



Assessment of Psychological Influence of Covid 19 Pandemic on Health Care Workers -A Clinical Study

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ABSTRACT

None of us ever thought of facing the pandemic. Covid 19 is a dreaded pandemic caused by human coronavirus: severe acute respiratory syndrome-coronavirus(SARS-COV-2) an enveloped single stranded RNA virus, previously known as 2019-n Cov. It affected the patients and workers alike with its severity and dreaded outcomes. Health care workers were on the radar of the infection because they were to do their duty of saving lives and protecting their own life and their loved ones. So this descriptive study was done in the deptt of OBGY, GMC PATIALA where health care workers working in covid wards were put to a questionnaire assessing their knowledge and psychological effects of working in dreadful pandemic. Data was analysed by percentage and chi square test. 92.5% workers knew it was viral ds, preventable through standard precautions, treatable by antivirals, steroids and oxygen if timely detected. 84.28% health workers in obgy felt they were at increased risk because of direct contact with pts secretions, spill of amniotic fluid during normal delivery and caesarean section and so on. During first wave fears were high as compared to second and third wave as the thing improved from availability of PPE kits to getting used to them to observing covid protocols.

Conclusion

Pandemics will keep coming and health care workers will always be in their line of duty. So adequate arrangements and rules should be formulated so as to keep their physical and mental well being.

I. INTRODUCTION

In his or her wildest imagination, none of us ever thought of facing the pandemic. Having won over epidemic of Malaria, Polio, Tuberculosis, HIV and having defeated smallpox, measles, polio, human race never ever thought of any spillover of Coronavirus disease which started in NOV 2019 in a small city of WUHAN, CHINA and spread its wings across the globe with millions of peoples affected and lakhs of peoples dying from it.

Covid 19 is a dreaded pandemic caused by human coronavirus: severe acute respiratory syndrome-coronavirus(SARS-COV-2) an enveloped single stranded RNA virus, previously known as 2019-n Cov. (1,2,3)

SARS-COV-2 is transmitted from person to person by close contact via the respiratory secretion in cough or by virus containing surfaces or objects as it is a heavier particle and does not go far and falls less than 6 feet. Incubation period of virus is 2-14 day with most of patient recovering after mild symptoms and some 20% have serious illness like dyspnea, sepsis, septic shock followed by multiorgan failure. (7)

WHO issued guidelines recommending the prevention of spread by protecting health care workers and patient close contact by use of PPE kits for health care workers, regular hand washing, sanitizing the surface, social distancing, wearing face masks. (9)

Covid infection affected the health care workers in two ways. One was that they were the frontline workers could not run away from their patients, dealing with their secretions, close contact, handling, giving medicine by i/v route, and disposing off their excretions.

2nd reason was their own stress of long working hours, fatigue, fear of contracting disease themselves and their family members, Occupational stigma and physical violence by patient relatives who were unable to bear the sudden loss of their dear ones..

Transmission of disease is exaggerated by overcrowding, absence of isolation facilities, contaminated environment, inadequate knowledge and incorrect attitude of health care workers. So, the purpose of their study was to understand the health care workers dilemma especially in Obstetrics and Gynaecology, knowledge and attitude and perception of risk of infection or anxiety so that strategy can be formulated so as to fight their fears and anxiety to help them provide a better working atmosphere.



II. MATERIALS AND METHODS

This was a prospective descriptive study done among groups of healthcare workers who worked in Obs and Gynae department of GMC Patiala during Covid pandemic from april 2020 to july 2021 from HCW including consultants, senior residents ,junior residents and paramedical staff who worked in covid wave 1 to covid wave 2.

A self administered questionnaire was developed and used which covered the Demographic characters ,knowledge part about Coronavirus and attitude whether preventable or unpreventable and their attitude towards precautions and directives ,rules and regulations to be followed during the pandemic towards self and patient care.

Their responses were recorded as yes and no/ agree and disagree. Forms were given to them and collected .confidentiality was maintained .The demographic data was analysed in percentage and later the data was divided in two groups of doctors and allied health care workers.Statistical Analysis was done by applying Pearson Chisquare test was used to compare qualitative variables between doctors and allied health workers P value less than 0.05 is considered statistically significant. The same questionnaire was administered to the same number of healthcare workers who were working in covid wave 2 to compare their anxiety levels and perception and then the two were compared.

III. RESULTS

In our Study seventy healthcare workers in obs and gyne department were put on covid labour room duty as per table No. 1 in both first and second wave of covid .There were 88.57% female participants and 11.43% were males. Their mean age was 36 +- 11 years ranged from 20-65 years .fifty percent of the participants were graduates ,24.28% were post graduates and 12.58% had less than high school education. Among these 54.28% (38) were doctors and 45.65% were paramedical workers (32) . About 90% had direct contact with covid patients patients.(table -1)

Most of the Participants had information about covid from multiple sources like from social media, television,newspaper family and friends contributed the maximum. Though in our institute the most workers were educated through the seminars and educational activities right from spreading the word about covid infection ,its spread ,mode of transmission to its effect.

