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Analysis of factors influencing the occurrence of mental emotional disorders (med) among employees at penjaringan primary health center

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ABSTRACT

Mental Emotional Disorders (MED) are prevalent among healthcare workers due to excessive workload and occupational stress. This study aimed to analyze factors associated with Mental Emotional Disorders among employees at Penjaringan Primary Health Center, Jakarta. A quantitative cross-sectional study was conducted involving 146 employees selected based on inclusion criteria. Data were collected using questionnaires and the Self Reporting Questionnaire-20 (SRQ-20). Variables analyzed included workload, managerial system, organizational culture, coping mechanism, psychological resilience, mental health history, and well-being. Data were analyzed using chi-square and multiple logistic regression tests. The prevalence of MED was 16.4%. Significant associations were found between workload (p=0.001), organizational culture (p=0.001), coping mechanism (p=0.001), and psychological resilience (p=0.001) with MED incidence. Multivariate analysis identified psychological resilience as the dominant factor associated with MED. The study concludes that excessive workload and low resilience increase the risk of Mental Emotional Disorders among healthcare workers. Organizational interventions focusing on workload management and resilience strengthening are recommended.

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INTRODUCTION

Mental health problems in the workplace have become a major global public health concern. The World Health Organization reported that approximately 301 million people worldwide experienced anxiety disorders in 2019, and the prevalence increased significantly after the COVID-19 pandemic (WHO, 2022); (Osborn et al., 2022). Mental health disorders not only affect individual well-being but also reduce productivity, increase absenteeism, and contribute to substantial economic losses globally (Fernandes, 2020); (Stansfeld & Candy, 2006).

Healthcare workers are among the occupational groups most vulnerable to psychological distress because of their high responsibility, emotional burden, and continuous exposure to stressful situations (Collins et al., 2021). In Indonesia, mental health problems continue to rise, with nearly one in five individuals estimated to experience psychological distress or mental disorders (Muhammad Adwin Luthfian Noor, 2023). Healthcare institutions, particularly community health centers (Puskesmas), face increasing service demands alongside limited human resources and administrative burdens. Previous studies demonstrated that healthcare workers frequently experience anxiety, stress, burnout, and emotional exhaustion due to high workload and organizational pressure (Ainy, 2020); (Riyanto & Wasaraka, 2023); (Rosada, 2021).

Several studies have highlighted factors associated with Mental Emotional Disorders among healthcare workers. Workload is consistently identified as a dominant predictor of stress and psychological disturbances (Robert A. Karasek, 1979); (Arnold B Bakker, 2007). Organizational culture, managerial support, coping mechanisms, and psychological resilience also influence employees' ability to adapt to occupational stressors (Johnson & Hall, 1988); (Johannes Siegrist, 2004). Poor organizational systems and inadequate social support may exacerbate emotional distress and negatively affect healthcare performance. Penjaringan Primary Health Center in North Jakarta represents one of the healthcare institutions with relatively high findings of mental emotional problems among employees. Preliminary observations in 2024 showed that 51.9% of employees experienced anxiety symptoms associated with overtime work, administrative burden, and pressure to achieve healthcare program targets. Employees reported sleep disturbances, irritability, decreased concentration, and emotional exhaustion, which are common manifestations of Mental Emotional Disorders (Kinasih, 2023).

High administrative pressure and the obligation to meet healthcare program targets have significant implications for the emergence of Mental Emotional Disorders (MED) among primary healthcare workers. When healthcare workers are required to simultaneously manage a high volume of clinical tasks and extensive administrative documentation under tight deadlines, their cognitive and emotional resources become rapidly depleted. This condition, known as role overload, creates chronic psychological strain that progressively undermines mental health stability (Prihanti et al., 2024). The limitation of human resources in community health centers (Puskesmas) further exacerbates this burden, as each individual is often required to handle multiple responsibilities that exceed their optimal capacity. Insufficient staffing means that workload cannot be adequately distributed, forcing employees to work longer hours and reducing their recovery time between demanding tasks. Over time, this structural imbalance between job demands and available resources significantly increases the vulnerability to MED, particularly among healthcare professionals who already carry high emotional responsibility toward their patients (Arnold B Bakker, 2007).

