

Socio-Economic Impact of COVID-19 Pandemic Among Lower Income Group of People in Pakistan

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Abstract

Objective: To determine the Socio-economic Impact of COVID-19 Pandemic among lower income group of people in Lahore, Pakistan

Material and Methods: An analytical cross-sectional study design was used for conducting this research from April 2021 to September 2021 in Lahore and a self-structured questionnaire with multiple variables was filled by 274 participants. Non-Probability type of convenience sampling technique was used for data collection after informed consent. This paper was structured into two sections: The initial part addressed the socio-economic challenges experienced by impoverished individuals amidst the coronavirus pandemic. The subsequent section assessed the current state of Pakistan's healthcare system. Chi-square test was used for qualitative data analysis and p-value <0.05 was taken as significant.

Results: Most of the participants (65.7%) in this survey were males and had an income of up to Rs.20,000/month (70.1%). Out of total, 254 (92.7%) respondents had profound impact of Covid-19 on their lives economically. Majority of them 152(55.5%) visited public places while 133(48.5%) avoided social gatherings like marriages, funerals, religious events etc. during pandemic. More than half of the participants agreed that hospital beds and oxygen were neither available nor it was affordable during their stay at hospital. A significant association was found between family income of respondents and financial crisis faced by respondents when sick with covid-19 (p-value=0.05), monthly income suffered due to lockdown or decrease in economy (p-value=0.04) and loan was taken to fulfill their household needs during pandemic (p-value=0.00).

Conclusion: The study showed that 254 (92.7%) respondents had profound impact of Covid-19 on their lives economically. A significant association was found between family income of respondents and financial crisis faced by respondents when sick with covid-19, monthly income suffered due to lockdown or decreases in economy and loan taken to fulfill their household needs during pandemic.

Keywords: Socio-economic, impact, pandemic, lower income group

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Introduction

The outbreak of Covid-19 had a detrimental impact on global healthcare systems with a ripple effect on

every aspect of human life.¹ In a response to flatten the curve, governments have enforced border shut-downs, travel restrictions and quarantine in countries which constitute the world's largest economies.² The health of people and economies go side by side to either flourish or collapse.³ Public health is closely concerned with economic welfare and economic growth.⁴ As per latest estimates, world's economy is predicted to decline by 5.2 percent and world trade by 13-32 percent in 2020 due to pandemic.⁵ The COVID-19 pandemic has caused unparalleled disruptions to the world's economies, resulting in income reduction and elevated

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unemployment rates.⁶ Over half of the job losses were experienced by workers earning in the bottom quarter of weekly incomes.⁷ It is expected that in less developed countries with an extended lockdown, the effects on the tens of millions of individuals living in poverty might be significantly harsher compared to those facing disadvantages in more developed nations like Germany and the US, where stronger government assistance is likely available.⁸

According to International Labor Organization (ILO), almost 25 million people around the globe could lose their jobs (loss of workers' income of as much as USD 3.4 trillion) due to this pandemic and it is pushing about 40–60 million people into extreme poverty. In light of the current crisis and subsequent lockdown measures in Pakistan, the anticipated unemployment rate is projected to escalate to 8.1% for the fiscal period of 2020–21.^{3,9} One of the consequences of this global economic depression can be seen in the increase in prices of food items and other routine household utilities.¹⁰ Additionally, the economic toll on the trade and travel sectors, pivotal elements of the global supply chain, amounts to trillions and continues to increase.¹¹ As a result, the cessation of business operations has led to a loss of livelihoods and a rise in unemployment rates, contributing to a 1% decrease in global GDP. This decline has subsequently caused significant hardship for impoverished and vulnerable populations in both urban and rural settings.¹² The challenges of rising health care costs and market power have forced the most vulnerable groups in the country, even harder to restrain a normal life.¹³ Social distancing has emerged as a universally implemented preventive measure, playing a crucial role in mitigating the spread of Covid-19. Nonetheless, an examination of socioeconomic and demographic variables underscores a disparate impact of Covid-19 across various segments of the population.¹⁴ Research conducted in New York City demonstrates that Covid-19 disproportionately affects poorer residential areas with lower average incomes, placing them at a heightened risk of infection compared to higher-income locales. These areas experience significantly elevated infection rates, highlighting a broader trend where communities with lower socioeconomic status are more vulnerable. This vulnerability is exacerbated by the scarcity of healthcare services in developing nations, such as India, Pakistan, Bangladesh, and others, further elevating the risk for residents in these socioeconomically disadvantaged areas.¹⁵ This study was undertaken to assess the economic

