

PRECEDE Analysis: Application of GERMAS in the Workplace

Rina Tri Agustini¹, Lies Permana¹ and Nur Wahyidillah²

¹Faculty of Public Health, Mulawarman University, Sambaliung Street, Samarinda City, Indonesia

²Faculty of Public Health, Hasanuddin University, Perintis Kemerdekaan Street, Makassar City, Indonesia

Keywords: GERMAS, PRECEDE Model, Workplace.

Abstract: The workplace is one of the locations to implement the healthy living community movement (GERMAS). Central Mamuju District Health Office is a health sector institution and has a cross-sectoral function in involving other institutions in the successful implementation of GERMAS. This study has aimed to analyse the application of the GERMAS-based PRECEDE model. This was a descriptive qualitative study involving a case study approach in Mamuju District Health Office related to GERMAS implementation. Data was collected with problem identification through in-depth interviews with section representatives and observation. Data analysis has used components in the PRECEDE model. The main findings of this study are reviewing: (1) Social Diagnosis: workplace facilities and worker interaction; (2) Epidemiological Diagnosis: physical activities and mortality rates due to non-infectious diseases; (3) Behavioural and Environmental Diagnosis: risk behaviour, preventive and treatment behaviour, risk environment; (4) Educational and Ecological Diagnosis: predisposing, reinforcing, and enabling factors; (5) Administration and Policy Diagnosis: regulations on GERMAS in the workplace. The follow-up plan is planning GERMAS optimisation such as making a Stretching Tutorial Video for employees and Printed Media (Flyer). Need to increase physical activity, healthy canteen, arrangement of working tables and chairs, and optimisation of media about GERMAS.

1 INTRODUCTION

The Healthy Living Community Movement (GERMAS) by the Ministry of Health is an effort to prevent and decrease health problems and mortality rates. The government reduced the number of infectious and non-communicable diseases through Presidential Instruction Number 01 of 2017 about GERMAS. There was still a need to increase public awareness of a healthy lifestyle, many people who have risk factors, and a lack of information related to GERMAS.

There was still low cross-sectoral support and motivation for health promotion especially for GERMAS (Yarmaliza & Zakiyyudin, 2019). The results of the program evaluation of GERMAS conducted in Bengkulu City were needed to increase the implementation program of GERMAS which can be supported by the government, especially in providing affordable health checks (Utama, Himalaya, & Rahmawati).

The workplace is one of the locations to implement GERMAS. The relevant government and company management can provide socialisation of the implementation program of GERMAS, especially

in the workplace, so it can increase healthy workers' productivity (Juhanto, Genisa, & Idris, 2021). *Because refer to a past study, there was a relationship between GERMAS behaviour and the occurrence of hypertension at 20-60 years old in the working area of the Pahandut Public Health Center, Palangka Raya City (Rahmadita et al., 2023).*

Government institutions including the Health Office have a duty to monitor the success of the GERMAS program in the community through the percentage of morbidity and mortality rates (Pangalila, Kaawoan, and Kumayas, 2019). Central Mamuju District Health Office is a health sector institution that has a cross-sectoral function involving other institutions and is expected to be an example in the GERMAS implementation.

The PRECEDE PROCEED model provides a framework for planning health interventions, especially in screening contexts. Given the complexity of the behaviour change process, several important prognostic factors could be measured in future research and health intervention planning (Saulle et al., 2020). Besides, the implementation theory of the PRECEDE-PROCEED model is

the most commonly used system/population-level theory (Allen et al., 2019).

Therefore, it was necessary to conduct a study related to the GERMAS implementation in the Central Mamuju District Health Office based on the PRECEDE Model. So, this study aimed to analyze the application of the GERMAS-based PRECEDE model.

2 SUBJECTS AND METHODS

This was a descriptive qualitative study with a case study approach in the Central Mamuju District Health Office. Data was collected by in-depth interviews with representatives from the fields of Environmental Health, Occupational Health and Sport, and Health Promotion. In addition, observations were made in the office environment which is also a triangulation method as scientific rigour of this study.

This study used the PRECEDE model which focuses on factor analysis of health problems to identify the GERMAS implementation. There are 5 phases which we can refer to below.

