Pakistan Journal of Economic Studies

Evaluating Socio-Economic Correlates of Severity of Covid-19 Impact With Implications for Well-Being: A Case Study of Pakistan

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ARTICLE DETAILS	ABSTRACT
History: Accepted: 20 March 2024 Available Online: 31 March 2024 *Keywords:* *Socio-economic factors; COVID-19; well-being; ordered logistic regression model* **JEL Codes:** E24, I120, I31, C250 OPEN ACCESS	**Objective:** The World Health Organization (WHO) has proclaimed coronavirus as a pandemic due to which each country has imposed a lockdown to control the viral disease. The above restrictions have created many global social, economic, and psychological problems. The current study is designed to evaluate the socio-economic correlates of the severity of COVID-19 impact with implications for well-being in Pakistan. **Research Gap:** To analyze the socio-economic correlates of the severity of COVID-19 impact with implications for well-being in Pakistan; most of the studies used qualitative research methods and descriptive analysis; however, some used quantitative research methods but did not provide a detailed analysis using econometric methods. This study will use representative survey data of Pakistan, collected by the Pakistan Bureau of Statistics to fill up this gap. **Methodology:** An ordered logistic regression technique and a generalized ordered logistic regression model will be used to analyze the COVID-19 impact. **Main Findings:** The results indicate that during the COVID-19 pandemic, household severity increased. The results show that the pandemic's severity among households has increased by 19.9% due to domestic job loss. Similarly, reduced healthcare services have also raised the probability of households being severely affected by the pandemic. **Theoretical / Practical Implications of the Findings:** The study's findings of the study are applicable for policymakers to proactively plan for any pandemic or epidemic in the future. Policymakers must pay massive attention to the jobs, strengthening the healthcare services and social safety nets and aid programs in Pakistan that can reduce the households' severity. **Originality/Value:** The contribution of the study is to provide an econometric analysis and evaluate the severity of the impact of the pandemic concerning job loss, food insecurity, and limited access to healthcare facilities.

1. Introduction

Different brutal killers' epidemics and pandemics have been experienced in the world throughout human history that badly affected the lives of people and economies of many countries. The world has recently faced a new Corona Virus Disease 2019 (COVID-19) which is a mutated version of coronavirus (Orhan and Tirman, 2020) it is an infectious disease and a mild to severe respiratory illness in humans. On December 31, 2019, the first official case was recorded in Wuhan, Hubei Province, China (Farooq et al., 2020). The virus quickly spread across China and then with full tilt transmitted to many parts of the world in early 2020 (Ozili, 2020). A gradual increase in COVID-19 cases leads to a lockdown situation that presents a unique challenge for the working population, food security, and the public health system (GOP, 2020).

Similarly, Pakistan has been amongst the countries badly affected by the COVID-19 pandemic that endangered the pre-existing social and economic crises. Pakistan is a developing country with a weak economy and has faced different waves of COVID-19 over time. On February 26, 2020, the first two official cases of the first wave were reported from Karachi, when two patients traveled from Iran to Pakistan. Corona Virus Disease spread across the country within a few months and daily new confirmed cases and deaths reached their peak level in mid-June 2020, which was the worst month (GOP, 2020-21). In the absence of a vaccine and the spreading of the coronavirus, the government of Pakistan, therefore, adopted social distancing policies and lockdown measures to control the disease (GOP, 2020). The lockdown includes shutting down places like schools, and businesses, restricting daily activities and social gatherings, etc.

The lockdown measures brought lead to dramatic rise in unemployment and food insecurity. Overall, 37% of employees lost their jobs and 12% suffered from a decrease in income. Almost 80% of workers in the construction industry and 72% of workers in the manufacturing industry were badly affected. The closure of the manufacturing and construction sector caused 46% of the total shock to the economy. Similarly, Pakistan has faced a problem of food insecurity where only 60% of the households were food secure. Healthcare facilities were also reduced due to the closure of outpatient departments, transport issues, shortage of medicines, and non-cooperative behavior of staff (GOP, 2020). In Pakistan, the severity of the COVID-19 impact has been strongly correlated with socio-economic factors and has had a significant impact on Pakistan's economy leading to job losses that have resulted in food insecurity due to these consequences, the impact on overall well-being has been severe.

