bangladesh

Some of the key challenges experienced by Persons with Disability in Bangladesh are,

Poverty and deprivation

According to a DFID research (2000), poverty is directly associated to more than half of the impairments that result in disability in Bangladesh (DFID, 2000). According to the research, poverty, impairment, and disability all have an impact on families, and there is a proven correlation between disability and poverty (Alam, Bari, & Khan, 2005).

Low level of education, employment and wage discrimination

The government of Bangladesh noted in its 7th five-year plan report (2016-20) that comparatively few persons with disability (PWD) are engaged in mainstream employment activities. Many enterprises are also unwilling to recruit PWD due to a lack of understanding about their skills, a negative attitude, an inaccessible work environment, and a lack of interest in upgrading or changing the working environment to suit the demands of PWD (NFOWD & HI, 2005). They were, however, paid less than their non-disabled colleagues (Nokrek, Alam, & Ahmed, 2013). Another study found that PWD were discriminated against in terms of employment placement, salary, and promotion (National Grassroots and Disabilities Organization et al., 2015).

Health care and treatment

According to studies, many PWDs cannot afford to travel substantial distances to consult healthcare providers and acquire appropriate treatments that serve their healthcare needs due to poverty (World Health Organization, n.d.). Professionals such as physiotherapists and occupational therapists are few in number and concentrated in urban regions. As a result, professional therapies for PWD, such as physiotherapy and occupational therapy, are uncommon at the local level of the country (NFOWD & HI, 2005).

Social security measures

The report on the 7th Five-Year Plan (2016-2020) notes that people with disabilities suffer physical, social, and cultural barriers in society. A survey found that just 31% of household heads with disabilities get government safety nets, showing that a considerable number of PWD remain outside the service coverage of public safety net operations. Disability-friendly facilities are rare in essential structures like schools, hospitals, and highways (United Nations International Children's Emergency Fund, 2009).

Social stigma and community attitude

According to the government report titled "Bangladesh Unlocking Potential: Poverty Reduction Strategy Paper," people with disabilities in Bangladesh live in an unfriendly and hostile environment due to noncooperation, ill-treatment, neglect, and hostility at the family, community, and society levels. According to the study, in many cases, family members or relatives perceive them as a burden, and community members view them negatively (Maloni et al., 2010). According to studies, community members use derogatory terms for people with disabilities, preventing them from engaging in social activities like festivals and marketplaces. People with intellectual disabilities are more likely to be mocked and assaulted in public areas (Sultana, 2010; Davis, n.d.)

Housing, transportation, water and sanitation issues

According to studies, housing is a critical component for a considerable proportion of PWD living in rural regions and urban slum constructions. According to recent survey findings, 50 percent of PWD believe that transportation vehicles are not disabled-friendly, while 29 percent believe that buses and trains lack characteristics for wheelchair accessibility. The dwelling construction is also not designed to be easily accessible to those with disabilities (National Grassroots and Disabilities Organization et al., 2015).

Gender disparity and oppression

The study findings also reveal that women with disabilities confront discrimination at the family, state, institutional, and societal levels since they have fewer possibilities in both the public and private realms of life. It is unequivocally stated that female PWDs are routinely denied rights to property inheritance and personal assets. Women with disabilities are denied the right to marry and are restricted in their sexual and reproductive choices (National Grassroots and Disabilities Organization et al., 2015).

Initiatives taken for Persons with Disability in Bangladesh

The government of Bangladesh has undertaken several remarkable efforts in partnership with local and international Organizations to improve the lives of people with disabilities (Alam, Bari, & Khan, 2005). According to DSS50,

