The Professional Medical Journal
www.theprofesional.com

DOI: 10.29309/TPMJ/2020.27.08.4655

ORIGINAL PROF-0-4655

COVID-19 AND PUBLIC AWARENESS.

Naveed Ahmed[1], Azka Rizvi[2], Ayesha Naeem[3], Waqas Saleem[4], Altaf Ahmed[5], Sameena Parveen[6], Muhammad Ilyas[7]

1. BSc Honors, MS
Laboratory Technologist (Microbiology)
Department of Microbiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
2. BSc Honors, MPhil
Junior Laboratory Technologist (Microbiology)
Department of Microbiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
3. BSc Honors, MPhil
Junior Laboratory Technologist (Microbiology)
Department of Microbiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
4. BSc Honors, MS
Assistant Manager (Microbiology)
Department of Microbiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
5. MBBS, D-Bacteriology, DTM&H, MD
Clinical Micro
Head of Department
Department of Microbiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
6. RN, RM, BScN, ICP Australian Commission
Manager (Infection Control)
Department of Infection Control, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
7. BSc Honors, MPhil
Junior Laboratory Technologist
Department of Microbiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.

Correspondence Address:
Dr. Altaf Ahmed
HOD, Department of Microbiology and Infection Control, PKLI & RC.
namalik288@gmail.com

Article received on:
17/03/2020
Accepted for publication:
02/06/2020

ABSTRACT… Objectives: To determine and assess the level of awareness and knowledge regarding COVID-19 the among residents of Lahore. **Study Design:** Descriptive Cross Sectional study. **Setting:** Pakistan kidney & liver institute Lahore. **Period:** March 2020. **Material & Methods:** The present study was organized by the Department of Microbiology, Pakistan kidney and liver institute & research center. Respondents filled a pre-tested structured questionnaire consisting of 21 multiple-choice questions. The variables were accessed their knowledge of disease regarding etiology, mode of transmission, prevention and control measures of COVID-19 infection. A total of 1875 questionnaires were collected. **Results:** The data showed that 49.6% of respondents were male and rest 50.4% were females. From the total data 6.56% of respondents were doctors by profession. While 14.4% were nurses, 6.08% laboratory & other medical staff and 72.96% were students. 74.68% of respondents give correct answers on their knowledge about COVID-19, while 13.92% of respondents were wrong. 65.6% were aware about cause of COVID-19. However, 34.4% of participants were not aware of its cause. 60.0% of our respondents were not aware about symptoms and treatment. 89.04% of participants have no knowledge about transmission. 26.96% of respondents even didn't know how to prevent this pandemic disease. **Conclusion:** Awareness campaigns should be conducted to make people aware of the ways COVID-19 spreads, its mode of transmission, severity of infection and preventive measures to minimize its spread as well as chances to acquire COVID-19 infections. It is important to understand the need to educate people, especially from lower socio-economic statuses as they might not know about these infections and how its spreads.

Key words: Awareness, COVID-19, KAP Study, Knowledge, Pandemic.

Article Citation: Ahmed N, Rizvi A, Naeem A, Saleem W, Ilyas M, Ahmed A, Parveen S. COVID-19 and public awareness. Professional Med J 2020; 27(8):1710-1716. **DOI:** 10.29309/TPMJ/2020.27.08.4655

INTRODUCTION

In December 2019, the world experienced the new pandemic with the emergence of a readily transmissible, severe respiratory disease caused by coronavirus, a unique virus that had been never seen in humans and had started to spread among the population of Wuhan, one of the largest cities of China in province of Hubei.[1] Early isolation was from first three patients who were suffering from pneumonia, associated with cluster of acute respiratory infection on 31st December 2019 from Wuhan. Leading authorities has described this disease as outbreak as it has spread to other countries in Asia as well throughout the world. World Health Organization (WHO) describe the COVID19 infection as pandemic.[2,3]

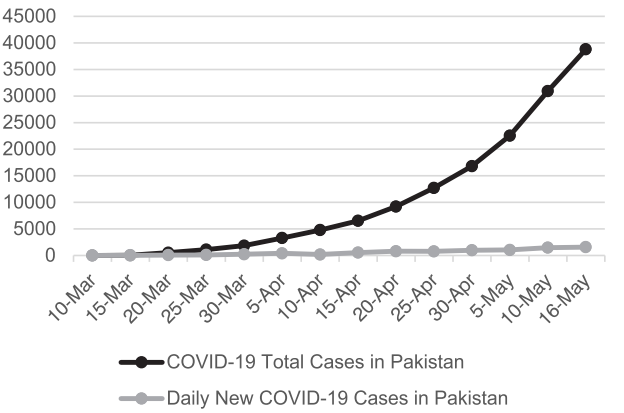


Figure-1. Total cases of COVID-19 in Pakistan v/s daily new cases in Pakistan.
(source: http://covid.gov.pk/stats/pakistan)