1.1 Well-Being during COVID-19 Pandemic

Well-being is the combination of emotional well-being (happiness and life satisfaction), and physical well-being such as a healthy life without any physical illnesses. Mental well-being refers to positive functioning like the ability to focus and make decisions. The term well-being combines both mental and physical health, so to achieve well-being, it is important to take care of oneself, engage in physical activities, eat nutritious food, seek support from loved ones, and manage stress (Ruggeri et al., 2020). However, COVID-19 has affected people in different ways which are the essential building blocks of human development. This pandemic is a Human Development (HD) crisis and unprecedented because it changes with time and transforms from health crises to social crises and economic shocks that affect human health, education, and the economy. The HD crises mean a lack of people's capabilities. Enhancing people's capabilities in health, education, and access to resources is the key to HD and it plays a positive role in the response to the pandemic (UNDP, 2020).

The outbreak affects societies and causes significant changes for both material (education, economic power, good health, etc.) and non-material (life satisfaction and happiness, etc.) aspects of human well-being across countries. The impact of COVID-19 on well-being is difficult to analyze. According to one Singaporean study, the lockdown has a significant negative impact on overall life satisfaction or happiness (due to significant health shock or the loss of a loved one), and domain-specific contentment (due to everyday activities, jobs, economic conditions, and household income). people who experienced a loss in household income and jobs during the pandemic experienced a decline in individual life satisfaction than those whose income did not decline, but their life satisfaction declined because of an increase in stress and anxiety (Cheng et al., 2020). So, it is obvious from the above kinds of literature that the severity of the COVID-19 impact has a negative relationship with well-being.

Describing the emerged socio-economic correlates of the severity of COVID-19 impact with implications for well-being, the hedonism and objective list theories form the theoretical background of this study (Crisp, 2021).

COVID-19 has a severe and significant impact on the three dimensions of these theories for example pleasure (job loss, etc.), knowledge (education was seriously disturbed), and good health (high risk of death due to COVID-19). Similarly, the theoretical underpinning of this study also revolves around the Capability Approach and Theory of Subjective-Well-Being and Happiness because people's capabilities and happiness are highly affected during the pandemic. The Capability Approach indicates people's freedom of choice to achieve things in life, but the lockdown measures and social distancing policies inherently limit personal freedoms (Biggeri, 2020). The jobs are severely affected, and households are at risk of being economically unstable, being unable to gain new skills, falling into poverty, and increasing morbidity rates. Moreover, life satisfaction is affected because of the high risk of death, the disturbed education system, job losses, and limited access to healthcare services.

The main objective of the study is to evaluate the socio-economic correlates (job loss, household food insecurity, and limited access to healthcare facilities) of the severity of COVID-19 impact and its implications for well-being. This study will not only attempt to fill in the gap mentioned above but will also use the representative survey data of Pakistan (GOP, 2020). Until now many studies have been carried out since the pandemic started and those studies aim to understand the social and economic impact of the pandemic on the well-being of people. This study is important because it will evaluate the severity of unemployment, food insecurity, and limited access to healthcare facilities with implications for well-being. The results of this study would better guide policymakers in combating any pandemic in the future.

The current study is categorized into the following sections. Section 2 reviews the literature, section 3 is based upon the data and methodology, and section 4 provides the empirical results and discussion, whereas section 5 concludes the study and provides policy implications for well-being in Pakistan.

2. Literature Review

A body of literature explores the socioeconomic effects of the Covid-19 outbreak on human well-being. For instance, Wei et al. (2021) examine that the massive epidemic greatly affected social well-being as well as the world economy. According to Josephson et al., (2021) 256 million individuals - or 77% of the population - in low-income countries have experienced income losses because of the pandemic. The influence on global food security is discussed by Mouloudj et al., (2020), who note that developing nations are the most impacted because of a strong dependence on securing their food supplies, particularly perishable food, which led to notable food shortages in underdeveloped nations. Ceesay (2021) argues that COVID-19 has negatively impacted the daily lives of people in Africa such as jobs, income, employment, consumption, etc. Likewise, Ozili et al. (2020) found that in African countries social and economic activities have been affected severely as compared to other countries. However, Kansiime et al. (2021) found out that in Kenya and Uganda, the poor and labor income groups are highly affected due to income shock, and food security is worsened in urban areas. Haque et al., (2020) found that many people in Bangladesh have lost their jobs about 41% of private drivers and 39% of maidservants lost their income source because of lockdown restrictions. In another study, Wanberg et al. (2020) examine that in the US depressive symptoms increased in higher-educated people during the pandemic and the high-income group experienced more decrease in life satisfaction than the low-income group. According to Debata et al. (2020), feelings of fear, anxiety, depression, and insecurity among people have increased due to job loss.

