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Socio-Economic Impacts of COVID-19 on Persons with Disabilities: Evidence from District Multan, Pakistan

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ABSTRACT

Aim of the study: This research paper discusses the socio-economic effects of COVID-19 on PWDs in District Multan, Pakistan, and how the restrictions related to the pandemic aggravated the existing inequalities.

Methodology: Data were collected using a quantitative and cross-sectional survey involving 241 registered PWDs of the Social Welfare and Bait-ul-Maal Department with the help of a structured interview schedule and analysed with the help of ANOVA, independent t-tests and simple linear regression.

Findings: The results indicate that there are significant social problems, such as high rates of discrimination (59.3%), high levels of social isolation (69.3%), and high levels of psychological stress (63.5%). Economic changes were harsh, and the respondent rates were 88.3 percent who said they are poor, jobless, or their income has been cut. The outcomes of ANOVA revealed that the levels of awareness, stress, and socio-economic burden were significant in relation to the types of disability ($p < .05$). The gender-based analysis revealed that women had much higher socio-economic struggles ($t = -2.924$, $p = .004$). The regression model established that psychological stress was a strong predictor of poor health outcomes ($b = .198$, $p = .002$). A family support became the most trusted tool of coping, and more than three out of five clients were depending upon relatives to help them during lockdowns.

Conclusion: Results indicate serious gaps when it comes to disability-related issues in planning of disasters, social protection and access to services. It is suggested that policymakers should improve disability-sensitive provision of health, expand social protection policies, make communication formats accessible, and improve digital and community-based support systems. These are necessary to protect the dignity, rights and wellbeing of PWDs in the event of future outbreaks of a given health emergency.

Keywords: Persons with Disabilities (PWDs), COVID-19, Socio-.Economic effects, Psychological Pressure, Disability Inclusion, Pandemic Vulnerability.

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1. INTRODUCTION

According to global research, over one billion people or about 15% of the world's population live with some form of disability and they face persistent barriers in the form of healthcare, education, employment, social inclusion etc. Disability is now considered a human rights issue under the framework of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) however awareness and consistent explanations are still limited. Reports of the World Health Organisation (WHO) and World Bank reflect on the necessity of regulations that are inclusive, of data that is correct and equal chances to access resources to encourage participation and sustainable development (WHO, 2011).

In December 2019, an outbreak of pneumonia in Wuhan, China was identified by the World Health Organisation (WHO) as a novel coronavirus or a coronavirus disease known as the Coronavirus Disease 2019 (Covid-19). The virus (of the beta strain of the SAR-CoV-2 virus) is active in a short time and attacks mostly the lungs, as the previous two epidemics, such as the SAR and MER. Despite the containment measures, cases of infection throughout the world increased rapidly leading to the declaration of a pandemic by the WHO (Sohrabi et al., 2020). As of April 2021, the number of cases has escalated to over 129 million with over 2.8 million deaths worldwide. The pandemic was severely disrupting the health systems, economies as well as social lives with different national responses and the lingering challenges from emerging variants and unequal vaccine access (Matteo, 2021).

During the crisis of the spread of the Covid-19 virus, the living persons with disabilities experienced ignores in access to vital information, healthcare, and support services. The United Nations Special Rapporteur on the Rights of Persons with Disabilities underscored that many people who were dependent on personal assistance for daily living were unable to safely follow isolation or distancing measures. Governments were appealed to ensure the availability of essential care and equitable healthcare access in emergencies (Devandas, 2020). Similarly, the UN Convention on the Rights of Persons with Disabilities (CRPD) urged states to ensure the safety, dignity and rights of those with disability in times of crisis, emphasizing inclusive policies and protection against discrimination and stigmatization (Basharu & Reyes, 2020).

The pandemic of the new coronavirus (Covid-19) has disproportionately affected persons with disabilities everywhere, who still one are of the most affected and ignored groups. In countries such as Viet Nam, pre-existing health conditions, lack of access to health care and the interruption of rehabilitation services increased their vulnerability. Many people experienced loss of income and less support from caregivers as a result of social distancing measures. Collaborative efforts made between the Ministry of Health and UNDP to improve accessibility through disability-inclusive public health communication, such as translations into sign language. Collaborative efforts made between the Ministry of Health and UNDP to improve accessibility through disability inclusive public health communication, such as translations in sign language (Nam, 2020). Globally persons with disabilities, especially older people and those from low-income backgrounds, were especially exposed, and complications and death risks were higher. Socio-economic factors such as income, education and living conditions further influenced their susceptibility, highlighting the importance for inclusive, evidence-based responses to inequalities stemming from the pandemic (UNICEF, 2020).