and social impacts of Covid-19 on lower-income groups in Pakistan, aiming to provide recommendations based on its findings. The goal is to assist policymakers in formulating effective response plans and strategies to address the challenges posed by the pandemic within these communities.

Material and Method

This study was conducted from April 2021 to September 2021 and the data was collected from lower income group (income <30,000 Rs/month) of people living in Lahore, Pakistan. An analytical cross-sectional study design was used for conducting this research and a self-structured questionnaire with multiple variables was filled by the participants. Non-Probability type of convenience sampling technique was used for data collection. A sample size of 240 was calculated with the help of WHO sample size calculator with 20% prevalence of financial insecurities among people and by keeping 95% confidence level with 5% margin of error. Those persons who were above 20 years of age, belonged to lower income group (family income less than Rs.30,000/month) and willing to participate were included in this survey. The gathered data was processed, coded, and analyzed using SPSS version 23. Qualitative information was displayed through frequency tables, bar charts, and pie charts. Meanwhile, quantitative variables were examined using means and standard deviations. IRB approval was taken from Akhtar Saeed Medical and Dental College before data collection. Informed consent was taken from the participants and their confidentiality was maintained during and after the survey. The Chi-square test was utilized, with a p-value of less than 0.05 considered statistically significant.

Results

This study included 274 participants and the mean age of the respondents was 34.6 ± 9.8 SD. Out of total, 180 (65.7%) were males and the rest were females. Fifty eight (21.2%) of the total respondents were casual workers or clerical staff, 15(5.5%) were construction workers, 26(9.5%) were drivers, 65(23.7%) were maids, 29(10.6%) were plumbers or electrician, 42(15.3%) were salesmen or security guards and 39(14.3%) were gardeners or waiters. Out of total, 228(83.2%) were married. Out of 274 total respondents, 144(52.6%) had primary education, 70(25.5%) were matric, 39(14.2%) were intermediate and 21(7.7%) were bachelors or above. Among 274 respondents, 75(27.4%) had family

income per month of less than Rs. 10,000, 117(42.7%) had income of Rs. 10,001-20,000 while 82(29.9%) had income of Rs. 20,001-30,000. Out of total, 152(55.5%) were living as a nuclear family while the rest were living as an extended family.

To assess the economic impact of pandemic on lives of respondents, 254(92.7%) out of total, were reported to had a serious impact of Covid-19 pandemic on their lives. Among 274 respondents, 232(84.7%) had effects of pandemic on their jobs and 101(43.6%) among them had lost their jobs. Out of those 42(15.3%) respondents

Table 1: *Economic impact of Covid-19 pandemic on life of respondents*

Variable	Frequency (n=274)	Percentage
Economic impact of pandemic on life		
Yes	254	92.7
No	20	7.3
Effects of pandemic on job		
Yes	232	84.7
No	42	15.3
If yes (n= 232), then jobs lost by respondents		
Yes	101	43.6
No	131	56.4
If no (n= 42), still had fear of losing job		
Yes	20	47.6
No	22	52.4
Income suffered due to lockdown or decrease in economy		
Yes	234	85.4
No	40	14.6
Leaves given during pandemic by their organizations		
Yes	133	48.5
No	141	51.5
If yes(n= 133), then paid leaves given		
Yes	40	30
No	93	70
Household monthly expenses easily fulfilled during pandemic		
Yes	53	19.3
No	221	80.7
Loan taken by respondents to fulfill household needs		
Yes	137	50
No	137	50
If yes (n=137), then from;		
Relatives	65	47.5
Friends	39	28.5
Employer	33	24

who reported no effects of pandemic on their job, 20 (47.6%) among them still had fear of losing job. Out of total 274, monthly income of 234(85.4%) respondents suffered due to lockdown or decrease in economy. Out of total, 133(48.5%) respondents were given leaves by their organizations during pandemic and 40(30%) among them were given paid leaves. Out of 274 respondents, only 53(19.3%) said that their household monthly expenses were easily fulfilled during pandemic. Among 137(50%) respondents who took loan to fulfill their household needs during pandemic, 65(47.5%) took loan from their relatives, 39(28.5%) from their friends and 33(24%) respondents took loan from their employer (Table 1).

