

**KNOWLEDGE, ATTITUDE AND PRACTICES  
TOWARD COVID-19 AMONG SLUM DWELLERS  
IN DISTRICT LAYYAH PUNJAB PAKISTAN**



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## **Abstract**

*Coronavirus disease now spreading all over the world, many strategies are not possible to the same degree in developing or underdeveloped countries and especially not in slum settings or informal settlements because of mixture of a population density and lesser information about pandemic. Public cohesion is influenced by their knowledge, attitudes and practices toward COVID-19 during pandemic. This is a cross sectional study using data collected via self-reported questionnaire from 150 respondents from district Layyah including both urban and rural slum dwellers. Knowledge gap theory was opted for this research, this theory shows the knowledge gap due to social interaction and surroundings. Due to a worsening health system and spread of misinformation about COVID-19, slum dwellers held lower knowledge scores toward pandemic. Due to illiteracy, slum dwellers held negative attitudes and continued their routine activities without following SOPs. Findings of the study suggest that targeted interventions about health education should be directed to lower income groups, less educated dwellers and especially men. For example, knowledge about COVID-19 may enhance significantly if health education programs are specially focused at men.*

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## **List of Abbreviations**

<b>CDC</b>	<b>Centers for Disease Control</b>
<b>COVID-19</b>	<b>Coronavirus Disease 2019</b>
<b>CT</b>	<b>Computerized Tomography</b>
<b>KAP</b>	<b>Knowledge, Attitude and Practices</b>
<b>MERS</b>	<b>Middle East Respiratory Syndrome</b>
<b>NGO</b>	<b>Non-Governmental Organization</b>
<b>RDPI</b>	<b>Rural Development and Policy Institute</b>
<b>RNA</b>	<b>Ribonucleic Acid</b>
<b>SARS</b>	<b>Severe Acute Respiratory Syndrome</b>
<b>SDGs</b>	<b>Sustainable Development Goals</b>
<b>SOPs</b>	<b>Standard Operating Procedures</b>

**Chapter No. 1**  
**INTRODUCTION**

Slums are distinguished by inadequate social services, execrable living conditions, coupled with several communicable diseases, poor infrastructure with poor land use planning and unprotected environmental hazard and natural disaster. In other words, slum refers to unsettled or informal areas suffering from problems of insufficient infrastructure, absence of open streets and vacant land, high residential densities, narrow streets and lack of accessibility. Besides, dwellers are living in those areas where electricity, ventilation, sewerage and drinking water facilities are absent and create new problems like high incidence of crime, unemployment pollution, transportation, proliferation of shanty towns and service supply problems and all houses made of poor construction materials. The overall housing quality of slums in terms of structural conditions and residential density all assumed critical situations. Slums provide an informal labor market, paid with low wage, insecurity and uncertainty of working hours. The health condition in the Third World in poor communities is alarming as hundreds of children die every day from preventable disease related to inadequate provision of sanitation and water (Alamgir 2009).

The *Global Report on Human Settlements (2003)* was mainly focused on the living conditions of most of the poor people. The main argument of the report is how the poor people struggle to survive in the slum settings through informal shelter and informal income-generation strategies, and the inadequacy of both market and public responses to the plight of poor settlements. But the report is also about building on the base of poor's survival strategies and what needs to be done by both non-governmental and public sectors. Efforts to improve the living standards of slum dwellers (mainly within developing countries) have been incoherent over the last decade and have peaked during the 1980s. Recently, renewed concern about poverty led governments to adopt a specific target on slums in the United Nations Millennium Declaration aimed to significantly improve the living conditions of at least 100 million slum dwellers by the year of 2020. Furthermore, the report explores that slums are facing two

main challenges at the beginning of the new millennium: expeditious urbanization and the urbanization of poverty. Slums settings have the highest concentrations of worst shelter, poor people and unpleasant environmental conditions. In addition, the total number of slum dwellers in the world stood at 924 million in 2001 and 78% of the population in underdeveloped countries were slum dwellers. This statistic shows about 32% of the world's total population settled in slum settings. This report explores that most slums dwellers have the most intolerable housing conditions, which frequently include unsafe building structures, insecurity tenure, overcrowding and location on hazardous land.

Khan et al. (2015) also claimed that many past responses to the problem of slum dwellers have been based on belief that providing the improved housing and services through slum upgrading and physical eradication of slums will, on their own, solve the slum problems. The growing inequality in living conditions of slum dwellers may lead to increased political and social instability. With the proper strategy for employment and growth of slums, this can give rise to job creation and thus absorb surplus labor force in the agricultural sector. Many governments in underdeveloped countries admit their inability to make improvements in the housing needs of their people, focusing on low-income groups through government public housing schemes in the mid-1970s. Some Governments and NGO (Non-Governmental Organizations), have been working for many years to improve the living standards of slum dwellers but the results are minimal.

More than half of the world population lives in urban settings, a billion of whom live in informal areas, often referred to as slum settlements in the countries of the South. Slums and their carious living standards have long been a topic of public and academic debates. But, of principal interest here was the desire to eradicate the slums. Recently, slums are discussed from different perspectives and in different ways, but it has become acknowledged that the global number

of slum dwellers and the slums is so big that there is no chance to overcome the slum phenomenon. The discussion on the world's slums has begun to upgrade informal settlements with the objective of bringing to normal, official cities and how this can be achieved. Slum settings have high concentrations of economic and social deprivation, that leads toward broken families, social and physical, unemployment and economic exclusion. Slum dwellers have limited access to markets job due to discrimination, stigmatization and geographic isolation and often recipients of noxious waste and industrial effluent and the only land accessible to slum dwellers is often polluted, dangerous or fragile – land that no one else wants. Slum's women and children are the greatest victims of water-borne disease such as cholera and typhoid (Rashid 2007).

COVID-19 (Coronavirus Disease 2019), is an infectious disease belonging to the virus family known as Coronavirus. It was first emerged in December 2019 in Wuhan and spread all over the world resulting in the ongoing 2019-20 Coronavirus pandemic. The patients of COVID-19 present with different symptoms from asymptomatic to clinical conditions like suffering from fever, dry cough, difficulty breathing, malaise and dyspnea. Chest CT (Computerized Tomography) scans, showed pneumonia in all cases. COVID-19 also causes disease like MERS (Middle East Respiratory Syndrome), and SARS (Severe Acute Respiratory Syndrome). The WHO (World Health Organization), was notified by the Chinese Health Authorities about COVID-19. On 30 January 2020, WHO declared COVID-19 a public health emergency of international concern. The novel virus has spread to more than 180 countries and has been declared a pandemic by WHO on 11 March 2020 (WHO 2020).

Trubiano et al. (2020) argued that there is no specific vaccine or treatment available for COVID-19 and health care providers suggest supportive care can be highly beneficial for the patients suffering from COVID-19 symptoms. Transmission of COVID-19 believed to occur through respiratory droplets from sneezing and coughing. General safety measures for the prevention of COVID-

19 pandemic include washing hands minimum for 20 seconds with soap, use of hand sanitizer, avoiding touching the eyes, nose and mouth especially if hands are dirty or unwashed. Also, avoiding contact with infected people is important for disease prevention. The commitment of Pakistanis to control the spread and to win the battle against viral infection, which depends on people's KAP (Knowledge, Attitudes, and Practices). Lockdown measures were perceived as important to cope with the spread of virus because it has transmitted through human interaction with others. The battle against COVID-19 is continuing in different countries. To guarantee full success, people's compliance is essential to control measures which are largely affected by KAP toward COVID-19. Lessons learned from the previous virus SARS in 2003, suggest that KAP toward infectious disease are directly associated with the level of scare emotion among the population.

Islam (2020) stated that the narrow houses and public areas of slum dwellers are duct for COVID-19 that depend on physical intimacy to spread. Moreover, daily earners have not open access to social welfare, the consequences of not working outside is an effort to maintain social distance that would almost lead to their families under starvation. So, at the same time dwellers of slums at high rate of COVID-19 and meanwhile, suffered from risk of hunger, both are wrapped in trauma. Slum settings are particularly sensitive for a novel disease COVID-19, because inadequate personal hygiene, lack of pure drinking water and poor living conditions enhance the transmission of coronavirus. However, slum dwellers are poor and engaged in daily wage occupations and go out every day for their livelihood even during lockdown.

### **1.1 Statement of the Problem**

Slum areas or informal settlements are emerging hotspots for COVID-19. Dwellers suffer from problems of narrow streets, lack of accessibility, absence of open spaces, poor health status, unhealthy environment, and insufficient source of income. Social life of slum dwellers is pathetic and miserable because

they are deprived of employment, education and other basic facilities. They are alienated and separated from the mainstream of society and far from modernization. So, it is important to know how dwellers are surviving in a pandemic situation and what their awareness level is toward COVID-19. This awareness level would be helpful for making new preventive strategies to control viral infection.

## **1.2 Research Questions**

What is the knowledge, attitude and practices of slum dwellers toward COVID-19?

## **1.3 Objectives of the Study**

1. To study the knowledge of the slum dwellers toward COVID-19.
2. To know the attitudes of slum dwellers toward COVID-19.
3. To explore the practices of slum dwellers in response to tackle the COVID-19 problem.
4. To provide better insight to address poor knowledge about disease for the development of preventive strategies.

## **1.4 Significance of the Study**

During the current situation of COVID-19, it spreads almost all over the world, WHO warns that there is no proper medicine to prevent people from pandemic. So, everyone should follow safety precautions if we want to control the pandemic. Elite class people can prevent themselves from COVID-19 staying at homes. But it is necessary to know about safety levels among slum dwellers to keep themselves protective. Because they work outside their home and meet different kinds of people. The government information campaign depends on what people know and perceive about COVID-19. Therefore, it will be of great



importance to educate people about diseases and possible options to treat it. Before starting the process of creating awareness in any community, it is necessary to measure the awareness level of those community's people. Conducting a KAP survey can best do this. KAP research tells us what people know about any topic, how they feel and how they behave in a certain way. There is no systematic study of slum dwellers experiences to date. So, this research would be helpful for installing effective control measures. This research provides data about KAP which help in the prevention, control of disease and guiding the need for further interventions made by the government.

