

# The Psychological Effects of Covid-19 Pandemic on The Hotel Employees: A Case Study in Makassar, South Sulawesi, Indonesia

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**Abstract:** This study sought to identify the anxiety level of the hotel employees in Makassar due to the Covid-19 pandemic, and then explored the factors that influence it. The structured questionnaire in the Google form containing demographic characteristics and the 7-item Generalized Anxiety Disorder scale (GAD-7) inquiry was distributed online to respondents. Univariate analysis, multivariate logistic regression analysis, and spearman's correlation were used to analyse the 66 responses received. Results showed that 18.2% of respondents suffered severe anxiety, 7.6% moderate anxiety, and 28.8% mild anxiety. Unmarried hotel workers tended to be more anxious (OR = 3.12, 95% CI = 0.157 - 2.118) than those who already had a partner, people who lived in the red zone of the Covid-19 spread had greater anxiety levels (OR = 4.71, 95% CI = 0.545 - 2.554) compared to other areas. Daily-life difficulty and worried about social interaction had a positive correlation with anxiety level.

## 1. INTRODUCTION

The 2019 Novel Coronavirus (Covid-19) is an infectious disease that has been transmitting rapidly throughout the world. On July 3, 2020, Covid-19 has infected 216 countries, with positive cases of 10,662,536 people and 516,209 people died (Gugus Tugas Covid-19, 2020). The Covid-19 affected human physical health crises (Yang, Jing, et al., 2020) (de Alwis, Ruklanthi, et al. 2020). It triggered a negative impact on various sectors including the hospitality industries. Their role as a service-based industry to people who are away from home (Mackenzie, Murray, and Wenliang Chen, 2009; Butnaru, Gina Ionela, and Amanda Miller, 2012) had become dysfunctional during the Covid-19 pandemic. The hotel operations were greatly restricted, eventually experiencing a significant decline. The utmost difficulties had been facing several countries since January 2020. The decline in hotel occupancy rates in China reached 89% by the end of January 2020, income per room in United States decreased by 11.6% in early March, and

European hotels were losing visitors (Nicola, Maria, et al, 2020).

Covid-19 might reach all age groups and various types of work (Tobías, Aurelio, et al, 2020; Saadat, Saeida, Deepak Rawtani, and Chaudhery Mustansar Hussain., 2020) . In Indonesia, the number of cases of Covid-19 infection is still increasing. Covid-19 task force confirmed 60,695 total patients, cured 27,568, and died 3,036 on July 03, 2020. For the hospitality industry in Indonesia, the Covid-19 pandemic had been devastating their business. From January to April 2020, tourist arrivals declined and hotel occupation receded, causing lost revenue potential of around IDR 90 trillion or USD 4 billion. Till 13 April 2020 at least 1,642 hotels stopped operating (Kontan.co.id, 2020). Hotel business performs efficiency in reducing employees. Some hotels had reduced working hours (C. Mata, 2020).

The long-standing and unpredictable Covid-19 pandemic when it ends, not only results in adverse economic, but it also affected the human mental health (Hagerty, Sarah L., and Leanne M. Williams, 2020; De Sousa, Avinash, E. Mohandas, and Afzal

Javed, 2020), and had even become a major challenge in psychological problems (Wang, Cuiyan, et al, 2020; Zgueb, Yosra, et al, 2020) including anxiety, depression, and stress ((Brooks, S. K., et al. "i Rubin, GJ, 2020; de Oliveira, Araújo, et al. "CB, & Neto." MLR, 2020). Several studies have measured anxiety symptoms using various instruments, like the Beck Anxiety Inventory (Ahmed, Md Zahir, et al, 2020), Generalized Anxiety Disorder Assessment 7-item (GAD-7) version (Al-Rabiaah, Abdulkarim, et al, 2020; Casagrande, Maria, et al, 2020; Cao, Wenjun, et al, 2020) (Guo, Qian, et al., 2020) and the 21-item Depression Anxiety Stress Scale (DASS-21) (Chao, Miao, et al, 2020; Odriozola-González, Paula, et a, 2020) (Wang, Cuiyan, et al, 2020).

