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SWID
in
AFID TAIWAN

—A Book by 7 Authors—

Dr. Md. Shahnewaz Chowdhury
Mahabubul Monir
Dr. Shaila Sharmin Shahnewaz
Mahmudul Hasan
Hapsa Hossain Farhana
Fatema Akhter
Mashuk jannat mohima

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DEDICATED TO

Our Best Friend & Fellow in the filed of Intellectual & Developmental Disabilities

Professor Dr. Li-Yu HUNG
Immidiate past president of AFID &
Teacher of National Taiwan Normal University

In recalling her Iconic contribution in the filed of education and teaching.

Biography of Professor Dr. Li-Yu Hung

Professor Dr. Li-Yu Hung (李玉紅) is a distinguished Taiwanese special education expert, Immidiate past president of AFID, former President of National Taiwan Normal University (NTNU), focusing on learning disabilities, Chinese reading difficulties, ADHD, and positive behavior support, known for bridging research into policy and practice, including developing Taiwan's ADHD/LD identification systems. She holds a Ph.D. from the University of Virginia, has published extensively, and held key roles like Academic Vice President at the National Academy for Education Research.

Expertise: Learning Disabilities, ADHD, Chinese Reading Disabilities, Positive Behavior Support, Assessment & Multi-Tier Support.

Education: Ph.D. from the University of Virginia, M.Ed. & B.Ed. from National Taiwan Normal University (NTNU).

Key Roles: Former President of NTNU (2021-2023), Professor in Special Education at NTNU, Academic Vice President at National Academy for Education Research.

Contributions: Built Taiwan's identification systems for Chinese reading disabilities and ADHD, developed national definitions for LD/ED, and led teacher professional development projects.

Affiliations: Fellow of the International Academy for Research on Learning Disabilities (IARLD).

Career & Research: Dr. Hung's career is dedicated to enhancing educational practices for students with difficulties, focusing on evidence-based interventions and bridging the gap between research and classroom application. Her research has led to significant policy changes in Taiwan, impacting literacy instruction and special needs identification.

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PREFACE

The 27th AFID (Asian Federation of Intellectually Disabled) Conference in Taiwan brought together researchers, people with disabilities, caregivers, educators, students, and development practitioners dedicated to improving the lives of persons with disabilities across Asia and beyond. This book celebrates the heartfelt contributions of the delegates of SWID (Society for the Welfare of the Intellectually Disabled), Bangladesh, whose work reflects decades of commitment to empowerment, early intervention, inclusion, and rights-based development.

SWID Bangladesh, the largest disability organization in the country, believes that every individual deserves opportunity and meaningful participation in society. The papers presented at this conference highlight the organization’s ongoing efforts—spanning education, community support, health services, family engagement, and technology-driven solutions—ensuring that people with disabilities are seen, heard, and supported.

This compilation of papers is not merely a record of presentations; it is a testament to the dedication and collective spirit of those who work every day to promote inclusion, dignity, and opportunity for all. By sharing these works, we hope to contribute to creating supportive environments for individuals with disabilities.

We extend our sincere appreciation to all authors and contributors whose efforts have made this publication possible, and to the AFID authorities for providing a platform to share experiences and learnings for the greater good.

Note of Publishing House

We on behalf of ONONTO PROKASHONI Do hereby express our heartiest felicitation with highest contentment to honourable authors of THIS Book.

We are also grateful to the 7 authors for giving us the opportunity in publishing this book.

The authors have done the tremendous role in writing the article on Research based materialistic ingradiant on disability situations of Bangladesh and presented in a grand pavilion of global village in AFID TAIWAN conference.

Since the Very inception of ONONTO PROKASHONI in1981 we published 33 books, THIS is our Thirty Third Publication.

Before conclude Once Again we wish all the best wishes and regards to the authors, and expect more valuable writings in days to come in future by them.

Hopping this book will attract the readers and people who love the persons with disability.

We will remain ever grateful to our honorable readers and welwishers.

Ashik Jannat Rupom
Director
Ononto Prokashoni

SWID Bangladesh

Society for the Welfare of the Intellectually Disabled, Bangladesh (SWID Bangladesh) is a national pioneer organization established on 24 December 1977 as the first institution in the country dedicated to persons with Neurodevelopmental Disabilities (NDDs).

Vision: An inclusive and equitable society for all, including people with NDDs.

Mission: Promote awareness, education, employment, rehabilitation, self-reliance, and empowerment, and to nurture the potential of persons with intellectual disability, autism, Down syndrome, and cerebral palsy.

SWID is currently providing education and supports services around 50,000 students with neurodevelopmental disabilities. It has 543 Branches accross the Bangladesh. Its key services include special and integrated education, therapeutic care, technical and vocational training, and health services.

It operates several specialized institutions, including NIID (for disability detection, counseling, therapy, training, and research), TWID (vocational and residential training for adults), SWID Scout Group, SWID Teachers' Training College, Laboratory Model School, SWID Foundation, the BakulMamun Multipurpose Arena, Vocational Training School, Dr. Lutfar Rahman Therapy Center, SWID Cafe & Hospitality Training Centre, SWID Carers Association, Rooftop Garden, and the Ratnagarbha Shaheed Janani Khorshed Ara Mosque.

Internationally, SWID students excel in sports and culture. Through Special Olympics Bangladesh (initiated by SWID), athletes have won 196 gold, 120 silver, and 79 bronze medals. Students also participate in SAMVAB-ALPANA, ANJALI, and PARA-ART competitions and contribute to AFID, which SWID hosted in 1997 and 2017.

SWID has received notable honors, including the Autism Accession Certificate 2017, Kaoru Star Raft Awards (2017, 2023 & 2025), and individual awards for leaders and students. Its learners continue earning national and international recognition in sports, arts, and cultural events.

Asian Federation on Intellectual Disabilities (AFID)

- **Established:** 1973, Manila, through the first Asian Federation on Mental Retardation (AFMR) Conference, attended by 420 representatives from 21 countries.
- **Organizers:** Hosted with support from UNESCO and the Philippine Association of the Retarded, initiated by Rev. Father Arthur Malin, SVD.
- **Renaming:** In 2007, AFMR was renamed AFID (Asian Federation on Intellectual Disabilities), with the main goal of promoting greater inclusion and support for persons with intellectual disabilities in society.
- **Member Countries:** Bangladesh, Hong Kong, India, Indonesia, Japan, Korea, Nepal, Philippines, Singapore, Malaysia, Thailand, Sri Lanka, Macao, and Taiwan; also represented by the Asian Resource Center Japan and Asia Pacific Journal Center Korea.

Key Activities:

- AFID organizes a biennial international conference for educators, professionals, researchers, parents, and stakeholders.
- The conferences aim to empower persons with intellectual disabilities through inclusive education and lifelong learning, promote policy-making, and enhance community inclusion.

- Example: The 23rd AFID Conference was held in Dhaka in 2017, with the theme: *"Acceptance, Accessibility, and Inclusion – A Key towards Sustainable Development."*

Summary Table:

Topic	**Details**
Establishment	1973, Manila (first AFMR Conference)
Name Change	2007, from AFMR to AFID
Member Countries	Bangladesh and 14 other Asian countries
Main Objective	Promote rights, inclusion, and opportunities for persons with intellectual disabilities
Key Activities	Biennial international conferences, policy-making, and coordinated initiatives

Executive Summary

This collection of research studies and initiatives highlights critical efforts to promote **inclusion, social participation, and empowerment** of individuals with **Intellectual and Neurodevelopmental Disabilities (IDD/NDD)** in Bangladesh. These works address key challenges in education, healthcare, mental well-being, and employment for persons with disabilities, while providing evidence-based strategies to enhance their quality of life.

A major focus of this compilation is the **promotion of social inclusion and empowerment**. The studies examine the barriers faced by individuals with intellectual disabilities, including societal stigma, limited accessibility, and gaps in policy implementation. They highlight approaches to strengthen community participation and advocate for **rights-based inclusive practices**.

One of the highlighted studies, *"Physical and Mental Health in Students with Intellectual Disabilities in Bangladesh: Challenges, Disparities, and Solutions"*, investigates health disparities and recommends integrated interventions to improve both physical and mental well-being.

Healthcare access remains a critical concern, explored in *"Bridging the Gap: Enhancing Healthcare Access for People with Intellectual Disabilities in Bangladesh"*. This study identifies systemic barriers and proposes community-based strategies to ensure equitable healthcare services. Furthermore, *"A Comprehensive Employment and Rehabilitation Assessment Plan for Persons with Intellectual Disabilities"* provides a structured framework for vocational assessment, skill development, and rehabilitation, promoting **inclusive employment opportunities** aligned with individual capabilities.

These collective contributions have been recognized internationally through the **AFID Kaoru Star Raft Award** for the project *"Advocacy and Promotion of Social Inclusion, Empowerment, or Self-Determination"*, underscoring Bangladesh's commitment to advancing disability rights, inclusive policies, and empowerment initiatives. SWID Bangladesh's prior recognition through the Kaoru Star Raft Award in 2017 and 2023 further reflects sustained efforts in this field.

We also see that an AI-assisted screening tool that helps parents, teachers, and caregivers identify early signs of autism and depression in children with neurodevelopmental disorders using facial and vocal analysis. Field-testing in Bangladesh shows the tool can support early intervention, raise awareness, and reduce stigma when used with proper training. While highlighting ethical concerns such as privacy and cultural sensitivity, the paper concludes that AI technologies can complement—not replace—expert diagnosis and strengthen community-based disability services.

Overall, this book provides a comprehensive overview of **challenges, interventions, and policy recommendations** for improving the lives of individuals with intellectual and neurodevelopmental disabilities in Bangladesh. It serves as a foundation for future research, program development, and advocacy, contributing to the creation of a more **inclusive, equitable, and empowered society**.

Physical and Mental Health in Students with Intellectual Disabilities in Bangladesh: Challenges, Disparities, and Solutions.

Author Name: Dr. Md. Shahnewaz Chowdhury
Author Designation: President, SWID Bangladesh & 2nd Vice President, AFID.

Author Biography: *Dr. Md. Shahnewaz Chowdhury, the President of SWID Bangladesh, is a distinguished physician and a leading advocate for disability rights in Bangladesh. He completed his MBBS from Chittagong Medical College in 1974 and later pursued advanced qualifications including DPH (NIPSOM), CCD (BIRDEM), and FCGP. Over the past five decades, Dr. Chowdhury has dedicated his career to improving healthcare services, strengthening disability inclusion, and advancing community development. A long-time champion for the rights of children with intellectual and developmental disabilities (IDD), he has also served with the Bangladesh Red Cross Society since 1976, contributing to emergency medical services and community health programs. His work with the District Law Committee, as a Prison Inspector, and with organizations such as NATAB and CAB reflects his commitment to justice, human rights, and policy reform. As an experienced epidemiologist, he has provided vital research and advisory support to both governmental and non-governmental bodies. Dr. Chowdhury has earned national recognition, including a prestigious National Award for his contributions to children with disabilities, and has represented Bangladesh on global platforms advocating for inclusive development. His personal experience as the father of a child with Down syndrome further strengthens his passion for creating a society where every individual can live with dignity and equal opportunity.*

Abstract: Intellectual disabilities (ID) affect a large global population, yet the health needs of this vulnerable group remain under-recognized—especially in low- and middle-income countries like Bangladesh. Individuals with ID face higher rates of chronic illness, mental disorders, and social marginalization. Despite increasing concern, reliable data and focused research on their health challenges remain scarce. Objective: To assess the physical and mental health status of students with ID in selected Bangladeshi schools, identify challenges and disparities, and propose practical, context-specific solutions. Methods: A cross-sectional study was conducted in three schools operated by SWID Bangladesh, involving 100 students with ID, selected through purposive sampling. Data were collected via structured health assessments, caregiver interviews, and focus group discussions with teachers and school health staff. Mixed qualitative and quantitative analyses were performed. Results: The study revealed students with ID has a high prevalence of comorbid physical conditions including poor dental health (72%), malnutrition (49%) & dermatological manifestation (34%) and ocular problems (31%). Mental health issues such as behavioral disorders (47%), anxiety (36%) and social withdrawal (31%) were commonly reported. Key challenges included limited access to specialized healthcare, lack of trained professionals, low family & caregiver awareness and social stigma. Socioeconomic disparities further exacerbate this issue.

Keywords: Addressing overlooked health disparities, ID students required strengthening inclusive healthcare services, improving caregiver education, and fostering multi-sectoral collaboration.

Full Paper

1. Introduction

Intellectual disability (ID) is characterized by limitations in intellectual functioning and adaptive behavior, originating before the age of 18. Globally, individuals with ID are one of the most marginalized populations in terms of health, education, and social inclusion. In Bangladesh, despite growing awareness of disability rights, the healthcare needs of individuals with ID remain largely unmet. This study explores the physical and mental health conditions affecting students with ID in selected schools, identifies challenges in service delivery, and offers practical recommendations.

2. Methods

A descriptive cross-sectional study was conducted in three special education schools managed by SWID Bangladesh. A total of 100 students with ID of SWID Bangladesh Laboratory School, SWID Narangonj School and SWID Bangladesh Ganderia School were selected using purposive sampling to ensure diversity in age, severity of disability, and gender.