South Asia, which includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are home to nearly one-fifth of the world population and were hard hit due to dense population, poor health care system and economic divergence due to Covid-19 pandemic with 21% of cases and 11% of deaths in 2019. Social protection measures such as the Ehsaas Emergency Cash Programme in Pakistan and the National Rural Employment Guarantee Act in India and regional cooperation programmes such as the SAARC Food Bank played an important role in responding to the crisis (Babu et al., 2020). The pandemic further exposed the increased vulnerabilities of persons with disabilities who make up about 15% of the population. Many experienced socio-economic exclusion, lack of access to healthcare, and

weak policy support, highlighting the urgent need for better legal and institutional frameworks to guarantee their inclusion in public health and social protection measures (Mehrotra & Soldatic, 2021).

The Coronavirus Disease 2019 or Covid-19 was first identified in Wuhan, China in December 2019, and it quickly spread into more than 210 countries including Pakistan resulting in millions of infections and huge deaths worldwide. Pakistan's first case was reported on February 26, 2020 in Karachi with increasing numbers of cases reported in the provinces of Sindh and Gilgit-Baltistan. The government implemented certain measures such as hospitals, testing centres, quarantine facilities, public awareness campaigns, lockdowns, and social distancing to contain the virus (Waris et al., 2020). Despite these efforts, Pakistan's population density and limited resource availability combined with insufficient medical infrastructure and capacity to test added to the spread of the virus. The pandemic caused severe socio-economic disruptions, affecting the livelihoods of people, increasing poverty and food insecurity, as well as impacting the primary, secondary and tertiary sectors, although some improvements in urban air quality were noted as a temporary improvement. Effective pandemic response involved the need for coordinated governance, improving the healthcare infrastructure, testing, fiscal and monetary policy integration, and global cooperation for immunisation, medical resources, and economic recovery (Rasheed et al. 2021).

The health challenges posed by the Coronavirus pandemic (Covid-19) have struck around the world with a disproportionate impact on people in poorer countries that lack economic and medical resources. Over 100 million people have been infected worldwide with 2.15 million death tolls and Pakistan has over 0.534 million infected cases and thousands of deaths. The National Command Operation Center (NCOC) reported that initial lockdowns helped the situation contain the spread of the virus, but subsequent peaks led to the reopening of educational and religious institutions which points to ongoing public health risks. Effective management of the Covid-19 requires a collaborative approach between all actors, striking a balance between healthcare, economic and environmental considerations. Policymakers are experiencing the challenge of optimizing scarce resources and to achieve these interrelated goals. A structured framework for identifying, prioritizing and implementing policy actions can help support long-term pandemic recovery. This framework focuses on political alignment, regulatory coherence and sustainable strategies. It also allows for cross-sector coordination efforts, integrated decision-making and targeted resource allocation for improving health, economic stability, and environmental resilience (Sohil, Sohail, & Shabbir, 2021).

The pandemic of the Covid-19 virus was particularly cruel to the people with disabilities in Pakistan and it really brought a spotlight on the holes in our social safety net and policy framework. History has taught us that the most vulnerable are always the hardest hit during health emergencies and this time was no different. In Pakistan, there were no clear guidelines for people with disabilities, which meant they were having difficulty accessing medical care, personal assistance, education, and even basic social protection (International online resource centre on disability and inclusion, 2021). By mid-June 2020, the maximum numbers of Covid 19 cases and deaths were being recorded in the Punjab. Those with physical and psychosocial impairments in particular from poorer households found themselves even more isolated, mentally stressed and with less voice in decision-making. Add in gender-based violence and cramped living conditions and the situation only becomes worse. Volunteering hotspots, such as meal drives, did help a bit but overall the pandemic made it crystal clear that we need inclusive and targeted strategies that actually reach these communities (International Disability Alliance, July 6 2020).