Alleged mental health pressure of hotel workers due to the pandemic prompted this study. The main objective of this study was to assess the psychological impacts of hotel workers and explored the factors that influence their anxiety. Makassar, South Sulawesi is chosen as the study area because it is an urban area that has the most Covid-19 cases in Indonesia, besides Java Island. In our study, we used Generalized Anxiety Disorder Assessment 7-item (GAD-7) to determine hotel employees' anxiety level.

## 2. MATERIAL AND METHODS

### 2.1. Respondents

The target population in this study was focused on hotels that located in Makassar, South Sulawesi Province. The psychological impact of hotel employees during the Covid-19 pandemic was traced through distributing online structured questionnaires in the Google forms. The questionnaires secured anonymity and confidentiality participant's data. Data was compiled over three weeks during the outbreak of June 2020. Finally, 66 participants voluntarily responded. The study area (see **Figure 1**) was downloaded from high-resolution satellite imagery (Nokia, here.com hybrid) using SAS Planet software and processed with ArcGIS 10.3 software.

### 2.2. Instruments and GAD-7

The online questionnaires inquired demographic characteristics including gender (Liu, Cindy H., et al., 2020), education (Saadat, Saecida, Deepak

Rawtani, and Chaudhery Mustansar Hussain, 2020) (Khalid, Maria, Amir Gulzar, and Abdul Karim Khan, 2020), age (Niu, Shengmei, et al, 2020), job position, marital status, household size, place of domicile, working day during the Covid-19 pandemic related to how social distancing and physical distancing, alternative work, and relative or acquaintance got the Covid-19 (Cao, Wenjun, et al, 2020). Besides that the instrument contains queries about the existence of mental support in their community and life necessities support from the government to their families during the Covid-19 outbreak. The Generalized anxiety disorder scale 7 (GAD-7) is a 7-items English self-report responded by participants to assess their anxiety level and worry symptoms with ratings over the past two weeks (Zheng, Wei, 2020). The rating scale used in GAD-7 is a Likert-type, from 0 (not at all) to 3 (nearly every day), so the total score is 0 to 21 (Liu, Cindy H., et al, 2020) (Temsah, Mohamad-Hani, et al, 2020). The score criteria for the level of anxiety were 0-4 (normal), 5-9 (mild), 10-14 (moderate), and >14 (severe) (Al-Rabiaah, Abdulkarim, et al, 2020).

### 2.3. Statistical Analysis

IBM SPSS statistics version 26 was used for data analysis. To describe the data characteristics collected was carried out a descriptive analysis. A univariate analysis was conducted to investigate the significant associations between the characteristics of respondents and the anxiety level during the Covid-19 pandemic [20,33]. Statistically significant variables ( $p < 0.05$ ) were selected for further analysis using ordinal logistic regression (multivariate analysis) [20,34]. It was to illustrate the relationship between ordinal-scale response variables (anxiety level) and sample variables. A good fit model was determined by the test parallel lines and goodness of fit test produced  $p > 0.05$ . Odds ratio (OR) with a 95% confidence interval (CI) was used to illustrates the change in the tendency of each increase of a significant variable [20,35]. Spearman's correlation coefficient,  $r$ , was used to evaluate the association between anxiety level and worry about economic influences, job sustainability, mental and financial support, and daily-life difficulty. A two-tailed  $p < 0.05$  was considered statistically significant.

