ORIGINAL ARTICLE

Characteristics and Correlation of Indonesian Cabin Crew Marital Status and Anxiety 2022

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ABSTRACT

Introduction: Fear of getting COVID-19 has led to an upsurge in mental health problems, particularly among those who deal directly with others, such as cabin crew. A regulation has been established requiring travelers to attach the results of a COVID-19 test to prevent the transmission of the virus during flight. While the number of confirmed COVID-19 cases continued to rise, the regulations were subsequently repealed in early 2022. The marital status of an individual is one factor that can influence the level of anxiety. Studies regarding the correlation between marital status and anxiety levels of cabin crew during the COVID-19 pandemic in Indonesia are still lacking. This study aims to determine the correlation between marital status and anxiety levels of Indonesian cabin crews in 2022. **Methods:** In November 2022, a cross-sectional offline survey was conducted using a written questionnaire. Using consecutive sampling with inclusion and exclusion criteria, a final sample of 79 was analyzed. The independent variable is classified as either married or unmarried based on Indonesia Law Act No. 1 of 1974. Anxiety levels, the dependent variable, were collected using a Hamilton Anxiety Rating Scale (HARS) questionnaire and a personal data questionnaire. **Results:** A correlation was observed between the marital status of Indonesian cabin attendants in 2022 and their anxiety levels (p=0.025), according to the findings. **Conclusion:** Increased anxiety levels about cabin personnel's marital status are driven by the worry of catching COVID-19, which will result in feelings of loneliness, particularly for cabin crew with unmarried marital status.

Keywords: anxiety level, cabin crew, marital status

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INTRODUCTION

Anxiety is a mental health disorder characterized by an emotional state triggered by signals that predict a future, but not necessarily an immediate threat (Sadock, Sadock and Ruiz, 2017). Symptoms of anxiety disorders include excessive fear and behavioral disturbances (American Psychiatric Association, 2013). Anxiety is triggered by stressors from the internal or external environment (Evans, Nizette and O'brien, 2017), one of which is psychological stress (Bustamam *et al*., 2019). Anxiety as a mental health disorder has become more prevalent during the pandemic due to fear of contracting COVID-19 (WHO, 2022).

During the pandemic, cabin crew have experienced mental health issues, with a common concern being the risk of contracting COVID-19 (Hoa, Hao and Shyu, 2023). This concern arises due to the potential for COVID-19 transmission during air travel, as passengers and cabin crew interact, making the latter susceptible to infection (Chinazzi *et al*., 2020; Hawkins, 2020; Grout and Leggat, 2021). The transmission of COVID-19 between passengers and cabin crew during flights has been attributed to the lack of personal protective equipment (PPE), such as masks (Kelly, Bambury and Boland, 2021). A study conducted in December 2020 found that 30 out of 146 cabin crew on active duty during the COVID-19 pandemic experienced anxiety (Görlich and Stadelmann, 2020).

Each individual experiences varying anxiety levels. The Hamilton Anxiety Rating Scale (HAM-A) questionnaire can be used to determine

five anxiety levels of an individual: no anxiety, mild anxiety, moderate anxiety, severe anxiety, and very severe anxiety (Saputro and Fazrin, 2017).

Of all industries affected by the pandemic, air travel became one of the industries that was most severely affected (Suau-Sanchez, Voltes-Dorta and Cugueró-Escofet, 2020). In Indonesia, the COVID-19 pandemic has significantly affected domestic flights, resulting in a decrease in the number of passengers. This is due to temporary travel restrictions to prevent the transmission of COVID-19 during the early stages of the pandemic (Adjie and Bahari, 2021) as well as the fear of passengers of contracting the virus (Gajić *et al.*, 2023). To suppress the spread of COVID-19, the Ministry of Transportation of the Republic of Indonesia established a regulation requiring passengers to provide the results of their COVID-19 screening. However, this regulation was revoked in early 2022 through the Circular Letter Number 21 (Ministry of Transportation, 2022) although the number of positive COVID-19 cases continued to increase.

Marital status can also be a factor that triggers anxiety. According to a study conducted in September 2022, 59 out of 161 married cabin crew experienced anxiety due to the fear spreading the virus to their families (Jeong and Kim, 2022). Another study found that being married can increase anxiety levels due to the fear of contracting COVID-19 and transmitting it to their partners (Siegel and Dekel, 2022). However, a study found that marital status can reduce anxiety levels if the marriage is healthy (Spiker, 2014). This finding is supported by a study conducted in 2017 that found that married people tend to have lower cortisol levels, which play a role in the pathophysiology of anxiety (Chin *et al.*, 2017). Meanwhile, individuals who are not married (unmarried, divorced, or widowed) may experience higher anxiety levels due to the lack of a partner to provide social support (Grundström *et al.*, 2021). In contrast, a study found that individuals who are not married tend to have lower anxiety levels because they do not have to worry about their family members and, therefore, may be less aware of the adverse effects that can result from COVID-19 infection (Mistry *et al.*, 2022).