In Pakistan, there are about 28 million people with disabilities (PWDs) that constitute 10-15 percent of the population. This vulnerable group has been disproportionately impacted by the COVID-19 pandemic, furthering socio-economic issues impacting them, including low education, unemployment, poverty, maltreatment, and low levels of community participation. PWDs have one in six chances compared to the non-disabled people of being hired and experiencing both public and non-public space barriers. They have also had limited access to health information, hygiene facilities, and the necessary health services during the pandemic. World Health Organisation (WHO) suggests protective practises related to PWDs, such as avoiding crowded spaces, limiting personal interactions, maintaining necessary supplies,

disinfecting assistive equipment, and engaging caregivers to help with other activities, such as online shopping. It is important to work together with caregivers to make sure that these interventions will adequately reduce risk and facilitate daily living (Nida, 2021).

District Multan at the local level shows the difficulties faced by people with disabilities in their lives across the country. Being one of the largest urban areas in Southern Punjab, Multan was affected by the pandemic with serious socio-economic impact. The lockdown and movement restrictions reduced access to healthcare facilities, assistance tools, and community support networks. Most persons with disabilities rely on informal working and family support, which were interrupted in the crisis. They were also made more vulnerable by the loss of income and shutting down of local rehabilitation centres. Families of individuals with disabilities were under emotional and financial pressure as a result of loss of jobs and increment in the medical expenses. Digital access was also limited, which limited access to online education and awareness programmes. Even though the local NGOs, community workers, and social welfare departments worked, the lack of organised disability support mechanism in Multan demonstrated the vulnerability of social protection mechanisms of marginalised groups. This case indicates why localised, evidence-based measures are an urgent necessity to guarantee inclusion in health and disaster management planning (Rasheed et al., 2021).

1.1 Statement of the Problem

The COVID-19 pandemic has presented people with disabilities with unprecedented socio-economic problems, especially in District Multan. Lockdowns, mobility, and pandemic safety measures blocked the access to health, education, jobs, and social lives. Although they make up 10-15% of the Pakistani population, PWDs are usually left behind in the policy planning and management of disasters. The pandemic worsened the financial and social vulnerability of the PWDs in Multan, where a significant number of individuals are dependent on informal jobs, family support, and local rehabilitation services. The proposed research is entitled “Socio-Economic Impacts of COVID-19 on Persons with Disabilities: Evidence from District Multan, Pakistan” and aims to investigate these issues, discuss the coping mechanisms of the PWDs, and offer suggestions on how the inclusion and well-being of the latter can be enhanced in the future and during crises.

1.2 Research Gap

Whereas the national and international research has highlighted the impact of Covid-19 on the special people, where a little study has been conducted on PWDs in Pakistan, especially at the District Multan level. The literature available concentrates on the overall effects of the population or in urban centres, so there is no localised information on Southern Punjab. Moreover, the coping mechanisms with the pandemic that PWDs had to use and the social, economic, and healthcare assistance they received is mostly unreported. This gap is essential to the creation of evidence-based interventions that would meet the needs of PWDs in District Multan.

1.3 Significance of the Study

The research is important since it offers a localised evidence of the socio-economic issues of PWDs in District Multan in the time of COVID-19. The results will be used by policy makers, NGOs and community stakeholders to develop effective strategies to enhance the access of healthcare, social inclusion and economic empowerment of PWDs. Also, the paper is a contribution to the academic literature on disability, social protection, and disaster management, focusing on the overlap of health crises and social vulnerability in Pakistan.

1.4 Objectives of the Study

- To determine the social issues that persons with disabilities experience throughout the COVID-19 safety measures.

- To examine the economic hardships that persons with disabilities in District Multan face during the pandemic.
- To analyse coping processes that people with disabilities use to manage with socio-economic challenges.
- To offer evidence-based suggestions that will support the disabled people during disaster preparedness and social inclusion.

1.5 Conceptual Framework

The conceptual framework shows that the measures of the COVID-19 pandemic affected people with disabilities in District Multan through the mediating variables of access to healthcare, education, income, and caregiver support, which produced social and economic outcomes.

1.6 Independent Variable

Lockdowns, social distancing, mobility and safety measures that are implemented due to COVID-19.

