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Prevalence and predictors of suicidality among nursing students in Indonesia Akbar Satria Fitriawan 1 , Wiwit Ananda Wahyu Setyaningsih 2 * , Apri Nur Wulandari 3 , Erni Samutri 4 , Bayu Fandhi Achmad 5 , Gani Apriningtyas Budiyati 6, Yuyun Nailufar 7, Listyana Natalia Retnaningsih 8

Abstract Introduction: Nursing students are a vulnerable population during the COVID-19 pandemic because they experience a higher level of stress and mental health problems than the non-healthcare student population, putting them at a higher risk for suicidal behaviour. Aim: To explore suicidality among nursing students and assess the association between independent variables and suicidality.

Methods: This cross-sectional study involved 670 nursing students from 5 Indonesian universities who were recruited using consecutive sampling. Self-administered validated instruments consisted of 8 sections: sociodemographic questionnaire, RSES to assess self-esteem, BHS to assess hopelessness, UCLA-3 to assess loneliness, GSES to assess self-efficacy, PHQ-9 to assess depression, CD-RISC-10 to assess resilience, and SBQ-R to assess suicidality. Binary logistic regression was employed to identify significant predictors of suicidality. Results: Suicidality prevalence among nursing students was 22.8%.

The following factors were significantly associated with suicidality (p < 0.05): low resilience (AOR = 2.044; 95%CI: 1.309–3.192), loneliness (AOR = 1.609; 95%CI: 1.040–2.492), hopelessness (AOR = 4.448; 95%CI: 2.356–8.398), and depression (AOR = 9.413; 95%CI: 5.795–15.288). Conclusions: These findings provide evidence that resilience, loneliness, hopelessness, and depression are risk factors for suicidality among nursing students. This outcome can be used as a basis to develop appropriate suicide prevention strategies.

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Original research article Introduction Suicide is when someone dies as a result of intentionally kill- ing him or herself, while suicidality is a common term used to address suicidal behaviors which encompasses suicidal thoughts (ideation), suicidal plans, suicidal threats, and sui- cidal attempts (Quarshie et al., 2019; Tin et al., 2015). Suicid- al behavior can be either fatal or non-fatal. Suicidal ideation, plans, threats, and attempts are regarded as non-fatal sui- cidal behavior because they do not result in death (Tin et al., 2015).

Psychological, sociocultural, and religious risk factors play important roles in suicidality, and suicide is an endpoint of a complex interaction between these variables (Orsolini et al., 2020). Suicide is regarded as a major global public health problem and is among the leading causes of injury and death around the world. Moreover, suicide is considered the sec - ond leading cause of mortality among persons aged between 15–29 years (Orsolini et al., 2020; Quarshie et al., 2019).

Globally, it is estimated that one million suicide deaths occur every year, and one person dies from committing suicide every 40 seconds (Orsolini et al., 2020; Tin et al., 2015). The Coronavirus Disease-2019 (COVID-19) pandemic, declared by the World Health Organization (WHO) in March 2020, has had unprecedented effects on various aspects of human life. Educational sectors have been seriously impacted by the social distancing and lockdown policies implemented to control SARS-CoV-2 transmission (Achmad et al., 2021).

Young students' social brains ensure they have stronger de- sires for social interaction, making them more sensitive to social isolation when lockdown policies are implemented. The implementation of online learning during the COVID-19 KontAK t / Journal of nursing and social sciences related to health and illness n u rsIng Fitriawan et al. / KONTAKT 365 pandemic was also a major source of stress among students. A recent study identified numerous barriers during online learning, ranging from the financial to internet connection and technological issues (Achmad et al., 2021).

Moreover, the COVID-19 pandemic has also affected students' economic sit - uation, which has a negative impact on their education and may cause them to discontinue. These disruptions continue to have serious psychological impacts and cause mental health problems such as depression (Sakai et al., 2022). Substantial evidence demonstrates that nursing students are experiencing tremendous and prolonged stress during the various stages of their education.

Compared to non-medical disciplines, the nursing education curriculum is characterized by high academic pressure, hectic training and course sched- ules, and a combination of numerous theoretical, laboratory, and clinical practice examinations (Sakai et al., 2022). Nursing students must deal and adapt with the high level of academic stressors, as well as facing the same difficulties and stressors as general university students (Karaca et al., 2019; Sakai et al., 2022). Poor sleep quality and financial problems were also ob- served among nursing students, which may have affected their psychological well-being even before the pandemic.