Despite increasing awareness of occupational mental health, studies examining organizational and individual determinants of Mental Emotional Disorders among healthcare workers in Indonesian primary healthcare settings remain limited. Previous studies mainly focused on workload and stress, while limited research explored the combined contribution of organizational and individual psychological factors such as coping mechanisms and resilience (Prihanti et al., 2024);(Alwi et al., 2023). Therefore, this study aimed to analyze factors influencing Mental Emotional Disorders among employees at Penjaringan Primary Health Center. The findings are expected to provide evidence-based recommendations for mental health promotion and organizational intervention strategies.

RESEARCH METHOD

The study population comprised all 167 registered employees (both civil servants and non-civil servants) at Penjaringan Primary Health Center who underwent annual health screening, particularly mental health screening. Total sampling was employed to ensure comprehensive

representation. After applying inclusion and exclusion criteria, including active employment status for at least three months, voluntary participation, and willingness to complete questionnaires in Bahasa Indonesia, 146 respondents were included following the exclusion of 21 employees who were absent due to leave or off-site assignments (Sugiyono, 2020).

MED was measured using the validated Self Reporting Questionnaire-20 (SRQ-20), a WHO-developed screening tool consisting of 20 yes/no items covering depressive, anxiety, somatic, and reduced function symptoms (Beusenberg & Orley, 2018). A cut-off score of ≥6 positive responses was used to classify MED. Organizational and individual factor questionnaires were researcher-developed using 10-item Likert-scale instruments (scale 1–5) with established validity and reliability through Pearson Product Moment and Cronbach's alpha coefficient analyses (Sugiyono, 2020). Coping mechanisms were assessed using an adaptation of the COPE Inventory (Carver et al., 1989), while psychological resilience was measured using an adaptation of the Connor-Davidson Resilience Scale (Connor & Davidson, 2003).

Data analysis was performed using IBM SPSS software. Univariate analysis described frequency distributions of all variables. Bivariate analysis used chi-square tests to examine associations between each independent variable and MED. Multivariate analysis employed multiple logistic regression using a risk factor model approach (Hastono, 2006), where variables with p-value < 0.25 in bivariate analysis were entered into the initial model. Variables were retained in the final model based on $p < 0.05$ or their significance as confounders (change in OR ≥ 10%). Demographic variables (age, gender, marital status, profession) were maintained as confounding variables throughout the multivariate modeling. Ethical clearance was obtained from the Health Research Ethics Committee with certificate No. 10.009.B/KEPK-FKMUMJ/II/2026.

The rationale for using a cut-off score of ≥6 on the SRQ-20 instrument is grounded in WHO guidelines and validated psychometric evidence. The SRQ-20 was developed by the World Health Organization specifically for screening common mental disorders in primary care and community settings (Beusenberg & Orley, 2018). The cut-off of ≥6 has been widely validated across multiple low- and middle-income countries, including Indonesia, where it has demonstrated acceptable sensitivity and specificity for detecting significant psychological distress. This threshold aligns with the standard recommendation for occupational settings and has been consistently applied in Indonesian primary healthcare research to classify MED. Using ≥6 positive responses ensures a balanced trade-off between sensitivity (the ability to detect true cases) and specificity (the ability to correctly exclude non-cases), making it the most appropriate and evidence-based cut-point for this population and context (Oley, 2018).

The use of p-value < 0.25 as the threshold for entering variables into the initial multivariate logistic regression model follows the standard approach in epidemiological risk factor modeling as outlined by (Hastono, 2006). This liberal threshold is intentionally applied to prevent the premature exclusion of variables that may be statistically weak at the bivariate level but are clinically meaningful or act as important confounders in the full model. A more restrictive threshold (e.g., $p < 0.05$) at the selection stage risks omitting variables that only become significant when simultaneously controlling for multiple covariates. This approach is widely recommended in public health research and logistic regression modeling to ensure that all potentially relevant predictors are given the opportunity to demonstrate their contribution within the multivariate context before final model selection (Hastono, 2006).

