

Psychosocial Hazard Awareness: Health and Non-Health Workers in Semarang Dental, Oral Hospitals

Kesadaran Bahaya Psikososial: Pekerja Kesehatan dan Non-Kesehatan di Rumah Sakit Gigi dan Mulut di Semarang

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ABSTRACT

Background: Psychosocial hazards are one of the risks that affect the mental health of hospital workers..

Objective: This study aimed to assess awareness of psychosocial hazards in health and non-health workers at Dental and Oral Hospitals in Semarang.

Methods: This cross-sectional study involved 154 respondents using a Psychosocial Survey of Healthcare Workers questionnaire that was adapted in Indonesian, covering 12 dimensions. The independent variables were age, gender, years of service, unit section, education level, and marital status, while the dependent variable was psychosocial hazard awareness.

Results: The results showed that 57.1% of respondents had a good level of awareness of psychosocial hazards. Chi-square analysis showed a significant relationship between age ($p=0.006$), working period ($p=0.002$), education level ($p=0.020$), and marital status ($p=0.043$) and the level of awareness of psychosocial hazards, while gender and work unit showed no significant relationship. The results of the multivariate test with multiple logistic regression revealed the most significant factors, namely age (0.004) and education level (0.020).

Conclusion: This awareness was important to prevent fatigue and mental disorders. Efforts to increase education about psychosocial hazards in the work environment were needed as a preventive measure to maintain the mental health of hospital workers.

Keywords: Awareness, Hospital, Psychosocial Hazard, and Workers

ABSTRAK

Latar Belakang: Bahaya psikososial merupakan salah satu risiko yang memengaruhi kesehatan mental pekerja rumah sakit.

Tujuan: Penelitian ini bertujuan menilai kesadaran terhadap bahaya psikososial pada tenaga kesehatan dan non-kesehatan di Rumah Sakit Gigi dan Mulut di Semarang.

Metode: Studi cross-sectional ini melibatkan 154 responden menggunakan kuesioner Psychosocial Survey of Healthcare Workers yang telah disesuaikan dalam bahasa Indonesia, mencakup 12 dimensi.

Hasil: Hasil menunjukkan bahwa 57,1% responden memiliki tingkat kesadaran baik terhadap bahaya psikososial. Analisis chi-square menunjukkan adanya hubungan signifikan antara usia ($p=0,006$), masa kerja ($p=0,002$), tingkat pendidikan ($p=0,020$), dan status pernikahan ($p=0,043$) dengan tingkat kesadaran bahaya psikososial, sementara jenis kelamin dan unit kerja tidak menunjukkan hubungan signifikan. Hasil uji multivariat dengan multiple logistic regression faktor yang paling berpengaruh signifikan yaitu usia (0,004) dan tingkat pendidikan (0,020).

Kesimpulan: Kesadaran ini penting untuk mencegah kelelahan dan gangguan mental. Upaya peningkatan edukasi mengenai bahaya psikososial di lingkungan kerja diperlukan sebagai langkah preventif menjaga kesehatan mental pekerja rumah sakit.

Kata Kunci: Bahaya Psikososial, Kesadaran, Pekerja, Rumah Sakit

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Submitted 04 September 2025

Revised 02 October 2025

Accepted 24 November 2025

INTRODUCTION

The literature generally showed that occupational hazards and injuries that endangered the health and safety of healthcare workers were prevalent in healthcare and non-healthcare settings and included biological, chemical, physical, mechanical, ergonomic, and psychosocial hazards (Faris et al., 2018). Studies reported that the prevalence of occupational hazards and injuries was highest in developing countries compared to high-income countries (Aluko et al., 2016). Many studies and reports showed that employees working in healthcare and non-healthcare settings were exposed to a wide variety of complex health and safety hazards on a daily basis.

Previous studies showed that stress, considered a psychosocial hazard, was more experienced by the health care group (86.7%) than the non-health care group (80.0%) (Hisam et al., 2022). Mental health problems were one of the burdens faced by several countries (Jansson and Gunnarsson, 2018; Dimoff and Kelloway, 2019). Psychosocial risk referred to the design and management of work, as well as its social and organizational contexts that had the potential to harm workers (Eurofound, no date).

Exposure to psychosocial risks could affect a worker's psychological and physical health through a stress-mediated pathway. In addition, organizational health and resilience (e.g., attendance, high employee turnover, and organizational commitment) could be affected (Hupke, Van den Broek and Kudasz, 2020). Previous studies reported that 40% of medical staff studied felt a high and very high level of stress risk (Cardoza et al., 2023). Measured mental health symptoms were common: mild to severe anxiety (59.8%), moderate to severe burnout (70.9%), and mild to severe depression (57.3%) (Cardoza et al., 2023).

