



The Psychological Effect of COVID-19 among Health Care Workers in Department of OBG and its Allied Branches at RL Jalappa Hospital and Research Centre

S.N Srujana lakshmi*, S.R Sheela, K Vishnu Priya, P.N Sree Ramulu

Department of Obstetrics and Gynecology, Sri Devaraj Urs Medical College, Karnataka, India

ABSTRACT

Introduction: COVID-19 (Coronavirus Disease 2019), an acute respiratory disease caused by Novel coronavirus (SARS-CoV-2) is declared to be a public health emergency of international concern by WHO and declared COVID-19 as a pandemic on March 11, 2020. Health care workers on the frontlines are vulnerable to infection and heavy stress.

Objective: Assessment of psychological status in Health care workers in Department of OBG and its allied branches at RLJH and Research Centre during COVID-19 outbreak.

Materials and methods: The study population included Health care workers in Department of OBG and its allied branches at RLJH. The study tool included questionnaire of 2 sections with 40 questions filled by staff mentioned above and stress levels were evaluated accordingly.

Results: A total of 271 participants involved in this study completed the questionnaire which included various factors causing stress and also factors that helped to reduce stress.

Conclusion: COVID-19 outbreak was a stressful experience for healthcare workers. The preventive measures implemented by our Hospital administration as described in our study were useful to reduce stress among them. The experience of Healthcare workers can be enhanced by hospitals on targeting the present aspects in this study during future outbreaks.

Keywords: COVID-19, Psychological stress, Healthcare workers, Trauma

INTRODUCTION

COVID-19 (Coronavirus Disease 2019), an acute respiratory disease caused by Novel coronavirus (SARS-CoV-2) is declared to be a public health emergency of international concern by WHO and declared COVID-19 as a pandemic on March 11, 2020. A large number of pneumonia cases caused by newly identified coronavirus in December 2019 in Wuhan, China. It was initially named as 2019-novel coronavirus (2019-nCoV), later officially named as SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) by WHO on 11 February 2020. The Chinese scientists rapidly isolated this virus from a patient on 7 January

2020. It is a beta coronavirus, enveloped non segmented positive-sense RNA virus. Human to human transmission occurs mainly between family members, including relatives and friends who had contact with patients or incubation carriers. ACE2 (Angiotensin Converting Enzyme 2), Angiotensin converting enzyme 2 found in lower respiratory tract of humans acts as receptor for virus and regulates human to human transmission [1]. The clinical diagnosis method of COVID-19 is nucleic acid detection in nasal and throat swab sampling by PCR (Polymerase Chain Reaction) and further confirmation by next generation sequencing [2].

The rapid and extensive spread of COVID-19 has become major

Correspondence to: S.N Srujana lakshmi, Department of Obstetrics and Gynecology, Sri Devaraj Urs Medical College, Karnataka, India, E-mail: dr.srujana2k10@gmail.com

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cause of concern for the healthcare profession about their personal safety, transmission of disease to family members, stigmatization and interpersonal isolation [3]. The outbreak of COVID-19 caused not only extraordinary public health concerns but also tremendous psychological distress particularly among health care workers. Health care workers on the frontlines are vulnerable to infection. It is a life threatening and life altering event is considered traumatic enough to elicit post-traumatic stress disorder.

COVID-19 is transmitted mainly by respiratory droplets during human to human contact. It has become hazard for healthcare system, including pathogen exposure, long working hours, occupational burnout, stigma, physical and psychological stress, and fatigue [4]. The differences in working conditions in hospital has lead to differences in psychological behaviour of health care workers. The present scenario of COVID-19 and its effect on health care workers psychology has become critical, this study assessed psychological status of health care system in department of OBG and its allied branches at RLJH hospital and research centre.

MATERIALS AND METHODS

Study site

The study was conducted among Health care workers in Department of OBG and its allied branches at R. L. Jalappa Hospital and research centre, a tertiary care hospital in Kolar, Karnataka.

