

## **EFFECTIVENESS OF DASA WISMA CADRE TRAINING ON THE KNOWLEDGE AND SKILLS OF ACCOMPANYING FAMILIES FOR THE PREVENTION OF CHRONIC KIDNEY DISEASE**

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### **ABSTRACT**

The prevalence of Chronic Kidney Disease in Indonesia increased from 0.2% in 2013 to 0.38% in 2018. The main risk factor for Chronic Kidney Disease is hypertension, which requires long-term treatment in the community. It is hoped that Dasa Wisma as social capital in society can vital role in preventing chronic kidney disease, so training for Dasa Wisma cadres is needed. Objective: To identify the effectiveness of Dasa Wisma cadre training on knowledge and skills in assisting family in the prevention of Chronic Kidney Disease in hypertension patients. Methods :Quasi-experimental research with a pre-post approach without control. Carried out on 25 Dasa Wisma cadres in the Surakarta City Health Service area. Samples were taken using multi-stage random sampling. Data was taken using knowledge tests and mentoring skills checklists. Data analysis used the Wilcoxon test. Results: There is a difference in knowledge scores before training (mean=67.73±12.57; med 50th=66.67) and after training (mean=79.47±14.77; med 50th=80.00), Wilcoxon test results  $z=-2.97$ ;  $p=0.003$  and mentoring skills value before training (mean=91.73±12.36; med 50th=100) and after training (mean=97.87±4.60; med 50th=100), Wilcoxon test results  $z=-2.26$ ;  $p=0.024$ . Conclusions: Cadre Training effective to increase cadres' knowledge and skills in providing assistance to prevent chronic kidney disease.

Keywords: chronic kidney disease; dasa wisma; prevention; training

### **INTRODUCTION**

Non-Communicable Diseases (NCDs) are currently a health problem that is no less complex than the COVID-19 pandemic. The death rate due to NCDs in the last decade globally increased from 73% in 2017 to 74% in 2022. The figure in Indonesia is even higher, reaching 76% in 2022, an increase from 71% in 2017 (WHO, 2022). Chronic Kidney Disease is one of the NCDs that is of concern to the Indonesian government. The prevalence of chronic kidney disease in Indonesia for the period 2013 – 2018 doubled from 0.2% to 0.38% (Ministry of Health of the Republic of Indonesia, 2018). The death rate for Chronic Kidney Disease is also high. In 2022 globally it will reach 2 million deaths, in Indonesia it is also the top 10 cause of death nationally with an average of 42,000/year (P2PM, 2022). Chronic Kidney Disease is a condition where kidney function experiences an irreversible decline and failure (American Kydney Fund, 2022). The most common treatment for chronic kidney disease is hemodialysis, which patients must undergo for life (Kalantar-Zadeh et al., 2021).

Hypertension is one of the main risks of Chronic Kidney Disease in Indonesia. The Indonesian Renal Registry (IRR) reports that hypertension is the most common initial disease (60.2%) experienced by Chronic Kidney Disease patients.(PERNEFRI, 2018). The 2018 Basic health research results also provide evidence of hypertension as a risk factor for Chronic Kidney Disease reaching 34.1% with the lowest prevalence being 22.2% and the highest being 44.1% (Ministry of Health of the Republic of Indonesia, 2018). This fact deserves attention because the incidence of hypertension in Indonesia tends to continue to increase. The results of the 2018 Basic health research show that the prevalence of hypertension in Indonesia was 34.1%, a drastic increase compared to the 2013 Basic health research which was only 25.8%..

The best prevention effort for Chronic Kidney Disease is to increase awareness of hypertensive patients about the high risk of complications from Chronic Kidney Disease that can occurred. Basically, complications of hypertension to the kidneys can be prevented by taking medication regularly, but the 2018 Basic health research survey data shows that 13.3% of hypertension sufferers do not take medication for various reasons, such as feeling healthy, often forgetting, or taking traditional medicine. Hypertension is a chronic disease and requires long-term treatment at home, so it requires family and community support. One of the social capital in society is “dasa wisma”. The main actor in the family-based disease management and prevention program is the *dasa wisma* (Sulaeman, 2020). Family-based community empowerment is also an important component in community health development, especially in disease prevention or prevention programs (Khosiah & Muhardini, 2019). Existing research provides empirical evidence that *dasa wisma* as social capital is effective in preventing drug abuse in adolescents (Samidah & Susiwati, 2021), effective in reducing infant mortality rates (Shofia, 2020). Several studies have also proven that the empowerment of *dasa wisma* is effective in supporting several village economic and health development programs (Nugrahani & Umam, 2020);(Sari & Risdiana, 2020).*Dasa Wisma* is a group of mothers from 10 heads of families(Sari & Risdiana, 2020)neighbors in a Rukun RT or Rukun Warga neighborhood(Tanaem et al., 2019). However, so far *Dasa Wisma* has played more of a role in the population data recording and information system, and has not been empowered much in other fields, including the health sector (Menteri Dalam Negeri RI, 2011).

*Dasa Wisma* cadres need sufficient knowledge and skills to be able to provide assistance to families whose family members have hypertension. One effort to increase and improve the knowledge and skills of *Dasa Wisma* cadres is through cadre training. This research seeks to analyze whether *Dasa Wisma* cadre training is effective in increasing the knowledge and skills of *Dasa Wisma* cadres in providing assistance to prevent chronic kidney disease in hypertensive patients in the community.

## **METHOD**

To determine the effectiveness of *Dasa Wisma* cadre training to increase the knowledge and skills of *Dasa Wisma* cadres in providing assistance to families in preventing chronic kidney disease in hypertensive patients in the community.This research is a quasi-experimental research with a prepost approach without control. The research subjects were 25 *Dasa Wisma* cadres in the Surakarta City Health Service area. Samples were taken using multi-stage random sampling. Data collection uses knowledge tests and mentoring skills checklists. Data were analyzed using the Wilcoxon test with the help of the SPSS Series 26 program. The research was conducted from May to June 2024.

