

Khan, Md Imran; Alharthi, Majed

## Article

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## Article

# Understanding the Impact of the COVID-19 Pandemic on Indian Migrant Workers in the United Arab Emirates: Perceptions, Challenges, and Psychological Effects

Md Imran Khan <sup>1,\*</sup>  and Majed Alharthi <sup>2</sup> <sup>1</sup> Department of Economics, Jamia Millia Islamia, New Delhi 110025, India<sup>2</sup> College of Business, Finance Department, King Abdulaziz University, P.O. Box 344, Rabigh 21911, Saudi Arabia; mdalharthi@kau.edu.sa

\* Correspondence: imran738@gmail.com

**Abstract:** The United Arab Emirates (UAE) is often regarded as a preferred employment location for Indian migrant workers seeking improved financial stability and enhanced career opportunities. The spread of COVID-19 has led to a decline in international migration rates and an increase in the number of individuals returning to their home countries. Therefore, it is imperative to analyze the challenges and perspectives of migrant labour. The assessment was based on a sample size of 416 Indian migrant workers who were present in the UAE during the lockdown period of the pandemic. Statistical techniques were employed to assess the research objective and examine the formulated hypothesis. The study confirms that the employment status of the migrant population has transformed, leading to a decline in both income and remittance flows. There is a significant difference in remittances by Indian migrant workers in the United Arab Emirates before and during the COVID-19 pandemic. The statistical analysis reveals a significant finding in the chi-square test regarding the perception of migrants towards health facilities and other amenities offered by the Government of the UAE. The facilities provided by the Government of the UAE were perceived to be considerably more favourable in comparison to those offered by the Government of India. The favourable view of the UAE authorities led to the choice of several migrant workers to remain there rather than return to India throughout the pandemic. The logistic regression analysis reveals that demographic information such as age, duration of stay, level of education, sources of income, and earnings were the significant determinants of fear of COVID-19. The report also encompasses a few constraints and offers policy recommendations.

**Keywords:** COVID-19 pandemic; remittances; economic impact; migrant workers; Gulf migration



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## 1. Introduction

The phenomenon of migration has experienced a significant increase in prevalence due to the process of globalization, and India is no exception to this trend. The Indian diaspora holds the distinction of being the largest in the world (Menozzi 2021). According to the data released by the Ministry of External Affairs (MEA), around 3.5 million Indians live in the UAE, constituting around 30% of the total population of the country and the largest community (De Bel-Air 2015). The first wave of Indian migrants to the United Arab Emirates (UAE) were traders and merchants, who came to the region in the early 1900s. They were primarily from the western coast of India and established trade links with the Gulf region (Onley 2014). Since the 1970s, during the oil boom, the primary demand in the UAE shifted from semiskilled or unskilled labourers to also include a requirement for white-collar employees over time. However, most of the Indian migrants (around 65%) in the UAE belong to blue-collar jobs (construction workers, agriculture workers, other menial workers, etc.), followed by 20% white-collar (non-professional) jobs such as salespeople, clerical workers, assistants, etc. And around 15% consist of professionals and

businesspeople. Following Kerala, Uttar Pradesh and Bihar are the next two Indian states burdened with the highest migration rates (Khan et al. 2024). Both states share various socioeconomic characteristics, as agriculture serves as the primary economic pillar for both. However, insufficient physical infrastructure exists to support the increasing job opportunities, compounded by the prevalence of low- and moderate-skilled labourers in both regions. This is the reason why there is a trend of migration from Uttar Pradesh and Bihar to the UAE (Zachariah et al. 2004; Khan et al. 2021; Khan et al. 2023a).

The onset of the COVID-19 pandemic can be traced back to December 2019 in Wuhan, China. The rapid person-to-person transmission of this virus created a health emergency for the world along with an economic crisis and destruction of the labour market. Many countries of the world enacted a complete lockdown and restricted the mobility of the people to stop the transmission of the virus; however, it not only disturbs the lifestyle of the people but also disturbs their earning sources (Ducharme 2020; World Health Organization 2020b). The ongoing pandemic has decreased the new flow of international migration and raised the number of returnee migrants, which has happened for the first time in contemporary history (PA and Rahman 2022). The World Bank estimates that the Government of India repatriated around 700,000 of their migrants using special flights (Vande Bharat Mission) and shipping vessels from all over the world. The southern state of Kerala experienced the largest number of returnee migrants (around 1.2 million) during the pandemic (Rajan and Batra 2022). The UAE is an important trading partner of India; however, the largest decline in remittance (17%) from the UAE was recorded in 2020, whereas the total drop in remittance was just recorded as 0.2%; however, India experienced an 8% growth (2021) in the remittances (USD 89.4 billion), which contributes 3% of its GDP. India continues to be the leading remittance-receiving country globally since 2008 and the average monthly remittance for Indian migrants from the Gulf countries is around USD 396 billion (World Bank Group 2022). Migrant workers in any community were among the most severely affected during the pandemic. Consequently, it is crucial to thoroughly analyze the impact of COVID-19 on Indian migrant workers. This analysis will help understand the unique challenges they faced, including job losses, health risks, and mental health issues, and will provide insights into the necessary support measures needed to address these challenges effectively (Azeez and Begum 2009; Khan and Illiyan 2021).

This study investigates the multifaceted impact of the COVID-19 pandemic on migrant workers. It explores both the economic and psychological consequences faced by this population. Additionally, the research examines the perceptions of migrant workers regarding the support provided by the Governments of India and the UAE during the pandemic. The paper is structured as follows: Section 1 provides an introduction, Section 2 details the materials and methods employed in the research, Section 3 presents the results and findings, Section 4 discusses the implications of these findings, Sections 5 and 6 outline the limitations and policy recommendations, and Section 7 concludes the paper.