China CDC on 9th January, 2020 reported that novel coronavirus (2019-nCOV) as the main cause causative agent of this outbreak, which is related to SARS-COV phylogenticaly.as per records of CDC china the incubation time of this virus is three to seven days, that can go to the range of 14 days.[4,5] Current knowledge is totally based upon already known information on other similar corona viruses. The main cause of transmission included from animals to human, cross contamination between humans, and nosocomial spread between humans.in addition to that reports in favor or animal to human transmission, considering initial first sight of infectivity for human infections.[6]

A question has been raised into the genetic relationship between SARS-CoV of 2003 and COVID-19 as they occur in the same region of china and its surroundings.(7) CDC and WHO as well as other organization data shows that main difference between these two viral infections is their intensity of disease as well as their rate of contagiousness, as Covid-19 is less severe than SARS-CoV[8], but CIVID-19 has been more transmissible as compared to SARS-Co. There is 75-80% similarity of genetic material between these two viruses.[9]

Only two coronaviruses have previously caused global outbreaks. The first of these was the SARS coronavirus, responsible for severe acute respiratory syndrome (SARS), which first started spreading back in 2002, also in China. The SARS virus epidemic primarily affected the populations of mainland China and Hong Kong, and it died off in 2003.[7] The first MERS-CoV was reported back in 2013 in Dubai and was responsible for causing severe disease resulting in high mortality. From 2013 to January 15th the total number of MERS-CoV cases are 2506 with 862 associated deaths.[10]

According to The European Centre for Disease Prevention and Control (ECDC), due to the extensive movement of people and the fact that the virus is transmitted from one person to another, it is expected that further cases will be reported in the EU and other countries as well.[11] According to CDC people who are at risk of acquiring this disease are Elderly persons above the age of 50 persons with underlying diseases like diabetes, Parkinson's disease, cardiovascular diseases. Demographically, it can also be stated that the persons living in China around Wuhan town are most at risk, especially those working and shopping from Animal markets within the localities; and persons traveling into and out of Wuhan.[12]

The government of Pakistan has decided to close all parks, recreational facilities, schools, colleges and universities in the provinces to confine the possible spread of coronavirus. But only this measure is not enough to prevent the disease. The results of present study suggest that it is also important to educate the population too, about how to make themselves safe from this pandemic disease.

MATERIAL & METHODS

Study Design

The present study was organized by the Department of Microbiology, Pakistan kidney and liver institute & research center. A questionnaire consisting of 21 multiple-choice questions was designed to evaluate respondents' perception and understanding about COVID-19 infection. The questionnaire was divide into three parts. First part addressed demographics which included: age, gender, marital status, educational level. Second part included basic knowledge about COVID-19 including its mode of transmission. Another set of questions was incorporated to explore the health status of the respondents, including their practices towards COVID-19 safety. The questionnaire was prepared in English. In the present study, graduate students from science and non-science departments, healthcare professionals, lecturers, doctors and nurses participated.

A total of 1875 questionnaires were collected from different institution in Lahore, Pakistan. The data was collected from University of Central Punjab (UCP), Shalimar Medical College, Indus Hospital (Sabzazar and Bedian Road), Pakistan Kidney and Liver Institute & Research Center (PKLI & RC), University of Veterinary and Animal Sciences (UVAS) and Lahore Garrison University

(LGU). Questionnaires were distributed among personnel who volunteered to participate in the study. Throughout this process, close monitoring was done to ensure quality of data and to omit any discrepancies. Respondents were requested to answer all the question with the best of their knowledge and understanding.

RESULTS

Demographic characteristics of study participants

Knowledge about COVID-19

A total of 74.68% of respondents gave correct answers about their knowledge on COVID-19, While 13.92% have poor knowledge. Furthermore, 1638 have said that they have listened about COVID-19 and 237 were not even listened anything about it. From these 1638 respondents, 854 have heard from Television, 149 from Newspaper, 44 from Research article, 315 from WhatsApp and 276 have heard about it from Facebook. 95.68% of respondents know about its origin and 4.32% weren't award of origin. 71.68% of respondents have said that there is no confirmed case in Pakistan. (Figure-1)

Knowledge on the cause

65.6% of respondents knows about the cause and source of infection, while 34.4% haven't give correct answers.