One of the organizations that had the risk of being exposed to psychosocial

hazards was organizations that moved in the field of health care services or hospitals (Martínez et al., 2022). Sources of psychosocial risk were diverse, such as conflicting demands, lack of clarity of roles, lack of training and development opportunities, lack of influence of workers on the way work was done, excessive workload and work intensity, lack of worker involvement in decision-making that affected workers (autonomy), poorly managed organizational changes, ineffective communication, working time management, and poor work-life balance, lack of support from management or co-workers, psychological and sexual harassment, third-party violence, and job insecurity (EU-OSHA, no date; Fahad D Alosaimi et al., 2018; Fahad Dakheel Alosaimi et al., 2018).

In another study, health workers were found to be exposed to a wide range of psychosocial risks in the workplace (EU-OSHA, 2014; Adriaenssens, Gucht and Maes, 2015; Eurofound, 2019, 2020; EIGE, 2020; Tecco et al., 2020), and infectious disease outbreaks exacerbated these risks (Barello et al., 2020; Blanco-Donoso et al., 2020). Nurses as a category of work were found to be highly exposed to psychosocial risks (Wagner et al., 2019). Exposure to physical hazards and psychosocial risks in healthcare arose from overtime, excessive workload, and time pressure (Michel and Ecarnot, 2020; Ruotsalainen, Jantunen and Sinervo, 2020; WHO, 2020), insufficient amount of rest time and work holidays, leading to poor work-life balance (Scozzafave et al., 2019; Tecco et al., 2020), shift work (Ferri et al., 2016; Leyva-Vela et al., 2018), low wages and job insecurity (Delp et al., 2010; Lin et al., 2014; Zockler, 2018), and exposure to harmful social behaviors, such as violence and harassment (Eurofound, 2015; Vento, Cainelli and Vallone, 2020).

Sleep disorders and insomnia were reported in 19 studies as the negative

impact of the pandemic that further affected the well-being of healthcare workers. Burnout, fatigue, and physical and emotional fatigue were reported in 14 studies (Franklin and Gkiouleka, 2021). Psychological distress was often associated with poorer physical health with negative consequences for employees and employers such as decreased work engagement, increased sick leave, and higher rates of absenteeism and presenteeism (Wee et al., 2019; Chan et al., 2020). Subsequent studies among nurses found that they experienced severe anxiety and depression (Zamri, Moy and Hoe, 2017; Amin et al., 2018).

As cited in previous studies from various sources, there was more than one cause of psychosocial harm among healthcare workers. Therefore, it was very important to focus on these issues and assess awareness of psychological hazards among workers, which would improve health safety in the workplace.

MATERIALS AND METHODS

A. Research Design

This study is a cross-sectional study. This study was approved by the health research ethics commission of the Faculty of Nursing and Health Sciences, University of Muhammadiyah Semarang No.228/KE/09/2023.

B. Population and Sample

The samples used were health and non-health employees from dental and oral health education hospitals in the city of Semarang. The first group of respondents is health workers including general practitioners, dentists, general practitioners, dental nurses and specialist dentists who fall under the field of Medical Services. The second group of respondents is health workers including radiographers, nutritionists, laboratories and medical records under the field of Medical Support. The third group of respondents is front

office personnel, laundry, management and security officers.

C. Data Collection Procedures

Data was collected from July to August 2024 using the total sample method. Quantitative data was collected through an anonymous, self-answered questionnaire broadcast through a digital version of the anonymous questionnaire distributed through web access of health facilities and schools and gymnasiums. All participants engage voluntarily, with privacy guaranteed in all circumstances. The invitation message includes a message explaining the purpose of the study, confirming the confidentiality of all personal information, and the contact details of the study's principal investigator.

D. Research Instruments

The research data was collected through a survey through a questionnaire. Our questionnaire has two parts, the first consists of Age, Gender, Working Period, Unit Section, Education Level and Marital Status. While the second part is a psychosocial hazard awareness questionnaire adapted from A Psychosocial Survey Of Healthcare Workers [38]. This questionnaire consists of 44 questions that have been adjusted in language and tested for validity and reliability. There are 12 dimensions of the Psychosocial Survey, namely, WHO Well-Being Index, Awareness of Workload, Awareness of Emotional Demands, Awareness of Influence and Development at Work, Awareness of Predictability and Recognition at Work, Awareness of Role Conflict and Leadership, Awareness of Job Insecurity, Awareness of Job Satisfaction and Work-Life Conflict, Awareness of Organizational Trust and Justice, Awareness of Threats of Workplace Violence and Harassment, Awareness of Workplace Health and Stress, Awareness of Psychosocial Safety at Work.

All items in the second part are graded on the guttman scale, namely yes and no, a score of 1 for the answer is yes, while for the answer will not be given a score of 0. The mean and standard deviation of all items are calculated based on a two-point guttman.

E. Statistical Analysis

Descriptive data is expressed in frequency and percentage. Chi-square analysis was performed to determine the relationship between risk factors and awareness of psychosocial hazards. The dependent variables are awareness of psychosocial and the independent variables are age, gender, length of service, unit share, education level and marital status. The results are presented in a cross-table, the significance level chosen is 0.05,

the presence of a relationship is considered significant if $p < 0.05$. After that, it was followed by multivariate analysis with multiple logistic regression.