1.7 Dependent Variables

Social Outcomes: Community isolation, low involvement in community, lack of access to healthcare and education, and mental health issues.

Economic Consequences: Loss of work, loss of earnings, financial strain and dependence on a family or social support.

2. REVIEW OF THE RELEVANT LITERATURE

As Samaila et al. (2020) emphasised people with disabilities are more vulnerable in terms of health and, therefore, their healthcare needs are higher because of the risk of having serious COVID-19 outcomes. On top of the health issue, the pandemic confinement and social isolation compounded the functional, economic, and social issues, and were accompanied by lasting effects even after the crisis. COVID-19 in Nigeria has caused a humanitarian crisis never seen before and people with disabilities were disproportionately impacted. The research focused on the importance of comprehensive policies and suggested governmental measures, especially by changing the special education curricula and technology.

Naami & Mfoafo-M'Carthy (2020) analysed the effects of COVID-19 on people with disabilities in Ghana, and indicated that there are over 1 billion individuals with impairments in the world with over 80 per cent living in low-income nations. In Ghana, disabled people were excluded of healthcare, education and social support due to entrenched socio-cultural attitudes, and systemic inequalities thus making them the poorest of the poor. Their circumstances were also aggravated by the pandemic due to loss of jobs, unstable employment, and access to social safety nets and health. Regardless of these weak points, the COVID-19 response in Ghana did not respond to the needs of the disabled individuals sufficiently, which highlights the importance of making the process more inclusive in the future.

El-Zraigat and Alshammari (2020) discussed the psychological and social impact of COVID-19 among 150 participants with disabilities in Kuwait. The authors of the study discovered that the effects of disabilities were dissimilar: visually impaired people experienced mobility and orientation problems; hearing impaired people experienced problems with language barriers and access to information; learning disabled people had a problem with understanding COVID-19-related information; people with behavioural disorders had issues with controlling activities and communicating. On the whole, the majority of the participants noted that their social activities were interrupted, their involvement in the community life decreased, and they were more worried about being infected and being stigmatised. The paper has highlighted the significance of comprehensive social, psychological and health care interventions to individuals with disabilities.

Mbazzi et al. (2020) conducted a telephone interview with parents of children with disabilities in Central Uganda to examine the effects of COVID-19 on them. The results indicated that lockdowns had a detrimental impact on the mental and physical well-being of families, social life, income, learning, and food security. Poor transport and institutional shutdown curtailed access to health care and medicine, with most parents losing their jobs, not being able to afford food and housing, and not being able to meet their basic needs. Another thing that parents were afraid of was the disruptive nature of the schooling and social growth of their children. The research suggested that the first priority should be children with disabilities and their families during COVID-19 responses, which should be provided with health, rehabilitation, and education support.

Cochran (2020) emphasised that disabled people were extremely susceptible to the direct health consequences of COVID-19 as well as the overall consequences of the pandemic responses. They were found to be deprived of the necessary items and health services, and the restriction of movement and safety was an additional limitation of the transport opportunities. Most people shunned the use of the transport system, exposing themselves to the risk of social isolation and health issues. The paper stressed the importance of the fact that the challenges depended on the disability type and socio-demographic factors, and it is suggested that the future research and policy responses include the people with disabilities.

Jondani (2021) underlined that individuals with visual impairments were more vulnerable to COVID-19 and had more problems adhering to preventive measures, as well as experiencing greater psychological trauma. Since there are more than 253 million visually impaired persons in the world and they are under threat, the research emphasised the role of governments in accordance with the standards of UN (2006) to provide equal health care. In line with the favourable results of Hauge et al. (2020), it was mentioned that one of the most effective methods of preventing the spread of COVID-19 was the governmental support of vulnerable populations, including visually impaired people. It was suggested to raise awareness and modify institutional practices in order to advance independence and inclusion of the visually impaired individuals.

3. METHODOLOGY

The study titled “Socio-Economic Impacts of COVID-19 on Persons with Disabilities: Evidence from District Multan, Pakistan.” had a quantitative, cross-sectional survey design. The design is selected due to the opportunity to collect the data at one point in time, which will enable the researcher to determine the relationships between socio-economic variables and the effects of the pandemic in an efficient way in a defined population.