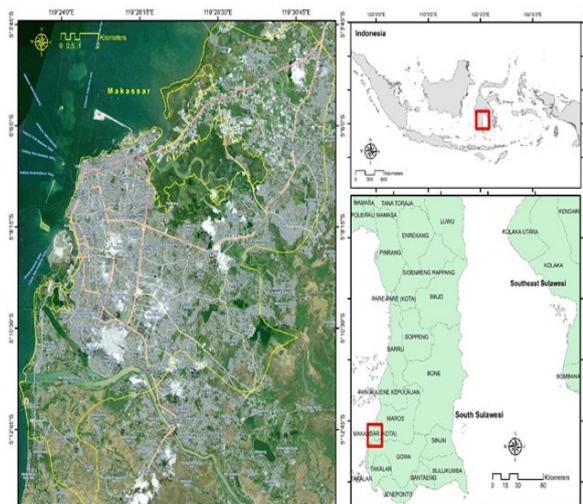


Figure 1: The study area of Makassar, South Sulawesi, Indonesia

### 3. RESULT

The collected demographic characteristics of respondents consisted of women 34 (51.5%) and 32 men (48.5%). The highest level of participant education was 36 high school seniors (54.5%), with age ranges varying from 19 to 52 years (1 person). Job position selected administrations and managers were as many as 25 people (37.9%) and marketing 24 people (36.4%), most of them were not married (56.1%). During the Covid-19 pandemic period, as many as 40 people (60.6%) were unemployed and isolated at home; they also did not have alternative employment (90.9%). Most respondents (98.5%) had no relatives or acquaintances that were infected with the Covid-19.

#### 3.1. Anxiety Level

Number of the hotel employees in Makassar (South Sulawesi) with different anxiety (see Table 1), during the Covid-19 epidemic.

Table 1: Anxiety level of the hotel employees (n = 66)

No	Anxiety level	Frequency	Percentage (%)
1	Normal	30	45.4
2	Mild	19	28.8
3	Moderate	5	7.6
4	Severe	12	18.2

There were 66 employees, 12 participants (18.2%) suffered severe anxiety, 5 employees (7.6%) were at a moderate level, and 19 respondents (28.8%) had mild anxiety. Nearly half the total sample (45.4%) had no symptoms of anxiety.

### 3.2. Factors Influencing the Hotel Employees Anxiety

#### 3.2.1 Univariate Analysis

The analysis results of 11 sample characteristic variables associated with anxiety levels were obtained domiciled in the red zone (p-value 0.003) and marital status (p-value 0.024) which had a significant effect on anxiety levels, where p-value <0.05 (see Table 2). Workers who lived in the Covid-19 red zone could increase anxiety, there were 9 people (13.6%) experiencing severe anxiety, moderate anxiety by 5 (7.6%), and mild anxiety 12 employees (18.2%). Unmarried respondents were higher anxiety levels than those who were married. 10 participants (15.2%) had severe anxiety, 3 people (4.5%) had moderate anxiety, and 11 respondents (16.7%) had mild anxiety. While 9 other variables (gender, education, age, job position, family members, working day, alternative work and relative or acquaintance infected the Covid-19) had no significant effect on anxiety levels (p-value > 0.05).

#### 3.2.2 Ordinal Regression Analysis

Table 3 shows the results of ordinal regression analysis between marital statuses and domiciled in the red zone with anxiety level. These variables were included in the multivariate analysis because they had a significant influence on anxiety level (p < 0.05). The parallel lines test obtained a chi-square value of 3.547 and a p-value of 0.471 and goodness of fit (p > 0.05), showing that at a 95% confidence level the regression model used was suitable. The results showed that being in the red zone area of the spread of Covid-19 (OR = 4.71, 95% CI = 0.545 - 2.554) tended of 4.71 times to get a higher anxiety increase compared to respondents who were in the safe zone (no one or a few was infected with Covid-19). Unmarried respondents (OR = 3.12, 95% CI = 0.157 — 2.118) tended to increase anxiety by 3.12 times compared to those who were married.