Subjects

All health care workers including Consultants, postgraduates, house surgeons, Nursing staff, Operation theatre staff and technicians, house-keeping and security members who worked during COVID-19 outbreak in Department of OBG and its allied branches.

Study tool

The study tool included questionnaire derived data filled by staff mentioned above. It is derived and modified from MERS COV staff questionnaire. It consisted of 2 sections with 40 questions. Participation included voluntary staff worked in OBG department and allied branches during COVID-19 outbreak.

The first section consists of 20 questions related to factors causing stress. Each question required yes or no answer. Those who answered yes were further evaluated the severity of stress factor (0-minimal, 1-mild, 2-moderate, 3-severe)

The second section consists of 20 questions regarding factors which helped to reduce stress either provided directly or indirectly by hospital. The responses include how effectively these factors helped to reduce stress (0-not effective, 1-mildly effective, 2-moderately effective, 3-extremely effective) [5-6].

RESULTS

Section 1 which was related to factors causing stress among the staff yielded the results as shown in Table 1. No adequate protective measures, stress among colleagues, infection from patients, emotional exhaustion, increased number of new cases, and lack of treatment were major factors causing Moderate stress. Transmission of disease to family and friends, colleagues with respiratory symptoms, shortage of staff, time of exposure to patients, chances of infection due to lack of concentration were identified as Mild stress factors among the staff [7].

Colleagues getting better, sharing jokes among colleagues, chatting with family and friends, by understanding mechanism of transmission and prevention were proved to be moderately effective in reducing stress. Protective measures and strict guidelines from hospital for infection prevention, personal safety, support from colleagues, reduction of working hours, and minimal exposure to public places, improvement in patient condition were mildly effective to relieve stress in our staff are showed in Table 2.

Section-I								
No	Factors causing stress	No	0	1	2	3	Yes	%
1	One could transmit COVID-19 to their family/friends	16	2	232	21	-	255	94
2	Taking care of their own colleagues with symptomsof COVID-19.	11	-	172	86	2	260	96
3	Small mistake or lapses in concentration could infect them/others.	-	8	151	109	3	271	100

4	Not knowing when the outbreak will be under control.	-	2	123	141	5	271	100
5	At the time of exposure to COVID-19 patient.	-	3	155	109	7	271	100
6	Lack of treatment for COVID-19	-	2	117	148	4	271	100
7	News of new cases reported in TV or newspaper	-	3	106	157	5	271	100
8	Colleagues displaying COVID like symptoms.	-	5	131	134	2	271	100
9	People developed respiratory symptom and feared that they had COVID-19	4	4	149	111	3	267	98
10	People could get infection from a patient in hospital	-	-	71	194	6	271	100
11	People who are emotionally exhausted.	-	-	91	169	11	271	100
12	People who had physical stress/fatigue.	-	-	118	144	9	271	100
13	Conflict between their duty and their own safety	2	-	147	136	9	269	99
14	Seen their colleagues stressed/afraid	-	-	61	204	6	271	100
15	People felt there were no adequate protective measures	-	-	40	228	3	271	100
16	People had to wear protective gear on a daily basis.	-	3	162	103	3	271	100
17	Shortage of staff at times	-	2	186	81	2	271	100

18	Positive attitude from colleagues in their department	-	135	112	24	-	271	100
19	Performing duties on rotation basis	-	164	102	2	3	271	100
20	Improvement in patient condition	2	201	61	2	5	269	99

Note No: No stress; 0: Minimal stress; 1: Mild stress; 2: Moderate stress; 3: Severe stress

Table 1: Section 1 dealing with factors causing stress were analyzed.