Study Design and Sites

This was a descriptive cross-sectional study conducted in three special education institutions managed by SWID Bangladesh:

1. SWID Bangladesh Laboratory School (Dhaka)
2. SWID Narayanganj School
3. SWID Bangladesh Ganderia School

Study Population and Sampling

A total of 100 students diagnosed with Intellectual Disabilities (ID) and/or Neurodevelopmental Disorders (NDD) were selected using purposive sampling, ensuring variation in age, gender, and severity of disability.

Cohort Characteristics: Age range: 6–18 years, Mean age: 12.4 years, Gender distribution: 62 males (62%), 38 females (38%). Categories of disability: Mild: 28%, Moderate: 46%, Severe: 21%, Profound: 5%

Data Collection Methods

Three complementary methods were used for data collection:

1. **Structured Physical Health Assessments**
   Trained medical professionals conducted basic physical health examinations of the participants. Data collected included dental health, nutritional status, dermatological conditions, vision, neurological symptoms (e.g., epilepsy), and digestive health.
2. **Semi-Structured Caregiver Interviews**
   Individual interviews were conducted with caregivers to gather information on daily care practices, dietary patterns, barriers to healthcare access, behavioral challenges, and stress-related factors. The information from this section was primarily used for analyzing mental health and access-to-care findings.
3. **Focus Group Discussions (FGDs)**
   Three FGDs were conducted with teachers and health workers (5–7 participants per group) to identify institutional barriers, service delivery gaps, and limitations in school-based health systems.
4. **Data Analysis**
   - Quantitative data were analyzed using descriptive statistics such as frequency and percentage.
   - Qualitative data from interviews and FGDs were analyzed thematically through coding.
   - Both data sources were integrated using data triangulation to ensure greater reliability and objectivity of the findings.

3. Results

3.1. Physical Health

Table 1: Prevalence of Physical Health Conditions among Students with NDD

Health Condition	Prevalence (%)	Possible Causes / Contributing Factors
Poor dental hygiene	72%	Limited awareness, poor oral care practices, lack of dental services
Malnutrition	49%	Unbalanced diet, insufficient nutritional support
Skin conditions	34%	Poor hygiene, limited dermatological care
Vision-related problems	31%	Undiagnosed refractive errors, lack of routine eye screening
Chronic constipation	18%	Poor diet, inadequate medical follow-up
Epilepsy	12%	Lack of diagnosis and proper treatment

Summary:

The findings indicate a high prevalence of preventable physical health issues among students with NDD, highlighting the urgent need for integrated health screening and preventive care services.

3.2. Mental Health

Table 2: Prevalence of Mental Health and Behavioral Concerns among Students with NDD

Mental Health Concern	Prevalence (%)	Possible Causes / Contributing Factors
Behavioral problems (aggression, impulsivity, disruptive behavior)	47%	Environmental stressors, lack of behavioral support
Anxiety and restlessness	36%	Academic stress, sensory sensitivities, routine changes
Social withdrawal and communication difficulties	31%	Poor social inclusion, lack of peer engagement
Suspected depression	9%	Emotional isolation, lack of psychosocial support

Summary:

The mental health assessment revealed significant behavioral and emotional challenges among students with NDD, stressing the need for school-based counseling and early intervention programs.

3.3. Access to Healthcare

Table 3: Challenges in Accessing Healthcare Services

Barriers to Healthcare Access	Description / Example	Impact on Students with NDD
Lack of trained healthcare staff	Few professionals trained in disability-inclusive care	Delayed or incorrect diagnosis

Barriers to Healthcare Access	Description / Example	Impact on Students with NDD
Long waiting times	Overcrowded public hospitals and clinics	Discourages caregivers from seeking timely care
Negative attitudes of healthcare workers	Discriminatory or dismissive behavior toward persons with disabilities	Reduces caregivers' confidence and willingness to return
Limited specialized services	Speech therapy, psychiatric and occupational therapy unavailable	Unmet needs, worsening developmental outcomes
High cost of private care	Specialized services unaffordable for low-income families	Increased health inequality

Summary:

Caregivers reported multiple barriers in accessing appropriate healthcare for their children. Strengthening disability-inclusive health systems and expanding affordable specialized services are essential steps toward equitable care.

4. Joint Survey on Quality of Life of Persons with Neurodevelopment Disabilities

Recently, with the support of SWID Bangladesh, BRAC School of Public Health, and Apshin International jointly conducted a survey on persons with Neurodevelopmental Disabilities (NDDs).The survey focused on understanding the Quality of Living and Health Status of individuals with NDDs.

The findings are presented below in the form of a column chart, highlighting the comparative scores across different domains of well-being.Status of Health-related Quality of Life among Persons with Neurodevelopmental Disabilities (NDDs) (Based on WHOQOL-BREF domains)

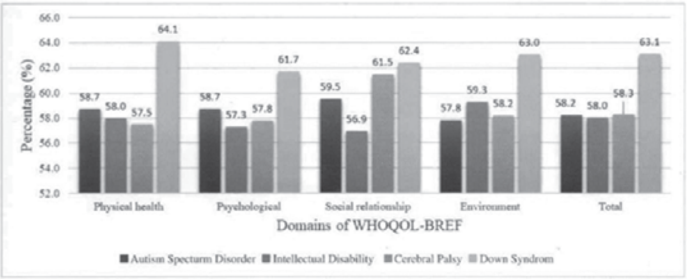

Figure 4 Status of health-related quality of life among Persons with Neurodevelopmental Disabilities

Status of health-related quality of life among survey participants

The findings from the WHOQOL-BREF total score suggest that persons with Down syndrome had the best overall health-related quality of life (total score 63.1%) than any other groups when comparing the WHOQOL-BREF data among survey participants, it was found that persons with intellectual disabilities scored the lowest, with a total score of 58.0%. This indicates that persons with intellectual disabilities were more likely to experience overall poor health-related quality of life than any other groups.

4.1 Key Action Points

To improve the quality of life and functional independence of persons with neurodevelopmental disabilities (NDD), a set of strategic actions is essential. One of the key priorities is to increase access to assistive devices by ensuring the provision of essential aids, such as eyeglasses, walking supports, and other mobility-enhancing tools. These devices play a vital role in promoting functional independence, improving daily living, and enabling individuals to participate more actively in educational, occupational, and social activities.

Equally important is the need to enhance health services for individuals with NDD. This requires strengthening inclusive healthcare systems by ensuring the availability of trained service providers who are equipped to address both the physical and psychological needs of this population. Specialized training and dedicated service units within healthcare facilities can ensure early detection, timely intervention, and holistic care tailored to diverse NDD-related requirements.

In addition, it is critical to promote social participation by establishing community-based platforms and support networks that enable individuals with NDD to engage in social, recreational, and cultural activities. Such initiatives can help reduce isolation, build confidence, and foster inclusion within mainstream society.

Moreover, raising awareness and strengthening advocacy efforts at both national and local levels are necessary to uphold the rights and well-being of persons with NDD. Coordinated campaigns involving policymakers, community leaders, service providers, and families can contribute to reducing stigma and ensuring that disability rights remain a priority within public policy frameworks.Finally, there is a pressing need to develop targeted interventions designed specifically for different groups of persons with NDD, especially those who experience lower quality-of-life scores. Tailored programs should focus on the unique challenges faced by each subgroup, addressing their specific health, educational, social, and psychological needs. By combining these approaches, a more inclusive and responsive system of support can be established, ultimately enhancing the overall quality of life for individuals with NDD and their families.

4.2.The indicates that persons with intellectual disabilities were more likely to experience overall poor health-related quality of life than any other groups.

5. Discussion

The study highlights significant unmet health needs among students with ID, consistent with findings in other low-resource settings. The combination of physical and mental health burdens affects not only individual well-being but also educational outcomes and family resilience. Limited awareness among caregivers, inadequate school health systems, and widespread societal stigma and negative societal attitude act as major barriers to improving care. The lack of not only trained professionals (e.g., pediatric psychiatrists, speech therapists, occupational therapist, physiotherapist) and but also absence of inclusive healthcare policies further widen the gap.Socioeconomic factors—such as household income, parental education, and urban-rural divide—also play a critical role. Families from lower socioeconomic backgrounds reported greater difficulty in obtaining timely diagnoses and follow-up care.The findings of this study underscore the complex interplay of physical, mental, and systemic health challenges faced by students with intellectual disabilities (ID) in Bangladesh. High rates of dental issues, malnutrition, dermatological conditions, and untreated vision problems are consistent with previous research indicating that children with disabilities often face neglect in basic health care. For many of these children, such issues are preventable or treatable, yet persist due to inaccessibility of services and low caregiver awareness.The co-occurrence of behavioral disorders, anxiety, and social withdrawal further complicates the health landscape. These conditions frequently go undiagnosed or misinterpreted as behavioral misconduct rather than indicators of underlying mental health disorders. Schools often lack trained personnel such as counselors or psychologists, leaving teachers ill-equipped to manage emotional or behavioral issues, and causing additional stress to caregivers. "Many schools lack a well and adequate medical facilities."Stigma—both social and institutional—continues to be a significant barrier. Caregivers shared that negative societal attitudes, even from healthcare professionals, discouraged them from seeking medical support. This aligns with national data showing that nearly half of caregivers delay care due to fear of discrimination.In addition, socioeconomic status heavily influenced outcomes. Families from lower-income backgrounds reported greater challenges accessing diagnosis, therapy, and nutrition. This reflects broader systemic inequities, where urban centers have concentrated services, leaving rural and suburban families underserved.The absence of inclusive health policy and the critical shortage of trained professionals (e.g., pediatric psychiatrists, occupational therapists, physiotherapists) further widens the care gap. Currently, Bangladesh has less than one child psychiatrist per million children—a rate far below international recommendations. This reinforces the urgent need to decentralize and diversify the workforce involved in disability care.Recent innovations, such as community-based mental health training programs using non-specialists, show promising feasibility and cost-effectiveness in low-resource settings. Such models could be adapted to reach underserved populations through schools and mobile outreach services.

5.1 Collaborative Plan Involving the Ministry of Health, NDD Protection Trust, and Ministry of Social Welfare of Bangladesh

5.2 Background and Rationale:

“We conducted discussions on the study findings with school members, management, professionals, caregivers, service providers, and other relevant stakeholders.”

Neurodevelopmental Disabilities (NDD) encompass a diverse group of conditions characterized by impairments in brain development and function, affecting cognition, communication, behavior, and motor skills. Individuals with NDD, such as intellectual disabilities, autism spectrum disorders, cerebral palsy, and other related conditions, face complex challenges that require coordinated multi-sectoral support.In Bangladesh, persons with NDD often encounter barriers including limited access to specialized healthcare, inadequate social support, and insufficient inclusive educational and rehabilitation services. These challenges contribute to their social exclusion, reduced quality of life, and limited opportunities for empowerment.

5.3. Need for a Joint Initiative

To address the complex needs of persons with neurodevelopmental disabilities (NDD), a coordinated plan involving the Ministry of Health, the Ministry of Social Welfare, and the NDD Protection Trust is essential. The Ministry of Health should lead inclusive health policy formulation, ensure accessible facilities, promote early diagnosis, and build the capacity of professionals for NDD-specific care. The NDD Protection Trust should focus on advocacy, rights protection, and community awareness, while the Ministry of Social Welfare should strengthen social protection, rehabilitation, and livelihood programs. By combining their strengths within a unified framework, these entities can establish an effective, sustainable, and cross-sectoral system to support persons with NDD and their families.

5.4 Objectives:

1. To develop an integrated service delivery model for persons with NDD, combining healthcare, social support, and protection.
2. To enhance accessibility and quality of health and rehabilitation services tailored for NDD individuals.

3. To promote awareness, reduce stigma, and empower families and caregivers.

To strengthen inter-ministerial coordination and establish a sustainable framework for NDD support.

5.5. Proposed Activities

To implement the collaborative framework, national and district-level task forces should coordinate planning, implementation, and monitoring of NDD interventions. Strengthening healthcare infrastructure is a priority, ensuring facilities are fully disability-friendly and equipped with early screening and intervention units.

Capacity-building is essential—training healthcare providers, social workers, and community volunteers on NDD-inclusive practices. Community outreach programs should raise awareness, enable early identification, and strengthen referral systems. Rehabilitation and livelihood support must be expanded to promote independence and social inclusion. A comprehensive data and monitoring system should track health outcomes, measure service effectiveness, and guide policy decisions.

6. Recommendations

6.1. Improve Access to Healthcare

Healthcare access requires inclusive infrastructure, skilled workforce, and affordable services. Hospitals should have ramps, lifts, accessible washrooms, and adaptive equipment. Policies must ensure longer consultations, affordable diagnostics, uninterrupted medicine supply, and assistive devices. Training programs for healthcare staff and inclusion of disability content in curricula are essential. Unified health records and inter-ministerial coordination, guided by experts, are critical for sustainable reform.

6.2. Strengthen Inclusive School Health Programs: Develop school health protocols for students with ID, including regular dental, nutritional, and developmental screenings. Strong referral and follow-up systems and trained health coordinators in each school will improve quality and consistency.

