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A STUDY ON INFORMATION REGARDING COVID-19PANDEMICAND ITS RISK PERCEPTIONS IN STUDENTS OF MEDICAL UNIVERSITIES OF SINDH, PAKISTAN

SIYAL FJ[1*], SALEEM R[2], SHAIKH SA[3], KHOSO MH[4*], LAGHARI SH[2], MALIK E[5], SHAFIQUE S[6] AND KHASKHELI AR[1]

1: Institute of Pharmacy, Shaheed Mohtarma Benazir Bhutto Medical University Larkana

2: College of Pharmacy, Liaquat University of Medical and Health Sciences

3: Department of Community Medicine, Shaheed Mohtarma Benazir Bhutto Medical University Larkana

4: Department of Biochemistry, Shaheed Mohtarma Benazir Bhutto Medical University Larkana

5: Department of Surgery, Shaheed Mohtarma Benazir Bhutto Medical University Larkana

6: Dow College of Pharmacy, Dow University of Health Sciences

***Corresponding Author: Fahad Jibran Siyal: E Mail: fahad_jibran_hbk@hotmail.com**

***Co-Corresponding Author: Mir Hassan Khoso: E Mail: mir_khoso@yahoo.com**

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ABSTRACT

December 2019, Coronavirus (COVID-19) which is another public health issue has emerged in the Huanan Seafood Market in Wuhan, Hubei Province, China. As frontline healthcare workers i-e medical students are more likely to get infected with the COVID-19. The aim of this study was to elicit the assessments of medical students of Sindh regarding COVID-19 pandemic awareness and their perceptions of risk. This study was performed with SMBBMU Larkana and LUMHS Jamshoro on 19-21 May 2020. The online questionnaire was developed with the help of Google forms and used as a tool for data collection. Questionnaire comprised of 15 questions. This online survey has included a total of 391 participants.

Keywords: Medical Students, COVID-19, Risk perceptions, COVID-19 awareness

INTRODUCTION

A viral disease with unknown etiology comes on surface in the city of Wuhan city located in Hubei province, china from the December 2019 **[1]**. Using gene sequencing, we learned that the underlying pathogens were enveloped and that they were positively stranded Ribonucleic acid from the coronaviridae family's Nidovirales order **[2]**. Firstly it was given the name of 2019-nCoV and later it was reported to be SARS-COV-2 i.e. "severe acute respiratory syndrome corona virus 2" by the international committee on taxonomy **[3]**. The World health organization (WHO) on 11th February 2020 gave it the name corona virus disease 9 (COVID-19), it can be spread through human to human by respiratory droplets or having direct contact with the person. Fever, dyspnea, bilateral patchy infiltration on imaging and dry cough is the main clinical symptoms of this disease similar to other virus of the coronaviridae family in 99 percentages of the affected patients **[4, 5]**. The Mortality rate of corona virus is about 2 percent which is significantly lower compared to SARS and MERS i.e. "middle east respiratory disease". This virus has an epidemic status and has been reported in the countries like China, Iran, USA. etc. **[6]** COVID-19 was first detected in Karachi, Sindh, Pakistan on 26 February 2020 when a person returning from Iran was tested positive **[7, 8]**. Till March 18th 2020 it had spread till all the provinces of Pakistan **[9]** as of today 20th may 2020, 41,794 cases have been registered including 939 deaths and 12,489 patients have been recovered**.** Medical personnel's are at highest risk to develop covid-19, this risk can also get multiplied **[4, 10]**. In one of the study, it was estimated at about 29%the rate of transmission to health professionals **[11]**. To highlight this point a surgery was conducted of a one patient in Wuhan city and it infected about 14 health care professionals **[12]**. Medical students are the primarily persons who might have close contacts with the covid-19 infected patients as they have clinical rotations along with multiple hospital visits, having short of knowledge related with covid-19 can make them overestimate this situation, it can also increase their anxiety also stress levels and they might affect their medical judgments **[13]**. The Aim of this study was to assess medical student's knowledge of COVID- 19, its preventive behavioral knowledge along with its risk perception as it is increasing at rapid pace in the Pakistani hospitals along with all over the

world. To our knowledge no any study has been conducted in the Pakistan.

MATERIAL AND METHODS

A survey was conducted on Pakistani medical students of Shaheed Mohtarma Benazir Bhutto medical University Larkana and Liaquat University of medical and Health sciences Jamshoro Sindh. A total of 391 participants took part in this survey. A snowball technique of sampling was used; both universities are located in the province of Sindh, Pakistan. As medical personnel's are thought to be Front line soldiers because they are the one who might face the infected patient first and are always on the risk to get infected. The questionnaire was developed online with the help of Google forms, and they were filled with the consent from the studies, those who don't wanted to be part of it they didn't filled the form. The link of the questionnaire was sent through face book and whatsapp groups of the concerned universities. The students were encouraged to participate in this survey, after clicking the link they were directed to the forms for completing, their demographic details along with set of questionnaire appeared stepwise for the participants to answer. Only those who had access to the internet could participated in this survey and it was uploaded on 19th may 2020 at 2:22 A.M on the facebook along with whatsapp groups and it was closed on 21/05/10:50 P.M. It contains demographic information which includes ages, sex and name of the university; it contains about 15 questions COVID19 from previous studies **[15]**. Nine questions were related with self-reported preventive measure. On the basis of previous study two questions were related to risk perceptions and one question regarding remedisivir. Validation of this questionnaire was established by the two epidemiologists. Data will be analyzed by frequencies and percentages will be counted.

