Out Break of COVID-19_____Traits after Entry in Pakistan

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Abstract

Background: Since the first case of novel coronavirus disease (Covid-19) detected and spread from Wuhan, China, continuously it is spreading globally and simultaneously in Pakistan. This study has analyzed 200 cases of Covid-19 positive to determine epidemiological and clinical traits of Covid-19 entry in Pakistan.

Methods: These patients were present/transferred from Taftan city to Quetta health center of Balochistan. Basic information for Covid-19 on its clinical, laboratory investigations, epidemiology, diagnosis and treatment were obtained. Further these initial traits were compared between severe, mild, respiratory distressed and asymptomatic cases. Ratio of Covid-19 spread and its mortality also compared with other provinces.

Observations: By the end of the month of March 2020, 200 patients were assessed and analyses for various outcomes of the Covid-19 infection. These patients were present in various health centers of Quetta. Among these 200 cases, 27 (13.5%) were severe, 173 (86.5%) were other cases including mild, respiratory distressed and asymptomatic. Median age group of all cases was 34.9 years. 86.5% were male patients. Maximum number of patients (54.5%) was from Sindh province and least was from Kpk (00) in these quarantine centers of Quetta. 70.5% of all cases have confirm contact history. Commonly occurring symptoms at onset of illness were mild pyrexia (82%), high grade fever (16.5%), cough (54.5%), body ache (38.5%), and dyspnea (10.5%). No patient has any travel history of China while 68.5% patients had a travel history of Iran. In this study the Covid-19 infected positive cases who got discharged from hospital after one visit was 30%. Patients who got hospitalized for admission due to infection were 65%. Total 04 (2%) deaths occurred in these 200 Covid-19 positive cases.

Interpretation: This study explained the severity of Covid-19 infection after its entry in Pakistan and its spread from outskirts to health centers of Quetta. Initial admission, laboratory tests, management and treatment all leads towards a better protocol to handle and prevent the Covid-19 infection spread in other provinces of the country. Early isolation and quarantine for close contacts and strictly following SOPs (standing operating procedures) can give better and safe results for future.

Keywords: Covid-19, Traits, Quetta

Introduction

Alarming total number of 40,500 confirm cases of Covid-19 positive had been identified in the world in 1st week of February 2020, accounted by World Health Organisation WHO.[1] Out of these confir-med cases of Covid-19, 4000 had been discharged from hospitals, 1016 died and 88% remained in various hospitals of China.[2] Global Covid positive cases were also seen in many countries across Europe and US including South East Asia.[3] Wuhan, China was the main focus of Covid-19 pandemic when this outbreak was spread rapidly. Current research has featured Covid-19 characteristics mostly occurred in Wuhan while these features were not given special attention in many countries.[4-5] In current study, the data which has analyzed, purely depended on the features of those Covid positive patients received in various quaran-tine centers of Quetta Pakistan specially

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bordered with Iran. Initial influx was in the month of March-April 2020. Asymptomatic, mild and sever cases of this pandemic noticed in various centers of Quetta city. How far this outbreak gave lessons to health staff, community and management team in comba-ting Covid-19 infection spread.

Methods

This was a study, designed to search for the features and traits among those patients who get positive with Covid-19 infection transferred from Iran border quarantine centers to health centers of Quetta specia-lly made for Covid patients. 200 patients tested for covid-19 infection in Fatima Jinnah Hospital with positive results are added for this study. Symptomatic characteristics and traits in between mild, severe and confirmed to asymptomatic or without pneumonia compared and observed. Approval was taken from ethical committee of BUMHS.

The patients of Covid-19 infection were enquired for epidemiological, clinical, laboratory tests and self explanations. Regarding covid-19 problem, the laboratory authentication of Covid-19 infection was detected in Fatima Jinnah Chest Hospital Quetta on PCR. Clinical findings were also followed during in or quarantine period of patients. During stay of patient in Taftan (city bordered with Iran), its history asked from medical staff at that quarantine base or relative/companion of patient. The extracted data reviewed by two independent reviewers by using double extraction method. All data was checked by four reviewers. Data on covid-19 obtained from all health centers were administered by Health depart-ment of Balochistan.

