Research Article

Risk Perception of COVID-19 Among Pregnant Females

Yasmeen Muhammad Din[1], Shamila Ijaz Munir[2], Sadia Abdul Razzaq[3], Amna Ahsan[4], Sadaf Maqbool[5], Owais Ahmad[6]

[1]Senior Registrar, Department of Obstetrics & Gynaecology Unit-4, Sir Ganga Ram Hospital, Lahore; [2]Head, Department of Obstetrics & Gynaecology Unit-4, FJMU/ Sir Ganga Ram Hospital, Lahore; [3]Post-Graduate Resident, Department of Obstetrics & Gynaecology Unit-4, Sir Ganga Ram Hospital, Lahore; [4]Assistant Professor, Department of Obstetrics & Gynaecology Unit-4, FJMU/ Sir Ganga Ram Hospital, Lahore; [5]Senior Registrar, Department of Obstetrics & Gynaecology Unit-4, Sir Ganga Ram Hospital, Lahore; [6]Post-Graduate Resident, Department of Obstetrics & Gynaecology Unit-4, Sir Ganga Ram Hospital, Lahore

Abstract

Background: COVID-19 is Corona virus disease that has occurred as pandemic involving more than 210 countries.

Objective: To determine risk perception of COVID-19 among pregnant females, fear and anxiety levels about themselves, their pregnancy, and family along with information about preventive measures.

Methods: This cross-sectional study was conducted in Obstetrics and Gynecology department of Sir Ganga Ram Hospital, Lahore from 10th May, 2020 to 10th June, 2020. Total of 150 patients presenting in emergency and out-patient department of Sir Ganga Ram Hospital gynae unit 4, were interviewed after informed consent. The data were analyzed using SPSS version 20.

Results: The mean age was 28 years, mean gravidity was 4 and mean gestational age was 34 weeks. About 77 patients (51.3%) had mild to moderate fear and intermediate FCOVID-19 score. 135 patients (90%) had GAD score<7 i.e. they had less level of anxiety about their pregnancy. 15 patients (10%) had GAD score ⩾ 7 i.e. they had high level of anxiety about their pregnancy. Similarly, 61 patients (41%) had GAD score <7 i.e. they had less level of anxiety about their family and 89 patients (59%) had GAD score ⩾ 7 i.e. they had high level of anxiety about their family.

Conclusion: Risk perception of COVID-19 among pregnant females about their family was higher than the risk perception of COVID-19 about themselves and their pregnancy.

Corresponding Author | Dr. Shamila Ijaz Munir, Head, Department of Obstetrics & Gynaecology Unit 4, FJMU/ Sir Ganga Ram Hospital, Lahore; **Email:** shamilaijaz@yahoo.co.uk

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Introduction

COVID-19 (Corona Virus Disease) is highly contagious disease and has affected more than 210 countries worldwide. It has been declared as pandemic and health emergency by WHO.[1] As COVID-19 is a new disease and is having the most devastating effects globally, its emergence and spread are causing confusion, anxiety and fear among the general public.[2] Along with the economic impacts, the ever-increasing morbidity and mortality due to COVID-19 is the biggest setback. The WHO report

revealed the mortality rate between 3-4%, however, it seems that mortality statistics are underestimated. Like other developed countries, our government has also adopted various measures like curfew, lock-down, social distancing, isolation and quarantines for public safety.[3,4]

Purpose of all these measures is to reduce the transmission of virus, reduce morbidity, educate people, enabling critically ill patients to be treated properly and reduce overall mortality.[5] Success of all these protective measures is on behavioral changes which depend upon individual ability to perceive the risk associated with this highly infectious disease and adoption of protective measures.[6] Government instructions on social distancing have resulted in major changes in behavior among population and being under additional pressure may have indirect adverse effect on their physical and mental health.[5,6]