- a. Social Diagnosis
- b. Epidemiological Diagnosis
- c. Behavioural and Environmental Diagnosis
- d. Educational and Ecological Diagnosis
- e. Administration and Policy Diagnosis

3 RESULTS

Here are the details of the results of this study which are presented in 5 stages in the PRECEDE model.

3.1 Social Diagnosis: Workplace Facilities and Worker Interaction

- a. Narrow workspace (Crowding)
- b. Irregular table (Aesthetics)
- c. Work Duration 8 hours sometimes more in a day (Absenteeism / Attendance)
- d. Interaction between employees is well established (Happiness)
- e. Employees need to stretch but there is no one to guide them because the stretching reminder and media do not exist (Welfare)
- f. Employees choose to order food or snacks outside more often because there is no healthy canteen in the office (Votes)

3.2 Epidemiological Diagnosis: Physical Activities and non-Infectious Diseases

- a. During the pandemic never do fitness gymnastics (Fitness)
- b. The NCD rates are high in Central Mamuju District (Hypertension)

3.3 Behavioural and Environmental Diagnosis: Risk Behaviour, Preventive and Treatment Behaviour, Risk Environment

- a. Here are the factors from behaviour and non-behaviour aspects that cause health problems in the employees.

Table 1: Behavioral and non-behavioral factors that cause health problems.

Cause of Health Problems	Risk Factors
Obesity	Lack of exercise, eating fatty foods, not consuming vegetables and fruits
Hypertension	Consuming excess salt, less physical activity, smoking
Musculoskeletal	Work attitudes such as the back being too bent, the neck being too tense when typing on the computer, sitting in front of the computer for 8-10 hours every day
Information Media	Lack of information media about physical activity and stretching at work
Workplace Condition	Workspaces that have air conditioning (AC) can reduce worker agility, sensitivity and strength.
The Role of People Around	Lack of attention from the manager to invite employees to do physical activities, especially stretching.

- b. On the below are the preventive and treatment behaviours for the health problems experienced by the employees.

Table 2: The preventive and treatment behaviour of the health problems.

Preventive Behavior	Treatment Behavior
Do not buy food/snacks outside carelessly.	Quit smoking (or don't start)
Start getting used to eating healthy (bringing fruits and vegetables)	Reduce Salt, Sugar, Fat

Preventive Behavior	Treatment Behavior
Increase awareness of the importance of physical activity	Routine Employee Health Check
Create health promotion media.	Routinely do gymnastics and stretching at work

- c. Sort behavioural and environmental problems based on their influence on health is presented in the following table.

Table 3: The behavioural and environmental problems based on their influence on health.

Behaviour	Environment
Important: <ul style="list-style-type: none"> • Healthy eating • Routinely do gymnastics and stretching at work • Weak immune system 	Important: <ul style="list-style-type: none"> • Healthy Canteen • Health Promotion Media
Less Important: Buy food outside carelessly	Less Important: Tidying up the workspace

- d. The below are behavioural and environmental issues based on the likelihood of change.

Table 4: Matrix based on urgency and ease of change.

Behaviour	Important	Less Important
Easy to change	Initiation of stretching at work	Tidying up the workspace
Difficult to change	Increase awareness of physical activities	Start getting used to eating healthy foods

3.4 Educational and Ecological Diagnosis: Predisposing, Reinforcing, and Enabling Factors

- Predisposing Factors:** The knowledge of Mamuju Tengah District Health Office employees towards the GERMAS program is very good and several GERMAS programs have been implemented but awareness to carry out some indicators is still lacking.
- Reinforcing Factors:** lack of motivation from the manager to invite employees to do physical activities such as gymnastics and stretching at work and consume healthy foods.
- Enabling Factors:** lack of health media to improve and always remind employees of the importance of doing physical activities such as gymnastics and stretching at work and eating healthy foods.

3.5 Administration and Policy Diagnosis: Regulations on GERMAS in the Workplace

- Presidential Instruction Number 1 of 2017 about GERMAS
- Letter Rules of the Central Mamuju Regency No. 0095/2932/VI/2019 concerning GERMAS within the Central Mamuju Regency Government.