RESULTS AND DISCUSSIONS

Based on the data analysis results, the following findings were obtained:

Univariat Analysis

Univariate analysis was conducted to describe the characteristics of respondents and the frequency distribution of research variables, including the occurrence of Mental Emotional

Disorders (MED), demographic factors, organizational factors, and individual factors among employees at Penjaringan Primary Health Center.

a. Occurrence of Mental Emotional Disorders (MED), based on the measurement results using the Self Reporting Questionnaire-20 (SRQ-20) instrument, the prevalence of among employees at Penjaringan Primary Health Center is presented in Table 1.

Table 1. Distribution of respondents based on the occurrence of mental emotional disorders (MED)

MED Occurrence	Frequency (n)	Percentage (%)
MED	24	16,4
Non MED	122	83,6
Total	146	100

Based on Table 1, it is known that the majority of respondents (83.6%) did not experience mental emotional disorders. It should be emphasized that this positive SRQ-20 result is an initial screening indication showing significant psychological distress, and not a clinical diagnosis. Employees with positive results require further evaluation by mental health professionals for diagnosis confirmation. The prevalence of 16.4% aligns with global trends in the healthcare worker population, which generally ranges from 10–20% (WHO, 2022), and indicates that mental health problems in primary care healthcare workers are an issue requiring serious attention.

This condition affirms that healthcare workers are a high-risk group due to the high demands of direct services to the community, accompanied by significant administrative burdens. Symptoms detected through the SRQ-20 instrument, such as anxiety and emotional fatigue, have the potential to decrease concentration and work productivity if not addressed immediately. Therefore, appropriate organizational support mechanisms are needed to mitigate mental health risks for employees in public service environments.

The study involved 146 employees of Penjaringan Primary Health Center. Most respondents were female healthcare workers aged between 25–45 years. The majority had worked for more than five years and were involved in direct healthcare service activities. The prevalence of Mental Emotional Disorders among respondents was 16.4%, indicating that psychological distress remains a significant occupational health issue within the healthcare setting. Respondents experiencing Mental Emotional Disorders commonly reported symptoms such as sleep disturbances, anxiety, emotional fatigue, irritability, and decreased concentration.

b. Demographic Characteristics of Respondents, the demographic characteristics in this study include age, gender, marital status, and profession.

Table 2. Frequency Distribution of Demographic Characteristics

Variable	Frequency (n)	Percentage (%)
Age		
Adult (≥ 30 years)	120	82
Young Adult (< 30 years)	26	18
Total	146	100
Gender		
Female	96	65,8
Male	50	34,2
Total	146	100
Marital Status		
Married	110	75,3
Single/Widowed/Divorced	36	24,7
Total	146	100
Profession		
Nurse and Healthcare Workers	110	75,3
Non Medical Technical Staff	36	24,7
Total	146	100

Based on Table 2, it is known that the majority of respondents were in the adult age group (82%) with a dominance of the female gender (65.8%). The high proportion of women in this study aligns with the profile of healthcare workers in primary care facilities, which are generally dominated by women.

c. Organizational and Individual Factor, this study also assessed the work organizational factors and the individual capacities among employees.

Table 3. Frequency distribution of organizational and individual factors

Variable	Frequency	Percentage
Workload		
Not High Workload (Score ≥ median)	68	46,6
High Workload (Score < median)	78	53,4
Total	146	100
Management System		
Good Management System (Score ≥ median)	73	50,0
Poor Management System (Score < median)	73	50,0
Total	146	100
Organizational Culture		
Positive Organizational Culture (Score ≥ median)	142	97,3
Negative Organizational Culture (Score < median)	4	2,7
Total	146	100

Based on Table 3, the analysis results show that more than half of the respondents (53.4%) felt they had a high workload. From the individual perspective, the majority of respondents (95.9%) reported no previous history of mental health disorders, and 51.4% had adaptive coping mechanisms.