As a result, in the non-pandemic situation, nursing students had higher rates of mental health issues compared to general universi- ty students and the general population (Karaca et al., 2019). The high academic burden coupled with online learning, social isolation, loneliness, and financial difficulties during the pan- demic potentially increase risk of developing mental health problems such as depression, as demonstrated in a recent study (Sakai et al., 2022). Previous empirical study indicated depression as consistent risk factor for suicidality (Tin et al., 2015). The elevation of depression during the pandemic could potentially increase the suicidal behaviors.

A study conduct - ed before the COVID-19 pandemic found that the prevalence of suicidality among nursing students ranged from 5.22% to 15.4% (Aradilla-Herrero et al., 2014; Quarshie et al., 2019). Thus far in Indonesia, several studies have explored the prevalence of suicidality among general university students (Pramukti et al., 2020) and the general population (Liem et al., 2022) during the COVID-19 pandemic. But as far as we know, there has been no published study that explores the prevalence and determinants of suicidality among Indonesian nursing students in the midst of the COVID-19 pandemic.

The lack of evidence on these topics led to our present study, which aims to explore the prevalence and predictors of suicidality among nursing students in Indonesia during the COVID-19 pandemic. Addressing these gaps in the literature is essential to increasing our understanding of the extent of the problem among this vulnerable population. Understanding why nurs - ing students experienced various degrees of suicidality would

also serve as an important steppingstone toward the develop- ment of more effective interventions and suicide prevention strategies in the country.

Material and methods Study design A cross-sectional study was conducted to assess the prevalence and predictors of suicidality among nursing students. Study setting and period In this study, we recruited participants from the School of Nursing of five universities located in the Special Region of Yogyakarta, Indonesia. These universities were Universitas Respati Yogyakarta, Universitas Alma Ata, Universitas Gad- jah Mada, Notokusumo School of Health Sciences, and Surya Global School of Health Sciences. Data collection was conduct - ed from June to September 2022.

Sample size calculation and sampling method The minimal sample size required for this study was calcu- lated using sample size formula for observational study that involves logistic regression analysis, which expressed as fol- lows: $n = 100 + 50(i)$ where i refers to the number of independ- ent variables included in the final logistic regression model (Bujang et al., 2018). In this study, nine independent var - iables were included in the final logistic regression mod- el, so the minimum sample size required for this study was $n = 100 + 50(9) = 550$. Consecutive sampling technique was used to recruit the participants.

The inclusion criteria were: active undergraduate nursing students in their first to eighth semester, who had an active WhatsApp number that could be contacted, and were voluntarily willing to participate as study participants. Students who did not complete the informed consent form or who failed to fill out the study questionnaire completely were excluded from the study. Data collection Data regarding the students' identity, active status in the learning process, academic level, and WhatsApp number were obtained from the academic affairs of each university.

These data were then screened to determine those who met the in- clusion criteria. Before the data collection, we explained the study to the participants. Afterwards, we asked if they were willing to participate in the study. If they agreed, they were then asked to complete and sign the written informed consent form as a prerequisite for further participation. Afterwards, they were asked to fill out the study questionnaires and in- structed to fill out the forms completely. Instruments Self-administered validated questionnaires in the Indonesian language were used to measure research variables. These were divided into 8 sections.

The first section consisted of the so- ciodemographic characteristics questionnaire, which included questions about gender, age, monthly family income, academic level, name of university, financial difficulties during the pan- demic, online learning barriers

during the pandemic, and sat - isfaction with grade point average (GPA). The second section consisted of the Rosenberg Self Esteem Scale (RSES), which was used to assess self-esteem among nursing students. The RSES consists of 10 question items and each item is measured on a 4-point Likert scale. Items with favorable statements (items 1, 3, 4, 7, 10) were scored as fol- lows: 1 (strongly disagree), 2 (disagree), 3 (agree), 4 (strongly agree).

Items with unfavorable statements (items 2, 5, 6, 8, 9) were scored as follows: 4 (strongly disagree), 3 (disagree), 2 (agree), 1 (strongly agree) (García et al., 2019). The RSES has a total score between 10–40, based on which, self-esteem can be categorized into 3 levels: low (10–25), moderate (26–29), and high (30–40) self-esteem (García et al., 2019). The In- donesian version of the RSES has been validated in a previ- ous study and has high internal reliability – as indicated by Cronbach's a = 0.875 (Kaloeti and Ardhiani, 2020).