3.1 Population and Sampling

The population used in the research was the persons with disabilities (PWDs) registered in the Social Welfare and Bait-ul-Maal Department of District Multan. There were four significant groupings of disabilities in the study namely physically disabled, visually impaired, hearing/speaking impaired and mentally/psychiatrically ill. Only those respondents who were aged 20 years and above were selected to have mature knowledge and credible answers. A total of 641 registered people were used to calculate the sample size of 241 respondents based on Yamane formula. The respondents were sampled using a random method to make the sample representative and reduce sampling bias.

3.2 Data Collection Methods

A structured interview schedule made of close ended questions was used to collect the data. In case, the respondent had hearing or mental impairments, the support of the translator, parents, or guardians was requested to ensure the correct communication.

Primary and secondary sources of data were used: Primary data was gathered by the use of interviews and group discussions. Secondary information was prepared through governmental reports, policy documents and other literature materials dealing with socio-economic and disability based research.

4. RESULTS AND DISCUSSION

Table 1: *Demographic Information of the Respondents*

Variable	Category	Frequency	Percentage (%)
Age (Years)	20–30	21	8.7
	31–40	47	19.5
	41–50	56	23.2
	51–60	87	36.1
	Above 60	30	12.4
Gender	Male	169	70.1
	Female	72	29.9
Family Type	Nuclear	83	34.4
	Joint	138	57.3
	Extended	20	8.3
Education	Illiterate	135	56.0
	Primary	52	21.6
	Middle	28	11.6
	Secondary	15	6.2
	Intermediate	8	3.3
	Bachelor	3	1.2
Residential Area	Rural	177	73.4
	Urban	64	26.6
Marital Status	Single	81	33.6
	Married	127	52.7
	Separated	10	4.1
	Divorced	14	5.8
	Widowed	9	3.7
Occupation	Government Employee	8	3.3
	Private Employee	21	8.7
	Self-Business	84	34.9
	Unemployed	128	53.1
Monthly Income (PKR)	15,000–20,000	115	47.7
	21,000–25,000	69	28.6
	26,000–30,000	23	9.5
	Above 30,000	34	14.1

The demographic data of table 1 showed respondents' age group of 51-60 years (36.1) was the highest group and then the age group of 23-40 years was the next group with 19.5 percentage. Only 8.7% were between 20-30 years. The sample was prepared to show that the population of middle-aged and old people was the dominant part of the sample, which is why it was the population with mature social experiences.

Speaking of gender, 70.1 per cent of the respondents were male and 29.9 per cent were female. This disproportion can be explained by the existing cultural and social practices which do not allow women to take part in surveys and research.

Regarding family type, 57.3% of the respondents were in joint families, 34.4% were in nuclear families and 8.3% were in extended families, hence it is evident that the joint family system is still prevailing even though nuclear families are gaining popularity among the younger generations.

Education showed that 56% of the respondents were illiterate with only 1.2% having attained a bachelor's degree. Such a sharp difference also suggests the lack of access to higher education and stresses on the existing socio-economic disparities in the research area.

The majority of the respondents (73.4) were in rural setting as opposed to 26.6 in the urban areas, a factor that underscores a rural dominated population which represents the traditional way of life, and lacks infrastructural amenities.

Data on marital status were collected and more than 52.7 percent of the respondents were divorced, 33.6 percent married and 5.8 percent separated. The high divorce rate has been abnormally high which could be a sign that there is social or economic difficulty that is creating problems with the marriage stability.

Professionally, 53.1% were unemployed, 34.9% self-employed and just 3.3% had government employment. This is indicative of part of the inaccessibility of formal jobs and reliance on informal or self-reliant sources of income.

Income distribution indicates that almost half (47.7) of them earned between PKR 15,000-20000 per month and only 14.1 of them earned over PKR 30,000 per month. This trend depicts general economic distress, low income and low living standards.