## 2. Material and Method

### 2.1. Review of Literature

The COVID-19 restrictions not only affected the lifestyle or living style of people but also reduced the level of welfare by a reduction in remittances and earnings (Murakami et al. 2021; Akram and Galizia 2020). The mobility restrictions and change in working patterns from office work to work from home also changed the food patterns, and eating and sleeping habits of people, which led to physical and psychological problems among people (Ismail et al. 2020). The medical emergency, uncertainty, insecurity, and rising cost of living during the pandemic compelled numbers of Indian migrants to come back to the homeland, which further created a labour supply in the homeland labour market (Menon and Vadakepat 2021). The guidelines issued by the World Health Organization (WHO) and relevant national authorities prioritize the implementation of measures such as social distancing, frequent hand washing, use of hand sanitizers, avoidance of gatherings,

and wearing of face masks, among others. A study using a sample of the public found that there was a significant disparity in the population's attitudes toward these rules and practices (Chan et al. 2020; World Health Organization 2020a). The pandemic also impacted medical personnel, medical students, and frontline workers (Gandhi et al. 2021). Many studies reported the deaths of frontline workers and medical staff were higher during the pandemic; therefore, the prevalence of anxiety, depression, and mental health was moderate to severe (Awano et al. 2020; Pappa et al. 2020; Vizheh et al. 2020). Migrants in any community face severe challenges during any pandemic; the spread of COVID-19 and death from COVID-19 among migrant workers were high in comparison to the citizens in many countries (Alahmad et al. 2021). The spread of COVID-19 also creates distress for women (especially pregnant women), a study conducted while taking a sample of 384 pregnant women in the UAE during the pandemic confirms the severe psychological distress and changes in the lifestyle of women during the COVID-19 pandemic (Hashim et al. 2021). Few studies also confirm the mild psychological impact on the adult population of UAE during the pandemic period (Khan et al. 2023b). The major issues of psychological distress were due to work stress, financial crisis, job insecurity, etc. It was also observed through the studies that women, students, and the younger population were affected severely. Migrants in the UAE during the pandemic were a neglected community; therefore, the level of depression, anxiety, and distress was severe and female migrants were affected the most (Barbato and Thomas 2021). The psychological stress experienced by migrant workers is influenced not only by the conditions present in their work environment but also by the widespread impact of COVID-19 in their country of origin (Ismail et al. 2021). A study conducted on the case of Indian migrant workers (from Uttar Pradesh and Bihar) in Saudi Arabia also confirms the moderate-to-severe psychological impact (depression and nervousness) during the lockdown period of the pandemic (Zachariah et al. 2004). This pandemic has created a tough time for irregular migrant workers and undocumented migrants. Most of them were low-skilled workers working in the informal sector, where the chances of job loss were higher (Ahmed et al. 2020). A sample study conducted in the UAE confirms that Muslims and Christians believe that religious activity helps cope with psychological distress during the pandemic. The study confirms that positive religious coping is negatively related to psychological distress (Thomas and Barbato 2020). The study confirms that people in Nigeria were aware of the disease but the government and their concerned authority's reaction toward managing the spread of the virus was poor (Oleribe et al. 2020). Bangladesh needs community-level coordination to deal with the effects of the global economic downturn, depression, job loss, lack of ready-made garment (RMG) export and incoming remittances, food insecurity, and rising poverty caused by COVID-19 (Shammi et al. 2021). Since the COVID-19 pandemic, video consultations for medical treatment have become more popular, and health policies and training facilities are needed to provide good quality treatment (Jiménez-Rodríguez et al. 2020). Many studies have been conducted to evaluate the impact of the COVID-19 pandemic on human beings. A paucity of research has been identified regarding the challenges and problems experienced by migrant labourers on a global scale as a result of governmental restrictions and lockdown measures. Few studies were found that examined the psychological impacts and socioeconomic impact on migrant workers, ignoring the several challenges and perceptions or views of the migrant workers towards facilities and decisions taken to prevent the spread of COVID-19. This study will attempt to fill the gap in the literature by examining the perception of migrants and the economic impacts on Indian migrant workers in the UAE during the COVID-19 pandemic.

## 2.2. Objectives

1. To comprehensively assess the economic and psychological well-being of Indian migrant workers in the UAE amidst the COVID-19 pandemic.

2. To analyze the perceptions of Indian migrant workers regarding the adequacy, accessibility, and effectiveness of facilities and decisions implemented by the Indian government for COVID-19 management.
3. To examine the demographic characteristics associated with fear of COVID-19 among migrant workers.

### 2.3. Hypothesis

The current study will test the following hypotheses.

1. There is no significant difference in remittances by Indian migrant workers in the United Arab Emirates before and during the COVID-19 pandemic.
2. Age, level of education, income, number of dependents, other sources of income, and duration of stay are not significant determinants of fear of COVID-19.