SECTION-II

No	Factor that helped to reduce stress	0	1	2	3	Effective	%
1	Their colleagues who were infected getting better	5	98	161	7	266	98
2	None of the staff getting COVID-19 after starting strict protective measures	6	121	134	-	265	97
3	Clear guidelines from hospital for infection prevention	-	121	147	3	271	100
4	Their family members or friends outside hospital did not get COVID-19	-	148	123	-	271	100
5	Decrease in number of cases reported in news	-	106	134	31	271	100
6	If they would get extra compensation for their work during outbreak	-	120	138	13	271	100
7	All healthcare professionals working together on frontline	-	152	71	48	271	100

8	Support from hospital staff in case they got sick	-	111	142	18	271	100
9	Not to do over timing	-	123	140	8	271	100
10	Sharing jokes among colleagues	4	53	214	-	267	98
11	Kept separate clothes for work	-	125	140	6	271	100
12	By reading mechanism of transmission and its prevention	-	99	154	18	271	100
13	Avoided going out in public places to minimise exposure	-	61	81	129	271	100
14	Doing relaxation activities	-	89	121	61	271	100
15	Chatting with family and friends	-	69	179	31	271	100
16	Talking to yourself and motivating with positive attitude	-	124	139	8	271	100
17	Avoiding media news	-	112	143	16	271	100
18	Available cure or vaccine for disease	-	56	151	64	271	100
19	Reduced working hours	-	94	121	56	271	100
20	Work load increased when compared to non-exposed staff	159	98	11	3	112	51

Note: 0: Not effective; 1: Mildly effective; 2: Moderately effective; 3: Extremely effective

Table 2: Section 2 dealing with factors reducing stress were analysed.

DISCUSSION

Health care workers are the one who risk their lives as they are on the frontline during any epidemic. They are facing an unprecedented workload in stressful and frightening work environments, in spite of which they continue to work due to professional obligation. The dedication and selflessness behaviour of health care system allow the rest of world a degree of reassurance that outbreak can be controlled [8].

The COVID-19 pandemic, very rapid in its transmission has caused many deaths across the world. The incidence was greater in China, European countries, USA, Russia, India. In India the attack rate was slow initially. The first case reported in India was on January 30, 2020 in Kerala. The diagnostic measures gradually increased leading to faster rate of case detection. The government of India took appropriate preventive measures such as quarantine, social distancing and complete lockdown from March 22, 2020. As per 8 May 2020, total number of 56,342 people was confirmed positive for COVID-19 in India. The highest incidence reported in Maharashtra followed by Gujarat, Delhi, Tamilnadu, Rajasthan, Madhya Pradesh, and Andhra Pradesh. 16,540 people had recovered whereas 1,886 deaths occurred. In our hospital, 11 suspected cases got admitted, out of which 7 were confirmed as positive cases for which isolation measures were strictly followed.

Strengths and limitations

The strengths of this study were sufficient sample size, participation of all healthcare workers including not only medical staff, but also paramedical, housekeeping and security staff and study period conducted during the outbreak. Limitation was no positive cases in department of obstetrics and gynecology.

CONCLUSION

The factors such as physical stress, shortage of staff, increasing cases reported on media, no protective measures, lack of treatment, colleagues developing respiratory symptoms, fear that they could transmit infection to families or friends were identified as extremely stressful for the staff. They were also concerned with lack of protective equipment, increased workload, small mistake or lapses in concentration leading to infection [9].

Protective measures for infection prevention by hospital, decrease in number of cases after implementation of preventive measures, support from colleagues, reduction of working hours, minimal exposure to public places, improvement in patient condition were the main factors that helped to relieve stress [10].

COVID-19 outbreak caused psychological distress among healthcare workers. The main elements focused were personal safety, provision of protective equipment, strict guidelines from hospital for prevention, knowing mechanism of transmission, support and positive attitude from colleagues. The experience of Healthcare workers can be enhanced by hospitals on targeting the above mentioned aspects during future outbreaks.

CONFLICT OF INTERESTS

The authors have no conflicts of interest to declare in relation to this article. Complete disclosure of interest forms are available to view online as supporting information.

AUTHORS' CONTRIBUTIONS

SSR contributed to concept and design of the study. SNS, VPK helped in acquisition of data, literature search and detailed workup. The manuscript was revised by SSR, SNS, and VPK. PNS helped in administrative, technical and material support. All authors approved the final submitted version of the manuscript.

ETHICS APPROVAL

This study was approved on May 27th 2020 by Ethical Clearance Review Board of SDUMC, Kolar, and Karnataka, India.

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