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## The Psychological Toll of COVID-19 Pandemic on Private Practice Midwives in Indonesia and its Relation with Perceived Knowledge and Individual Adaptability

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### Abstract

COVID-19 had serious impacts on the lives and health of people across the globe. Due to the high-risk nature of their work midwives frequently report personal/professional adverse psychological impacts. However, there is a lack of studies examining the psychological impacts of the COVID-19 pandemic on private practice midwives in Indonesia and beyond. This study examines the psychological impacts of the pandemic on private practice midwives in Indonesia, as well as its association with individual adaptability and perceived knowledge about COVID-19. A total of 423 private practice midwives, who were active practitioners during the pandemic, completed an online survey, comprising five scales, including the Perceived Knowledge Scale, Individual Adaptability Measure, Depression Anxiety and Stress Scale-21, COVID-19 Anxiety Scale, and Financial Anxiety Scale. Although most respondents reported good psychological status, some still experienced mental health problems ranging from mild to severe levels. The mental health conditions of midwives were found to be significantly correlated with their perceived knowledge regarding COVID-19 and individual adaptability. The findings of this study highlight the need for psychological support for midwives to help them better adapt to this pandemic situation, particularly while working through the various phases of a pandemic with particularly vulnerable groups.

**Keywords:** *Midwives, COVID-19, mental health, adaptability, health knowledge*

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### Introduction

Midwives hold an important role in the management of health services and global health. During the COVID-19 pandemic, midwives are facing many challenges as they are one of the front-line healthcare workers who have to work continuously, risking their own lives and well-being to ensure positive outcomes for women and their newborns. Like everybody else, midwives are also at risk of getting infected with COVID-19. However, their work requires them to go to high-risk places,

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such as hospitals and clinics. Even those who do not practice in hospitals or clinics, still have to make direct contact with patients while doing home services. These high-risk environments not only threaten their physical health but also their psychological health. A previous study on the psychological conditions of healthcare providers on the frontline during the COVID-19 showed that the prevalence rate of anxiety and depression in healthcare workers is 23.2% and 22.8%, respectively.<sup>(1)</sup> A study conducted in Turkey<sup>(2)</sup> found that the prevalence of depression in midwives and nurses was 31.8%, and midwives were reported to have a 1.92 times higher risk of depression compared to nurses. Furthermore, 34.32% of healthcare workers reported to have insomnia.<sup>(2)</sup>

The workloads of midwives were reported to be more complicated during this pandemic because hospitals and clinics limited the number of family members and visitors that can stay by the sides of mothers, thus mothers' sources of emotional support were limited and they relied more on midwives.<sup>(3)</sup> Facing such changes and challenges could be stressful for midwives. Indeed, a previous study on health workers found that working in emotionally charged environments is linked to work-related stress.<sup>(4)</sup> In addition, midwives also needed to adjust their usual work pattern to a new one, since some of their duties have to be carried out online, such as giving prenatal classes through webinars. These new trends may contribute to midwives being prone to feeling stressed at work.

At this point, the exact time of when this pandemic will end remains unknown. Meanwhile, midwives' workload as healthcare workers do not appear to be decreasing in the near future, as Indonesia has 4 million expected births (5<sup>th</sup> highest in the world) in the nine months since the pandemic declaration.<sup>(5)</sup> Even though there is no exact data of midwives' services during the COVID-19 pandemic, many countries stated that there is an increasing number of home deliveries performed by midwives because mothers were afraid to go to the hospital.<sup>(6)(7)</sup> Moreover, midwives are also still needed to continue providing home services to provide immunization for children and health education for mothers. The new and extended requirements imply that midwives are likely to continue to encounter unprecedented circumstances for which they may feel under-prepared psychologically. In this study, we investigate the psychological impact of COVID-19 pandemic on midwives, as well as its relationship to other factors, namely individual adaptability and perceived knowledge about the current pandemic.

## **Methods**

### ***Participants and Procedure***

A cross-sectional online survey was conducted from October to November 2020. The study was approved by the Research Ethics Committee of Atma Jaya University's Research and Community Service Institution in Jakarta, Indonesia. Midwives practising in a private clinic,

providing any antenatal, childbirth, and/or postnatal services during the pandemic in Indonesia were eligible. The participants were recruited through non-probability technique, convenience, and snowball sampling. Based on the G\*Power version 3.1 analysis <sup>(8)</sup>, the minimum number of participants required for this study is 138 to meet the medium effect size with  $\alpha=0.05$  and  $\beta=0.95$ . The number of participants in this study was 423, exceeding the minimum number of participants.