- The National Federation of Organizations Working with the Disabled (NFOWD) was established in 1991 to raise awareness and advocate for disabled people's rights. The NFOWD is currently seeking to enhance the lives of impoverished persons with disabilities by offering services such as physiotherapy, occupational therapy, speech and language therapy, and counseling.
- The National Policy for Persons with Disabilities has worked since 1995 to prevent disability, protect their rights, rehabilitate and integrate them into society.
- The National Social Welfare Policy, which was enacted in 2005, incorporates the disability issue as a significant aim for achieving people's development and welfare. The policy was primarily concerned with PWD prevention and rehabilitation issues, and it recommended appropriate health measures, particularly in rural areas, as well as providing pregnant and neonatal health care.
- In 2000, the Ministry of Social Welfare founded the National Foundation for the Development of Disabled Persons (NFDD) to protect the rights of PWDs and promote their overall development.
- The Disability Welfare Act was authorized in 2001 to ensure PWD policy and development, and it was later amended and replaced in 2013 as the Rights and Protection of Persons with Disabilities Act, which focused on accessibility to education, employment, healthcare, and a safe environment without oppression issues.
- The Neurodevelopmental Disabled Persons Protection and Trust Act of 2013 was also passed in order to address the mental health issues that people with disabilities face. This legislation has a minor influence. Because there are a limited number of mental health experts in Bangladesh, they are only available at district-level hospitals and not at the grassroots.

Prevailing Model of Disability in Bangladesh

National laws and acts show a trend of policy improvement to provide community support, a disability-friendly environment, and clinical and social rehabilitation services for the well-being of people with disabilities (National Grassroots and Disabilities Organization et al., 2015). Although access to rehabilitation services for people with disabilities in Bangladesh is limited, it is clear from the efforts that officials are dedicated to providing not only professional and social assistance but also treating mental health difficulties for PWDs (Hussain, 2020; Alam, Bari, & Khan, 2005). According to studies and policymaker initiatives, it is unclear which conceptual model(s) of disability are

actively applied in Bangladesh.

Nevertheless, based on the policy trend of progress, it is clear that the disability model in Bangladesh is still under development. Bangladesh appears to be pushing its journey of strategies from the Medical Model to the Bio-Psycho-Social Model via the Social Model. Consequently, it is reasonable to state that the bio-psycho-social model of disability is now Bangladesh's approach to dealing with issues concerning people with disabilities.

Positives and negatives of the prevailing model of disability in Bangladesh

On the positive side, the Bio-psycho-social Model of disability in Bangladesh can help to reduce almost all the major barriers regarding persons with disabilities in Bangladesh. Such as

- To ensure required clinical support for persons with disability.
- To reduce social discrimination.
- To make positive influences on cultural and mobility barriers.
- To ensure full and equal participation in the community.
- To reduce negative beliefs and myths about disabilities.
- To ensure access to education and empowerment for employment.
- To increase the skilled clinical workforce, expert social scientists and trained rehabilitation professionals.

From a negative perspective, the bio-psycho-social conceptual model includes three distinct metrics that rely on one another to get the desired results. There is no real bio-psycho-social model yet, and including all three sectors concurrently in a low-resource nation like Bangladesh is difficult. Lack of resources and other deep-rooted impediments (i.e. unfavorable cultural beliefs and practices) in all aspects can influence model implementation and, ultimately, have a detrimental impact on the quality of life of people with disabilities in Bangladesh.

Implication of the prevailing model of disability for the older population

Aging service programs frequently adhere more firmly to the medical paradigm and deliver services under a care management approach. These approaches are philosophically opposed, and policy experts anticipate that as more people aging with physical impairment begin to use old age programs and services, disability rights issues will develop within the framework of aging policy (Scala & Nerney, 2000; Simon-Rusinowitz et al., 2000; Putnam, 2002). Gerontologists are often interested in the influence or effect of physical handicaps on the physical and psychological well-being of the aged. Additionally, they are focused on reducing the medical, economic, and societal benefits of disability for older people (Putnam, 2002).

In general, social models of disability are proposed on the assumption that disability is a function of the individual's interaction with the environment rather than an inherent feature of the person (World Health Organization, n.d.). Social models of disability provide frameworks for trying to investigate the experience of aging with physical disability within the person-environment relationship in a broader context, allowing for a sound assessment of age-related issues such as work, family, social participation, asset accumulation, and access to health care (Wyller, 1997).

In Bangladesh, there is an urgent need for programs at the level of primary health care providers, focusing on the elderly to reduce impairments amenable to intervention and to provide support and care for those with various disabilities. Specifically, programs to enhance mobility, vision, and hearing, as well as to minimize the toll of incontinence and depression (Cherry et al., 2012).