6.3. Build Caregiver and Community Capacity: Regular caregiver training on nutrition, hygiene, behavior management, and home-based therapy is vital. Peer-support groups and accessible educational materials (visual aids, mobile apps, and radio programs) should complement these efforts.

6.4. Expand and Decentralize Specialized Services: Mobile clinics offering therapy, psychiatric care, and nutrition services can reach underserved areas. Train primary healthcare workers in disability-sensitive care, and provide incentives to attract professionals in NDD-related fields.

6.5. Foster Multi-Sectoral Collaboration: District-level committees should coordinate education, health, and social welfare programs. Integrate disability indicators in national surveys and promote inclusive financing schemes. Strengthen partnerships between government, NGOs, and private sectors, and mainstream disability in health and development policies.

6.6. Combat Stigma and Promote Rights Awareness: Nationwide campaigns should challenge stereotypes and sensitize professionals. Rights-based training for service providers will uphold dignity, autonomy, and non-discrimination, enhancing social participation for persons with NDD.

6.7. Conclusion: Students with ID in Bangladesh face significant physical and mental health challenges, often neglected due to systemic and social barriers. Coordinated efforts involving schools, caregivers, health professionals, and policymakers are needed. Building an inclusive and responsive health system can improve quality of life and long-term outcomes for individuals with ID.

7. References

It is suggested that relevant references should be cited to strengthen the scientific rigor and credibility of the study. Key references should include:

- Global and regional prevalence of intellectual and neurodevelopmental disabilities.
- Studies highlighting physical and mental health disparities among persons with intellectual disabilities in low- and middle-income countries.
- National and international policy frameworks (e.g., WHO, UNCRPD, and Bangladesh's National Disability Policy).
- Empirical works related to inclusive health, behavioral challenges, and educational interventions for children with ID/NDD.
- Inclusion of these references will help contextualize the findings, support the interpretations presented in the discussion, and align the recommendations with existing evidence-based practice.

Challenges in promoting inclusion in the social participation of individuals with intellectual disabilities in Bangladesh.

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Author Designation: Secretary General

Author Biography: ***Md. Mahabubul Monir****, son of K. M. Siddik Ullah and Khurshid Ara Begum, is a prominent social worker, big donor, and a dedicated humanitarian working for socially backward communities of Bangladesh. He is married to Shahana Asir and is the father of three childrens—Md. Farhan Sami (MBA, University of Dhaka), Md. Ahnaf Nafi and Md. Fiaz Zami (both students of SWID Bangladesh, Dhanmondi Branch). He serves as the Secretary General of SWID Bangladesh and President of Carer Alliance Bangladesh holds various notable positions including Senior Vice President of NFOWD, Executive Member of NASPD, Chairman of Shahid Janani Ratnagarva Khurshid Ara Foundation, Chairman of the Mosque Committee of Shahid Janani Ratnagarva Khurshid Ara Mosque in Eskaton Garden, and President of SWID Bangladesh Dhanmondi Branch. He is also the Director of Silicon Real Estate Pvt. Ltd., the Immediate Past President of the Rotary Club of Dhaka Water Bridge, a dedicated Rotarian serving as Deputy Governor of the Rotary District, and the Former President of GTCL Officers Welfare Association. Academically, he completed his M.Com. in Accounting from the University of Dhaka in 1982. Professionally, he is a retired government officer who served with distinction and retired as a General Manager from PETROBANGLA in 2020. He has traveled abroad to Thailand, Indonesia, Singapore, UAE, Turkey, and Saudi Arabia, Taiwan, Macau. As a writer and speaker, he regularly contributes articles on the development of persons with Neuro-Developmental Disorders (NDD) and disability issues, along with topics* *related to environmental development, and frequently participates in seminars, meetings, and talk shows organized by electronic media.*

Full Paper

Introduction

Bangladesh, as a developing country, has made commendable strides in recent years toward the recognition and rights of individuals with intellectual disabilities (ID). However, despite national and international commitments, significant challenges persist in promoting inclusive practices and enhancing the social participation of persons with ID. These challenges stem from socio-cultural, economic, institutional, and infrastructural barriers that hinder full inclusion.

1. Negative Societal Attitudes

One of the most persistent challenges is the negative societal perception toward individuals with intellectual disabilities. Deep-rooted cultural beliefs, lack of awareness, and prevalent stigma often result in the marginalization of persons with ID. Families may feel still shame or fear community rejection, leading to isolation of these individuals at home, and limiting their participation in community life and public spaces.

2. Limited Access to Inclusive Education

Although the Government of Bangladesh has adopted inclusive education policies, implementation remains weak. Many mainstream schools lack trained teachers, accessible facilities, and adaptive learning materials to support students with ID. As a result, children with intellectual disabilities are frequently excluded from educational opportunities or placed in separate special schools with limited resources.

3. Employment Barriers

Economic inclusion is a major hurdle. Individuals with intellectual disabilities face significant difficulties accessing vocational training and formal employment. Employers are often hesitant to hire them due to misconceptions about their capabilities, lack of workplace accommodations, and absence of incentive policies. This leads to economic dependence and reinforces social exclusion.

4. Inadequate Community-Based Services

Community support services, such as day care centers, rehabilitation programs, and family support mechanisms, are limited and unevenly distributed, especially in rural areas. Most services are concentrated in urban centers, leaving families in rural communities with little to no support. This disparity restricts the mobility and participation of individuals with ID in community activities.

5. Weak Legal and Policy Enforcement

"Although Bangladesh has ratified the UN Convention on the Rights of Persons with Disabilities (UNCRPD) and enacted two relevant laws—the Disability Rights and Protection Act, 2013, and the Neuro-Developmental Disability Protection Trust Act, 2013—implementation remains inconsistent.", the enforcement of these policies remains inconsistent. Gaps in coordination between ministries, lack of monitoring mechanisms, and insufficient budget allocations contribute to ineffective implementation of inclusive policies.

6. Transportation and Accessibility Barriers

Accessible infrastructure and public transportation are critical for participation but are often inadequate in Bangladesh. Most public places, including government offices, schools, and transport systems, are not accessible to people with disabilities. This creates physical barriers that discourage or prevent participation in everyday activities.

7. Limited Representation and Advocacy

People with intellectual disabilities and their families are underrepresented in decision-making processes at both local and national levels. Advocacy organizations are working to address this gap, but support and recognition from the government are limited. Greater representation is essential to ensure their voices are heard in shaping inclusive policies.

8. Conclusion

Despite ongoing efforts by the government and civil society, individuals with intellectual disabilities in Bangladesh continue to face multiple, intersecting barriers to inclusion and social participation. Addressing these challenges requires a multi-sectoral, rights-based approach that includes awareness-raising, capacity-building, inclusive policy enforcement, and community empowerment. Only through coordinated and sustained action can true inclusion be achieved.

Bridging the Gap: Enhancing Healthcare Access for People with Intellectual Disabilities in Bangladesh.

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Author Biography: ***Dr. Shaila Sharmin Shahnewaz*** *is a distinguished physiatrist in Bangladesh. She completed her MBBS from Shaheed Mansur Ali Medical College in 2006 and earned the prestigious FCPS in Physical Medicine and Rehabilitation from the Bangladesh College of Physicians and Surgeons in 2019. She specializes in arthritis, pain management, and paralysis, with advanced expertise in comprehensive rehabilitation. She currently serves as an Associate Professor in the Department of Physical Medicine and Rehabilitation at Shaheed Mansur Ali Medical College, Dhaka, Bangladesh.Dr. Shaila has been serving in the healthcare sector in Bangladesh for nearly 20 years. For the past 15 years, she has also worked as a Sports Medicine Specialist with the Bangladesh Football Federation. She has published extensively in national and international journals and regularly participates in conferences both home and abroad. She is a life member of BMA (Bangladesh Medical Association), BAPMR (Bangladesh Association of Physical Medicine and Rehabilitation), BCPS (Bangladesh College of Physicians & Surgeons), and SWID Bangladesh. In addition to her clinical and academic work, Dr. Shaila has been actively involved in disability services for many years. Deeply empathetic toward individuals with intellectual disabilities—particularly as the sister of a brother with Down syndrome—she remains strongly committed to advancing care, inclusion, and support for this community. Her professional journey reflects a sustained dedication to* *disability advocacy and the broader rehabilitation landscape in Bangladesh.*

Abstract: People with intellectual disabilities (ID) in Bangladesh face considerable barriers in accessing equitable healthcare, often resulting in poorer health outcomes and reduced quality of life. This study investigates the key challenges and potential strategies to improve healthcare accessibility for individuals with ID in the Bangladeshi context. The research aimed to answer: What are the primary barriers to healthcare access for people with ID in Bangladesh, and what policy and practice interventions can effectively address this gap? A mixed-method approach was adopted, combining qualitative interviews with 20 caregivers and 10 healthcare providers, as well as a review of existing policies and services. Data were thematically analyzed to identify key patterns and gaps. Findings indicate significant challenges, including limited training among healthcare professionals, communication difficulties, marginalization of caregivers in clinical decision-making, inadequate service infrastructure, and widespread social stigma. However, community-based initiatives and localized training programs for healthcare workers demonstrated potential in mitigating these barriers. The study concludes that bridging the healthcare gap for people with ID in Bangladesh requires a multi-level approach. Key recommendations include policy reform, mandatory disability competence training for healthcare professionals, development of inclusive health communication tools, formal caregiver involvement protocols, and the establishment of disability-friendly infrastructure. These findings contribute to the discourse on health equity and highlight the urgency of inclusive development within the Bangladeshi health system.

Keywords: Intellectual disability, Healthcare access, Equitable Healthcare, Bangladesh health policy, Access barrier, Disability Access.

Full Paper

1. Introduction

Intellectual disability (ID) is characterized by significant limitations in intellectual functioning and adaptive behavior, affecting social, conceptual, and practical skills necessary for daily life (Schalock et al., 2010). Globally, individuals with ID experience inequities in healthcare access, leading to higher morbidity and premature mortality (World Health Organization, 2011; Emerson & Hatton, 2014).

In Bangladesh, these disparities are particularly severe due to limited healthcare infrastructure, insufficient disability-inclusive policies, and entrenched social stigma (Khan et al., 2018). Access to healthcare for people with ID represents not only a public health concern but also a measure of social justice and inclusive development.

Although Bangladesh has ratified the **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)** and enacted several national policies addressing disability inclusion (Government of Bangladesh, 2019; National Disability Development Foundation, 2021), practical implementation remains inconsistent. Barriers such as lack of professional training, inaccessible facilities, and limited caregiver participation continue to undermine equity in healthcare.

This study aims to explore the barriers to healthcare access experienced by individuals with ID in Bangladesh and identify strategies to enhance inclusion and equity within the healthcare system. The research focuses on two primary questions: What are the main obstacles preventing people with ID from accessing healthcare in Bangladesh, and which policy and practice interventions can effectively address these challenges?

2. Literature Review

Extensive international literature highlights multidimensional barriers—systemic, professional, social, and individual—that restrict healthcare access for people with ID (Lennox & Kerr, 1997; Krahn et al., 2006; Ali et al., 2013).

Healthcare professionals often lack training in disability-specific care, resulting in inadequate diagnosis and treatment (Ouellette-Kuntz, 2005). Communication barriers further exacerbate these challenges, especially in low-resource settings (Morris et al., 2021).

In South Asian contexts, cultural perceptions and family caregiving norms intensify these barriers (Hossain et al., 2017). Studies in Bangladesh indicate fragmented disability services, with most initiatives led by NGOs rather than integrated into the national healthcare system (Islam & McConkey, 2018). Addressing these gaps requires coordinated policy reform, intersectoral collaboration, and capacity-building initiatives to promote equitable access.

3. Methodology

3.1 Study Design

A mixed-method approach was employed to obtain both experiential and policy-level perspectives. Data were collected through qualitative interviews and a review of national policy documents.

3.2 Participants

Thirty (30) caregivers of persons with intellectual disabilities were selected purposively from SWID Bangladesh–affiliated schools. Participants included parents and guardians representing diverse socio-economic and geographic backgrounds.

Additionally, fifty (50) healthcare professionals—physicians, nurses, therapists, and community health workers—were included, representing public, private, and NGO-based facilities.

3.3 Data Collection

Semi-structured interviews were conducted in Bengali, focusing on healthcare experiences, perceived barriers, and improvement suggestions. Interviews lasted 45–60 minutes and were audio-recorded with informed consent. Transcripts were translated into English and verified for accuracy.

The policy review examined national health and disability-related policies, including the *National Health Policy (2019)*, *Persons with Disabilities Rights and Protection Act (2013)*, and relevant WHO guidelines to assess alignment between policy intent and practice.

3.4 Data Analysis

A thematic analysis (Braun & Clarke, 2006) was conducted using both inductive and deductive approaches.

- **Coding Process:** Transcripts were imported into NVivo software. Two independent coders identified meaning units, which were categorized into initial codes (e.g., “communication gap,” “training need,” “caregiver exclusion”).
- **Categorization:** Codes were clustered into overarching themes through iterative discussion to enhance reliability (Creswell, 2014).
- **Integration of Policy Review:** Policy provisions were cross-referenced with emergent themes to determine congruence between national frameworks and lived experiences. This integration enabled the identification of policy–practice gaps and informed the formulation of practical recommendations.
- Inter-coder reliability (Cohen’s $\kappa = 0.82$) indicated strong consistency in thematic categorization.