Knowledge on symptoms and treatment

60.06% of respondents were wrong about symptoms and treatment. While rest 39.39% were well aware of its cause and treatment.

Knowledge on transmission

89.04% of participants have very poor knowledge about transmission that is 89.04%. Only 10.96% of participants were aware of its mode of transmission. Participants have also poor knowledge about, which group is more on risk.

Knowledge on Prevention

26.96% of our respondents were not aware of prevention from this pandemic infection, while 73.04% of respondents were aware of preventive measures and necessary actions. (Table-III)

Questions	Options						
	A	B	C	D	E	F	SUM
Q1	930	945	0	0	0	0	1875
Q2	1458	306	84	21	6	0	1875
Q3	123	270	114	1368	0	0	1875
Q4	1638	237	0	0	0	0	1875
Q5	854	149	44	315	276	237	1875
Q6	39	1794	15	18	0	9	1875
Q7	531	909	435	0	0	0	1875
Q8	69	1707	99	0	0	0	1875
Q9	291	129	702	753	0	0	1875
Q10	342	123	111	60	1239	0	1875
Q11	1131	192	234	318	0	0	1875
Q12	237	1119	519	0	0	0	1875
Q13	183	513	633	33	513	0	1875
Q14	213	99	120	378	1002	63	1875
Q15	1515	360	0	0	0	0	1875
Q16	1155	720	0	0	0	0	1875
Q17	642	1233	0	0	0	0	1875
Q18	1494	381	0	0	0	0	1875
Q19	144	147	111	1473	0	0	1875
Q20	501	99	180	1095	0	0	1875
Q21	141	96	63	90	1485	0	1875

Table-I. Number of questions asked and their answers by respondents. (n=1875)

Demographic Variables	Frequency	Percentage
Gender		
Male	930	49.6 %
Female	945	50.4 %
Age		
18-25	1458	77.76 %
26-35	306	16.32 %
36-45	84	4.48 %
46-55	21	1.12 %
56 or above	06	0.32 %
Occupation		
Doctors	123	6.56 %
Nurses	270	14.4 %
Laboratory and other medical staff	114	6.08 %
Students	1368	72.96 %

Table-II. Frequency distribution of socio demographic variables of study participants (n=1875)

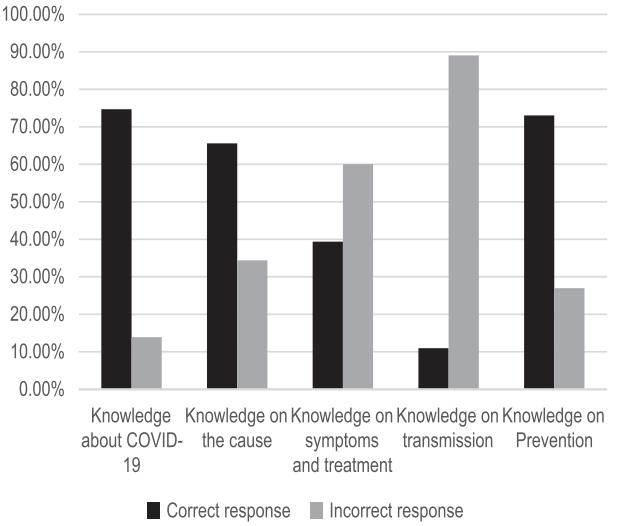


Figure-2. Correct and incorrect responses of study participants about COVID-19.

Statement	Correct response	%	Incorrect response	%	Level of Knowledge
Knowledge about COVID-19					
Ever heard about novel COVID-19?	1638	87.36	237	12.64	Adequate ***
If Heard, from where?	1638	83.36	237	12.64	Adequate ***
Origin of COVID-19?	1794	95.68	81	4.32	Adequate ***
Confirmed cases in Pakistan?	531	28.32	1344	71.68	Inadequate*
Total %	74.68 %		13.92 %		
Knowledge on the cause					
Cause of COVID-19	1707	91.04	168	8.96	Adequate ***
Source of infection	753	40.16	1122	59.84	Inadequate*
Total	65.6 %		34.4 %		
Knowledge on symptoms and treatment					
Common symptoms of VOVID-19 infection?	342	18.24	1503	80.16	Inadequate*
If you have flu, what will u do?	1131	60.32	744	39.68	Moderate **
Any treatment available?	237	12.64	1638	87.36	Inadequate*
Antibiotics will effective?	1233	65.76	642	34.24	Moderate **
Total	39.39 %		60.06 %		
Knowledge on transmission					
How it is transmitted?	33	1.76	1842	98.24	Inadequate*
Which group is more on risk?	378	20.16	1497	79.84	Inadequate*
Total	10.96 %		89.04 %		
Knowledge on Prevention					
Face mask will prevent infection?	1515	80.8	360	19.2	Adequate ***
Protective measure are sufficient to prevent?	1155	61.6	720	38.4	Moderate **
Hand hygiene can help to prevent infection?	1494	79.68	381	20.32	Moderate **
When to perform hand wash?	1473	78.56	402	21.44	Moderate **
When coughing and sneezing, what will you do?	1095	58.4	780	41.6	Moderate **
Measures to prevent the disease?	1485	79.2	390	20.8	Adequate ***
Total	73.04 %		26.96 %		

