

## **A KAP Study on COVID – 19 amongst migrant industrial workers in Thoothukudi, Tamilnadu**

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**How to cite this article:** Jayamuthumagesh V, Dr. R. Maruthakutti (2024). A KAP Study on COVID – 19 amongst migrant industrial workers in Thoothukudi, Tamilnadu, 43(2), 2296-2306

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### **Abstract**

Human progress is fuelled by research. Fuelled by curiosity, a research instigates one's interest, provokes to question, and helps immerse oneself in learning everything that we can. Society is thriving on research. Progress would come to a standstill without curiosity and investigation, and our lives would be drastically different. Without research, the functioning of our world, the progress of mankind, the fight for survival would all come to a standstill. We could not have lasted as long as we have without research. There are still millions of things to find, such as diseases to cure, waterways to explore, and species to discover. All of this is feasible as a result of research.

A Knowledge, Attitudes, and Practices (KAP) survey is a quantitative approach for collecting quantitative and qualitative data (predefined questions organised in standardised questionnaires). Misunderstandings or misconceptions identified by KAP surveys may provide challenges to the actions we want to execute, as well as possible impediments to behavioral changes. A KAP survey helps improve particular theme knowledge, attitudes, and behaviours; determine what is known and done about various health-related topics, establish a benchmark (reference point) for future evaluations, which will aid in determining the effectiveness of initiatives. It also aids to propose an intervention approach that takes into account particular local situations as well as the cultural elements that impact them and devise actions that are appropriate for the target group. With COVID – 19 putting the whole world in a pause and panic state, the current study entitled '**A KAP Study on COVID – 19 amongst migrant industrial workers in Thoothukudi, Tamilnadu**' proposes to impact the study and research on COVID -19.

Corona Virus Disease, also known as COVID-19, is an infectious viral disease caused by the same-named virus. COVID – 19 is an acronym for CO – Corona, VI – Virus, D – Illness, and 19 denoting the month of December, 2019, when the viral disease was first discovered.

SARS CORONAVIRUS 2 virus causes the disease, which was initially discovered in China's Wuhan area.

The present research paper entitled ‘**A KAP Study on COVID – 19 amongst migrant industrial workers in Thoothukudi, Tamilnadu**’ presents a brief introduction to COVID – 19, provides the scenario of COVID – 19 as a global pandemic, and traces COVID – 19 in India, Tamilnadu and Thoothukudi along with the details of the lockdown imposed by the central and state government. It also presents the aims, objective, scope and organisation of the present study. It traces the life of a migrant along with the impact of COVID – 19 in a migrant life. It also brushes on COVID – 19 vaccination and sets the canvass for the present study. A Questionnaire has been finalised for the present study. The methodology of the study on how the present research was conducted, how the questionnaire was designed, the different parts of the questionnaire and how they assessed the Knowledge, Attitude and Practise of the migrant industrial workers in Thoothukudi towards COVID – 19 and COVID – 19 Vaccine post lockdown is also presented. The paper also presents the findings of the current study along with the scope for future study.

### **COVID – 19: A Global Pandemic**

COVID -19 is a member of the Corona Virus family of viruses. It first manifested itself with a typical cold as a symptom. Because the current study focuses on COVID -19, it is indeed critical to understand the origin of COVID -19– how an ordinary viral fever evolved into the world's most feared pandemic. The main causative agent of the COVID-19 pandemic is SARSCoV-2. COVID -19 is thought to have originated in China as SARS-CoV-2 from bats, according to scientists. However, it eventually began to transmit from human to human. The cycle replicated, spread quickly, and the transmission quickly became a global epidemic.

COVID – 19 is a global pandemic. On March 11, 2020, the World Health Organization (WHO) declared it a worldwide pandemic. China reported instances of pneumonia-like symptoms but with unclear aetiology to the World Health Organization on December 31, 2019. There was a fast spike of cases in the Chinese province of Hubei, notably in Wuhan city, with 44 cases identified in only three days in the city alone. On 30<sup>th</sup> January, 2020, China declared COVID – 19 outbreak. From this within a span of two weeks, COVID – 19 spread across 25 countries.