RESULTS

The highest number of participants who took part in this survey were of age group 23 years old (18%) and lowest were of 19 years of age (3%) shown in **Chart No. 1**. 59% of participants were female (231) and 38% were male (147) and 3% (13) of participants prefer not say about their gender shown in **Chart No. 2**. 72% (282) participants were from Shaheed Mohtarma Benazir Bhutto medical university Larkana and 28 % (109) participants were from Liaquat University of medical and health sciences shown in **Chart No. 3**. Is COVID19 a respiratory infection which was the correct question and 87% (341) of participants responded with YES, 7% (27) of participants were not sure so they

thought MAY BE, 6% (23) said NO and they were not of the opinion that it is a respiratory infection Shown in **Chart No.4**. Its first case was diagnosed in china which was the correct answer and 94% (372) of participants responded with YES, 5% (21) of participants were not sure so they thought MAYBE, 1% (4) of participants said NO as they were not of the opinion that its first case was diagnosed in china shown in **Chart No 4**. It is transmitted by sea foods, snakes or bats which was the correct answer 68 %(204) of participants responded with YES, 23% (88) of participants Said No and 25% (99) of participants said MAY BE shown in **Chart No.6**. Symptoms are cough, fever and shortness of breath which was the correct answer 95% (371) of participants responded with YES, 4 % (17) of participants were not sure so they thought MAYBE, 1% (4) of participants said NO Shown in **Chart No.7**. Incubation period is up to 14 days which was the correct answer 90% (353) of participants responded with YES, 8% (30) of participants were not sure so they thought MAY BE, 2% (8) of participants said NO Shown in **Chart No.8**. Diagnosed by PCR test which was the correct answer 71% (276) of participants responded with YES, 24% (94) of participants were not sure so they thought MAYBE, 5% (21) of participants said NO Shown in **Chart No. 9**. Samples collected through nasopharyngeal and oropharyngeal discharge which was the correct answer 81% (317) of participants responded with YES, % 16 (61) of participants were not sure so they thought MAYBE, 3% (13) of participants said NO Shown in Chart No.10.Transmitted through close contacts with infected case which was the correct answer and 94% (376) of participants responded with YES, 5% (20) of participants were not sure so they thought MAYBE, 1% (4) of participants said NO Shown in **Chart No.11**. Disease can be prevented through hand washing and personnel hygiene which was the correct answer and 95% (370) of participants responded with YES, 4% (16) of participants were not sure so they thought MAYBE, 1% (5) of participants said NO Shown in **Chart No.12**. Disease can be prevented through social distancing which was the correct answer 94% (367) of participants responded with YES, 5% (21) of participants were not sure so they thought MAYBE, 1% (3) of participants said NO Shown in Chart No.13.Is medical mask useful in prevention of disease which was the correct answer 90% (353) of participants responded with YES, 7% (28) of participants were not sure so they thought MAYBE, 3% (10) of participants said NO Shown in **Chart No.14**. All peoples

must wear mask which was the false answer 82% (316) of participants responded with YES, 6% (22) of participants were not sure so they thought MAYBE, 12% (53) of participants said NO Shown in **Chart No.15**. It is treated using anti-viral drugs which was the false answer 48% (188) of participants responded with YES, 23% (89) of participants were not sure so they thought MAYBE, 29% (114) of participants said NO Shown in Chart No.16.If symptoms appear from contact with suspect case, they shall approach health care center nearby which was the correct answer 92% (361) of participants responded with YES, 5% (17) of participants were not sure so they thought MAYBE, 3% (13) of participants said NO Shown in **Chart No. 17**. Cancelled meet up with friends, families, etc. 94% (369) of participants responded with YES, 6% (22) of participants said NO Shown in Chart No.18.Reduced usage of Public transport, 95% (372) of participants responded with YES, 5% (19) of participants said NO Shown in **Chart No. 19**. I went to shopping less frequently, 90% (351) of participants responded with YES, 10% (40) of participants said NO Shown in **Chart No.20**. I did not went to café, library etc. 92% (360) of participants responded with YES, 8% (21) of participants said NO Shown in **Chart No. 21**.I avoided coughing near peoples, 96% (375) of participants responded with YES, 4% (16) of participants said NO Shown in **Chart No.22**. Avoided wandering in large public gathering, 96% (376) of participants responded with YES, 4% (15) of participants said NO Shown in **Chart No. 23**. Repeatedly washed hands with sanitizers and other disinfectants, 94% (366) of participants responded with YES, 6% (25) of participants said NO Shown in **Chart No. 24**. Discussed with family and friends, 93% (365) of participants responded with YES, 7%(26) of participants responded with NO shown in **Chart No. 25**. I am afraid to become infected with COVID-19, 65% (256) of participants responded with YES, 35% (135) of participants responded with NO, shown in **Chart No. 25**. I might be infected with COVID-19 more easily than others, 23% (88) of participants responded with YES, 77% (303) of participants responded with NO, shown in **Chart No. 26**. Have you ever heard of Remedesivir, 58% (225) of participants reeoded with YES, 42% (166) of participants responded with NO, shown in **Chart No. 27**.