Detailed protocols about waste disposal management ,shifting, triaging, isolation, discharging and the interdisciplinary teams were prepared and healthcare workers were educated.

Demographic profile of study participants remained the same during the second wave

Most of the healthcare workers ,92.85% knew that covid was a viral disease and that it was more than a flu which causes respiratory distress and can even cause death(95.7%). 82.85% health care workers said that it was spread by direct contact and droplets and 88.5% said by touching surfaces .95.7% were of the opinion that it affects elderly more .98.5% were convinced that it is preventable through standard precautions and is preventable by washing hands with soap, water and alcohol and avoiding touching mouth and nose and putting on face mask ,avoiding crowded places and maintaining a distance of two meters .only 78.5% hew were convinced that this illness is treatable by oxygen,antivirals and steroids .(table 2) .We had two groups in our study one was of doctors and another of allied health care workers. On comparing the two gps, knowledge of medicos was definitely more and difference in two groups was statistically significant.(table 2 a)

88.5% of health workers were of the opinion that covid 19 is set to increase and only 32.8 %felt that it can be diagnosed with precision .87.14%of workers felt that the government has made adequate arrangements to combat the disease . 98.5% felt that Covid 19 can be prevented that too by standard precautions.15.7% had the fear of losing their job after the pandemic is over.(Table 3) .During the second wave 100% physicians were confident that covid is treatable by oxygen supply, antivirals than allied health workers as 46.87% of them were not sure and the difference was statistically significant.(table 3 a)

31.25% of contractual paramedical workers were fearful of losing their job after the pandemic was over. 84.28% health workers in total were afraid of being infected with covid19 as they thought they were in direct contact with the patient. 71.42 % were afraid because they were dealing with secretions of the patients directly and chances of spill with amniotic fluid during surgery and normal delivery were higher. 98% felt that they were a source of infection for their family members .Only 4.2% had comorbidities and were afraid to contact infection. In the first wave of covid pandemic, 5.71% felt that they were more susceptible to covid infection because Personal Equipment kit were not available and 15.71% were not used to wearing PPE kit and felt suffocated . 41% and 45% of both the groups of healthcare workers respectively felt that their workplace was crowded and ill ventilated . 42.8% felt that the public was not behaving sensibly. They did not believe that covid was a serious flu and they could



not ever get affected by it. About 38% of healthcare workers felt insecure that if they get affected or die that the government will not do enough for them.(Table 5). During the second wave PPE kits were available in plenty so none of the healthcare worker had many anxiety and they were used to wearing the PPE kit. Rest of the environment remained the same as shown in table no.6,so statistical difference was insignificant. (table 7) .By the second wave vaccine was available which was started with health workers .68.5% of health care workers willingly got the shot and 31.4% were hesitant and got a forced shot .(Table 4), only 78% of the doctors willingly got the shot and the rest were hesitant and in the paramedical group 43.7% were hesitant to get the vaccine and the difference was statistically significant . (Table 4a).

IV. DISCUSSION

Knowing the history since first in 1919, It seems to be a periodic phenomenon which raises challenges for people in community and in facilities alike . Fears and anxiety do arise and do affect the behaviour of people ,mostly adversely. So we took the study in OBG department patiala be cause we deal with two lives, mother and foetus. It is like double responsibility and anxious moments for doctors and paramedics working in the OBG department and relatives of patients alike. The female participants (88.5%) in our study were more than males as compared to study by D Roy et al where it was 50% each (6). It may be because of speciality variation. mean age varied from 20-65 which was similar to other studies (6,7,8). 78-100% of HCW were aware of this being viral disease which spread by direct contact , droplets and by touching surfaces and the same can be prevented by washing hands frequently, cleaning surfaces, putting face masks and maintaining distances of more than 1 metre. The comparison of knowledge between doctors and paramedical staff came out to be statistically significant which stresses the need to make allied HCW more aware by conducting seminars, holding meetings, observing their behavior and guiding accordingly. Wahid et al found that almost all the HCW knew the proper disease preventable measure and physicians had significantly higher knowledge followed by pharmacist, nurses, ward attendants and so on (6,9) .This is best explained by fact that doctors were attending webinars as they had required gadgets and easy accessibility to media.Most of the Participants had information about covid from multiple sources like from social media, television,newspaper family and friends

contributed the maximum. Though in our institute the most workers were educated through the seminars and educational activities right from spreading the word about covid infection ,its spread ,mode of transmission to its effect.