4. Findings

4.1 Professional Training and Competence

Healthcare professionals reported minimal exposure to disability-related topics in their medical education. Lack of confidence and misconceptions about intellectual disability often resulted in avoidance behaviors or inappropriate referrals (Emerson et al., 2015).

4.2 Communication Challenges

Caregivers described frequent miscommunication between healthcare providers and patients with ID. Simplified or pictorial communication aids were rarely available, creating frustration and treatment delays.

4.3 Marginalization of Caregivers

Despite being primary advocates, caregivers often felt excluded from clinical decision-making. Their observations about symptoms or behavioral changes were sometimes dismissed by providers, resulting in mistrust and reduced care compliance.

4.4 Inadequate Infrastructure

Most facilities lacked basic accessibility features such as ramps, accessible toilets, or sensory-friendly waiting areas. Services for people with ID were concentrated in urban areas, marginalizing rural families.

4.5 Social Stigma

Persistent stigma around intellectual disability affected both service-seeking behavior and provider attitudes. Negative stereotypes discouraged families from pursuing medical care and reduced community support networks.

4.6 Emerging Community-Based Solutions

Some promising examples emerged from NGO-led community programs integrating caregiver education with disability-inclusive healthcare training. These localized interventions demonstrated measurable improvements in access and satisfaction.

5. Discussion

The findings confirm that healthcare inequities for people with ID in Bangladesh stem from an interplay of structural, professional, and sociocultural barriers.

Integrating disability awareness into national health strategies is essential. Professional training should emphasize communication strategies and caregiver engagement (Morris et al., 2021). Development of inclusive communication tools—such as visual aids and easy-to-read materials—can mitigate diagnostic errors.

Policy implementation should mandate the inclusion of caregivers in treatment planning. Infrastructural adaptations must follow *Universal Design* principles to ensure accessibility.

Community-based health models demonstrate scalable potential. Training local health workers and mobilizing caregivers can extend coverage and promote inclusion.

6. Limitations and Practical Implications

Limitations

This study was limited by its focus on a purposive sample from SWID Bangladesh networks, which may not represent all regions. Quantitative data on service utilization were not collected, limiting generalizability. Additionally, policy analysis was restricted to documents available in English and Bengali.

Practical Implications

- For Caregivers: Structured caregiver inclusion can reduce stress and improve treatment adherence.
- For Healthcare Professionals: Incorporating disability content in medical curricula and continuous professional development is crucial.
- For Policymakers: Strengthening monitoring mechanisms and allocating resources for accessible infrastructure and inclusive services is vital.

- For Community Programs: Expansion of NGO-led initiatives and integration with public systems can ensure sustainability.

7. Recommendations

1. Integrate intellectual disability into the *National Health Strategy* and all relevant sectoral policies.
2. Implement mandatory training on disability inclusion for healthcare providers.
3. Develop inclusive communication tools and pictorial health materials.
4. Institutionalize caregiver participation in clinical decision-making.
5. Upgrade healthcare infrastructure for universal accessibility.
6. Expand and replicate community-based disability-inclusive health programs.

8. Conclusion

Bridging the healthcare gap for people with intellectual disabilities in Bangladesh requires systemic reform grounded in equity, participation, and accessibility. By integrating caregiver engagement, strengthening professional competencies, and translating inclusive policies into practice, Bangladesh can progress toward achieving the health-related goals of the UNCRPD and the Sustainable Development Goals (SDGs).

This study contributes to the evidence base for inclusive health system development and underscores the moral and policy imperative of ensuring that no person with intellectual disability is left behind.

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A Comprehensive Employment and Rehabilitation Assessment Plan for Persons with Intellectual Disabilities.

Author Name: Mahmudul Hasan
Author Designation: Deputy Director, SWID Bangladesh

Author **Biography**: ***Mahmudul Hasan*** *is an accomplished development professional with over a decade of experience in disability inclusion, community-based rehabilitation, and rights-based advocacy. He began his service at SWID Bangladesh as Assistant Director and was promoted in 2025 to Deputy Director (Administration), where he oversees institution management, program development, training, research, monitoring, documentation, and international communication, with a strong focus on inclusive education and employment for persons with disabilities. He has expertise in needs assessments, policy and advocacy, individualized education planning, assistive technology integration, and multi-stakeholder coordination, working to enhance the dignity, independence, and quality of life for individuals with Neuro Developmental Disabilities and other developmental disabilities. In 2025, at the 27th AFID (Asian Federation on Intellectual Disabilities) Conference in Taipei, Taiwan, he received an international award in the individual category as a nominated applicant on behalf of SWID Bangladesh for his project on "Advocacy and Promotion of Social Inclusion, Empowerment, or Self-Determination" and was honored with the prestigious AFID Kaoru Star Raft Award 2025. SWID Bangladesh had previously received the Kaoru Star Raft Award in 2017 and 2023. He holds an MBA and BBA from Northern University Bangladesh and received specialized JICA training in Okinawa, Japan on Social Participation and Livelihood of Persons with*

Disabilities through a Community-Based Inclusive Approach (Course B). He has contributed as a lecturer at SWID Special Education Teachers Training College, Institute for Pediatric Neuro Disorder and Autism (IPNA) under Bangladesh Medical University, and as a facilitator and master trainer for TOT training programs on special education. He has also completed the Professional Course on Mental Health First Aid (MHFA), organized by Innovation for Wellbeing Foundation and affiliated with the Mental Health Research Centre, Australian National University, further strengthening his expertise in mental health and inclusive support practices. He also serves as Resource Person and Curriculum Committee Member at the National Academy for Autism & Neuro-Developmental Disabilities (NAAND) under the supervision of the Ministry of Education, Department of Higher Education, and the Neuro-Developmental Disability Protection Trust (NDDPT), Ministry of Social Welfare.

Abstract: This study investigates the development of a structured employment and rehabilitation assessment plan for persons with intellectual disabilities (ID), with the aim of fostering vocational independence and sustainable employment. The primary research question explores how a strengths-based, individualized assessment model can improve vocational outcomes for individuals with ID. The background highlights the limited focus on abilities rather than deficits in traditional assessment models. The purpose of this study is to integrate behavioral observations, stress assessments, and environmental evaluations to create a comprehensive framework for employment readiness. Methodologically, the research utilizes simulated work scenarios, behavioral analysis, and collaboration with job coaches and employers to assess task efficiency, accuracy, concentration, and adaptive needs. Results indicate that incorporating individualized strength assessments, combined with job coaching and environmental support, significantly enhances confidence, job matching, and work rhythm development. The study concludes that an effective vocational rehabilitation plan must be holistic, involving the job seeker, job supporter, and employer, while considering the individual's living environment and psychological readiness. This person-centered approach promotes long-term employment and personal development for individuals with intellectual disabilities.

Keywords: Intellectual disabilities, vocational rehabilitation, job coaching, employment assessment, strengths-based approach, workplace inclusion.

Full Paper

1. Introduction

Persons with intellectual disabilities (ID) face numerous barriers to meaningful employment, including societal stigma, limited vocational training opportunities, and workplace stressors. Despite these challenges, employment plays a critical role in promoting independence, self-esteem, and social integration. This paper presents a research-based employment and rehabilitation assessment plan aimed at identifying and enhancing the strengths of individuals with ID, with the ultimate goal of supporting their successful entry into the workforce.

2. Research Questions

How can a strengths-based assessment improve vocational outcomes for individuals with intellectual disabilities?

What roles do job coaches, job seekers, and employers play in the employment rehabilitation process?

How can behavioral observations and environmental assessments be used to support employment readiness?

3. Background and Purpose

Traditional employment assessments often emphasize deficits rather than strengths, resulting in missed opportunities for individuals with ID. The purpose of this study is to shift the focus toward potential and capability, fostering a more inclusive and supportive employment landscape. This includes exploring behavioral competencies, workplace adaptations, and the importance of personalized vocational support.

4. Methodology

The research employs a qualitative, observational approach using the following methods:

Mock-up Work Situations: Participants engage in simulated work environments to evaluate task efficiency, accuracy, and concentration. Stress and Exhaustion Assessments: Psychological assessments identify stress triggers and coping mechanisms in work settings.

Behavioral Observations: Systematic observations assess communication, adaptability, and interpersonal skills. Collaborative Planning: Input from job coaches, employers, and family members ensures a holistic understanding of the individual's capabilities and needs.

5. Results

Findings demonstrate that a strengths-focused approach leads to better job placement outcomes. Participants showed increased confidence and work rhythm when assessments highlighted their abilities rather than limitations. Employers who engaged in collaborative planning with support professionals reported improved workplace integration and reduced turnover.

6. Case Studies

Case Study 1: Tuhin’s Journey to Employment

Asaduzzaman Tuhin, a 38-year-old male with intellectual disability, works under direct supervision as an M.L.S.S in the Administration Department. His responsibilities include maintaining cleanliness, organizing and managing files, handling small office purchases, welcoming and assisting guests, withdrawing cash from the bank, and providing support in various administrative tasks. This case study presents Tuhin's employment journey and highlights the structured assessment, support strategies, strengths, challenges, and professional development he has experienced. At the beginning of the assessment program, Tuhin was hesitant and introverted, often struggling to adapt to new work environments. During the program, he participated in a series of mock-up tasks involving basic clerical duties, document handling, and inventory management. These exercises helped identify his core strengths, which include high accuracy in repetitive tasks, strong visual memory, attention to detail, and consistency. Tuhin has also demonstrated responsibility, reliability, and punctuality, and his positive attitude has contributed significantly to team morale. However, the assessment also revealed certain challenges. Tuhin initially needed guidance to complete tasks independently, experienced anxiety when unexpected schedule changes occurred, and required support in social communication with new colleagues or guests. Additionally, handling multiple tasks simultaneously could occasionally be challenging. To address these areas, a personalized support plan was implemented under direct supervision, with structured routines and continuous coaching. Over time, Tuhin has become more confident, independent, and adaptable. He now efficiently maintains cleanliness and hygiene throughout the office, organizes and manages files including document delivery, handles small office purchases, welcomes and assists guests, withdraws cash from the bank, and provides support in various administrative tasks. Through step-by-step guidance, regular monitoring, and continuous encouragement, Tuhin has learned to adapt to minor changes in the workplace while consistently performing his duties. His journey demonstrates that individuals with intellectual disabilities can excel in meaningful employment and contribute substantially to organizational efficiency when provided with proper guidance and structured support.

Case Study 2: Rony – Office Associate

Md. Rony, a 45-year-old male with intellectual disability and Down Syndrome characteristics, works as an Office Associate in the Head Office under direct supervision of us. His role involves welcoming and assisting office staff and guests, maintaining office organization, and providing support in administrative tasks. This case study illustrates Rony’s employment and rehabilitation journey, highlighting his strengths, areas for improvement, and professional development through structured support. Rony is known for his gentle, polite, and respectful behavior toward colleagues and guests. He frequently completes tasks without prompting, demonstrating a strong sense of responsibility and initiative. He maintains friendly and cooperative relationships with colleagues, ensures hospitality for visitors, and contributes to a positive, inclusive, and harmonious workplace environment. Despite these strengths, Rony also faces challenges. He may initially feel shy with new colleagues or guests, requires guidance for effective communication, and depends on structured routines to manage tasks. Coordinating multiple tasks simultaneously and problem-solving under pressure may occasionally require support. Through continuous coaching and structured guidance, Rony has become increasingly confident, independent, and proactive in his role. He efficiently welcomes and assists office staff and guests, organizes and maintains office files systematically, supports administrative tasks, prepares meeting materials and training handouts, and maintains cleanliness in his workstation and shared office spaces. His courteous behavior, proactive work approach, and hospitality have enhanced overall team morale and created a supportive and inclusive office environment.

These two case studies demonstrate the effectiveness of a comprehensive employment and rehabilitation assessment plan for persons with intellectual disabilities. Both Tuhin and Rony have shown that, with structured assessments, personalized support, and continuous guidance, individuals can develop workplace skills, improve confidence and independence, and become integral members of their teams. Their journeys highlight the importance of tailored supervision, structured routines, and inclusive workplace practices in enabling persons with intellectual disabilities to thrive professionally. By addressing both strengths and challenges, organizations can ensure meaningful employment, foster positive social interactions, and create a harmonious and productive workplace environment.

7. Discussion

This model underscores the importance of understanding individual characteristics, including cognitive, emotional, and environmental factors. By integrating stress assessments and behavioral evaluations into vocational planning, individuals with ID receive more tailored support. Job coaches play a pivotal role in mediating between the job seeker and employer, ensuring that accommodations and expectations align with the individual's strengths.

8. Conclusion

A comprehensive employment and rehabilitation assessment plan rooted in a strengths-based methodology significantly enhances the employability and independence of persons with intellectual disabilities. Future research should focus on longitudinal outcomes and the scalability of this model across various employment sectors.

Advocacy and Promotion of Social Inclusion, Empowerment, or Self-Determination

Author Name: Mahmudul Hasan
Author Designation: Deputy Director
Purpose:

The initiative aimed to build a rights-based inclusive society where persons with intellectual and developmental Disabilities (IDDs)—regardless of gender, location, or condition—could claim their rights and take part in decision-making. It translated laws into action, promoting self-determination through independent living, person-centered planning, digital skills, leadership, rights awareness, and peer support.