### **COVID -19 in India**

In India, the first incidence of COVID – 19 was recorded in the state of Kerala in the south. A twenty-year-old female returnee with a history of travel through Wuhan City presented to General Hospital, Thrissur, with symptoms of sore throat and dry cough on January 27, 2020. COVID – 19 was confirmed in blood samples, and India became self-aware of the virus. It soon led to a rapid spread paving way for the first wave of the global pandemic COVID - 19 across India. The number of verified COVID -19 cases began to decline by the middle of September 2020, and it continued to decline through January 2021. The second wave of COVID – 19 – arrived, bringing with it even more lethal symptoms. Despite the passage of over a year and a half since the first occurrence, COVID – 19 continues to retain its lethal grip on the human species.

### **COVID -19 in Thoothukudi**

On March 31, 2020, the first COVID – 19 case in Thoothukudi was reported. After testing positive for COVID-19 on his return from the Tablighi Jamaat religious conference in Delhi, a man from Ramasampuram, a hamlet in Thoothukudi district, was admitted to the Thoothukudi Medical College Hospital with COVID-19 symptoms. A 72-year-old female COVID – 19 positive

patient receiving treatments at the Thoothukudi Medical College Hospital died on April 10, 2020. She was the first COVID – 19 victims in the district. COVID – 19 then began to spread swiftly.

With the rising number of COVID – 19 cases and the vast lives of the people involved, it is considered imperative to investigate COVID – 19's influence. The researcher chose the KAP study of migrant industrial workers to aid in the study of COVID – 19 by highlighting and emphasising concerns related to COVID – 19, COVID - 19 Vaccine and its influence in the industrial sector. The researcher has limited the investigation to industries in Thoothukudi, Tamilnadu, in consideration of the government's limitations on lockdown and travelling outside of one's house.

### **Aim and Objective of the Study**

The goal of this study, titled "Survey on Knowledge, Attitude, and Practice post lockdown towards COVID – 19 and COVID – 19 Vaccine among migrant industrial workers in Thoothukudi, Tamilnadu," is to learn more about what migrant industrial workers of Thoothukudi knowledge about the global pandemic of COVID-19, COVID - 19 vaccine as well as their attitudes and practises in connection to demographic factors like type of industry working at present, home state, gender, age - group, marital status and educational qualification. The current study contributes to the development of policy initiatives and the assessment of available resources to address COVID-19 issues in order to decrease the acute pandemic effect of COVID - 19. It also seeks to address their preparation and knowledge of COVID-19, as well as to provide, via its data and results, a provision to face and win in the future if such an unanticipated scenario for migrant industrial workers emerges.

### **Scope of the Study**

The scope of the current study is confined to migrant workers alone, and only those employed in the industrial sector. In light of the nationwide and state-wide lockdowns, as well as the imposition of sanctions, the present study is constrained within Thoothukudi alone.

### **Migrant Life**

The worldwide COVID-19 pandemic has wreaked havoc and worsened a host of social and economic issues. It has impacted people from all walks of life, but the poor and underprivileged have been disproportionately affected. The COVID-19 problem is expected to have a significant impact on the informal sector workers since they are the most vulnerable populations and are more susceptible to the current worldwide pandemic. COVID-19 will be a long-term shock for disadvantaged persons in the informal sector who already face acute poverty and food shortages.

Despite the fact that migrant workers are an important part of the Indian economy and the fact that they are responsible for a wide range of industries in the country, including infrastructure development, food manufacturing, production, textiles, security services, domestic work, and even tea and cardamom cultivation, migrant workers are taken for granted.

During the lockdown, it was unable to properly connect with domestic migrant workers or provide them with financial support, food, or healthcare facilities due to a lack of detailed data on them. As a result of the nationwide COVID – 19 lockdown, which was imposed without warning, millions of migrants were stuck in unforeseen situations in their job cities, away from their families and without food or money. Furthermore, given the event's dynamic and

difficult character, there was a shortage of adequate data to track their specifics and migratory patterns. With this lack of knowledge comes the difficulty of receiving government assistance such as food rations through the public distribution system, which is compounded by the government's intended cash payment assistance scheme's restricted reach.