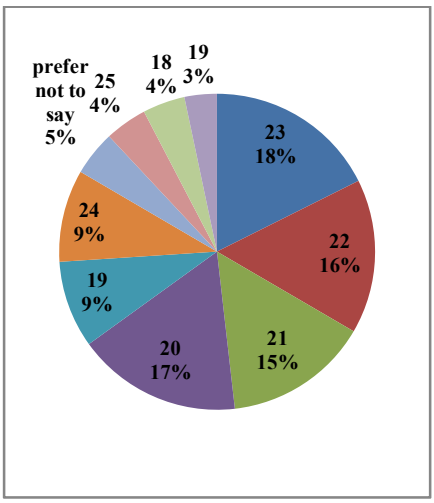


Chart No.1: Age

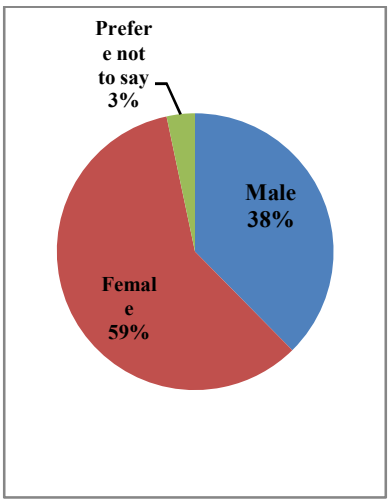


Chart No. 2: Gender

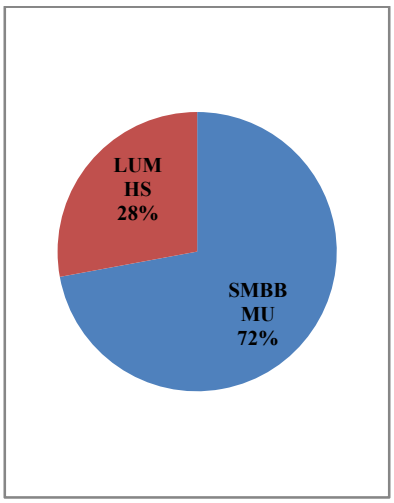
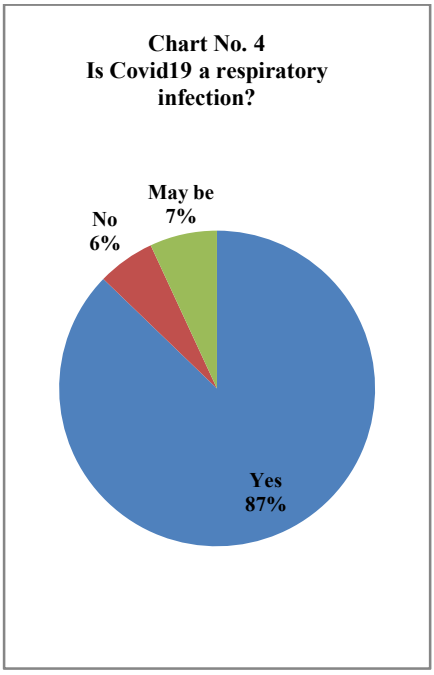
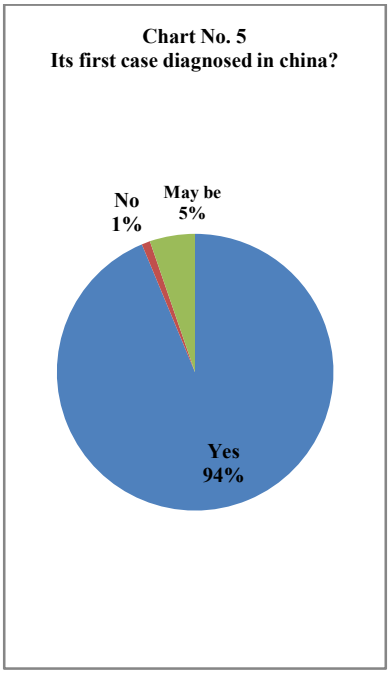
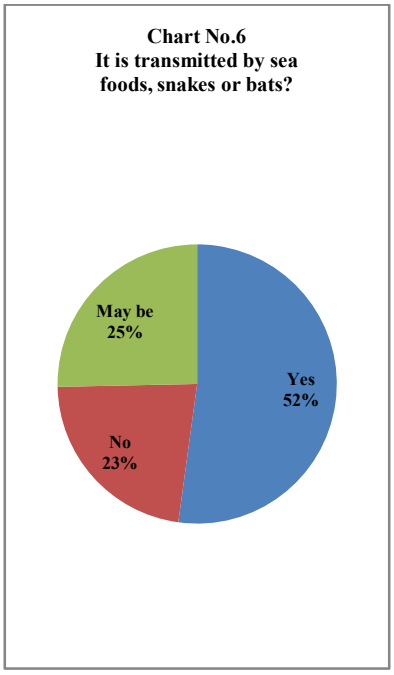


Chart No. 3: Participation

COVID-19 RELATED KNOWLEDGE ITEMS







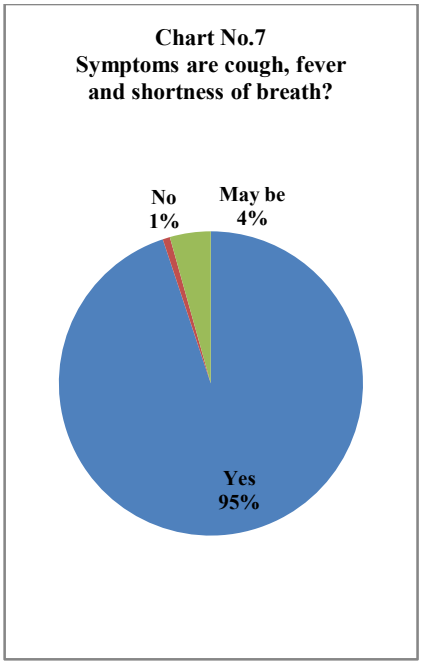


Chart No.7
Symptoms are cough, fever and shortness of breath?
No 1%
May be 4%
Yes 95%