Numerous research in Pakistan have also examined the socio-economic impact of the COVID-19 pandemic. For instance, Ali et al., (2021) find that the outbreak increases pre-existing issues like financial problems, decrease in income, unemployment, and the lack of awareness and inadequate COVID-19 testing kits are the root cause of the increase in the pandemic. Parveen et al., (2021) used secondary data with both qualitative and quantitative study methods and pointed out that the main causes of an increase in the pandemic are the lack of resources and healthcare facilities in hospitals, lack of awareness, and poverty. Food insecurity situation is vulnerable and a big issue in a country like Pakistan. As Shahzad et al., (2021) revealed that isolated people and households with large sizes were more food insecure during the pandemic. They investigate that with the financial assistance, the negative income shocks were decreased which played a positive role in the decrease in food insecurity. Gillani et al., (2021) find that depression and food insecurity are positively linked to one another. By using the logistic regression technique, the results indicate that during COVID-19 if food insecurity increased by one unit, then the odds of depression increased by 9.5%. Moreover, Shams and Kadow (2022) point out that the pandemic has negatively affected subjective well-being and the households that have a higher level of income suffered more (due

to inflation and fear of falling into poverty) from the pandemic. Baranov et al. (2021) found that COVID-19 in Pakistan had negative economic effects on poor rural and urban households; roughly 22% of the households experienced employment losses, and the average monthly income fell by 34%. The poorest households have been affected the most and their mental well-being, feelings of safety, life satisfaction, and happiness have decreased due to the job loss during the pandemic.

In a nutshell, it is obvious from the review of previous kinds of literature that the COVID-19 pandemic significantly and adversely impacted the well-being of people. Some studies concluded that the massive pandemic greatly affected social and economic well-being as well as the world economy. The COVID-19 restrictions significantly affected jobs and regular sources of income, especially in low-income groups, and negatively affected the education and healthcare sectors of the economy. In addition, the current study uses the representative survey data of Pakistan to illustrate the issue of the severity of COVID-19 and measures the role of socioeconomic factors by using different estimation techniques and connecting them to human well-being.

3. Data and Methodology of the Study
Data and methodology are an important part of every research study, and this study is based on household-level survey data that was conducted by the Pakistan Bureau of Statistics (PBS)[1] in 2020.

3.1. Variables Description
Following the literature on the COVID-19 impact, the current study used the severity of COVID-19 at the household level as a dependent variable. The following question was asked to the head of the household: "How severely has your household been affected by the Covid-19 pandemic?" Answers were recorded from 1 to 4, where 1 means "Not at all affected"; 2 "Mildly affected" ; 3 "Moderately affected"; 4 "Severely affected". Whereas, the given Socio-Economic (SE) factors, and Control Variables (CV) are included as explanatory variables. More specifically, the control variables are the age of the household head[2] in years, education like the education level dummies of formal education but below intermediate level, and formal education intermediate and above (Cheng et al., 2020), housing characteristics index, and durable items. Similarly, the socio-economic factors are associated with the severity of the COVID-19 impact in Pakistan. The detailed explanation of SE factors is the jobs of household members who are 10 years of age and older from January to March 2020, during April to July 2020, and after the COVID-19 lockdown. In addition, domestic job loss, relative job loss, and household food insecurity like the households who were unable to eat healthy and nutritious food and those who went without eating for a whole day because of a lack of money or other resources (Bodrud-Doza et al., 2020). Lastly, healthcare facilities such as well-being services for children, outpatient visits for treatment of non-communicable diseases like hypertension, heart disease, diabetes, and Cancers, and laboratory services for diagnostic facilities are a part of socio-economic factors.

3.2 Econometric Model
This study uses the regression model to evaluate the severity of COVID-19 impact which takes the following form.

$$y_i = \alpha_0 + \beta' SE_i + \gamma' CV_i + \varepsilon_i \tag{1}$$

Whereas y_i is a categorical outcome variable for household i, representing the severity of the household being affected by the COVID-19 pandemic. Similarly, α_0 is the intercept term, while $\beta' \gamma'$ shows the prime of all vectors of coefficient and epsilon is the error term. The explanatory variables are Socio-Economic correlates (SE) and Control Variables (CV).