### 2.4. Research Methodology

The present study will examine the perception of migrants towards facilities provided by the Government of India and the Government of UAE to protect the migrants from COVID-19 diseases and the economic implications of restrictions and lockdowns imposed. The investigation was based on a sample survey approach. The investigation needed both primary and secondary data. Primary data were collected through a well-structured questionnaire consisting of three sections. Section A included questions on the demographic profile of the migrant workers, Section B consisted of questions related to job status, income, remittances, etc., whereas Section C included perception-related questions. A snowball sampling technique (non-probability) was used to collect the primary data (Goodman 1961). To reduce sampling bias, the researcher initiated multiple independent snowball chains from different starting points to enhance the diversity of the sample. This data collection technique was employed to identify Indian migrants in the UAE amid COVID-19-related restrictions. In April and May of 2021, the survey link was shared across various online platforms such as WhatsApp, Telegram, Facebook, Twitter, etc. The questionnaire was in the English language and 4 to 5 min were required to fill out the questionnaire. The researcher gave help to fill out the questionnaire to those respondents who were illiterate or not able to understand the English language through telephonic interviews. Telephone interviews facilitated rapport building with participants, fostering trust that might be less achievable through online questionnaires. This personal connection allowed for richer data collection, as participants provided more in-depth responses and the interviewer could clarify any misunderstandings. Before initiating the interviews, the questionnaire was tested through a pilot survey conducted on a small group of similar respondents to identify any language or comprehension barriers. Moreover, the study ensured that interviewers conducting telephonic interviews received training in cultural sensitivity, language interpretation, and effective interview techniques. Instructions were given to the respondents, requesting that only Indian migrants from the states of Bihar and Uttar Pradesh fill out the questionnaire. The researcher specifically chose a sample of migrant workers from these states because they primarily supply semiskilled and unskilled labour. These blue-collar workers, who earn very low incomes, were overlooked by authorities during the pandemic. Therefore, it is crucial to assess their well-being. A total sample of 416 male migrants was collected and used for analysis. Secondary data were collected through the reports and working papers of the World Bank, the Ministry of External Affairs (GOI), the International Labour Organization, etc., and different research articles published in reputed journals. Descriptive statistics were employed to portray the demographic information of the sampled migrants; a paired sample *t*-test was utilized to evaluate the variations in remittance patterns before and after the pandemic. The perceptions of migrant workers were captured using a five-point Likert scale, followed by employing Principal Component Analysis (PCA) as a data reduction method to condense the variables into a smaller number of factors. Moreover, reliability analysis was conducted to assess the internal consistency of the questionnaire, and chi-square analysis was utilized to examine



the association of perceptions across various domiciles. A logistic regression analysis was conducted to identify the demographic characteristics associated with fear of COVID-19. The statistical analysis was conducted using STATA version 14.

### 3. Results and Findings

#### 3.1. Demographic Profile of the Migrants

Table 1 illustrates the demographic profile of the sample migrants from the Indian states of Uttar Pradesh and Bihar to the United Arab Emirates. Demographic data on the migrants is important to understand the socioeconomic condition of the migrants; however, both states have almost the same socioeconomic status (Rasul and Sharma 2014). The data from the sample show that the average age of working migrants was 38 years old. The sample also shows that 51% of migrants were under the age of 40, but 32% were aged between 40 and 50 and only 15% of migrant workers were aged greater than 50 years. The religious composition of Bihar, a state in eastern India, is diverse. According to the 2011 census of India, the majority of the population of Bihar (82.7%) and Uttar Pradesh (79.7%) identifies as Hindu, followed by Muslims, 16% and 19%, respectively, for Bihar and Uttar Pradesh (Navaneetham and Dharmalingam 2011). However, the sample data show a different story of the religious beliefs of the migrants. Most of the sample migrants (89%) identified as followers of Islam, also known as Muslims. The remaining 10% identified as members of the Hindu population. As a result, we can conclude that most Muslims from these areas emigrated to the UAE. In terms of educational attainment, these states rank towards the bottom of all the Indian states. Based on data collected in 2011, the overall literacy rates for the states of Bihar and Uttar Pradesh are 61.8% and 67.7%, respectively, which is lower than the national average of 74.04%. However, around 9% of the migrants were illiterate in the sample data, 13% were able to read and write, and 16% qualified for the 10th standard. The majority of the migrants (30%) were graduates and only 3% were post-graduate. The comparative data show that the average age of migrants from Bihar was lower than the average age of migrants from Uttar Pradesh, and the level of higher education of the migrants from Uttar Pradesh was higher than the migrants from Bihar. The majority of the sample migrants (49%) were working for the last 4 to 8 years in the UAE, 26% were working for less than 4 years, and 24% were working for more than 8 years in the UAE. The comparative data show that migrants from Bihar were found to have more working experience than migrants from Uttar Pradesh.