In the third section, the UCLA Loneliness Scale Version 3 (UCLA-3) was used to determine loneliness among nursing students. The UCLA-3 consists of 20 question items, and each item is measured on 4-point Likert scale. The score ranges from never (1 point) to often (4 points) for items with negative Fitriawan et al. / KONTAKT 366 statements (items 2, 3, 7, 8, 11, 12, 13, 14, 17, 18) and ranges from often (1 point) to never (4 point) for items with positive statements (items 1, 4, 5, 6, 9, 10, 15, 16, 19, 20) (Lee and You, 2020).

The UCLA-3 has a total score of between 20–80, and higher scores indicate a higher loneliness intensity. Based on the UCLA-3 total score, loneliness severity can be categorized into 3 levels: low (<28), moderate (28–43), and high (>43) (Lee and You, 2020). The Indonesian version of this instrument has been validated in a previous study and its Cronbach's a = 0.81, indicating high internal reliability (Liem et al., 2022). In the fourth section, the General Self Efficacy Scale (GSES) was used to assess self-efficacy among nursing students. The GSES is a brief self-reported instrument consisting of 10 ques - tion items.

Each item is measured on a 4-point Likert scale ranging from "strongly disagree" (1 point) to "strongly agree" (4 points). The total GSES score ranges from 10–40 and higher scores indicate higher self-efficacy (Luszczynska et al., 2005). The Indonesian version of GSES has been validated by a pre- vious study and had a Cronbach alpha (a) of 0.877, indicating high internal reliability (Fauziannisa and Tairas, 2013). In the fifth section, the Beck Hopelessness Scale (BHS) was used to determine hopelessness among nursing students. The BHS consists of 20 question items and each item has a di- chotomous answer: true or false.

There are 11 items with neg- ative statements (items 2, 4, 7, 9, 11, 12, 14, 16, 17, 18, 20) scored as follows: true (1 point) and false (0 points). There are 9 items with positive statement (items 1, 3, 5, 6, 8, 10, 13, 15, 19) scored as follows: true (0 points) and false (1 point). The total BHS score ranges from 0–20 and higher scores indicate greater hopelessness (Balsamo et al., 2020). The BHS had a cut- off point of 9 to determine hopelessness. Based on this cut-off point, if the BHS total score obtained by participants was =9, they were considered as hopeless (Huen et al., 2015; Tin et al., 2015).

The Indonesian version of BHS is considered a valid in- strument, Cronbach's a = 0.918, indicating high internal con- sistency (Mira et al., 2021). In the sixth section, the Patient Health Questionnaire-9 (PHQ-9) was used to determine depression among nursing stu- dents. The PHQ-9 is a brief self-administered instrument that measures depression over the last two weeks. This instrument consists of 9 question items, and each item is measured on a 4-point Likert scale that ranges from 0 (never) to 3 (almost every day).

The PHQ-9 total score ranges from 0-27 and high- er scores indicate a higher severity of depression (Mcdermott et al., 2020; Tin et al., 2015). The total score of PHQ-9 =10 is used to determine depression status. A total PHQ-9 score =10 is regarded as "depression", while a total PHQ-9 score <10 is re- garded as "normal" (Mcdermott et al., 2020; Tin et al., 2015). The Indonesian version of the PHQ-9 has been validated in a previous study and its Cronbach's a = 0.885, indicating high internal reliability (Dian et al., 2022).

In the seventh section, the Connor-Davidson Resilience Scale-10 (CD-RISC-10) was used to assess resilience among nursing students. The CD-RISC-10 is a brief self-reported questionnaire consisting of 10 question items and each item is measured on a 5-point Likert scale that ranges from "not true at all" (0 point) to "true nearly all the time" (4 points) (Okuy - ama et al., 2018). The total CD-RISC-10 score ranges from 0–40 and higher scores indicate higher resilience. The cut-off point of 25.5 was recommended by previous studies (Okuyama et al., 2018), so a total score =25.5

is regarded as "high resilience", whereas a total score <25.5 is regarded as "low resilience". The Indonesian version of the CD-RISC-10 has been validated in a previous study and its Cronbach's a = 0.868, indicating high internal reliability (Gina and Fitriani, 2022). In the last section, the Suicidal Behaviors Questionaire-Re- vised (SBQ-R) was used to assess suicidality among nursing students. The SBQ-R consists of four items and each item is designed to measure 4 main aspects of suicidality: lifetime suicidal ideation and/ or suicidal attempt, frequency of sui- cidal ideation over the past year, lifetime suicidal threat, and self-reported likelihood of committing suicide in the future. The SBQ-R has a total score between 3–18 points.