Due to a shortage of jobs and money, as well as lockdown restrictions that hindered public transit, thousands of migrant workers were seen walking or bicycling hundreds or thousands of kilometres to return to their original villages with their family. Many of these migratory workers were exodus even though they were famished, and they had no way of social distancing themselves because they were travelling in large groups. They took part in the Exodus because they chose to die from the virus in their own hamlet rather than starve to death at their workplaces due to the government's nationwide lockdown. The unexpected breakout of pandemic COVID-19 has exposed many flaws in the modern world, from completely paralysing the country's economy to damaging the global market and forcing us to reconsider and reprioritise our survival and safety issues.

### **COVID -19 Vaccine**

Vaccinations have long been thought to be the most efficient approach to fight viral infections that spread fast. Vaccination, however, continues to face a variety of difficulties, including a lack of public confidence, a scarcity of vaccine supplies, and a lack of funding. More than 82 percent of the population must be vaccinated in order to achieve the necessary herd immunity to stop COVID - 19 viral propagation and halt the pandemic. This needs widespread acceptance and low levels of reluctance. In order to execute policy reforms and assist public health professionals in creating a theoretical foundation and community mobilization targeted at boosting vaccination knowledge in the general community, it is necessary to identify variables related with vaccine acceptance and hesitation.

### **COVID – 19 Vaccination and migrant workers**

In India, vaccination priority was determined by occupation, age, and health condition. Migrants in India are considered as a fluid group with no defined criteria, therefore they haven't been prioritised. Locals, not migrants, were the target population for vaccinations. Despite being the main force behind the country's economic growth, migrants were not prioritised. During the lockdown, they were the ones who suffered the most. Our failure to prioritise migrant vaccination would once again result in a major economic disaster in the country, with not just low productivity and growing unemployment, but also the collapse of migrants, the country's most significant source of income.

### **COVID – 19, Migrants and Thoothukudi**

Thoothukudi is an industrial hub. It was established on October 20, 1986, in the southern portion of Tamilnadu. Thoothukudi district has 4621 square kilometres and has a 121 kilometer coastline. Chemical industries such as SPIC, TAC, and Dharangadara Chemical Works Ltd., textile industries such as Madura Coats and The Tuticorin Spinning Mills Ltd., power industries such as Thoothukudi Thermal Power Station, NTPL, salt industries, shipping and logistics industries, fish processing industries, match factories, rice mills, and agriculture related industries together lay the framework of Tuticorin as a well-known industrial powerhouse.

Daily-wage employees in the seafood industry, textile industry, food industry, banking sector, and other unorganised industries make up the majority of Thoothukudi's migrant industrial workers. Nearly 5000 migrant industrial workers were present in Thoothukudi postlockdown at the time of the survey, with 22 percent working in the financial sector, 21 percent in the food industry, 18 percent in the seafood industry, 16 percent in the textile industry, and the remaining 23 percent in the unorganised category who were unemployed and willing to work.

Once the first wave of COVID – 19 subsided, the migrant workers started to think of ways to return back to their work. On resumption of travel across India, post relaxation through the Unlock guidelines, the migrant industrial workers started returning back to Thoothukudi. Post lockdown there arises a necessity to assess the Knowledge, Attitude and Practice post lockdown towards COVID – 19 and COVID – 19 Vaccine among migrant industrial workers in Thoothukudi, Tamilnadu. At this juncture, the present study plays a vital role as it helps in identifying the gaps that exists and highlights the need to include the migrant industrial workers into the mainstream while planning development measures and financial support measures.