**Table 1.** Demographic profile of the migrant workers.

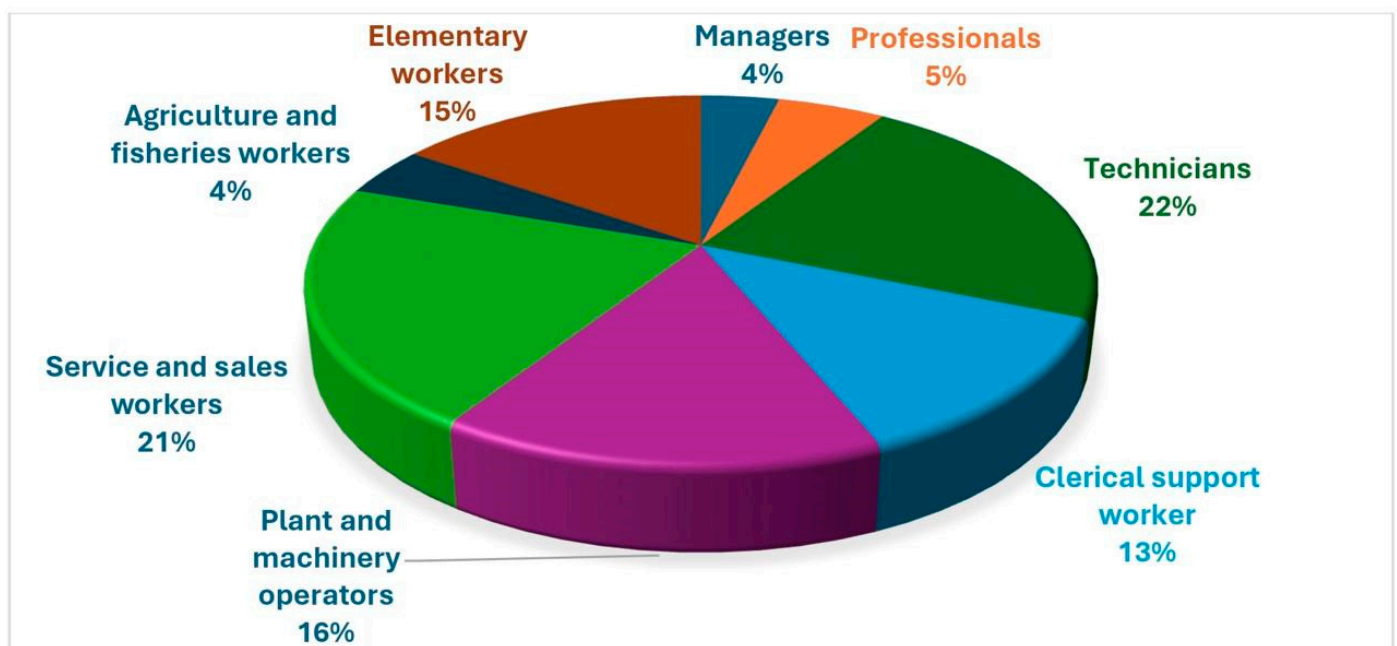
Age	Uttar Pradesh	Bihar	Total	Percentage
Below 30	22	54	76	18.27%
30–40	66	74	140	33.65%
40–50	90	46	136	32.70%
Above 50	38	26	64	15.38%
Total	216	200	416	100%
Religion	Uttar Pradesh	Bihar	Total	Percentage
Islam	188	184	372	89.42%
Hindu	28	16	44	10.58%
Total	216	200	416	100%
Education	Uttar Pradesh	Bihar	Total	Percentage
Illiterate	14	24	38	09.14%
Able to read and write	20	34	54	12.98%
High school	22	44	66	15.87%
Intermediate	82	34	116	27.88%
Graduate	66	60	126	30.29%
Post-Graduate	12	04	16	03.84%
Total	216	200	416	100%

**Table 1.** *Cont.*

Work Experience	Uttar Pradesh	Bihar	Total	Percentage
Below 4	88	24	112	26.92%
4–8	106	98	204	49.04%
Above 8	22	78	100	24.04%
Total	216	200	416	100%

Source: Calculated by authors.

The International Labour Organization (ILO) classifies occupations into 10 categories, based on the nature of work and the required skill level. Governments, researchers, and other organizations use the categorization, known as the International Standard Categorization of Occupations (ISCO), to gather and examine information on employment and labour market trends (Ganzeboom 2010). Figure 1 illustrates the occupational composition of the sample migrants. Technical roles, including positions like electricians, mobile technicians, AC technicians, mechanical technicians, welders, and computer technicians, were occupied by a substantial portion of the migrant population, accounting for 22.12%. Following this, the composition of the sample included service and sales employees, who made up 21% of the participants. Plant and machine operators accounted for 15%, while professionals also represented 15%. Clerical and support workers comprised 12% of the sample, elementary workers made up 5%, and agriculture and fisheries workers constituted 4%. Managers were the smallest group, making up 3% of the participants.



**Figure 1.** Occupational composition of the migrants. Source: calculated by authors.

### 3.2. Earnings and Remittance Pattern of the Migrant Workers

Table 2 represents the total per month earnings of the migrants in the United Arab Emirates and monthly remittances to their families in India. The earnings do not include the earnings of the migrant families. Most of the migrants (43.27%) were earning AED 1500 to 2500 (United Arab Emirates Dirham) in a month, and 30% were earning between AED 2500 and 5000. Around 23% of the migrants were working in the UAE and earning below AED 1500 and only 3% of the migrants were earning above AED 5000. It is interesting to observe that half of the migrants were remitting below AED 1000 to their families in India. Thirty-six percent were remitting between AED 1000 and 3000 in a month and only 13% of the sample migrants from the UAE were remitting above AED 3000 in a month. The

researcher also asked the respondent whether the family has another source of income. Most of the respondents (67.3%) had reported that they had no other source of income in their families. However, 32% of the sample respondents had an alternative source of earning like income from agriculture, income from a business, income from rent, and income from other family members in India. The comparative data show that the monthly earnings of the migrants from Uttar Pradesh are higher than the earnings of the migrants from Bihar. However, the remittance pattern of the migrants from Bihar is comparatively higher than the migrants from Uttar Pradesh.