Implementation:

1. Legal Literacy and Community Sensitization:

Disability rights awareness campaigns were held all over 40 districts, focusing on the 2013 disability laws. Parents, persons with disabilities, community leaders, service providers, and special educators received training and recognition on legal rights, Gender Based Violence (GBV) cluster meeting and service access.

2.Empowerment Programs and Leadership Development:

Training and awareness programs on self-confidence, leadership, and gender equity were conducted for parents, caregivers, special educators, social worker and persons with disabilities. Capacity-building for local officials and community leaders strengthened inclusive governance.

3. Self-Advocacy and Economic Empowerment:

Persons with disabilities were empowered as self-advocates in local planning and institutional dialogues. Economic empowerment was fostered through skills training, microcredit access, and small business support. Training in entrepreneurship, digital literacy, and vocational skills enabled many to pursue income-generating activities independently.

4. Inclusive Education, Independent Living & Institutional Engagement:

With the Ministry of Education, teachers were trained in inclusive education, independent living, decision-making, and IEPs to support learner autonomy. The initiative emphasized informed consent and dignity. University students joined research, community project, field visits and internships. Partnerships with NGOs, DPOs, INGOs, UN bodies, and government agencies strengthened sustainability and policy impact.

Achievements:

- Legal training reached 12,000+ stakeholders, increasing awareness of disability laws and rights.
- Over 3,000 parents and caregivers were trained as community advocates for inclusive education.
- Over 2000 university students participated in research, awareness, and internships on children with special needs, focusing on social relationships and the role of persons with disabilities in social development, while co-creating advocacy tools.
- Women and girls with disabilities gained leadership skills and joined local planning and GBV meetings.

- Self-advocate groups enabled persons with IDDs to speak publicly, influence services, and promote Independent Living and informed consent.
- Training in vocational, digital, and entrepreneurship skills enabled self-employment for many with disabilities.
- Inclusive education and teacher training influenced national education and TVET policy and curricula.
- Collaboration with ministries, NGOs, and academia led to policy recommendations adopted by authorities.
- Peer support and parent groups were formed, boosting local advocacy and psychosocial support.
- Persons with disabilities took active roles in planning and decision-making, upholding "Nothing about us without us."

Impact:

The initiative empowered persons with IDDs to become active citizens. Parents became community advocates; youth gained self-advocacy skills; and women with disabilities engaged in local planning. Digital literacy and entrepreneurship supported income generation, while IEP and Independent Living training fostered self-reliance. Legal literacy improved access to education, healthcare, and jobs. Community stakeholders adopted inclusive practices. Partnerships with universities, government, NGOs, DPOs, INGOs, and UN bodies expanded reach and sustainability—together, these efforts advanced inclusive governance based on empowerment and self-determination, aiming for nationwide rights institutionalization and meaningful societal contribution by persons with disabilities.

Supporting Materials Attached:

☐ Reports/ Photos

"Published Reports and Articles in Leading Magazines and Daily Newspapers"

1. Name of the Newspaper: The Business Standard

The author shared his insightful views in an article titled "Autism in Bangladesh: Inclusive Employment Still a Long Way to Go," which has been published with great significance in The Business Standard. In this article, individuals with autism can be better empowered through employment opportunities, education, and skill development training.

2. Name of the Newspaper: The Daily Star

The author shared his insightful perspectives in an article titled **"Policy Solutions Key to Their Inclusion in the Job Sector,"** which has been published with great prominence in *The Daily Star*. In this article, The pressing need for **effective and inclusive policy measures** to ensure the **meaningful participation** of individuals with **autism and other disabilities** in the job market. Strongly advocates for **strategic policy reforms**, **specialized skill development programs**, **workplace accessibility**, and **collaborative initiatives** involving the **government, private sector, and NGOs** to address the existing gaps and create an inclusive employment ecosystem.

3. Name of the Magazine: **Title: "Caring for Persons with Disabilities in Bangladesh''.**

The author shared his i**nsightful perspectives** in an article titled **"Caring for Persons with Disabilities in Bangladesh,"** which has been published with great significance in *The Sunshine Magazine*, the **official**

annual publication of the JICA Alumni Association of Bangladesh (JAAB). Mr. Hasan is a **Lifetime Member** of JAAB, and as part of the association, he attended the **Knowledge Co-Creation Program (KCCP)** in **Japan** on **"Social Participation of Persons with Disabilities through a Community-Based Inclusive Approach."** In his article, Mr. Hasan not only focuses on the **rights and inclusion** of persons with disabilities but also highlights the **often-overlooked struggles** of their carer (**parents, guardians)** — those who dedicate their **time, energy, and emotional strength** to supporting persons with disabilities. He emphasizes that while caregivers play a **vital role**, their own **well-being, opportunities, and legal protections** are largely neglected in Bangladesh.

- **Comprehensive policy reforms** to ensure carer' welfare
- **Financial assistance and government-supported facilities** for carer
- **Accessible healthcare, counseling, and training programs**
- **Legal frameworks** to safeguard their rights
- **New legislation** designed specifically to address caregivers' challenges

When carer are supported and empowered, persons with disabilities can also achieve a better quality of life through **inclusive opportunities in education, employment, and social participation**.

Attached is an **MS Word file** containing **Pictures 1, 2, 3, 4 and 5**, where each section includes **multiple photographs presented in a detailed, illustrated report format**. The report highlights Mr. Hasan's initiatives in the areas of **disability development,**

advocacy, social inclusion, empowerment, and self-determination for persons with disabilities.

- **Disability development initiatives** to enhance opportunities, resources, and quality of life for persons with disabilities
- **Advocacy efforts** to influence policy and raise awareness of disability rights
- **Promotion of social inclusion** through community programs and collaborative initiatives
- **Empowerment of individuals** by creating opportunities for skill development and self-reliance
- **Support for self-determination**, enabling persons with disabilities to make independent choices and participate meaningfully in society

Information and Communication Technology (ICT) can improve the **quality of life, education, training, employment, and social inclusion** for individuals with **intellectual and neurodevelopmental disabilities. Government and private sectors** can leverage technology to provide **education, training, employment, and social inclusion opportunities**. According to Mr. Hasan, strategic use of ICT can **empower persons with disabilities**, enabling them to participate more fully in society.

Photos: Illustrated Report on Mr. Hasan's Work in Disability Development, Advocacy, and Promotion of Social Inclusion, Empowerment, and Self-Determination

Attached is an **MS Word file** containing **Pictures 1, 2, 3, 4 and 5**, where each section includes **multiple photographs presented in a detailed, illustrated report format**. The report highlights Mr. Hasan's initiatives in the areas of **disability development, advocacy, social inclusion, empowerment, and self-determination** for persons with disabilities.

Through this visual documentation, the report demonstrates how Mr. Hasan actively engages in:

- **Disability development initiatives** to enhance opportunities, resources, and quality of life for persons with disabilities
- **Advocacy efforts** to influence policy and raise awareness of disability rights
- **Promotion of social inclusion** through community programs and collaborative initiatives
- **Empowerment of individuals** by creating opportunities for skill development and self-reliance
- **Support for self-determination**, enabling persons with disabilities to make independent choices and participate meaningfully in society

This illustrated reports with photos provide a **comprehensive, engaging, and visual overview** of Mr. Hasan's dedication to advancing **disability development, social inclusion, and empowerment** for persons with disabilities and their caregivers. This MS Word file also serves as a **comprehensive, engaging, and visual overview** of Mr. Hasan's dedication to advancing **disability development, social inclusion, and empowerment**, providing a detailed reference for stakeholders, policymakers, and the general public.

☐ Videos Attached:

Attach Video 1: Advocacy in Action: Title/Topic: "Empowering Persons with Disabilities through ICT"

Content**:** Mr. Hasan explains how **Information and Communication Technology (ICT)** can improve the **quality of life, education, training, employment, and social inclusion** for individuals with **intellectual and neurodevelopmental disabilities.** He shares his recommendations on how both **government and private sectors** can leverage technology to provide **education,**

training, employment, and social inclusion opportunities. According to Mr. Hasan, strategic use of ICT can **empower persons with disabilities**, enabling them to participate more fully in society.

Video Attachment:
The video featuring author's insights on the role of ICT in enhancing the lives of persons with disabilities has been attached here for reference.

Attach Video 2: Advocacy in Action:
Mr. Hasan delivered brief remarks during the **Inaugural Session** of the **24th Conference of the Asian Federation on Intellectual Disabilities (AFID)**, held from **2nd to 6th December 2019 in Kathmandu, Nepal**. He shared his opinions **regarding disability issues**, focusing on how to **raise awareness and strengthen understanding among those who are not fully involved or are largely unaware of the concept of 'disability'** in society. He also highlighted the role of **governmental and private institutions that are not currently engaged with persons with disabilities**, emphasizing the need for their active participation. In his address, Mr. Hasan underscored how **comprehensive approaches and cross-sector collaboration, supported by AFID, can significantly enhance the quality of life and opportunities** for individuals with disabilities.

Attach Video 3: Advocacy and Promotion in Action:
"A discussion with Prof. Macvally from the University of Melbourne, Australia, on disability issues and the work of SWID Bangladesh during the 24th Conference of AFID."

Attach Video 4 (Part1, 2) : Advocacy in Action:
This video showcases Mr. Mahmudul Hasan's initiatives in empowering **persons with intellectual and developmental disabilities** and their families. It explores how a person with disabilities manages **daily life and self-care**, and how **special educators**, with care and patience, teach essential

skills using examples of **self-advocacy**. The session also highlights strategies to reduce **problematic behaviors**, foster **social and environmental inclusion**, and promote independence. Mr. Hasan conducts **legal awareness sessions** for parents and caregivers, focusing on **disability rights, laws, and services**, empowering families to become **informed decision-makers and advocates**. He also guides sessions on **Person-Centered Planning (PCP)**, enabling youth with disabilities to make **informed choices**, plan their development, and lead lives with **autonomy, dignity, and leadership**.

Attach Video 5 : Advocacy in Action:

Mr. Hasan shared his perspectives in **Okinawa, Japan**, on the **mental health of persons with intellectual disabilities**. He discussed what can be done to support their well-being and highlighted the crucial role that **any individuals can play as a role of first Aider**, providing initial care and assistance in mental health situations.

Attach Video 6 : Advocacy in Action:

The author, **Assistant Director of the Training and Activities Department at SWID Bangladesh**, now Mr. Hasan is promoted as Deputy Director presented the **keynote paper** as a representative of SWID Bangladesh at the **Round Table Conference** organized by the **Department of Psychiatry, Bangladesh Medical University (BMU)** on the occasion of **World Autism Awareness Day 2022**. The theme of the conference was **"Inclusive World: Unlocking the Potential of Individuals with Autism."** In his presentation, Mr. Hasan discussed in detail various issues related to the **development and empowerment** of persons with autism, Intellectually Disabled (ID), Cerebral Palsy (CP) and Down Syndrome (DS) including:

- Expanding **facilities and opportunities** for individuals with autism.
- **Government initiatives** and possible **private sector contributions.**

- Making the **education system more inclusive and modern.**
- Ensuring **equal rights and social participation.**
- Addressing the **limitations in employment opportunities.**
- Identifying **existing gaps** in policies and practices related to disability development.
- **Curriculum development** and enhancing the **quality of teacher training.**

To address these issues, we propose establishing a dedicated

The author emphasized that a **collaborative approach** involving the government, private sector, educational institutions, and the community is essential to create a more **inclusive, equitable, and opportunity-driven environment** for individuals with autism.

Attach Power Point: These PP shows, in order to empower persons with special needs and help them achieve **self-determination** and **economic independence**, it is essential to create inclusive opportunities for **employment** and **skill development**. At present, individuals with special needs face numerous challenges in accessing the job market, including a lack of training, job coaching, and workplace support.

“Career Development and Skill Enhancement Department” that will focus on providing specialized training, job coaching, and employment facilitation services for SWID individuals across the country.