Table 2: *Statistical Representation of Respondents w.r.t. Social Challenges, Economic Difficulties, and Coping Mechanisms during COVID-19*

Statement	SDA	DA	N	A	SA
01 Experienced discrimination during COVID-19	7.1	31.5	2.1	49.8	9.5
02 Faced social isolation due to lockdown	8.7	19.5	2.5	51.0	18.3
03 Felt unsafe in public spaces	13.7	46.1	5.0	27.4	7.9
04 Physical environment was inaccessible	6.2	16.2	7.5	48.5	21.6
05 Suffered psychological stress	11.2	23.7	1.7	48.1	15.4

Table 3: *Statistical Representation of Respondents w.r.t. Economic Difficulties*

Statement	SDA	DA	N	A	SA
06 Faced poverty/low income during COVID-19	1.7	6.2	3.7	48.1	40.2
07 Experienced economic problems	5.4	16.6	2.1	49.8	26.1

Table 4: *Statistical Representation of Respondents w.r.t. Coping and Support Mechanisms*

Statement	SDA	DA	N	A	SA
08 Family provided support during COVID-19	5.4	20.3	2.5	44.4	27.4
09 Received help/training from family & friends	4.6	17.4	3.3	44.0	30.7
10 Isolation increased health risks	5.0	15.4	2.1	54.4	23.2

Strongly Agree = SA, Agree = A, Neutral = N, Disagree = DA, Strongly Disagree = SDA

Section A: Social Challenges

Table 2 demonstrates the social challenges that persons with disabilities faced during the COVID-19 period. When questioned as to whether they felt discriminated against by the society, 7.1% strongly replied with no, 31.5% replied with no, 2.1% went with no reply, 49.8% replied with yes and 9.5% replied with yes strongly. These findings show that over a half of the respondent's experienced discriminative behavior during the pandemic. When asked to agree with the statement that lockdown restrictions caused them to feel socially isolated, 8.7% strongly disagreed, 19.5% disagreed, 2.5% was neutral, 51.0% agreed, and 18.3% strongly agreed. The results indicate that isolation turned out to be a high social load. The question on whether they felt safe in public places depicted that 13.7% strongly

disagreed, 46.1% disagreed, 5.0% was neutral, 27.4% agreed, and 7.9% strongly agreed, and so considerable population of the respondents indicated that they did not feel safe in open spaces during the pandemic. The respondents were also questioned on whether physical space was closed during COVID-19. The outcomes indicate that 6.2% strongly disagreed, 16.2% disagreed, 7.5% neutral, 48.5% agreed, and 21.6% strongly agreed, which proves that one of the biggest challenges was the limited accessibility. Lastly, responding to the question of whether the pandemic led to psychological stress, 11.2% strongly disagreed, 23.7% disagreed, 1.7% stayed neutral, 48.1% agreed, and 15.4% strongly agreed. These findings indicate that stress and anxiety were some of the relevant social implications experienced by disabled people.

Section B: Economic Difficulties

Table 3 underscores the financial difficulties that people have been facing with the pandemic. On the issue of whether they experienced poverty and low income because of COVID -19, 1.7% strongly disagreed, 6.2% disagreed, 3.7% were neutral, 48.1% agreed and 40.2% strongly agreed. These results indicate that most respondents are in an overwhelming occurrence of financial crisis. Novel questions were also posed to the respondents as to whether they had overall financial issues during the pandemic. Findings indicate that there was 5.4 percent strongly disagree, 16.6 percent disagree, 2.1 percent neutral, 49.8 percent agree, and 26.1 percent strongly agree. In general, over 75 percent of respondents affirmed experiencing financial hardship by either loss of income, no income, or higher household spending in the COVID-19.

Section C: Coping and Support Mechanisms

Table 4 describes coping mechanism and support systems that persons with disabilities can use during the pandemic. Respondents to the question of whether family members supported them during the COVID-19 response strongly disagreed (5.4), disagreed (20.3), were neutral (2.5) and agreed (44.4) and strongly agreed (27.4). These results indicate a high dependence on family support groups. The respondents were also asked on whether they were guided or assisted by their friends and family members to survive through the pandemic. The results indicate that 4.6% strongly disagreed, 17.4% disagreed, 3.3% were neutral, 44.0% agreed, and 30.7% strongly agreed, and this proves the significance of social networks as important coping mechanisms. Finally, the respondents were questioned on whether social isolation posed any additional risk to their health. Findings indicate that there was a 5.0% strongly disagree, 15.4% disagree, 2.1% neutral, 54.4% agree, and 23.2% strongly agree indicating that isolation had direct effects on health and well-being.