**Table 2.** Earnings and remittance pattern of the migrant workers.

Monthly Earnings (AED)	Uttar Pradesh	Bihar	Total	Percentage
Below 1500	46	50	96	23.08%
1500–2500	80	100	180	43.27%
2500–5000	88	38	126	30.29%
Above 5000	02	12	14	03.36%
Total	216	200	416	100%
Remittances (AED)	Uttar Pradesh	Bihar	Total	Percentage
Below 1000	<b>144</b>	<b>64</b>	<b>208</b>	50.00%
1000–3000	58	94	152	36.53%
Above 3000	14	42	56	13.47%
Total	216	200	416	100%
Other sources of income	Uttar Pradesh	Bihar	Total	Percentage
Yes	42	94	136	32.7%
No	174	106	280	67.3%
Total	216	200	416	100%

Source: Calculated by authors.

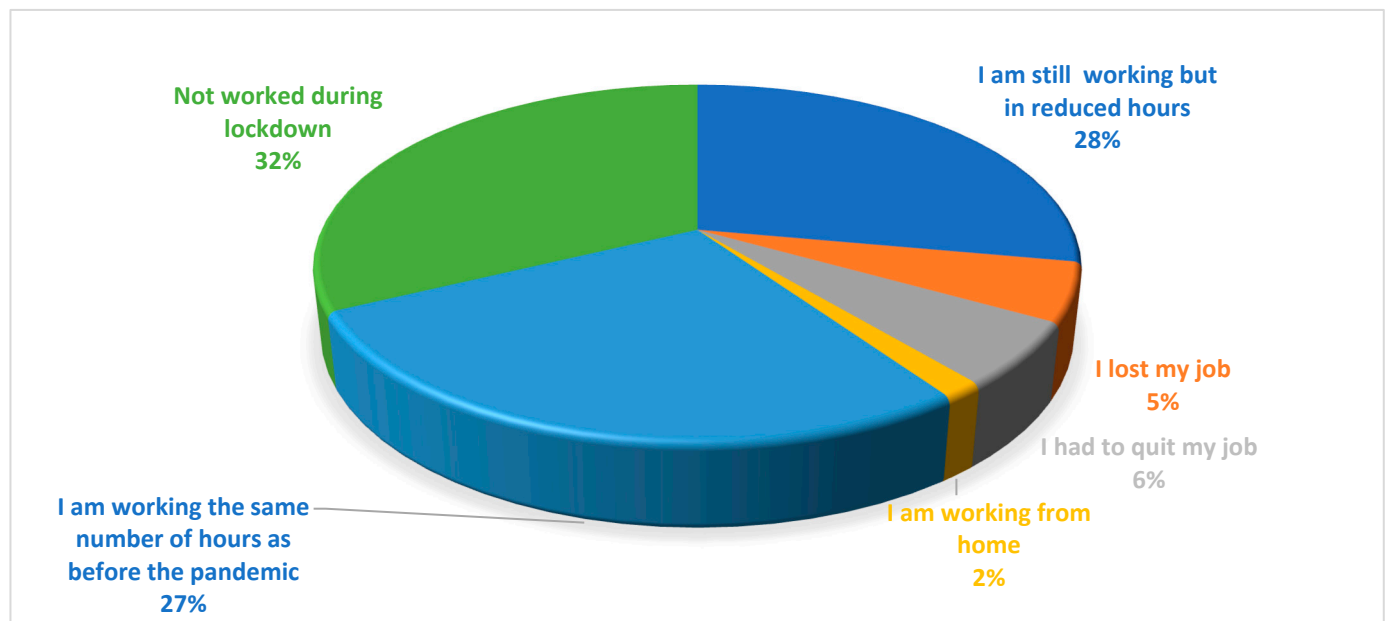
### 3.3. Working Status, Earning Losses, and Impact on Remittance during the COVID-19 Pandemic

The spread of the COVID-19 pandemic has disturbed the lifestyle and working status of people around the world. The implementation of a lockdown has led to changes in individuals' occupational circumstances, depending on factors such as the nature of their work, their level of adherence to lockdown protocols, and the restrictions imposed by both governmental authorities and employers. The researcher asked the respondents about their working status during the lockdown period of the pandemic. It is depicted in Figure 2 that most of the sample respondents (32.21%) did not work during the lockdown. However, 28% of the migrants reported that they worked during the lockdown but for reduced hours. It is interesting to note that 27% of the sample respondents worked during the lockdown for the same number of hours as before the pandemic, whereas 6% of the respondents quit their jobs and returned to India to take care of their family members. Job loss was very common during the pandemic; however, only 5% of the respondents reported that they had lost their job and below 2% of the respondents were working from home during the lockdown period of the pandemic.

The COVID-19 pandemic has exerted a substantial influence on the worldwide economy, resulting in financial setbacks for numerous individuals and enterprises. Job loss, reduced working hours, wage cuts, unpaid leave, and small business losses were common during the pandemic (Oldekop et al. 2020). Table 3 describes the loss in the earnings of the migrants due to a change in their job status during the lockdown period of the pandemic. The majority of the migrants (83.17%) reported a loss in earnings; however, 16% of the sample respondents reported no loss in earnings during the lockdown period. The majority of the respondents (53.85%) reported a loss of below 500 AED per month during the lockdown; however, 22% faced a loss of AED 500 to 1000 in a month. Only 7% of the sample respondents reported a loss of above AED 1000. There was a decrease in the earnings and remittances that migrant workers sent back to their families and other individuals in their home countries as a result of factors including job loss, travel restrictions,



reduced working hours, wage cuts, exchange rate fluctuation, unpaid leave, and the losses of small businesses during the pandemic. Table 4 illustrates the change in the remittance pattern of Indian migrants in the United Arab Emirates before the COVID-19 pandemic and during the lockdown period of the COVID-19 pandemic. Prior to the pandemic, half of the migrants had their funds transmitted for less than 1000 AED. However, during the closed-down period, 66% of the migrants in the sample had their funds remitted for less than 1000 AED per month. An amount between AED 1000 and 3000 was remitted to 36% of the migrants before the pandemic and 24% during the pandemic. The proportion of migrants who remit above 3000 AED has decreased from 13% to 9%. It can be observed from the sample data that due to loss in earnings and uncertainty, more migrants were compelled to remit a smaller amount of money to their families.



