



THE EFFECT OF 'ONE FOUR' ON THE KNOWLEDGE AND ATTITUDES OF WOMEN OF RELIGIOUS AGE IN CONTROL OF NON-COMMUNICABLE DISEASES (NCDs)

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ABSTRACT

Non-Communicable Diseases (NCDs) are the cause of death with the largest percentage in various countries, globally reaching 71% of deaths, where 77% of NCD deaths occur in lower-middle income countries. More than 15 million people per year experience premature death (80%) caused by heart and blood vessel disease, cancer, respiratory disease, and diabetes. The high incidence and mortality due to NCDs make it important to control them. NCDs have a detrimental impact on society, especially on Women of Reproductive Age (WUS). NCD control is carried out as a form of empowering women to be better able to maintain their health and protect themselves from NCDs. Prevention can be done to avoid risk factors through healthy behavior practices. One of these controls is the implementation of a mentoring service model which is expected to help change knowledge, attitudes, behavior and reduce the incidence of NCDs through the formation of quality and professional groups produced by quality health institutions. In the group there are companions who contribute to providing information support assistance to WUS according to their needs regarding NCDs. Efforts to overcome NCDs in the community are in the form of "ONE-FOUR". The program includes 4 elements, namely lecturers, students, cadres, and midwives to assist Women of Reproductive Age. This study aims to analyze the effect of the ONE FOUR programs on increasing knowledge and attitudes of Women of Reproductive Age about PTM. The research method used is a *quasi-experiment with a pre & posttest design*. Data analysis using the previous *paired t test Shapiro Wilk* data normality test was conducted. The sample used was 20 Women of Reproductive Age. Conclusion: the knowledge score test value Sig. (2-tailed) 0.000 <0.05. In the Attitude test value Sig. (2-tailed) 0.000 <0.05 it can be concluded that the application of the ONE-FOUR method in Women of Reproductive Age is effective in increasing knowledge and attitudes about NCDs.

Keywords: Attitude; Knowledge; Non-communicable Diseases; Women of Reproductive Age

Introduction (Introduction)

Non-communicable diseases (NCDs) are one of the greatest global health and development challenges of our time.¹ They are responsible for an estimated 41 million deaths each year globally, of which 17 million are considered premature deaths, affecting individuals aged between 30 and 69 years.^{2,3} NCDs are also responsible for two-thirds of all disability-adjusted life years, globally.^{4,5} The burden of NCDs falls disproportionately on the most vulnerable population groups. According to WHO, 77% of all NCD deaths and 85% of premature deaths occur in low- and middle-income countries.⁶

A major challenge in the prevention and control of NCDs is the fact that the main drivers and risk factors—including poverty, air pollution, physical inactivity, and the marketing and sale of tobacco, alcohol, and processed foods—are all outside the scope of control of government health departments or national health systems.^{7,8} Responsibility for addressing these underlying determinants lies across multiple government sectors and departments, such as education, labor, transport, trade, finance, environment, agriculture, and manufacturing.⁹ The growing global burden of NCDs forces policymakers to engage and work across these non-health sectors.¹⁰

The Sustainable Development Goals (SDGs) present an inherently multisectoral approach to sustainable development.¹¹ Achieving SDG target 3.4 on NCDs and mental health by 2030 requires multisectoral and multi stakeholder engagement, greater policy coherence, coordination and collaboration across government departments and the wider society. More explicitly, SDG Target 17.6 calls for global multi stakeholder partnerships to support sustainable development.¹² To include the private sector, SDG 17.17 encourages the promotion of effective public, public-private and civil society partnerships, and SDG 17.14 highlights the importance of enhancing policy coherence across government sectors.¹¹

Non-communicable diseases in women have major implications. Various complications during pregnancy, childbirth, and postpartum in mothers with NCDs trigger increasing mortality and morbidity in mothers and children.¹² This shows the need to initiate a program that integrates various parties in efforts to overcome NCDs in the community in the form of "ONE-FOUR". This program is called "ONE-FOUR" because it combines the roles of 4 elements, namely lecturers, students, cadres, and midwives to accompany mothers or women of reproductive age with NCDs. With intensive assistance from these various components, it is hoped that it can reduce NCD complications which ultimately have an impact on reducing maternal and child mortality.