**Chapter No. 2**

**REVIEW OF THE RELEVANT LITERATURE**

## 2.1 Understanding Slums

Ezeh et al. (2017) described that slums are characterized by small informal settings, high population density, lack of access to clean water, shared sanitation facilities among multiple slum dwellers, multi-generational household, transient residence and poor health outcomes related to both deficient environmental conditions and inability to pay for medical care. Slum dwellers have a higher overall mortality rate, and the population is vulnerable to economic shocks, as most residents rely on income from the informal or private sector. Similarly, UN-Habitat (2004) report has also discussed that ‘slum’ is ‘a heavily populated area characterized by squalor, high densities and low standards of housing (services and structure). Moreover, slum includes traditional meaning- that is, housing that was once desirable, but which have since deteriorated as the original dwellers have moved to new and better areas of cities. The condition of old houses has then declined, and the units were subdivided and rented out to lower-income people.

‘Slum’ was first used in 1820, to identify the most unsanitary conditions and poorest quality housing; including marginal activities such as crime, drug abuse and a source for many epidemics that destroy urban areas. During the 19<sup>th</sup> century, the word appeared in written language in quotation marks as ‘black-slum(s)’. At the end of the 19th century, slum meant alley, street or court situated in crowded districts and inhabited by lower class groups.

Cities Alliance Action Plan (2006) report described slums as ‘neglected parts of cities where living conditions and housing are poor, squatter settlements without legal rights or recognition, sprawling at the edge of cities. Slums have various names, bidonvilles, favelas, tugurios and kampungs, and share the same miserable living conditions. According to generic definition, slum is a settlement where inhabitants have inadequate housing and basic services. Slums are often not addressed or recognized by public authorities as an integral or equal part of a city.

Moreover, Collins English Dictionary defines slums as an area of the city where houses are in bad condition, where living conditions are very bad and usually a heavily populated area overwhelmed by poor housing and poverty. According to the UN-HABITAT definition, slums are a group of people that live together and lack access to durability of dwelling or structural quality, water, sanitation and sufficient space that is not overcrowded. New Oxford Dictionary of English defines “overcrowded or squalid urban streets inhabited by poor people” and “a building unfit for human habitation”. Similarly, The Oxford Dictionary of Geography defines slum as an “area of poor housing, characterized by overcrowding, multioccupancy and poverty. Items sold in a slum’s market are more expensive than those sold in marts and supermarkets. Schools are poor and a slum population exhibits high concentrations of drug abuse, criminals and vandals”.

Furthermore, the online edition of Encyclopedia Britannica uses the same language “a densely populated area of substandard housing, characterized by social disorganization and unsanitary conditions”. On the other hand, development of informal settlement mostly leads to worsen urban architectural situations whereby formal city and the slums have little similarity with outward appearance of slums. From outside, numerous slums are indistinguishable from conventional forms of settlements. Slum dwellings provide less than adequate flood, rain and lack of public transport also leads to exclusion from regular jobs in the formal sector.

According to the UN-Habitat (2003) report, lacking one or more indicators like durable housing structure, access to improved sanitation, enough living space, clean water and secure tenure; the last one is most difficult to access and is not currently used in slum measurement. A survey conducted in 1990s by Thailand’s National Housing Security, describes that tenure insecurity featured among the top concerns for slum dwellers.

## **2.2 Background of slums in Worldwide**

Increasing numbers of slums is a major challenge to development. According to the Global Monitoring Report, urban poverty in developing countries has decreased from 39 to 33 percent during the last ten years. On the other hand, urban poverty is on the rise because of the increasing world population. While, slum dwellers in developing countries had increased from 657 million 1990 to 767 million in 2000.

According to a UN DESA (2013) report, more than half of the world's population will soon be city dwellers, in one form or another. Small-scale settlements that have been dispersed, spread across the country are no longer residents to most of mankind. Urbanization is increasing at a rapid pace in low income countries. Dhaka is estimated to grow to 50 million by 2015 with 21 million living in urban slum areas. About 1 billion people currently live in slum areas, approximately a third part of the world's urban population and this could increase to 3 billion by 2050. During the last two decades, the world's population living in towns and cities has grown from 5 percent to more than 50 percent. The process of rapid urbanization, which started in North America and Europe after the Industrial Revolution in the late 18th century, was accompanied by the development of large slums including Gorbals in Glasgow, La Chapelle in Paris and Khitrov in Moscow, Russia. Over the past 50 years has seen a major urban growth in low-income and middle-income countries characterized by sprawling slums that are now home to more than half of the population in cities such as Nairobi, Kenya, and Mexico City. Approximately, 881 million people lived in slums of developing countries in 2014, an increase from 689 million in 1990.

On the other hand, UN-Habitat (2016) report estimated that 8.1 billion people will live in urban areas, while 2 billion will live in Slum areas mainly in Africa and Asia. The number of people living in slums is increasing high in Africa, southern and southeast Asia. Most of this growth will live in smaller cities

where urbanization continues without proper planning or designing of infrastructure.

Bristol (2008) revealed that prior to the 19th century, poor and rich people lived together in the same place or area. But in the 19th century, financially strong people started to live in cities and well settled areas, leaving poor people behind. Slums are also linked with Victorian Britain in English industrial areas, Dublin city in Ireland and lowland Scottish towns. These were settled there until the 1940s, when the British started to destroy slums and build new houses.

### **2.2.1 Background of slums in developed countries**

In America, slums are usually located in urban areas. While in other countries, slums can be in suburban areas where living conditions are poor and housing quality is low. Slums differ in size and other characteristics, law enforcement, supply water, reliable electricity and other basic facilities. Due to increasing population growth, slums became common in the 18th to late 20th century in Europe and the United States.

Suttles (1968) explored that New York City created the first slum, named Five Points in 1825, developed into a large urban settlement. Five Points was named for a lake named Collect which by the late 1700s was surrounded by tanneries and slaughterhouses. Five Points was occupied by slaves, Irish, then Italian, then Chinese and immigrants. It housed the poor, people leaving rural areas for seeking opportunity. Five Points were a common place for violence and crimes. Social elite and Politicians discussed it with derision. In the starting of the 21st century, Five Point slum has been reshaped in Little Italy and Chinatown neighborhoods of New York City. However, slums were found in major regions of the United States and most of these slums had been ignored by the states which encompassed them until the War on Poverty was undertaken by the Federal government of the United States in 1960.

Shapiro (1985) described that in the United Kingdom, slum housing has been removed by government initiative and replaced with better housing. In the first half of the 20th century, informal settlements were widespread in Paris. In 1832, the Cholera epidemic triggered a political debate and demonstrated the connection between slums, poor health and poverty. In 1849, The Melun Act passed and then renewed in 1851, followed by Paris Communication establishment on unhealthful Dwellings in 1852 began the social process of slum inside housing, but did not replace slums. After the second World War, people started mass migration from rural to urban areas of France. This demographic trend rapidly expanded slums and raised rents of existing housing. French government passed a law to block the increase in the rent of housing, which made many housing projects unprofitable and increased slum areas.

### **2.2.2 Background of slums in developing countries**

According to the World's Cities (2016) report, 33 percent of urban population in developing countries in 2012, or 863 million people lived in slum areas. The proportion of urban population living in slums was highest in Sub-Saharan Africa (62%) while the largest slum city in the world is found in Neza-Chalco-Ixtapaluca area, located in Mexico. Slums grow and form in different parts of the world for many reasons including higher rate of unemployment, informal economy, poverty, poor planning, social conflicts and natural disaster.

According to a UN (2015) report, in SDGs (Sustainable Development Goals), goal 11 aims to make cities and human settlement safe, resilient, inclusive and sustainable with its first target seeking to ensure access to affordable housing and basic services and upgrade slums. Projections suggest that historical trends on slum growth in Sub-Saharan Africa, will need to have any chance of meeting the SDG target on access to adequate housing services.

Molina (2015) described that slums themselves differ from each other not just economically, but socially which illustrated with respect to crime where some slums have dominated by criminal gangs as in Rio de Janeiro, Brazil, Caracas

and Venezuela while some slums have lower crime rates like Surabaya in Indonesia and Kumasi in Ghana.

Hossain (2005) discussed that the conditions of slums in India compared the conditions prevailing in rural and urban slum areas. Literacy rate in rural areas is higher than the slums in Delhi, Goa and Kerala. On the other hand, poorer areas like Rajasthan, Bihar and Madhya Pradesh, literacy rate was higher than rural areas. The study found that slum areas look like rural areas in some respects and opposite in other aspects. The slum population has been increasing continuously in Bangladesh over the last three decades. But slum facilities are very unsatisfactory due to lack of basic facilities like water supply and sanitation system. As a result, most of the slum population suffer from different kinds of diseases that aggravate their poverty system. Migrants came to the city with better expectations about job and income, but their present incomes did not differ too much from their pre-migration income due to lack of resources.

### **2.3 Living conditions of slum dwellers**

Khan et al. (2015) explains that slums located in low lying environmentally areas coupled with insufficient facilities like sanitation, food, high rates of malnutrition and exposure to violence. In other words, informal settings suffer from problems of narrow streets, lack of accessibility, absence of open spaces, poor health status, unhealthy environment, and insufficient source of income. Social life of slum dwellers is pathetic and miserable because they are deprived of employment, education and other basic facilities. They are alienated and separated from the mainstream of society and far from modernization. Study shows that food security and living conditions of slum dwellers were considerably poor. Socio-economic status can be characterized by a low-income group with poor physical environment and inadequate education has common phenomenon in slum areas. Therefore, prevalence of disease among children's living in slum areas leading towards an unhealthy environment. Majority of them can't afford quality food which was expensive to them. Socio-



economic factors like education, expenditure and income were influencing food security in slum areas. The study empirically proved that socio-economic factors hit the living conditions of slum dwellers.