The SBQ-R has a cut-off point of 7 to determine high suicidality, so a to- tal SBQ-R score =7 is considered as "high suicidality", where- as a total SBQ-R score <7 is considered as "low suicidality" (Quarshie et al., 2019; Tin et al., 2015). The Indonesian ver - sion of the SBQ-R has been validated in a previous study and its Cronbach's a = 0.760, indicating good internal reliability (Idham et al., 2019). Ethical consideration Ethical clearance was obtained from the Health Research Eth- ics Committee, Universitas Respati Yogyakarta, Indonesia (ethical number: 159.3/FIKES/PL/X/2022). Informed consent was obtained from each participant before data collection.

Statistical analysis For univariate analysis, the data were described as frequency and percentage. To determine the significance predictors of su- icidality, binary logistic regression analysis was employed. All independent variables with the Chi-square test p < 0.25 were entered into the logistic regression analysis. Adjusted odds ratio (AOR), along with its corresponding 95% confidence interval (CI), were obtained, and the p-value < 0.05 was con- sidered statistically significant. The Hosmer and Lemeshow test were employed to analyse the goodness-of-fit of logistic regression model.

To measure the contribution of the logis - tic regression model in explaining the variance in dependent variables, Nagelkerke R square was obtained. All analyses were performed using the SPSS for Windows version 24 (IBM Corp., Armonk, NY). results Participants' characteristics In this study, 670 undergraduate nursing students who met the inclusion and exclusion criteria voluntarily participat - ed and completed the research instruments. Their sociode- mographic data are provided in Table 1. The average age of the participants was 20.1 years (SD = 1.39), with a range of 17–23 years. Most of the participants were female (n = 573; 85.5%).

In Indonesia, the Bachelor of Nursing course is a four- year program, and most of the nursing students participating in this study were first year students (n = 269; 40.1%) from pri- vate universities (n = 553; 82.5%). The monthly family income for most of the participants was between IDR 1–2 million (n = 178; 26.6%) and most of them reported financial difficul- ties during the COVID-19 pandemic (n = 529; 79.0%). Most of the participants reported difficulties in attending online learn- ing during the COVID-19 pandemic (n = 493; 73.6%) and were dissatisfied with their current GPA (n = 429; 64.0%). 367 table 1.

sociodemographic profiles of the nursing students (n = 670) Characteristics Frequency (n) Percentage (%) Age (years) – Mean (SD) 20.1 (1.39) Sex Male Female 97 573 14.5 85.5 Monthly income of the family (Indonesian Rupiah/IDR) Under 1 million 1 million – 2 million 2 million – 3 million 3 million – 4 million 4 million – 5 million Above 5 million 140

178 129 84 78 61 20.9 26.6 19.3 12.5 11.6 9.1 Academic level First year Second year Third year Fourth year 269 151 146 104 40.1 22.5 21.8 15.5 Type of university Public Private 117 553 17.5 82.5 Financial difficulties during the COVID-19 pandemic No Yes 141 529 21.0 79.0

Online learning barriers during the COVID-19 pandemic No Yes 177 493 26.4 73.6 Satisfaction with Grade Point Average (GPA) Satisfied Dissatisfied 241 429 36.0 64.0 Abbreviations: SD: standard deviation; IDR: Indonesian Rupiah. Profile of resilience, self-esteem, loneliness, self- efficacy, depression, and hopelessness among undergraduate nursing students in Indonesia Table 2 displays detailed information about the resilience, self-esteem, loneliness, self-efficacy, depression, and hope- lessness experienced by nursing students. Most of the partic - ipants had high resilience (n = 424; 63.3%), high self-esteem (n = 353; 52.7%), low levels of loneliness (n = 320; 47.8%), but low self-efficacy (n = 373; 55.7%).