**Figure 2.** Working status of the migrant workers during the pandemic. Source: Calculated by authors.

**Table 3.** Earning losses of the migrant workers during the pandemic.

Earning Loss (in AED)	Uttar Pradesh	Bihar	Total	Percentage
No loss	34	36	70	16.83%
Below 500	96	128	224	53.85%
500–1000	62	30	92	22.12%
1000–2000	22	02	24	05.76%
Above 2000	02	04	06	01.44%
Total	216	200	416	100%

Source: Calculated by authors.

**Table 4.** Pattern of remittance before and after pandemic.

Remittance (AED)	Before Pandemic				During Pandemic			
	UP	Bihar	Total	Percentage	UP	Bihar	Total	Percentage
Below 1000	144	64	208	50.00%	168	108	276	66.35%
1000–3000	58	94	152	36.53%	38	64	102	24.52%
Above 3000	14	42	56	13.47%	10	28	38	09.13%
Total	216	200	416	100%	216	200	416	100%

Source: Calculated by authors.

The paired sample *t*-test or dependent sample *t*-test is a method to examine and compare the means and standard deviations taken from the same variable in two different situations. It is used to establish whether the mean difference between pairs of observations is zero, to test the null hypothesis that there is no significant difference in remittances by Indian migrant workers in the UAE before and during the COVID-19 pandemic. The mean and the standard deviation of remittance before COVID-19 were found to be 1.63 and 0.71, respectively, and during the lockdown period the COVID-19 mean was 1.43 and standard deviation was 0.655, which is shown in Table 5. The Pearson correlation coefficient between remittances before COVID-19 and during COVID-19 was found to be statistically significant ( $r = 0.639$  and  $p\text{-value} < 0.001$ ) and a suggestion-dependent sample *t*-test will be suitable to test the hypothesis. The result of the paired sample *t*-test ( $t\text{-statistic} = 5.123$ , degree of freedom = 207%,  $p\text{-value} < 0.05$ ) rejected the null hypothesis and accepted the alternative hypothesis of “There is a significant difference in remittances by Indian migrant workers in the United Arab Emirates before and during the COVID-19 pandemic”.

**Table 5.** Paired sample test.

	Paired Samples Test									
	Paired Differences					Lower	Upper	T	df	p Value
	Mean	Std. Deviation	Mean	Std. Deviation	Std. Error Mean					
Before COVID-19	1.63	0.710	0.207	0.582	0.040	0.127	0.286	5.123	415	0.000
During COVID-19	1.43	0.655								

### 3.4. Principal Component Analysis and Reliability Analysis of the Migrant's Perceptions

The researcher asked the migrants about their perception towards transport facilities provided during the lockdown period and help provided by the Embassy of India in the United Arab Emirates by the Government of India. Similarly, the researcher also asked the migrants about their perception of health facilities and other facilities provided by the Government of the UAE. Principal Component Analysis was applied for each segment separately. In Principal Component Analysis, a data reduction technique was applied to decrease the number of variables into a few factors. The K.M.O test of sample adequacy and the Bartlette test of sphericity were conducted and found to be statistically significant (Roweis 1997). Originally, the researcher asked two questions to the respondent migrants related to the perceptions towards COVID-19 management by the Government of India, which explains 72.09% of the variance. The study administered a questionnaire consisting of three questions pertaining to medical facilities offered by the Government of the United Arab Emirates, accounting for 58.33% of the variance, and four questions pertaining to other facilities provided by the UAE authority, accounting for 54.50% of the variance. The PCA result is shown in Table 6, which allows us to retain all nine questions whose communality value is more than 0.5.

**Table 6.** Principal Component Analysis of perception of the migrant workers.

Factors	Statement Retained	Factor Loading	% of Variance Explained
Perception towards Govt. of India	Transport facility provided	0.849	72.09%
	Help provided by Indian embassy	0.849	
Perception towards health facility provided by UAE Govt.	Medical facility arranged	0.678	58.33%
	Information related to protection from COVID-19	0.823	
	Safety measures taken	0.783	
Perception towards other than health facilities provided by UAE Govt.	Food and other facilities	0.660	54.50%
	Facility for remittances	0.843	
	Access to necessity goods	0.679	
	Living condition	0.756	

Source: Calculated by authors.

After Principal Component Analysis, the reliability test was conducted to check the internal consistency of the questionnaire (Kuder and Richardson 1937). Cronbach's Alpha is used to measure the reliability whose value is greater than 0.5 as shown in Table 7, which is a standardized size of alpha, showing moderate-to-high internal consistency and that the migrants' observation is reliable and allowed for further analysis.

**Table 7.** Reliability analysis of perceptions.

Factors	Number of Questions	Cronbach's Alpha
Perception towards the Government of India	2	0.576
Perception towards health facility provided by UAE Govt.	3	0.639
Perception towards other than health facilities provided by UAE Govt.	4	0.716

Source: Calculated by authors.