### **Measures**

**Perceived knowledge.** We measured perceived knowledge using the Perceived Knowledge Scale. <sup>(9)</sup> This scale consists of seven items that represent knowledge about the characteristics of COVID-19, signs and symptoms, transmission routes, proficiency of health guidelines, and confidence of personal knowledge. This measure uses a five-point Likert scale, ranging from 1 (completely disagree) to 5 (completely agree). An internal consistency test of this scale in this study yielded a Cronbach's Alpha coefficient of 0.72.

**Individual adaptability.** This variable was measured using the I-ADAPT-M (Ployhart & Bliese, 2006). The original version of this instrument consists of 56 items measuring eight sub-dimensions of individual adaptability, namely crisis, work stress, creativity, uncertainty, learning, interpersonal, cultural, and physical adaptability. These sub-dimensions were developed in accordance with eight latent dimensions of adaptive performance. <sup>(10)</sup> The cultural sub-dimension (5 items) was not included in this study, as we considered the items irrelevant to the COVID-19 pandemic situation. Furthermore, we did not include two items of the physical sub-dimension and one item of the uncertainty sub-dimension, as these items were found to have low corrected item-total correlation coefficients in our pilot study that was conducted with 30 participants ( $r=-0.173 - 0.031$ ). These adaptations left 48 items in the final modified version of this measure. The Cronbach's Alpha coefficients of each sub-dimensions in the modified version were 0.85 (work stress), 0.87 (interpersonal), 0.92 (learning), 0.69 (uncertainty), 0.84 (crisis), 0.80 (creativity), and 0.54 (physical).

**Depression, anxiety, stress.** These mental health challenges were assessed by the Depression, Anxiety, and Stress Scale – 21 (DASS-21), which consists of three dimensions; depression, anxiety, and stress, each of which was measured using seven items. The DASS-21 uses a four-point Likert scale, ranging from 0 (never) to 3 (always). The Cronbach's Alpha coefficients for the depression, anxiety, and stress scale in this study were 0.80, 0.76, and 0.84, respectively.

**COVID-19 anxiety.** The level of anxiety was measured using the COVID-19 Anxiety Scale <sup>(11)</sup> which consists of five items. This instrument uses a five-point Likert scale, ranging from 0 (not at all) to 4 (nearly every day). An internal consistency test in this study yielded a Cronbach's Alpha coefficient of 0.91.

**Financial anxiety.** This metric was measured using the Financial Anxiety Scale <sup>(12)</sup> which consists of seven items adapted from the Generalized Anxiety Disorder diagnostic criteria. The measure uses a 7-point Likert scale, ranging from 1 (never) to 7 (always). An internal consistency test of this scale in this study yielded a Cronbach's Alpha coefficient of 0.94.

### ***Statistical Analysis***

Bivariate correlation analysis was used to calculate the association between mental health condition outcomes, demographic characteristics, perceived knowledge, and individual adaptability. All tests were two-tailed, with a significance level of  $p < 0.05$ . The effect size conventions for the correlation analysis are:  $r > 0.10$  small;  $r > 0.30$  medium;  $r > 0.50$  large. <sup>(13)</sup> Statistical analysis was performed on SPSS version 23.0.

## **Results**

### ***Participant characteristics***

A total of 453 midwives were recruited to the study. However, 30 were excluded in the final analysis because they did not meet the eligibility criterion of working during the COVID-19 pandemic or they provided incomplete data, leaving 423 participants in the final analysis. The mean age of 423 midwives was 34.73 years old (SD=10.95 years). Participants came from various cities across 26 out of 34 provinces in Indonesia. The respondents have been practising as midwives and private practice midwives for an average of 11.91 years (SD=10.01) and 9.38 years (SD=8.95), respectively. The demographic characteristics of participants are summarised in Table 1.

### ***Perceived knowledge***

Participating midwives had an average score on perceived knowledge of 31.03 (SD=3.22). The highest rated item was knowledge about how to behave during self-isolation resulting from suspected exposure to COVID-19 (M=4.73, SD=0.55). Meanwhile, the lowest rated item was feeling uncertain about everything related to COVID-19 (M=3.12, SD=1.28).

### ***Mental health condition during COVID-19 pandemic***

As presented in Table 2, the majority of respondents were in the normal category of depression (n=361, 85.34%), anxiety (n=300, 70.92%), and stress (n=381, 90.07%) symptoms measures. However, there were still some who experienced depression (15%, n=62), anxiety (29%, n=123), and stress (10%, n=42), ranging from mild to severe levels. The mean score for depression was 1.98 (SD=2.34); anxiety 2.50 (SD=2.42); and stress 3.58 (SD=3.01).