The prevalence of depression and hopelessness was 40.4% and 10.7%, respectively. Suicidality among undergraduate nursing students in Indonesia Table 3 displays detailed information about the frequency and percentage of suicidality among nursing students based on the SBQ-R. Of the 670 undergraduate nursing students who par - ticipated in this study, 153 (22.8%) had high suicidality. Prev - alence of lifetime suicide ideation was 21.3%, lifetime suicide plans was 15.7%, and lifetime suicide attempt was 3.3%.

Prev- alence of lifetime suicide threat was 15.7%. It is worth noting that participants in the suicide plan, suicide threat, and suicide attempt subgroups might also have had suicide ideations. We found that 260 (38.8%) of nursing students had at least one suicidal ideation over the past 12 months. table 2. Profile of resilience, self-esteem, loneliness, self-efficacy, depression, and hopelessness among nursing students (n = 670) Variables Frequency (n) Percentage (%) Resilience High Low 424 246 63.3 36.7 Self-esteem High Moderate Low 353 244 73 52.7 36.4

10.9 Loneliness High Moderate Low 107 243 320 15.9 36.3 47.8 Self-efficacy High Low 297 373 44.3 55.7 Depression Yes No 271 399 40.4 59.6 Hopelessness Yes No 72 598 10.7 89.3 table 3. suicidality among nursing students based on sBQ-r (n = 670) Suicidal behavior Frequency (n) Percentage (%) Lifetime suicide ideation and/or suicide attempt No lifetime suicide ideation and/or attempt Lifetime suicide ideation Lifetime suicide plan Lifetime suicide attempt 400 143 105 22 59.7 21.3 15.7 3.3 Frequency of suicidal ideation over the past 12 months Never Rarely (1 time) Sometimes (2 times) Often (3–4 times) Very often (5 or more times) 410 122 73 31 34 61.2 18.2 10.9 4.6 5.1

Lifetime threat of suicide attempt No Yes 560 110 84.3 15.7 Suicidality High suicidality F

(%) Low suicidality F (%) 153 (22.8) 517 (77.2) Factors associated with suicidality among nursing students We employed binary logistic regression analysis to identify the predictors of suicidality among nursing students. A total of nine independent variables with the Chi-Square analysis of $p < 0.25$ were selected for multivariate analysis. The results of the binary logistic regression are shown in Table 4. Logistic regression demonstrated that resilience, loneliness, hopelessness, and depression were significantly associated with suicidality.

Nursing students with low resilience had 2.044 times higher risk of suicidality compared to those with Fitriawan et al. / KONTAKT 368 high resilience (AOR = 2.044; p = 0.002; 95%CI: 1.309–3.192). Nursing students with moderate and high loneliness intensity had 1.609 times higher risk of suicidality compared to those with low loneliness intensity (AOR = 1.609; p = 0.033; 95%CI: 1.040–2.492). Nursing students who suffered from hopeless - ness had 4.448 times higher risk of suicidality compared to those without hopelessness (AOR = 4.448; p = 0.001; 95%CI: 2.356–8.398). Nursing students who suffered from depression had 9.413 times higher risk of suicidality compared to non-depressed nursing students (AOR = 9.413; p = 0.001; 95%CI: 5.795–15.288). The AOR result also suggested that depression had the strongest association with suicidality. The Nagelkerke R square was 0.385, suggesting that the whole model explained 38.5% of variance in suicidality. The Hosmer and Lemeshow test showed the result of p = 0.849, which indicated that this model has a good fit. table 4.

results of binary logistic regression analysis for the association between independent predictors and suicidality among nursing students (n = 670) Predictors COR [95% CI] p AOR [95% CI] p Sex Male Female Reference 1.720 [0.920–3.216] 0.087 Reference 1.399 [0.710–2.754] 0.332 Age =20 years <20 years Reference 1.254 [0.866–1.815] 0.230 Reference 1.071 [0.585–1.961] 0.823 Academic level Second, Third, and Fourth year First year Reference 1.302 [0.904–1.874] 0.155 Reference 1.277 [0.823–1.980] 0.275 Resilience High Low Reference 1.634 [1.133–2.357] 0.008 Reference 2.044 [1.309–3.192] 0.002 Self esteem High + Moderate Low Reference 5.192 [3.135–8.597] 0.001 Reference 1.712 [0.927–3.163] 0.086 Loneliness Low Moderate + High Reference 1.412 [0.980–2.035] 0.063 Reference 1.609 [1.040–2.492] 0.033 Self-efficacy High Low Reference 1.626 [1.119–2.363] 0.010 Reference 0.973 [0.615–1.537] 0.906 Hopelessness No Yes Reference 8.119 [4.806–13.716] 0.001 Reference 4.448 [2.356–8.398] 0.001 Depression No Yes Reference 12.653 [7.958–20.116] 0.001 Reference 9.413 [5.795–15.288] 0.001 Abbreviations: IDR: Indonesian Rupiah; COR: Crude Odds Ratio; AOR: Adjusted Odds Ratio; CI: Confidence Interval.