### 3.5. Chi-Square Analysis of Perception of the Migrants within Domicile

The chi-square test is used to determine whether there is a significant association between two categorical variables. It compares observed frequencies of categorical data with expected frequencies to see if there is a statistically significant difference. We investigated whether there is an association between domicile and perception of the migrant workers (McHugh 2013). Table 8 depicts the chi-square test result, which shows the relationship between these variables, which was found to be significant. There exists a significant difference in the perception regarding the management of the COVID-19 pandemic by the Government of India, as the value observed was  $X^2 (1, n = 416) = 116.45$  and the  $p$ -value  $< 0.01$ . The perception may differ concerning the difference in the spread of COVID-19 cases and the number of deaths in both the states of Uttar Pradesh and Bihar. The chi-square result for the migrant perception towards health facilities and other than health facilities provided by the UAE government is found to be statistically significant as the observed chi-square value for perception towards health facilities provided is 69.33 ( $n = 416$ ) and the  $p$ -value is less than 0.01, whereas the chi-square value for migrants' perception towards other than health facilities is 131.74 ( $n = 416$ ) and the  $p$ -value is less than 0.01.

**Table 8.** Chi-square analysis of perception of the migrants within domicile.

Perception	Statement	Chi-Square Value	$p$ -Value
Perception towards Govt. of India	Transport facility provided	68.68	0.000
	Help provided by Indian embassy	47.77	0.000
Perception towards health facility provided by UAE Govt.	Medical facility arranged	21.86	0.000
	Information related to protection from COVID-19	19.04	0.000
	Safety measures taken	28.43	0.000
Perception towards other than health facilities provided by UAE Govt.	Food and other facilities	19.20	0.000
	Facility for remittances	43.05	0.000
	Access to necessity goods	16.26	0.001
	Living condition	53.23	0.000

Source: Calculated by authors.

### 3.6. Demographic Determinants of Fear of COVID-19—A Logistic Regression Analysis

The logistic regression model, a statistical analysis, is used to estimate the extent of factors or migrant observations that affect the fear of COVID-19 (Kleinbaum and Klein 2002). The dependent variable of fear of COVID-19 is dichotomous, the probability of fear of COVID-19 or not. The probability of experiencing fear related to COVID-19 can be expressed as the ratio of the probability of fear and the probability of not experiencing fear, denoted as  $P$  and  $(1-P)$ , respectively. The result of the logistic regression is shown in Table 9. The dependent variable ( $Y_i$ ) in the equation is fear of COVID-19 and the predictors are the number of dependent family members of the migrant worker, sources of income family

income other than migrant income, earnings of the migrant worker, age, level of education, and duration of stay in the Gulf countries. The regression analysis results reveal a Pseudo R-squared value of 0.4345, indicating that approximately 43.45% of the variation in the dependent variable is explained by the predictors included in the model. The remaining 56.55% of the variability is attributed to factors outside the model. Furthermore, the chi-square test yielded a value of 203.48 with a corresponding  $p$ -value of 0.00, signifying a statistically significant relationship between the predictors and the dependent variable. The number of dependent family members was one of the significant predictors of fear of COVID-19; as this number increases the fear will increase. Similarly, sources of income other than migrant income for the family were another predictor of fear of COVID-19, if migrants have no other source of income, the fear will increase because of the financial insecurity. The age of the migrant worker was one of the significant predictors in the equation that influenced the fear of COVID-19. This indicates that deterioration in fear is likely to occur with increasing age. The study also tried to understand the fear of COVID-19 differing with different levels of education. The result rejects the null hypothesis, as the fear of the migrant workers differs concerning their level of education. The next predictor in the equation is the number of years stayed in the Gulf countries, which was also found to be significant; the less the worker stayed in the Gulf countries the greater the chance of fear of COVID-19. According to the findings of the study conducted by (Doshi et al. 2021), it was observed that females, married individuals, those with lower levels of education, and individuals employed in healthcare professions demonstrated a significantly higher likelihood of experiencing elevated levels of fear compared to their counterparts.

**Table 9.** Demographic determinants of fear of COVID-19: a logistic regression.

Logistic Regression Result				
Statement	Odds Ratio	S.E.	z	Sig.
<b>No. of dependents *</b>				
Below 5	3.53	2.47	1.80	0.07
More than 5	3.49	2.55	1.71	0.08
Other sources of income	12.79	5.12	6.37	0.00
<b>Income (AED) *</b>				
Below 1500	1.43	0.62	0.83	0.40
1500–2500	54.98	90.31	2.44	0.01
Above 2500	204.97	261.15	4.18	0.00
<b>Age *</b>	0.84	0.02	−5.73	0.00
<b>Education *</b>				
No formal education	8.11	5.47	3.11	0.00
School education	2.16	1.40	1.20	0.23
Graduation	2.40	1.62	1.30	0.19
Post-Graduation	0.15	0.16	−1.78	0.07
<b>Duration of Stay (in Years) *</b>				
Below 4	0.07	0.04	−4.10	0.00
4–8	0.10	0.05	−4.00	0.00
Above 8	0.18	0.10	−2.97	0.00
<b>Constant *</b>	67.54	95.69	2.97	0.00

Source: Calculated by authors.  $R^2 = 0.4345$  (Pseudo), Chi-Square = 203.48,  $p$ -Value = 0.000, Yi = Fear of COVID-19, SE = Standard Error,  $n = 416$ , \* = Significant