This study aims to determine the effect of the ONE FOUR programs on improving the knowledge and attitudes of Women of Reproductive Age about NCDs.

Methods (Research methods)

The research method used is a *quasi-experiment with a pre & posttest design*. Data analysis using the previous *paired t test Shapiro Wilk* data normality test was performed. The software used in analyzing SPSS data. Sampling of 20 respondents was carried out using *purposive sampling technique* for approximately 3 months, before the study, the author obtained ethical permission at Poltekkes Kemenkes Semarang. The instrument in this study used a questionnaire to assess the knowledge and attitudes of respondents.

Results and Discussion (Results and Discussion)

The research activity began by creating groups first. The groups consisted of 5 groups/classes, each class consisting of 4 WUS accompanied by 1 lecturer, 1 student and 1 cadre with a total number of respondents of 20 respondents. The success rate of this research is supported by other research that increased knowledge, attitudes, and behavior in the target group of activities after being assisted by the facilitator

Table 4.a Distribution of respondents by age, education and occupation

Variables	Frequency	%
Age		
< 20 Years	1	5 %
20-35 Years	17	85%
>35 years	2	10%
Total	20	100%
Education		
Junior High School	3	15%
Senior High School	15	75%
Diploma/ Bachelor Degree	2	10%
Total	20	100%
Work		
Work	3	15%
Does not work	17	85%
Total	20	100%

Source: Primary Data (2023)

Based on table 4.a, it is known that most of the participants' education level is high school, which is 15 respondents (75%), productive age (20-35 years) which is 17 respondents (85%) and unemployed, which is 2 people (10%). The average score of knowledge and attitude levels before and after mentoring can be seen in table 4.2 below.

Table 4.b Average score of respondents' knowledge and attitude levels

Variables	Pretest average	Posttest average
Knowledge	52.62	89.69
Attitude	31.50	79.81

Source: Primary Data 2023

Based on table 4.b, it is known that the average score of the participants' knowledge level before being given assistance was 52.62 and after being given assistance, the average was 89.69. The average score of the participants' attitudes before being given assistance was 31.50 and after being given assistance, the average was 79.81. Before the paired t-test was conducted, a data normality test was conducted using *Shapiro Wilk*. The results of the data normality test using Shapiro Wilk, the knowledge pretest score was 0.710 (>0.05) and the knowledge posttest score was 0.169 (>0.05), which means that the data was normally distributed. The results of the data

normality test using *Shapiro Wilk*, the attitude pretest score was 0.271 (>0.05) and the attitude posttest score was 0.716 (>0.05), which means that the data was normally distributed. The data analysis test of the knowledge and attitude levels using the paired t-test can be seen in table 4.3 below.

Table 4.c Paired t-test of knowledge and attitude levels

		Paired Differences					t	df	Sig.(2-tailed)
variable	95% CI								
	Mean	Std Dev	Std. Error Mean	Lower	Upper				
Level of Knowledge									
Pretest	-	13,974	2,741	-	-	-	20	.000	
Posttest	21,077								
Attitude									
Pretest	-	14,683	2,880	-	-	-	20	.000	
Posttest	28,308								

Source: SPSS

Std Dev: standard deviation

t: t count

Df : degrees of freedom

Based on table 4.3, it is known that the results of the knowledge score test show a Sig. (2-tailed) value of 0.000 <0.05, so there is a significant difference between the level of knowledge in the pretest and posttest data, which means that there is an influence of One Group, One Student, One Lecture, and One Caregiver on WUS knowledge in controlling PTM. In the Attitude test, the Sig. (2-tailed) value of 0.000 <0.05, so there is a significant difference between the pretest and posttest data, which means that there is an influence of One Group, One Student, One Lecture, and One Caregiver on WUS attitudes in controlling PTM.

Conclusion (Conclusion)

Based on the research results and discussions that have been presented above, the author can conclude that the Implementation of ONE-FOUR in women of childbearing/reproductive age is effective in increasing knowledge and attitudes about Non-Communicable Diseases. The knowledge score test value Sig. (2-tailed) 0.000 <0.05. In the Attitude test value Sig. (2-tailed) 0.000 <0.05.

Strengthening and development of the program is very possible for faster and more focused control of Non-Communicable Diseases. This program has a high potential for sustainability in other similar environments because it is very compatible with the conditions and awareness of Non-Communicable Diseases in the group of Women of Reproductive Age.