Discussion Our study revealed that the prevalence of suicidality among undergraduate nursing students during the COVID-19 pan- demic was 22.3%. We also found that 39%

of nursing students had had suicidal ideation in the past 12 months. In our study, the prevalence of suicidal ideation is surprisingly higher com- pared to previous studies in Portugal (5.22%), Spain (14%), and Ghana (15.4%) (Aradilla-Herrero et al., 2014; Leal and Santos, 2016; Quarshie et al., 2019). The reason for the higher preva- lence in our study may be the study period.

Previous studies were conducted before the COVID-19 pandemic, whereas ours was conducted during the COVID-19 pandemic – which high- lights the negative impact of the pandemic situation on the mental health status of nursing students. In our study, depression was identified as the strongest predictor of suicidality among nursing students; depressed students had 9.413 times higher risk of suicidality compared to non-depressed students. Consistent with our findings, numerous studies have found that depression is positively associated with suicidality among various populations, such as chronically ill patients (Gürhan et al., 2019), the elder - ly (Obuobi-Donkor et al.,

2021), general university students (Mackenzie et al., 2011; Wang et al., 2017), and medical stu- dents (Chomon, 2022; Tin et al., 2015). Depression is among the strongest risk factors for suicide, especially when accom- panied by hopelessness (Aradilla-Herrero et al., 2014; Orsolini et al., 2020). One meta-analysis study showed that depressed university students in China had 2.2 times higher risk of su- icidal ideation than those who were not depressed (Wang et al., 2017). Another study among medical students in Malaysia found that depressed students had 5.9

times higher risk of su- icidality than non-depressed students (Tin et al., 2015). De- pression brings debilitating symptoms, and in its most severe condition can lead to self-harm and suicide. Depressed individ- uals often see no purpose nor meaning to a life of seemingly unending suffering, and this could lead to suicide (Orsolini et al., 2020). Fitriawan et al. / KONTAKT 369 Our study identified hopelessness as the second strongest predictor of suicidality among nursing students. Students who experienced hopelessness had 4.448 times higher risk of suici- dality than those without such feelings.

It is well established that hopelessness is one of the strongest predictors of sui- cide, especially when accompanied by depression (Wolfe et al., 2019). Numerous studies have found that hopelessness is pos - itively associated with suicidal ideation among different popu- lations, such as adolescents (Wolfe et al., 2019), general univer - sity students (Chang, 2017), and medical students (Sadeghian et al., 2021; Tin et al., 2015). Moreover, a previous study has demonstrated that hopelessness is linked with suicidal intent and suicidal attempts (Klonsky et al., 2012).

Hopelessness also acts as the predictor of suicidal ideation after adjusting for confounding variables and even controlling depressive symp- toms (Wolfe et al., 2019). Hopelessness is defined as a negative view of oneself in relation to the world and their future life (Balsamo et al., 2020). Individuals experiencing hopelessness possess a negative emotional state characterized by the inabil- ity to find solutions for their problems, perceiving suicide as the only way out of their "unsolvable problems".

People often commit suicide when they perceive that there is no way out of an intolerably painful situation (Huen et al., 2015). Our study found that loneliness acted as a significant pre- dictor of suicidality among nursing students. Consistent with our findings, previous studies have found that loneliness is significantly associated with suicidal behavior among various subgroups, such as the general adult population (Stickley and Koyanagi, 2016), psychiatric patients (Badcock et al., 2021), the elderly (Yang et al., 2021), and university students (Macalli et al., 2022).

Loneliness is defined as a state of mind in which individuals perceive a discrepancy between their desired social relationship and their actual experience of it (Macalli et al., 2022). Loneliness is not necessarily about being alone. Lone- liness can be experienced by individuals who perceive them- selves as being alone even when surrounded by other people. Lonely individuals have a higher risk of exhibiting suicidal behavior, because suicidal thoughts arise as a result of the simultaneous presence of loneliness and perceived unending suffering (Macalli et al., 2022).