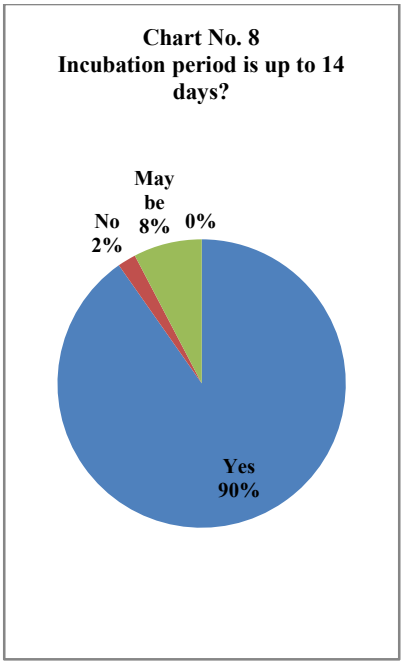


Chart No. 8
Incubation period is up to 14 days?
May be 8%
No 2%
0%
Yes 90%

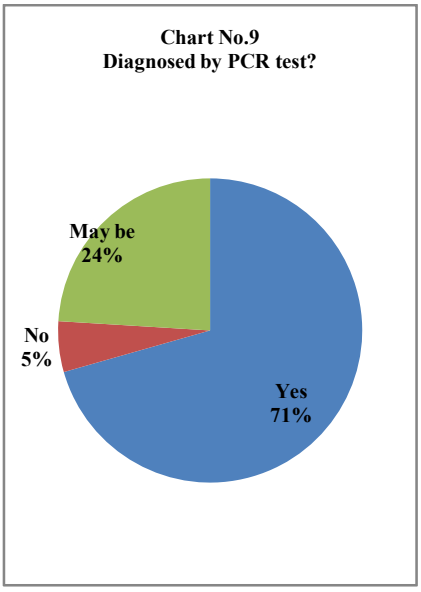


Chart No.9
Diagnosed by PCR test?
May be 24%
No 5%
Yes 71%

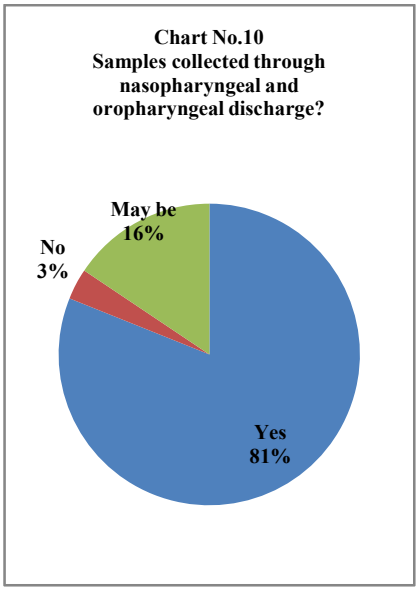


Chart No.10
Samples collected through nasopharyngeal and oropharyngeal discharge?
May be 16%
No 3%
Yes 81%

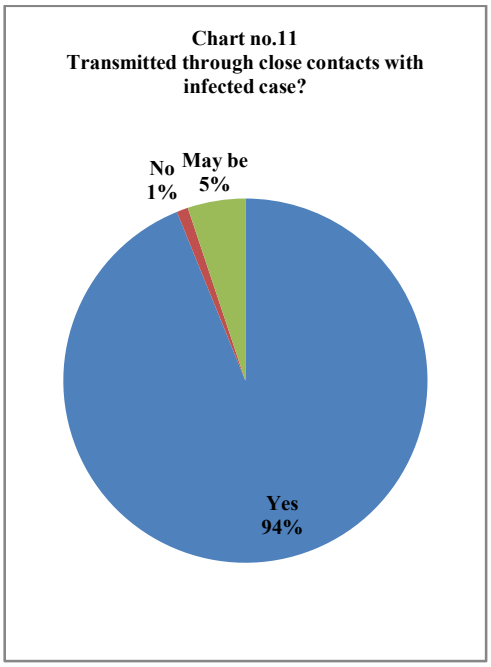


Chart no.11
Transmitted through close contacts with infected case?
No 1%
May be 5%
Yes 94%

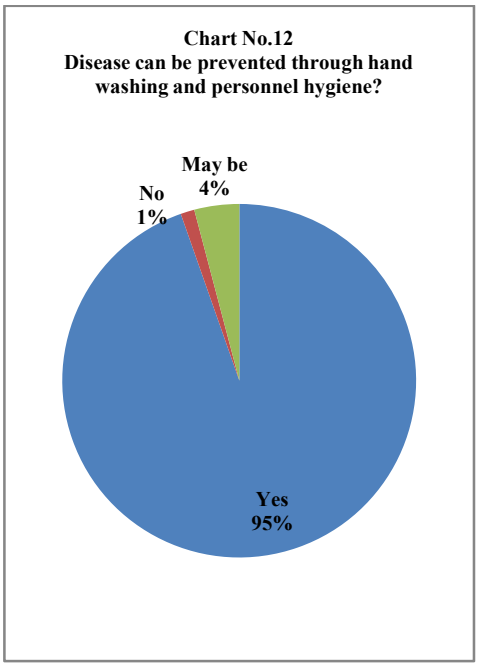


Chart No.12
Disease can be prevented through hand washing and personnel hygiene?
May be 4%
No 1%
Yes 95%