RESULT AND DISCUSSION

A. Result

The results of individual characteristics in this study shown in Table 1 show that most of the subjects were less than 30 years old (63.0%) and the majority were female (67.5%). Most of the subjects had a working period of ≥ 3 years (66.2%) and worked in a medical service unit (62.3%). The education level of the subject is dominated by college graduates and higher. The majority of subjects were married (52.4%), and the level of awareness of psychosocial dangers was mostly in the good category (57.1%).

Table 1. Individual Characteristics (n= 154)

No	Variable	Category	n	%
1	Age	≥ 30 year	57	37.0
		< 30 year	97	63.0
2	Gender	Female	104	67.5
		Male	50	32.5
3	Years of service	< 3 year	52	33.8
		≥ 3 year	102	66.2
4	Unit section	Healthcare	116	75.3
		Workers		
5	Level of education	Non Healthcare	38	24.7
		Workers		
6	Marital status	Collage Degree and Higher	119	77.3
		Less then Collage Degree	35	22.7
7	Psychosocial Awareness Level	Married	81	52.6
		Single	73	47.4
	Hazard	Good	88	57.1
		Poor	66	42.9

Table 2 shows the frequency distribution of 44 questions divided into 12 sections, which were used to measure the subjects' awareness of psychosocial hazards in the workplace. All questions had to be answered by each subject in this study. Awareness of psychological well-

being indicators was shown to be quite good. In the WHO Well-being Index section, the highest level of awareness was shown in the statement "Are you aware that feeling cheerful and enthusiastic can affect your psychological well-being?", with 87.0% of subjects answering "Yes".

Table 2. Level of Awareness of Psychosocial hazards in the Workplace

Variable	Psychosocial Hazard Awareness Level			
	Yes	No	n	%
WHO Well-being Index				
1. Do you realize that feeling cheerful and excited can affect your psychological well-being?	134	87.0	20	13.0
2. Do you realize that prolonged stress can have an impact on your calmness and relaxation?	94	61.0	60	39.0
3. Did you know that mental fatigue can reduce morale and work activities?	79	51.3	75	48.7
4. Do you understand the importance of getting enough sleep for psychological health?	127	82.5	27	17.5
5. Do you realize that an exciting daily life can reduce the risk of work stress?	101	65.5	53	34.4
Workload Awareness				
6. Do you realize that a high workload can increase the risk of stress?	102	66.2	52	33.8
7. Did you know that being late at work can be an indicator of work pressure?	90	58.4	64	41.6
8. Do you understand that working at a high speed in the long run can affect psychosocial health?	77	50.0	77	50.0
Awareness of Emotional Demands				
9. Do you realize that dealing with other people's problems at work can lead to emotional exhaustion?	96	62.3	58	37.7
10. Did you know that jobs with high emotional demands can increase the risk of burnout?	95	61.7	59	38.3
Awareness of Influence and Influence in the Workplace				
11. Do you understand the importance of having an influence on job decisions in reducing work stress?	80	51.9	74	48.1
12. Do you realize that opportunities to learn new things can improve mental well-being?	88	57.1	66	42.9
13. Did you know that using skills and expertise on the job can increase job satisfaction?	83	53.9	71	46.1
14. Do you understand that having clear work goals can reduce uncertainty and stress?	77	50.0	77	50.0
Awareness of Predictability and Recognition in the Workplace				
15. Do you realize that a lack of work information can lead to uncertainty and stress?	85	55.2	69	44.8
16. Did you know that recognition from management can increase work motivation?	95	61.7	59	38.3
Awareness of Role and Leadership Conflicts				
17. Do you understand that conflicting work demands can increase work pressure?	119	77.3	35	22.7
18. Did you know that support from managers can help reduce work stress?	135	87.7	19	12.3
19. Do you realize that support from colleagues can improve psychosocial well-being?	126	81.8	28	18.2
Awareness of Job Insecurity				
20. Are you aware that job uncertainty can affect mental health?	99	64.3	55	35.7
21. Did you know that the difficulty of finding another job can increase psychological distress?	85	55.2	69	44.8

Psychosocial Hazard Awareness...

