

AWARENESS OF JORDANIAN SURGICAL PATIENTS ABOUT COVID 19 DURING PEAK OF EPIDEMIC AT JUH

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ABSTRACT

Around the first COVID-19 epidemic in Jordan, we aimed to explore awareness of COVID-19 (knowledge and attitudes) disease, treatment options, and preventive measures among patients who were admitted to Jordan University Hospital (JUH) and planned to undergo elective surgery over a period of 3 months in 2020.

This prospective cross-sectional article uses a questionnaire based survey which was provided to and was answered by patients themselves, then collected data was migrated to computer software and analyzed. The sample resulted in 292 patients. More than 95% were aware of the disease and and given age, educational levels and gender, we found no significant differences in knowledge and awareness of COVID-19 and protective and preventive measures. More than 60% of those surveyed were aware of COVID-19 serious complications and risk factors for developing them. Around 28% of patients who were admitted had significant anxiety from having COVID-19. The media appears to largely influence and spread some misconceptions about COVID-19 transmission and claimed therapies.

KEYWORDS

COVID-19, awareness, surgical patients.

INTRODUCTION

Since the beginning of 2020 the Corona virus is continuing in spreading from the Far East reaching the whole world and causing major impacts in every single country in the world. [11] Located in the Middle East, Jordan, with a population reaching 10 million people and 117 working hospitals, [12,13] the story of the COVID-19 pandemic began in March 2020 when the diagnosis of the first case of COVID-19 infection occurred. [1] This caused a strict series of governmental actions ending in major lockdown and

activation of national defense law which prohibited the majority of citizens going outside of their homes for most of the time with the exception for some including patients going to hospitals to receive healthcare and treatment. [2, 3,7] From August 2020 the wearing of a facemask in public became mandatory in the law. [6] Those actions delayed the outbreak and prevented hospitals being crowded with infected patients. [14, 15] In the beginning, special hospitals were assigned to treat COVID-19 positive patients, [8] but by October 2020, when numbers of positive cases started to increase, many hospitals participated in treating COVID-

19 infected patients. The University of Jordan Hospital (JUH) is one of the three largest hospitals in the country and it offered health services for infected and non-infected patients.

The peak of the pandemic in Jordan began at the beginning of October 2020, when cases started to rise above 1,000 daily reaching near 8,000 daily by November. This large rise in numbers goes hand in hand with increased numbers of critical cases and deaths. [10, 11]

The Jordanian population is considered to be one with high literacy rates reaching 98% in 2018, [4] and 67% of the population has access to internet. [5] An abundance of information and the continuous official and non-official health related awareness and information on web-based platforms announced daily news about the Corona virus, COVID-19 disease, and emerging updates about risks, challenges and possible solutions to the global pandemic. [16, 17]

Daily news set out that it made it a risky journey to the hospital for patients who needed to undergo elective surgeries. Considering the situation of home lockdown, exposure to the high flow of information and misinformation about the diseases and their spread; the community's anxiety increased and their fears grew higher. A recent study undertaken with over 5,200 participant in Jordan demonstrated that approximately four out of every ten participant's experienced quarantine-related anxiety. [9]

Many papers have been published worldwide exploring levels of awareness among different groups from different populations In Saudi Arabia two studies were conducted where both of them found that people from higher socioeconomic classes have more knowledge about the COVID-19 pandemic, but there's varying results among the two genders. [19, 20] While in India a study [21] showed that men have a better knowledge about the pandemic.

We conducted this survey in the peak period between October and December 2020 to explore awareness of patients planned to undergo elective surgery under general and regional anesthesia in JUH. To our knowledge, no similar studies were conducted in the same period for the same exact purpose.

Face masks and social distancing remain the best methods to prevent infection. [18]

METHODS

STUDY DESIGN:

This research was designed to be a prospective cross-sectional survey by conducting a questionnaire survey that was answered directly by our sample of patients. Ethical clearance was granted by the University of Jordan's Hospital IRB (number 10/2020/22589) prior to conducting the survey. Written and verbal consent was obtained from the sample patients directly in order for them to participate in this study. All patients' identities are hidden and kept anonymous for the sake of privacy and safety. This study was conducted in JUH in the period between October and December 2020.