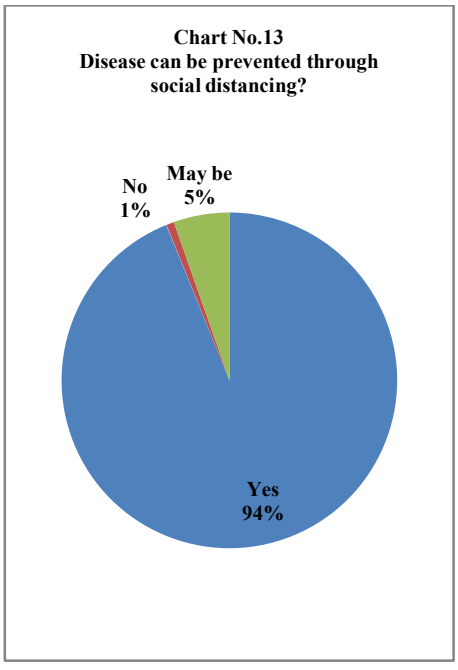


Chart No.13
Disease can be prevented through social distancing?
No 1%
May be 5%
Yes 94%

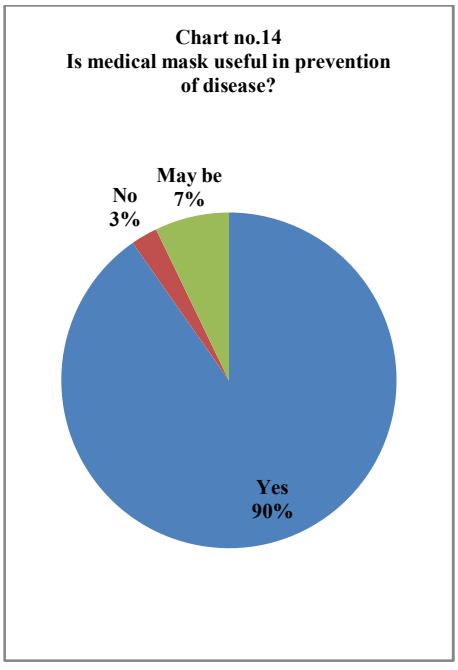


Chart no.14
Is medical mask useful in prevention of disease?
May be 7%
No 3%
Yes 90%

