Effect of the Face Mask Perception on the Duration of Wearing Mask among Nurses during the Pandemic of Coronavirus

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ABSTRACT

Objective(s): The aim of this study is to assess the effect of face mask perception on the duration of wearing mask among nurses during the pandemic of coronavirus, and to find out the relationship between the duration of wearing mask and the nurse demographic characteristic of age, gender, level of education, and marital status.

Methodology: A quantitative descriptive study design was used in this study on 100 nurses worked at Wassit Province Hospitals at isolation units. A questionnaire used to collect the data of this study which consisted of two parts: (1) Sociodemographic characteristic of age, gender, level of education, marital status, Duration of wearying mask per time and the type of mask they worn; and (2) Face mask perception scale (FMPS). Data were analyzed by using SPSS version 23.

Results: Results revealed that most of the study participant were males with mean age of 30.66 years old, and most of them have bachelors' degree in nursing. All the study participants wear N95 face mask in which half of them wear it for about four hours duration during working shift. All participants have positive perceptions in five dimensions of the FMPS with negative perceptions in the remaining three dimensions. No association between FMPS and duration of earing mask was found, and significant relationships were found between age, gender, and level of education with duration of wearing mask.

Conclusions: The recent study concluded that FMP among nurses does not affect the duration of wearing mask.

Keywords: Effect, FMPS, Duration of wearing mask, Coronavirus

INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is highly contagious and is mostly spread through direct contact and respiratory tract droplets[1]. Globally, as of 2ed December 2022, there have been 640,395,651 confirmed cases of COVID-19, including 6,618,579 deaths, reported to WHO. As of 29 November 2022, a total of 13,042,112,489 vaccine doses have been administered[2]. During the outbreak, major emphasis has been demonstrated the importance of alleviating nosocomial spread of the outbreak[3-6]. It is essential to keep all HCWs safe from being infected, thus, they should do a full set of personal protective equipment (PPE) during dealing with COVID-19 patients[7]. During the year of 2020, more than 3300 HCWs in China had known case of COVID-19[8]. The most important consideration which may minimize a HCWs possibility of becoming invade with COVID 19 is the proper use of an effective PPE, this may alleviate problems facing the HCWs and maintain their life[9-11]. The PPE should have a tight fit that prevents exposure to ensure the personal safety of HCWs[12]. Overall breathability and wearing comfort PPE decrease as the level of protection increases[13]. Although wearing PPE probably provides personnel with a sense of security, wearing PPE for a long duration may suffer from shortness of breathing and even syncope[14]. Moreover, long duration of using PPE decreases its protectiveness, and seriously could harm the health of HCWs[15-18]. Part of PPE requirements in all professional activities is the use of face mask by HCWs according to the required degree of protection level[19,20]. An elevation in the baseline of anxiety is known to cause sleep quality disturbance, as people who experience anxiety have difficulty sleeping and often wake up during sleeping. There is a strong relationship between nurses' sleep quality and anxiety levels[21-23]. The aim of this study is to assess the effect of FMP on the duration of wearing mask among nurses during the pandemic of coronavirus, and to find out the relationship between the duration of wearing mask and the nurse demographic characteristic of age, gender, level of education, and marital status.

METHODS

The design used in this study is a quantitative descriptive research design. This type of research is used to represent and describe a problem in numerical data that can be altered into usable static. The descriptive study was used in the present study with the application of a questionnaire for the study sample.

Sample and Setting: Nurses are the target population of this research. The sample included nurses who work at isolation units at all hospitals in Wassit province. The minimum sample size is (100 nurse) according to the population of (400) nurse, margin of error is (5) and confidence level of (85).

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Ethical Considerations: At the University of Baghdad, college of nursing the Institutional Review Board (IRB) approved the study to be initiated. The protocol of the study meets both the global and the committee on publication ethics (COPE) standards of respecting human subjects' rights. Next of the report's acceptance by the Council of Nursing, University of Baghdad, the researcher sent a concise protocol to the Ministry of Planning and the Central Statistical Organization with the results of the research so that to get official approval to initiate the study. Next of that Wassit Health Directorate sent the permission. The researcher gets the agreement of the nurses through the informed consent. Moreover, reviewing the study details with them after getting approval from College of Nursing for the study. The researcher clarified the study purposes and how to fill the questionnaire to the study participants. Each participant needs around (10-15) minutes to answer the questionnaire. Data were collected from the period of (25 Jan. 2023 to 5 Feb 2023). The content validity of the constructed questionnaire was determined through the use of a panel of (10) experts.

Statistical Analysis: Data were analyzed through the use of statistical package of social sciences (SPSS) version 23. The statistical procedures, which were applied for the data analysis and assessment of the results, included the following: Descriptive statistics Frequency (F), Percentage (%), Mean Score and Standard deviation according to the mean scores. And inferential statistics including ANOVA test[24-34].