(This author of this paper has been awarded for the AFID Kauro Star Raft Award 2025)

Psychological Strain in Parents of Children with Neurodevelopmental Disorders: A Focus on Depression

Author Name & Designation: Hapsa Hossain Farhana, Psychologist & Fatema Akter, Speech and Language Pathologist

Biography of Hapsa Hossain Farhana: *Hapsa Hossain Farhana works with minds and the quiet strain inside human life. She serves as a Psychologist at SWID Bangladesh and teaches as a Lecturer at SWID Special Education Teachers Training College. Her study runs through Psychology, with BSc and MSc degrees from National University, followed by a Master of Special Education and a Bachelor of Education from the same place. Her work covers assessment, diagnosis, counseling, treatment planning, individual therapy, group therapy, psychoeducation, and workshop facilitation. She trained in IQ assessment, psychotherapy, psychological assessment, CBT, ADHD management, positive parenting, mental health first aid, stress management, Training of Trainers, and the Strengthening Families, Strengthening Communities – Inclusive Parent Programme. Her sessions rely on close listening, clear dialogue, and a steady push toward human change.*

Biography of Fatema Akter:

Fatema Akter works with speech, language, and human struggle through a steady clinical path. She serves at SWID Bangladesh as a Speech and Language Pathologist and teaches at SWID Special Teachers Training College as a part-time Lecturer. Her earlier work includes service as a Psychologist at New Future Life Drug Addiction Treatment *and Counseling Center and as a Psychosocial Counselor with Sajida Foundation. She brings seven years of experience shaped by clinical sessions, family support, and classroom practice. Her study in Speech and Language Pathology at Dhaka University and her degrees in Psychology from National University ground her work in science and care. She holds a Bachelor of Special Education and a wide set of trainings in psychotherapy, mindfulness, IQ assessment, child stimulation, and counseling. Her writing grows from lived cases and steady inquiry into human change, and she carries this work with a clear sense of purpose.*

Abstract:

Background and Purpose:

Parenting a child with neurodevelopmental disorders (NDDs) can lead to considerable emotional, psychological, and financial challenges. Although global studies link this caregiving role to heightened depression, focused research in Bangladesh remains limited. This study examines depressive symptoms among parents of children with NDDs and explores the impact of socio-demographic factors like gender and socioeconomic status.

Research Questions:

1. Do parents of children with NDDs experience higher levels of depression than parents of typically developing children?
2. Are socio-demographic variables (e.g., gender, socioeconomic status) significantly associated with parental depression?

Methodology:

A cross-sectional quantitative design was employed with

204 parents (102 in each group), selected through purposive sampling across Bangladesh. Depression was measured using a 30-item validated Likert-type scale, and non-parametric tests (Mann-Whitney U, Kruskal-Wallis H) were used for analysis due to non-normal data distribution.

Results:
Parents of children with NDDs reported significantly higher depression levels ($p < .001$). Socioeconomic status was also significantly associated with depression ($p = .003$). However, no significant associations were found for gender or the number of special needs children.

Conclusion:
The findings underscore the urgent need for targeted mental health support for caregivers, especially those from lower-income backgrounds. Future longitudinal research is recommended to better understand caregiver experiences and inform inclusive mental health policy in Bangladesh.

Keywords: Neurodevelopmental Disorders, Parental Depression, Caregiver Mental Health, Socioeconomic Status, Gender Differences, Bangladesh.

Full Paper

Introduction

Parenting a child with neurodevelopmental or intellectual disabilities can be deeply meaningful but also highly challenging. The daily responsibilities associated with caregiving—managing behavioral difficulties, navigating educational and medical systems, and addressing financial constraints—can significantly affect parent’s mental health. These demands often lead to elevated stress, anxiety, and depression, particularly in under-resourced settings where access to psychological and social support is limited.

Neurodevelopmental disorders (NDDs) represent a broad group of conditions that affect brain development, resulting in impairments in cognition, motor skills, communication, and social functioning (American Psychiatric Association, 2013; World Health Organization, 2023). Common examples include Autism Spectrum Disorder (ASD), which affects social communication and is characterized by repetitive behaviors; Attention-Deficit/Hyperactivity Disorder (ADHD), marked by inattention and hyperactivity; Cerebral Palsy (CP), which primarily affects motor coordination; and Intellectual Disability (ID), characterized by limitations in intellectual functioning and adaptive behavior (Schalock et al., 2021). In addition, certain genetic conditions such as Down Syndrome (DS) often lead to or co-occur with neurodevelopmental impairments, thereby contributing to developmental delays and increased caregiving demands. These overlapping challenges frequently intensify the psychological and emotional burden experienced by parents and caregivers.

Depression is a major global mental health concern affecting more than 280 million people worldwide (WHO, 2023). It is characterized by persistent sadness, loss of interest, sleep disturbances, and low energy (American Psychiatric Association, 2013). Parents caring for children with disabilities often face elevated risks due to continuous caregiving demands, social stigma, and limited support (Olsson & Hwang, 2001; Shorey et al., 2020). Scherer et al. (2019) found that about 31% of such parents experience moderate depression, compared to 7% of parents of typically developing children. Mothers, in particular, often bear disproportionate psychological burdens (Alibekova et al., 2022).

Rational of the study

Although some Bangladeshi studies have explored parental stress or anxiety among parents of children with disabilities, specific attention to depression and its related factors remains insufficient. This study addresses that gap by investigating depression among parents of children with neurodevelopmental disorders (NDDs) and identifying multiple associated variables—such as socioeconomic status, gender, and number of children with special needs—that may influence depression severity. The findings aim to inform targeted mental health support and policy planning in Bangladesh.

Objective of the study

To examine depressive symptoms among parents of children with neurodevelopmental disorders and to explore the associations between depression and key variables including socioeconomic status, gender, and number of special-needs children.

Research Questions:

1. Do parents of children with NDD experience higher levels of depression than parents of typically developing children?
2. Which socio-demographic and contextual variables are associated with parental depression?

Hypotheses

Based on the study objectives and previous research, it was hypothesized that parents of children with neurodevelopmental disorders (NDDs) would report significantly higher levels of depression than parents of typically developing children (**H_1**). It was also expected that socio-demographic factors—including socioeconomic status, gender, and the number of children with special needs—would significantly influence depression scores (**H_2**).

The corresponding null hypotheses stated that there would be no significant difference in depression levels between the two parent groups (**H_{01}**) and no significant association between socio-demographic factors and depression scores (**H_{02}**). These hypotheses guided the study’s analytical framework and interpretation of results.

Methodology

Research design

This study employed a quantitative, cross-sectional comparative approach to assess depressive symptoms among parents of children with neurodevelopmental disorders (NDDs) and those with typically developing children. Due to the non-normal distribution of depression scores, non-parametric tests were used for analysis.

Participants

A total of 204 parents were recruited through purposive sampling from special needs institutions and general schools across Bangladesh, with equal representation from both groups (102 in each). The majority of respondents were female (69.1%).

Socioeconomic and Educational Background

Participants' socioeconomic status was classified using Bangladesh-specific income ranges. The middle-income group formed the largest portion of the sample, followed by the upper-middle group. Educational levels were relatively high, with 45.6% of fathers and 35.5% of mothers holding postgraduate degrees. Most fathers worked in professional roles, while a majority of mothers were homemakers.

Children with NDDs

Among children with NDDs, 75% were boys. Diagnoses included Autism Spectrum Disorder (26.5%), Intellectual Disability (10.8%), Down Syndrome (5.9%), Cerebral Palsy (4.9%), and ADHD (0.5%).

Measures

Depression was assessed using the **Depression Scale** developed by **Zahir Uddin and Dr. Mahmudur Rahman (2005)**, Department of Clinical Psychology, University of Dhaka. This standardized Bangla instrument includes **30 items** rated on a **5-point Likert scale** (1 = not at all applicable, 2 = not applicable, 3 = moderately applicable, 4 = somewhat applicable and 5 = fully applicable). Total scores range from 30–150, with higher scores indicating greater depression. Categories are as follows: Minimal (30–100), Mild (101–114), Moderate (115–124), and Severe (125–150).

Psychometric properties: Internal consistency (Cronbach's $\alpha = 0.989$ in this study), adaptive translation reliability = 0.67, test–retest reliability $r = 0.599$, split-half reliability $r = 0.761$, and concurrent validity correlations $r = 0.377$–0.558 ($p < .01$). These values demonstrate the scale's reliability and validity for use in Bangladeshi contexts (Nipa & Barman, 2023).

Data Analysis

Data were analyzed using SPSS Version 25. The Mann-Whitney U test was used to compare depression levels between the two parent groups, and the Kruskal-Wallis H test assessed associations with gender, socioeconomic status, and the number of children with special needs.

Results

The analysis revealed significant differences in depression scores between parents of children with neurodevelopmental disorders (NDDs) and parents of typically developing children. Consistent with Hypothesis 1, the Mann-Whitney U test indicated that parents of children with NDDs reported significantly higher levels of depression (U = 408.50, Z = -11.35, $p < .001$) compared to their counterparts (see Table 1).

Regarding socio-demographic factors, socioeconomic status was found to be significantly associated with depression scores, supporting Hypothesis 2. The Kruskal-Wallis test showed a statistically significant effect of socioeconomic status on depression, χ^2 (4) = 16.29, p = .003. Specifically, parents from lower socioeconomic groups exhibited higher depression scores, with the lowest class having the highest mean rank (Mean Rank = 143.00) compared to upper-class parents (Mean Rank = 70.00).

In contrast, no significant differences in depression scores were observed based on the gender of the parent, $\chi^2(1)$ =

0.60, $p = .439$, nor were there significant differences related to the number of special needs children in the family, $\chi^2(1) = 0.23$, $p = .629$. A detailed summary of these results is presented in **Table 1.**

Table 1

Summary of Non-Parametric Tests on Depression Scores by Key Variables (N = 204)

Variable	Test	Statistic	p-value	Interpretation
Parent type (NDD vs. non-NDD)	Mann-Whitney U	U = 408.50, Z = -11.35	< .001	NDD group had significantly higher depression
Socioeconomic Status (SES)	Kruskal-Wallis H	$\chi^2(4) = 16.29$	.003	SES significantly affected depression scores
Gender of respondent	Kruskal-Wallis H	$\chi^2(1) = 0.60$	.439	No significant difference
Number of special needs children	Kruskal-Wallis H	$\chi^2(1) = 0.23$	.629	No significant difference

Note. Depression was measured using a 30-item Likert-type scale. Higher scores reflect greater levels of depressive symptoms.

Discussion

This study examined depression among parents of children with neurodevelopmental disorders (NDDs) compared to those of typically developing children, with a focus on socio-demographic influences. The results partially confirmed the proposed hypotheses.

Supporting **Hypothesis 1**, parents of children with NDDs reported significantly higher levels of depression. This aligns with existing research showing that the emotional, physical, and financial demands of caregiving for children with developmental disorders often lead to increased psychological distress (Scherer et al., 2019; Shorey et al., 2020). Contributing factors may include behavioral challenges, limited social support, and societal stigma.

Hypothesis 2 was also supported: socioeconomic status had a significant effect on depression scores. Parents from lower-income groups reported higher depressive symptoms, reinforcing prior findings that financial strain limits access to mental health support and increases caregiving stress (Hailemariam et al., 2020). These results underscore the importance of economic context in caregiver well-being.

However, no significant association was found between **parental gender** and depression levels, which contrasts with earlier studies suggesting mothers experience greater psychological strain (Alibekova et al., 2022). This could reflect shifting caregiving roles or characteristics specific to the sample, such as higher education levels across both genders.

Likewise, the **number of special needs children** did not significantly affect depression levels. This suggests that even caring for one child with NDD may be sufficient to impact mental health, and the burden does not necessarily increase linearly with more children.

Implications and Limitations

The findings highlight the importance of early screening and mental health support for parents of children with neurodevelopmental disorders. Psychologists and social workers should incorporate parent-focused counseling, support groups, and psychoeducation sessions within educational and therapeutic programs to reduce depressive symptoms and combat stigma. At the policy level, integrating family-centered mental health services into national disability programs could improve outcomes for both parents and children. While these recommendations are critical, the study has some limitations: it employed purposive sampling and a cross-sectional design, limiting generalizability and precluding causal conclusions. Data were also self-reported, which may introduce response bias. Future research should adopt mixed-method approaches, recruit larger and more representative samples, and explore additional psychosocial factors such as social support, coping strategies, and marital satisfaction. Longitudinal and comparative studies across regions would further clarify causal relationships and cultural influences on parental depression.

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A Holistic Approach: Accurate Diagnosis to Inclusions

Author Name : Hapsa Hossain Farhana
Author Designation: Psychologist

Purpose

Children with Neuro Developmental Disability often face multi layered challenges that hinder their development and limit their opportunities for rehabilitation and inclusion in society. In Bangladesh the lack of early and accurate diagnosis, poor parental awareness, insufficient vocational planning and limited psychological support for families contribute to lifelong marginalization of these individuals.

As a practicing psychologist my primary objective is to provide comprehensive psychological support to children with Neuro Developmental Disability and their parents. A major focus is empowering both children and parents through assessment, accurate diagnosis, promote intervention plan, psychoeducation and raise parental awareness and emotional support. Additionally, vocational training has been integrated as a practical outcome of the assessment process, preparing adolescent for future independence and inclusion in society.

Implementation

Over the past 4 years 10 month, I have conducted more than 300 psychological assessments leading to accurate diagnosis and individual education plan across a range of NDD condition.

I also conducted psychoeducation and group counseling for parents. Most of the parents initially have limited understanding of their child condition, often holding unrealistic expectations of a full recovery. They may unknowingly place harmful pressure emotionally. Through psychoeducation, I explain the child’s condition in details, helping parents shift from denial or confusion to informed action. They are guided on what to expect, how to plan interventions, how to support the child development in realistic and compassionate ways and ensure that they become active participants in the child progress.

30 group sessions have been held so far at different branches of SWID Bangladesh. These sessions focus on stress reduction, building support networks and increasing legal and emotional awareness regarding Neuro Developmental Disability Trust act and entitlements. The group format allows parents to share experiences and learn from one another which significantly reducing feelings of isolation and stress.