Detailed protocols about waste disposal management ,shifting, triaging, isolation, discharging and the interdisciplinary teams were prepared and healthcare workers were educated.

Almost 100% physicians who were treating covid patients were under belief that it is treatable with oxygen antivirals and steroids as compared to allied HCW and hoped for vaccine developments in near future.

Whenever we talk of community spread of infection arises, a question arises regarding its containment and answer lies in prevention. More than 90% of doctors and allied health care workers in our study believe that covid 19 is a preventable condition provided we take standard precautions (6,8), so right from protective gears PPE kits to sanitiser to masks to sterilisation. Everything should be made available and production should be increased through local entrepreneurs, invaders and private sector involvements (5,9) .Anxiety and behavioural changes among covid health care workers was observed (5,9) .They were afraid of being affected with covid19 as they were in direct contact with secretions, excreta of the patient during normal vaginal delivery, caesarean section , post operative period. 98% felt that they were a source of infection to their family members and 52.8% felt themselves as social outcasts. So determining the risk perceived by health care workers is the basic need to change their attitude and make the workplace healthier and safer to work. (5,7,9). 41% and 45% health care workers in their respective group found their place crowded and ill ventilated and a similar number believed the public was not behaving sensibly enough by not following covid 19 behavior protocols. Abraham Maslow's recommendation states that to solve it we need to limit worries, actual threats, follow an exemplary behaviour and focus on the efforts within one's individual control and accept what we can not change.Everyone is in danger and so is their behaviour to this new formed deadly virus (11) .Most(38%) were insecure that if they get infected or die how will their families earn their livelihood as govt will not do enough for them.So this anxiety can be allayed by various govt plans for health care workers who can not work during quarantine or fall ill to providing jobs and financial security without negative effects.(7)

The first wave made us wiser so during the second wave PPE kit were plenty,no problem in



donning and douching. Those who survived the first wave worked with renewed enthusiasm and they did learn to work in the same environment without any fears. Covid vaccine was available where 78% doctors got vaccinated as against 21% of allied hew and again fear factors played the role.

V. CONCLUSION

Hcw are frontline warriors against covid19 which changed its face from SARS to Covid19 to Delta variant to third wave of Omicron and will keep on changing. We must address the root cause of physical and mental stresses of hew as they have to work tirelessly towards public safety not only public but their own physical and mental well being too as they are the lighthouse of humanity.

Table 1 Basic characteristics of the study group (n=70)

	N	%
Sex		
Female	62	88.57
Male	8	11.42
Age (years)		
20-29	28	40
30-39	21	30
40-49	5	7.14
≥50	16	22.85
Mean±SD	36.03±11.52	
Median	32	
Range	20-65	
Education		
Postgraduate	17	24.28
Graduate	35	50
High school education	9	12.8
Less than high school education	9	12.85
Professions		
Doctor	38	54.28
Nurse	14	20
GDA	18	25.68
Direct contact with patients		
Yes	63	90
No	7	10
Source of information about covid		
Social media	57	81.42
News paper	48	68.57
Television	55	78.57
Friends or family	47	67.14
Seminars	47	67.14

Table 2(a): Knowledge about coronavirus disease 2019 (COVID-19) among healthcare workers (n=70) during first wave

	Doctors (=38) N (%)	Allied health care workers (=32) N(%)	P value
COVID-19 is a viral disease	38 (100)	27 (84.37)	0.001 (14.88)
With Direct contact	31 (81.57)	27 (84.37)	0.001 (10.59)
By Droplets	35 (92.10)	23 (71.87)	0.001 (14.27)
By Touching surfaces	34 (89.47)	28 (87.5)	0.001 (12.10)



COVID-19 is flu or more than just flu	38 (100)	25 (78.12)	0.001 (15.56)
COVID-19 causes pneumonia, respiratory distress, death	38 (100)	29 (90.62)	0.001 (14.26)
COVID-19 affects elderly more	37 (97.36)	30 (93.75)	0.001 (13.36)
Wash hands with soap, water or alcohol	38 (100)	31 (96.87)	0.001 (13.69)
Avoid touching eyes, nose and mouth	38 (100)	31(96.87)	0.001 (13.69)
Frequently cleaning and disinfecting surfaces	38 (100)	31(96.87)	0.001 (13.69)
Putting facemask and avoiding crowded places	38 (100)	32 (100)	0.001 (13.42)
Maintaining distance of one meter atleast	38 (100)	31(96.87)	0.001 (13.69)

Is it treatable by oxygen, antiviral & steroids			
Yes	38 (100)	17 (53.12)	0.001 (19.97)
No	0	15 (46.87)	

Table- 3(a): Attitude of healthcare workers regarding COVID-19 (n=70) during first wave