The variables used to express were mean and SD. The

**Table 1:** *Features of COVID-19 in Balochistan*

Features	Total cases (n=200)	Severe cases (n=27)	Mild, Moderate, asymptomatic cases (173)	p-value
Average Age years	34.9	60	57.1	<0.001
Age in groups(%)				
1-15	04(2)	00(0)	04(2)	
16-30	71(35.5)	01(0.5)	70(35)	
31-50	90(45)	03(1.5)	87(43.5)	
51-65	23(11.5)	04(2)	19(9.5)	
>66	12(6)	07(3.5)	05(2.5)	
Male n. %	173(86.5)	11(5.5)	162(81)	0.752
Female	27(13.5)	04(2)	23(11.5)	<0.001
Resident province n %				
Azzad Jamu Kashmir	01(0.5)	00(0.0)	01(0.5)	
Balochistan	57(28.5)	13(6.5)	44(22.0)	
Gilgit Baltistan	00(0.0)	00(0.0)	00(0.0)	
Punjab	33(16.5)	07(3.5)	26(13.0)	
Sindh	109(54.5)	07(3.5)	102(51.0)	
Kpk	00	00	00	
Sign & Symptoms n %				
Mild pyrexia	164(82)	17(62.9)	145(83.8)	0.621
High grade pyrexia	33(16.5)	07(25.9)	21(12.1)	0.572
Cough	109(54.5)	07(25.9)	102(58.9)	0.103
Body ache	77(38.5)	21(77.7)	154(89.0)	0.181
Dyspnea	21(10.5)	03(11.1)	11(6.3)	<0.001
Contact history n %	141(70.5)	27(100)	103(59.5)	0.322
Travel from China	00(0.0)	00(0.0)	00(0.0)	
Travel from Iran	137(68.5)	17(62.9)	120(69.3)	0.070
Contact to positive case	29(14.5)	11(40.7)	21(12.1)	0.210
Days of illness onset	6.3±4.9	7.6±6.7	6.3±5.1	0.313
Days from illness to hospital visit	3.7±2.9	2.9±2.1	4.2±3.7	0.199
Outcome of cases n %				0.001
Discharge after 1st hospital visit	60(30)	00(0.0)	41(23.7)	
Patient hospitalization	130(65)	27(100)	112(64.7)	
Death	04(02)	03(11.1)	01(0.5)	

data (categorical variables) were explained as percentage and analyzed by using Wilcoxon test. Analysis performed with SPSS-22 and p-value lesser 0.05 was statistically significant

Results

To explore the COVID-19 entry in Pakistan, its infection rate and traits, 200 confirmed cases of Covid-19 positive were added in this study. These cases were transferred from quarantine center of border city Taftan to various COVID centers at Quetta. Out of these 200 cases, 27 (13.5%) were severely ill and 173 (86.5%) were categorized as common cases. Emergency aid of oxygen support given to severely sick patients after observation of oxygen saturation (65%-80%). Continuous supply of oxygen for three consecutive days given to various ill patients making the saturation 92%-96%. Few common cases required oxygen management too. The common cases included mild, moderate and asymptomatic individuals. The median age of the patient was 34.9 years (from 01 year to 84 year. Age 1 to 15 years children were 04 (2%), COVID-19 infected age group between 16 to 30 years was 71 (35.5%). Total number of patients was 90 (45%) of all infected cases from 31 to 50 years. Age from 51 to 65 years had the median age of 23 (11.5%) and more than 60 years of age group remained 12 (6%) cases of all infected COVID patients, (Table-1) (Figure-1). Total number of male patients in this study was 173 (86.5%) while females were 27 (13.5%). Various COVID health centers of Quetta received number of patients. These patients were belonging from all over the country. One (0.5%) patient was from province of Azad Jammu Kashmir, 57 (28.5%) patients were from Balochistan province, No any patient was from Gilgit Baltistan. From Punjab province 33 (16.5%) patients got COVID infection in health centers, while 109 (54.5%) patients were from Sindh province. No any patient was from KPK province. Pyrexia was most commonly observed symptom in most of the patients 164 (82%), high grade fever 33 (16.5%), cough 109(54.5%), body ache 77(38.5%), dyspnea 21 (10.5%) were other symptomatic mani-festations seen in these infected patients. 141 (70.5%) patients got positive for COVID-19 infection having a contact history with other positive patients. No any patient have been noticed who have recent or near past traveling history to China. Most patients had a recent