To assess the social impact of Covid-19 on lives of people it was observed that 134(48.9%) of the total respondents visited their family and friends regularly during this pandemic. However, 152(55.5%) of the total 274, avoided going out to public places like shopping malls, parks, mosques etc. Among total respondents, 133(48.5%) avoided social gatherings like marriages, funerals, religious events etc. during pandemic. While 177(64.6%) of the total respondents, felt socially isolated or depressed due to pandemic. Among 274 respondents, 206(75.2%) followed SOP's set by the government like wearing mask etc. Out of total 274, 156(56.9%) were vaccinated for Covid-19 and 124 (45.3%) of the total respondents, reported death due to Covid-19 in their family or friends.

Table 2 showed those respondents who got sick with Covid-19 and were suffered financially as well as socially during this pandemic. Among total 274, 237(86.5%) respondents gave history of flu or fever during past one year. Out of total, 192(70.1%) respondents were reported to have their Covid-19 test done and among them, 123 (64%) had their test done free of cost, 51(26.6%) paid less than Rs. 10,000 and only 18(9.4%) respondents paid Rs. 10,001-20,000 for Covid test to be done. Out of those 192 who were tested for Covid-19, 173(90.1%) respondents isolated themselves when detected positive and family members of 154(8.2%) quarantined themselves. Out of 192 respondents who were detected positive for Covid-19, 121(63%) were hospitalized and 106(87.1%) among them were hospitalized in Government hospitals while the remaining 15(12.4%) were admitted in private hospitals. Out of 121 who were admitted in hospital, beds and oxygen were easily available to only 56(46.3%) and 61(50.4%) respondents among 121 reported that they were affordable as well. Among

121 respondents who were admitted in hospital, 60 (49.6%) were admitted in ICU and 41 (68.4%) among them had to go on ventilator. Among 121 respondents, cost of medication during their stay at hospital was reported to be Rs.10,001-25,000 by 56(46.3%) respondents, Rs.25,001-50,000 by 29(24%) respondents, Rs. 50,001-75,000 by 21(17.4%) respondents and more than Rs.75,000 by rest of them.

Table 2: Socio-economic impact on sufferers of Covid-19 pandemic

Variable	Frequency (n= 274)	Percentage
History of flu or fever during past one year		
Yes	237	86.5
No	37	13.5
Covid-19 test done due to illness		
Yes	192	70.1
No	82	29.9
If yes (n=192), then cost paid for Covid-19 test		
Free testing done	123	64
Less than Rs. 10,000	51	26.6
Rs.10,001-20,000	18	9.4
Respondents who isolated themselves when tested positive (n=192)		
Yes	173	90.1
No	19	9.9
When detected positive for Covid (n=192), family members of respondents quarantined		
Yes	154	80.2
No	38	9.8
History of hospitalization due to Covid -19 while sick (n=192)		
Yes	121	63
No	71	37
If yes (n=121), then admitted in		
Government hospital	106	87.6
Private hospital	15	12.4
Oxygen and beds easily available in hospital (n=121)		
Yes	56	46.3
No	65	53.7
Affordability of beds and oxygen in hospital (n=121)		
Yes	61	50.4
No	60	49.6
Admission in ICU while sick(n= 121)		
Yes	60	49.6
No	61	50.4

If yes (n= 60), then need of ventilator due to severe illness		
Yes	41	68.4
No	19	31.6
Cost of medication during hospital stay(n=121)		
Rs. 10,000-25,000	56	46.3
Rs.25,001-50,000	29	24
Rs.50,001-75,000	21	17.4
More than 75,0001	15	12.3
Hospital expenses borne by employer/organization(n=121)		
Yes	40	33
No	81	67
Loss of job while suffering from Covid-19 (n=192)		
Yes	70	36.5
No	122	63.5
Re-employment/new job after recovery from disease(n=70)		
Yes	55	21.4
No	15	78.6
Salary deducted while on leave due to illness(n=192)		
Yes	129	67.2
No	63	32.8
Financial crisis faced by respondents when sick(n=192)		
Yes	177	92.2
No	15	7.8