A disability model should include all the social and medical and psychological factors,

and it should be based on a thorough theory (Wyller, 1997). The bio-psycho-social model may be an alternative for covering all elements of disability among the aged population not only in Bangladesh but also in other nations. It will not only ensure medical services, but it will also serve to minimize social, psychological, and structural barriers, resulting in an aging and disability-friendly atmosphere.

CONCLUSION

Individuals with disabilities face a variety of challenges and disadvantages, which are worsened by societal and institutional constraints as well as environmental factors. They lack basic necessities, education, employment, housing and transportation and sufficient healthcare facilities, etc. Moreover, they experience social stigma and negative community attitudes, and gender inequities in Bangladesh. Although the Government of Bangladesh has taken some positive steps to improve the condition of people with disabilities by developing new policies, and programs, however, more drastic measures are required to break down the social and structural barriers. In comparison to the affluent nation's robust healthcare and record-keeping systems, Bangladesh lacks national disability registries and comprehensive large-scale data for numerous disorders. Furthermore, the bio-psycho-social conceptual model of disability is recommended for developing anti-discriminatory and anti-oppressive medical and social policies in Bangladesh. Which will ensure an age and disability-friendly environment with full access to all the basic necessities, health, community participation, and dignity.

REFERENCES

- World Health Organization. (n.d.). Disability. World Health Organization. Retrieved April 17, 2023, from <https://www.who.int/en/news-room/fact-sheets/detail/disability-and-health>
- Elia, M., Monga, M., & De, S. (2022). Increased nephrolithiasis prevalence in people with disabilities: A national health and nutrition survey analysis. *Urology*, 163, 185-189.
- Watt, R. G., Venturelli, R., & Daly, B. (2019). Understanding and tackling oral health inequalities in vulnerable adult populations: From the margins to the mainstream. *British Dental Journal*, 227(1), 49-54.
- Disabled World. (2022). Disability statistics: Information, charts, graphs and tables. Retrieved April 17, 2023, from <https://www.disabled-world.com/disability/statistics/>
- OECD. (n.d.). Students with disabilities, learning difficulties and disadvantages: Statistics and indicators. Retrieved April 17, 2023, from <https://www.oecd.org/education/school/studentswithdisabilitieslearningdifficultiesanddisadvantagesstatisticsandindicators.html>
- United Nations. (n.d.). Factsheet on persons with disabilities. Retrieved April 17, 2023, from <https://www.un.org/development/desa/disabilities/resources/factsheet-on-persons-with-disabilities.html>
- NFOWD & HI. (2005). Ability through accessibility: Towards a barrier-free environment for persons with a disability. Handicap International and National Forum of Organizations Working with the Disabled.
- Hasan, M. K., Ashraf, M., Narasimhan, P., & Aggarwal, R. (2018). Expanding freedoms of people with visual impairment through information and communication technologies: Narratives from Bangladesh. *International Journal of Disability Management*, 13, e5.
- Department for International Development (DFID). (2000). Disability, poverty and development. London, UK.
- National Grassroots and Disabilities Organization, National Council for Women with Disabilities, & Bangladesh Legal Aid and Services Trust (BLAST). (2015). Current status of the rights of persons with disabilities in Bangladesh: Legal and grassroots perspective. Dhaka.