Rashid (2007) explored study about married women in slum areas of Dhaka and Mirpur. Results show that 83 percent women did not work outside the home due to husband's disapproval, family prestige and pardah, as the reasons. However, the increasing rate of hunger and poverty means that poor married women are not willing to work outside the home due to cultural restrictions, nearly 3 percent worked as domestic servants and 10 percent worked in garment factories. While many of them were involved in income generating activities inside their homes such as embroidery and sewing.

A survey conducted by the Centre of Urban Studies, covering all of Dhaka's slums reveals the life of slum dwellers. Finding shows that slum houses consist of a single room and just 75-100 square feet in size. High population density, very poor ecosystem and low socioeconomic status were nearly everywhere-present characteristics. Flooding and a poor drainage system also affected most slums. Cooking gas, lack of electricity, tap water, garbage collection and a need to share water sources with many other households affected minorities of slums. According to Nakagiri et al. (2015) facilities are inappropriate in crowded slum areas. Author found that only 40 percent of the slum population of Sub-Saharan Africa had improved sanitation, and 33 percent had piped water in their houses. Gastrointestinal infections are highly prevalent in slum dwellers and children younger than 5 years are especially at risk. Slum dwellers perceive sanitation and clean water as their most important need. Slum life might protect from polio virus because the virus is likely to be contracted at an early age in slum areas. Poor houses and collection of rubbish provide breeding grounds for parasites and leptospirosis, resulting from persistence of bacteria in mud and surface water.

Cooper, Rodrigues and Barreto (2012) claimed trauma accounts for 10% of deaths and this proportion is increasing. Studies show that more than 50% of deaths in younger than 35 years, 110 injuries accounted for 22% of deaths in adults, and 69% of deaths in young men aged 15 to 19 years. The social environment differs greatly across slums and crime and injury rates. Pediatricians are more frequent in slums than in non-slum areas because of cooking methods. Neuropsychiatric disorders are a leading cause of years of life lost to early death, disability or ill health. Working and living conditions in slums lead to stress and psychological disorders. Slum areas have more emotional and behavioral problems than children living in non-slum or urban areas. Indoor cooking is a cause of respiratory disease in slum dwellers leading to a high prevalence of non-atopic asthma.

Parks (2013) revealed that despite enormous variations across slum areas, issues of slum settings lead to extremely poor health and low level of human capital. In Sierra Leone, a country in West Africa whose slums routinely suffered from cholera outbreaks, children under five year living in slums have significantly lower weight for age and that's why life expectancy is lower and infant mortality higher among slum dwellers than urban settings. In developing economics, there are large investments to health improvement in child health and education. While, poor avenues and poor capital investment in slum households may therefore lack social mobility across generations. Slum dwellers find themselves trapped in a low-income equilibrium, low skilled as the continuous influx of rural migrants. Poverty generates health inequality, which in turn leads to deeper poverty creating a poverty trap or vicious cycle.

## **2.4 COVID-19 among Slum Dwellers**

COVID-19 is defined as illness caused by a novel coronavirus and now called SARS (Severe Acute Respiratory Syndrome) Coronavirus 2 (SARS-COV-2), which was first identified illness cases in Wuhan City, China. COVID-19 was initially reported to the WHO (World Health Organization) on December 31,

2019. The World Health Organization declared COVID-19 outbreak a global health emergency on January 30, 2020. While on March 11, 2020, WHO declared COVID-19 a global pandemic. According to the CDC (Centers for Disease Control) recommendation to the general public, even those without symptoms should begin wearing surgical face masks in public settings where social measures are difficult to maintain in order to prevent the spread of COVID-19.

The CDC weekly (2020) report explained that this situation could result in many patients requiring medical care treatment, resulting in an overloaded public health system and increasing rates of hospitalizations and deaths. COVID-19 ranged from asymptomatic or mild symptoms to severe illness and mortality. Symptoms may develop 2 days to 2 weeks to exposure. Symptoms of COVID-19 are cough, fever or chills, fatigue, body or muscle aches, difficulty breathing or shortness of breath, headache, congestion or runny nose, sore throat, diarrhea, nausea or vomiting and new loss of smell or taste. Other reported symptoms have included Malaise, sputum production and respiratory distress. The most common serious symptom of COVID-19 appears to be pneumonia. According to Merriam-webster, COVID-19 is transmitted chiefly by contact with respiratory droplets and is characterized especially by fever, cough and shortness of breath.

Van Doremalen et al. (2020) explored that COVID-19 spread primarily via respiratory droplets that are transmitted from person to person who are in close contact (with about 6 feet). Virus released during talking, coughing and sneezing can infect other people. WHO issued an update on July 9, 2020, stating that airborne transmission played a role in the spread of COVID-19, emphasizing the importance of masks and social distancing in prevention. One study found that SARS-COV-2 detectable up to 72 hours on the surface despite decreasing infectivity. Moreover, no COVID-19 was measured after 24 hours on cardboard and 4 hours on copper. In addition to high transmission of

COVID-19, the convenience of global travel could further ramp up worldwide spread.

Hamzelou (2020) report showed the stability of COVID-19 in different environmental conditions, and the report found that the virus was very susceptible to high heat (70 C). On treated smooth surfaces, virus became undetectable from glass by day 4 and from plastic and stainless steel by day 7. Detectable level of Coronavirus could still be present on the outer layer of the surgical mask on day 7. While contact with fomites is less significant than person to person transmission.

According to Riley et al. (2007) approximately one billion people that are living in slum settings are highly vulnerable to coronavirus pandemic because daily necessities such as sewers, waste collection, toilets and proper housing are already in short form. Furthermore, violence, space constraints and overcrowding in slum settlements make self-quarantine and physical distancing impractical. "Shelter in place is a luxury of the wealthy", in many slum settings, dwellers need to walk a long distance to collect water for home, while most dwellers also have no choice but to participate in an informal economy, which will disappear under lockdown. Residents of slums are also economically vulnerable during COVID-19, since most dwellers living in slums are informal workers, dwellers must show up to earn daily wages, and this daily income is used for subsistence.

Dahab et al. (2020) argued that informal settlements or slum areas are emerging hotspots for COVID-19. The challenges facing slum dwellers are not new, but during the COVID-19 pandemic, dwellers demand solutions more urgently than ever. Author expect that if COVID-19 pandemic enters the slum areas, dwellers could be much more vulnerable by pandemic due to various aspects: higher transmission rate of disease, higher infection and higher fatality rate. Moreover, informal settlements or slum areas are poorly prepared for COVID-19

pandemic. The Authors suggest that the population in slums provides special support in order to counter the risks associated with their living conditions.

#### **2.4.1 COVID-19 in developed countries**

According to Austrian et al. (2020), China indicates a large proportion of asymptomatic cases or mildly ill people may spread the disease. Many study participants reported concern about loss of income and shortage of food. This was reported as the main reason by respondents why 14 days' quarantine was not so feasible. Slum dwellers will spread more viruses if they continuously find income opportunities or employment requiring movement around slums. Author argued that half of households (50.3%) used shared water points located outside of the house, and (58.9%) reported using a toilet shared by multiple households. Moreover, fever and dry cough awareness as the top two symptoms of COVID-19 was high, with 86% of respondents correctly identifying cough and (77%) fever. However, awareness was higher with increasing education; for example, (55%) of those with no formal education compared with (81%) of those with higher education listed fever.

Zhong et al. (2020) tried to explore knowledge, attitudes and practices towards COVID-19 among Chinese people during the rise of COVID-19 pandemic. This study found that (90%) respondents are knowledgeable about COVID-19. In addition, most of the respondents held an optimistic attitude about COVID-19. (97.1%) participants had confidence that China could win the battle against Pandemic. Instead of this attitude, the practices of Chinese are very effective, approximately (96.4%) avoided commercial places and wore masks when going outside their home. In short, findings suggest that participants have had good knowledge, optimistic attitudes and appropriate practices towards COVID-19. According to Lihua et al. (2020) research among Chinese rural residents, the score for knowledge, attitudes and practices were (65.5%), (84.7%) and (65.3%) respectively. In addition, (78%) rural residents think that their family members may be infected. The overall knowledge and practices of respondents

are at medium level, and attitudes are at high level. Residents with poor economic conditions pay not much attention to their health and suffer from chronic disease. Rural residents who had experienced SARS had higher knowledge scores than those who had not experienced SARS because SARS is similar to COVID-19 and both are infectious. Effective risk communication among residents, understanding of knowledge, attitudes and practices of people are very important to reduce the panic and stressed mentality caused by COVID-19 pandemic.

Clements (2020) claimed that every point increase in knowledge among individuals, the odds of purchasing goods and attending large gatherings decrease step by step. Answers for questions ranged from over half (80%) participants answering correctly, which was lower than the (90%) correct rate that Zhong et al. (2020) reported in their research. Regarding practices, participants have increasing knowledge every point, the odds of wearing masks outside decreased by (12%), (13%) and (44%) respectively.

#### **2.4.2 COVID-19 in developing countries**

George et al. (2019) has also discussed that COVID-19 now spreading all over the world, many strategies might not be possible to the same degree in developing or underdeveloped countries, and especially not in slum settings or informal settlements because of the mixture of population density and limited infrastructure. Slums settlements of India are overcrowded, suffered by poverty, bad social conditions, hazardous environment, and characterized “unfit for human habitation”. The hazardous conditions of slum areas have been aggravated by global spread of COVID-19 pandemic. Maintaining social distancing works correctly in theory than it does in practice when it comes to poor people in slum areas.

The level of knowledge and practices about safety precaution has been found low among Korail slum dwellers. The study revealed that literacy, poverty and income have had an impact on the morbidity of slum dwellers. The sanitary

system and water supply condition are improving very slowly. Slum dwellers can face higher infection rates compared to non-slum communities; a study of New Delhi demonstrated that even with social distancing measures and vaccination, slum populations would experience 44% higher rates of influenza. According to WHO (2020) report, there are concerns around misinformation that may delay public health responses. WHO Director said, “We are not fighting only with COVID-19 pandemic but also we are fighting an infodemic”. Though the COVID-19 virus is not so much dangerous compared to the previous viruses, individuals with comorbidities have been highly vulnerable. Due to unavailability of vaccines for treatment, the only way is prevention of the virus through self-isolation, social distancing and quarantine.