Variable	Psychosocial Hazard Awareness Level			
	Yes		No	
	n	%	n	%
22. Are you aware that a job transfer without consent can affect employee well-being?	102	66.2	52	33.8
Awareness of Job Satisfaction and Work-Life Conflicts				
23. Did you know that low job satisfaction can increase the risk of stress?	116	75.3	38	24.7
24. Do you realize that energy-draining work can impact your personal life?	95	61.7	59	38.3
25. Do you understand that work-life balance is important for psychological well-being?	104	67.5	50	32.5
Awareness of Trust and Organizational Justice				
26. Did you know that trust between employees can promote a positive work environment?	117	76.0	37	24.0
27. Do you realize that management's trust in employees can increase work motivation?	111	72.1	43	27.9
28. Do you understand that untrustworthy information from management can increase stress?	105	68.2	49	31.8
29. Did you know that fair conflict resolution can improve work well-being?	101	65.6	53	34.4
30. Do you realize that an unfair distribution of work can lead to job dissatisfaction?	130	84.4	24	15.6
Awareness of the Threat of Violence and Harassment in the Workplace				
31. Are you aware that the threat of violence can have a negative impact on mental health?	72	46.8	82	53.2
32. Did you know that sexual harassment in the workplace can cause psychological distress?	113	73.4	41	26.6
33. Do you understand that workplace bullying can affect psychological well-being?	133	86.4	21	13.6
Health Awareness and Stress in the Workplace				
34. Did you know that excessive physical fatigue can be a sign of work stress?	88	57.1	66	42.9
35. Do you realize that emotional exhaustion can affect work productivity?	99	64.3	55	35.7
36. Did you know that difficulty relaxing can be an indicator of work stress?	106	68.8	48	31.2
37. Are you aware that difficulty concentrating can be caused by psychosocial pressure?	112	72.7	42	27.3
Health Awareness and Stress in the Workplace				
38. Did you know that responsive management to psychological health can improve work well-being?	112	72.2	42	27.3
39. Do you realize that management support in the prevention of work stress is very important?	100	69.9	54	35.1
40. Do you understand that the psychological well-being of employees should be a priority for the organization?	106	68.8	48	31.2
41. Did you know that good communication regarding psychological safety can reduce the risk of stress?	112	72.7	42	27.3
42. Do you realize that information about psychological well-being should always be provided to employees?	110	71.4	44	28.6
43. Did you know that the contribution of employees in solving psychosocial problems is important to the organization?	114	74.0	40	26.0

Variable	Psychosocial Hazard Awareness Level			
	Yes		No	
	n	%	n	%
44. Do you realize that employee involvement in stress prevention can improve psychological health?	113	73.4	41	26.6

Awareness of workload and emotional demands showed variation. In the Workload section, the statement "Are you aware that a high workload can increase the risk of stress?" received 66.2% "Yes" answers. Meanwhile, in the Emotional Demands section, 62.3% of subjects were aware that dealing with other people's problems at work can cause emotional exhaustion. Furthermore, in the Influence and Development at Work section, awareness was moderate, with 57.1% of subjects aware that opportunities to learn new things can improve mental well-being. Meanwhile, in Predictability and Recognition, only 61.7% of subjects were aware that recognition from management can increase work motivation, indicating a need for greater understanding in this area.

A fairly high level of awareness was observed in the Role Conflict and Leadership section, where 87.1% of subjects knew that support from managers could help reduce work stress. Awareness of the risks associated with Job Insecurity also

emerged, although it was more varied; 64.3% of subjects were aware that job uncertainty could affect mental health. In the Work Satisfaction and Work-Life Conflict section, the level of awareness is high. As many as 75.3% of subjects are aware that low job satisfaction can increase the risk of stress. Similarly, in the Organizational Trust and Justice section, 84.4% of subjects are aware that unfair distribution of work can lead to job dissatisfaction.

In the section on Threats of Violence and Harassment in the Workplace, awareness was very good, with 86.4% of subjects aware that workplace bullying can affect psychological well-being. Meanwhile, in the section on Health and Stress in the Workplace, 68.8% of subjects knew that difficulty relaxing can be an indicator of work stress. Finally, in the Psychosocial Safety at Work section, 74.0% of subjects were aware that employee contributions to resolving psychosocial problems are important for the organization.

Table 3. Bivariate Analysis of the Relationship between Individual Characteristics and Psychosocial Hazard Awareness Level in the Workplace

Variable	Category	Psychosocial Hazard Awareness Level				P*	
		Good		Poor			
		n	%	n	%		
Age	≥ 30 year	50	69.4	22	30.6	0.006**	
	< 30 year	38	43.2	44	53.7		
Gender	Female	65	62.5	39	37.5	0.078***	
	Male	23	46.0	27	54.0		
Years of service	< 3 year	39	75.0	13	52.0	0.002**	
	≥ 3 year	49	48.0	53	52.0		
Unit section	Healthcare Workers	65	56.0	51	44.0	0.767***	
	Non Healthcare Workers	23	60.5	15	39.5		
Level of education	Collage Degree and Higher	74	62.2	45	37.8	0.020**	

Variable	Category	Psychosocial Hazard Awareness Level				P*	
		Good		Poor			
		n	%	n	%		
Marital status	Less then Collage Degree	14	40.0	21	60.0	0.043**	
	Married	53	65.4	28	34.6		
	Single	35	47.9	38	52.1		

*Continuity Correction, **p ≤ 0.05; ***p > 0.05

The results of the bivariate analysis in Table 3 show that there is a significant relationship between age, length of employment, education level, and marital status with the level of knowledge about psychosocial hazards in the workplace. Subjects aged ≥30 years had better knowledge than those aged <30 years (p = 0.006). Interestingly, subjects with <3 years of work experience had better knowledge than those who had worked for ≥3 years (p

= 0.002). In addition, subjects with a minimum education level of a diploma had a better level of knowledge than those with a lower education level (p = 0.020), and subjects who were married also showed better knowledge than those who were not married (p = 0.043). Meanwhile, no significant relationship was found between gender (p = 0.078) or work unit (p = 0.767) and the level of knowledge about psychosocial hazards in the workplace.

