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"A Study To Assess The Problem Faced With Use Of PPE Kit And Coping Strategies Adopted By Staff Nurses Worked In Selected Covid-19 Unit From Sangli –Miraj – Kupwad Corporation Area."

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Abstract:

Introduction: - COVID- 19 was first reported in Wuhan china in 2019.COVID- 19 is caused by the novel severe acute respiratory syndrome (SARS-COV -2). COVID 19 increasing rapidly posing a formidable challenge to the staff nurses in the selected area from sangli miraj kupward corporation area. However, there have been various problem associated with the PPE kit ranging from its shortage to problem arising from heat, dehydration while wearing them.

Medical and nursing staff with higher levels of mental health problems was more interested in skills for self-rescue and showed more urgent desires to seek help from psychiatrists. Those with sub threshold and mild disturbances preferred to obtain such services from media sources, while staff with heavier burdens wanted to seek services directly from professionals. From being used by beekeeper as reported 9in ancient literature, 16 century doctor in EUROPE to modern time PPE kit come a long way. They form a very important of protective amour ,for worrier in the battle against COVID -19 pandemic .

It is very important to carefully select the adequate PPE to protect the skin ,eyes , nose ,mouth, hand ,feet head, and other parts of body so as to provide protection and act as an effective barrier between nurses and the contaminated material like blood ,body fluid ,respiratory secretion and aerosols. the PPE usually comprises the protective clothing helmet ,goggle ,shoe cover and respiratory protective equipment .proper instruction training and supervision are require to ensure that PPE is properly used and adequate protection is gained.

The user have often found varying the PPE uncomfortable while working when facilities for controlling the environmental temperature like centralize AC are unable or are shut down for fear of spreading the infection .in addition to reduce sensitivity

and impaired visibility due to the deposition of water vapors on eye goggles with their use users have also found verbal communication difficulties while wearing PPE kit .

Aims:

1. To assess the problems faced with use of PPE Kit by staff nurses.2. To assess the coping strategies adopted by the staff nurses on problems faced with use of PPE kit.

Methodology:

Non – experimental descriptive research design was conducted to assess the coping strategies among staff nurses who worked in covid-19 unit at selected hospital of Sangli miraj Kupwad corporation area. The reliability coefficient ''r'' of coping strategy rating scale was 0.7 hence it was found reliable. Total 200 samples were selected non probability purposive sampling method. In this study Quantitative research approach is used to assess the problems faced by staff nurses who worked in Covid-19 unit. In the present study the researchers selected the Exploratory-Descriptive study design. Based on study objectives semi structured questionnaires was used for collection of data tool was divided into three sections. The first section contained demographic variables of staff nurses who worked in Covid-19 unit. The second section contained 25 items for assessing problems faced by staff nurses who worked in Covid-19 unit. The items divided into main two sections, Problems faced during the use of PPE kit and Problem faced after the use of PPE kit. The both sections contained physical and equipment problems faced by staff nurses who worked in Covid-19 unit. The third section contained coping strategies adopted by staff nurses, the item divided in two sections both sections contained physical and equipment problems. The score was given as if "yes" then 1 mark and if "No" then 0 mark.

Results and conclusion: Analysis and interpretation done on 200 staff nurses who working in covid-19 unit, where frequency and percentage distribution done for demographic variables. The analysis is shows that 71.58% staff nurses facing physical problems and 70.9% problems related to equipment while using the PPE Kit.The analysis shows that 75.68% of staff nurses facing physical problems after using the PPE Kit, and 79.25%of staff nurses facing the problems related to equipment.The analysis Shows that 70% of staff nurses facing physical problems with coping strategies adopted while using PPE Kit and 82.5% of problems related to equipment's. and Shows that 71.375% of staff nurses facing physical problems with coping strategies adopted by staff nurses after using PPE kit.