Austrian et al. (2020) explored knowledge, attitudes and practices towards COVID-19 among informal settings of Nairobi city, Kenya. Slums are poorly capable of COVID-19 pandemic, and most of them are susceptible for transmission as well as unpleasant effects on economy and health. 1 out of 3 participants felt that they were at high risk of COVID-19. Almost, all respondents report that they are already practicing safety precautions including hand washing, use of sanitizer and staying at home. Results show that few participants reported that if they were infected, they transmit the virus to other people.

Similarly, Banda et al. (2020) explored knowledge, attitudes and practices towards COVID-19 in Malawi. According to this research, instead of available information, participants had lower knowledge of patterns of SARS-COV-2 transmission. Their source of knowledge more frequently from relatives and health centers. While (50%) participants considered themselves at a low risk of acquiring COVID-19. The level of perceived risk of infection reported by participants appeared lower than in recent studies. Furthermore, in urban settings, respondents relying more on social media, newspaper and internet for obtaining information related to COVID-19 and only 1 in 8 participants

perceived themselves at high risk of COVID-19, whereas in recent studies in Nairobi slums, this proportion was high as 1 in 3. Due to knowledge gaps and inaccurate risk perceptions, the adoptive preventive behaviors were limited.

Lau et al. (2020) revealed KAP study among Filipinos to determine knowledge, attitude and practices toward COVID-19 during the early age of pandemic. At the time of survey, (54%) respondents said that their life had been disturbed by COVID-19 Pandemic. While (83%) indicated that they were worried about transmitting the virus. Study shows that (94%) respondents had already heard about COVID-19. Households showed a high degree of knowledge of transmission routes, but except for hand washing, they had limited knowledge about identification and adoption of other preventive practices. Social distancing and avoiding crowds were recognized (32%) as preventive measures. Those who identified a greater number of transmissions also adopted more preventive practices. About (65%) respondents show that they currently keep a distance from people with COVID-19 symptoms. But when framed as a potential preventive measure, only (32%) of respondents selected 'social distance' as an option. This association between knowledge and practices shows the importance of prompt and accurate public health communication.

Nuwagaba et al. (2020) explored KAP research among Katanga community residents. Finding shows that only (8.4%) of participants had good knowledge of hand hygiene. Participants above 35 year of age had poor knowledge of hand hygiene. While (29%) of the respondents had a good attitude to hand hygiene. Moreover, only (19.6%) were able to follow all seven steps of handwashing while (40%) followed less than three handwashing steps. The most common source of information on hand hygiene as a control measure for the spread of COVID-19 were (28%) Television and (38.7%) Social media.

Labban, Thallaj and Labban (2020) analyzed the awareness of COVID-19 among Syria residents. Study shows that knowledge about COVID-19 symptoms and daily preventive measures was good. While some of the



respondents had a very low level of knowledge about disease. The lowest level of awareness was in low income groups. Findings suggest that low income and lower levels of the education population have less awareness and practices toward pandemic.

Al-Hanawi et al. (2020) found a KAP survey among the public of Saudi Arabia. Finding shows that most of the respondents were knowledgeable about COVID-19. Results showed optimistic attitudes among residents and the practice score was also good. Moreover, COVID-19 knowledge score increases with income. For attitudes, there were no different patterns across income groups and with regards to practices, there was little variation between income groups. Study also find that men have less knowledge, attitudes and practices toward COVID-19 compared to women.

Hezima et al. (2020) revealed KAP research among Sudanese residents, the overall correct rate of knowledge was (78.2%) and approximately (67%) think that religious gatherings and major events should be cancelled to prevent from COVID-19 pandemic. While (58%) participants avoided shaking hands with others and (34.1%) wore masks at crowded places. Study revealed that Sudanese have incomplete knowledge and poor practices towards COVID-19. However, young people were more knowledgeable and had a positive attitude towards COVID-19.

Hussain et al. (2020) explored study among Nepalese residents to explore knowledge, attitudes and practices towards COVID-19. Result shows that 60 to 98 respondents answered correctly. Most of the participants had optimistic attitudes. Overall, 78% respondents were confident that COVID-19 will be controlled successfully. And 77% were confident that Nepal can win the battle against global pandemic. In addition, most of them took precautions to prevent from COVID-19. Respondents have good practices toward COVID-19. Unfortunately, only (5%) residents went to crowded places and (9%) did not wear masks when leaving homes.

Reuben et al. (2020) conducted a KAP survey in North-Central Nigeria to explore knowledge, attitudes and practices toward COVID-19. The current finding showed that almost the majority of the respondents had good knowledge and stated that social media and television were their major sources of knowledge. Moreover, respondents mentioned breathing difficulty as COVID-19 symptoms and reported a positive attitude. On the other hand, practices were followed by the majority of respondents.

Similarly, Hayat et al. (2020) critically analyze the knowledge, attitudes and practices of Pakistani people towards COVID-19. Results of the research revealed that the COVID-19 related knowledge of most respondents was good as (64%) answered most relevant to the questions correctly. Moreover, practices and attitudes toward COVID-19 were also good. As (74%) respondents believed that COVID-19 would be controlled successfully and Pakistan would be able to win the battle against pandemic, which shows reasonable attitudes toward COVID-19. On the other hand, most of the survey participants wore masks and avoided any crowded place. Despite this, (17.9%) participants had visited crowded places and this risky behavior was observed among male unmarried participants aged 16 to 29 years.

## **2.5 Assumptions**

1. Threat or risk of infection in both educated and uneducated people will not be zero.
2. Physical distancing, wearing a mask and washing hands are highly practiced measures in both of people (educated and uneducated).
3. Comprehensive education is required at micro-level in village slums rather than in cities where people are well aware about pandemic severity.
4. Health awareness programs must be helpful to increase dwellers knowledge and modify their practices to prevent the spread of pandemic.

**Chapter No. 3**  
**THEORETICAL FRAMEWORK**

### **3.1 Knowledge Gap Theory**

Knowledge gap theory was first introduced by Associate Professor of Journalism and Mass Communication Philip J Tichenor in 1970, then Professor of Sociology George A. Donohue and Clarice. N Olien, Instructor in Sociology, all three researchers in the University of Minnesota. According to these researchers, knowledge gap theory “is the infusion of social media information into a social system increases elite class people or higher socioeconomic status of peoples tend to gain or acquire information faster than poor class people or lower socioeconomic status of peoples. Hence, the gap in knowledge increases rather than decreases between these two classes. In simple words, the access to social media increases those particular classes of people gain information much faster and hence the gap increases with the poor class people. The world is yet to see the complete effect of newly emerged technologies but as the universe turns out more technological and expense rises, it goes out of the circle of poverty (Drew 2020).

### **3.2 Explanation of the Theory**

In this knowledge gap theory, knowledge is treated as a commodity which is not equally distributed in society and the people at the top of the ladder have easy access to it. When a new idea comes into society, it is seen that people of the elite class understand it better and hence the gap prevails. There are certain reasons that have been stated of why this gap of knowledge exists.

#### **3.2.1 Communication Skills**

People from higher socioeconomic classes acquire better education in communication skills than people from lower socioeconomic status. Better educated people statistically would have speaking skills, reading and writing skills, learned thinking skills and comprehension skills. Along with this reading, understanding skills also better and thus elite class people understand the issues of various aspects better. According to Tichenor, Donohue and Olien (1970:162), “People with more formal education would be expected to have the

higher reading and comprehension abilities necessary to acquire public affairs or science knowledge”.

### **3.2.2 Stored Information**

According to this theory, people who are more highly educated are likely to have more exposure to a topic in their past. This knowledge helps them when they understand any kind of topic. Textbooks, discussions and via classrooms, educated people are exposed to many topics as compared to less educated people. According to Tichenor, Donohue and Olien (1970:162), “Peoples who are already better informed are more likely to be aware of a topic when it appears in the media and are better prepared to understand it”.

### **3.2.3 Relevant Social Contact**

People with higher education have more social contact and integration than less educated people. These social contacts are more likely to share information that are also seen on social media. That’s why they have prior knowledge and experience on a topic which makes his understanding of public issues better than lower class peoples. According to Tichenor, Donohue and Olien (1970:162), “Elite class or high socioeconomic status people have a greater number of interpersonal contacts, which increase the likelihood of discussing public affairs topics with others”.

### **3.2.4 Selective Exposure**

In this selective exposure, the main argument is that people of different educational backgrounds or different socioeconomic backgrounds choose to consume media differently. An educated person knows well the use of medium while on the other hand, a person with less knowledge is unlikely to know it, less aware of the issue and less interested. For example, people will be more likely to engage in news relevant to their interests and hobbies. The differences in our priorities and habits will cause gaps in what we believe and what we know. According to Tichenor, Donohue and Olien (1970:162), “A persistent

theme in social media research is the tendency to recall and interpret the information in ways congruent with existing beliefs and values”.

### **3.2.5 Media Target Markets**

For every news, commodity and product, a certain segment or class is targeted, and it is the higher elite class of the society that is targeted, and the lower class remains unaware. Different media have different target markets. With such a huge amount of different media with their own target markets, the gap is growing day by day in the era of new media. According to Tichenor, Donohue and Olien (1970:162), “Print media are geared to the tastes and interests of this higher-status segment”.

As a result, the knowledge gap widens, and the elite class people gain the benefits more. If the information services are not equal for the whole society, this information gap will increase over the years.

### **3.3 Application of Theory**

Layyah is a district in Punjab, Pakistan. It is situated within the south-west geographic area. Paradoxically, it is a mixture of 2 magnificent extremes: The Indus River and the Thal Desert. District Layyah consists of basically 3 tehsils including Karor Lal Esan, Chaubara and Layyah. In the north of the district of Layyah, district Bhakkar lies whereas its west flows brook Indus. Across the brook, there is a Dera Ghazi Khan that is a division and a section of geographic area. Muzaffargarh is located in the south and district Jhang is found in the east of district Layyah. According to the district census 2015, average literacy rate of district Layyah is (39%) which is low compared to the national and provincial literacy rates which are (46.6%) and (44%). Little more than half of the population of 10 years or above age of district Layyah is literate in which less than fourth part of this category are females. But still higher education is not developed as it should be. People of district Layyah used to move out of the city to other cities like Islamabad and Lahore to get higher education.