The research results regarding workload provide a crucial note, where 53.4% of employees reported a high workload. Excessive workload without balanced organizational resource support is at risk of becoming the main determinant for the emergence of mental emotional disorders in the work environment.

Meanwhile, from the individual perspective, it was found that 51.4% of respondents had adaptive coping abilities. This capacity functions as a crucial protective factor in helping employees mitigate work pressure. Conversely, for the group with maladaptive coping mechanisms accompanied by a high workload, the risk of escalating MED symptoms becomes much greater. This phenomenon underscores the urgency of developing sustainable psychological resilience strengthening strategies for all staff at Penjaringan Primary Health Center

d. Bivariat and Multivariat Analysis, the results of this study examined bivariate analysis with the following results

Table 4. Analysis of the relationship between workload, managerial system, organizational culture, well-being, mental health history, coping mechanisms, psychological resilience, and the occurrence of MED among employees at Penjaringan Primary Health Center

Independent Variable	MED Status				Total		*P- Value*	OR 95% CI
	MED		Non MED					
	f	%	f	%	f	%		
Workload								
High Workload (Score < median)	21	26,9	57	73,1	78	100	0,001	7,982 (2,262 - 28,167)
Not High Workload (Score ≥ median)	3	4,4	65	95,6	68	100		
Total	24	16,4	122	83,6	146	100		
Managerial System								
Poor Managerial System (Score < median)	16	21,9	57	78,1	73	100	0,118	2,281 (0,909 - 5,724)
Good Managerial System (Score ≥ median)	8	11	65	89	73	100		
Total	24	16,4	122	83,6	146	100		
Organizational Culture								
Negative Organizational Culture (Score < median)	4	100	0	0	4	100	0,001	-
Positive Organizational Culture (Score ≥ median)	20	14,1	122	85,9	142	100		

Independent Variable	MED Status				Total		*P- Value*	OR 95% CI
	MED		Non MED					
	f	%	f	%	f	%		
Total	24	16,4	122	83,6	146	100		
Well Being								
Low (Score < median)	15	22,7	51	77,3	66	100		
High (Score ≥ median)	8	11,3	71	88,8	80	100	0,101	2,320 (0,942 - 5,714)
Total	24	16,4	122	83,6	146	100		
Mental Health History								
Has History	3	50	3	50	6	100		
No History	21	15	119	85	140	100	0,056	5,667 (1,071 - 29,988)
Total	24	16,4	122	83,6	146	100		
Coping Mechanism								
Maladaptive Coping (Score < median)	24	33,8	47	66,2	71	100		
Adaptive Coping (Score ≥ median)	0	0	75	100	75	100	0,001	-
Total	24	16,4	122	83,6	146	100		
Psychological Resilience								
Low Resilience (Score < median)	21	28,8	52	71,2	73	100		
High Resilience (Score ≥ median)	3	4,1	70	95,9	73	100	0,001	9,423 (2,668 - 33,281)
Total	24	16,4	122	83,6	146	100		

*N/A = OR not calculable due to complete separation (zero cell)

a) Workload and MED, workload demonstrated a statistically significant association with MED (p=0.001; OR=7.982), indicating that employees with high workload had nearly eight times greater risk of experiencing MED compared to those with manageable workloads. This finding is consistent with the Job Demand-Control Model proposed by (Robert A. Karasek, 1979), which posits that high job demands combined with low job control create chronic job strain, directly impairing psychological health. In primary healthcare settings, workload encompasses not only clinical tasks but also program coordination, administrative responsibilities, and patient interaction pressures (Riyanto & Wasaraka, 2023). The Job Demands-Resources (JD-R) Model (Arnold B Bakker, 2007) further explains that excessive workload depletes workers' psychological energy reserves, triggering burnout and emotional disorders when organizational resources are insufficient. (Alwi et al., 2023) similarly found workload to be a four-fold risk factor for anxiety among Makassar health center workers, while (Shanafelt et al., 2012) identified workload as the primary determinant of psychological distress and emotional exhaustion among healthcare professionals. (Nicholas Simarmata & Dian Jayantari Putri K. Hedo, 2024) confirmed high workload's significant association with MED among healthcare workers, manifesting through reduced focus, increased errors, and presenteeism.