A study conducted in Japan in 2021 showed a correlation between anxiety and marital status. The study found that out of 13,646 workers who worked outside the household, both 7,468 of them who were married and 6,178 of them who were not married experienced anxiety (Eguchi *et al.*, 2021).

According to the results of previous studies, changes in regulations and uncertainty about the conditions of COVID-19 infection experienced by passengers are potential stressors which cause anxiety in cabin crew. Therefore, this study aims to identify the relationship between marital status and anxiety levels of Indonesian cabin crew in 2022, as well as the variables that influence this relationship. The findings will provide essential data, especially for airlines, as a reference for preventive measures against anxiety among both married or unmarried cabin crew during future pandemics.

METHODS

Study Design, Setting, and Participant Selection

This study employed a cross-sectional analysis using two types of questionnaires, namely a personal data questionnaire (including initial, age, sex, highest education level, flight activity, and marital status) and the Hamilton Anxiety Rating Scales (HAM-A) questionnaire, completed by active Indonesian cabin crews who flew during the COVID-19 pandemic, specifically between August 2020 and August 2022 or between June 2021 and June 2022 according to the schedule set by their respective airlines. Data collection was carried out using a written questionnaire. This study received approval from the Ethics Committee of the Faculty of Medicine, Universitas Pembangunan Nasional "Veteran: Jakarta with a certificate number 413/XI/2022/KEPK. Informed consent was obtained from the participants prior to data collection.

The population consisted of all active cabin crews during the pandemic, specifically between August 2020 and August 2022 or between June 2021 to June 2022 who underwent health examinations at the Aviation Health Center in Jakarta from October to November 2022. A total of 79 of cabin crews were included in this study and were selected using a consecutive sampling method with the inclusion criteria of actively flying during the specified period. The exclusion criteria were cabin crews who were not active due to the airlines grounding them or terminating their contracts. Data collection took place in November 2022 at the Medical Office of the the Directorate General of Civil Aviation (DGCA) in Central Jakarta, Indonesia.

Analysis of Variables

Predictor Variables

Marital status was used as a predictor variable in this study, which was further classified into married and unmarried (unmarried, divorced, or widowed) based on a study conducted in Japan by Eguchi *et al*. (2021). Data on marital status were collected from the cabin crew using the personal data questionnaire. The data were analyzed using univariate analysis to obtain information about the distribution of cabin crew in the married and unmarried categories. In addition, bivariate analysis was used to determine its correlation with anxiety levels.

Outcome Variables

Anxiety levels were used as an outcome variable in this study. Data on anxiety levels were collected from the cabin crew using the 14-question HAM-A questionnaire. The data were analyzed using univariate analysis in order to obtain inf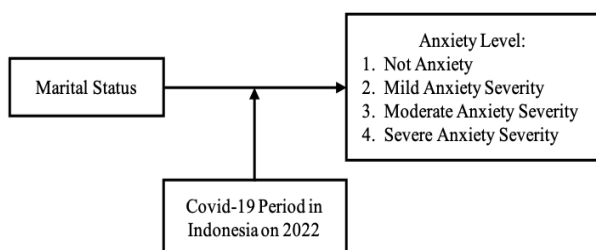ormation about the distribution of anxiety levels among cabin crew, ranging from no anxiety, mild anxiety, moderate anxiety, severe anxiety, and very severe anxiety. In addition, bivariate analysis was used to determine their correlation with marital status.

Analysis of Covariance

This study also analyzed covariate data collected from the personal data questionnaire, including age, sex, and highest education level. Age was classified into three categories based on the 2009 publication by the Ministry of Health: 17-25 years, 26-35 years, and 36-45 years. Sex was classified into female and male. Finally, highest education levels were classified into three categories: senior high school/ vocational high school, associate's degree, and bachelor's degree.

Statistical Analysis

The results of analysis of variables and covariates of the cabin crew are presented in descriptive statistics. The Chi-squared test was used to determine the correlation between marital status and anxiety levels Indonesian cabin crew as well as the correlation between the covariates and anxiety levels. This was done to investigate whether the covariates played a significant role in increasing the anxiety levels of the cabin crew during the COVID-19 pandemic in Indonesia in 2022.