Table 2: Univariate analysis of the hotel employees' anxiety

No	Variables	Total	Anxiety				P
			Normal	Mild	Moderate	Severe	
<b>1</b>	<b>Gender</b>						
	Male	32 (48.5%)	14 (21.2%)	11 (16.7%)	1 (1.5%)	6 (9.1%)	1.000 <sup>a</sup>
	Female	34 (51.5%)	16 (24.2%)	8 (12.1%)	4 (6.1%)	6 (9.1%)	
<b>2</b>	<b>Education</b>						
	Senior high school	36 (54.5%)	17 (25.8%)	11 (16.7%)	1 (1.5%)	7 (10.6%)	0.726 <sup>b</sup>
	Diploma	9 (13.6%)	5 (7.6%)	2 (3.0%)	0 (0.0%)	2 (3.0%)	
	Bachelor	19 (28.8%)	8 (12.1%)	5 (7.6%)	3 (4.5%)	3 (4.5%)	
	Master	2 (3.0%)	0 (0.0%)	1 (1.5%)	1 (1.5%)	0 (0.0%)	
<b>3</b>	<b>Age</b>						
	< 50 years	65 (98.5%)	30 (45.5%)	19 (28.8%)	4 (6.1%)	12 (18.2%)	0.299 <sup>a</sup>
	≥ 50 years	1 (1.5%)	0 (0.0%)	0 (0.0%)	1 (1.5%)	0 (0.0%)	
<b>4</b>	<b>Domiciled in the red zone</b>						
	No	29 (43.9%)	19 (28.8%)	7 (10.6%)	0 (0.0%)	3 (4.5%)	0.003 <sup>a*</sup>
	Yes	37 (56.1%)	11 (16.7%)	12 (18.2%)	5 (7.6%)	9 (13.6%)	
<b>5</b>	<b>Job position</b>						
	Marketing	24 (36.4%)	10 (15.2%)	6 (9.1%)	1 (1.5%)	7 (10.6%)	0.094 <sup>b</sup>
	Administrations & Managers	25 (37.9%)	15 (22.7%)	5 (7.6%)	2 (3.0%)	3 (4.5%)	
	Technician	9 (13.6%)	1 (1.5%)	6 (9.1%)	0 (0.0%)	2 (3.0%)	
	House keeping	3 (4.5%)	3 (4.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
	Front office	5 (7.6%)	1 (1.5%)	2 (3.0%)	2 (3.0%)	0 (0.0%)	
<b>6</b>	<b>Marital status</b>						
	Not married yet	37 (56.1%)	13 (19.7%)	11 (16.7%)	3 (4.5%)	10 (15.2%)	0.024 <sup>a*</sup>
	Married	29 (43.9%)	17 (25.8%)	8 (12.1%)	2 (3.0%)	2 (3.0%)	
<b>7</b>	<b>Household size</b>						
	No one	5 (7.6%)	3 (4.5%)	1 (1.5%)	0 (0.0%)	1 (1.5%)	0.736 <sup>b</sup>
	1 - 5 people	56 (84.8%)	24 (36.4%)	17 (25.8%)	5 (7.6%)	10 (15.2%)	
	6 - 10 people	5 (7.6%)	3 (4.5%)	1 (1.5%)	0 (0.0%)	1 (1.5%)	
<b>8</b>	<b>Working day</b>						
	at home every day	40 (60.6%)	18 (27.3%)	10 (15.2%)	4 (6.1%)	8 (12.1%)	0.781 <sup>b</sup>

	1 - 3 days a week	22 (33.3%)	10 (15.2%)	7 (10.6%)	1 (1.5%)	4 (6.1%)	
	4 - 6 days a week	4 (6.1%)	2 (3.0%)	2 (3.0%)	0 (0.0%)	0 (0.0%)	
<b>9</b>	<b>Alternative work</b>						
	No	60 (90.9%)	27 (40.9%)	18 (27.3%)	4 (6.1%)	11 (16.7%)	0.962 <sup>a</sup>
	Yes	6 (9.1%)	3 (4.5%)	1 (1.5%)	1 (1.5%)	1 (1.5%)	
<b>10</b>	<b>Relative or acquaintance got the Covid-19</b>						
	No	65 (98.5%)	29 (43.9%)	19 (28.8%)	5 (7.6%)	12 (18.2%)	0.313 <sup>a</sup>
	Yes	1 (1.5%)	1 (1.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	