References (Bibliography)

1. Saad RK, Alsouri R, Kruse MH, Kufoor L, Lobanov-Rostovsky S, Richter P, et al. Addressing emerging public health threats: the Noncommunicable Disease Capacity Assessment and Planning (N-CAP) Process. *Front Public Heal*. 2024;12(June):1–9.
2. Xue L, Cai M, Liu Q, Ying X, Wu S. Trends and regional variations in chronic diseases and their risk factors in China: an observational study based on National Health Service Surveys. *Int J Equity Health* [Internet]. 2023;1–10. Available from: <https://doi.org/10.1186/s12939-023-01910-w>
3. Al-Oraibi A, Hassan O, Chattopadhyay K, Nellums LB. The prevalence of non-communicable diseases among Syrian refugees in Syria's neighboring host countries: a systematic review and meta-analysis. *Public Health* [Internet]. 2022; 205:139–49. Available from: <https://doi.org/10.1016/j.puhe.2022.01.034>
4. Allen LN, Nicholson BD, Yeung BYT, Goiana-da-Silva F. Implementation of non-communicable disease policies: a geopolitical analysis of 151 countries. *Lancet Glob Health* [Internet]. 2020;8(1):e50–8. Available from: [http://dx.doi.org/10.1016/S2214-109X\(19\)30446-2](http://dx.doi.org/10.1016/S2214-109X(19)30446-2)
5. Gelaw YA, Koye DN, Alene KA, Ahmed KY. Socio-demographic correlates of unhealthy lifestyle in Ethiopia: a secondary analysis of a national survey. *BMC Public Health* [Internet]. 2023;1–11. Available from: <https://doi.org/10.1186/s12889-023-16436-7>
6. Nomura S, Sakamoto H, Ghaznavi C, Inoue M. Toward a third term of Health Japan 21 – implications from the rise in non-communicable disease burden and highly preventable risk factors. *Lancet Reg Heal - West Pacific* [Internet]. 2022;21: 100377. Available from: <https://doi.org/10.1016/j.lanwpc.2021.100377>
7. Hopkins KL, Hlongwane KE, Otworld K, Dietrich J, Cheyip M, Olivier J, et al. The substantial burden of non-communicable diseases and HIV-comorbidity among adults: Screening results from an integrated HIV testing services clinic for adults in Soweto, South Africa. *eClinicalMedicine* [Internet]. 2021; 38:101015. Available from: <https://doi.org/10.1016/j.eclinm.2021.101015>
8. Wang D, Dai X, Mishra SR, Lim CCW, Carrillo-Larco RM, Gakidou E, et al. Association between socioeconomic status and health behavior change before and after non-communicable disease diagnoses: a multicohort study. *Lancet Public Health* [Internet]. 2022;7(8): e670–82. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/35907418>
9. Basu S. Non-communicable disease management in vulnerable patients during Covid-19. *Indian J Med Ethics*. 2020;V(2):103–5.
10. Ramani-Chander A, Thrift AG, Van Olmen J, Wouters E, Delobelle P, Vedanthan R, et al. Strengthening policy engagement when scaling up interventions targeting non-communicable diseases: insights from a