Table 5: *Variable Definitions and Measurement Scales*

Variable	Definition	Measurement Scale
Income	Monthly household earnings of respondents, measured in Pakistani Rupees (PKR).	Ordinal (categorized as 15,000–20,000; 21,000–25,000; 26,000–30,000; above 30,000)
Stress	The psychological strain or pressure experienced during the Covid-19 pandemic.	Interval (5-point Likert scale: 1 = Very Low to 5 = Very High)
Discrimination	The extent of social exclusion or unfair treatment faced by persons with disabilities (PWDs) due to disability or pandemic-related factors.	Interval (5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree)

Table 5 shows the variables definitions and measurement scales. Rationale for Using Statistical Tests (Linked to Research Questions and Hypotheses). To address the study's research objectives (H_1–H_7), appropriate statistical tests were selected based on variable type and analytical purpose, as summarized below in table 6.

Table 6: *Summary of Statistical Tests, Hypotheses, and Results*

Statistical Test	Hypothesis / Research Question	Purpose of the Test	Rationale for Use
ANOVA (Analysis of Variance)	H_1: The level of socio-economic issue was different for people living in different family types.	To compare mean socio-economic issue levels among three family structures (nuclear, joint, and extended).	ANOVA was appropriate since the independent variable (family type) had more than two categories and the dependent variable was continuous. The result *($F = 4.463$, $p = .013$)* indicated a significant effect of family structure on socio-economic issues.
ANOVA (Analysis of Variance)	H_2: The level of awareness regarding Covid-19 was different across disability levels.	To test differences in Covid-19 awareness among four disability groups (physical, visual, hearing/speaking, and mental/psychiatric).	ANOVA was suitable for comparing mean awareness scores across multiple groups. Results *($F = 3.563$, $p = .030$)* showed significant differences in awareness by disability type.
ANOVA (Analysis of Variance)	H_3: The psychological issue due to Covid-19 was different with different disability levels.	To examine variations in psychological issues among disability categories.	The test assessed mean differences in psychological stress levels. A highly significant result *($F = 19.676$, $p = .000$)* confirmed substantial group differences.
ANOVA (Analysis of Variance)	H_4: The socio-economic issue due to Covid-19 was different with different disability levels.	To determine whether socio-economic impacts differed according to disability type.	ANOVA was used since the independent variable had multiple categories. A significant F-value *($F = 5.381$, $p = .005$)* indicated that socio-economic challenges varied significantly across disability types.
Independent Sample t-Test	H_5: Males and females faced different levels of socio-economic issues due to Covid-19.	To compare mean socio-economic issue scores between males and females.	The t-test was chosen as gender had two categories. The result *($t = –2.924$, $p = .004$)* showed that females experienced significantly higher socio-economic issues.
Independent Sample t-Test	H_6: Males and females faced different levels of awareness regarding Covid-19.	To test gender-based differences in Covid-19 awareness.	The t-test compared two gender groups on a continuous variable. The result *($t = –1.933$, $p = .054$)* was marginally non-significant, showing no substantial gender difference.
Simple Linear Regression	H_7: Psychological issues were determinants of health among special people during Covid-19.	To test the predictive relationship between psychological issues (IV) and health outcomes (DV).	Regression analysis showed a significant model *($F(1,239) = 9.740$, $p = .002$, $R^2 = 0.039$)*. The beta coefficient *($\beta = .198$, $p = .002$)* indicated that psychological stress significantly predicted poorer health outcomes.

The statistical summary indicates that ANOVA was employed to compare the differences of three or more groups, which indicated significant differences in socio-economic problems within the family types and also significant differences in Covid-19 awareness, psychological problems, and socio-economic consequences of different disability groups. The independent t-tests were used to compare males and females, showing that females had much more socio-economic problems, whereas gender dissimilarity in Covid-19 awareness was not really considerable. Simple Linear Regression revealed that poorer health outcomes among special persons in response to Covid-19 depended on psychological issues as a predictor. Generally, ANOVA, t-tests, and regression analysis were the right choice and guaranteed that the changes between the groups, gender comparisons, and prediction were properly studied in the research.