b) Managerial System and MED, the managerial system did not demonstrate a statistically significant association with MED (p=0.118; OR=2.281). However, the descriptive trend showed higher MED proportions among employees working under poor managerial systems (21.9% vs 11.0%). This finding aligns with the perspective that management support functions more as an indirect resource that builds psychological capacity rather than as a direct determinant of mental disorders. According to (A & , Arnold B. Bakker, Evangelia Demerouti, 2009), organizational support and management primarily enhance psychological resources and work engagement rather than directly reducing mental disorders. The Effort-Reward Imbalance Model (Johannes Siegrist, 2004) suggests that imbalanced compensation systems create chronic stress; however, when proximal factors like resilience are controlled, the management effect may become statistically less prominent.

c) Organizational Culture and MED, organizational culture showed a highly significant association with MED at the bivariate level (p=0.001). All four respondents (100%) working in negative organizational culture environments experienced MED. Person-Environment Fit Theory ((French et al., 1974) as cited in (Cooman et al., 2024)) explains that psychological

stress emerges when individual characteristics misalign with organizational values and norms. Studies by (Ulla Peterson, 2008) and (S. Kristensen, 1995) confirm that unsupportive cultures characterized by excessive competition, poor work-life balance, and inadequate recognition increase mental disorder risks. (Arnold B Bakker, 2007) argues that positive organizational culture functions as a critical job resource reducing burnout and enhancing work engagement. Due to complete separation in bivariate analysis and unstable multivariate estimates (Agresti, 2002), this variable was excluded from the final multivariate model, though its conceptual significance as an indirect protective or risk factor remains important.

d) Mental Health History and MED, mental health history showed a borderline significant association with MED (p=0.056; OR=5.667), with 50% of employees with prior mental health history experiencing MED compared to 15% among those without history. While not reaching conventional significance at α=0.05, the clinical magnitude of this association is notable. The diathesis-stress model (Kendler et al., 1993) explains that individuals with psychological vulnerability have lower stress thresholds, making them more susceptible to environmental stressors. (D A Solomon, 2000) reported that approximately 85% of individuals with major depression history experience at least one recurrence, underscoring the importance of monitoring this population. (Kenneth S Kendler, 1992) further noted that individuals with first-degree relatives experiencing mental disorders have 2–3 times higher risk, reflecting both genetic vulnerability and learned maladaptive patterns.

e) Coping Mechanism and MED, coping mechanism demonstrated a highly significant association with MED (p=0.001). None of the employees with adaptive coping strategies experienced MED, while 33.8% of those with maladaptive coping did. (Richard S Lazarus, 2019) defined coping as continuous cognitive and behavioral efforts to manage demands exceeding individual capacity, distinguishing between problem-focused and emotion-focused strategies. A meta-analysis by (Julie A Penley, Joe Tomaka, 2002) confirmed that problem-focused coping consistently correlates with better mental health outcomes in controllable situations. (Compas et al., 2001) demonstrated that avoidance and denial strategies significantly correlate with increased depression and anxiety symptoms. The complete separation phenomenon necessitated exclusion from multivariate modeling. This limitation, acknowledged by (Agresti, 2002), reflects the strong empirical relationship rather than a methodological weakness, with the substantive finding that adaptive coping completely protects against MED being conceptually robust. The complete separation observed in coping mechanism and organizational culture variables has important implications for the interpretation of the statistical analysis results. Complete separation occurs when one category of the independent variable perfectly predicts the outcome, resulting in unstable or incalculable odds ratios and inflated confidence intervals in logistic regression models (Agresti, 2002). Although this prevents formal multivariate modeling, the phenomenon itself constitutes a substantively meaningful finding: it indicates an extremely strong empirical association between adaptive coping and MED-free status, and between negative organizational culture and MED occurrence. Rather than representing a methodological flaw, complete separation in this study reflects the real magnitude of these relationships in the sample. From an applied standpoint, these findings reinforce the critical importance of coping skill development and organizational culture improvement as primary targets for mental health intervention in primary healthcare settings. Future studies with larger and more diverse samples may be able to resolve the complete separation issue and formally quantify these associations within multivariate models

