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Preventive Measures, Against COVID-19

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AWARENESS, KNOWLEDGE, ATTITUDE OF PATIENTS TOWARDS PREVENTIVE MEASURES, AGAINST COVID-19 IN RESOURCE POOR DEVELOPING COUNTRY. A CROSS SECTIONAL SURVEY

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ABSTRACT

Objective: To know the Awareness, knowledge, attitude of patients towards pandemic and use of PPE, and how they follow the preventive instruction.

Study Design: Cross sectional study.

Place and Duration of Study: Obs /Gynae department, Combined Military Hospital Lahore, form Mar 2020 to May 2020.

Methodology: Five hundred women were recruited from Gynae outpatient department by random sampling technique from mid Mar 2020 to mid of May 2020. All the subjects were interviewed by questionnaire.

Results: Results were knowledge and awareness of population towards the spread, and prevention of pandemic of COVID-19. Patients attitude was also assessed towards use of preventive measures like wearing mask, hand wash, social distancing, use of sanitizer and general cleanliness. They were also interviewed about safety of breast feeding, and their knowledge regarding role of telemedicine in this pandemic. Most of patients showed maximum score in knowledge (88.4%) and attitude (90%) up to 3 showing direct relationship of knowledge and practice (attitude). Mean age was 40.4 years.

Conclusion: Knowledge about pandemic, its cause, how it spreads, has significant impact on awareness and practice of preventive measures in this pandemic period. Target should be education of general population to improve the practices in current pandemics, as well as for future epidemics.

Keywords: Awareness, COVID-19, Influenza, Pandemic.

INTRODUCTION

Pandemic is defined as widespread of new disease. It is large scale outbreak of infectious disease causing morbidity and mortality over large geographical area[1]. Results are significant economic, social and health disruptions. Leading factors are increase in the global travel and integration, urbanization and great exploitation of natural resources[2].

If we go through the history, known pandemic outbreaks were Asian Flu 1957-1958, HINI Swine Flu Pandemic: 2009-2010, West African Ebolas Epidemic: 2014-2016[1].

Zika Virus Epidemic: 2015 to present. Influenza and Ebola in 2009 and 2104 respectively which raised the death toll to 11,300[1].

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Pandemic has different impacts on health care facilities. Fear of contracting the disease and understaffing lead to inadequate provision of routine health care services.

Availability of health care workers is also compromised in these pandemics due to illness, and death[3]. Pandemics have always great impacts on economic growth and it is continuous threat to society. In tracing contacts, implementing quarantines, and isolating infectious case, we use significant human resource and costs[4]. As an outbreak grows, new facilities are required to manage the additional infectious cases, demands like more (medical supplies, personal protective equipment, and drugs) put great burden on health system expenditures[5].

COVID-19, novel coronavirus named as SARS COV 2019, was started in December 2019 in China and then it spread throughout the world as pandemic. It has great similarity with SARS COV

which was responsible for high mortality during 2002-2003[6,7].

According to WHO criteria, the overall mortality rate ranges from 3% to 4%, but a higher rate of patients require admission to the intensive care unit[8]. Initially this outbreak started via zoonotic transmission associated with seafood, later on human to human transmission is considered to be major leading cause of spread[6].

It spreads quickly and sustainably more than influenza. Spread is in form of small droplets during coughing, sneezing and talking, when people are in close contact with each other. People are more infected when they are symptomatic. They can also spread infection prior to onset of symptoms (pre symptomatic transmission). According to one study, 40% of cases are asymptomatic but cause infection[6] (table-I).

It primarily affects the respiratory system. Symptoms range from mild to severe including fever, dry cough, and dyspnea. Severe symptoms include hypoxia secondary to ARDS, pneumonia. Shock, encephalopathy, and myocardial infarction, which can be fatal[9].

Following the outbreak in China, SARS-CoV-2 has now spread worldwide. As of early April 2020, the reported number of COVID-19 patients found to be highest in the U.S.A, followed by Spain, Italy, Germany, France and China. Italy was significantly affected after the outbreak of China. Fatality rate was found high in elder population as observed in China. Casefatality rate in Italy was 7.2%, which was three times as high as the one in China[10]. Multiple efforts have been made to control this pandemic including lockdown, awareness of genera population regarding strict mask culture, use of sanitizer, repeated hand washing. General cleanliness and social distancing was also emphasized[11].