4 CONCLUSIONS

Workplaces include the office as a potential institution to increase the prevention and control drills efforts like in the Pandemic Covid-19. The workplace can support community campaigns, raise scientific knowledge, and encourage individual self-protective behaviours among the employees and people around them (Xie et al., 2020).

Based on previous studies employees' perception of the workplace and the right workplace for their work is influenced by the type of office the employee has and the time the employee spends each week. There may also be an effect of age or ethnicity (Boge et al. 2019). The workplace environment increases productivity. Therefore, workplace design should include natural internal and external conflicts such as worktime stress to maximise employee impact and achieve integrated sustainable productivity (Sadick & Kamardeen, 2020).

Institutions including health offices should be able to inform promptly about the current epidemiological situation that can be obtained from routine health checks of employers related to early vigilance and reduced risk of non-communicable diseases (Apshay, 2021). Health checks which facilitated by the workplace may reduce health disparities because workers with less education are more likely to use them than workers with higher education (Anne et al., 2020).

Important considerations in the workplace are the safety of others, overtime work, irregular shifts, and lack of employee rest. In addition to occupational factors the health of workers is also determined by lifestyle factors such as smoking which plays a major role in creating a high risk of hypertension in risk assessment. So, the commitment that must be made by workers is to maintain a healthy lifestyle and routine medical checks (Burt, 2020).

A study conducted on office workers in Jakarta found that 59% had insufficient physical activity. Health interventions and promotions aimed at reducing perceived barriers increasing perceived benefits of physical activity and supporting physical activity among employees should be increased (Abadini & Wuryaningsih, 2019).

A primary goal of integrated workplace programming is to design complementary behavioural and environmental interventions that have a synergistic effect on workplace health issues (David&David, 1999). Occupational safety and health (OSH) research also can be done to create suitable training for employees based on their occupation's characteristics (Quandt & Arcury, 2017).

5 CONCLUSIONS

The institution needs to increase:

- a. physical activity for workers (periodic stretching)
- b. healthy canteen initiation
- c. arrangement of working tables and chairs
- d. optimisation of health promotion media about GERMAS.

The follow-up plan as a recommendation for the institution is planning GERMAS optimisation such as making Stretching Tutorial Videos for employees and Printed Media (Flyer) for health education.

ACKNOWLEDGEMENTS

We give the acknowledgement to the Faculty of Public Health that facilitated this study and Central Mamuju District Health Office as the study location.

REFERENCES

Abadini, D., & Wuryaningsih, C. E. (2019). Determinan Aktivitas Fisik Orang Dewasa Pekerja Kantoran di Jakarta Tahun 2018. *Jurnal Promosi Kesehatan Indonesia*, 14(1), 15-28. <https://doi.org/10.14710/jpki.14.1.15-28>

Allen, C. G., Barbero, C., Shantharam, S., & Moeti, R. (2019). Is Theory Guiding Our Work? A Scoping Review on the Use of Implementation Theories, Frameworks, and Models to Bring Community Health Workers into Health Care Settings. *Journal of public*

health management and practice: JPHMP, 25(6), 571–580. <https://doi.org/10.1097/PHH.0000000000000846>

Anne C. van der Put, Jornt J. Mandemakers, John B.F. de Wit,& Tanja van der Lippe. (2020). Worksite health promotion and social inequalities in health. *SSM - Population Health*, Vol. 10. 100543, ISSN 2352-8273, <https://doi.org/10.1016/j.ssmph.2020.100543>.

Aphsay, Vera. (2021). Group Work as a Means of Increasing the Effectiveness of Training for Medical Students. *ZESZYTY NAUKOWE WSA w Łomży* 83, s. 120-135.