## **Review of Related Literature**

The researcher has conducted a thorough review of related literature. Existing resources point out investigations done to ascertain Knowledge, attitude and practice regarding COVID19 among health care workers in Henan, China [1], Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak [2], Risk perceptions, attitudes, and knowledge of chikungunya among the public and health professionals [3], Knowledge, Attitude and Practice (KAP) Study about Middle East Respiratory Syndrome Coronavirus (MERS-CoV) among Population in Saudi Arabia [4], Knowledge, Attitude and Practice of Middle East Respiratory Syndrome Corona Virus (Mers- CoV), Among Male Primary School Students in Almajmaah City, Saudi Arabia [5], Knowledge, perception and attitudes in Regard to COVID-19. Pandemic in Peruvian Population[6], Knowledge and attitude toward COVID-19 among healthcare workers at District 2 Hospital, Ho Chi Minh City [7], Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic [8], Knowledge, Attitude and Perception of Ebola Virus Disease among Secondary School Students in Ondo State, Nigeria [9], College students' knowledge, attitudes and adherence to public service announcements on Ebola in Nigeria [10], the impact of knowledge and attitudes on adherence to tuberculosis treatment: a case-control study in a Moroccan region [11], Perceptions related to human avian influenza and their associations with anticipated psychological and behavioral responses at the onset of outbreak in the Hong Kong Chinese general population [12], (MERS): Comparing the knowledge, attitude and practices of different health care workers [13], Knowledge and attitude of healthcare workers about Middle East Respiratory Syndrome in multispecialty hospitals of Qassim, Saudi Arabia [14], Knowledge, attitude and practices of healthcare providers towards MERS-CoV infection at Makkah hospitals, KSA [15]. Amongst this review of related literature, the researcher has identified a gap. KAP done on migrant workers has not been done. The present research aims to bridge this gap by assessing the KAP of migrant industrial workers of Thoothukudi pertaining to COVID – 19 and COVID – 19 Vaccine post lockdown.

## **Methods**

### **Study design**

A quantitative approach was used to reach out to the migrant industrial workers of Thoothukudi to achieve the objectives of the present study. A survey is a preferred method of assessing as eases the assessment process. The present study is a cross-sectional survey as it was deemed appropriate to gather efficient information on the knowledge, attitude and practice of the migrant industrial workers towards COVID-19 and vaccination post lockdown. Data collection was performed in person using pen and paper method and the call for participation was evoked with the help of the industries involved. The final version of the questionnaire had 25 items with 7 items in demographic details, 3 items about Migration process and reasons, 5 items in Knowledge section, 5 items in Attitude section, and 5 items in Practice section of the questionnaire.

### **Ethical approach**

The study protocol, procedures, questionnaire and the participant's consent was obtained ethically. For the participants who willingly consented, the questionnaire was detailed in their language with the help of the interpreter if necessary and the answers for questionnaire were obtained.

### **Participant's recruitment procedure**

The present study was conducted during the month of July and August. Out of the 5040 migrant industrial workers available in Thoothukudi during that period, the target sample size was set at 4% reaching out to 200. As it was not possible to conduct a state – wide or nation – wide sampling procedure amidst this pandemic period, the researcher confined to the city of Thoothukudi. Due precautions were taken during the course of the survey and all standard operating procedure as stipulated by the government were strictly adhered to. Members of the migrant industrial workers community residing in Thoothukudi were eligible to participate in the survey. The researcher utilized the available strategies to reach as many respondents as possible throughout Thoothukudi during the data collection period. The strategies include relying on both the professional and personal networks of the researchers, reaching out to industrial heads, and fellow migrant industrial workers to inform and share the survey. A standardised general description about the present study was initially given to the participants before handing them the questionnaire. The questionnaire was provided in English and if needed it was translated to Hindi to help them take part in the questionnaire. A total of 200 participants took part in the survey.

### **Knowledge, Attitude, and Practice towards COVID-19 and COVID – 19 vaccine post lockdown**

The questionnaire was designed and developed based on a literature review of previous studies conducted along with taking into consideration the discussions among health experts, authors and other researchers after analysing several in-depth interviews and following up of advice issued by from public health department and pandemic experts regarding COVID – 19 and COVID – 19 vaccines. The final version of the questionnaire had 25 items with 7 items in demographic details, 3 items about Migration process and reasons, 5 items in Knowledge section, 5 items in Attitude section, and 5 items in Practice section of the questionnaire. Each correct answer was given a point toward the final score of each section. Supplementary file of the final version of

the questionnaire and survey along with the correct answers along with scoring is scored.