In the current study, the unit of analysis is household, and for this, an ordered logistic regression model is used to analyze the severity of COVID-19's impact on the household. The ordered logit model is estimated by the Maximum Likelihood estimation method. In addition, the ordinal dependent variable takes values from 1 to 4 according to the severity of the COVID-19 impact and the explanatory variables consist of continuous, ordinal, and

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dichotomous variables. This research aims to ascertain the probability of each level of intensity given the correlates (determinants). The present study first applies the General-to-Simple (G2S) methodology which selects significant variables from a large list of variables through a series of statistical tests to arrive at a parsimonious model, Next, it uses the "Omodel" logit to check the parallel line regression assumption or proportional odds assumption. When this assumption is violated then the generalized ordinal logit model frees all variables from the parallel-lines constraint even if the assumption is violated by one or more variables. Finally, applies a gologit2 "autofit lrforce" option that fits an unconstrained model, and does a series of Wald tests on each variable to see whether the variable meets the parallel lines regression assumption.

4. Empirical Results and Discussion
4.1 General-to-Simple Methodology (G2S)
The interpretation of the G2S ordered logit model can be seen from the marginal effect described in Table 1 respectively.

Table 1: Marginal Effect of Variables General-to-Simple Modeling

Explanatory Variables	Marginal Effect (p-value)
SE_job_jan_mar	0.321** (0.012)
SE_job_apr_jul	0.200*** (0.000)
SE_job_last_week	0.328*** (0.005)
SE_dom_jobloss	-1.165*** (0.000)
SE_relatives_jobloss	-0.688*** (0.000)
SE_no_healthyfood	-0.007*** (0.005)
SE_didn't_eat_wholeday	0.004*** (0.002)
SE_wellbeing_services	-0.289*** (0.000)
SE_OPT_vist_noncom_diseases	-0.284*** (0.000)
SE_laboratory_services	-0.112** (0.018)
CV_age	-0.005** (0.011)
CV_D_edu_below_inter	-0.311*** (0.000)
CV_D_edu_above_inter	-0.737*** (0.000)
CV_H_characteristcs_IDX	-0.074*** (0.000)
CV_assets_IDX	-3.524*** (0.000)

Source: Authors' Estimations
Note: ***, **, * shows level of significance at 1%, 5% and 10% respectively.

The estimation results show that all the control variables have a negative and statistically significant effect on whether a household is severely affected by the pandemic, at a 1% and 5% significance level. The results show a lower probability of households being severely affected by the pandemic. Socio-economic variables like jobs from January to March, jobs from April to July, the jobs during the last week, and didn't eat for a whole day have a positive and significant impact showing a higher probability of the household's being severely affected. The remaining socio-economic variables have negative impact and lower probability of the households being severely affected by the pandemic.

4.2 Generalized Ordered Logistic Model (GOLM)

Table 2. presents generalized ordered logit estimation findings for the variables that indicate whether the COVID-19 pandemic has had an impact on a household's severity.

Table 2: Marginal Effect of Generalized Ordered Logistic Model

Explanatory Variables	Marginal Effect (p-value)
SE_job_jan_mar	-0.0656*** (0.010)
SE_job_apr_jul	-0.0367*** (0.000)
SE_job_last_week	0.0043 (0.856)
SE_dom_jobloss	0.1993*** (0.000)
SE_relatives_jobloss	0.1123*** (0.000)
SE_no_healthyfood	0.0011*** (0.004)
SE_didn't_eat_wholeday	-0.0007*** (0.005)
SE_wellbeing_services	0.0468*** (0.000)
SE_OPT_vist_noncom_diseases	0.0444*** (0.000)
SE_laboratory_services	0.0317*** (0.003)
CV_age	0.0008** (0.017)
CV_D_edu_below_inter	0.0735*** (0.000)
CV_D_edu_above_inter	0.1824*** (0.000)
CV_H_characteristic_IDX	0.0101*** (0.000)
CV_assets_IDX	0.3840*** (0.000)
Pseudo R^2	0.1734
LR chi2 (52)	2622.79
Prob > chi2	0.000

Source: Authors' Estimations

Note: ***, **, * shows level of significance at 1%, 5% and 10% respectively.