traveling history of Iran. Some were pilgrims and business individuals while rest were students. COVID-19 pandemic hit very hardly to Iran killing dozens daily which resulted transfer of many positive patients through Taftan gateway into Pakistan. No arrangements to quarantine this massive influx of
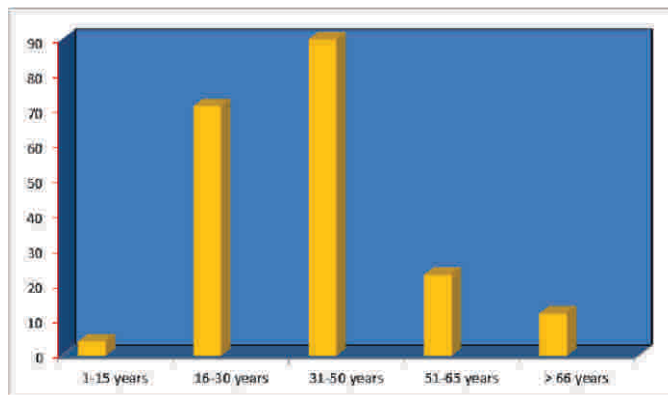

patients caused immense difficulties for management and medical staff as well.

Fig-1 *Age in Years of COVID-19 Infected Patients*

Illness onset and duration of stay in hospital was also noticed in this study. After appearance of any symptom out of these 200 patients 60 patients (30%) visited the hospital where they had a check up and discharged later after getting minor treatment. Among these patients all sever sympto-matic patients got admitted in hospital. 41 patients (23.7%) had minor symptoms during hospital visit and discharged later after treatment. 130 patients (65%) got admitted in hospital after looking at the severity of symptoms. All those 27 patients (100%) who got severe symptoms of COVID-19 got admitted in hospital where 3 patients (11.1%) died due to complications and severity of symptoms. All those who died were more than 65 years of age. One patient (0.5%) who had minor symptoms but worsened later at home died in hospital due to poor management at home. First case of COVID-19 infection in Pakistan noted on 26.02,2020. First 50 cases observed on 16.03.2020, 187 cases (253% increase) seen very next day on 17.03.2020. 241 cases noted on 18.03.2020 while first death due to outbreak in Pakistan seen on 19.03.2020. First 1000 cases noted on 26.03.2020 where at this stage death toll reached 08. The fatal outcome of Covid pandemic remained very low in Quetta compared with other cities of Pakistan. Quetta was the most positive case holding city in the month