- Sultana, Z. (2010). Agony of persons with disability—a comparative study of Bangladesh. *Journal of Politics and Law*, 3, 212.
- Hussain, M. M. (2020). Models of disability and people with disabilities in Bangladesh: A review. *Journal of Social Work Education and Practice*, 5(1), 12-21.
- Olkin, R. (2002). Could you hold the door for me? Including disability in diversity. *Cultural Diversity and Ethnic Minority Psychology*, 8(2), 130.
- Andrews, E. E. (2017). Disability models. In *Practical psychology in medical rehabilitation* (pp. 77-83). Springer.
- Marshall, J., Doone, E., & Price, M. (2019). Cultural models of child disability: Perspectives of parents in Malaysia. *Disability and Rehabilitation*, 41(22), 2653-2662.
- Mwendwa, T. N., Murangira, A., & Lang, R. (2009). Mainstreaming the rights of persons with disabilities in national development frameworks. *Journal of International Development*, 21(5), 662-672.
- Olkin, R. (1999). The personal, professional, and political when clients have disabilities. *Women & Therapy*, 22(2), 87-103.
- Paley, J. (2002). The Cartesian melodrama in nursing. *Nursing Philosophy*, 3(3), 189-192.
- Craddock, J. (1996). Responses of the occupational therapy profession to the perspective of the disability movement, part 1. *British Journal of Occupational Therapy*, 59(1), 17-22.
- Heer, K., Rose, J., & Larkin, M. (2012). Understanding the experiences and needs of South Asian families caring for a child with learning disabilities in the United Kingdom: An experiential-contextual framework. *Disability & Society*, 27(7), 949-963.
- Peterson, D. B., & Elliott, T. R. (2008). Advances in conceptualizing and studying disability. In *Handbook of counseling psychology* (pp. 212-230).
- Penney, J. N. (2013). The biopsychosocial model: Redefining osteopathic philosophy? *International Journal of Osteopathic Medicine*, 16(1), 33-37.
- Bath, B., Trask, C., McCrosky, J., & Lawson, J. (2014). A biopsychosocial profile of adult Canadians with and without chronic back disorders: A population-based analysis. *BioMed Research International*, 2014, 1-12.
- Joseph, K. A. (2007). Implementing the social model of disability: Theory and research. *International Sociology*, 22(2), 247-250.
- Gatchel, R. J. (2015). The continuing and growing epidemic of chronic low back pain. *Healthcare*, 3(3), 838-845.
- Hatakeyama, S. (n.d.). Children with disabilities and their development, school attendance, and skill acquisition in Bangladesh, Pakistan, and Ghana (Doctoral dissertation, Michigan State University).
- Stucki, G., & Melvin, J. (2007). The International Classification of Functioning, Disability and Health: A unifying model for conceptual description. *Journal of Rehabilitation Medicine*, 39(4), 286-292.
- World Health Organization. (n.d.). International Classification of Functioning, Disability and Health (ICF). Retrieved April 17, 2023, from <https://www.who.int/classifications/international-classification-of-functioning-disability-and-health>
- Stucki, G. (2005). International Classification of Functioning, Disability, and Health (ICF): A promising framework and classification for rehabilitation medicine. *American Journal of Physical Medicine & Rehabilitation*, 84(10), 733-740.
- Mole, H. (2013). A US model for inclusion of disabled students in higher education settings: The social model of disability and universal design. *Widening Participation and Lifelong Learning*, 14(3), 62-86.
- Ptyushkin, P., Vidmar, G., Burger, H., Marinček, Č., & Escorpizo, R. (2011). The International Classification of Functioning, Disability and Health (ICF) in vocational rehabilitation and disability assessment in Slovenia: State of law and users' perspective. *Disability and Rehabilitation*, 33(2), 130-136.
- Padmamohan, J., Nair, M. K., Devi, S. R., Nair, S. R., Nair, M. L., & Kumar, G. S. (2009). Utilization of rehabilitation services by rural households with disabled preschool children. *Indian Pediatrics*, 46(Suppl), s79-s82.
- Ribas, A., Guarinello, A. C., Braga, M., Cribari, J., & Martins, J. (2015). Access to hearing health service in Curitiba-PR for the elderly with hearing loss and tinnitus. *The International Tinnitus Journal*, 19(2), 59-63.