Keywords: PPE, Corona, Covid patients, Virus, SARS COV-2

Introduction:

COVID- 19 was first reported in Wuhan china in 2019.COVID- 19 is caused by the novel severe acute respiratory syndrome (SARS-COV -2). COVID 19 increasing rapidly posing a formidable challenge to the staff nurses in the selected area from sangli miraj kupward corporation area. However, there have been various problem associated with the PPE kit ranging from its shortage to problem arising from heat, dehydration while wearing them.Medical and nursing staff with higher levels of mental health problems was more interested in skills for self-rescue and showed more urgent desires to seek help from psychiatrists. Those with sub threshold and mild disturbances preferred to obtain such services from media sources, while staff with heavier burdens wanted to seek services directly from professionals. From being used by beekeeper as reported 9in ancient literature, 16 century doctor in EUROPE to modern time PPE kit come a long way. They form a very important of protective amour ,for worrier in the battle against COVID -19 pandemic .

It is very important to carefully select the adequate PPE to protect the skin ,eyes , nose ,mouth, hand ,feet head, and other parts of body so as to provide protection and act as an effective barrier between nurses and the contaminated material like blood ,body fluid ,respiratory secretion and aerosols. the PPE usually comprises the protective clothing helmet ,goggle ,shoe cover and respiratory protective equipment .proper instruction training and supervision are require to ensure that PPE is properly used and adequate protection is gained.

The user have often found varying the PPE uncomfortable while working when facilities for controlling the environmental temperature like centralize AC are unable or are shut down for fear of spreading the infection .in addition to reduce sensitivity and impaired visibility due to the deposition of water vapors on eye goggles with their use users have also found verbal communication difficulties while wearing PPE kit . The Quantitative research approach used for the study. Non-experimental descriptive was used as research design. Data were collected by using structured attitude scale which is prepared by the researcher. Scale were 9 point with 34 statement.. Domains were age, gender, education, type of family. Maximum score were 96. Reliability of tool done by using split half method. 13 experts did the validity of the tool. Sample was selected as per the criteria with Purposive sampling technique.

Result/ Findings:

The collected data of the present study was classified, organized and analyzed under the following sections.

Section 1: Frequency and percentage distribution of the participants according to demographic variables

Section 2: Problems faced staff nurses while using and after using the PPE kit

Section 3: coping strategies adopted by the staff nurses while using and after using the PPE kit.

Table No. 1. Frequency and percentage distribution of Participants according to demographic variables

n=200

	Frequency	**Percentage**
Age		
21yrs-25yrs	66	33%
26 yrs-30yrs	99	49.5%
31yrs-35yrs	19	9.5%
36yrs-40yrs	14	7%
41yrs-45yrs	2	1%
Gender		

Female	116	58%
Male	84	42%
Education		
A.N.M	13	6.5%
G.N.M	83	41.5%
BSc Nursing	104	52%
Experience		
1mnth-6mnth	140	70%
6mnt-11mnth	47	23.5%
Above 12 months	13	6.5%

Table no.1 The above data shows that the maximum no. of the participants (49.5%) comprised in the age group between the 26 years-30 years old.

- The majority of the samples were female (58%), and 52% were educated B.Sc Nursing and 70% of participants are having 1to 11 months of working experience in COVID Unit.

Table no 2a. Frequency and percentage distribution of Participants according to physical problems during the use of PPE kit n=200

	Yes		No	
	Frequency	%	Frequency	%
PHYSICAL:				
B**reathlessness**	163	81.5	37	18.5
pain on ears	148	74	52	26
hand trembling	99	49.5	101	50.5
Heat	162	81	38	19
Hungry	137	68.5	63	31.5

Dehydration	150	75	50	25

The table no 2a. The data shows that the majority of the staff nurses faced problems on the breathlessness(81.5%),feeling hot in gown (81%), felt dehydrated (75%) and pain in ears(74%) and other. So the staff nurses were faced multiple problems during the use of PPE kit.