Table 4. Sorting of Candidate Models for Multivariate Tests

Variable	β	p	Exp β (CI 95%)
Age	-0.649	0.134	0.523 (0.223-1.222)
Years of Service	-0.624	0.196	0.536 (0.208-1.379)
Level of education	-0.797	0.056	0.451 (1.999-1.020)

*Candidate models = P Value < 0,25

Table 5. Results of Multivariate

Variabel	β	p	Exp β (CI 95%)
Age	-0.996	0.004	0.369 (0.187-0.727)
Level of education	-0.945	0.020	0.389 (0.175-0.863)

Based on the results of Table 4, the variables selected to become candidate models for multivariate testing are those with p-values (<0.25) for age, length of service, and education level. Multivariate testing was then continued on the candidate models to determine the most influential variables. The results of multivariate testing in Table 5 show that the influential variables are age and education level.

B. Discussion

1. Relationship between Age and Psychosocial Hazard Awareness

Our research explains that during the work of the workforce at the Unimus Dental and Oral Hospital, the results showed that there was a relationship between age and awareness of psychosocial factors in the workforce of the Unimus Dental and Oral Hospital. This happens because age acts as a moderation variable in the relationship between work engagement and job satisfaction. Individuals with increasing age will have abilities and skills increase over time and become more resilient to stress and good working conditions and working conditions (Guglielmi *et al.*, 2016). So that the level of awareness of psychosocial

factors is higher than at a young age. Other results suggest that older people are more likely to have higher levels of performance than younger people, partly due to the aging process (e.g., maturity, personality transformation, etc.) (Beier et al., 2022). Previous research has shown that older workers have psychosocial factors such as job satisfaction, role conflicts, role ambiguity, and commitment are assessed better in workers than in younger workers (Beier et al., 2022). In line with this study, previous research explained that the older age group (≥ 40 years) had a much higher score for all job demands on hospital staff in Spain (Canavate, Meneghel and Salanova, 2023).

2. Relationship between Gender and Psychosocial Hazard Awareness

Psychosocial risk factors can lead to work burnout, symptoms of cognitive stress, and job dissatisfaction (Ilić et al., 2017). Other studies have shown that work fatigue is realized by male workers and that women have a higher awareness of cognitive stress (Asante et al., 2019). In our study, the results showed that there was no relationship between gender and awareness of psychosocial factors of Unimus dental and oral hospital staff. This happens because women and men on the staff of Unimus dental and oral hospitals each have different acceptance of work demands with different difficulties. Because according to research on primary healthcare, it is explained that male workers report high scores or feel a scale of quantitative demands, emotional demands, work conflicts, and high fatigue (Asante et al., 2019). While female workers show the opposite result, female workers have a good quality of life, good job satisfaction, and good social support. However, female workers have higher symptoms of cognitive stress. Higher work demands, in work resources, empathy, and mental competence were more felt in female staff compared to male staff while

awareness of organizational factors was lower (Canavate, Meneghel and Salanova, 2023).

3. Relationship between Years of Service and Psychosocial Hazard Awareness

The working period is related to the awareness of psychosocial factors of the staff of the dental and oral hospital of the University of Muhammadiyah Semarang. This happens because workers with a new working period will experience a good awareness of psychosocial factors compared to workers with a long working period. In addition, previous research on health care workers at Unimus Dental and Oral Hospital which explained that there is a relationship between length of service and awareness of physical hazards. (Prasetio et al., 2023). New working period workers are not too demanding to work compared to old workers. Whereas long-term workers have a great responsibility, because most long-term workers carry out activities with the same work demands over many years, interacting with colleagues and work leaders.

4. Relationship between Unit Section and Psychosocial Hazard Awareness

Meanwhile, the unit section factor is not related to the awareness of psychosocial factors, because healthcare workers and non-healthcare workers at Unimus Dental and Oral Hospital have different work demands, but each has a big role, because they work in a hospital that has 24-hour operational hours by providing services that always interact with humans. The work unit in the hospital mostly works in groups, so it is not a single work that shows a high psychosocial awareness factor, so that it can have colleagues to discuss with each other. A possible risk of poor physical and psychosocial health is a lone worker (Asante et al., 2019).