- Tan, S. H. (2015). Unmet health care service needs of children with disabilities in Penang, Malaysia. *Asia Pacific Journal of Public Health*, 27(8_suppl), 41S-51S.
- Alam, K. J., Bari, N., & Khan, M. A. (2005). Community-based rehabilitation practices and alleviation of poverty of people with disabilities in Bangladesh. In *Bangladesh Country Paper* (pp. 1-20). The National Forum of Organizations Working with the Disabled.
- World Health Organization. (2004). *Guidelines for hearing aids and services for developing countries*. Geneva, Switzerland: World Health Organization.
- World Health Organization. (n.d.). Universal health coverage. Retrieved April 17, 2023, from http://www.who.int/health_financing/universal_coverage_definition/en/
- Banks, L. M., Kuper, H., & Polack, S. (2017). Poverty and disability in low-and middle-income countries: A systematic review. *PLOS One*, 12(12), e0189996.
- World Health Organization. (n.d.). Assistive technology. Retrieved April 17, 2023, from <https://www.who.int/health-topics/assistive-technology>
- Ranke, J., Gilbert, C. E., Lee, A. C., Ackland, P., Limburg, H., & Foster, A. (2017). Effective cataract surgical coverage: An indicator for measuring quality-of-care in the context of universal health coverage. *PLOS One*, 12(3), e0172342.
- Fricke, T. R., Tahhan, N., Resnikoff, S., Papas, E., Burnett, A., Ho, S. M., Naduvilath, T., & Naidoo, K. S. (2018). Global prevalence of presbyopia and vision impairment from uncorrected presbyopia: Systematic review, meta-analysis, and modelling. *Ophthalmology*, 125(10), 1492-1499.
- International Agency for the Prevention of Blindness (IAPB). (2020). *Spectacle coverage report*. Retrieved April 17, 2023, from <https://www.iapb.org/learn/resources/spectacle-coverage-report/>
- Allain, T. J., Wilson, A. O., Gomo, Z. A., Mushangi, E., Senzanje, B., Adamchak, D. J., & Matenga, J. A. (1997). Morbidity and disability in elderly Zimbabweans. *Age and Ageing*, 26(2), 115-121.
- Scottish Intercollegiate Guidelines Network (SIGN). (2011). *A guideline development handbook*. Edinburgh, Scotland: SIGN.
- Bernabe-Ortiz, A., Diez-Canseco, F., Vásquez, A., & Miranda, J. J. (2016). Disability, caregiver's dependency and patterns of access to rehabilitation care: Results from a national representative study in Peru. *Disability and Rehabilitation*, 38(6), 582-588.
- Nokrek, P., Alam, M. A., & Ahmed, M. (2013). *Livelihood challenges for extremely poor disabled people in the southwest coastal region of Bangladesh*. Dhaka, Bangladesh: Shiree.
- United Nations International Children's Emergency Fund (UNICEF). (2009). *Situation assessment and analysis of children and women in Bangladesh*. New York, NY: UNICEF.
- Maloni, P. K., Despres, E. R., Habbous, J., Primmer, A. R., Slatten, J. B., Gibson, B. E., & Landry, M. D. (2010). Perceptions of disability among mothers of children with disability in Bangladesh: Implications for rehabilitation service delivery. *Disability and Rehabilitation*, 32(10), 845-854.
- Davis, P. (n.d.). *Exploring the links between poverty and disability in rural Bangladesh: Chronic poverty and advisory network*.
- Department of Social Services (DSS). (2015). *Ministry of Social Welfare, Government of the People's Republic of Bangladesh*.
- Scala, M., & Nerney, T. (2000). People first: The consumers in consumer direction. *Generations*, 24(3), 55-59.
- Simon-Rusinowitz, L., Bochniak, A. M., Mahoney, K. J., Marks, L. N., & Hecht, D. (2000). Implementation issues for consumer-directed programs: A survey of policy experts. *Generations: Journal of the American Society on Aging*, 24(3), 34-40.
- Putnam, M. (2002). Linking aging theory and disability models: Increasing the potential to explore aging with physical impairment. *The Gerontologist*, 42(6), 799-806.
- Wyller, T. B. (1997). Disability models in geriatrics: Comprehensive rather than competing models should be promoted. *Disability and Rehabilitation*, 19(11), 480-483.
- Cherry, N., Chowdhury, M., Haque, R., McDonald, C., & Chowdhury, Z. (2012). Disability among elderly rural villagers: Report of a survey from Gonoshasthaya Kendra, Bangladesh. *BMC Public Health*, 12(1), 1-1.