Pregnant females are one of most critical population group with a need to take additional precautions against COVID-19 due to risk of vertical transmission. The prenatal anxiety, depression and stress are also considered as prevalent health issues among pregnant women. These issues are on rise during pandemics as seen previously. Studies have reported that similar psychological issue were observed during Severe Acute Respiratory Syndrome (SARS), H1N1 and Ebola outbreaks e.g. Lee JS.et.al reported 9.2% increase post traumatic stress in females during SARS outbreak. Another study showed 10-30% population was afraid of contracting virus and 17% mental health related symptoms were observed during previous outbreak of SARS.[7,8,9,10,11]

Studies have emphasized that role of increased perceived effect of disease spread can be helpful in maintaining social distancing and disease prevention. Similarly, few other studies have described that risk perception during early phase of disease is directly related to opting protective measures in control of disease spread. Under the COVID-19 outbreak stress, anxiety related concerns of the mother about their health, health of their unborn baby and family protection are growing exponentially worldwide.[12]

Despite rapidly increasing number of COVID-19 cases on daily basis and high fatality rate, there is no local data available regarding risk assessment (perception), level of fear, anxiety and stress among pregnant females regarding COVID-19. Aim of this study is to know the existing knowledge, attitude, concerns, risk perception and assessment of anxiety in pregnant females about their own health and their family's health. The results should help to target these fears in antenatal counseling and the health care providing authorities can make policies regarding provision of health care facilities and social awareness on mass level.

Methods

This study was conducted in department of Obstetrics and Gynecology of Sir Ganga Ram hospital, Lahore, Pakistan from 10th May to 10th June, 2020 and it was designated as cross-sectional study. All pregnant females coming to out-patient and emergency department for routine antenatal check-up and delivery were included in this study. Verbal informed consent was taken from all patients. Their age, parity, duration of gestation, information about COVID-19 and source of information were asked. Patients who already had some mental health related issues like depression, epilepsy, obsessive compulsive disorder were excluded. Patients were interviewed in detailed about risk of COVID-19 related to their health, pregnancy outcome and family concerns. These were measured in terms of fear and anxiety levels and were marked on validated tools FCOVID-19 (Fear Of COVID-19) scale and GAD(Generalized Anxiety Disorder) score. FCOVID-19 scale was marked 1-5. Patients who thought that COVID-19 has no health risk to them were scored[1] and those who are highly afraid of this were scored.[5] Similarly,each female was questioned regarding pregnancy, fetal outcome, risk of premature delivery, intrauterine growth restriction, intrauterine death, nursery admission of baby, risk of C-section, post-partum hemorrhage, risk of carrying infection to family and other children and elderly family members and risk of unemployment. Each question was scored[1-10] depending upon their anxiety level. 1=no anxiety, 10=highly anxious, then mean score was calculated to conclude overall anxiety about pregnancy or family outcome. Patients who got GAD score <7 were less anxious while patients who got GAD score ⩾7 were more anxious about their pregnancy outcome and family care.

The data analysis were made by software SPSS

version 20. Variable of interest were age, gravidity, gestational age (in weeks), source of information, fear and anxiety score. Qualitative variables like source of information and purpose of visit to hospital were calculated by frequency and percentages while quantitative variables like age, gravidity, duration of gestation, fear and anxiety score were analyzed by simple descriptive statistics like mean and standard deviation.

RESULTS

Total 150 patients participated in this study during their antenatal and delivery time from 10th May to 10th June, 2020.The mean maternal age was 28year ranged from 21 year to 35 year. Out of total 51(34%) women had age between 21-25 year, 66(44%) patients had age between 26-30 year and 33(22%) had their age between 31-35 year as shown in Figure 1. Almost all of the patients presented in 3rd trimester. Through assessment it was found that 43(28.7%) women were Primi-Gravida, 32(21.3%) women were Gravida 2 and 75 (50%) women were Gravida 3 or more as shown in figure no.2.