a Mann-Whitney test; b Kruskal-Walls test; 1

### 3.2.3 Ordinal Regression Analysis

Table 3 shows the results of ordinal regression analysis between marital statuses and domiciled in the red zone with anxiety level. These variables were included in the multivariate analysis because they had a significant influence on anxiety level ( $p < 0.05$ ). The parallel lines test obtained a chi-square value of 3.547 and a p-value of 0.471 and goodness of fit ( $p > 0.05$ ), showing that at a 95% confidence level the regression model used was suitable. The results showed that being in the red zone area of the spread of Covid-19 (OR = 4.71, 95% CI = 0.545 - 2.554) tended to get a higher anxiety increase compared to respondents who were in the safe zone (no one or a few was infected with Covid-19). Unmarried respondents (OR = 3.12, 95% CI = 0.157 — 2.118) tended to increase anxiety by 3.12 times compared to those who were married.

Table 3: Ordinal logistic regression analysis of factors influencing the hotel employees' anxiety

No	Factors	Number	SE	OR	P	OR (95%CI)
1	Marital status					
	Not married yet	37 (56.1%)	0.500	3.12	0.023	(0.157; 2.118)
	Married	29 (43.9%)	-	-	-	-
2	Domiciled in the red zone					

	No	29 (43.9%)	-	-	-	-
	Yes	37 (56.1%)	0.512	4.71	0.002	(0.545; 2.554)

SE standard error; OR odds ratio; CI con 1

### 3.3. Correlation between the Covid-19 related stressors

Competent hotel employees who work well and responsibly in a hotel shall get an adequate salary and develop the quality of life of their family [36,37]. However, the Covid-19 epidemic had caused concern and difficulties for hotel workers. All respondents (100%) said they were greatly worried about economic conditions, their income dropped dramatically during the Covid-19 pandemic. Moreover, they were also extremely apprehensive about the sustainability of their work in the hotel. Although some of them get mental support (36 respondents or 54.5%) in their neighbourhood and basic needs support from the government for families and communities (12 respondents or 18.2%), but they still experience high levels of anxiety (18.2% in severe anxiety, 7.6% in moderate anxiety, and 28.7% mild anxiety).

The results of the correlation rank spearman analysis between factors and level anxiety are shown in Table 4. The daily-life difficulty that prevented respondents from doing work at home had a positive relationship with the level of anxiety

of hotel employees ( $r = 0.328$ ,  $p = 0.007$ ). Likewise, between worry about social life interactions and level anxiety had a sufficiently good correlation ( $r = 0.369$ ,  $p = 0.002$ ).

Table 4: Correlation analysis between the Covid-19 related stressors and the hotel employees' anxiety

No	Related stressors	Anxiety level	
		r	P
1	Daily-life difficulty	0.328	0.007*
2	Worry about social life interactions	0.369	0.002*

r Correlation coefficient; \* a significant 1

#### 4. DISCUSSION

The Covid-19 pandemic caused psychological pressure on various elements, including the general public, students, college students, college lecturers, migrant workers, daily wagers, theater workers, and medical staff and healthcare workers (Luo, Min, et al., 2020; Xiao, Xiao, et al., 2020). This study focused on investigating the psychological effects of hotel workers during the pandemic period and examining the variables that influence their anxiety. The results represented the Covid-19 pandemic affected anxiety in hotel workers in Makassar by 54.6% (18.2% in severe anxiety, 7.6% in moderate anxiety, and 28.8% in mild anxiety). Their anxiety is related to their concern about being infected with the Covid-19, because South Sulawesi is an area that has the highest number of Covid-19 cases outside of Java Island, the addition of positive cases of Covid-19 is relatively exponential. Nationally, Indonesia has the highest death rate due to Covid-19 (Asyary, Al, and Meita Veruswati, 2020). The restlessness of communities might have been cohesive to the news on online media (Chao, Miao, et al., 2020; Dong, Mengyuan, and Jin Zheng, 2020).