The work unit in this study consists of health workers, which includes medical

services and medical support, as well as non-health workers from the management department. The results of the analysis showed that there was no significant relationship between the work unit and the level of awareness of psychosocial hazards in the workplace. Although health workers had a good level of knowledge, the non-health group actually showed a slightly higher percentage of knowledge. These findings indicate that the work unit is not a major determining factor in forming awareness of psychosocial harm. Previous studies have suggested that awareness of psychosocial hazards can be improved with training and involvement in occupational health promotion programs (44,45). Other studies have also confirmed that workplace mental health training is effective in increasing awareness of psychosocial risks, regardless of the type of work unit (46).

5. Relationship between Education Level and Psychosocial Hazard Awareness

The results of this study show that education level is related to psychosocial awareness. It is true that individuals with higher education have wider access to information and better health literacy, making it easier to understand psychosocial risks. They are also better able to recognize symptoms of stress and know preventive measures, such as time management and effective communication. Therefore, the higher the education, the better the awareness and concern for psychosocial dangers to maintain mental health in the workplace. In line with previous research that states that some occupational hazards result from a lack of awareness and education. Adequate knowledge and on-the-job training can help reduce psychological risk (Ahmed Raslan et al., 2022).

6. Relationship between Marital Status and Psychosocial Hazard Awareness

The marital status shown in Table 3 shows a relationship with the level of

awareness of psychosocial hazards in the workplace. Married subjects had a higher level of consciousness compared to unmarried subjects. This condition is likely due to family responsibilities as well as the need to maintain emotional and physical stability, which encourages married individuals to be more aware of psychosocial risks in the work environment. In contrast, unmarried individuals may not yet feel similar pressures or responsibilities, so their level of alertness to psychosocial dangers tends to be lower (Hsu and Barrett, 2020; Mishra et al., 2024). Based on the limitations that have been identified, further research is recommended to use a longitudinal design to explore the cause-and-effect relationship between individual characteristics and awareness of psychosocial hazards in the workplace.

It is also necessary to diversify institutions by involving several hospitals, so that the results of the research can be generalized to the workforce in various health service environments. In addition, efforts to incorporate qualitative data collection methods, such as in-depth interviews, can provide deeper insights into psychosocial factors that may not be captured through self-reported questionnaires. It is hoped that with this approach, an understanding of the dynamics of awareness of psychosocial hazards and other determinants can be more comprehensive, so as to support the development of more effective and targeted occupational health promotion strategies.

CONCLUSION

The conclusion of this study shows that there is a significant relationship between age, working period, education level, and marital status with the level of awareness of psychosocial hazards in the workplace in the workforce at the Dental and Oral Hospital of the University of

Muhammadiyah Semarang. Individuals who are older, highly educated, married, and have shorter working years tend to have better awareness. In contrast, gender and work unit showed no significant relationship. These findings underscore the importance of considering individual factors in efforts to raise awareness of psychosocial hazards through targeted

occupational health promotion training and programs.

Future research is recommended to use longitudinal designs and involve multiple hospitals to enhance generalizability. Qualitative approaches such as in-depth interviews are also suggested to gain deeper insights into psychosocial factors.

REFERENCES

Adriaenssens, J., Gucht, V. De and Maes, S. (2015) 'Determinants and prevalence of burnout in emergency nurses: A systematic review of 25 years of research', *International Journal of Nursing Studies*, 52(2), pp. 649–661. Available at: <https://doi.org/https://doi.org/10.1016/j.ijnurstu.2014.11.004>.

Ahmed Raslan, M. et al. (2022) 'A Review of Occupational Hazards in Health Sector: Risks and Awareness', *MedPress Public Health and Epidemiolog*, 1(1). Available at: <https://doi.org/10.33582/mpphe.2022.202208008>.

Alosaimi, Fahad D et al. (2018) 'Patterns and determinants of stress among consultant physicians working in Saudi Arabia', *Advances in medical education and practice*, 13(9), pp. 165–174. Available at: <https://doi.org/https://doi.org/10.2147/amep.s155113>.

Alosaimi, Fahad Dakheel et al. (2018) 'Stress and coping among consultant physicians working in Saudi Arabia', *Annals of Saudi Medicine*, 38(3), pp. 214–224. Available at: <https://doi.org/https://doi.org/10.5144/0256-4947.2018.214>.

Aluko, O.O. et al. (2016) 'Knowledge, attitudes and perceptions of occupational hazards and safety practices in Nigerian healthcare workers', *BMC Research Notes*, 9(71). Available at: <https://doi.org/https://doi.org/10.1186/s13104-016-1880-2>.

Amin, N.A. et al. (2018) 'Emotional Distress as a Predictor of Work-Related Musculoskeletal Disorders in Malaysian Nursing Professionals', *The International Journal of Occupational and Environmental Medicine*, 9(2), pp. 69–78. Available at: <https://doi.org/https://doi.org/10.15171/ijoem.2018.1158>.

Asante, J.O. et al. (2019) 'The relationship between psychosocial risk factors, burnout and quality of life among primary healthcare workers in rural Guangdong province: A cross-sectional study', *BMC Health Services Research*, 19(1), pp. 1–10. Available at: <https://doi.org/10.1186/s12913-019-4278-8>.