of March, reduced later day by day. Current figures of Covid-19 positive cases in various provinces of Pakistan remained as, Sindh 128000, Punjab 96057,
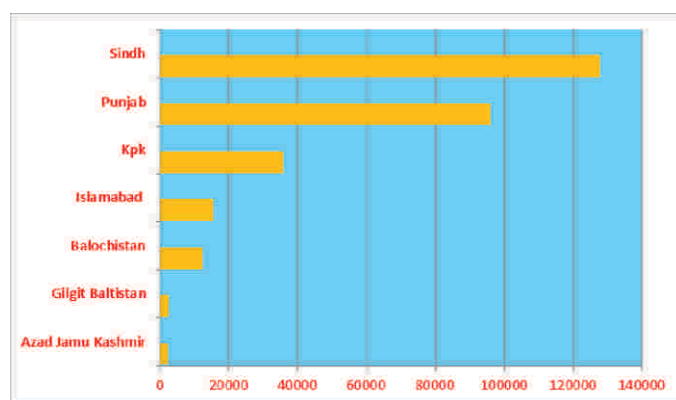
KpK 35602, Islamabad capital 15472, Balochistan 12472, Gilgit Baltistan 2638 and Azad Jamu Kashmir 2241.

Fig-2: *Number of COVID-19 Cases according to Provinces*

Discussion

The corona virus outbreak has an experience started in China via SARS in 2003. The dormant coronavirus turned in a pandemic from Wuhan in December 2019.7 Dr. Drazen of NEJM exclaimed that when tackled by a regular rival, all should forget differences and work jointly for eradication of enemy. This vital lesson conferred during combating SARS with the hope for any gain.8 The recent pandemic of corona virus infection started in Wuhan China and spread globally. Comparison of asymptomatic and mild cases to severe and mortal cases is still mysterious which obstructs pragmatic estimation of corona virus outbreak and obscure the occurrence reaction.[9] This study explored the fraction of severe cases of covid-19 to common cases of corona virus infection which was around 1:6, the ratio of severe cases to asymptomatic and mild respiratory distress were 1:20 and 1:15 respectively. 09 asymptomatic covid-19 positive cases were in close contacts of severe cases as they all would not look for health care hospital visit and can stretch infectivity to other close contacts.[10] The prevention of corona virus disease spread and its control are important measures to be taken for future. Majority of Covid-19 positive patients were adults while males were 86.5% of all patients showing significant difference between male and female patients. The cases steadily increased from the month

of March 2020 with an abrupt elevated number at the end of month. The reason behind this was mode of fast transmission route from person to person. Common presentation of illness was fever, body ache and dyspnea but dyspnea was always accompanied with severe distressed patients. The same pattern was noted in the patients of Wuhan China.9 Incubation period was 6.7 days. Patient fatality due to Covid-19 infection was 13.5% which is higher initially than the other provinces. Abrupt increase in Covid-19 infected patient's influx observed initially in Quetta Balochistan compare to rest of the country which has fallen faster in later days. Therefore Balochistan was successful in preventing and handling the Covid-19 outbreak. From the perspective of death due to Covid-19 pandemic, this was 3.5% while at the end of March this was about 39.5% in rest of the country. Almost no fatality noted in the province of Balochistan during Covid-19 outbreak beginning days.[11] This study has few limitations, during initial stages of quarantine, most of those suspected groups clustered in bulk without caring the SOPs. There was forceful exit immigration by Iran Government pushing the suspected Covid-19 patients into Pakistan. Proper quarantine places were not made by provincial management in beginning days of pandemic. PCR testing facility is not available in Taftan. Initial reaction time by health ministry and medical staff deployment to quarantine and health facilities was very poor. The official data of Covid-19 pandemic is exhibited almost a month late. PCR testing facility was started very late in prescribed health centers of Quetta. The pandemic development curve of this study is not specified. This study represents initial pattern of Covid-19 spread in Quetta, which has definite worth for future deterrence, control and research. Concluding the study with the traits of Covid-19 infected patients in Quetta Balochistan were appa-rently unusual from other provinces of Pakistan in low fatality, high discharge rate and decrease in new Covid-19 positive patients.

Author's Contribution:
ZK: Study design, Statistical analysis, protocol, first draft of manuscript.
MM: Statistical Analysis, Protocol, first draft of manuscript.
MYB: Statistical analysis
AZK, MH, KKC: Data Collection

Conflict of Interest: None

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