As we all know, education gives a new way to spend life, to behave like a knowledgeable person, to think critically and to analyze the situation first and then speak. On the other hand, illiterate people lack all these things and they just try to internalize other's behavior and imitate themselves without any questioning. In addition, Layyah is the place where the

Moreover, RDPI (Rural Development and Policy Institute), published a report on district Layyah related to hazards vulnerability and development profile in which it explains the health facilities used by the rural and urban setting. RDPI explains the excess of local citizens in urban and rural settings towards public or govt. hospitals constituting the ratio of 9.66% and 13.50% (Sindhu 2010).

Therefore, literacy rate and health awareness of people is lesser which in turns affects their knowledge, attitudes and practices. They just believe what they perceive with their interaction with each other. They are not self-developed to adopt the new way of life rather than their areas are not much developed and far flung with lack of educational institutions, proper sanitation, food and electricity. Additionally, how a person will develop himself when he is facing such a poor situation of living. That's why people's attitude and practices depend upon the knowledge they gain from societal interaction.

Moreover, they are also unaware of what is happening in the world just like the current World pandemic. Though they are aware of that COVID-19 pandemic but still they don't have enough knowledge to cope with the situation. They learned from society, they practiced certain precautionary practices to stay safe from COVID-19 like washing hands, staying at home etc. But still unaware of further progress in the situation and the world is trying to deal with it. In this way knowledge gap theory can be applied on knowledge in relation to practices and attitudes toward COVID-19.

In the current situation, people of Layyah are not much aware about COVID-19 and its World order. That is because of their lower socioeconomic status,

and gap in education. In this way, that gap leads to illiterate attitudes and practices of people following the COVID-19.

In addition, theory summarized certain important factors that lead to knowledge gaps among class systems like communication skills, stored information, relevant social context, selective exposure and media target market. Researcher applied all these factors to explain how knowledge gap prevails in the people and is difficult to overcome. As those people are very much concerned with their superstitious beliefs that highlights their practices and attitudes towards COVID-19.

### **3.4 Propositions**

1. Knowledge as a commodity is a threat to the spread of Covid-19 in fur flung areas.
2. Gap in public and private schooling children and their selective exposure to pandemic hinder their attitudes and practices.
3. People with lower socioeconomic status inherent that attitudes and practices to their offspring as they can't afford the quality education which overcomes the knowledge gap.

### **3.5 Hypothesis**

Knowledge promotes attitudes and practices of slum dwellers towards Covid-19.

#### **1. Alternative Hypothesis (H<sub>1</sub>)**

Poor attitudes and practices of slum dwellers endorsed by their insignificant knowledge about COVID-19.

#### **2. Null Hypothesis (H<sub>0</sub>)**

Poor attitudes and practices of slum dwellers does not endorsed by their insignificant knowledge about COVID-19.



## **Chapter No. 4**

# **CONCEPTUALIZATION AND OPERATIONALIZATION**

## **4.1 Conceptualization**

In this chapter, there had been some key concepts which explained the contextual theme of the research with relations to its research setting. Conceptualization is the process of developing the basic ideas of research and used to clarify the concept or idea. In order to understand the social world, we need to measure certain things. In this process, researcher gave all definitions of basic themes that researcher revealed in the study.

### **4.1.1 Slums**

Mayhew (1992) has critically analyzed that the term ‘slum’ had a negative connotation with no unified meaning. Various sources describe it as a “back alley”, street for poor language and “back room” for sinister business deals.

Ezeh et al. (2017) described slums are characterized by small informal settings, high population density, lack of access to clean water, shared sanitation facilities among multiple slum dwellers. Slum dwellers are those people living under the same roof and facing lack of sufficient living area, access to sanitation, access to improved water and durable housing.

George (2019) defines that slum refers to the informal areas suffering from lack of accessibility, insufficient infrastructure, narrow streets, absence of open streets, vacant land and high residential densities.

### **4.1.2 COVID-19**

According to the WHO (2020), COVID-19 is a newly emerged infectious disease. People infected with COVID-19 virus will experience mild to moderate respiratory illness. Older people and those suffering with medical problems like diabetes, chronic respiratory disease and cancer are more likely to develop serious illness.

Van Doremalen et al. (2020) explored that COVID-19 spread primarily via respiratory droplets that are transmitted from person to person who are in close

contact (with about 6 feet). Virus released during talking, coughing and sneezing can infect other people.

## **4.2 Operationalization**

Operationalization is defined as a process of shifting from a conceptual definition to more specific measures/indicators that allows researcher to observe it empirically. In this process, researcher explain the concept or idea in their own words. The researcher explains the concept at the paramount of his own knowledge.

### **4.2.1 Slums**

Slums are a group of people living together deprived from basic facilities like safe water, sanitation, living space, improved housing structure, healthy environment and living conditions. Dwellers in these settlements vary from simple to more permanent structures and access to basic facilities and infrastructure tend to be limited or badly deteriorated. Slum dwellers are those people that are living in slums and hardly meet their daily routine necessities.

### **4.2.2 COVID-19**

Coronavirus disease 2019 is a group of related RNA (Ribonucleic Acid) virus infectious disease that cause diseases in birds and mammals. In humans and birds, they cause respiratory infections that can be mild to lethal. Mild illness in humans include common cold, breath difficulties and loss of smell and taste. COVID-19 spread via saliva and other bodily fluids and excretions.

**Chapter No. 5**  
**RESEARCH METHODOLOGY**

## **5.1 Survey**

There are several methods to conduct research and collect information but ‘survey method’ is the most widely used technique in the applied research field. It is defined as, “an explicit type of research study in which researcher collect the information from specified respondents that are derived from a well-defined population”. Survey is the quantitative method in research. We use a sample of many respondents and ask them all the same questions.

## **5.2 Universe of the Study**

The research was conducted in District Layyah of South Punjab Pakistan in which researcher collect data from rural slums named as 92 TDA and urban slums from Karor Lal Esan. Data was collected about knowledge, attitudes and practices towards COVID-19 among slum dwellers.

## **5.3 Sample Technique**

Stratified random sampling technique was used for data collection. Two groups from Layyah tehsil were made, the 1<sup>st</sup> group consisted of 50 males and 25 female rural slum dwellers from village 92 TDA, and the 2<sup>nd</sup> group consisted of 50 males and 25 female urban slum dwellers from Karor Lal Esan.

## **5.4 Sample Size**

The total sample size of this research was 150 respondents, respondents age was more than 18 years. The reason behind the selection of 150 respondents was that it was very difficult for researcher to study the whole population of the District. So, researcher choose 150 respondents to evaluate the results.

## **5.5 Tools for data collection**

Questionnaire was used as a tool for the collection of data. Researcher used questionnaires because it is useful to collect data from a large number of populations in less time. Researcher distributed the questionnaire among the respondents for data collection. A closed ended question was included.

## **5.6 Technique for data collection**

In order to collect information, surveys and questionnaires were used as a technique for data collection. Researcher surveyed the rural and urban slums and distributed the questionnaire to the respondents. Researcher also used interview scheduled method for the purpose of better understanding.

## **5.7 Pretesting**

The questionnaire was pretested. The pretesting was done by distributing 10 questionnaires to the respondents belonging to slum areas of district Layyah. Through the pretesting, the result revealed the certain shortcoming in the tool, so the researcher made a few modifications before finalizing it.

## **5.8 Data analysis**

Statistical Package for Social Sciences (SPSS) was used to analyses the data. Researcher used the scientific method to conclude the current research data. The researcher used frequency, percentage and chi square test for data analysis.

## **5.9 Opportunities and Limitations of Study**

It was a better chance for researcher to find out some social realities, which exist in the form of social problems around the world because this research was only academic purpose; therefore, it was a knowledge process of researching for the researcher.

## **5.10 Ethical Concerns**

To conduct present research, respondents were taken into confidence and researcher made no fake promises to the respondents. No financial benefits were offered to the respondents for the purpose of data collection. Researcher also ask them to fill questionnaires by their will. No one from the researcher was forced to fill the questionnaire and the researcher told the respondents that this research is for academic purposes and the information which they will provide will be confidential.

## **Chapter No. 6**

### **RESULTS**

The following chapter shows the results of the research in the forms of table and the hypothesis testing. This also contains the division of descriptive analysis and inferential analysis. Statistically, descriptive analysis provides the descriptive of the data with the help of frequencies and percentages and inferential analysis tries to find out the relationship between the frequency and percentages of the respondents are illustrated in the form of table for an immediate and comprehensive grasp of the results.

## 6.1 Descriptive Analysis

Descriptive statistics describe the data in the forms of words. In the following research, descriptive statistics is used to describe the data and derive the contingency among them.

### Part 1: Demographic Information

**Table 6.1.1 Gender of the Respondents**

Category	Frequency	Percent
Male	100	66.7
Female	50	33.3
Total	150	100.0

Table 6.1.1 shows the gender of the respondents in data collection. Population was divided into two strata by random sampling technique. 150 were the total respondents included in this research as respondents out of which 100 were male respondents with 66.7 percent of overall population and 50 were female respondents with the percent of 33.3. Majority of the respondents were male respondents of the society for being an easy access or availability of them. It is because male respondents are working outside the home that's why they are more vulnerable toward COVID-19 While, a proportion of female was also in the data collection.