Table 3 showed a significant association between family income per month of respondents and financial crisis faced by respondents when sick with covid-19 (p-value = 0.05), monthly income suffered due to lockdown or decrease in economy (p-value=0.04) and loan taken to fulfill their household needs during pandemic (p-value = 0.00). A significant difference was also observed between family income and paid leaves given by their respective organization (p-value=0.003), those who regularly visited their family and friends (p-value = 0.03), those who were vaccinated for covid-19 (p-value = 0.05) and those respondents who still had fear of losing job due to pandemic (p-value=0.028).

Discussion

This study was carried out among lower income class in Pakistan to assess the economic and social impacts of Covid-19 on their lives. Out of 274 respondents in this study, 254 (92.7%) had profound impact of Covid-19 on their lives economically. Whereas in another survey carried out in Belgium employees, out of 3821 respon-

Table 3: Bivariate analysis of family income per month and socio-economic impact of pandemic

Variable	Family income in rupees per month			P-value
	Less than Rs. 10,000	Rs. 10,001- 20,000	Rs. 20,001- 30,000	
Financial crisis faced by respondents when sick due to Covid-19(n=192)				0.058*
Yes	49	74	54	
No	3	6	6	
Monthly income suffered due to lockdown or decrease in economy (n=274)				0.049*
Yes	61	107	66	
No	14	10	16	
Loan taken to fulfill household needs during pandemic(n=137)				0.005*
Employer	10	17	6	
Friends	8	18	13	
Relatives	18	30	17	
Paid leaves given by organization during pandemic(n=133)				0.003*
Yes	5	23	12	
No	23	49	21	
Visited family or friends regularly during pandemic(n=274)				0.033*
Yes	32	52	50	
No	43	65	32	
Vaccinated(2doses) for Covid-19(n=274)				0.052*
Yes	34	70	52	
No	41	47	30	
Fear of losing job due to pandemic (n=42)				0.028*
Yes	3	6	11	
No	4	12	6	

dents, 1051 had economic impact of Covid-19 on their lives while 2770 had no effect.¹⁶ Out of 274 respondents during this survey, 232 (84.7%) responded that Pandemic had effected their jobs whereas 42(15.3%) had no effect on job. While in another survey carried out in Belgium employees, out of 3821 respondents, 1284 reported that pandemic had affected their job.¹⁶

In this survey, out of 232 respondents whose jobs were effected due to Pandemic, 101 (43.53%) had lost their jobs. In a study conducted in America, out of 587 partici-

pants, 14.5% lost their job due to Covid-19.¹⁷ Out of 274 respondent in this study, only 133 (48.5%) were given leaves by their respective organization during this Pandemic and among them, 40(30%) respondents were given paid leaves by their organization. Whereas, in a global survey during Covid-19, out of 29 countries, 27 countries gave paid leaves while 2 countries did not give paid leaves during the Pandemic.¹⁸ In this survey, out of 274 respondents, only 53(19.3%) had easily fulfilled their household monthly expenses. Whereas, in another survey carried out in Australia, out of 2375 respondents, 808 had easily fulfilled household monthly expenses.¹⁹ Out of 274 respondents in current study, 177(64.6%) were socially isolated or depressed and 97(35.4%) were not socially isolated or depressed. Contrary to this, in another research conducted in Shenzhen China, out of the 340 participants, 284(83.53%) reported no depression whereas 41(12.06%), 11(3.24%), 2(0.58%) and 2(0.58%) pointed to mild, moderate, moderately severe and severe levels of depression.²⁰