Boge, K., Temeljorov Salaj, A., Bakken, I., Granli, M. and Mandrup, S. (2019), "Knowledge workers deserve differentiated offices and workplace facilities", *Facilities*, Vol. 37 No. 1/2, pp. 38-60. <https://doi.org/10.1108/F-01-2018-0002>

Burt, A. (2020). Occupational Risk Factors For Correctional Workers In The Volga Federal District. In I. V. Kovalev, A. A. Voroshilova, G. Herwig, U. Umbetov, A. S. Budagov, & Y. Y. Bocharova (Eds.), *Economic and Social Trends for Sustainability of Modern Society (ICEST 2020)*, vol 90. European Proceedings of Social and Behavioural Sciences (pp. 1620-1628). European Publisher. <https://doi.org/10.15405/epsbs.2020.10.03.186>

David M. Dejoy, & David J. Southern. (1999). An Integrative Perspective on Worksite Health Promotion. *Directions in Person-Environment Research and Practice (Routledge Revivals)* (1st Eds).Routledge.e-ISBN: 9781315542553

Glanz, K., Rimer, B. K., & Viswanath, K. (2008). *Health behaviour and health education: Theory, research, and practice* (4th ed.). Jossey-Bass.

Juhanto A., Genisa, J., & Idris, A. A. (2021). {rogram Gerakan Masyarakat Hidup Sehat (GERMAS) terhadap Peningkatan Motivasi Kerja pada Karyawan PT. Maruki Internasional Indonesia Makassar. *Jurnal Kesehatan Masyarakat dan Lingkungan Hidup*, 6(2), 75-82. <https://doi.org/10.51544/jkmlh.v6i2.2151>

Pangalila, Y., Kaawoan, J., & Kumayas, N. (2019). Implementasi Kebijakan Program Gerakan Masyarakat Hidup Sehat di Kota Tomohon. *JURNAL EKSEKUTIF*, 3(3). Retrieved from <https://ejournal.unsrat.ac.id/v3/index.php/jurnaleksektif/article/view/23872>

Quandt, S. A., & Arcury, T. A. (2017). Developing occupational safety and health training programs for immigrant workers: Translating research to practice. In F. T. Leong, D. E. Eggerth, C.-H. (D.) Chang, M. A. Flynn, J. K. Ford, & R. O. Martinez (Eds.), *Occupational health disparities: Improving the well-being of ethnic and racial minority workers* (pp. 161–180). American Psychological Association. <https://doi.org/10.1037/0000021-008>

Rahmadita, A., Alexandra, F. D., Ratnasari, A., Widodo, T., & Arifin, S. (2023). The relationship between the Healthy Living Community Movement (GERMAS) and the occurrence of hypertension at the age of 20-60 years in the Pahandut Public Health Center Palangka Raya. *Barigas: Jurnal Riset Mahasiswa*, 1(1).

Retrieved from <https://e-journal.upr.ac.id/index.php/medica/article/view/7883>

- Sadick, Abdul-Manan, & Kamardeen, Imriyas. (2020). Enhancing employees' performance and well-being with nature exposure embedded office workplace design. *Journal of Building Engineering*, Vol. 32. 101789. ISSN 2352-7102. <https://doi.org/10.1016/j.jobbe.2020.101789>.
- Saulle, R., Sinopoli, A., De Paula Baer, A., Mannocci, A., Marino, M., de Belvis, A. G., Federici, A., & La Torre. (2020). The PRECEDE-PROCEED model as a tool in Public Health screening: a systematic review. *La Clinica Terapeutica*, 171 (2). 10.7417/CT.2020.2208
- Utama, T., Himalaya, D., & Rahmawati, S. (2020). Evaluasi Penerapan Program Gerakan Masyarakat Hidup Sehat (GERMAS) di Kota Bengkulu. *Journal of Nursing and Public Health*, 8(2), 91-99. <https://doi.org/10.37676/jnph.v8i2.1204>
- Xie, K., Liang, B., Dulebenets, M. A., & Mei, Y. (2020). The Impact of Risk Perception on Social Distancing during the COVID-19 Pandemic in China. *International Journal of Environmental Research and Public Health*, 17(17), 6256. <https://doi.org/10.3390/ijerph17176256>
- Yarmaliza, Yarmaliza, and Zakiyuddin Zakiyuddin. (2019). "Pencegahan Dini Terhadap Penyakit Tidak Menular (Ptm) Melalui GERMAS." *Jurnal Pengabdian Masyarakat Multidisiplin*, vol. 2, no. 3, 16 Jun. pp. 93-100, doi:10.36341/jpm.v2i3.794

SCITEPRESS
SCIENCE AND TECHNOLOGY PUBLICATIONS