**Table 6.1.2 Age of the Respondents**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
20-30	32	21.3
31-40	47	31.3
41-50	41	27.3
51 or above	30	20.0
Total	150	100.0

Table 6.1.2 shows the age of the respondents. According to the results, respondents were from the age group of 20-30 with the frequency and percentage of 32 and 21.3 percent. Respondents were from the age group of 31-40 with the frequency and percentage of 47 and 31.3 percent. While 41 respondents belonged to the age group of 41-50 along with 27.3 percent and other remaining 30 respondents were from the age group of 51 or above with the percentage 20 of overall 150 respondents. Majority of the respondents participating in this research were falling in the age group of 31-40 because earning people fall under this category during the time of pandemic.

**Table 6.1.3 Highest level of schooling of the respondents**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
No formal school	19	12.7
Primary Incomplete	28	18.7
Secondary incomplete	32	21.3
Primary complete	23	15.3
Secondary complete	33	22.0
Higher	15	10.0
Total	150	100.0

Table 6.1.3 shows the educational background of the respondents. There are 150 respondents out of which have no formal school education with the frequency and percentage of 19 and 12.7 percent respectively, 28 respondents have primary incomplete education with 18.7 percent and 32 respondents have secondary incomplete education with 21.3 percent. While respondents participated in this research have primary complete educational background with frequency and percentage of 23 and 15.3 percent, respondents have completed their secondary education with the frequency and percentage of 33 and 22.0 percent and 15 respondents have higher levels of educational background with 10 percent. Majority of the respondents have completed secondary education because people of slums have not enough resources to get higher education.

**Table 6.1.4 Marital Status of the Respondents**

Category	Frequency	Percent
Single/Never married	29	19.3
Married/Living together	47	31.3
Married/Separated	57	38.0
Divorced	17	11.3
Total	150	100.0

Table 6.1.4 reveals the marital status of the respondents. Results clearly shows that 29 respondents were single or never married with the percentage of 19.3 percent, 47 respondents participated in this research were married and living together with joint family system with the percentage of 31.3 percent, 57 respondents were married but living in nuclear family system with the percentage of 38.0 percent and 17 respondents were divorced with 11.3 percent respectively. Majority of the respondents were married and living separately.

Family type matters because large family face large problems so it was the need to get multiple family type for current study.

**Table 6.1.5 Residential slum areas of the Respondents**

Category	Frequency	Percent
Rural slum	75	50.0
Urban slum	75	50.0
Total	150	100.0

Table 6.1.5 shows the residential slum area of the respondents in data collection. Population were equally divided into two residential areas, the first one is rural slum and second one is urban slum. 150 were the total respondents included in this research as respondents out of which 75 were settled in rural slums with 50.0% of overall population and another 50 respondents were settled in urban slums with 50.0%.

**Table 6.1.6 Employment or type of activity of the Respondents**

Category	Frequency	Percent
Education	7	4.7
Entrepreneur	8	5.3
Farming crop	21	14.0
Farming livestock	31	20.7
Gathering of forest products	15	10.0
Grocery store	18	12.0
Household	19	12.7
Unemployed	25	16.7
Any other	5	3.3
Total	150	100.0

Table 6.1.6 shows the employment, type of job or a source of income of the respondents. Only 7 respondents have a source of income from the education sector with 4.7 percent, 8 respondents earn from their own business with the percentage of 5.3 percent. While 21 respondents participated in this research belonging to farming crops with 14.0 percent, 31 respondents have a farming livestock as a source of income to fulfill their requirements with 20.7 percent and 15 respondents gathering products from forest with 10 percent. Respondents worked at grocery stores with the frequency and the percentage of 18 and 12.0 percent, 19 respondents were household in their homes with 12.7 percent, 25 respondents have no source of income or unemployed with the percentage of 16.7 percent and 5 respondents participated in this research have any other type of job or activity with 3.3 percent. Majority of the respondents have farming livestock as a source of income.

## **Part 2: Knowledge among slum dwellers towards COVID-19**

**Table 6.1.7 Heard of the COVID-19**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Yes	102	68.0
No	48	32.0
Total	150	100.0

Table 6.1.7 shows the response to the question, have you heard of the COVID-19)? Table shows that 102 respondents were heard about COVID-19 with 68.0 percent. And 48 respondents were not heard what COVID-19 is, with the percentage of 32.0 percent. Majority of the respondents heard about COVID-19.

**Table 6.1.8 Source of Hear about Coronavirus**

Category	Frequency	Percent
Word to mouth	38	25.3
Local television	21	14.0
Local radio	31	20.7
Message from Ministry of Health	18	12.0
No answer	42	28.0
Total	150	100.0

Table 6.1.8 shows the response to the question, where did you hear about the COVID-19? Table reveals that 38 respondents heard about COVID-19 from word to mouth with 25.0 percent, while 21 respondents heard about COVID-19 from local television with the percent of 14.0 and 31 respondents participated in this research shows that local radio was a source of hearing about COVID-19 along with 20.7 percent. 18 respondents received messages from the Ministry of Health about COVID-19 with the percentage of 12 percent and 42 respondents were not giving any response regarding this question with 28 percent. Majority of the respondents heard from word to mouth about COVID-19 because they have limited resources to get information about COVID-19.

**Table 6.1.9 Information about Coronavirus**

Category	Frequency	Percent
Real	43	28.7
Fake	47	31.3
I don't know	60	40.0
Total	150	100.0

Table 6.1.9 shows the results in response to the question, Information that you receive about the COVID-19 is real or fake? 43 respondents believe that COVID-19 is real with the percentage of 28.7 percent, respondents with the frequency and percentage 47 and 31.3 percent believe that COVID-19 is fake, while 60 respondents were not sure whether COVID-19 is real or fake with 40.0 percent. Compared the real with fake results about COVID-19, the majority thinks that COVID-19 is fake because they just think about their income rather than any other pathetic situation.

**Table 6.1.10 Awareness about possible signs of Coronavirus**

Category	Frequency	Percent
Strongly Agree	24	16.0
Agree	38	25.3
Strongly Disagree	7	4.7
Disagree	27	18.0
Neither Agree nor Disagree	39	26.0
No answer	9	6.0
I don't know	6	4.0
Total	150	100.0

Table 6.1.10 shows the result in response to the question, possible signs of Coronavirus are fever, headache, coughing, sneezing, runny nose, fatigue, difficulty breathing and diarrhea? Table shows that 24 respondents with the percentage of 16.0 said that they were strongly agree with the statement, 38 respondents of this research were agree about the statement along with 25.3 percent while 7 respondents with the percentage of 4.7 were strongly disagree with the statement, and respondents with the frequency and percentage of 27 and 18.0 percent were disagree in response to the question. 39 respondents neither agree nor disagree about the statement with the percent of 26.0, 9

respondents provide no answer with 6.0 percent and 6 respondents didn't know what the symptoms of COVID-19 are, along with the percentage of 4.0 percent. Majority of the respondents neither agree nor disagree regarding this statement because they have no such an authentic source to get better information about COVID-19.

**Table 6.1.11 How serious a problem COVID-19**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Not serious at all	86	57.3
Serious as fever and headache	38	25.3
Extremely serious	26	17.3
Total	150	100.0

Table 6.1.11 shows the personal observations or experiences of the respondents towards how serious COVID-19 is at this moment? 86 respondents participated in this research say that COVID-19 is not serious at all with the percentage of 57.3 percent. 38 respondents of this research show that COVID-19 is as serious as many other diseases like fever and headache with 25.3 percent respectively. 26 respondents say that COVID-19 is extremely serious as it leads to death. Majority of the respondents were not taking the COVID-19 pandemic serious because they heard word to mouth about COVID-19 and don't believe it is a serious viral infection.

**Table 6.1.12 Person without symptoms cannot spread COVID-19**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Strongly Agree	26	17.3
Agree	42	28.0
Strongly Disagree	26	17.3
Disagree	20	13.3
Neither Agree nor Disagree	32	21.3
No answer	4	2.7
Total	150	100.0

Table 6.1.12 shows the response to the question, a person who does not show any symptoms or who is not sick cannot spread the coronavirus. Table shows that 26 respondents said that they were strongly agree with the statement with the percentage of 17.3 percent, 42 respondents of this research were agree about the statement with 28.0 percent while 26 respondents with 17.3 percent were strongly disagree with the statement and 20 respondents were disagreeing in response to the question with 13.3 percent. 32 respondents neither agree nor disagree about the statement with the percent of 21.3, and 4 respondents provide no answer with 2.7 percent. Majority of the respondents were agreed regarding this statement because they meet with different people and think that COVID-19 can't spread via healthy people.



### Part 3: Attitudes among slum dwellers towards COVID-19

**Table 6.1.13 Feeling about Coronavirus**

Category	Frequency	Percent
Fearful	35	23.3
Very fearful	21	14.0
Optimistic	28	18.7
Fearful but optimistic	18	12.0
No feelings	48	32.0
Total	150	100.0

Table 6.1.13 shows the attitudes of respondents how they feel about COVID-19? 35 respondents participated in this research fearful towards COVID-19 with the percentage of 23.3 percent. 21 respondents of this research with the percentage of 14.0 are very fearful towards COVID-19. 28 respondents have optimistic attitudes towards COVID-19 with 18.0 percent. While 18 respondents with 12.0 percent have fearful but optimistic attitudes and 48 respondents of this research have no feelings about COVID-19 with 32.0 percent. Majority of the respondents have no feelings towards COVID-19 pandemic because they don't take serious COVID-19 and that's why they have no fear.

**Table 6.1.14 Fully protected against COVID-19**

Category	Frequency	Percent
Yes	68	45.3
No	80	54.7
Total	150	100.0

Table 6.1.14 shows the result in response to the question, are you fully protected against Coronavirus? Table shows that 68 respondents are fully protected against COVID-19 with 45.3 percent. And 80 respondents are not fully protected against COVID-19 with the percent of 54.7 respectively. Because they don't follow SOPs in order to work for survival and that's why they are not fully protected against COVID-19.