Our study shows that jobs during January to March and jobs during April to July has a negative effect on household severity, at a 5% significance. The marginal effect explains that the job of household members has a 6.6% and 3.7% lower probability of the household being severely affected by the pandemic. The finding agrees with Kansiime et al., (2021) who argue that salary-earning workers were 33% less likely to experience negative effects on their source of income, while the wage-earning workers had a 16% lower probability of COVID-19 impact on their regular source of income as compared to the farmers. On the other hand, domestic job loss and relative job loss have a positive and statistically significant effect which shows a 19.93% and 12.23% higher probability of households being severely affected by the pandemic. The finding agrees with Baranov et al., (2021) who argue that in urban Pakistan about 22% of the households lost their jobs and decreased their monthly income by 38% on average. It has a detrimental impact on the households' financial and emotional health. Josephson et al., (2021) examine that around 77% of households in low-income countries have lost income since the start of the pandemic, and Wang et al., (2021) contend that the loss of jobs and income has contributed to hunger and has impacted people's well-being.

In addition, no healthy food highlights the food insecurity situation of households during the pandemic. The findings show a positive impact of 0.1% higher probability of the household being severely affected by the pandemic. The findings of Kansiime et al., (2021) also support this finding; they assert that there has been a 35% increase in the proportion of respondents in Uganda who claim they are unable to eat wholesome meals. Gillani et

al., (2021) argue that with a unit increase in food insecurity, depression increases by 0.9% at the household level in Punjab Pakistan by holding other variables constant. The households who went without eating for a whole day had a negative effect with a 0.07% lower probability. The result is in line with Gupta et al., (2021) who contend that the impact of the lockdown on food consumption was slightly reduced by the food (rice, wheat, etc.) aid provided through the government and NGOs to all households. Similarly, well-being services for children, outpatient visits for treatment of non-communicable diseases, and laboratory services have a positive and statistically significant effect. The results show a 5%, 4.4%, and 3.2% higher probability of the households being severely affected by the pandemic. The findings are in line with Bodrud-Doza et al. (2020), which indicates that due to the partial lockdown, the psychosocial impact increased. Parveen et al., (2021) argue that the lack of resources and healthcare facilities in hospitals are the main factors that caused the spread of the pandemic.

On the other hand, the age of the household head has a positive and significant effect on household severity which means that if the age of the household increases by one year, the probability of the household being severely affected is 0.08% higher. Its result lines up line with Khan et al., (2022), that old age people are more worried about the pandemic and their financial situation. Similarly, the education level dummies represent 7.3% and 18.2% higher probability of households being severely affected by the pandemic. The results are in line with Rasheed et al., (2021) who contend that the drop-out ratio is increased due to lockdown situations as some of the small-scale educational institutions permanently stop their activities due to a shortage of funds, and Buheji et al., (2020) point out that children from lower-middle-class communities cannot have their access to an education because they are unable to learn through online classes due to the lack of useful resource and proper connectivity.

Cheikh Ismail et al., (2021) argue that young and highly educated people have higher stress scores and psychological impact of the pandemic. Likewise, the household characteristic index has an adverse effect. In this case, 0.0101 indicates that household characteristics have a positive impact on the severity of the pandemic and a 1% higher probability of the household being severely affected by the pandemic. Mulugeta et al. (2021) argue that workers working from home are highly affected due to the scarcity of resources and less workspace at home. The selected durable items have a positive and statistically significant effect which shows that if durable assets owned by the household increase by one unit, the probability of the household being severely affected by the pandemic will increase by 38.4 percentage points. The results are consistent with Mulugeta et al. (2021) that households have been severely affected due to inflation in the prices of goods.

4.3 Ranking of Socio-Economic Variables
The following table shows the ranking of SE variables in descending order according to their effect on severity. The variables that reduce the severity of the COVID-19 pandemic the most have been ranked higher than those variables that do not reduce the severity.

Table 3: Ranking of Socio-Economic Variables

Rank	Socio-Economic (SE) Variables	Marginal Effect (p-value)
1	Job_jan_mar	(-0.0656) ***
2	Job_apr_jul	(-0.0367) ***
3	No_healthyfood	(0.0011) ***
4	Laboratory services	(0.0317) ***
5	OPT vist_ noncom_diseases	(0.0444) ***
6	Wellbeing_services	(0.0468) ***
7	Relatives_jobloss	(0.1123) ***
8	Domestic jobloss	(0.1993) ***

Source: Authors' Estimations
Note: ***, **, * shows level of significance at 1%, 5% and 10% respectively.