Barello, S. et al. (2020) 'The psychosocial impact of flu influenza pandemics on healthcare workers and lessons learnt for the COVID-19 emergency: A rapid review', *International journal of public health*, 65, pp. 1205–1216.

Beier, M.E. et al. (2022) 'What's age got to do with it? A primer and review of the workplace aging literature', *Personnel Psychology*, (August), pp.

779–804. Available at: <https://doi.org/10.1111/peps.12544>.

Blanco-Donoso, L.M. et al. (2020) 'Occupational psychosocial risks of health professionals in the face of the crisis produced by the COVID-19: From the identification of these risks to immediate action', *International Journal of Nursing Studies Advances*, 2.

Canavate, G., Meneghel, I. and Salanova, M. (2023) 'The Influence of Psychosocial Factors according to Gender and Age in Hospital Care Workers', *Spanish Journal of Psychology*, 26(7), pp. 1–11. Available at: <https://doi.org/10.1017/SJP.2023.1>.

Cardoza, W. et al. (2023) 'Work psychosocial factors and stress in medical staff in the epidemiology area of a public institution', *Rehabilitación Interdisciplinaria*, 3(0).

Chan, C.M.H. et al. (2020) 'Psychological and work-related factors predicting work engagement in Malaysian employees', *Occupational Medicine*, 70(6), pp. 400–406. Available at: <https://doi.org/https://doi.org/10.1093/occmed/kqaa107>.

Delp, L. et al. (2010) 'Job stress and job satisfaction: Home care workers in a consumer-directed model of care', *Health services research*, 45, pp. 922–940.

Dimoff, J.K. and Kelloway, E.K. (2019) 'With a little help from my boss: The impact of workplace mental health training on leader behaviors and employee resource utilization', *Journal of Occupational Health Psychology*, 24(1), pp. 4–19. Available at: <https://doi.org/https://doi.org/10.1037/00000126>.

Ebtisam Eid Zidan , Fatma Gouda Metwally , Nora Mahdy Attia (2025) 'Effect of Training Program about Occupational Health Hazards on Nurses' practice', *Cuestiones de Fisioterapia*, 54(2), pp. 4907–4923. Available at: <https://doi.org/10.48047/n40w5m23>.

EIGE, E.I. for G.E. (2020) 'Gender Equality and Long-term Care at Home'. Luxembourg: Publications Office of the European Union.

EU-OSHA (no date) 'Psychosocial Risks and Stress at Work'.

EU-OSHA, E.A. for S. and H. at W. (2014) 'Current and Emerging Issues in the Healthcare Sector, including Home and Community Care; European Risk Observatory Report; Publications Office of the European Union: Luxembourg'.

Eurofound (2015) 'Violence and Harassment in European Workplaces: Causes, Impacts and Policies'. Dublin, Ireland: Eurofound.

Eurofound (2019) 'Working Conditions and Workers' Health; Publications Office of the European Union: Luxembourg'.

Eurofound (2020) 'Working Conditions in Sectors'. Luxembourg: Publications Office of the European Union.

Eurofound (no date) 'Psychosocial Risks'.

Faris, S.H. et al. (2018) 'Knowledge, attitude and practice of occupational hazard among nursing staff at teaching hospitals in Kerbala City, South-Central Iraq', *Indian Journal of Public Health Research & Development*, 9(8), p. 1147. Available at: <https://doi.org/http://dx.doi.org/10.5958/0976-5506.2018.00956.7>.

Ferri, P. et al. (2016) 'The impact of shift work on the psychological and physical health of nurses in a general hospital: A comparison between rotating night shifts and day shifts', *Risk Management and Healthcare Policy*, 9, pp. 203–211. Available at: <https://doi.org/https://doi.org/10.2147/RMHP.S115326>.

Franklin, P. and Gkiouleka, A. (2021) 'A Scoping Review of Psychosocial

Risks to Health Workers during the Covid-19 Pandemic', *International Journal of Environmental Research and Public Health*, 18(5), p. 2453. Available at: <https://doi.org/https://doi.org/10.3390/ijerph18052453>.

González, A.C. and Cutiva, L.C.C. (2023) 'Workplace health promotion programs among health workers: a systematic literature review', *Revista Facultad Nacional de Salud Pública*, 41(3). Available at: <https://doi.org/10.17533/udea.rfnsp.e352614>.

Guglielmi, D. *et al.* (2016) 'Positive Aging in Demanding Workplaces: The Gain Cycle between Job Satisfaction and Work Engagement', *Frontiers in Psychology*, 7. Available at: <https://doi.org/10.3389/fpsyg.2016.01224>.

Hisam, A. *et al.* (2022) 'Biological, Physical, Ergonomic, Chemical and Psychological Hazard Awareness among Health care and Non-Healthcare Workers', *Pakistan Armed Forces Medical Journal*, 72, pp. S908–S913. Available at: https://doi.org/10.51253/pafmj.v72iS_UPPL-4.9835.