In addition to depression, stress, and anxiety, we also assessed other anxiety symptoms related to the COVID-19 pandemic and the financial situation during the pandemic. Based on the cut-off score of  $> 9.0$  in the COVID-19 Anxiety Scale <sup>(11)</sup>, 32.39% (n=137) midwives were found to have dysfunctional anxiety related to the COVID-19 pandemic. The average score of COVID-

19 anxiety was 7.91 (SD=3.36). The highest-rated item was symptoms related to somatic distress (M=1.94, SD=0.89), that is feeling dizzy, lightheaded, or faint when one reads or listens to news about the COVID-19. The lowest-rated item was symptoms related to feeling nauseous or having stomach problems when one thinks about or is exposed to information about COVID-19 (M=1.43, SD=0.74). Meanwhile, the average score of financial anxiety was 16.97 (SD=9.66). On average, the highest-rated item was symptoms related to the overall anxiety about personal financial conditions (M=3.47, SD=1.92). The lowest-rated item was symptoms related to feeling muscle tense because of worries about personal financial situations (M=2.06, SD=1.49).

### ***Individual adaptability***

On average, midwives were found to have the highest adaptability in the learning sub-dimension (M=39.58, SD=4.95) and lowest adaptability in the work-stress adaptability sub-dimension (M=16.12, SD=4.84). The mean and standard deviation of all sub-dimensions of individual adaptability are presented in Table 3.

### ***Factors associated with mental health condition during COVID-19 pandemic***

We performed a Pearson's correlation analysis to identify the association between the mental health condition measures, demographic characteristics, perceived knowledge, and individual adaptability. Findings are presented in Table 4.

### **Discussion**

During the COVID-19 pandemic, the Indonesian government announced new health policies and protocols for health professionals, including midwives. As one of the essential health providers, midwives are facing multiple challenges during the pandemic because they work on the frontline, risking their lives to ensure the health of mothers and newborns. During this period, midwives are expected to keep updating their knowledge to adjust their work with the continuously changing health policy and protocols. Findings in this study suggest that midwives perceive themselves to have sufficient knowledge of COVID-19. Knowledge is crucial for establishing perceptions about the risk of COVID-19 infection while providing health services. These perceptions could encourage midwives to take preventive actions at work that are consistent with the health protocols. Previous studies showed that midwives' levels of knowledge are significantly correlated with how well they handled their work during the COVID-19 pandemic in accordance with health protocols. <sup>(14)</sup> <sup>(15)</sup> Moreover, we also found a negative and significant association of small effects between perceived knowledge, depression, anxiety, stress, COVID-19 anxiety, and financial anxiety, which imply that a higher level of knowledge is associated with a lower level of mental health problems.

This study found that the majority of midwives are experiencing psychologically good health. However, some experience depression (85.34%, n=361), anxiety (70.92%, n=300), and

stress (90.07%, n=381) ranging from mild to severe levels. This is due to the high-risk nature of working as health professionals amidst the pandemic; as such, it can trigger mental health problems, including depression, anxiety, and stress.<sup>(16)</sup> During a pandemic, tension, anxiety, and negative emotions continue to arise in many countries. This puts the frontline healthcare providers under a huge amount of work pressure and psychological stress that may impact their emotional state.<sup>(17)</sup>

A significant and negative correlation was found between all mental health condition measures and individual adaptability. Depression, stress, COVID-19 anxiety, and financial anxiety were found to be correlated with all sub-dimensions of individual adaptability assessed in this study, with small to medium effects. Meanwhile, anxiety was correlated with all sub-dimensions, except for the learning adaptability sub-dimension. We also found that work stress adaptability was the lowest rated sub-dimension among midwives on average, while it was the most significantly correlated sub-dimension with all mental health measures in this study, namely depression, anxiety, stress, COVID-19 anxiety, and financial anxiety. This finding highlights the importance of intervention programmes aimed to improve the adaptation skills of midwives, particularly in managing job stress.

To our knowledge, this is the first study in Indonesia investigating the relationships between psychological toll of the COVID-19 outbreak and individual adaptability, as well as perceived knowledge. However, we acknowledge several limitations of our investigation. First, the data collection period occurred approximately seven months after the first COVID-19 infection case in Indonesia was identified. This time lag from onset by nearly half a year might allow midwives to adapt better to the pandemic situation compared to when the initial outbreak occurred, which may have contributed to their overall measures on mental health conditions remaining positive. Secondly, although we intended to obtain data from all regions in Indonesia, but the proportion of participants from each region was not equally distributed due to the limited access to midwives practising in remote areas, especially in Papua. Hence, the generalizability of findings in this study has to be taken with caution and we recommend further research to reach more participants from more secluded areas, to ensure representativeness across Indonesia. Furthermore, this cross-sectional study used self-reported questionnaires which did not rely upon diagnostic assessment by mental health professionals. Therefore, we suggest further mental health evaluation by professionals to monitor the long-term effects of the COVID-19 pandemic among midwives who work during the pandemic.