	Doctors (=38) ± N (%)	Allied health care workers (=32) ± N (%)	P value
COVID-19 is a severe flu	37(97.36)	26(81.25)	0.001 (14.56)
COVID-19 set to increase	35(92.10)	27(84.37)	0.001 (12.99)
COVID-19 can be diagnosed with precision	13(34.21)	10(31.25)	0.037 (4.36)
Government bodies have made adequate arrangements to combat disease	34(89.47)	27(84.37)	0.001 (12.38)
COVID-19 can be prevented	38(100)	31(96.87)	0.001 (13.69)
Standard precautions can protect us	36(94.73)	30(93.75)	0.001 (12.76)
Fear of losing job after pandemic is over	1(2.63)	10(31.25)	0.033 (4.85)

Table- 4(a) : Attitude of healthcare workers regarding COVID-19 (n=70) during second wave

	Doctors (=38) N (%)	Allied health care workers (=32) N (%)	P value
Willing for vaccine	30(78.94)	18 (56.25)	0.007 (7.27)
Hesitant for vaccine	8(21.05)	14(43.75)	0.028 (6.53)
Got the vaccine			
Free will	30(78.94)	18(56.25)	0.007 (7.27)
Forced	8(21.05)	14(43.75)	0.028 (6.53)



Table-5 Risk perception towards COVID-19 among healthcare workers (n=70) during first wave

I am afraid of being infected with COVID-19 virus		
	N	%
I am in direct contact with patient	59	84.28
I am dealing with patients secretions directly	50	71.42
I can be source of infection to my family members	69	98.57
I have comorbidities	3	4.2

I am more susceptible to be infected with COVID-19		
PPE kit is not available	4	5.71
I am not used to using PPE KIT/ i feel suffocated	11	15.71
Work place is crowded	29	41.42
Ill ventilated work place	32	45.71
Public doesn't behave sensibly	30	42.85
Govt doesn't do enough if we get affected or die	27	38.57

Table-6 Risk perception towards COVID-19 among healthcare workers (n=70) during second wave

I am more susceptible to be infected with COVID-19		
	N	%
PPE kit is not available	0	0
I am not used to using PPE KIT/ i feel suffocated	4	5.71
Work place is crowded	29	41.42
Ill ventilated work place	32	45.71
Public doesn't behave sensibly	30	42.85
Govt doesn't do enough if we get affected or die	27	38.57

Table -7 Comparison of risk perception among health care workers in first and second wave

I am more susceptible to be infected with COVID-19			
	First Wave N (%)	Second Wave N (%)	p value
PPE kit is not available	4 (5.71)	0	---
I am not used to using PPE KIT/ i feel suffocated	11 (15.71)	4 (5.71)	0.022 (5.26)
Work place is crowded	29 (41.42)	29 (41.42)	1.00 (0.00)
Ill ventilated work place	32 (45.71)	32 (45.71)	1.00 (0.00)
Public doesn't behave sensibly	30 (42.85)	30 (42.85)	1.00 (0.00)
Govt doesn't do enough if we get affected or die	27 (38.57)	27 (38.57)	1.00 (0.00)

Table 2: Knowledge about coronavirus disease 2019 (COVID-19) among healthcare workers (n=70) during first wave

	HEALTH CARE N=70 WORKER	PERCENTAGE
COVID-19 is a viral disease	65	92.8
With Direct contact	58	82.8
By Droplets	58	82.8
By Touching surfaces	62	88.5
COVID-19 is flu or more than just flu	63	90



COVID-19 causes pneumonia, respiratory distress, death	67	95.7
vaccine may be available for COVID-19	67	95.7
COVID-19 affects elderly more	67	95.7
Wash hands with soap, water or alcohol	69	98.5
Avoid touching eyes, nose and mouth	69	98.5
Frequently cleaning and disinfecting surfaces	69	98.5
Putting facemask and avoiding crowded places	70	100
Maintaining distance of one meter atleast	69	98.5

	HEALTH CARE WORKERS N=70	PERCENTAGE
Is it treatable by oxygen, antiviral & steroids		
Yes	55	78.57
No	15	21.4

Table- 3 Attitude of healthcare workers regarding COVID-19 (n=70) during first wave

	HEALTH CARE WORKERS N=70	PERCENTAGE
COVID-19 is a severe flu	63	90
COVID-19 set to increase	62	88.5
COVID-19 can be diagnosed with precision	23	32.85
Government bodies have made adequate arrangements to combat disease	61	87.14
COVID-19 can be prevented	69	98.5
Standard precautions can protect us	66	94.28
Fear of losing job after pandemic is over	11	15.7

Table 4

	HEALTH CARE WORKERS N=70	PERCENTAGE
Willing for vaccine	48	68.5
Hesitant for vaccine	22	31.4
Got the vaccine		
Free will	48	68.5
Forced	22	31.4

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