Hsu, T.L. and Barrett, A.E. (2020) 'The Association between Marital Status and Psychological Well-being: Variation across Negative and Positive Dimensions', *Journal of Family Issues*, 41(11), pp. 2179–2202. Available at: <https://doi.org/10.1177/0192513X20910184>.

Hupke, M., Van den Broek, K. and Kudasz, F. (2020) 'Psychosocial Risks and Workers Health', *OSH Wiki* [Preprint].

Ilić, I. *et al.* (2017) 'Relationships of work-related psychosocial risks, stress, individual factors and burnout – Questionnaire survey among emergency physicians and nurses', *Medycyna Pracy* [Preprint]. Available at: <https://doi.org/10.13075/mp.5893.00516>.

Jain, A. *et al.* (2021) 'The role of occupational health services in psychosocial risk management and the promotion of mental health and well-being at work', *International Journal of Environmental Research and Public Health*, 18(7). Available at: <https://doi.org/10.3390/ijerph18073632>.

Jansson, I. and Gunnarsson, A.B. (2018) 'Employers' views of the impact of mental health problems on the ability to work', *Work (Reading, Mass.)*, 59(4), pp. 585–598. Available at: <https://doi.org/https://doi.org/10.3233/wor-182700>.

Leyva-Vela, B. *et al.* (2018) 'Psychosocial and physiological risks of shift work in nurses: A cross-sectional study', *Central European Journal of Public Health*, 26, pp. 183–189. Available at: <https://doi.org/https://doi.org/10.21101/cejph>.

Lin, S. *et al.* (2014) 'The impact of shift work on nurses' job stress, sleep quality and self-perceived health status', *Journal of Nursing Management*, 22, pp. 604–612.

Martínez, M.M. *et al.* (2022) 'Health outcomes and psychosocial risk exposures among healthcare workers during the first wave of the COVID-19 outbreak', *Safety Science*, 145, p. 05499. Available at: <https://doi.org/https://doi.org/10.1016/j.ssci.2021.105499>.

Michel, J.-P. and Ecarnot, F. (2020) 'The shortage of skilled workers in Europe: Its impact on geriatric medicine', *European geriatric medicine*, 11, pp. 345–347.

Mishra, R. *et al.* (2024) 'Exploring the Impact of Marital Status and

Workplace Environment on Mental Health among Employees in Service-Based Industries', *AgBioForum*, 26(2), pp. 159–167.

Prasetyo, D.B. *et al.* (2023) 'Awareness among Healthcare Workers regarding Physical Hazards in Dental and Oral Hospitals of Semarang, Indonesia', *The Open Public Health Journal*, 16(1), pp. 1–13. Available at: <https://doi.org/10.2174/0118749445248110230921073329>.

Ruotsalainen, S., Jantunen, S. and Sinervo, T. (2020) 'Which factors are related to Finnish home care workers' job satisfaction, stress, psychological distress and perceived quality of care?—A mixed method study', *BMC Health Services Research*, 20.

Scozzafave, M.C.S. *et al.* (2019) 'Psychosocial risks related to the nurse in the psychiatric hospital and management strategies', *Revista Brasileira de Enfermagem*, 72, pp. 834–840.

Tecco, C. Di *et al.* (2020) 'Improving Working Conditions and Job Satisfaction in Healthcare: A Study Concept Design on a Participatory Organizational Level Intervention in Psychosocial Risks Management', *International journal of environmental research and public health*, 17(10). Available at: <https://doi.org/https://doi.org/10.3390/ijerph17103677>.

Vento, S., Cainelli, F. and Vallone, A. (2020) 'Violence against Healthcare Workers: A Worldwide Phenomenon with Serious Consequences', *Frontiers in public health*, 8, p. 570459.

Wagner, A. *et al.* (2019) 'Healthcare professionals' perspectives on working conditions, leadership, and safety climate: A cross-sectional study', *BMC health services research*, 19(53).

Wee, L.H. *et al.* (2019) 'Anteceding factors predicting absenteeism and presenteeism in urban area in Malaysia', *BMC Public Health*, 19(Suppl 4), pp. 1–12. Available at: <https://doi.org/https://doi.org/10.1186/s12889-019-6860-8>.

WHO (2020) 'State of the World's Nursing 2020: Investing in Education, Jobs and Leadership; Licence: CC BY-NC-SA 3.0 IGO'. Geneva, Switzerland: World Health Organization.

Zamri, E.N., Moy, F.M. and Hoe, V.C.W. (2017) 'Association of Psychological Distress and Work Psychosocial Factors with Self-Reported Musculoskeletal Pain Among Secondary School Teachers in Malaysia', *PLoS ONE*, 12(2), p. e0172195. Available at: <https://doi.org/https://doi.org/10.1371/journal.pone.0172195>.

Zoeckler, J.. (2018) 'Occupational Stress among Home Healthcare Workers: Integrating Worker and Agency-Level Factors', *NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy*, 27, pp. 524–542.