## Conclusion

This study shows that most midwives in Indonesia were in good psychological condition, but some report experiencing problems ranging from mild to severe levels. The mental health conditions of midwives were found to be significantly correlated with their perceived knowledge regarding COVID-19 and their own adaptability. Results of this study highlight the need for psychological support for midwives during this pandemic period to help them adapt better, particularly for actively working during a pandemic.

## Acknowledgment

The authors would like to acknowledge and thank all midwives who participated in the study.

## Ethical statement

Prior to data collection, general information about the purpose of the study was given to the participants and informed consent was obtained from the participants. The survey was voluntary and anonymous. The study was approved by the Research and Community Service Institution of the Research Ethics Committee of Atma Jaya University (No. 1214A/III/LPPM.PM.10.05/10/2020).

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## Conflict of interest

All authors declare no conflict of interest.

**Table 1. Participant characteristics (N=423)**

Demographic characteristics	n	%	Mean	SD
<i>Age</i>			34.73	10.95
<i>Domicile</i>				
Aceh	16	3.78		
North Sumatra	57	13.48		
West Sumatra	9	2.13		
Riau	5	1.18		

Islands of Riau	3	0.71	
Jambi	5	1.18	
South Sumatra	12	2.84	
Islands of Bangka Belitung	11	2.60	
Lampung	9	2.13	
Banten	2	0.47	
West Java	65	15.37	
Jakarta	22	5.20	
Central Java	60	14.18	
Yogyakarta	1	0.24	
East Java	54	12.77	
Bali	16	3.78	
West Nusa Tenggara	2	0.47	
West Kalimantan	8	1.89	
South Kalimantan	14	3.31	
Central Kalimantan	4	0.95	
East Kalimantan	18	4.26	
South Sulawesi	17	4.02	
Central Sulawesi	1	0.24	
Southeast Sulawesi	1	0.24	
North Sulawesi	9	2.13	
Papua	2	0.47	
<b>Marital status</b>			
Single	126	29.79	
Married	282	66.67	
Divorced	8	1.89	
Widow	7	1.65	
<b>Years of practice as midwife</b>		11.91	10.01
<b>Years of practice as private midwife</b>		9.38	8.95

Table 2. Severity categories of depression, anxiety, and stress (N=423)

Severity categories	Depression		Anxiety		Stress	
	n	%	n	%	n	%
Normal	361	85.34	300	70.92	381	90.07
Mild	35	8.27	66	15.60	27	6.38
Moderate	24	5.67	40	9.46	10	2.36
Severe	3	0.71	13	3.07	5	1.18
Extremely severe	0	0	4	0.95	0	0

Note: Severity categories was based on Gomez (2016).

Depression: Normal (0-4), mild (5-6), moderate (7-10), severe (11-13), extremely severe ( $\geq 14$ )

Anxiety: Normal (0-3), mild (4-5), moderate (6-7), severe (8-9), extremely severe ( $\geq 10$ )

Stress: Normal (0-7), mild (8-9), moderate (10-12), severe (13-16), extremely severe ( $\geq 17$ )

**Table 3. Mean and standard deviation of individual adaptability sub dimensions (N=423)**

Sub-dimensions	M	SD
Crisis adaptability	23.90	3.90
Work stress adaptability	16.12	4.84
Creativity	20.04	3.16
Adaptability in uncertainty	29.01	3.74
Learning adaptability	39.58	4.95
Interpersonal adaptability	30.06	4.01
Physical adaptability	21.52	3.97

**Table 4. Variables associated with mental health condition (N=423)**

Variables	Depression	Anxiety	Stress	COVID-19 anxiety	Financial anxiety
Age	-0.059	0.009	-0.033	-0.021	-0.047
Years of practice as midwife	-0.201**	-0.248**	-0.247**	-0.164**	-0.247**
Years of practice as private midwife	-0.175**	-0.211**	-0.220**	-0.147**	-0.217**
Perceived knowledge	-0.137*	-0.107*	-0.128**	-0.204**	-0.135**
Crisis adaptability	-0.248**	-0.209**	-0.233**	-0.211**	-0.152**
Work stress adaptability	-0.464**	-0.447**	-0.468**	-0.362**	-0.449**
Creativity	-0.208**	-0.170**	-0.213**	-0.167**	-0.088
Adaptability in uncertainty	-0.235**	-0.205**	-0.266**	-0.246**	-0.188**
Learning adaptability	-0.178**	-0.089	-0.139**	-0.222**	-0.107*
Interpersonal adaptability	-0.184**	-0.099*	-0.150**	-0.219**	-0.168**
Physical adaptability	-0.117*	-0.103*	-0.126**	-0.150**	-0.129**

\*Correlation is significant at the 0.05 level, (two-tailed)

\*\*Correlation is significant at the 0.01 level (two-tailed)

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