RESULTS

Out of the 79 total participants, 10.1% were married, while 89.9% were not married. The anxiety

Figure 1. Predictor and Outcome Variables

Table 1. Characteristics of the Participants

Marital Status	Anxiety Levels								p
	No Anxiety		Mild Anxiety		Moderate Anxiety		Severe Anxiety		
	n	%	n	%	n	%	n	%	
Age									
17-25	31	67.4	10	21.7	4	8.7	1	2.2	0.909
26-35	18	5.1	6	19.4	3	9.7	4	12.9	
36-45	0	0	2	100	0	0	0	0	
Sex									
Male	6	75	1	12,5	1	12.5	0	0	0.998
Female	43	60.6	17	23.9	6	8.5	5	7	
Highest Education Level									
Senior high school/vocational high school	44	71	10	16.1	4	6.5	4	6.5	0.02
Associate's degree	1	20	2	40	2	40	0	0	
Bachelor's degree	4	33.3	6	50	1	8.3	1	8.3	

levels of Indonesian cabin crew were distributed as follows: 62% did not experience anxiety, 22.8% experienced mild anxiety, 8.9% experienced moderate anxiety, and 6.3% experienced severe anxiety. The result of the covariate analysis showed that cabin crew in the age category of 26-35 years, female category, and senior high school/vocational high school category experienced higher anxiety levels, namely severe anxiety (Table 1). The results of covariate analysis showed no significant correlation between age and sex with anxiety levels of Indonesian cabin crew in 2022. However, a significant correlation was found between highest education level with anxiety levels of Indonesian cabin crews in 2022 ($p < 0.05$) (Table 1). In addition, a significant correlation was found between marital status and anxiety levels of Indonesian cabin crews during the COVID-19 pandemic in 2022 ($p < 0.05$) (Table 2).

DISCUSSION

This cross-sectional study was conducted during the implementation of new regulations for flight passengers who wanted to fly during the COVID-19 pandemic in 2022. The results of covariate analysis showed that the cabin crew in the age group of 26-35 tended to have higher anxiety levels. This may be due to the fact that individuals in this age group have higher needs and are building their careers to achieve a more stable life. Another possible reason is that physical and cognitive effects tend to interact (Kohli and Dua, 2022). However, the covariate analysis of age showed no correlation with the anxiety levels of Indonesian domestic cabin crew ($p = 0.909$). In addition, females tended to have higher anxiety levels, which may be due to the unequal distribution of data between males and females resulting from the cross-sectional method. Another possible explanation is that females are more likely to experience stress due to hormonal factors. Moreover, males may have better resilience to stressors than females (Hou *et al*., 2020). However, the covariate analysis of sex did not show any correlation with the anxiety levels

of Indonesian domestic cabin crew ($p = 0.998$). Finally, cabin crew with the highest education level of senior high school/vocational high school tended to have higher anxiety levels, possibly due to lower knowledge compared to those with associate's or bachelor's degree (Niemeyer *et al*., 2019; Hou *et al*., 2020; Adams *et al*., 2022). Cabin crew with higher education levels experience lower anxiety levels due to better stress management and resilience to stressors. Therefore, only the covariate analysis of highest education level showed a correlation with anxiety levels of Indonesian domestic cabin crew ($p = 0.02$). In other words, among the three covariates, only the highest education level influenced anxiety levels.

This study aims to determine the correlation between anxiety levels and certain factors, such as marital status of individuals who constantly interacted with other people during the COVID-19 pandemic. The results of this study suggested a correlation between marital status and anxiety levels, with individuals in the unmarried category having higher anxiety levels, namely severe anxiety. This can be attributed to the fact that COVID-19 infection can cause loneliness due to quarantine (Adams *et al*., 2022). Loneliness in unmarried individuals has also been associated with a lack of partner who can provide social support during the quarantine. This finding is consistent with a study conducted by Grundström *et al*. (2021) that found that unmarried individuals tend to have a higher risk of experiencing anxiety due to a lack of a partner. However, this result is not consistent with a study conducted by Mistry *et al*. (2022) that found that unmarried individuals tend to have a lower risk of experiencing anxiety because they do not have to discuss the potential effect of COVID-19 infection to a partner or family member.

However, this study had several limitations. First, the predictor variables were not evenly distributed. This occurred because there was no specific classification at the time of registration or physical consultation with the aviation medical examiner. Second, the predictor variables did not

Table 2. Correlation between Marital Status and Anxiety Levels among Indonesian Cabin Crew in 2022

Marital Status	Anxiety Levels								p
	No Anxiety		Mild Anxiety		Moderate Anxiety		Severe Anxiety		
	n	%	n	%	n	%	n	%	
Married	48	67.6	11	15.5	7	9.9	5	7	0.025
Not Married	48	67.6	11	15.5	7	9.9	5	7	

include detailed information about residence, such as the type of residence (dormitory, apartment, or family house) and the total number of occupants. Third, the predictor variables did not include financial status of the cabin crew, such as single or double income for married cabin crew and independent or dependent for unmarried cabin crew.

CONCLUSION

The results of the data analysis suggested that the 26-35 age group had the highest incidence of severe anxiety among the participants. In addition, the majority of cabin crew who experienced severe anxiety were females and those with senior high school/vocational high school education. Moreover, a significant relationship was found between marital status and the anxiety levels of cabin crew during the lifting of the requirement for COVID-19 screening test on domestic flights in 2022. Specifically, the unmarried group had the highest distribution of severe anxiety levels because of the fear of contracting COVID-19.

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