**Table 6.1.15 People should leave their daily activities**

Category	Frequency	Percent
Strongly Agree	25	16.7
Agree	34	22.7
Strongly Disagree	31	20.7
Disagree	32	21.3
Neither Agree nor Disagree	28	18.7
Total	150	100.0

Table 6.1.15 reveals the result in response to the question, people should leave their usual (daily) activities to prevent the spread of Coronavirus. Table shows that 25 respondents said that they were strongly agree with the statement with the percentage of 16.7 percent, 34 respondents with 22.7 percent of this research were agree about the statement while 31 respondents were strongly disagreeing with the statement with 20.7 percent and 32 respondents with 21.3 percent were disagree in response to the question. 28 respondents neither agree nor disagree about the statement with the percent of 18.7. Majority of the respondents were agreed about statement because if they don't leave their routine activities then they are more vulnerable toward COVID-19 and then people have not enough resources to earn.

**Table 6.1.16 Lockdown is an effective measurement**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Strongly Agree	20	13.3
Agree	27	18.0
Strongly Disagree	51	34.0
Disagree	28	18.7
Neither Agree nor Disagree	20	13.3
No answer	4	2.7
Total	150	100.0

Table 6.1.16 shows the response to the question, Lockdown is an effective measurement to control this pandemic. Table shows that respondents with the frequency and percentage of 20 and 13.3 percent said that they were strongly agree with the statement, 27 respondents of this research with 18.0 percent were agree about the statement while 51 respondents with 34.0 percent were strongly disagree with the statement and 28 respondents were disagreeing in response to the question with 18.7 percent. 20 respondents neither agree nor disagree about the statement with the percent of 13.3 percent, 4 respondents provide no answer with 2.7 percent. Majority of the respondents strongly disagree with this statement because during lockdown, people of slums have lost their earning hands.

**Table 6.1.17 Feel safe going alone anywhere**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Strongly Agree	21	14.0
Agree	60	40.0
Strongly Disagree	27	18.0
Disagree	23	15.3
Neither Agree nor Disagree	19	12.7
Total	150	100.0

Table 6.1.17 shows the result in response to the question, are you safe going alone anywhere outside the home? Table shows that 21 respondents with 14.0 percent said that they were strongly agree with the statement, 60 respondents of this research were agree about the statement with the percentage of 40.0 while 27 respondents with 18.0 percent were strongly disagree with the statement and 23 respondents along with 15.3 percent were disagree. 19 respondents neither agree nor disagree about the statement with the percent of 12.7 respectively. Majority of the respondents agreed with this statement because they have no fear toward COVID-19 and perceived that it is fake.

**Table 6.1.18 Ordinary people should wear facial masks**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Strongly Agree	22	14.7
Agree	35	23.3
Strongly Disagree	21	14.0
Disagree	34	22.7
Neither Agree nor Disagree	36	24.0
No answer	2	1.3
Total	150	100.0

Table 6.1.18 shows the response to the question, ordinary people should wear facial masks to prevent the COVID-19 infection. Results reveal that 22 respondents with 14.7 percent said that they were strongly agree with the statement, 35 respondents of this research along with 23.3 percent were agree about the statement while 21 respondents with 14.0 percent were strongly disagree with the statement with and respondents with the frequency and percentage of 34 and 22.7 percent were disagree in response to the question. 36 respondents neither agree nor disagree about the statement with the percent of 24.0 percent, 2 respondents provide no answer with 1.3 percent respectively. Majority of the respondents neither agree nor disagree with this statement because people don't follow SOPs and more fearful to lose their opportunities rather than pandemic.

#### **Part 4: Practices among slum dwellers towards COVID-19**

**Table 6.1.19 Done anything to protect your family**

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Yes	65	43.3
No	85	56.7
Total	150	100.0

Table 6.1.19 shows the results of the question, have you done anything to protect you and/or your family from the Coronavirus? 65 respondents have done anything to protect their family against COVID-19 with 43.3 percent and 85 respondents did nothing to protect their family against COVID-19 with the percentage of 56.7 percent. Majority of the respondents did nothing to protect against COVID-19 in order to protect their family.

**Table 6.1.20 Wear a mask while leaving a home**

Category	Frequency	Percent
Regularly	39	26.0
Sometimes	71	47.3
Never	40	26.7
Total	150	100.0

Table 6.1.20 shows the result of practices that were adopted by the respondents in order to maintain the spread of COVID-19. In order to respond to the question, when you are going to any crowded place, do you wear a mask when leaving a home. Results show that 39 respondents with 26.0 percent regularly wear a mask when going to any crowded places, 71 respondents wear a mask sometimes when they leave a home with a percentage of 47.0 percent. And 40 respondents with 26.7 percent were never wearing a mask in order to maintain the spread or control COVID-19. Majority of the respondents wear a mask sometimes while leaving their homes in order to protect themselves from COVID-19 pandemic.

**Table 6.1.21 Participation in the management of the patients**

Category	Frequency	Percent
Regularly	26	17.3
Sometimes	57	38.0
Never	67	44.7
Total	150	100.0

Table 6.1.21 illustrated the result of the question, when a patient has signs and symptoms of COVID-19, Are you confidently participating in the management of the patients? Results shows that 26 respondents with 17.3 percent regularly participate in the management of patients that is suffered from COVID-19, 57

with 38.0 percent participate sometimes in the management of patients and 67 respondents with 44.7 percent were never participate in the management of patients in order to maintain the spread or control COVID-19. Majority of the respondents never participated in the management of the patients in order to protect themselves from COVID-19 pandemic because their only motive is to earn as much as they can.

**Table 6.1.22 Refrained from shaking hands**

Category	Frequency	Percent
Regularly	40	26.7
Sometimes	48	32.0
Never	62	41.3
Total	150	100.0

Table 6.1.22 shows the result in order to respond the question, are you refrained from shaking hands? Table shows that respondents with the frequency and percentage of 40 and 26.7 regularly refrained from shaking hands when meeting other people, 48 respondents with 32.0 percent refrained sometimes when they are shaking hands with others. And 62 respondents with 41.0 percent were never refrained from shaking hands in order to control COVID-19. Majority of the respondents never refrained from shaking hands in order to protect themselves from COVID-19 Pandemic because they have no fear regarding COVID-19.

**Table 6.1.23 Washing hands going to crowded places**

Category	Frequency	Percent
Regularly	51	34.0
Sometimes	56	37.3
Never	43	28.7
Total	150	100.0

Table 6.1.23 illustrated the result of the question, are you washed your hands before and after going to crowded places? Results shows that 51 respondents with the percentage of 34.0 regularly washed their hands before and after going to crowded places, respondents with the frequency and percentage of 56 and 37.3 percent washed their hands sometimes before and after going outside the home and 43 respondents with 28.7 percent were never washed their hands before and after going to crowded places in order to control the spread of COVID-19. Majority of the respondents were sometimes washed their hands before and after going to crowded places.

**Table 6.1.24 Respondents in their house by 6 pm**

Category	Frequency	Percent
Regularly	36	24.0
Sometimes	49	32.7
Never	65	43.3
Total	150	100.0

Table 6.1.24 reveals the result of the question, are you always in your house by 6 pm? Results show that 36 respondents with 24.0 percent regularly in their houses by 6pm, 49 respondents with the percentage of 32.7 percent sometime in their houses by 6 pm and sometimes outside the home. And 65 respondents with the percentage of 43.3 were never in their houses by 6 pm in order to control COVID-19. Majority of the respondents were never in their houses in order to protect themselves from COVID-19 Pandemic because they worked late night to survive in society.



## 6.2 Inferential Analysis

Researcher use inferential statistics to try to infer from the sample data what the population might think. Researcher used inferential statistics to make inferences from data to more general conditions; researcher use descriptive analysis simply to describe what's going on in our data.

This test is used for the creation of inferences which determine the table statistics, it was merely used in this research for the purpose of table comparison.

### Hypothesis Testing

**H<sub>0</sub>:** Poor attitudes and practices of slum dwellers does not endorse by their insignificant knowledge about COVID-19.

**H<sub>1</sub>:** Poor attitudes and practices of slum dwellers endorsed by their insignificant knowledge about COVID-19.

**Table 6.25 Cross Tabulation Test-I**

Cross Tabulation		Wearing a mask in a crowded place			
		Regularly	Sometimes	Never	Total
Symptoms of Coronavirus	Strongly Agree	14	8	2	24
	Agree	13	20	5	38
	Strongly Disagree	0	5	2	7
	Disagree	3	18	6	27
	Neither agree nor disagree	6	16	17	39
	No answer	2	3	4	9
	I don't know	1	1	4	6
	Total	39	71	40	150

The above table reveals the analogy of awareness level of knowledge and practices adopted by the slum dwellers. Respondents with the higher level of knowledge towards COVID-19 adopted the preventive strategies to control the spread of COVID-19 infection. It meant that higher knowledge peoples adopted preventive strategies against COVID-19. This result shows that a higher level of knowledge people takes COVID-19 in a positive sense and adopt control measurements.

**Table 26.2.1 Chi-Square Test-I**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.491 <sup>a</sup>	12	.000
Likelihood Ratio	37.653	12	.000
N of Valid Cases	150		

a. 9 cells (42.9%) have expected count less than 5. The minimum expected count is 1.56.

The Pearson Chi-Square Value in the above table is 37.491<sup>a</sup>, Degree of Freedom is 12 and the Asymp. Sig Value is .000. It was significant because the value was lower than 0.05. So, the alternate hypothesis was accepted, and the null hypothesis was rejected. The rejection of the null hypothesis shows that highly aware peoples have adopted positive preventive strategies to control the spread of COVID-19.

**Table 6.27.2 Cross Tabulation Test-II**

Cross Tabulation		Washing Hands			
		Regularly	Sometimes	Never	Total
<b>Seriousness of COVID-19 based on one's own observations or experiences.</b>	Not serious at all	20	35	31	86
	Serious as much as fever and headache	17	11	10	38
	Extremely serious	14	10	2	26
	Total	51	56	43	150

The above table reveals the analogy of how much slum dwellers take serious COVID-19 pandemic and their adopted practices towards washing hands before and after going to crowded places. Respondents who do not take serious at all COVID-19 infection, never practice washing hands before and after going to crowded places or while leaving their homes. It meant that slum dwellers did not take serious viral infection and continued their routine activities without adopting self-protection techniques to control pandemic.