RESULTS

Table 1: The distribution of the study sample according to their demographic data

Variable	Groups	Study Sample	
		F.	%
Age	Mean ±*SD*	30.66 ± 6.288	
Variable	Groups	F.	%
Gender	Male	69	69
	Female	31	31
	Total	100	100
Educational level	Preparatory	17	17
	Diploma	39	39
	Bachelor's	44	44
	Total	100	100
Marital Status	Married	63	63
	Single	29	29
	Widowed	2	2
	Divorced	6	6
	Total	100	100
Duration of Wearing Mask continuously during working shift	3 hours	5	5
	4 hours	50	50
	5 hours	45	45
	Total	100	100
Type of mask dressed daily	Surgical mask	0	0
	N95 mask	100	100
	Respirator Mask	0	0
	Total	100	100

Table 2: The distribution of the (FMPS)

Variable	Groups	Study Sample	
		F.	%
Dimension 1: Comfort (Q1 – Q4)	Positive Perception*	100	100
	Negative Perception**	0	0
	Total	100	100
Dimension 2: efficacy doubt (Q5– Q8)	Positive Perception	94	94
	Negative Perception	6	6
	Total	100	100
Dimension 3: Access (Q9 – Q12)	Positive Perception	100	100
	Negative Perception	0	0
	Total	100	100
Dimension 4: compensation (Q13 – Q16)	Positive Perception	79	79
	Negative Perception	21	21
	Total	100	100
Dimension 5: Inconvenience (Q17 – Q20)	Positive Perception	4	4
	Negative Perception	96	96
	Total	100	100
Dimension 6: Appearance (Q21 – Q24)	Positive Perception	93	93
	Negative Perception	7	7
	Total	100	100
Dimension 7: Attention (Q25 – Q28)	Positive Perception	13	13
	Negative Perception	87	87
	Total	100	100
Dimension 8: Independence (Q29 – Q32)	Positive Perception	10	10
	Negative Perception	90	90
	Total	100	100

*Positive Perception about face mask (score 4 – 16), ** negative perception about face mask (score 17 – 28).

Table (2) presented the distribution of participants' responses to the FMPS, and results revealed that the majority of participants have positive perceptions toward wearing mask in most dimensions of the scale, except in dimension five that reflected participants' perception about inconvenience, dimension seven that revealed attention, and dimension eight that reflected perceptions about independence.

Table 3: Effects of the factors(scales) on the duration of wearing mask

(N=100)				Duration of Wearing Mask/ Factor affecting Duration of Wearing mask
Sig.	P value	F	df	
N.S	.52	.4	98	FMPS

df= degree of freedom, F = Fisher test by ANOVA, NS = non-significant at P>0.05, S=significant at P<0.

Table (3) showed that there was no effect of FMP on duration of wearing mask at P value higher than (.05)**.**

Table 4: Correlation between socio-demographic variables of the study sample with the duration of waring mask

Duration of wearing mask (N=100)				Socio-demographic variables
Sig.	P value	Contingency Coefficient	Chi-Square	
H.S.	.000	.634	67.04	Age
H.S.	.006	,305	10.23	Gender
H.S.	.000	.524	37.87	Education Level
N.S.	.128	.3	9.91	Marital status

df= degree of freedom, NS = non-significant at P>0.05, S=significant at P<0.05

Table (4) showed that there were highly significant relationships between age, gender, and level of education of participants with duration of wearing mask at P (.000, .006, and .000) respectively. While, there was no significant relationship was found between marital status with duration of wearing mask at P value (.128).

DISCUSSION

Results of the present study showed that the mean age of the study sample was 30.66 years old. In addition, results revealed that 69 percent of the study sample were males, and the highest percent 44% have bachelors' degree in nursing. Moreover, results presented that 63 percent of the study sample were married. Also, a hundred percent of the study sample use N95 type of mask during their work in which a half of them use the mask for at least four hours during work shift[35]. Presented in their study that mean age of nurses providing care for patients at ICU during pandemic of COVID 19 was 30 years old, in addition, most of nurses participated in this study were males who accounted for 62.9 percent and 40 percent of the study sample have bachelor's degree in nursing. Moreover, 65.7 percent of the study sample were married who worked at ICU[36,37].

Results in the present study also revealed that the majority of participants have positive perceptions toward wearing mask in most dimensions of the FMPS, except in dimension five that reflected participants' perception about inconvenience, dimension seven that revealed attention, and dimension eight that reflected perceptions about independence as shown in table (2). This result was supported by evidence of findings in a study conducted to measure HCWs' perceptions and beliefs about waring face mask during COVID 19 outbreak. The authors of this study reported that approximately 99 percent of the study participants have positive belief and perception about the necessity of wearing face mask in protecting against COVID 19[38].

Results presented in table (3) showed that there was no association between FMPS on duration of wearing mask at P value higher than (.05). In contrast, it was reported in a previous study that FMP was associated with face mask wearing by HCWs[39].
In this present study, results showed that there were highly significant relationships between age, gender, and level of education of participants with duration of wearing mask at P (.000, .006, and .000) respectively. While, no significant relationship was found between marital status with duration of wearing mask at P value (.128). In a comparison, it was reported that gender has related to FMPS[40,43].

CONCLUSIONS

The recent study concluded that FMP among nurses does not affect the duration of wearing mask.

RECOMMENDATIONS

The study recommends that the perception of HCWs should be increased toward wearing face mask especially during outbreaks. In addition, awareness of HCWs about using PPE should be increased though sharing in training sessions to protect themselves and others from infectious diseases including COVID 19.

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Competing Interest: None

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