Our study identified low resilience as a significant predictor of suicidality among nursing students. Students with low resil- ience had 2.044 times higher risk of suicidality than those with high resilience. In accordance with our study, several studies have indicated that low resilience is a significant risk factor for suicidal ideation among adults (Han et al., 2022), adolescents (Stark et al., 2022), and university students (Okechukwu et al., 2022). Resilience, defined as an individual's capacity to cope adaptively, overcome adversity, and bounce back after stress - ful life events (Sher, 2019), was cited as a protective factor against suicidal behavior.

Individuals with high resilience had the capacity to maintain mental health, as well as bounce back during life hardships, stressful events, and traumatic experi- ences (Okuyama et al., 2018). Our study had several limitations that should be consid- ered. First, its cross-sectional design means that our study cannot demonstrate any causal relationship. Second, our study employed non-probability sampling to recruit the par - ticipants, further limiting the generalizability of the results. Third, we used self-administered questionnaires, which may have led to recall bias and social desirability bias – wherein re- spondents tend to choose more socially accepted

answers.

De- spite these limitations, our study provides current evidence on suicidal behavior among Indonesian nursing students during the COVID-19 pandemic. Conclusions Our study provides current evidence on suicidality among nursing students in Indonesia during the COVID-19 pandem- ic. Low resilience, loneliness, hopelessness, and depression were identified as significant predictors of suicidality. Depres - sion had the strongest association with suicidality. Our study highlights the need to strengthen mental health care services at the university level, and the need for intervention programs to prevent suicide among undergraduate nursing students.

Assessment of risk factors for suicidality in nursing students such as low resilience, loneliness, hopelessness, and depres - sion should be employed on a regular basis. Our findings also indicate that intervention programs to increase psychological resilience and ameliorate loneliness, hopelessness, and de- pression should be developed as a suicide prevention strategy among nursing students in Indonesia. Acknowledgements The authors would like to thank the Office of Research and Publication (ORP) Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, for assisting in the lan- guage editing.

Ethical aspects and conflict of interests The authors have no conflict of interests to declare. Funding statement This research did not receive a specific grant from funding agencies in the public, commercial, or not-for-profit sectors. Fitriawan et al. / KONTAKT 370 Prevalence a prediktory sebevražednosti mezi studenty ošetrovatelství v Indonésii souhrn Úvod: Studenti ošetrovatelství jsou behem pandemie covidu-19 zranitelnou populací, protože zažívají vyšší úroven stresu a pro- blému s duševním zdravím než studenti mimo zdravotní péci, což je vystavuje vyššímu riziku sebevražedného chování. Cíl: Prozkoumat sebevražednost mezi studenty ošetrovatelství a posoudit souvislost mezi nezávislými promennými a sebevra- žedností.

Metody: Tato prurezová studie zahrnovala 670 studentu ošetrovatelství z 5 indonéských univerzit, kterí byli vybráni metodou postupného vzorkování. Vlastní validované nástroje se skládaly z 8 sekcí: sociodemografický dotazník, RSES k posouzení sebe- úcty, BHS k posouzení beznadeje, UCLA-3 k posouzení osamelosti, GSES k posouzení sebeúcinnosti, PHQ-9 k posouzení deprese, CD-RISC-10 k posouzení odolnosti a SBQ-R k posouzení sebevražednosti. K identifikaci významných prediktoru sebevražednosti byla použita binární logistická regrese. Výsledky: Prevalence sebevražednosti mezi studenty ošetrovatelství byla 22,8 %.

Se sebevražedností byly významne spojeny ná- sledující faktory (p < 0,05): nízká

odolnost (AOR = 2,044; 95 %CI: 1,309–3,192), osamelost (AOR = 1,609; 95 %CI: 1,040–2,492), beznadej (AOR = 48,48 95 %CI: 2,356–8,398) a deprese (AOR = 9,413; 95 %CI: 5,795–15,288). Záver: Tato zjištení poskytují dukaz, že odolnost, osamelost, beznadej a deprese jsou rizikovými faktory sebevraždednosti mezi studenty ošetrovatelství. Tento výsledek lze použít jako základ pro rozvoj vhodných strategií prevence sebevražd. Klícová slova: covid-19; Indonésie; prediktory; prevalence; sebevražednost; studenti ošetrovatelství

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