The study findings demonstrate that individuals with disabilities suffered significant social and economic burdens in the course of the COVID-19 pandemic. Most of them complained of discrimination, strong social isolation, and heightened psychological strain linked to lockdown restrictions. Economic difficulties were also on the same level with a majority of the respondents living in poverty, joblessness, and a considerable income loss. Statistical results revealed that the level of impact was quite different in regards to the types of disability, with women living with physical, visual, hearing/speaking and mental disability having varied levels of stress, awareness, and socio-economic disturbance. There was also gender difference with women having greater burdens in the socio-economic context. Informal and family social networks were observed to be the most reliable sources of crisis coping support and psychological stress was observed to be a significant predictor of poor health outcomes.

5. CONCLUSION

The study concluded that COVID-19 has impacted persons with disabilities in District Multan disproportionately and aggravates the existing social and economic vulnerabilities. The lack of mobility, the disruption of services as well as the lack of policy attention led to the intensification of discrimination, a decrease in access to care and education, and the rise in the level of psychological distress. The results indicate that the socio-economic problems were not consistent, but varied as per disability type, gender and family structure. With these sufferings, family and close community networks gave the necessary emotional as well as practical support. In general, study point towards important gaps in disability-inclusive disaster preparedness, social protection, and health service delivery. Study suggests to implement urgent and across-the-board policy changes to stop the continued marginalization of PWDs.

5.1 Recommendations

On the basis of the outcomes of the study it is suggested that policymakers should consider incorporating disability-friendly actions in emergency response mechanisms so that there will be sufficient communication, movement assistance and health services during disasters. Social protection programmes like targeted monetary aids, inclusive work schemes and food subsidies should be strengthened to alleviate the economic vulnerability. Mobile health units, disability-sensitive clinics and the priority services should be used to improve access to healthcare. The awareness campaigns should involve the use of accessible formats such as sign language, braille and easy to read materials. PWDs should be offered more mental health services and physical access to public spaces and healthcare facilities should be provided. They should also focus on digital inclusion, assistive technologies, community based support networks and collaborate with local NGOs to protect the welfare of PWDs in future emergencies.

5.2 Policy Implications

The conclusions of the study have significant implications on the policy of the people of Pakistan. They highlight a need to incorporate the issue of disability in both national and district-level systems of disaster management. The inclusion of local governments, social welfare institutions, and health departments in formulating inclusive COVID-19 response initiatives requires coordination. In relation to social inequalities, the policies need to be aimed at minimizing this phenomenon with the help of enhanced

accessibility, awareness, and equitable resource distribution. Enhancing institutional support mechanisms and community-based rehabilitation and outreach programs could help a great deal to make PWDs more resilient in case of emergencies.

5.3 Practical Implications

Practically, the results focus on the necessity of a better service delivery model of PWDs on the local level. Medical institutions must implement disability-sensitive initiatives to make sure that services are available even at times of crisis. The community organizations and NGOs in question may be very helpful to provide mobility assistance, distribute supplies, and make people aware of the safety in a pandemic in a way that is easy to understand. The families which have become the main support system should be motivated and trained to take care of the disabled members by supporting them through health and hygiene and also managing stress. PWDs should be introduced to digital tools as well as assistive technologies to promote communication, education, and information access.

5.4 Limitations

The weakness of the present study is based on the cross-sectional design that it is difficult to quantify the long-term outcomes of socio-economic conditions among PWDs. The sample was limited to those who are registered under the Social Welfare and Bait-ul-Maal Department and this might have left out most of the unregistered disabled people whose experiences might be different. Also, hearing and mentally impaired responses could not be provided without the help of a translator or a caregiver, thereby creating biases in responses. The results of the study can also not be generalized in all areas of Pakistan since the study was only done in the District Multan and the socio-cultural or economic conditions of other areas might be different.

5.5 Future Research Directions

The next-generation research should also take into account the longitudinal studies to monitor the change of socio-economic and psychological effects of PWDs over time, especially during the post-pandemic recovery period. Incorporation of unregistered populations of PWD would offer greater details on issues that relate to disability. The comparative research on a variety of districts or provinces would help to point out the accessibility statistical differences in the regions, health services, and social support. An in-depth qualitative study would be able to examine the lived experiences, emotional challenges, and coping mechanisms the PWDs use in greater depth. More studies are also required to assess the impact of the government social protection programs and disability policies which are used in the case of the pandemic.

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Conflict of Interest

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