Table no 2b.Frequency and percentage distribution of Participants according to equipment problems during the use of PPE kit n=200

	Yes		No	
	F	**%**	**F**	**%**
EQUIPMENT:				
Fogging goggles.	**166**	**83**	**34**	**17**
Communication problems	**147**	**73.5**	**53**	**26.5**
Problems while wearing the PPE kit or any of its components due to improper size.	**115**	**57.5**	**85**	**42.5**
Followed proper donning practice still while using the PPE kit.	**172**	**86**	**28**	**14**
Experienced that urinary bladder was full but couldn't void due to PPE kit.	**111**	**55.5**	**89**	**44.5**
Experienced slipperiness of shoe covers.	**147**	**73.5**	**53**	**26.5**

The table no 2b. The data shows that the majority of the staff nurses faced problems on the donning practices(86%), fogging on the goggles (83%), slipperiness of shoe covers and communication problems(73.5%) respectively, and others like urinary bladder and improper size So the staff nurses were faced multiple problems during the use of equipments of PPE kit.

Table no 2c. Frequency and percentage distribution of Participants according to physical problems after the use of PPE kit n=200

	Yes		No	
	F	**%**	**F**	**%**
PHYSICAL:				

redness of skin on pressure points	138	69	62	31
body pain	163	81.5	37	18.5
weakness	159	79.5	41	20.5
headache	178	89	22	11
dehydrated after the use of PPE kit.	176	88	24	12
Uncomfortable	130	65	70	35
pressure marks on skin at one or more areas	128	64	72	36
skin allergies/dermatitis due to synthetic material	120	60	80	40
nasal pain	111	55.5	89	44.5

The table no 2.C. The data shows that the majority of the staff nurses faced problems after the use of PPE Kit on Headache during use the PPE kit(89%), Dehydration(88%), body pain(81.5%)weakness(79.5%), redness of skin on pressure points(69%), uncomfortable(65%), pressure marks on skin at one or more areas(64%), skin allergies(60%), and nasal pain after use of mask(55.5%).So the staff nurses were faced multiple problems after the use of PPE kit.

Table no 2.D. Frequency and percentage distribution of Participants according to physical equipment problems after the use of PPE kit n=200

	Yes		**No**	
	F	**%**	**F**	**%**
EQUIPMENT:				
I faced problem with PPE kit getting torn at one or more places.	155	77.5	45	22.5
I faced difficulties in doing all procedure with the PPE kit.	164	82	36	18

The table no.2.D. The data shows that the majority of the staff nurses faced problems after the use of PPE Kit on the difficulties in doing all procedures (82%), and faced problems with PPE kit getting torn at one or more places(77.5%).

Table no 3.A. Frequency and percentage distribution of Participants according to coping strategies during the use of PPE kit

n=200

	Yes		No	
Coping strategies during the use of PPE kit	**F**	%	**F**	%
PHYSICAL:				
Instead of removemask I tried to change PPE kit and get adequate oxygen and then join the duty.	100	50	100	50
I used cotton gauze on back side of ear to prevent pain and skin pilling.	150	75	50	25
I tried to empty my bladder before wearing the PPE kit.	190	95	10	5

The table no 3.A. The data shows that the majority of the staff nurses adopted coping strategies during the use of PPE Kit. Try to empty bladder before wearing PPE kit(95%), used cotton gauze backside of the ear(75%), and instead of remove mask I tried to change PPE Kit and get oxygen (50%).

Table no 3.B. Frequency and percentage distribution of Participants according to coping strategies duringthe use of PPE kit

n=200

	Yes		No	
Coping strategies during the use of PPE kit	**F**	%	**F**	%
EQUIPMENT:				
I tried to wear properly fitted mask and goggle for control of fogging goggles.	190	95	10	5
Instead of wearing plastic shoe cover I tried to use cotton (water resistant shoe cover) shoes.	150	75	50	25
If the PPE kit is large in size, I tried to use proper size.	180	90	20	10

The table no 3.B . The data shows that the majority of the staff nurses adopted coping strategies during the use of PPE Kit. try to wear properly fitted mask and goggles(95%), I tried to use proper size of PPE kit(90%), and try to use cotton shoes(75%).