STUDY POPULATION, SAMPLE, AND DATA COLLECTION:

Over a period of 3 months in 2020 we collected data from a sample of 292 randomly selected subjects from the population of patients undergoing elective surgeries at JUH. The total invited population of patients was about 1,500 cases during the study period. Data was obtained through a pre-designed questionnaire. The questionnaire was designed by the authors in the light of previous similar articles and was checked and validated by medical doctor colleagues with any necessary questionnaire adjustment and optimization occurring before conducting the study. The survey/questionnaire was conducted in the Arabic language, which is the mother tongue of the population.

INCLUSION CRITERIA:

Adult patients: males and females, admitted to JUH with planned elective surgical treatment under anesthesia - regardless of diagnosis and type of anesthesia.

EXCLUSION CRITERIA:

Patients aged below 18 years, patients undergoing non-elective surgeries and patients who are not eligible to consent.

The questionnaire is comprised of 27 Questions among 3 fields in addition to the patient profile. The first field was about general knowledge of COVID-19 disease; the second about anxiety from this disease; and lastly knowledge of prevention from COVID-19. Questions included open ended and multiple choice types of questions.

Participants in the sample were compared between educational level (Primary school, High school, Diploma, Bachelor, Masters, PhD), among three variables; Gender (Male and Female), Age (<20 years, 20-40 years, 40-60 years, > 60 years), and

TABLE 1: QUESTIONNAIRE USED IN THE STUDY

NAME:	AGE:	GENDER:	MALE	FEMALE	OCCUPATION:
Educational degree: below. High school. Diploma. Bachelor. Masters. PhD					
1. Are you aware of COVID19?					
2. What is the cause of COVID 19? <i>Ø Bacteria. Ø Virus. Ø Other.</i>					
3. Can COVID 19 be transmitted? <i>Ø Yes Ø No.</i>					
4. How many times did you undergo the COVID19 swab?					
5. Have you been diagnosed +ve COVID19?					
6. If yes what treatment did u had? <i>Ø Paracetamol, Ø choloroquine, Ø others</i>					
7. Have you ever took prophylactic meds to protect u from corona virus?					
8. Have you ever contacted a +ve patient? <i>Ø Family, Ø friend, Ø during travel, Ø In hospital, Ø never</i>					
9. Have you ever been isolated? <i>Ø Hotel, Ø home, Ø hospital, Ø never</i>					
10. If yes, why have you been isolated? <i>Ø Travel, Ø contact isolation. Ø Diagnosed.</i>					
11. Dou you feel stressed due to corona?					
12. Have you had isolated yourself due to stress/anxiety?					
13. Have you had postponed your surgery due to stress/anxiety?					
14. Have you had quit your job or took a long leave off due to stress/anxiety?					
15. Were you affected medically due to the general lockdown and had medical complications?					
16. Are all COVID19 patients symptomatic?					
17. What is the most common symptom? <i>Ø Fever. Ø Diarrhea. Ø Runny nose. Ø Cough. Ø Arthralgia. Ø Fatigue.</i>					
18. Is it important to get knowledg about COVID19?					
19. Who are most at risk of getting infected? <i>Ø Elderly. Ø Who works with animals. Ø Healthcare workers. Ø Police. Ø Everybody is at high risk. Ø I don't know.</i>					
20. Who are most at risk from COVID19 morbidity? <i>Ø Healthcare workers. Ø Elderly. Ø Children. Ø Pregnant women. Ø Police.</i>					
21. How is it transmitted? <i>Ø Bloodborne. Ø Airborne. Ø Respiratory droplets. Ø Touch. Ø Animals. Ø I don't know</i>					
22. What are the complications? <i>Ø Sepsis, Ø respiratory failure. Ø Pneumonia, Ø CVA/MI. Ø I don't know</i>					
23. Are there any effective treatment? <i>Ø Yes. Ø No.</i>					
24. Is there any vaccine? <i>Ø Yes. Ø No.</i>					
25. Do you think wearing protection is important? <i>Ø Yes. Ø No. Ø I don't know. Ø Doesn't matter.</i>					
26. What is the most important protection mode? <i>Ø Mask. Ø Gloves. Ø Distancing. Ø Avoid raw food.</i>					
27. Are you at a higher risk for getting COVID19 due to surgery and anesthesia? <i>Ø Yes. Ø No.</i>					

PRIMARY OBJECTIVES:

- We aimed to study awareness (attitudes and knowledge) levels of this population regarding COVID-19 disease.
- To measuring anxiety and stress levels amongst the study population.
- To assess participant knowledge of protection methods.