Cleanliness of surfaces is also recommended to clear this virus. It is observed that this virus is detected for four hours on copper, one day on cardboard, and three days on plastic and stainless steel[11]. Use of disinfectant and bleach is not recommended. Use of soap and repeated washing of hands and surface is advisable[11].

Severe COVID-19 infection is characterized by a massive proinflammatory response or cytokine storm that results in ARDS and multi-organ dysfunction (MODS)[11]. The life cycle of the virus with the host consists of the following 5 steps: attachment, penetration, biosynthesis, maturation and release. After attachment to host cell, virus penetrates through endocytosis. Once virus is released, It enters into nucleus for replication. Viral m RNA will produce viral proteins (biosynthesis). New viral particles are released (maturation)[11].

Despite strict measures taken, the awareness and attitude of people towards infectious viruses remains the most important factor in limiting the widespread of diseases[12]. The purpose of study was to assess the population response to use of preventive measures, and how much they know about occurrence of disease and its effects.

METHODOLOGY

This cross sectional descriptive study was conducted at department of Gynaecology and Obstetric, Combined Military Hospital Lahore, from March 2020 to May 2020.

A total of 500 women irrespective of parity, presenting in gynae outpatient department, were included in this study. All patients were recruited by random sampling technique from mid March 2020 to mid of May 2020. All the subjects were interviewed by questionnaire.

Approval from hospital ethics committee was taken (165/2020). History regarding patient's age, education, profession was taken. Participants contact number and address was noted for contact tracing purpose.

Data had been analysed by using SPSS version 20. Descriptive statistics were used to describe the results like frequency and percentage for quantitative variable.

Questionnaire: We developed the questionnaire (table-IV) to assess the knowledge, awareness, attitude towards use of preventive measures

regarding pandemic COVID-19. It had four main sections, first including demographic data of patient, second about knowledge, third revealed awareness and last one was about practice or attitude towards use of preventive measures. History regarding patient's age, education, profession was taken. We also noted contact number and address for contact tracing purpose. Questions on knowledge were based to assess the knowledge of individual about pandemic, its spread and its effects on health. Questions on awareness were mostly about use of telemedicine, continuation of breastfeeding if some one has been exposed to pandemic, and when to seek medical advice. Attitude of individual was assessed by use of practice of preventive measures.

Table-I: Classification of COVID-19 patients[3].

Asymptomatic	COVID nucleic acid test is positive, no clinical symptoms and chest imaging is normal.
Mild	Symptoms of upper respiratory tract (fever, cough, sneezing, sore throat, running nose) and digestive system (vomiting, nausea, pain, diarrhea)
Moderate	Chest CT with lesion, pneumonia
Severe	Pneumonia with hypoxemia (spO_2 <92%)
Critical	ARDS, Shock, encephalopathy, myocardial injury, heart failure, renal dysfunction, coagulation dysfunction

RESULTS

A total of 500 cases were included in the study. Overall response from patient was 70% was good as compared to study which showed low response rate 34.8%[1].

Main outcome measures were knowledge and awareness of population towards the spread, and prevention of pandemic of COVID-19. Patients attitude was also assessed towards use of preventive measures like wearing mask, handwash, social distancing, use of sanitizer and general cleanliness.

Most of participants were belonging to group A (20-35 years) 88% with mean age of patients was 26.9 ± 3.5 years (standard deviation).

The knowledge was assessed by 4 points. Given 0, if does not know anything about pandemic. 1, if fulfilling one criteria, 2 if fulfilling two criteria only, and maximum, 3 if fulfilling all options given in questionnaire.

Attitude was also evaluated by 3 scores, if fulfilling all attitudinal statement given in proforma, 2 if knowing 2 or more. One point was assigned if fulfilling only one option and zero if not practicing any of above mentioned preventive measures.

Another measurable outcome was awareness, assessed in same manner with maximum score of 3. Patients were given one point for knowing one option, two for knowing two and maximum point of 3 were given for fully aware women. They were also interviewed about safety of breast feeding, and their knowledge regarding role of telemedicine in this pandemic situation.

Result showed 413 (82.6%) patients who had knowledge about this pandemic and it spread.