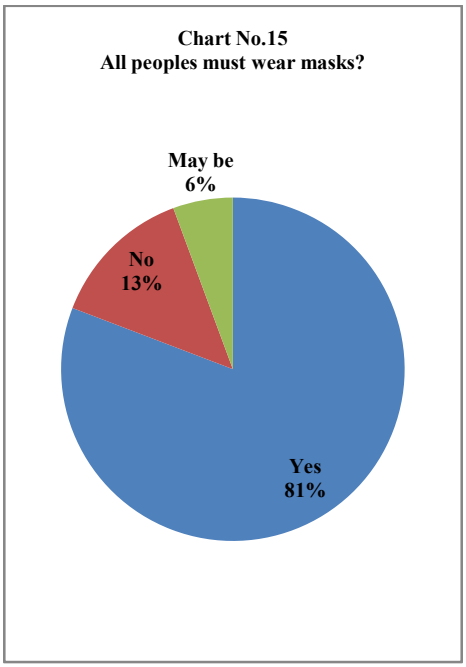


Chart No.15
All peoples must wear masks?
May be
6%
No
13%
Yes
81%

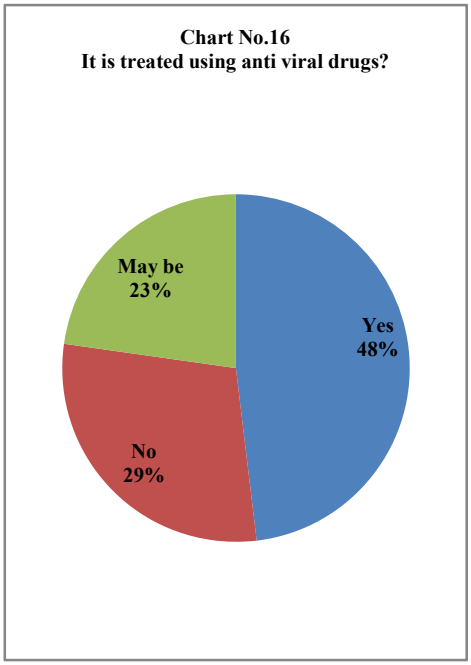


Chart No.16
It is treated using anti viral drugs?
May be
23%
Yes
48%
No
29%

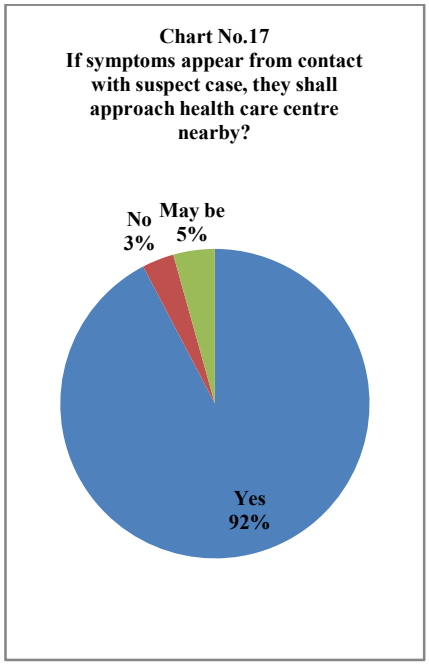
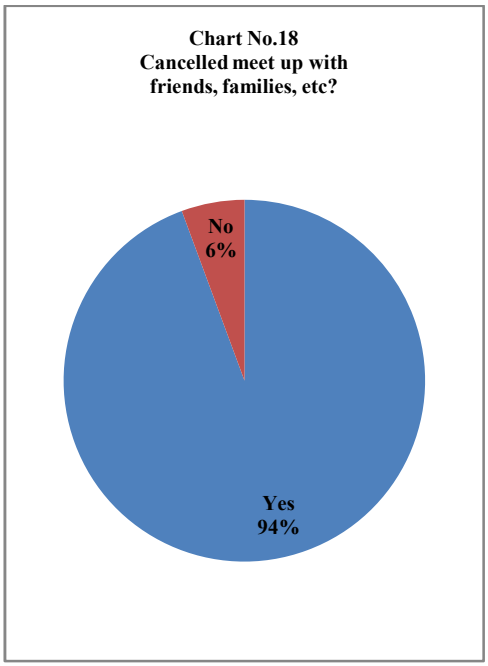
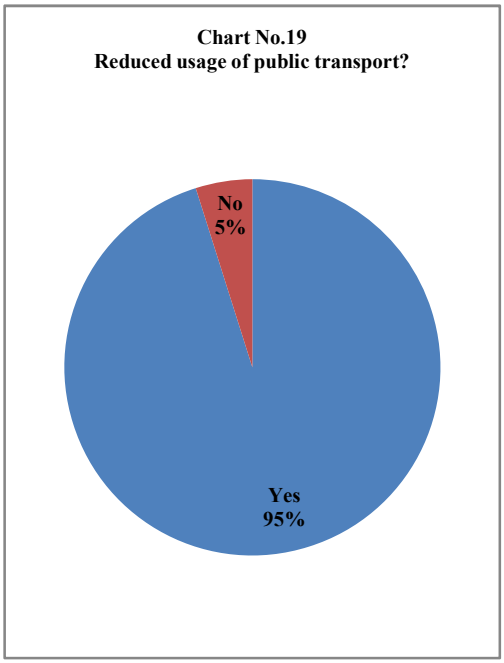
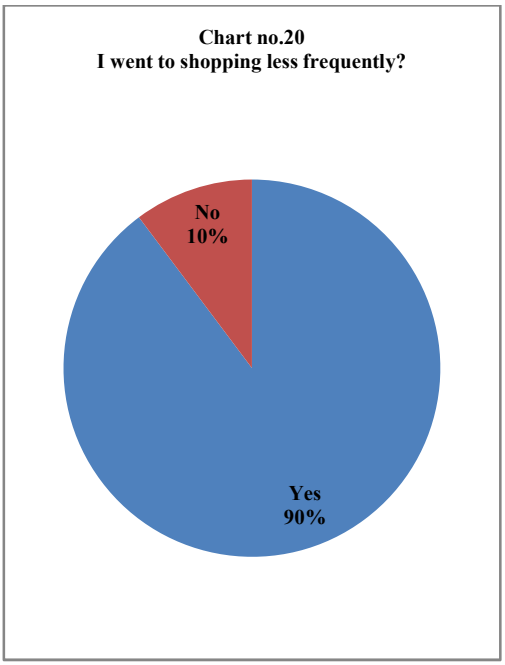


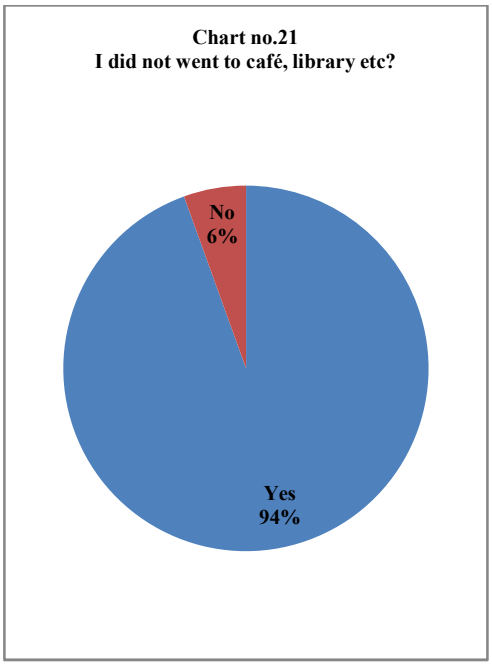
Chart No.17
If symptoms appear from contact with suspect case, they shall approach health care centre nearby?
No
3%
May be
5%
Yes
92%