Table 1: *General Informaation of Women Risk Perception of COVID-19*

Parameter	Sample points	Min.	Max.	Mean	S.D
Age(years)	150	21	35	27.980	4.1684
Gravidity(No.)	150	1	7	2.847	1.6578
Gestation(weeks)	150	28	41	36.280	2.7174

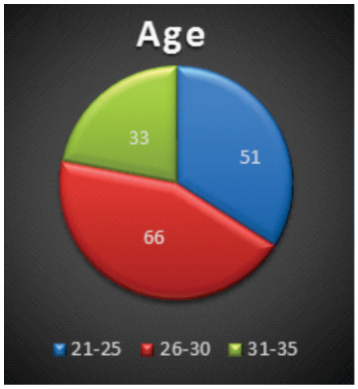

Figure 1

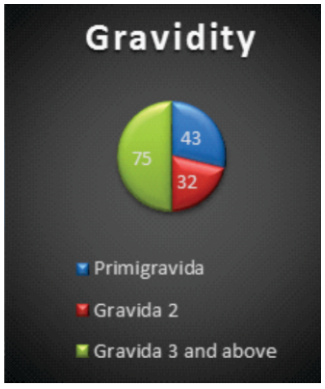

Figure 2

72(48%) patients came for routine antenatal check-ups, 78(52%) patients came for delivery. Almost all patients have information about COVID-19. Major source of information was Television public awareness massages in 54(36%) patients, family/friends in 29(19.33%) patients and both in 50(33.33%) patients and social media in 17(11.33%) patients as shown in figure no 3.

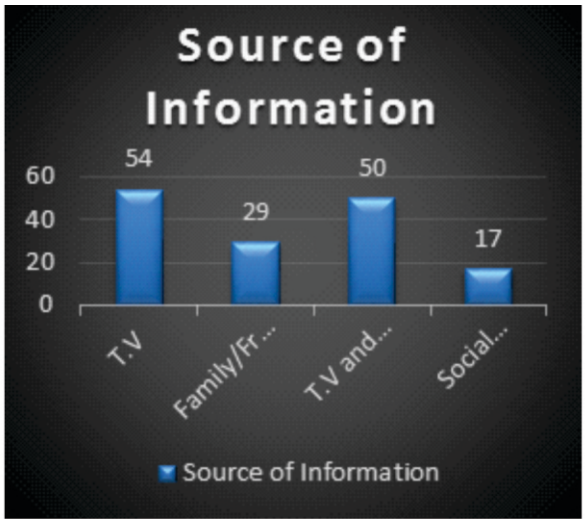

Figure 3

During study it was found that 28(19%) patients had FCOVID score 4-5. About 77 (51%) patients had FCOVID-19 score 2-3. 45 (30%) patients had FCOVID-19 score 1 as shown in Table 2.

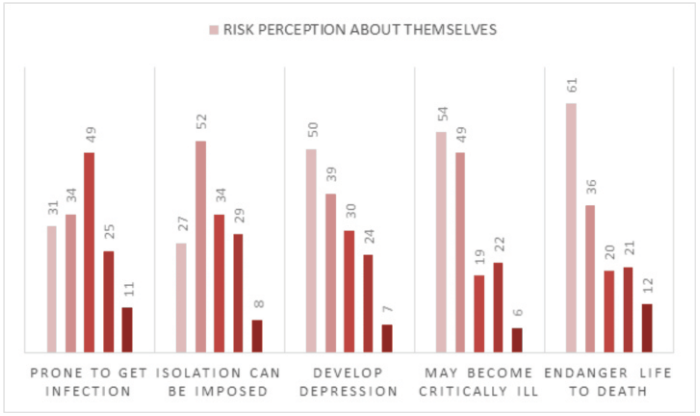

Table 2

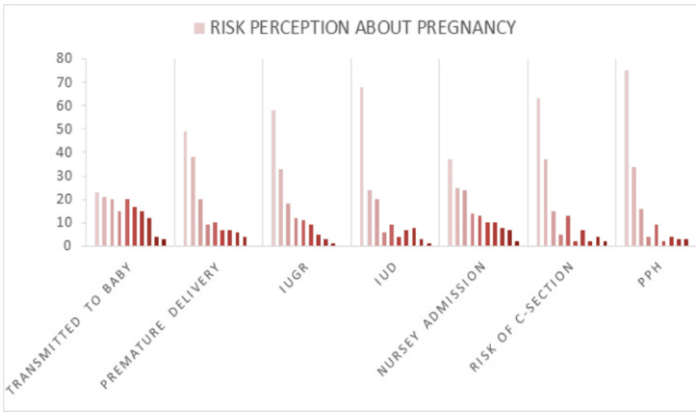

Table 3

Out of total 150 patients,12(8%) patients had more than ⩾7 score while,138(92%) patients had <7 score as shown in Table 3.