### **Knowledge towards COVID-19 and COVID – 19 vaccine post lockdown**

The knowledge of the migrant industrial workers towards COVID-19 and COVID – 19 vaccine post lockdown was accessed through 5 questions – Question 11 - Can the COVID-19 vaccine protect you from getting COVID-19? Questioned the participants knowledge regarding COVID – 19 vaccine. Question 12 - Is there a chance to get infected with COVID-19 even after taking the COVID-19 vaccine? accessed the participants knowledge on post vaccination, Question 13 - Can COVID-19 vaccine be given to a person with a history of COVID-19? raised the query whether vaccination can be given for those who had already been affected and recovered from COVID – 19, Question 14 - Can COVID19 vaccine be given to a person suffering from COVID-19? Tested whether vaccine can be given to one who is an active case of COVID – 19, and the final question of the Knowledge assessment study, Question 15 - Are fever, slight swelling, and redness at the injection site the side effects of the COVID-19 vaccine? Asserted the symptoms of COVID – 19 vaccination. It was a multiple - choice questionnaire and the correct option ‘Yes’ was awarded 1 point, while ‘No’ and ‘No Opinion’ was awarded 0 point. No opinion was clubbed with No to identify unawareness regarding COVID – 19 vaccine. The knowledge score sheet varied between 0 to 5 marks and it was graded as Low for a score of 0 or 1, Medium for the score of 2 or 3, and High for the score of 4 or 5. Based on the Knowledge scorecard, the participants were assessed categorically according to the industry they are working, home - state, age group, gender, marital status and educational qualification.

### **Attitude towards COVID-19 and COVID – 19 vaccine post lockdown**

The attitude of the migrant industrial workers towards COVID-19 and COVID – 19 vaccine post lockdown was accessed through 5 questions – Question 16 to Question 20. Question 16 - Is the COVID-19 vaccine safe? Questioned the participants attitude towards COVID – 19 vaccine. Question 17 - I am willing to take COVID – 19 vaccine - accessed the participants willingness about taking COVID – 19 vaccine, Question 18. I will recommend my family members to take COVID – 19 vaccine was to assess the attitude of the participants towards how safe they regarded COVID – 19 vaccine to the extent of recommending it to family members, Question 19 - What affected you the most during COVID-19 lockdown? Assessed how and what affected them the most during the Lockdown when mass exodus of the migrant industrial workers happened. The final question of the Attitude assessment study, Question 20 - Can you handle another lockdown?, checked their attitude towards another lockdown if imposed in future. The study was a multiple - choice questionnaire and the correct option ‘Yes’ was awarded 2 point, ‘No Opinion’ was awarded 1 point and ‘No’ was awarded 0 point. The Attitude score sheet varied between 0 to 10 marks and it was graded as Low for a score of 0 to 4, Medium for the score of 5 to 7, and High for the score of 8 to 10. Based on the Attitude scorecard, the participants were assessed categorically according to the industry they are working, home - state, age group, gender, marital status and educational qualification.

### **Practices towards COVID-19 and COVID – 19 vaccine post lockdown**

The practices of the migrant industrial workers was accessed through 5 questions – Question 21 - It is my opinion that there exists carelessness regarding COVID-19 disease in

society, questions on the participants practice on whether there exists carelessness with regards to COVID – 19 in the society. Question 22 - In order to prevent contracting and spreading COVID-19, I use face mask, sanitisers, disinfectant and solutions and follow protocol at workplace, questions whether the participant practise government laid protocols at workplace, Question 23 - In order to prevent contracting and spreading COVID-19, I use face mask, sanitisers, disinfectant and solutions and follow protocol at public – places, raises the issue whether the participants practise government laid protocols at public – places, Question 24 - In order to prevent contracting and spreading COVID-19, I eat healthy diet and follow healthy lifestyle, questions whether the participants follow a healthy lifestyle practices to prevent contracting and spreading COVID-19, and the final question of the Practise assessment study, Question 25 - In order to prevent contracting and spreading COVID-19, I am ready to face the hardships of lockdown or any other safety measures if imposed, asserts the participants readiness to face hardships if any that may arise in future if the global COVID – 19 pandemic continues to exist. The survey was a multiple - choice questionnaire and the correct option ‘Yes’ was awarded 2 point, ‘No Opinion’ was awarded 1 point and ‘No’ was awarded 0 point. The Attitude score sheet varied between 0 to 10 marks and it was graded as Low for a score of 0 to 4, Medium for the score of 5 to 7, and High for the score of 8 to 10. Based on the Practise scorecard, the participants were assessed categorically according to the industry they are working, home - state, age group, gender, marital status and educational qualification.