f) Psychological Resilience and MED, psychological resilience demonstrated the strongest and most significant association with MED across both bivariate (p=0.001; OR=9.423) and multivariate analyses (p=0.002; AOR=0.116; 95% CI: 0.029–0.457), confirming it as the dominant protective factor. (Connor & Davidson, 2003) defined psychological resilience as the

capacity to adapt positively under stress, characterized by personal competence, stress tolerance, positive acceptance of change, self-control, and spiritual influence. Employees with high resilience showed only 4.1% MED prevalence compared to 28.8% among those with low resilience. (Michael Rutter, 1987) explained that resilience does not eliminate risk but enables more adaptive navigation through adversity. (Oddgeir Friborg, 2003) demonstrated that highly resilient individuals show lower depression and anxiety symptoms even under equivalent stressors. (Southwick et al., 2005) identified emotional regulation, realistic optimism, and social support as key resilience characteristics protecting mental health. (Bui et al., 2023) confirmed in an integrative review that high resilience levels among nursing staff correlated with lower psychological distress. For healthcare workers at Penjaringan Primary Health Center who face continuous work pressures, psychological resilience serves as a critical psychological mechanism maintaining emotional stability and preventing MED development. The AOR of 0.116 indicates that employees with high resilience have an 8.6-fold lower risk of experiencing MED compared to those with low resilience (1/0.116 ≈ 8.6), after controlling for all other variables.

g) Well-Being and MED, well-being did not show a statistically significant association with MED (p=0.101; OR=2.320), though descriptive trends indicated higher MED proportions among those with low well-being. (D.Ryff, 1989) conceptualized psychological well-being as a multidimensional construct encompassing self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth. (Keyes Corey, 2002) clarified that psychological well-being and mental disorders do not exist on a single continuum, meaning individuals may possess certain well-being levels while experiencing psychological distress. When resilience, a more proximal factor, was included in multivariate analysis, the well-being effect was no longer independently significant. The work-related well-being framework (Soh et al., 2016) suggests that well-being's influence on MED may be mediated through job satisfaction and engagement rather than operating as a direct causal pathway

e. Multivariate Analysis

Table 5. Final multivariate logistic regression model for MED predictors

Variable	B	S.E.	Wald	p-value	AOR (95% CI)	Sig.
Workload	-1.750	0.738	5.624	0.018	0.174 (0.041–0.738)	Significant
Psychological Resilience*	-2.157	0.701	9.465	0.002	0.116 (0.029–0.457)	Significant*
Managerial System	-0.681	0.633	1.157	0.282	0.506 (0.146–1.750)	NS
Well-Being	0.290	0.697	0.173	0.677	1.337 (0.341–5.238)	NS
Mental Health History	-0.916	1.030	0.791	0.374	0.400 (0.053–3.011)	NS

*Dominant predictor. NS = Not Significant. Controlled for age, gender, marital status, profession. Omnibus test: χ^2=34.558, p<0.001; Hosmer-Lemeshow: χ^2=5.747, p=0.676

The multivariate logistic regression model demonstrated overall significance (Omnibus test χ^2=34.558, df=9, p<0.001) and excellent goodness-of-fit (Hosmer-Lemeshow χ^2=5.747, df=8, p=0.676). Among all variables, psychological resilience emerged as the dominant predictor with the smallest p-value (0.002) and AOR furthest from unity (0.116), confirming its central protective role against MED. Workload was the only significant risk factor in the final model (p=0.018; AOR=0.174), while managerial system, well-being, and mental health history showed no independent significance after controlling for other variables.