Achievement

- Accurate diagnosis provided for over 300 children with NDD.
- Effective psychoeducation enabled parents to better understand their children and adjust their expectation.
- Based on the assessment outcomes, 55 children have been enrolled in SWID Vocational Training School that suit there cognitive and functional abilities. 12 children have secured jobs at different branches of SWID Bangladesh.
- 45 children successfully enrolled in inclusive programs and 200 enrolled in special education programs at different branches in SWID Bangladesh.
- Group counseling for parents has led to noticeable reductions in stress level and improved parent's child relationship.
- Increased community awareness of the NDD protection Trust Act reducing stigma and promoting advocacy.

Impact

The initiative has had a substantial impact both on the children and their families. For children, timely identification and intervention have opened up new possibilities for learning, skill development and social inclusions. The vocational training component has given them a sense of purpose and independence with long-term benefits of employability and quality of life.

For parents, group counseling has fostered emotional well-being, reduced stress and built a stronger network of peer support. Many have become advocates for disability awareness in their communities.

Overall, this program demonstrates a holistic and sustainable model to creates a pathway to inclusion, dignity and hope.

Empowering Communication: Speech and Language Intervention for Inclusion and Participation

Author Name: Fatema Akter

Author Designation: Speech and Language Pathologist

At SWID Bangladesh, I serve as a Speech and Language Pathologist providing individualized assessment and therapy to children with and without neurodevelopmental disorders (NDD), including autism, cerebral palsy, intellectual disabilities, and developmental language disorders. For the past three years, my work has focused on enhancing communication abilities to promote inclusion, participation, and emotional well-being.

Children with speech and language impairments often face significant barriers in education, socialization, and daily functioning due to difficulties in articulation, phonation, stuttering, and limited receptive and expressive language. Many are initially unable to express basic needs or participate meaningfully in classroom or community settings.

My role begins with comprehensive assessments to identify each child's unique communication profile. Based on these, I design and deliver individualized therapy plans targeting articulation, phonological awareness, fluency, vocabulary, and functional language use. All interventions are evidence-based and adapted to each child's cognitive, emotional, and linguistic abilities.

A key component of this initiative is parent involvement. Many families start with limited understanding of their child's communication challenges. I provide counseling and hands-on training to help parents support language development at home. This collaborative approach ensures continuity of learning and empowers families to become active agents in their child's progress.

To date, I have provided therapy to a large number of children, many of whom were previously non-verbal or had minimal expressive language. A significant portion now demonstrates measurable improvements in speech clarity, vocabulary, classroom interaction, and peer engagement. Some have transitioned to inclusive education or pre-vocational programs, supported by their improved communication abilities.

This work is embedded in a multidisciplinary team at SWID, where I collaborate with special educators, occupational therapists, and psychologists to create holistic intervention plans. Together, we ensure each child receives the comprehensive support they need to thrive.

Beyond therapy, I advocate for communication as a fundamental human right. My goal is not only to improve speech, but to give each child a voice—to help them be heard, understood, and valued. Communication is central to self-determination, dignity, and inclusion.

Through this initiative, we are breaking the silence that marginalizes children with neurodevelopmental disorders and replacing it with confident, empowered voices—ready to participate, connect, and lead.

The Effectiveness of Applied Behavior Analysis in Treating Autism Spectrum Disorder

Author Name: Fatema Akter
Author Designation: Speech and Language Pathologist

Full Paper: Applied Behavior Analysis (ABA) is a scientific discipline that applies principles of behavior analysis to address socially significant behaviors. It is rooted in the work of early behaviorists like Thorndike, Watson, Pavlov, and Skinner, focusing on observable behaviors and their relationship with environmental variables. ABA is widely used to improve developmental and educational outcomes, particularly for individuals with Autism Spectrum Disorder (ASD) and other developmental disabilities (Foxx, 2008). The approach involves systematic interventions to modify behavior through reinforcement and other behavior modification techniques (Sarafino, 2011). In 1999, the US Surgeon General issued a lengthy report on the Mental Health in America. In the section on autism, he concluded: "Thirty years of research demonstrated the efficacy of applied behavioral methods in reducing inappropriate behavior and in increasing communication, learning, and appropriate social behavior."(Larsson, 2013)

Applied behavior analysis refers to an approach toward treatment that includes an emphasis on antecedents, behaviors, and consequences and how these can be arranged to promote behavior change and a methodological approach toward assessment and evaluation. The interventions rely on principles of operant conditioning and the scores of techniques that can be derived from these principles (Sturmey, 2020).

ABA is grounded in the belief that behavior is learned and can be modified by changing the environment. In the context of education, ABA interventions are used to teach students with ASD essential skills such as communication, self-regulation, social interaction, and academic abilities. These techniques are often implemented by behavior analysts, special education teachers, and professionals, and can be individualized to meet the specific needs of each student.

The Roots of ABA

ABA traces its theoretical foundations back to early behavioral psychology, particularly the work of B.F. Skinner and his theories on operant conditioning. Skinner's ideas on reinforcement, punishment, and behavior modification laid the groundwork for what would later become a critical approach to understanding and shaping human behavior.

In the 1960s, Ivar Lovaas, a pioneering behaviorist, adapted these principles to develop structured interventions for children with autism. Lovaas's work demonstrated that children with ASD could significantly improve their social, communication, and adaptive skills through a systematic approach to reinforcement. The technique known as Discrete Trial Training (DTT) was among the first ABA methods used to teach children with autism specific skills in a highly structured and repetitive manner, with reinforcement for desired behaviors.

Over time, ABA became recognized as one of the most effective treatment models for autism, and its use grew to include a variety of interventions tailored to individuals with ASD, from early intervention programs to school-based supports.

Dimensions of ABA

Applied

Focuses on socially significant behaviors that improve the person’s life such as, communication, self-care, safety, learning and so on (Baer et al., 1987).

Analytic

The analysis of a behavior, as the term is used here, requires a believable demonstration of the events that can be responsible for the occurrence or non-occurrence of that behavior (Baer et al., 1987) .It Shows that the intervention caused the behavior change through data and functional relationships (cause and effect). A functional analysis identifies the "causes" of behavior, that is, current conditions that are maintaining the behavior. These conditions are determined by directly assessing behavior, proposing hypotheses about likely factors that are controlling behavior, and testing these hypotheses to demonstrate the conditions that cause the behavior. The information from functional analysis is then used to guide the intervention by direct alteration of conditions so that the desired behaviors are developed.(Kazdin, 2002)

Behavior

Any observable or measurable response or act.(Larsson, 2013).The term behavior refers to anything a person does , typically because of external or internal events (Sarafino, 2011)

External or overt behavior – That is open to view or observation. Overt behavior can be of two types

- ***Verbal Behavior -*** Actions that involve the use of language
- ***Motor Behavior -*** Actions that involve body movement, without requiring the use of language

Overt behaviors have been and continue to be the main focus of the applied behavior analysis (Sarafino, 2011)

Internal or Covert Behavior - not viewable or openly shown such as; thought, emotion, imagination etcetera.

Antecedents

Antecedents are what happens before a behavior, the triggers or cues that set the stage for the behavior to occur.(Kazdin, 2002)

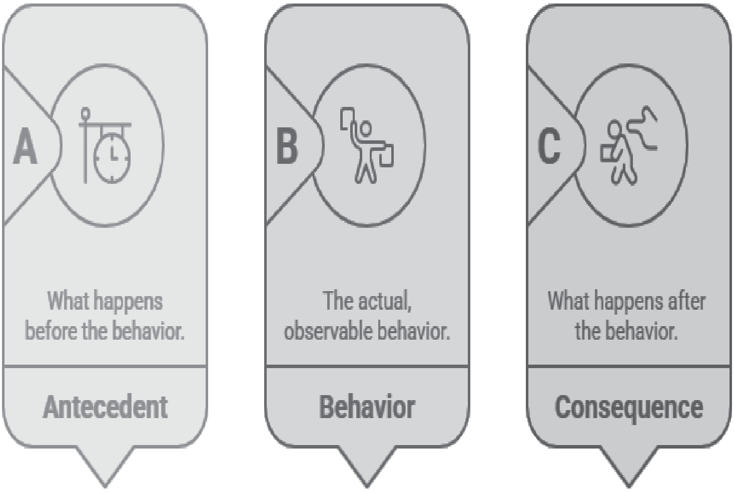
Consequences

Events that follow behavior and may include influences that increase, decrease, or have no impact on what the individual does.(Kazdin, 2002)

Model of ABC for ABA

ABA follows ABC model which is the heart of behavior analysis and helps to understand why a behavior occurs and how to change it. Here, A= Antecedent, B = Behavior, C = Consequence

Figure 1: Understanding behavior with ABC model



Framework of Applied Behavior Analysis

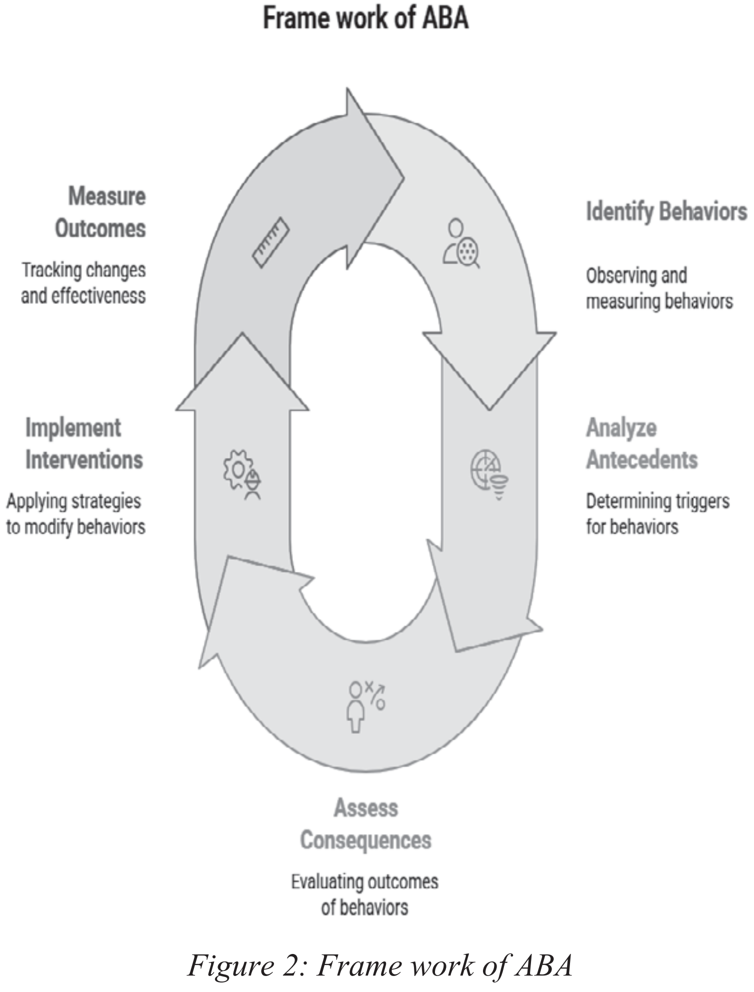


Figure 2: Frame work of ABA

Principles that Support ABA

Reinforcement: Reinforcement is a process in which consequence strengthen the behavior on which they are contingent. A reinforcing consequence is called a reinforcer. Reinforcement involves a sequence of events .Such as,

Positive reinforcement: Adding something desirable or preferred immediately after a behavior, to increase the likelihood that the behavior will happen again.

Negative reinforcement: Removing an aversive stimulus to increase a desired behavior .Such as, a teacher stops an annoying loud whistling when a student starts working on a task, encouraging the child to start tasks promptly in the future.

Prompting: Providing assistance or cues to encourage the correct response or behavior .For instance,

Physical Prompt: Helping a child place a block by hand-over-hand assistance.

Verbal Prompt: Saying "Say thank you" after someone gives the child a toy.

Visual Prompt: A picture of washing hands placed near the sink.

Positional Prompt: Putting the correct flashcard slightly closer to the learner.

Textual Prompt: A sign that says "Put your name here" on a worksheet.

Gestural Prompt: Pointing to a chair to prompt the child to sit***:***

Modeling Prompt: Showing how to clap hands, then asking the child to copy.

Fading: Gradually reducing prompt until the learner performs the behavior independently.