#### 4. Discussion

The United Arab Emirates is one of the favourite destinations for migrant workers from the Indian states of Uttar Pradesh and Bihar. Most of the migrants from this area migrated towards the Gulf countries like the UAE in search of better job prospects and financial stability. The majority of these migrant labourers are young men, with most of them adhering to the Islamic faith. The poor level of education that exists in the region that the migrant originally hails from is reflected in the level of education that they possess (Kumari 2016). Due to the low level of education that many of these migrant workers possess, they

are often forced to take jobs that are either unskilled or semiskilled. The research findings also reveal that only 9% of migrant employees are classified as professionals. However, in the case of migrant workers from Kerala, over 20% were categorized as professionals (Zachariah et al. 2002). The primary factor that leads them to accept low-paying work in the UAE is the dearth of employment prospects in the region to which they are native, as well as the absence of any other potential sources of income for them. Most migrants have monthly earnings of less than AED 2500, and over half of those who send money home send only AED 1000. Similar results were observed in the study conducted regarding Bangladeshi workers in the UAE (Rahman 2013). The proliferation of COVID-19 makes things more difficult for them, as it may result in a reduction in their earnings or the loss of their jobs. Because of the uncertainty that results from imposing lockdowns around the world, migrant workers globally are forced to consider going back to their own countries (De Bel-Air 2015). The Government of India initiated a mission, formally known as the Vande Bharat mission, to bring back Indian nationals who had been living abroad. But, for many migrant workers, it was not easy to decide to go back to their home country. Poor medical care and a lack of job opportunities in their home country make it hard for them to go back (Anand 2014). The study confirms that remittances during the lockdown period led to less money coming in and people losing their jobs. However, an international migration report said that remittances to India were not much affected. Migrant workers are worried about COVID-19 because of the situation in their home country and UAE. The study tried to find out how the people's views of the facilities that the government gave them affected their fear. The results showed that their fear of COVID-19 would have gone down a lot if the Government of India had made it easier for them to get back to their home country and if the Government of UAE had improved facilities other than medical ones. The study also says that the fear of COVID-19 has gone down because medical facilities have improved. The study points out the several challenges that migrant workers faced during the pandemic. The loss of employment and reduced income have disproportionately affected migrant labourers. A considerable proportion of individuals are currently employed in sectors that have been severely impacted by the COVID-19 pandemic, including but not limited to construction, tourism, and hospitality. This experience highlights the importance of having a diversified economy that is less reliant on a few key industries. It has been difficult for migrant workers to either go back to their home countries or relocate to other nations in search of work because of travel restrictions, which have also been a source of difficulty for these individuals. This experience underlines the necessity for governments to have effective rules in place to encourage the mobility of workers and safeguard their rights. These policies should be in place to protect the rights of workers. Migrant workers have also been faced with health risks as a result of the conditions of their living and working environments, which do not often provide social separation or other preventive measures. This example emphasizes how important it is to protect the health and safety of all workers, particularly those who work in areas that require low levels of ability or are informal. Migrant workers may experience social isolation and discrimination, both of which can make the difficulties they confront during the epidemic more difficult.

## 5. Limitations

This study has some limitations. The examination was based on 416 samples only, which included the migrant workers from the Indian states of Uttar Pradesh and Bihar only. However, the researcher has not taken a sample of the migrant workers from other states like Kerala, Tamil Nādu, Andhra Pradesh, etc. Apart from this, the analysis was made while taking the sample from the male migrants only; the researcher did not include the sample of female migrant workers, as the female migration from the Indian states of Uttar Pradesh and Bihar for work is very low. The results of this study are based on a few tests and, therefore, there is scope for further studies. A further study is suggested to analyze the psychological impacts on migrant workers, children, and women; apart from this, one can also examine the impact on migrants' families and their children in their homeland due to



the reduction in income and remittances during the COVID-19 pandemic. This study was conducted in the early period of the pandemic; one can also see the long-term economic impact of the pandemic.

## 6. Policy Implications

The findings and the analysis of this study draw the attention of policymakers to initiating policies such as the following:

1. **Financial Help:** The present study also suggests the Government of the United Arab Emirates provide financial support to those migrants who lost their jobs or lost their lives and should provide new jobs to the migrants instead of sending them back.
2. **Mental Health Support:** Enhance access to mental health services for Indian migrant workers in the UAE by providing hotlines, online resources, and affordable therapy options. Collaborate with community organizations and healthcare providers to conduct mental health screenings and interventions. Implement policies to train healthcare workers to recognize and address anxiety and fear related to COVID-19 among this population.
3. **Educational Initiatives:** Provide educational programs on COVID-19 that focus on risk reduction strategies and fostering a sense of control. Tailor educational campaigns to individuals with lower levels of education to ensure they clearly understand the virus and preventive measures.

## 7. Conclusions

In many countries around the world, the impact of COVID-19 is deeper, longer-lasting, and more severe. This deadly virus has not only compelled us to think about medical arrangements but also disturbs our source of earnings. The study has revealed that migrants' working status has changed during the pandemic. Change in working status causes a cut in salary and a fall in remittances. The result of the paired sample *t*-test accepted the alternative hypothesis that there is a significant difference in remittances by Indian migrant workers in the United Arab Emirates before and during the COVID-19 pandemic. The result of the perception or the opinion of the migrants towards COVID-19 management is in favour of the Government of the United Arab Emirates in comparison to the perception toward the facilities provided by the Government of India. The perception of the migrants from Uttar Pradesh is statistically different from the perception of the migrants from Bihar. Logistic regression analysis results show that demographic information such as age, duration of stay, level of education, sources of income, and earnings were the significant determinants of fear of COVID-19. The study recommended offering financial assistance through various social welfare programs, providing mental health support, and implementing educational initiatives to help individuals understand the virus and preventive measures.

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