Table no 3**.C. Frequency and percentage distribution of Participants according to coping strategies after the use of PPE kit**

n=200

	Yes		No	
Coping strategies after the use of PPE kit	**F**	%	**F**	%
EQUIPMENT:				
Breathing exercise regularly to overcome from breathlessness.	180	90	20	10
I did body massaging after duty to relief the body ache.	150	75	50	25
I drink more amount of liquid to get hydrated and energetic.	180	90	20	10
I did head massage with use of oil to pain relief.	160	80	40	20
I tried to eat healthy diet to keep my body healthy	178	89	22	11

The table no 3.C. The data shows that the majority of the staff nurses adopted coping strategies after the use of PPE Kit. Breathing exercise regularly to overcome from breathlessness and drinking more amount of liquid to get hydrated and energetic both are(90%), tried to eat healthy diet (89%), head massage (80%),and body massaging (75%).

Discussion:

The finding of the study in the age in years show that most of the nurses i.e. about 33%(66) were in the age group 21-25 years, 49.5%(99) were in the age group 26-30 year, 9.5%(19) were in the age group 31 - 35 year, 7%(14) were in the age group 36-40, and 1%(2) were in the age group 41-45. In gender maximum were females 58% where males are 42%.The nurses educated with A.N.M. nurses 6.5%(13),G.N.M nurses 41.5%(83),BSC nursing 52% (104). Experience criteria of nurses in 1 month – 6 month are 70% (140, 6-11 month are 23.5% (47) and nurses with above 12 month experience are 6.5% (13). The table no 2.A. The data shows that the majority of the staff nurses faced problems on the breathlessness (81.5%), feeling hot in gown (81%), felt dehydrated (75%) and pain in ears (74%) and other. So, the staff nurses were faced multiple problems during the use of PPE kit. The table no 2 B.The data shows that the majority of the staff nurses faced problems on the donning practices(86%), fogging on the goggles (83%), slipperiness of shoe covers and communication problems(73.5%) respectively, and others like urinary bladder and improper size So the staff nurses were faced multiple problems during the use of equipment's of PPE kit.

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The data shows that the majority of the staff nurses faced problems after the use of PPE Kit on the difficulties in doing all procedures (82%), and faced problems with PPE kit getting torn at one or more places (77.5%). The table no 3.A. The data shows that the majority of the staff nurses adopted coping strategies during the use of PPE Kit. Try to empty bladder before wearing PPE kit(95%), used cotton gauze backside of the ear(75%), and instead of remove mask I tried to change PPE Kit and get oxygen (50%). The table no 3.B. The data shows that the majority of the staff nurses adopted coping strategies during the use of PPE Kit. try to wear properly fitted mask and goggles(95%), I tried to use proper size of PPE kit(90%), and try to use cotton shoes(75%). The table no 3.C. The data shows that the majority of the staff nurses adopted coping strategies after the use of PPE Kit. Breathing exercise regularly to overcome from breathlessness and drinking more amount of liquid to get hydrated and energetic both are (90%), tried to eat healthy diet (89%), head massage (80%), and body massaging (75%).

.**Conclusion:** The study was based on problem faced by staff nurses while using PPE kit and coping strategies adopted by them. The research method adopted for the study was an exploratory. The study population consisted the problem faced by staff nurses while using PPE kit. Total 200 samples were taken non probability sampling technique for generating necessary data semi –structured questionnaire was developed for assessing the problem faced by staff nurses while using PPE kit. To find out reliability of tool, it was tried to 20 staff nurses working in covid 19 unit from selected hospitals in Sangli – Miraj –Kupwad corporation area. The data was collected individually by using paper and pencil technique.

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