**Table 6.28.2 Chi-Square Test-II**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.903 <sup>a</sup>	4	.008
Likelihood Ratio	15.280	4	.004
N of Valid Cases	150		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.45.

The Pearson Chi-Square Value in the above table is 13.903<sup>a</sup>, Degree of Freedom is 4 and the Asymp. Sig Value is .008. It was significant because the value was lower than 0.05. So, the alternate hypothesis was accepted, and the null hypothesis was rejected. The rejection of null hypothesis shows that slum dwellers did not take serious viral infection and continued their daily activities without adopting preventive strategies or washing hand practices to control the spread of COVID-19.

**Chapter No. 7**

**DISCUSSION and CONCLUSION**

## **7.1 Discussion**

COVID-19 is a new virus that has had disastrous effects since it emerged in December 2019. There has been limited published research on knowledge, attitudes and practices towards COVID-19 among slum dwellers in Pakistan. The novelty of this pandemic, with its difficulties, make it critical for health officials to plan suitable strategies to prepare and manage the public and how to address dweller's needs through promoting social distancing and helping dwellers cope with the economic challenges. It is therefore knowledge, attitudes and practices among slum dwellers be studied to guide these efforts.

In this study, researcher has tried to analyze the knowledge, attitude and practices level among slum dwellers. The correct knowledge score of slum dwellers regards to COVID-19 was low with an overall percentage of 41.3%. The correct rate of COVID-19 knowledge indicating that respondents had low levels of knowledge about the disease. Dwellers with a higher level of education and with high job or type of activity held higher knowledge scores and adopted the preventive strategies to control the spread of COVID-19 infection. On the other hand, those with lower levels of education and with low levels of income held lower knowledge scores about the disease. Respondents think that COVID-19 is fake and not serious at all because of lack of income resources, respondents work only to survive and have nothing to feed or there are no resources of income to improve their quality life during a pandemic.

Majority of the respondents held a negative attitude toward COVID-19 because respondents were illiterate and earned on a daily basis. COVID-19 hits the economic resources of slum dwellers. While the majority of the respondents perceived themselves fully protected against pandemic and felt safe going alone anywhere outside the home. If dwellers follow lockdown measurement to control the pandemic, then starvation is another major issue that leads to dying from hunger. Positive attitudes were held among those dwellers working in the

educational and public sectors. This group shows the optimistic attitudes towards COVID-19.

In the current study, most of the respondents reported taking preventive measures sometimes such as wearing a facial mask and avoiding crowded places. Respondents with the lower level of knowledge and income resources never followed SOPs (Standard Operating Procedures), when meeting other people outside the home or in crowded places. Dwellers did not take serious viral infection and continued their routine activities without adopting self-protection techniques to control pandemic.

On the other hand, Zhong et al. (2020) and Lihua et al. (2020) explained that people of developed countries including both urban and rural areas take serious COVID-19 pandemic and follow SOPs in order to protect themselves and other people. These people really battle against COVID-19 to completely eradicate it. While in Pakistan, Hayat et al. (2020) found that majority of the respondents had visited crowded places and this risky behavior was observed among male unmarried participants aged 16 to 29 years. Dwellers are even not knowing what COVID-19 is. They are more conscious about their earning rather than any pathetic situation.

Similarly, the knowledge gap theory also indicates that higher socioeconomic status of people tends to gain information faster than poor class people and the gap in knowledge increases rather than decreases. Elite class people have different sources of knowledge and protect themselves in a certain way. While, most of the slum dwellers heard about COVID-19 word to mouth and had no authentic source of knowledge. That's why people of slums have poor knowledge and are more vulnerable toward COVID-19 pandemic.

## 7.2 Conclusion

This is the first study to investigate knowledge, attitudes and practices for the COVID-19 outbreak, among the rural and urban slum dwellers of district Layyah. Due to the worsening health system and the spread of misinformation regarding COVID-19, it is important to know how slum dwellers that have limited access to health care facilities and information perceive and adopt preventive measures. Slum dwellers have been contributing to the economy of any country by providing affordable labor for formal as well as informal sectors of the economy. Dishonorable living conditions of slum dwellers identified as low-income groups with the absence of shelter and settled in the pockets of slums regarded by overcrowding, inadequate education and lack of sanitation facilities, high chances of prevalence of disease among dwellers leading towards unhealthy environment. In these circumstances, food security of slums dwellers is a challenge if their living conditions remain miserable. There are many problems increasing in these areas rather than decreasing like unemployment, health problems, poor sanitation, poverty and lack of capital resources. The research was conducted to examine the knowledge, attitudes and practices among slum dwellers. KAP research was selected that indicated the opinion of the respondents about COVID-19. The research was based upon a survey questionnaire. The results of the research indicate that the null hypothesis in this study is rejected and the alternative hypothesis has been accepted as the poor attitudes and practices of slum dwellers endorsed by their insignificant knowledge about COVID-19. The result shows that slum people are more eligible to contact with infectious disease due to their non serious attitude and lower practices toward following SOPs. Study also finds that most of the slum dwellers are poor and have incomplete or little education and their houses are either *Aadha Paka* or *Kacha*. The result of this study shows that more emphasis should be given to lower income groups, less educated dwellers and especially men. The main reason for their inevitable living conditions is



their lower education and lack of willpower to improve living standards. Slum dwellers always look for government help such as relief or debt etc. This type of thinking and government policies make them paralyzed instead of self-reliance. The health authorities should concentrate on these groups in order to prevent COVID-19 spreading. Findings may help the policymakers to identify the target population and area for COVID-19 health education and prevention. Finally, if NGOs, government, civil society and other stakeholders work seriously and give priority to slum dwellers, then they will be benefited in different ways.

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## **ANNEXURE**

## **“Knowledge, Attitude and Practices towards COVID-19 among Slum Dwellers in District Layyah”**

My name is **Bilal Younas**. I am a student of MSc. Sociology at Quaid-I-Azam University Islamabad. This questionnaire is designed to accomplish the necessary data. In this research, the knowledge, attitudes and practices among slum dwellers is being measured through the given questionnaire. The information obtained will be used only for academic purposes. I assure you the anonymity of your identity.

### **Part 1: Demographic Information**

- 1) Gender \_\_\_\_\_
- 2) How old are you? \_\_\_\_\_
- 3) What is the highest level of schooling that you have completed? If you never went to school, please say “no formal school”.
  - a) No formal school
  - b) Primary incomplete
  - c) Secondary incomplete
  - d) Primary complete
  - e) Secondary complete
  - f) Higher
- 4) In which slum do you (mostly) live?
  - a) Rural slum
  - b) Urban slum
- 5) Marital Status
  - a) Single/Never Married
  - b) Married/Living together
  - c) Married/Separated
  - d) Divorced

6) What is your employment sector, area or type of activity? Tick the appropriate one

- a) Education
- b) Entrepreneur
- c) Farming crop
- d) Farming livestock
- e) Gathering of forest products
- f) Grocery Store
- g) Household
- h) Unemployed
- i) No answer
- j) Any other

## **Part 2: Knowledge**

7) Have you heard of the Coronavirus (Covid-19)?

- a) Yes
- b) No

8) Where did you hear about the coronavirus?

- a) Word to mouth
- b) Local television
- c) Local radio Message from Ministry of Health
- e) No answer

9) Information that you receive about the coronavirus is.

- a) Real
- b) Fake
- c) I don't know

10) To what extent do you Agree/Disagree with the following statement?

The possible signs of Coronavirus is fever, headache, coughing, sneezing, runny nose, fatigue, difficulty breathing and diarrhea?

- a) Strongly Agree
- b) Agree
- c) Strongly Disagree
- d) Disagree
- e) Neither Agree nor Disagree
- f) No answer
- g) Don't know

11) "COVID-19" refers to "a dangerous transmissible virus". Based on this concept and your own observations or experiences, how serious a problem does you think COVID-19 is at this moment?

- a) Not serious at all
- b) Serious as fever and headache
- c) Extremely serious

12) A person who does not show any symptoms or who is not sick cannot spread the coronavirus. Do you

- a) Strongly Agree
- b) Agree
- c) Strongly Disagree
- d) Disagree
- e) Neither Agree nor Disagree
- f) No answer
- g) Don't know

### **Part 3: Attitudes**

13) How do you feel about Coronavirus?

- a) Fearful
- b) Very fearful

c) Optimistic                                      d) Fearful but optimistic

e) No feelings

14) Are you fully protecting yourself against the Coronavirus?

a) Yes    b) No

15) People should leave their usual (daily) activities to prevent the spread of Coronavirus. Do you

a) Strongly Agree                                  b) Agree

c) Strongly Disagree                              d) Disagree

d) Neither Agree nor Disagree      f) No answer

g) Don't know

16) Lockdown is an effective measurement to control this pandemic. Do you

a) Strongly Agree                                  b) Agree

c) Strongly Disagree                              d) Disagree

e) Neither Agree nor Disagree      f) No answer

g) Don't know

17) Do you feel safe going alone anywhere outside the home? Do you

a) Strongly Agree                                  b) Agree

c) Strongly Disagree                              d) Disagree

e) Neither Agree nor Disagree f) No answer

g) Don't know

18) Ordinary people should wear facial masks to prevent the COVID-19 infection. Do you

a) Strongly Agree b) Agree

c) Strongly Disagree d) Disagree

e) Neither Agree nor Disagree f) No answer

g) Don't know

### **Part 3: Practices**

19) Have you done anything to protect you and/or your family from the Coronavirus?

a) Yes b) No

20) When you are going to any crowded place, do you wear a mask when leaving a home?

a) Regularly b) Sometimes c) Never

21) When a patient has signs and symptoms of COVID-19, Are you confidently participating in the management of the patients?

a) Regularly b) Sometimes c) Never

22) Are you refrained from shaking hands?

a) Regularly b) Sometimes c) Never

23) Are you washing your hands before and after going to crowded places?

- a) Regularly                      b) Sometimes                      c) Never

24) Are you always in your house by 6pm?

- a) Regularly                      b) Sometimes                      c) Never