- qualitative study across 20 countries. *Health Policy Plan.* 2024;39(Supplement_2): i39–53.
11. Neyazi N, Mosadeghrad AM, Afshari M, Isfahani P, Safi N. Strategies to tackle non-communicable diseases in Afghanistan: A scoping review. *Front Public Heal.* 2023;11.
 12. Olufunke Omotayo, Chinedu Paschal Maduka, Siswazo Muonde, Tolulope O Olorunsogo, Jane Osareme Ogugua. The Rise of Non-Communicable Diseases: a Global Health Review of Challenges and Prevention Strategies. *Int Med Sci Res J.* 2024;4(1):74–88.
 13. Supriyati S, Putra RS, Prabandari YS. Empowering universities through the Health Promoting University program for tackling non-communicable diseases. *J Community Empower Heal.* 2023;5(3):228–34.
 14. Monaco A, Casteig Blanco A, Cobain M, Costa E, Guldemon N, Hancock C, et al. The role of collaborative, multi-stakeholder partnerships in reshaping the health management of patients with noncommunicable diseases during and after the COVID-19 pandemic. *Aging Clin Exp Res* [Internet]. 2021;33(10):2899–907. Available from: <https://doi.org/10.1007/s40520-021-01922-y>
 15. Ndumwa HP, Kessy AT, Amani DE, Kitambala E, Ngowi JE, Kapologwe N, et al. Mitigating the Rising Burden of Non-Communicable Diseases through Locally Generated Evidence-Lessons from Tanzania. *Ann Glob Heal.* 2023;89(1):1–12.
 16. Caperon L, Arakelyan S, Innocenti C, Ager A. Identifying opportunities to engage communities with social mobilization activities to tackle NCDs in El Salvador in the context of the global COVID-19 pandemic. *Int J Equity Health* [Internet]. 2021;20(1):1–13. Available from: <https://doi.org/10.1186/s12939-021-01559-3>
 17. Tagbo SO, Abebe D, Oguoma VM. Overweight and obesity among non-pregnant women of reproductive age in Nigeria: findings from the 2008–2018 Nigerian Demographic and Health Survey. *Public Health* [Internet]. 2021; 198:348–57. Available from: <https://doi.org/10.1016/j.puhe.2021.07.036>
 18. Thandar MM, Kiriya J, Shibamura A, Ong KIC, Tin KN, Win HH, et al. Women's knowledge on common non-communicable diseases and nutritional needs during pregnancy in three townships of Ayeyarwaddy region, Myanmar: A cross-sectional study. *Trop Med Health.* 2019;47(1):1–10.
 19. Parmar PK, Rawashdah F, Al-Ali N, Abu Al Rub R, Fawad M, Al Amire K, et al. Integrating community health volunteers into non-communicable disease management among Syrian refugees in Jordan: A causal loop analysis. *BMJ Open.* 2021;11(4).
 20. Parashar A, Willeboordse M, Gupta AK, van Schayck O (CP). Effect of brief interventions to promote behavior change on clinical outcomes of selected non-communicable diseases - The World Health Organization (WHO) package of essential non-communicable diseases (PEN) interventions for primary health care settings- s. *Contemp Clin Trials* [Internet]. 2022; 113:106675. Available from: <https://doi.org/10.1016/j.cct.2022.106675>
 21. Rahmanida N, Bachtiar A. Interprofessional Collaboration on Non-Communicable Disease Programs (NDP) in Primary Health Services. *Devot J Res Community Serv.* 2022;3(8):707–15.
 22. Win Tin ST, Na'ati E, Kubuabola I, Tekiang T, Ravuvu A. Tackling Diabetes in a Whole of Society Approach: Challenges, progress, and opportunities in the Pacific Island countries. *Med Res Arch.* 2024;12(7):1–4.
 23. Dias S, Gama A, Maia AC, Marques MJ, Campos Fernandes A, Goes AR, et al. Migrant Communities at the Center in Co-design of Health Literacy-Based Innovative Solutions for Non-communicable Diseases Prevention and Risk Reduction: Application of the

- OPTimizing HEalth LIteracy and Access (Ophelia) Process. *Front Public Heal.* 2021;9(May):1–9.
24. Akselrod S, Collins TE, Berlina D, De Pinho Campos K, Fones G, de Sousa Neves D, et al. Multisectoral action to address noncommunicable diseases: lessons from three country case studies. *Front Public Heal.* 2024;12(February):1–9.
 25. Torabi Z. Non-Communicable Diseases Challenges and Opportunities In Iran: A Qualitative Study. 2024;1–23.
 26. World Health Organization. “Best buys” and other recommended interventions for the prevention and control of noncommunicable diseases. *World Health Organs* [Internet]. 2017;17(9):28. Available from: <http://apps.who.int/iris/bitstream/10665/259232/1/WHO-NMH-NVI-17.9-eng.pdf?ua=1>
 27. Cini KI, Wulan NR, Dumuid D, Nurjannah Triputri A, Abbsar I, Li L, et al. Towards responsive policy and actions to address non-communicable disease risks among adolescents in Indonesia: insights from key stakeholders. *Lancet Reg Heal - Southeast Asia* [Internet]. 2023;18(August):100260. Available from: <https://doi.org/10.1016/j.lansea.2023.100260>