Among the 121 participants who were hospitalized, 56 (46.3%) reported easy access to oxygen and hospital beds. Conversely, another study conducted in England noted that bed capacity surged by an additional 2,711 beds, marking a 53% increase from the baseline figure of 4,123 beds.²¹ Out of the 121 respondents who were hospitalized, hospital expenses of 40(33%) were borne by their employers/organization while expenses of 81(66%) were not borne by their concerned organization. In Singapore, the government covers hospitalization costs for all patients, regardless of their nationality. In Japan, hospitalization expenses are managed through a combination of regular financing mechanisms and contingency funds. Meanwhile, Hong Kong addresses these costs through existing financing structures that fully cover the required care.²²

Out of the 192 respondents who were tested positive for Covid-19, 70(36.5%) lost their jobs due to Covid-19 and among them 55(78.6%) got a new job after recovery. However, in another research carried out on Hispanic adults, 68.8% Hispanic non-citizens, 49.1% Hispanic Citizens, 38% non-Hispanic whites and 40.7% non-Hispanic blacks lost their jobs due to Covid-19.²³ Out of the 192 respondents who were tested positive for Covid-19, salary of 129(67.2%) was deducted when they were on sick leave. However in another research conducted at New Delhi, India, out of 245 respondents, only 58(23.6%) reported deduction in salary.²⁴ Out of the 192 tested respondents who were tested positive

for Covid-19, 177(92.2%) suffered from financial crises while they were sick. However in a research conducted at Bangladesh, out of total 465 respondents, majority of respondents (67.5%) reported obstacles faced in income and consumption in daily life during the Covid-19 pandemic. The most serious issue was losing their jobs (49.5%) as a result of the pandemic. In total, 52.3% of respondents reported that even their basic needs were not being fulfilled.²⁵

Conclusion

Covid-19 has a profound impact on everyone's life socially and economically but its main victims are those from lower socio-economic class. In this survey, majority of the participants (92.7%) agreed that Covid-19 had great economic impact on their lives and many of them lost their jobs (43.6%) due to pandemic. Most of them (80.7%) were not able to fulfill their monthly expenses and 92% of them badly suffered from financial crisis when they were sick during this pandemic. Majority of them visited public places and did not avoid social gatherings. More than half of the participants agreed that hospital beds and oxygen were not available neither they were affordable during their stay at hospital.

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References

- Sohrabi C, Alsafi Z, O'Neill N, Khan M, Kerwan A, Al-Jabir A, et al. World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *Int Surg. J.* 2020;76(1):71-6.
- Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C, et al. The socio-economic implications of the coronavirus and COVID-19 pandemic: a review. *Int Surg. J.* 2020;78(1):185-193. [https://doi.org/ 10.1016/j.ijisu.2020.04.018](https://doi.org/10.1016/j.ijisu.2020.04.018).
- Heintz J, Staab S, Turquet L. Don't let another crisis go to waste: The COVID-19 pandemic and the imperative for a paradigm shift. *Feminist Economics.* 2021 Apr 3;27(1-2):470-85.
- Allcott H, Boxell L, Conway J, Gentzkow M, Thaler M, Yang D. Polarization and public health: Partisan differences in social distancing during the coronavirus pandemic. *J. Public Econ.* 2020;191(1):104254. <https://doi.org/10.1016/j.jpubeco.2020.104254>
- Singh G. Economic impact of covid-19 pandemic: Who are the big sufferers?. *Indian J Econ Dev.* 2020; 16(2): 320-6.
- Saadat S, Rawtani D, Hussain CM. Environmental perspective of COVID-19. *Sci. Total Environ.* 2020; 728;(1):138870. <https://doi.org/10.1016/j.scitotenv.2020.138870>.
- Lemieux T, Milligan K, Schirle T, Skuterud M. Initial impacts of the COVID-19 pandemic on the Canadian labour market. *Can Public Policy.* 2020 1;46(S1): S55-65.
- Venkatesh V. Impacts of COVID-19: A research agenda to support people in their fight. *Int J Inf Manage.* 2020. 1;55(1):102197.
- Shafi M, Liu J, Ren W. Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Res Glob.* 2020;2(1):100018.
- Buheji M, Cunha KC, Beka G, Mavric B, De Souza YLC, Silva SSC et al. The Extent of COVID-19 Pandemic Socio-Economic Impact on Global Poverty. *A Global Integrative Multidisciplinary Review. Am. J Econ.* 2020.10(4): 213-224.
- Goodell JW, Huynh TL. Did Congress trade ahead? Considering the reaction of US industries to COVID-19. *Finance Research Letters.* 2020;36(1):101578.
- Shammi M, Bodrud-Doza M, Islam AR, Rahman MM. Strategic assessment of COVID-19 pandemic in Bangladesh: comparative lockdown scenario analysis, public perception, and management for sustainability. *Environ Dev Sustain.* 2021. 23(4):6148-91.
- Barnett ML, Mehrotra A, Landon BE. Covid-19 and the upcoming financial crisis in health care. *NEJM Catal Innov Care Deliv.* 2020;1(2):1-2.
- Collivignarelli MC, Abbà A, Bertanza G, Pedrazzani R, Ricciardi P, Miino MC. Lockdown for CoViD-2019 in Milan: what are the effects on air quality? *Sci Total Environ.* 2020;732(1):139280.
- Bashir MF, MA B, Shahzad L. A brief review of socio-economic and environmental impact of Covid-19. *Air Qual Atmos Health.* 2020;13(1):1403–1409.
- Lippens L, Moens E, Sterkens P, Weytjens J, Baert S. How do employees think the COVID-19 crisis will affect their careers?. *Plos one.* 2021;16(5):e0246899
- Reese H, Iuliano AD, Patel NN, Garg S, Kim L, Silk BJ, et al. Estimated incidence of coronavirus disease 2019 (COVID-19) illness and hospitalization—United States, February–September 2020. *Clin Infect Dis.* 2021; 72 (12): e1010-7.