DATA COLLECTION AND STATISTICAL ANALYSIS:

Data collection was made via a printed questionnaire answered directly by the patients themselves., Then Microsoft Excel (2007) software was used for data entry, and later data was migrated to SPSS software (version 25) (SPSS Inc, Chicago, Illinois). Descriptive data was obtained.

Chi-square test was performed to compare percentages for categorical variables. A P value < 0.05 was considered statistically significant.

RESULTS

SAMPLE CHARACTERISTICS

Our sample contained 292 patients. The sample was grouped according to 3 variables; Gender: 123(42%) males, 169 (58%) females; Age: with an average of = 43.3 years (SD±14.9); the participant sample is predominantly middle aged; and Educational level: 62% had university level education. More results details are shown in Table 2

TABLE 2: ANXIETY AND STRESS FROM COVID-19

QUESTION	ANSWER	%	N
Do you feel anxious from getting COVID disease?	too much	28%	83
	just a little	37%	107
	not at all	19%	56
	I don't care about it	16%	46
Have you isolated yourself fearing COVID?	yes	27%	80
	no	73%	212
Have you taken a long work leave due to fear?	yes	7%	21
	no	93%	271
Have you changed your living place due to fear?	yes	3%	8
	no	97%	284
Have you delayed your surgery due to fear?	yes	15%	43
	no	85%	249

AWARENESS AND KNOWLEDGE ABOUT COVID-19

Overall, 95.5% of the participants in the sample are aware about COVID-19, despite that the highest awareness percentage among the groups was in the young population (93% in younger than 20 years of age). The least awareness percentage among all subgroups was 69% in subjects with primary education level. 92% of the sample knew COVID-19 was contagious, and 87.8 % knew it's caused by a virus; with 95% of subjects being aware of respiratory route transmission.

87% of the subjects think it's important to seek knowledge about COVID-19 and to follow up with updates.

In regards to symptomology of COVID-19, only 16% of the sample thinks that all infected patients have active symptoms of the disease, while the remainder of 84% thought not all positive patients necessarily have active symptoms. 70% of participants think that fever is the most common symptom and 27% thinks respiratory tract symptoms only (without fever) are most common, while the rest think GI symptoms is most common.

Regarding risk of infection, 41% of the subjects think the elderly are at higher risk of getting the infection. 36% of subjects thought everybody in the community has equal risk of transmission, while only 10% of participants thought that healthcare workers are at higher risk.

Although 61% believed that COVID-19 is self-limiting and doesn't need specific treatment, there appeared a good level of awareness regarding progression of the disease in some patients. Among a list of COVID-19 complications; 84% of the subjects thought respiratory failure is the most serious complication and 67% of the subjects think the elderly are at most risk developing serious complication from all infected patients. On the other hand, 7% of the sample believed COVID-19 doesn't cause any serious complication of infection. Our participants were aware of risk factors leading to complications of COVID-19 as 70-83% thought smoking, malignancy and diabetes are major risk factors. 60% thought that obesity, and 42% thought that Hypertension, as a major risk factor. 90% thought that pregnancy and abnormal lipid profiles are not risk factors for developing serious complications.

Interestingly, 54% of the participant sample thought that the Jordanian population has a lower risk of getting COVID-19 and its complications in comparison compared with other populations including European nations. This result is similar (between 40-64%) among different variables subgroups of age, gender and educational levels.

KNOWLEDGE AND FOLLOWING PROTECTIVE MEASURES

38% of our participants have had a nasal-swab for RT-PCR testing, 7% of them have been diagnosed COVID-19 positive (3% of the sample).

Of our participants, 38% believes that antibiotics, and 30% that nebulizers, are effective for prophylaxis against COVID-

19. Only 2% of the whole sample size have actually took some form of herbal supplement or pharmacological agent as a prophylaxis against COVID-19.

Only 6% of participants have been quarantined, all of them were due to travel, and only 2% has been in physical contact with an infected patient during last 3 months prior to survey.

Around 81% of our subjects believe there's no treatment for COVID-19, with 78% believing there is no vaccine developed to protect against the disease, and 40% believed that infection provides immunity against re-infection.

Despite that, 90% of participants considered PPE important and vital for protection from COVID-19 transmission, with a variety of responses in deciding which is the most important PPE; 37% consider face masks the most important and 32% went with physical distancing.