Table-III. Knowledge levels of study participants regarding covid-19

* Inadequate knowledge when correct response was by less than 50% of the study participants to a particular question.
** Moderate knowledge when correct response for a particular question was by 50%-80% of the study participants.
*** Adequate knowledge when more than 80% participants responded correctly to a particular question.

DISCUSSION

An epidemic of Coronavirus Disease 2019 (COVID-19) began in December 2019 in China leading to a Public Health Emergency of International Concern (PHEIC).[13,14] The COVID-19 is also considered Pandemic by WHO. Clinical, laboratory, and imaging features have been partially characterized in some observational studies.[15] The COVID-19 is also spreading in Pakistan. Lahore Health department has confirmed the First case of coronavirus in Lahore, Punjab on March, 15. The confirmed case was a 54-year-old patient who was admitted to Mayo Hospital after developing symptoms, days after he returned from the UK on March 10.

Local governments confirmed that in Pakistan total number of coronavirus cases are now 38799.with the increase in number of cases of Pakistan there is a few awareness and necessary information among people regarding COVID-19. In this pandemic situation it is obligatory to spread awareness among public as well as take effective precautionary measures to spread the disease. Up to date there is no record of KAP studies about COVID-19 in Pakistan. In the result section we have shown about knowledge of people about COVID-19.

WHO called COVID-19 as pandemic but it can be controlled. According to study conducted in China 82.34% of participants have appropriate information about the pandemic, 73.81% showed suitable attitude while 87.94% of total population shows proactive practices. Panic and disturbed situations can be caused in country if there is not enough information about pandemic, as present study shows no or little information about this pandemic about people.[16] According to our study 89.04% participants have incorrect information regarding pandemic, 39.39% of the participants have information about symptoms and treatment, while 65.6% have information about the pandemic of COVID-19.

Recent learning from Nepal showed an overall range of 60.0-98.7% true answers for knowledge, 77.9-96.4%for their attitude and 78.2-95.0% for the practices of Sops. Medical degree holder participants show better practice again COVID-19 statistically in comparison with general population.[17] Similar study form Kenya showed a higher level of information of cough and fever as COVI-19 symptoms, difficulty in breathing was monitored in 42% of the participants, 83% of the total participants knew that everyone in the population is likely to get infected. High risk groups were properly pointed out by participants. However, 20% identified children as risk group.[18] In china. Study was conducted among health care workers on knowledge, practices and attitudes about COVID-19. it was found that 89% of health care workers have enough information about COVID-19, less than 85% feared the self-infection of virus and correct SOPs were followed by 89.7% of participants.[19]

CONCLUSION

This survey highlights the need to spread awareness among population of not only Lahore but throughout of Pakistan about this declared pandemic COVID-19 infection. Awareness campaigns should be conducted to make people aware of the ways it spreads, its mode of transmission, severity of infection and preventive measures to minimize its spread as well as chances to acquire COVID-19 infections. It is important to understand the need to educate people, especially from lower socio-economic status as they might not know about these infections and how its spreads.

ACKNOWLEDGMENTS

We thank Dr. Muhammad Atique and Ms. Afia Ilyas for their assistance in preparing the questionnaire and research proposal. We are also thankful to the management of Department of Microbiology, University of Veterinary and Animals Sciences for providing all the facilities related to this study. The content is solely responsibility of the authors.

CONFLICT OF INTEREST

The authors have no conflict of interest with any of the research work done by other colleagues/ authors.

REFERENCES

1. Bastola A, Sah R, Rodriguez-Morales AJ, Lal BK, Jha R, Ojha HC, et al. **The first 2019 novel coronavirus case in Nepal.** The Lancet Infectious Diseases. 2020.