Among these 413, majority of participants had maximum knowledge about pandemic COVID-19 (88.4%).

Awareness was observed among 70 women (14%). Majority of participants were lacking the awareness for of ongoing coronavirus situation in the country (56.4%).

A total 388 (77.6%) women were practicing preventive measures in this pandemic with maximum of score 3 (90%).

Demographic evaluation showed three groups of participants on level of their education. Among 388, total 232 had education up to intermediate level. These were the women who had knowledge about the disease (59.7%), its way of spread, its symptoms. They had knowledge about telemedicine and also knew the safety of breastfeeding in this pandemic.

Remaining 156 (40.2%) were further divided into two groups, 86 (55.1%) were women with

secondary school education and 70 were those with primary education (44.8%).

This group lacking knowledge, were also following their neighbors and surrounding for practicing the preventive measure. It was concluded that there was direct relationship of knowledge with adaptation and use of preventive measures (table-III).

Table-II: Demographic representation of patients according to education and residence.

Educational Status	n=388/500	%age
Intermediate	232	59.7%
Secondary	86	55.1%
Primary	70	44.8%
Residential Status		
Army	320	64%
Non army	160	36%
Age (n=500)		
20-35 years	440	88%
36-45 years	44	8.8%
46-55years	16	3.2%

Among total 500 women, 320 (64%) were residing in army colonies so they had awareness, knowledge towards this pandemic. They were also observed to be good user of preventive measures (table-II).

This study concluded 82.6% of women had knowledge and among these, 77.6% had good attitude towards practicing the preventive measures so knowledge is strong predictor of attitude and awareness.

DISCUSSION

In this study, we found a significant positive correlation between knowledge and attitude, indicating that the better the level of knowledge was reflected in the attitude among patients presenting in gynae outpatient department.

Knowledge is strong predicter of use of precautionary measures and awareness. It was also emphasized in cross sectional study done by Almutiari in Dec 2015, which showed knowledge as strong predicter of concern and attitude with $p<0.0001$[12].

Another study showed better knowledge also increased uptake of preventive measures[13]. Frequent communication between health care providers and public is important to clear the concepts about pandemic spread and its control[11]. Strong correlation between knowledge, education and prevention ($p<0.001$) was also emphasized in study done by Jonathan Yap in Singapore military setup from Aug 2009 to early Oct 2009[14].

Knowledge score in our study was 82.6% as compared to another study done by Jonathan in Singapore which showed it up to 71.7%[1]. Attitude

Table-III: Different measurable awareness, knowledge, attitude of patients towards use of PPE, along with their reservations and how they follow the preventive instructions.

Variables	n	Percentage	Scores	n	Percentage
Knowledge					
	413	82.6%	0	24	4.8
	-	-	1	16	3.2
	-	-	2	18	3.6
	-	-	3	442	88.4
Awareness					
	70	14%	0	32	6.4
	-	-	1	162	32.4
	-	-	2	282	56.4
	-	-	3	24	4.8
Attitude					
	380	77.6%	0	18	3.6
	-	-	1	16	3.2
	-	-	2	14	2.8
	-	-	3	450	90

score in our study was 77.6% as comparison with 58.8% done by Jonathan[14].

Hadil and Fatemah in April 2020, in Saudi Arabia also identified moderate level of awareness 58% and attitude towards practice 95% in their study[13].

The study done by Farahat *et al* demonstrated that, 31.9% of participants were having awareness regrading problem in contrast to our study which showed only 14% of population having awareness[15].

The triad of knowledge, attitudes and practices in combination governs all aspects of life in human societies and all three pillars together make up the dynamic system of life itself[16]. Therefore, they were linked all together in a way so that any improvement in knowledge, changes in attitudes toward prevention of COVID-19 as well as adaptation of practices[17].

CONCLUSION

COVID-19 is pandemic affecting large no of people across the whole world. Most of countries have controlled the issue by adapting the preventive measures like social distancing and use of mask[18]. Our study also emphasized on improvement in knowledge to create more awareness and make attitude better towards use of preventive measures. Current management is to reduce the virus spread and provide supportive care. Clear dissemination of information is needed to reduce the misconception. Sharing and imparting of personal experience would be better option to improve awareness among population.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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