ANXIETY AND STRESS DUE TO COVID-19

We asked the surveyed patients 5 questions to assess their anxiety and fear due to COVID-19 in general; only 21% had isolated themselves from their friends and families due fear of getting the infection, 28% described their fear as too much, while 35% claimed that they aren't really stressed about COVID-19. Details of these results are shown in Table 3.

TABLE 3: ANXIETY AND STRESS FROM COVID-19

QUESTION	ANSWER	%	N
Do you feel anxious from getting COVID disease?	too much	28%	83
	just a little	37%	107
	not at all	19%	56
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Have you isolated yourself fearing COVID?	yes	27%	80
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3% of the whole sample has changed their residency location due to anxiety and fear and about 7% of respondents have taken a long leave from work (more than one month) to minimize risk of infection.

About 15% of participants have previously rescheduled their planned surgical operation due to fear of getting the infection while they were in the hospital.

DISCUSSION

This paper targeted surgical patients admitted to Jordan university hospital during the major lockdown in Jordan, and the first peak of COVID-19 cases. Those patients were planned to undergo different surgical procedures electively and were admitted one day prior to surgery.

Our sample of randomly selected 292 patients (out of a 1500 population) was predominantly middle aged. All subjects were literate, with majority having educational level higher than secondary school. That was reflected by the high percentage of awareness about basic features of COVID-19 being viral contagious through respiratory route, with their agreement on importance of general population seeking further knowledge about this disease. This knowledge might be motivated by fear of infection due to the fact that those patients were free of COVID-19 going to a hospital (for other reasons) where there's a risk of contacting an infected individual.

Majority of subjects' beliefs about percentage of asymptomatic population is consistent with different worldwide reports displaying variable percentage of asymptomatic COVID-19 infected individuals ranging between 50-80 % [24, 25]. Adding to that majority of our sample also is aware of most common symptom caused by COVID-19 is fever. [26] In same page also; majority recognized the true at higher risk of complications being elderly and risk factors of developing life-threatening disease as obesity, DM, smoking and malignancy. [27]

As in every large event, or this time, a pandemic, lots of misguiding news and rumors circulate in the media; of them one claimed that Mediterranean and Middle Eastern population are genetically more resistant to COVID-19 than European population, and another claimed that traditional foods as Mansaf in Jordan and Mulukhiyah in Egypt protect from COVID-19, that is clearly reflected on our subjects beliefs where 54% thought Jordanians are less likely to be

infected, and interestingly this result is similar among different groups of age, and education.

Despite large and wide trials of finding a specific cure for COVID-19, none till this moment succeeded, and main lines of treatment are preventive and supportive. [28 – 30] At the time of implementing this survey there was no vaccine yet approved, as first vaccine was approved by the FDA in the US was on December 11, 2020. [31] And that is reflected on our subjects' beliefs and knowledge of those facts.

Undergoing PCR testing or being under quarantine doesn't seem to affect awareness or beliefs of the patients. Again, social media and news affect misconception of the population; as around 40% of the sample belief that nebulizers and / or antibiotics helps in preventing or treating COVID-19. [28 -30]

There's no clear preference of social distancing or wearing a face mask over one another, but both of them remain best methods of protection from COVID-19 transmission, [18] and that's reflected on our samples' beliefs where majority split (around one third each) supporting each of these two methods of protection.

Relatively a small percentage of subjects have previously re-scheduled their surgical operation date due to fear of COVID-19, and that is surely caused by different factors; most importantly the underlying disease or condition urging the patient to go to hospital and undergo surgical treatment, despite 37% claiming mild anxiety and 28% claiming too much fear from getting infected with COVID-19.

Changing residency location or taking work-leaves is not easy, especially in the difficult economical situations in Jordan, so the small percentage (less than 8%) of patients changing their residency state or taking a long work leave is biased and not conclusive.

CONCLUSION

Patients from this study undergoing surgical procedures seem to be well aware and knowledgeable about the COVID-19 situation and with general information. They also are well aware of transmission methods, risk factors and main lines of protection from transmission. Media, news and rumors seem to largely affect popular beliefs and cause basic misconceptions regarding treatment options, and

that opens a door for financial exploitation of the population to target them towards specific pharmacological or non-pharmacological claimed “therapies”.

CONFLICT OF INTERESTS:

All authors declare no conflict of interests.

FUNDING:

No funding of any form has been received.

ABBREVIATIONS

JUH: Jordan University Hospital

DM: Diabetes Mellitus

COVID-19: Corona Virus Disease

PPE: Protective Personal Equipments

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