2. Rodriguez-Morales AJ, Cardona-Ospina JA, Gutiérrez-Ocampo Estefaní, Villamizar-Peña R, Holguin-Rivera Y, Escalera-Antezana JP, et al**. Clinical, laboratory and imaging features of COVID-19: A systematic review and metaanalysis.** Travel Medicine and Infectious Disease. 2020.

3. WHO. **Coronavirus disease 2019 (COVID-19) Situation Report–52.** World Health Organization; 2020. Contract No.: 52.

4. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. **Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China.** The Lancet. 2020;395(10223):497-506.

5. Chen L, Xiong J, Bao L, Shi Y. **Convalescent plasma as a potential therapy for COVID-19.** The Lancet Infectious Diseases. 2020.

6. Ksiazek TG, Erdman D, Goldsmith CS, Zaki SR, Peret T, Emery S, et al. **A novel coronavirus associated with severe acute respiratory syndrome.** New England journal of medicine. 2003;348(20):1953-66.

7. Drosten C, Günther S, Preiser W, Van Der Werf S, Brodt H-R, Becker S, et al. **Identification of a novel coronavirus in patients with severe acute respiratory syndrome.** New England journal of medicine. 2003;348(20):1967-76.

8. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. **Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: A descriptive study.** The Lancet. 2020;395(10223):507-13.

9. Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. **Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and corona virus disease-2019 (COVID-19): the epidemic and the challenges.** International journal of antimicrobial agents. 2020 Feb 17:105924.

10. Al-Tawfiq JA, Gautret P. **Asymptomatic Middle East Respiratory Syndrome Coronavirus (MERS-CoV) infection: extent and implications for infection control: A systematic review.** Travel medicine and infectious disease. 2019;27:27-32.

11. Bonilla-Aldana DK, Villamil-Gómez WE, Rabaan AA, Rodríguez-Morales AJ. **Una nueva zoonosis viral de preocupación global: COVID-19, enfermedad por coronavirus 2019.** Iatreia. 2020;33(2).

12. Bonilla-Aldana D, Dhama K, Rodriguez-Morales A. **Revisiting the One Health Approach in the Context of COVID-19: A look into the Ecology of this Emerging Disease.** Adv Anim Vet Sci. 2020;8(3):234-6.

13. Chan JF-W, Yuan S, Kok K-H, To KK-W, Chu H, Yang J, et al. **A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: A study of a family cluster.** The Lancet. 2020;395(10223):514-23.

14. Zu ZY, Jiang MD, Xu PP, Chen W, Ni QQ, Lu GM, et al. **Coronavirus Disease 2019 (COVID-19): A Perspective from China.** Radiology. 2020:200490.

15. Chen Y, Liu Q, Guo D. **Emerging coronaviruses: genome structure, replication, and pathogenesis.** Journal of medical virology. 2020 Apr;92(4):418-23.

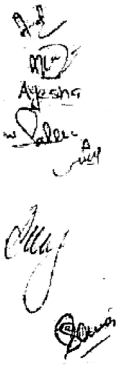
16. Peng Y, Pei C, Zheng Y, Wang J, Zhang K, Zheng Z, et al. **Knowledge, Attitude and Practice Associated with COVID-19 among University Students: A Cross-Sectional Survey in China.** 2020.

17. Hussain A, Garima T, Singh BM, Ram R, Tripti RP. **Knowledge, attitudes, and practices towards COVID-19 among Nepalese Residents: A quick online cross-sectional survey.** Asian Journal of Medical Sciences. 2020;11(3):6-11.

18. Austrian K, Pinchoff J, Tidwell JB, White C, Abuya T, Kangwana B, Ochako R, Wanyungu J, Muluve E, Mbushi F, Mwanga D. **COVID-19 related knowledge, attitudes, practices and needs of households in informal settlements in Nairobi, Kenya.** 2020.

19. Zhou M, Tang F, Wang Y, Nie H, Zhang L, You G, et al. **Knowledge, attitude and practice regarding COVID-19 among health care workers in Henan, China.** Journal of Hospital Infection. 2020;105(2):183-7.

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Naveed Ahmed	Manuscript Preparation.	
2	Azka Rizvi	Helped in write up, data collection.	
3	Ayesha Naeem	Data collection.	
4	Waqas Saleem	Data compilation.	
5	Altaf Ahmed	Data collection.	
6	Sameena Parveen	Sueprvision and reviewed.	
7	Muhammad Ilyas	Data collection.	