18. Heymann J, Raub A, Waisath W, McCormack M, Weistroffer R, Moreno G, et al. Protecting health during COVID-19 and beyond: a global examination of paid sick leave design in 193 countries. *Global public health*. 2020;15(7):925-34.
19. Botha F, John P, Sonja C, Ribar DC, Salamanca N. Implications of COVID-19 labour market shocks for inequality in financial wellbeing. *Journal of population economics*. 2021;34(2):655-89
20. Cao B, Wang D, Wang Y, Hall BJ, Wu N, Wu M, et al. Moderating effect of people-oriented public health services on depression among people under mandatory social isolation during the COVID-19 pandemic: a cross-sectional study in China. *BMC public health*. 2021; 21(1):1-2.
21. Mateen BA, Wilde H, m Dennis J, Duncan A, Thomas NJ, McGovern AP, et al. A geotemporal survey of hospital bed saturation across England during the first wave of the COVID-19 Pandemic. *medRxiv*. 2020:2-10. doi: <https://doi.org/10.1101/2020.06.24.20139048>
22. Legido-Quigley H, Asgari N, Teo YY, Leung GM, Oshitani H, Fukuda K, et al. Are high-performing health systems resilient against the COVID-19 epidemic? *The Lancet*. 2020; 395(10227):848-50. DOI: [https://doi.org/10.1016/S0140-6736\(20\)30551-1](https://doi.org/10.1016/S0140-6736(20)30551-1)
23. Gonzalez D, Karpman M, Kenney GM, Zuckerman S. Hispanic adults in families with noncitizens disproportionately feel the economic fallout from COVID-19. Washington, DC: Urban Institute. 2020;(1):1-10.
24. Chandra A, Sarda R, Kumar A, Bir M, Parija PP, Pal A, et al. Impact of COVID-19 on the patientsf income and work in Delhi, India. *Journal of Family Medicine and Primary Care*. 2021;10(8):3047-9.
25. Mondal SK, Khan AG, Ali MM, Ahamed MK, Ahmed K. Quality of life among Bangladeshi Youth during the early stage of the COVID-19 pandemic: A single-site survey. *Public Health Pract*. 2021;2(1):100157. <https://doi.org/10.1016/j.puhip.2021.100157>.

Authors Contribution

IQ, IM, ZM: Conceptualization of Project

IQ, IM, ZM, HK: Data Collection

ZM, IQ, ZM: Literature Search

IQ, ZM: Statistical Analysis

ZM: Drafting, Revision

IQ, IM: Writing of Manuscript