The massive and rapid outbreak of Covid-19 certainly caused anxiety in hotel workers; they had to great adaptations and change their daily habits. That anxiety would be increased because of limited knowledge in preventing the Covid-19 infection. Since the outbreak of Covid-19 in Indonesia, hand sanitizers and masks had become a step. Such pieces of equipment were not available in various shops; some could be obtained through online ordering, but at very high prices. The level of anxiety of hotel workers increases might also be exacerbated due to social isolation, maintaining

physical distance, and not working, or it could be due to their biological factors. This study found hotel worker anxiety levels were related to respondent characteristics such as marital status and its presence in the red zone of the Covid-19 spread. Gender, education, age, job position, family members, working day, alternative work, and relative or acquaintance got Covid-19 had no significant effect on the anxiety level of the hotel employees in Makassar.

Ordinal logistic regression analysis revealed unmarried hotel workers tended to experience higher levels of anxiety compared to those who were married. This might be caused by someone having a partner who had a friend to share and tell the ups and downs experienced, this would certainly reduce the level of anxiety. Of the total 36 people (54.6%) who had anxiety, the number of respondents having not married (24 people) was 2 times they were married (12 people). Based on the Odd ratio (3.12) indicated that unmarried workers had anxiety vulnerability levels of 3.12 times as opposed to those who were already couples. Domiciled in the red zone Covid-19 spread had a significant association with the hotel employees' anxiety. The stress effects on individuals could differ depending on the location of residence. Odds ratio (4.71) indicated that for individuals being in the red zone of the coronavirus, potentially more stress by 4.71 times than those outside the red zone. In Indonesia, there are four categories related to the spread of Covid-19. The high risk is indicated by the red zone, the moderate risk is marked by the orange zone, the low risk is the yellow zone, and the green zone has not been affected. The Covid-19 outbreak caused hotels to have no visitors and was temporarily closed, workshops and training activities of government and private institutions that were normally conducted at hotels became nil. The Indonesian hotels suffered huge economic losses of around USD 1.5 billion (Djalante, Riyanti, et al., 2020) and globally declined sharply turnover (Nicola, Maria, et al, 2020). It had an impact on hotel workers in Makassar.

The Covid-19 outbreak was not yet known when it ends, causing them to be very worried about the sustainability of their work in the hotels. If this condition continues, it evolves in employee creativity for the implementation of business and improves organizational performance will stagnate (Hon, Alice HY, 2020). The Covid-19 related stressors including daily life difficulties and social

life interactions had a significant positive correlation. Some hotel workers admitted to having difficulties in doing work and providing housing needs, as well as interaction with neighbours and work relations was very limited.

## 5. CONCLUSION

The Covid-19 pandemic has caused anxiety in hotel workers in Makassar, by 54.6%. Marital status and place of residence were variables that had a significant effect on anxiety levels. Unmarried employees had a higher anxiety level (about 3.12 times) than those who were married. Likewise, workers living in the red zone had anxiety levels of 4.71 times compared to those in the orange, yellow or green zones. A positive correlation was shown by the relationship between daily-life difficulties and worry about social life interactions with anxiety levels.

The anxiety of hotel employees amid the Covid-19 spread risks making them vulnerable to exposure to the virus. Excessive anxiety has a bad effect, not only on a person's mental psychological, but also on his physical condition. Starting from psychosomatic disorders, so it can also reduce endurance. Some ways to overcome anxiety include accepting the situation and dealing with anxiety, doing new activities and adding good relationships, asking for help or support from family, exercising and continuing to think positively.

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## 7. CONFLICT OF INTEREST STATEMENT

The authors declared that we have no conflicts of interest to this work.

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