As expected, Table 3. shows that jobs during January to March and jobs during April to July negatively affected household severity. On the other hand, food insecurity levels worsened and increased significantly, and households have a 0.1% higher probability of being severely affected. Healthcare services like households' well-being services are likely to be more affected than Laboratory services and OPT visits for non-communicable diseases. Similarly, the average household income of those whose jobs were lost domestically is lower and has a higher probability of being severely affected by the pandemic as compared to relatives' job loss.

5. Conclusion and Policy Implications

The socio-economic consequences of the pandemic have affected both developed and developing countries with unprecedented speed and severity. This study used an ordered logistic regression technique and a generalized ordered logistic model to analyze the severity of the pandemic in Pakistan. The results indicate that the severity of the COVID-19 pandemic among households has increased by 20 percent and 11 percent due to domestic job loss and relatives' job loss of families. Similarly, reduced healthcare services have also increased the probability of households being severely affected by the pandemic. The Covid-19 has severely affected households' well-being and capabilities. The findings of the current study are in line with other recent studies. For instance, COVID-19 has been worsening the material well-being of individuals, because some capacities, like resilience and connection, are missing, making the crisis worse across the world. However, it is necessary to implement human development policies based on a capability approach with greater willingness within the community (Biggeri, 2020). Furthermore, the COVID-19 pandemic severely affected many people socially, economically, and emotionally that have bad consequences on their lives. It affects both material (education, economic power, good health, etc.) and non-material (life satisfaction, happiness) aspects of well-being. During pandemic the subjective well-being has decreased in higher-educated people (Wanberg et al. 2020), and the individuals who experience a loss in jobs have experienced a decline in individual life satisfaction (Cheng et al., 2020).

To conclude this study, we link the above findings of our empirical results with the theories of well-being. Our findings are applicable for policymakers to proactively plan for any pandemic in the future and help people to fight against upcoming crises so that households cannot be severely affected.

1. The pandemic had caused significant job losses in the country, resulting in economic insecurity and reduced well-being. To address the socio-economic consequences a policy action is needed which includes supporting small businesses, protecting existing jobs, and the need for targeted social safety nets and aid programs to support vulnerable households.
2. The pandemic had highlighted limited access to healthcare services in Pakistan. Policy implications include increasing public health spending, strengthening the healthcare system, increasing staffing levels, and increasing access to quality care.
3. Mitigation measures can help reduce the severity of the pandemic. Implementing widespread and effective public health measures such as mandatory mask-wearing, physical distancing, and enhanced hygiene practices are important for controlling the spread of the virus.

Future Research Area

This study used monthly data from January to October for empirical results; one can further expand this study by using time series data and panel data.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Disclaimer

The views and opinions expressed in this paper are those of the authors alone and do not necessarily reflect the views of any institution.

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Appendix A: Variables Description