SELF REPORTED PREVENTIVE MEASURES









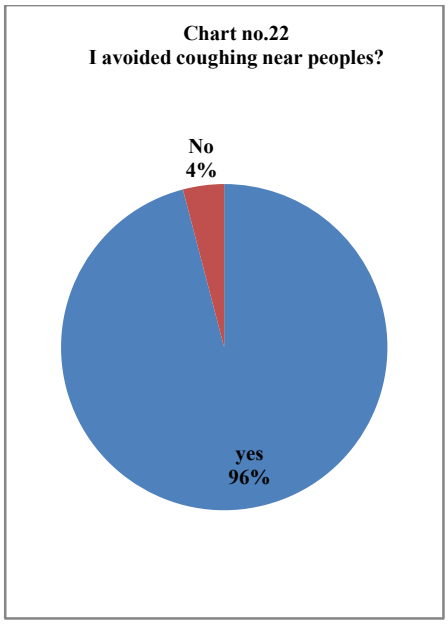


Chart no.22
I avoided coughing near peoples?
No
4%
yes
96%

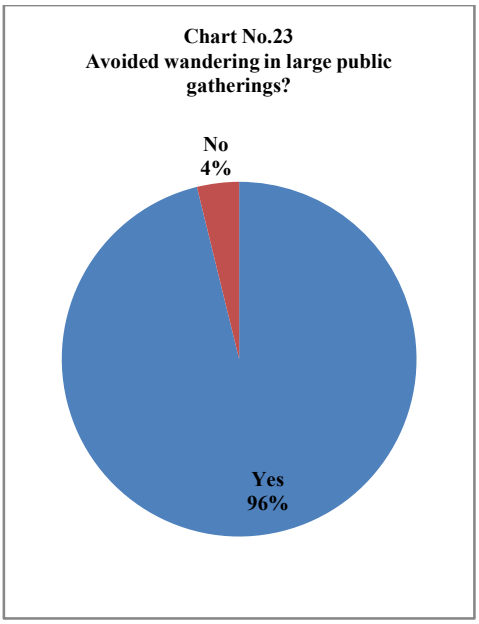


Chart No.23
Avoided wandering in large public gatherings?
No
4%
Yes
96%

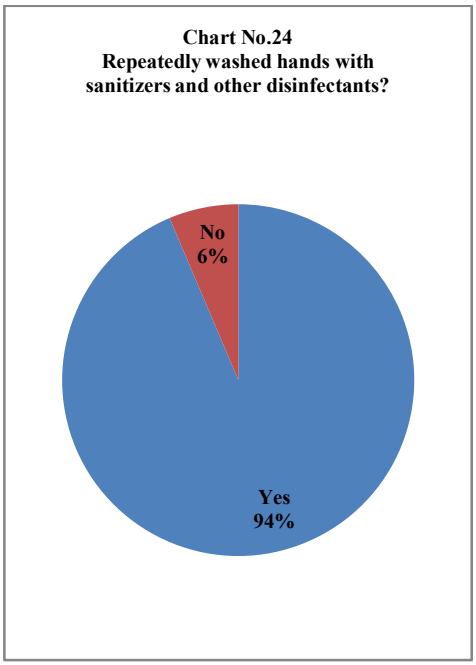


Chart No.24
Repeatedly washed hands with sanitizers and other disinfectants?
No
6%
Yes
94%

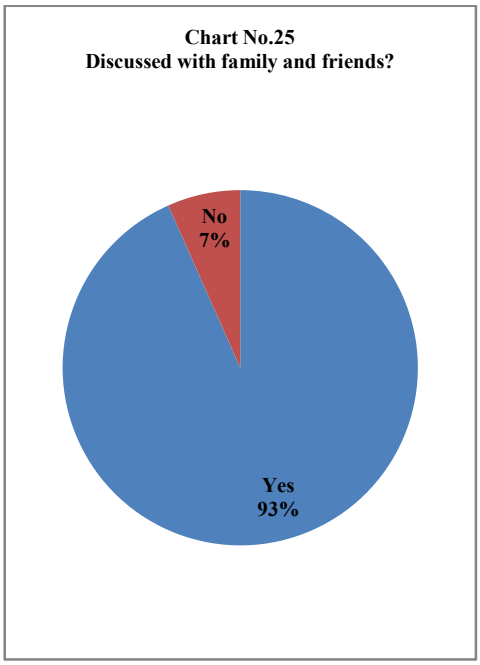
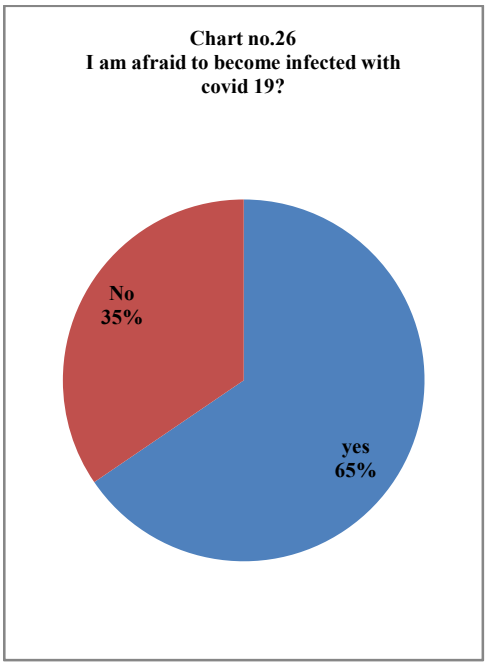
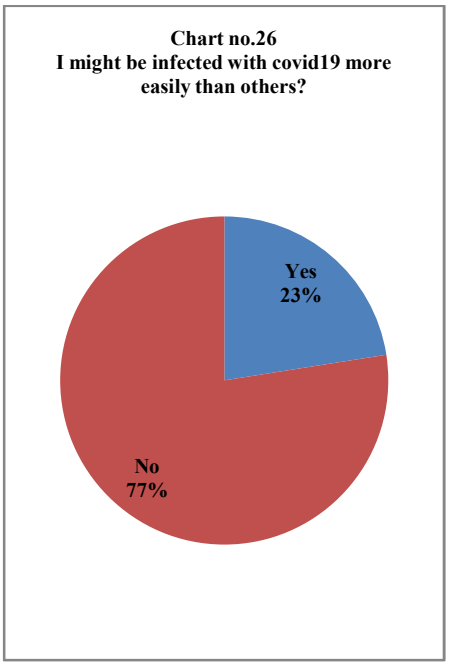
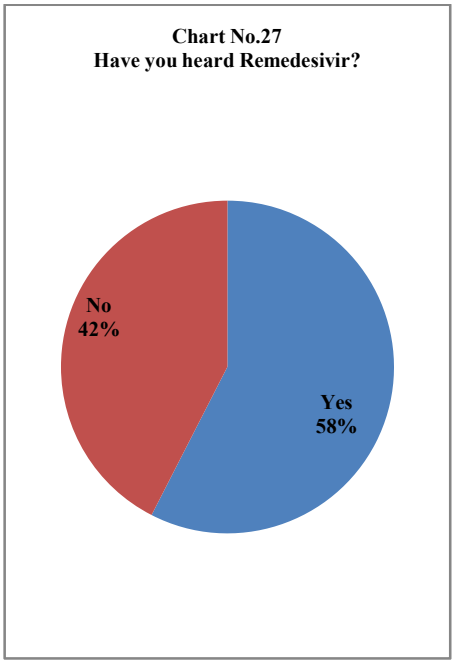