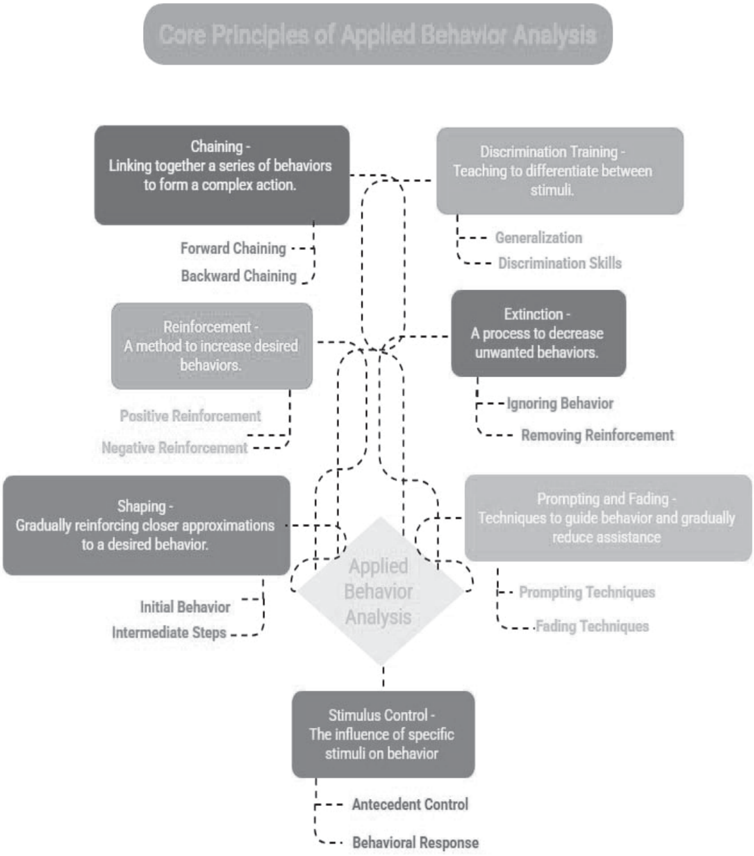
Shaping: Reinforcing successive approximations of a desired behavior until the final behavior is achieved.

Extinction: Stopping reinforcement of a previously reinforced behavior, leading to its decrease over time.

Chaining: Breaking a complex task into smaller steps and teaching each step in a sequence.

Discrimination training: Teaching the learner to respond differently to different stimuli based on specific cues.

Stimulus control: When a behavior occurs more often in the presence of a specific stimulus due to past reinforcement (e.g., a sound, sight, word, gesture, object, person).



In conclusion, through decades of research and application, Applied Behavior Analysis (ABA) has emerged as a gold standard in the intervention and treatment of Autism Spectrum Disorder. Its effectiveness—well-documented in scientific literature and supported by leading authorities—has solidified its role as a cornerstone in both clinical and educational settings. Although no single approach is universally effective for every individual, the structured, adaptable, and person-centered nature of ABA continues to offer meaningful, measurable progress for individuals with ASD and their support networks. Its foundation in empirical data and behavioral science ensures that ABA remains a reliable and evolving method in the pursuit of improved outcomes for those on the autism spectrum.

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Empowering Caregivers: AI-Based Early Screening of Emotional and Social Challenges in Children with Neurodevelopmental Disorders

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Author Biography: ***Mashuk Jannat Mahima*** *is an undergraduate student in the Department of Computer Science and Engineering at BRAC University, Bangladesh. Her research interests lie at the intersection of machine learning, assistive technology, and neurodevelopmental disabilities. She has been actively involved with SWID Bangladesh—the largest disability organization in the country—since childhood, which shapes her research focus on developing inclusive technological solutions. Mahima has contributed to a variety of projects in natural language processing, blockchain-based systems, and some database systems. She aspires to pursue her further work in using computational methods to support individuals with neurodevelopmental disorders.*

Abstract: Identification at an early age of social and emotional problems among children with neurodevelopmental disorders (NDDs) such as autism and intellectual disability requires early intervention. However, professional assessment and long-term care by caregivers in the majority of low- and middle-income nations is not immediately available. Here is an AI-assisted screening tool that screens early signs of autistic behaviors and symptoms of depression from facial features and vocal tone. Unlike the traditional diagnostic methods that require clinical settings, this tool is meant to be used by parents, teachers, and caregivers to administer in home or school settings. With feedback from our experience working with special educators and families in Bangladesh, we field-tested the tool's usability, accessibility, and potential for early intervention. Though the machine learning core was born out of an academic setting, here in this paper we note the social application of such technology, including adding to caregiver sensitization, reducing stigma, and planning inclusive education. Ethical concerns—privacy of data, cultural sensitivity, and risk of misinterpretation—are critically presented as well. This interdisciplinary research brings together technology and disability studies to enable caregivers rather than replacing expert diagnosis. Our findings are that with proper training and localized deployment, AI-based technologies can be beneficial allies in the broader care and support system for children with NDDs. The article concludes by proposing the integration of such technologies into community-based disability services toward enhancing quality of life and self-determination for children and their families.

Keywords: *Neurodevelopmental Disorders, Autism,Early Screening, Artificial Intelligence, Neural Network, Disability Technology*

Full Paper

I. Introduction

Children with Neurodevelopmental disorders (NDDs), often experience challenges in social interaction, emotional regulation. Early identification of these traits enables the access of early intervention, which significantly improves the developmental outcomes. However, diagnostic by trained professionals is difficult for the parents or the caregivers, particularly in low- and middle-income countries such as Bangladesh. Artificial intelligence (AI) offers a promising solution for this gap through this accessible tools that can assist in early screening. This paper aims to fill this gap by presenting an AI-based screening tool that analyzes facial expressions and vocal tone to detect early signs of autism, which is a challenge for the children with NDD. They tend to have this difficulty to interact in a social setting.

The primary objectives of this research:

1. To design a system for early screening of children with Autism.
2. To evaluate the Machine learning models' performances.
3. To explore its broader social, ethical implications in community-based care..

This research contributes to the interdisciplinary sphere between computer science, disability studies, and social innovation by positioning AI - Machine Learning -not as a replacement for expert diagnosis but as an empowering tool for caregivers.

II. Related Work

In the case of analyzing facial features of individuals, if images of facial features are used to train deep learning algorithms such as Convolutional Neural Networks (CNN) combined with XGBoost or Random Forest, better classification results are obtained in the diagnosis of ASD from the images. Likewise, applying other methods that include deep learning to facial pictures has shown potential in diagnosing children with ASD.

According to the study done by Aslam et al. (2022), [15] their findings resulted in 95% accuracy for emotion prediction and 100% for ASD classification, using a linear support vector machine (LSVM) classifier. They used EEG signals to classify emotions and ASD. Although their study presents promising results for motion analysis, the key contribution has been mainly toward signal processing techniques and not on the analysis of facial and vocal patterns. Contrary, the work here presents the facial and vocal feature incorporation into machine learning models in the field of neurodevelopmental disorder diagnosis for more accurate early diagnosis.

Another study has been done with a hybrid model that combines Convolutional Neural Networks (CNN) and Support Vector Machines (SVM) for feature extraction from facial images and classification to detect emotional cues in children with autism (Afrin et al., 2024) [21].

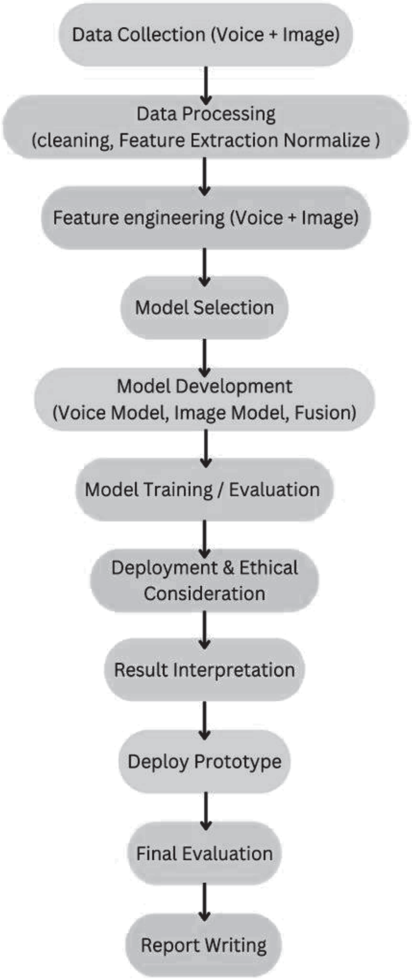
This study uses models like CNN and RNN for early detection. This data processing increases accuracy for early diagnosis. This model can align with the goals of this research in early detection of autism.

For high accuracy, facial and vocal pattern analysis is needed. In the application of these models, the accuracy can be increased as well as the potential for early detection.

III. Methodology

Design Process or Methodology Overview

The methodology aims to develop a system for the early diagnosis of autism in children with neurodevelopmental disorders (NDD) through the analysis of facial and vocal patterns. These steps comprise the design process: gathering and preparing data, choosing and training a model, assessing performance, and conducting a final analysis.



This flowchart, shown in Figure 1.1, depicts the whole pipeline of a multimodal machine learning project in voice and image data form. It begins with the data collection, followed by cleaning, feature extraction, and normalization among other processing tasks. Then, feature engineering and use of features of both modalities are done in the model selection process. The system is built upon separate models for voice and image, which are finally combined. After training and model assessment, ethical concerns are addressed before deployment. Results are interpreted, a prototype is implemented, final evaluation is conducted, and writing reports complete the cycle.

Data Collection:

In the first stage, I have collected reliable datasets containing facial images of individuals with neurodevelopmental disorders. These datasets are sourced from publicly available databases. We obtained a set of about 3,000 labeled autistic or non-autistic children's facial images from Kaggle[16]. Damaged or obscure images were removed after dataset cleansing. Face images were normalized and resized to a common dimension.

Data augmentation techniques (e.g., rotation, flipping, zooming) were used to boost dataset size and variety. Feature extraction (e.g., MFCC) was implemented for voice data. We collected a substantial dataset of 3,747 one-second audio clips, which is a meaningful contribution to autism research. The dataset is comparatively small, since children with ASD tend to be on their own and not interact at all. Even when they do, they usually don't respond to questions appropriately; rather, they keep repeating irrelevant sentences.

Result:

Model	**Accuracy**	**Precision**	**Recall**	**F1 Score**	**ROC AUC**
VGG16	**0.82**	**0.81**	**0.86**	**0.82**	**0.899**
ResNet50	**0.82**	**0.81**	**0.81**	**0.82**	**0.899**
SVM	**0.9227**	**0.9241**	**0.9227**	**0.9230**	**0.9711**
Random Forest	**0.97**	**0.8971**	**0.8973**	**0.8972**	**0.9538**

The obtained results were validated through the statistical values. With an AUC of 0.899. The final evaluation of models was performed with a combination of mean performance (macro-average and weighted average) in order not to forget concerning the class-imbalance problem. To explain model behavior statistically, we explored the trade-off between precision and recall. Accuracy of the model at a 95% confidence level, with standard error estimation.

Discussions

The trials' results were quite compelling in supporting the idea that the use of facial cues is too powerful a technology to be used for early autism screening of young children. The model's high sensitivity (86%) in identifying autism is its most positive discovery. The confusion matrix provides visual confirmation of that out of 46 children who were not diagnosed with autism, 36 were correctly identified, whereas 10 were diagnosed with the disorder. On the other hand, the model correctly predicted 43 autistic cases, missing only 7. It is also evident from the training and validation curves that there is a steady improvement without significant overfitting. This suggests that the model learnt consistently during training, so it won't have any issues with additional data and will remain dependable. In addition, our speech analysis has yielded encouraging findings. It is evident from the models' 92% and 27 90% accuracy rates that they can distinguish between cases that are autistic and those that are not. Models like Resnet50, and VGG16 were used to enhance the visual results. We used SVM and Random Forest that gave better accuracy than other models to analyze the voice datasets.

Limitations:

The intended objectives are, however, there were also a lot of restrictions. Secondary anonymized datasets from a variety of public sites were utilized to analyze facial patterns. It was challenging to snap pictures of these children because they have a neurodevelopmental issue and don't follow instructions like other children do. Another reason is that a lot of parents in Bangladesh still have outdated beliefs and consider this condition to be a disgrace, which is why they were reluctant to allow photographers to shoot their children's photos.

Primary datasets were gathered for speech, but the recordings were too brief because the children do not talk much or for very long. We have to correct the datasets by joining different recordings to create a longer one in order to address this issue.

Conclusion:

The integrated approach is advantageous for areas such as the neurodevelopmental disorders. In conclusion, work presented here has shown the promise of analyzing facial and voice patterns with a machine learning methodology for early detection of childhood autism in children diagnosed with neurodevelopmental conditions, which is a social & emotional challenge for these children.

The overall good performance of the models in terms of accuracy, sensitivity and fair specificity in recognizing autistic children is a hallmark of strong experiments. This model could detect most autism diagnoses in kind, with an 86 sensitivity. With 78 percent specificity, there will always be a few false positives — kids who aren't autistic yet mistakenly get the diagnosis. This trade-off is widely accepted in the design of screening tools because false negatives are felt to be more harmful than false positives. Furthermore, speech-based classifiers were effective. The Random Forest classifier achieved 90% accuracy, while the Support Vector Machine had an accuracy of 92%. These findings emphasize the importance of an approach to neurodevelopmental screening through facial and verbal characteristics. The audio analysis using SVM, and Random Forest could be a practical solution while video analyzing needs more complex architectures Resnet50 or VGG16. Learning was also as to be expected and after following the training and validation curve trends, overfitting was not very high, meaning that the models are clearly able to generalize given more data. And the justification was that we had a low cost portable design that can be easily adjustable to resource-constrained settings, such as Bangladesh, and the economic evaluation supported our model's cost-effectiveness and utility.

Future Work:

In the near future, local dataset for image can be implemented; making the dataset more diversified. Also, the prototype can be deployed and get the necessary feedback from the parents, teachers, caregivers and the carers, for modifying the tool accordingly. However, detection of the mental health of the child can be also added in this research to make this more efficient for the people with NDD.

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