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ORIGINAL ARTICLE

Prevalence and Risk Factors of Covid-19 Mortality and its Impact on Social Life of Pakistani Population

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ABSTRACT

Background: Currently, the world is in a challenging situation due to Covid-19. The ministry of health in Pakistan reported the first case of Covid-19 on 26th February 2020 in Karachi whereas on the same day in Islamabad, the second case was confirmed in Pakistan.

Objective: To assess the prevalence and risk factors of covid-19 mortality and its impact on social life of Pakistani population

Methodology: This retrospective study was carried out at the Department of Pathology, Gomal Medical College, Medical Teaching Institute, Dera Ismail Khan, Pakistan for a period of ten months from March 2021 to December 2021. All the data was taken from the hospital record to determine the prevalence and risk factors associated with the mortality of covid-19. For determining the influence of covid-19 on the social life, online survey was conducted. Data was entered and analyzed by using SPSS version 24.

Results: In the current study, the overall prevalence of covid-19 was 6%. The most common risk factors associated with the covid-19 was Diabetes mellitus in 25 (71.43%) subjects, hypertension in 22 (62.86%), ischemic heart disease in 16 (45.71%) while chronic liver disease was observed in 3 (8.57%) subjects. According to the survey, 420 (70%) participants thought that covid-19 will be controlled worldwide while 450 (75%) subjects thought that covid-19 will be controlled in Pakistan. Worry of contracting covid-19 even with protective measures was observed in 420 (70%) subjects.

Conclusion: Our study reported that the prevalence of covid-19 was 6%. Diabetes mellitus, hypertension and ischemic heart disease were the major associated risk factors with the mortality of covid-19 and the overall impact of covid-19 on social life of Pakistani population was not good according to our study.

Keywords: Covid-19; Prevalence; Mortality; Social life

INTRODUCTION

Currently, the world is in a challenging situation due to Covid-19 [1]. The Covid-19 epidemic was considered as pneumonia with new causative agent that occurred in the Chinese city of Wuhan, in late December 2019 that takes the whole country with high ratio [2]. Chinese CDC studied respiratory samples and professed that pneumonia was caused by a corona virus of the new strain that named the disease as Novel Coronavirus Pneumonia (NCP) [3]. Respiratory system of the human is the main target of the corona virus [4]. 2019-nCoV name was given to the novel virus by Chinese scientist [5]. Severe Acute Respiratory Syndrome Coronavirus-2 name was given later by International Committee on Taxonomy of Virus (ICTV) to the new virus [6]. Corona virus disease-19 (COVID-19) name was given to this novel virus on 11th February 2020 by WHO [7].

Coronaviridae family is large causing numerous diseases in human ranging from common cold to other severe problems like Middle East Respiratory Syndrome, Severe Acute Respiratory Syndrome etc [8]. The first case of Covid-19 was observed in Chinese city, Wuhan in December 2019 that spread later in more than 213 countries including Pakistan [9]. COVID 19 epidemic was acknowledged as 6th public health of emergency Services on 30January, 2020 by Word Health Organization (WHO) and on March 11, 2020 the COVID-19 outbreak was acknowledged as pandemic by WHO. The ministry of health in Pakistan reported the first case of Covid-19 on 26th February 2020 in Karachi whereas on the same day in Islamabad, the second case was confirmed in Pakistan [10]. According to the global Covid-19 data study, males have been infected by COVID-19 at a higher rate than women [11]. Furthermore, Covid-19 is more likely to impact those with a weakened immune system, making the elderly more vulnerable and more likely to be hospitalized as a result of Covid-19-related issues [12]. Previously existing cardiovascular and cerebro-vascular illness; older age; low CD3+CD8+ T-cell levels; high levels of cardiac troponin I; greater d-dimer and Sequential Organ Failure Assessment score have been identified as risk factors for high death rate in Covid-19 patients [13, 14]. Besides the evident illness and death, this pandemic has caused psychological suffering and harmful mental effects on the populace, which has been under lockdown and isolation [15]. In Pakistan, the lockdown and curfew regulations have had an impact on ordinary people's life, resulting in social issues. As a result, estimating the psycho-social effect on the general public is critical for directing policies and treatments aimed at preserving their psycho-social well-being. According to a previous survey, about 35% of the participants had psychological or mental health issues [16]. Another study in China looked at the psychological effects of COVID 19 on the old population, and found that elders of all ages suffer from anxiety and depression [17]. This study was carried out to determine the prevalence and risk factors of covid-19 and its impact on social life of Pakistani population

MATERIALS AND METHODS

This retrospective study was carried out at the Department of Pathology, Gomal Medical College, Medical Teaching Institute, Dera Ismail Khan, Pakistan. The duration of study was ten months from March 2021 to December 2021. The study approval was taken properly from the research and ethical committee of the hospital. The inclusion criteria for determining prevalence in our study was all the patients of both the gender and all ages, suspected for covid-19 and willing to participate in our study whereas the exclusion criteria was patients not willing to participate

in our study. For determining risk factors, the inclusion criteria was all the ICU admitted patients in the hospital while for determining the influence of covid-19 on the social life of Pakistani population, online survey was conducted by using Google doc. The sample size for online survey was 600 participants by using WHO sample size calculator. In the online survey, people from different parts of the country were included. The survey link was circulated to general population by mean of Facebook, WhatsApp and email addresses. All the information's were recorded on a predesigned Performa. Data of laboratory examination was also extracted from the hospital record. Data was entered and analyzed by using SPSS version 24. Variables were categorized into continuous and categorical variables. Frequency and percentages were calculated for categorical variables while for continuous variables, mean and standard deviations were documented.