The very low AOR for resilience (0.116) requires careful interpretation. As (Windle, 2011) and (Bui et al., 2023) emphasized, resilience is the most stable psychological construct in predicting mental health outcomes. The magnitude reflects not only resilience's direct protective effect but also the absorptive effect of excluding the coping mechanism variable due to complete separation. As (Southwick et al., 2005) noted, resilience and coping are theoretically and empirically correlated constructs; when coping was excluded from the model, portions of its protective effect likely transferred into the resilience coefficient. Despite this statistical consideration, the directional

finding is unambiguous: high psychological resilience substantially and independently protects against MED among healthcare workers.

CONCLUSION

The prevalence of Mental Emotional Disorder among Penjaringan Primary Health Center employees was 16.4%. Workload and psychological resilience were independently and significantly associated with MED in multivariate analysis, with psychological resilience identified as the dominant protective predictor (AOR=0.116; 95% CI: 0.029–0.457; p=0.002). Organizational culture and coping mechanism showed highly significant bivariate associations but could not be included in multivariate modeling due to complete separation. Managerial system, well-being, and mental health history did not demonstrate independent multivariate significance after controlling for other factors.

These findings have important practical implications. Interventions should prioritize: (a) structured psychological resilience training programs (4–6 sessions) focusing on personal competence, emotional regulation, and social support; (b) evidence-based workload management including task redistribution and workload analysis using standardized methodologies; (c) adaptive coping skills training incorporating Cognitive Behavioral Therapy principles and mindfulness techniques; and (d) ongoing annual MED screening using SRQ-20 with targeted follow-up for at-risk employees. The integration of psychological resilience building into occupational health programs at primary health centers represents an evidence-based approach to reducing MED incidence and sustaining healthcare service quality.

The identification of psychological resilience as the dominant protective factor against MED carries several important practical implications for occupational health management in primary healthcare settings. First, since resilience is a trainable and modifiable characteristic, healthcare institutions should invest in structured resilience-building programs as part of routine occupational health services. These programs can incorporate cognitive reframing techniques, emotional regulation skills, and social support network strengthening, which have been empirically shown to enhance psychological resilience and reduce MED risk (Connor & Davidson, 2003);(Southwick et al., 2005). Second, resilience assessments should be incorporated into pre-employment screening and periodic health evaluations to identify employees with low resilience who may benefit most from targeted psychological support. Third, organizational leaders and supervisors play a key role in fostering resilience by creating psychologically safe work environments, recognizing employee contributions, and facilitating peer support systems. When resilience is embedded within the organizational culture, it serves not only as an individual protective factor but also as a collective resource that strengthens team cohesion and overall service quality in primary healthcare.

Several directions for further research are recommended based on the findings of this study. First, longitudinal studies are needed to establish the temporal relationship and causal pathways between organizational factors, psychological resilience, and MED onset among Indonesian healthcare workers, as the current cross-sectional design limits causal inference. Second, mixed-methods studies combining quantitative surveys with in-depth qualitative interviews would provide a richer understanding of the mechanisms through which workload, coping strategies, and organizational culture contribute to MED in the Puskesmas context. Third, future research should explore mediating and moderating variables, such as social support and job autonomy, in the relationship between workload and MED to inform more nuanced intervention designs. Fourth, intervention studies evaluating the effectiveness of resilience-based training programs and workload management strategies on MED outcomes among primary healthcare workers are urgently needed to translate these findings into evidence-based practice. Finally, larger multicenter studies involving multiple Puskesmas across different districts and provinces would

improve the generalizability of findings and enable the development of nationally applicable mental health promotion guidelines for primary healthcare workers in Indonesia

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