Table 4

During study it was found that out of 150 total patients, 92 (61%) patients had ⩾7 GAD score while 58(39%) patients had <7 GAD score as shown in table 4.

Discussion

It is important to assess psychosocial factors that influence individual behavior if pandemics are to be controlled and resulting morbidities to be minimized.[13] Although, anxiety disorders are common during perinatal period, depression is more common during post-partum period. Government instruction on social distancing has resulted in major behavioral changes in pregnant females too. This study is an effort to know how this pandemic of COVID-19 has influenced the anxiety and fear among pregnant women right at the heart of pandemic.

Our study showed mean age of our patients was around 27±4.16 years, mean gravidity was 2.8±1.65 and mean gestational age was 36.2± 2.71 weeks. All patients had some knowledge about COVID-19 and major source of information was television (36%), friends and family (19.33%) and social media (11.33 %), which showed that electronic media and family is major source of public education and awareness in our society.

Results of current study showed that 30% patients had mean FCOVID-19 score of 1, 51% had 2-3 and only 19% had 4-5 FCOVID-19 score, that means, only 19% females were fearful about their own health. These results are similar to a study by Tomislav-Zbozinek et al,[2] which stated that pregnant females underestimate their personal and pregnancy related risks (score 1-3) than to their family (score 4-5). Harper also stated that higher FCV-19 score is directly associated with higher perceived risk and higher preventive measures adoption.

In present study the results showed that only 12(8%) patients had ⩾7 GAD score about their pregnancy outcome anxiety. It is same as stated in previous studies which give 4.4-10% GAD score in perinatal and postpartum period respectively. Increased risk of intrauterine death, premature delivery, c-section and postpartum hemorrhage appeared to be major factors linked with this GAD score. Although, there is no robust evidence of mother to baby transmission but conflicting evidence exist both for and against the verticle transmission.14,15Phalguni kotabagi16 stated similar GAD score of 3 in pregnant females during this COVID pandemic in U.K population.

This study has also concluded that 61.3% patients had high GAD score ⩾7 and 38.7% had< 7 GAD score about their family perspective which is in accordance to Gillian A.Corbett9 study that pregnant female are more anxious about health risk to their older relatives (83.3%) at home than the concerns about other children (66.7%) and unborn baby (63.4%). This data is consistent with our study result.Qiu-yue-zhong17 also showed that GAD score of 9 and high level of anxiety and poor mental health among pregnant females in their population.

Our results point to increase public awareness campaigns during pandemics on these scales. Clear communication of the risks can help in higher perception, which in turn facilitates engagement in protective behaviors. This data can be used for epidemiological models used to forecast disease spread and can guide patients, public health authorities and government for changes in behavior and provide insight into psychological and behavioral states during this crucial time.

This study has its own strengths and limitations. First of all, there is limited empirical evidence on perceived risk of pregnant females related to their health, pregnancy outcome and family during this COVID-19 pandemic. To our best knowledge, there is limited local evidence regarding the assessment of risk perception of COVID-19 among pregnant females.Though worries and concerns regarding

anxiety and stress of pregnant females are under study during this pandemic, possible impact on pregnancy outcome is lacking. Aim of our study was to assess risk perception of pregnant females about COVID-19 on FCOVID and GAD scale. However, it would be interesting to see in follow-up studies, how this FCOVID and Gad score are linked with increased educational, electronic and social media campaigns to increase awareness about the deficient aspects of the COVID 19 disease at government level. Although we have a reasonable sample size, most females in our study were from low and middle socioeconomic families that limits the generalizability of our results. Females of upper socioeconomic class may have different behavioral and mental response, which our study could not assess. Despite limitation, till date there is limited data about fear and anxiety of pregnant females due to COVID-19 pandemic.

Conclusion

Pregnant females are more concerned about risks to their families, unemployment and other children than their unborn child. Our females are least concerned about their ownhealth.

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