RESULTS

In the current study, a total of 600 covid-19 suspected cases were diagnosed for covid-19 from March 2021 to December 2021. Amongst 600 patients, 36 (6%) patients were positive for covid-19 while 564 (94%) subjects were negative for covid-19. The overall prevalence of covid 19 was 6% in our study. (Figure 1)

In the current study, 35 mortalities (5.83%) were recorded in the hospital during the study duration. Amongst 35 subjects, males were 30 (85.71%) while females were 5 (14.29%). The average age was 66.12 years with standard deviation of 9.15. The numbers of patients in age group 45-60 years were 8 (22.86%), 61-75 years were 19 (54.29%) while 8 (22.86%) patients were observed in age group >75 years. (Table 1) The most common risk factors associated with the covid-19 was Diabetes mellitus observed in 25 (71.43%) subjects, hypertension in 22 (62.86%) subjects, ischemic heart disease in 16 (45.71%) subjects while chronic liver disease was observed in 3 (8.57%) subjects. (Figure 2)

In the online survey, totally 600 subjects participated. According to the survey, 420 (70%) participants thought that covid-19 will be controlled worldwide while 450 (75%) subjects thought that covid-19 will be controlled in Pakistan. The fear of covid-19 can be reduced by avoiding news according to the assumption of 450 (75%) subjects. Five hundred and forty subjects (90%) assumed that unauthentic news on social media increases the panic about covid-19. Worry of contracting covid-19 even with protective measures was observed in 420 (70%) subjects. 8% (n=48) subjects think that they will not be able to survive after contracting covid-19 and treatment will have no effect on them. Two hundred and seventy (45%) subjects worried about the infection transmission to their family members. (Table 2)

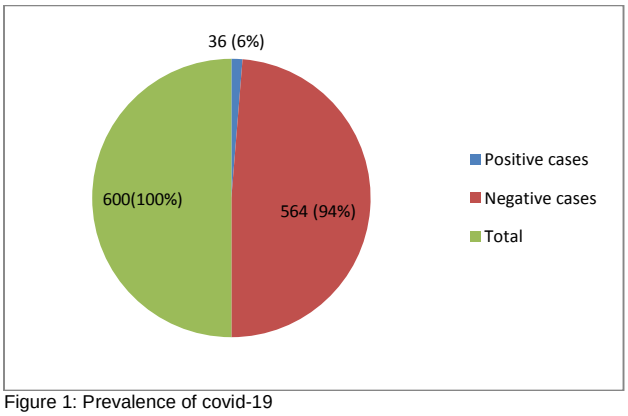

Figure 1: Prevalence of covid-19

Table 1: Gender and age wise distribution of the death cases due to covid-19

Parameter	Sub-category	Frequency (%)
Gender	Male	30 (85.71%)
	Female	5 (14.29%).
Age	45-60 years	8 (22.86%)
	61-75years	19 (54.29%)
	>75 years	8 (22.86%)