Chart No.25
Discussed with family and friends?
No
7%
Yes
93%

RISK PERCEPTIONS







DISCUSSION

World health organization has declared corona virus as public health emergency on international concern **[14]**. Medical students are no exception, who are studying and working in the hospitals of the universities and because of that they are at risk of this infectious disease **[19]**. Hence because of that it was important to check their knowledge regarding the virus nature, preventive behavioral patterns and also checking the perception of risk, on the basis of this information health makers can do proper planning's. As far as our knowledge is concerned this is first kind of study which has been conducted at the undergraduate level in Pakistan to the best of our knowledge. This study has been conducted when there is increased in day to cases of corona virus in Sindh, Pakistan. In this study, 59% female and 38% male medical students participated in this survey. According to knowledge related to COVID-19 correct answer rate ranging from (0 to 100 percentage) about 87% of students answered correctly that COVID-19 is a respiratory infection in comparison to one of study it was 95.4% **[14]**. 94% of students answered correctly that it was firstly diagnosed in china compared to one of study and in which it was about 91.7% 52% of students answered correctly that it was transmitted by sea food, snakes and bats in comparison it was 82.5%.95% of students answered correctly that symptoms are cough fever, shortness of breath in comparison it was 90%.90% of students answered correctly that its incubation period is up to 14 days in comparison it was 85.4%. 71% of students answered correctly that it is diagnosed by PCR in comparison it was 80%. 81% of students answered correctly that samples are collected through nasopharyngeal and oropharyngeal discharge in comparison it was 80%.94% of students answered correctly that it is transmitted through close contacts with infected case in comparison it was 89.6%. 95% of students answered correctly can be prevented through hand washing and personnel hygiene in comparison it was 93.8%. 94% of students answered correctly that it can be prevented through social distancing in comparison it was 93.8%. 90% of students answered correctly that medical mask is useful in prevention of disease in comparison it was 85.5%. 81% of students answered false that all the peoples must wear masks in comparison it was 82.1%. 48% of students answered false regarding it is treated using antiviral drugs in comparison it was 88.3%. 92% of students answered correctly that if symptoms appear from contact with

suspect case, they shall approach health care center nearby in comparison it was 73.8%. According to self-reported preventive measures, 94% of students cancelled meet up with friends; families etc. in comparison it was 92.5%. 95% of students reduced usage of public transport in comparison it was 93.8%. 90% of students went to shopping less frequently in comparison it was 95%. 94% of students did not went to café, library etc. in comparison it was 94.6%.96% of students avoided coughing near peoples in comparison it was 97.1%.96%of students avoided wandering in large public gatherings in comparison it was 99.6%.94% of students repeatedly washed hands with sanitizers and other disinfectants in comparison it was 96.7%.93% of students discussed with family and friends in it was 95.4%. According to risk perceptions 65% of students were afraid of becomingCOVID-19 infection in comparison it was 2.04+- 0.96 mean +- SD.77% of students thought they might be infected with COVID-19 more easily than others in comparison was 2.04+- 0.97 mean +- SD and one question regarding knowledge of remedesivir, 58% of students knew about it **[15, 16]**. It is also possibly indicate that women's might be more aware when it come to the knowledge related with covid19.In one of the study, they also investigated the medical students knew the consequences of preventive behaviors. They suggested to reduce the risk perception anxiety on stress can be the major problems in the outbreak of disease **[17, 18]**.

CONCLUSION

In conclusion according to our results students of medical universities of Sindh have high related information regarding COVID-19 and its risk perceptions, but they must deal this issue very seriously.

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