Based on the present study design, the current KAP survey post lockdown towards COVID – 19 and COVID – 19 Vaccine among migrant industrial workers in Thoothukudi, Tamilnadu has produced a data set that can be utilised to discover knowledge gaps, cultural attitudes, and behavioural patterns that can assist plan and implement interventions by identifying needs, issues, and impediments.

## **Data collection**

The designed paper - based survey was circulated amongst the migrant industrial workers in Thoothukudi. The participants were elaborated on the purpose of the study, assured of confidentiality and requested voluntary willingness.

## **Analysis**

The collected data was sorted and analysed categorically according to the industry they are working, home - state, age group, gender, marital status and educational qualification to evaluate correlation among the samples with respect to their Knowledge, Attitude and Practice post lockdown towards COVID – 19 and COVID – 19 Vaccine. The statistical analysis was done using IBM SPSS Software Version 28.0.0.0(190). The answers were scored and graded as low, medium and high. A statistical study on the Mean value was done to find out the Knowledge, Attitude and Practises post lockdown towards COVID – 19 and COVID – 19 Vaccine among migrant industrial workers in Thoothukudi, Tamilnadu which was graded accordingly to find out the relation of the Dependent Variable of the study – Knowledge Score, Attitude Score and Practise Score with relation to the Independent Variables of the current study – Type of Industry, Home – State, Age – group, Gender, Marital status and Educational Qualification.



## Findings

The findings of the study are correlated and is tabulated as follows:

S.NO	Case study	Overall Knowledge	Overall Attitude	Overall Practices
1	KAP of Migrant Industrial workers in Thoothukudi	Medium	High	Medium

S.No	Category	Knowledge		Attitude		Practices	
		Highest	Lowest	Highest	Lowest	Highest	Lowest
1	Type of Industry presently working at	Food Industry	Seafood Industry	Seafood Industry	Other	Food Industry	Other
2	Home - state	Punjab	Delhi, Manipur	Manipur, Delhi	Gujarat	Manipur	Madhya Pradesh
3	Age Group	18 – 20 years	Above 40 years	21 – 25 years	36 – 40 years	Above 40 years	36 – 40 years
4	Gender	Female	Male	Female	Male	Female	Male
5	Marital Status	Single	Married	Widow / Widower	Married	Widow / Widower	Married
6	Educational Qualification	Below 8th standard	12 <sup>th</sup> standard	Below 8 <sup>th</sup> standard	10 <sup>th</sup> standard	Below 8 <sup>th</sup> standard	Polytechnic /ITI/Diploma

Table – Findings of the Present Study

## Scope for Future Study

In the process of this research, the researcher has come across certain areas that are open for future investigation. Further researches can be done by doing a KAP study on non – migrant

industrial workers, workers of specific industries, the general public's KAP towards COVID – 19 post lockdown. Also, separate studies can be done to find out the reason for the current level of KAP in different group like school students, college students, bank employees, house wives, house maids and various other sector of people. A KAP study can be done on different diseases to bring a health consciousness and awareness among the general public.

The researcher wishes to sum up on the note that this research paper entitled '**Survey on Knowledge, Attitude and Practice post lockdown towards COVID – 19 and COVID – 19 Vaccine among migrant industrial workers in Thoothukudi, Tamilnadu**' be deemed as a point of reference for the further researches that would aid in developing policies and strategies to combat COVID – 19 or any other pandemic diseases that might endanger mankind in future. To conclude the researcher is positive that the current research provides new dimensions in the research development aimed at helping the society in it's fight for survival.

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