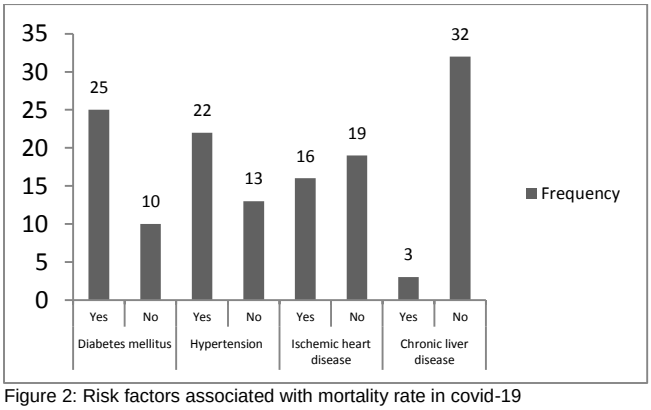

Figure 2: Risk factors associated with mortality rate in covid-19

Table 2: Impact of covid-19 on social life of Pakistani population

Parameter	Agree Frequency (%)	Don't know Frequency (%)	Disagree Frequency (%)
Attitude			
Global control of covid-19	420 (70%)	108 (18%)	72 (12%)
Control of covid-19 in Pakistan	450 (75%)	90 (15%)	60 (10%)
Decrease in fear by stopping yourself from watching news	450 (75%)	30 (5%)	120 (20%)
Panic increase with unauthentic news from social media	540 (90%)	30 (5%)	30 (5%)
Future generations won't be able to meet individuals face-to-face as they formerly did because of social isolation	210 (35%)	120 (20%)	270 (45%)
Worries	Not worried at al	Somewhat worried	Extremely worried
In spite of protective measures I will be infected by Covid-19	162 (27%)	18 (3%)	420 (70%)
If infected by covid-19 will not be able to survive	240 (40%)	312 (52%)	48 (8%)
Drug will not help me in treatment	240 (40%)	312 (52%)	48 (8%)
If get infected will transmit to my family members	60 (10%)	270 (45%)	270 (45%)
I will be infected by covid-19 because I am old	240 (40%)	270 (45%)	90 (15%)

DISCUSSION

Covid-19 management is a worldwide health concern for both developed and low-income nations [18]. Despite the fast sharing of knowledge, numerous unsolved issues remain, as well as a lack of strong proof for many therapies [19]. Despite much information on the clinical manifestations and basic epidemiology of Covid-19 is currently accessible, there is still a scarcity of information on Covid-19 prevalence, risk factors associated with mortality rates, and the effect of Covid-19 on social life in poor countries, particularly Pakistan. In the current study, the overall prevalence of covid-19 was 6%. In contrast to our study, a previous study carried out in Pakistan reported high prevalence (8.7%) of covid-19 [20]. This difference might be due to use of different diagnostic technique because they diagnose the patients with IgG and IgM antibodies for covid-19 while in our study all the cases were confirmed by PCR. Another study done in Pakistan reported

comparable prevalence (7.1%) of covid-19 [21]. In the current study, 35 mortalities (5.83%) were recorded in the ICU of the hospital during the study duration. A comparable mortality rate was observed in another study who reported 4.5% mortality rate of covid-19 [22]. Amongst the 35 subjects, males were 85.71% while females were 14.29%. In accordance with our study, another study also reported high mortality and infection rate of covid-19 in males as compared to females [23]. This might be due to more exposure of males to infection as compared to females because males work outside and female work inside homes in Pakistan. In our study, the numbers of patients in age group 45-60 years were 22.86%, 61-75 years were 54.29% while 8 (22.86%) patients were observed in age group >75 years. In accordance with our study, a study carried out by Zhou et al. reported high death rate in age group 61-75 years [24]. In the current study, the most common risk factors associated with the covid-19 was Diabetes mellitus observed in 71.43% subjects, hypertension in 62.86% subjects, ischemic heart disease in 45.71% subjects while chronic liver disease was observed in 8.57%. In accordance with our study, an earlier study also reported diabetes mellitus as commonest risk factors (69%) for severity and mortality of covid-19 [22]. Another study also reported comparable results to our study [13]. In contrast to our findings another study reported hypertension as commonest risk factor for high mortality rate of covid-19 [24]. Besides the evident illness and death, this pandemic has caused psychological suffering and harmful mental effects on the populace, which has been under lockdown and isolation [15]. In Pakistan, the lockdown and curfew regulations have had an impact on ordinary people's life, resulting in social issues. As a result, estimating the psycho-social effect on the general public is critical for directing policies and treatments aimed at preserving their psycho-social well-being. In the online survey of the current study, totally 600 subjects participated. According to the survey, 70% participants thought that covid-19 will be controlled worldwide while 75% subjects thought that covid-19 will be controlled in Pakistan. In line with our findings, a previous Chinese investigation reported that 90.8% participants felt that Covid-19 will eventually be effectively managed while 97.1% subjects thought China could win the war against the virus [25]. The fear of covid-19 can be reduced by avoiding news according to the assumption of 75% subjects 90% participants assumed that unauthentic news on social media increases the panic about covid-19 in our study. An earlier study carried out by Balkhi et al. in Karachi reported that 84% participants thought that fake news on social media increases the panic about covid-19 [26]. In our study, worry of contracting covid-19 even with protective measures was observed in 70% subjects and 8% subjects think that they will not be able to survive after contracting covid-19 and treatment will have no effect on them. A previous study reported that 54% of the respondent worry of contracting covid-19 even with protective measures, which is not in line with our findings. They also reported that 30% subjects think that they will not be able to survive after contracting covid-19 and treatment will have no effect on them[25]. In the current study, 45% subjects worried about the infection transmission to their family members. In concordance with our finding, a previous study reported 94% worry about the infection transmission to their family members [26].

CONCLUSION

Our study reported that the prevalence of covid-19 was 6%. Our study identified the co-morbid conditions like diabetes mellitus, hypertension and ischemic heart disease as the major risk factors associated with the mortality of covid-19. Our study also concludes that the overall impact of covid-19 on social life of Pakistani population was not good. A response at the public level, in the form of targeted mass psychological support programs, is needed immediately to enhance the mental health of those affected by the Covid-19 crises.

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