Variables		
Abbreviation	**Full Name**	**Description**
CV_age	Age	Age of the respondent.
…………	Education	Maximum education attained such as 1 = no formal education; 2 = nursery or below KG; 3 = KG below primary; 4 = primary below middle; 5 = middle below matric; 6 = matric below intermediate; 7 = inter below degree; 8= degree in engineering; 9 = degree in medicine; 10 = degree in computer; 11 = degree in agriculture; 12 = degree in other subjects; 13 = MA/MSC; 14 = M.Phil. 15 = Ph.D.
CV_D_edu_below_inter and CV_D_edu_above_inter	Education (categories and dummies)	No formal education = 1, formal education but below intermediate level =2, and formal education intermediate and above =3.
SE_job_jan_mar	Do or help in any work for pay, profit, family gains, have a job or enterprise like; a shop, business, farm, or service establishment, before the COVID-19 lockdown (during January-March 2020).	yes = 1; no =2.
SE_job_apr_jul	Do or help in any work for pay, profit, family gains, have a job or enterprise like; shop, business, farm, or service establishment, during COVID-19 from April - July 2020 lockdown	Same status as before. Yes, reduced working hours/days but the same salary. Yes, reduced working hours/days and reduced salary. Yes, just started working. Yes, on paid leave. No, on unpaid leave. No, removed from job (Domestic/local). No, removed from job (Foreign), not allowed to work (lock down), no work due to Covid-19.
SE_job_last_week	Do or help in any work for pay, profit, family gains, have a job or enterprise like; shop, business, farm, or service establishment, during last week or after the COVID-19 lockdown.	yes =1; no = 2.
SE_dom_jobloss	Family working in Pakistan lost jobs due to COVID-19	1: Does any Family member working within Pakistan lost job due to COVID-19? yes = 1; no = 2. 2: How many family members lost job?
SE_relatives_jobloss	Relatives not part of your family roster lost jobs due to COVID-19	1: Did any relative lost job? yes = 1; no = 2. 2: How many family members lost their job?
SE_no_healthyfood	Unable to eat healthy and nutritious food	Does household member unable to eat healthy and nutritious food because of lack of money or other resources during COVID? yes=1; no=2; don't know=98, refused=99.
SE_didn't_eat_wholeday	Went without eating for a whole day	Does household member went without eating for a whole day? yes=1; no=2; don't know=98, refused=99.
CV_H_characteristic_IDX	Present residential status of the household	1 if personal residence (not self-hired); 2 if personal residence (self-hired); 3 if on rent; 4 if on subsidized rent; 5 if rent free.
……….	Rooms in the residential building	Number of rooms such as bedrooms and living rooms.
……….	Material used for roof	1= RCC/RBC; 2 = wood/bamboo; 3 = iron / cement sheets; 4 = Garder / T-iron; 5 = others.
……….	Material used for walls	1 = burned bricks/ block; 2 = raw bricks/ mud; 3 = wood/bamboo; 4 = plywood/ cardboard; 5 = stone; 6 = others.
……….	Fuel used for cooking	1 = Firewood; 2 = Gas; 3 = LPG; 4 Kerosene oil; 5 = Electricity; 6 = Dung cake; 7 = Crop residue; 8 =Charcoal/coal; 9 = Others.
……….	Fuel used for lighting	1 = Electricity; 2 = Solar energy; 3 = Gas; 4 Kerosene oil/diesel/petrol; 5 = Firewood; 6 =Candle; 7 = Others.
……….	Source for drinking water	1 = Piped water; 2 = Hand pump; 3 = Bore hole/ tube well; 4 = Open well; 5 = Closed well; 6 = Spring

		(protected); 7 = Spring (unprotected); 8 = Pond/canal/ river /stream; 9 = bottled water; 10 = Tanker/ truck/water bearer; 11 = filtration plant; 12 = others.
………	Toilet facilities used by households	1 = No toilet; 2 = Flush connected to public sewerage; 3 = Flush connected to septic tank; 4 = Flush connected to pit; 5 = Flush connected to open drain; 6 = Dry raised latrine; 7 = Dry pit latrine; 8 = Composting toilet; 9 = others.
……….	Sharing toilet facilities with, other than households	If yes = 1; no = 2.
………	Availability of water for frequent hand washing	yes, always =1; yes sometimes = 2; no = 3.
……….	Household, specific place for hand washing	yes = 1; no = 2.
	Use hand wash or soap, before and after meal or using toilet	yes = 1; no = 2.
……….	Hand washing system at the workplace	yes, and usually has soap = 1; yes, but does not usually have soap = 2; no = 3
……….	Household waste collected or disposed	1 = Municipality van from doorstep; 2 = Private van/cart from doorstep; 3 = Public bin/collection point; 4 = Road/ street; 5 = Lake/river/nullah; 6 = Open space; 7 = Others.
CV_assets_IDX	Durable items owned by the household	Do any of the following products purchased by a household? yes = 1; no = 2. 1 = Television; 2 = LCD/LED; 3 = Refrigetor; 4 = Washing machine; 5 = Dryer; 6 = Air conditioner; 7 = Air cooler; 8 = Fan; 9 = Stove; 10 = Sewing machine; 11 = Iron; 12 = UPS; 13 = Generator; 14 = Solar panel; 15 = Heater; 16 = Geezer; 17 Motorcycle/ scooter; 18 = Mobile phone; 19 = Computer/ laptop.
SE_wellbeing_services	Well-being services for children	How frequently the services were used during the given period: yes =1; no = 2, not applicable =3.
SE_OPT_vist_noncom_diseases	Outpatient visits for treatment of non-communicable diseases like hypertension, heart disease diabetes, cancers	How frequently the services were used during the given period: yes =1; no = 2, not applicable =3.
SE_laboratory_services	Laboratory services for diagnostic facilities	How frequently the services were used during the given period: yes =1; no = 2, not applicable =3.

Source: Compiled by authors.