## RESULT AND DISCUSSION

Table 1 provides information on the demographic characteristics of research subjects. Female respondents were 88.00%, more than male respondents at 12.00%. The average age of respondents was 41.68 years with the youngest being 25 years and the oldest being 48 years. The majority of respondents did not work (84.00%), the highest level of education was secondary school, namely 72.00% and 20% had a bachelor's degree and 08.00% had a diploma. The results of the univariate statistical test, as shown in table 2, are that the average value of knowledge of Dasa Wisma cadres regarding the prevention of Chronic Kidney Disease after being given training is 79.46 higher than before being given training (67.73). Likewise, the median value after being given training (80.00) was higher than before being given training (66.67). The average skill score of Dasa Wisma cadres in carrying out family assistance simulations after being given the training was 97.87, higher than before being given the training with a score of 91.73.

Table 1.  
Demographic Description of Research Respondents (n=25)

Characteristics	f	%
Gender		
Man	22	88.00
Woman	3	12.00
Age		
Average	41.68	
Minimal	25	
Maximum	48	
Education		
Intermediate	18	72.00
Diploma	2	08.00
Bachelor	5	20.00
Work		
Work	4	16.00
Doesn't work	21	84.00
Religion		
Islam	21	84.00
Christian	4	16.00

Table 2  
Descriptive Statistics

Variable		Mean	Std	Min	Max	50th percentile (Median)
Knowledge	Pre	67.73	12.57	46.67	93.33	66.67
	Post	79.46	14.77	40.00	93.33	80.00
Skills	Pre	91.73	12.36	53.33	100	100
	Post	97.87	4.60	86.67	100	100

Table 3  
Results of the Wilcoxon Test on the Effectiveness of Dasa Wisma Cadre Training on Knowledge and Skills in Accompanying Chronic Kidney Disease Prevention

Variable	Mean Rank	Sum Rank	z	p
Knowledge	13.34	253.50	-2,969	0.003

Skills	5.50	49.50	-2,259	0.024
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The results of the data normality test obtained is not normally distributed ( $p$  value  $<0.05$ ) so that the bivariate test used the Wilcoxon test as an alternative to the Dependent Paired T-test.(Fay et al., 2019). The Wilcoxon test results as seen in table 3 for the knowledge variable are  $z=-2.969$  and  $p=0.003$ . Meanwhile, for the skill variable, the values obtained were  $z=-2.259$  and  $p=0.024$ . These results indicate that cadre training is effective in increasing the knowledge and skills of Dasa Wisma cadres in preventing chronic kidney disease..

Chronic Kidney Disease is a condition where the number of functional kidney structures or nephrons that can still function is drastically reduced and only remains 20% - 25%(Kalantar-Zadeh et al., 2021). This condition causes the nephron to no longer be able to carry out its function as a center for blood filtration and excretion of unused metabolic waste from the body. This condition causes the accumulation of toxins in the form of urea and creatinine, blood urea levels become very high and systemically causes disruption of the function of other body organs.(Sandiya et al., 2022);(Neild, 2023). Chronic Kidney Disease does not occur suddenly, but occurs gradually and will occur more quickly in individuals who have other diseases as comorbid or risk factors (Francis et al., 2024). One of the major risk factors for chronic kidney disease is hypertension. Unfortunately, not many hypertension patients are aware of this. This condition cannot be separated from the pathological process of hypertension which does not cause specific symptoms (silent disease) thus making sufferers less concerned about hypertension (Balitbangkes RI, 2019). This is in line with the concept and research results where an individual's perception of the severity of the disease will greatly influence individual behavior in efforts to treat and prevent disease(Albarracin & Shavitt, 2018);(Boskey, 2023);(Soesanto & Marzeli, 2020).

The best effort to reduce the prevalence of Chronic Kidney Disease is with preventive efforts through good management of hypertension. Hypertension is a chronic disease and requires long-term treatment. The majority of treatments for hypertension patients are carried out at home or in the community. In principle, if hypertension is treated appropriately, the risk of developing complications from chronic kidney disease will be lower (Gultom & Sudaryo, 2023)(Lee et al., 2022). To be able to treat hypertension well, hypertensive patients need awareness and willingness to carry out the treatment program that has been determined by nurses and doctors. However, the treatment program for hypertension patients takes a very long time or even a lifetime. Therefore, family and community support is really needed, especially close neighbors in the form of individuals and social groups. Dasa Wisma is one of the social groups in society. Literally, the meaning of dasawisma is a group or organization of women consisting of ten adjacent households (Ministry of Education and Culture, 2017). Dasa Wisma is the smallest community unit formed from organized civilians who are managed transparently and provide each other with information relating to life together, and is a forum for community activities which has a very important role in implementing government programs in the health sector which are under the auspices of this activity. PKK movement at the village level(Indonesian Minister of Home Affairs, 2000).

Because Dasa Wisma members are a group of civilians who do not always have a health background, training for Dasa Wisma cadres is needed to increase and improve knowledge, perceptions, attitudes and skills. The results of this study provide empirical evidence about the effectiveness of Dasa Wisma cadre training in increasing the knowledge and skills of Dasa Wisma

cadres in preventing chronic kidney disease in hypertensive patients. The training intervention was provided for five hours with material on preventing Chronic Kidney Disease and family support techniques. The training resource persons are academics and Puskesmas practitioners so that the material can be provided well. The media used are a chronic kidney disease prevention booklet, early detection techniques for chronic kidney disease, and ways to provide family support. Dasa Wisma cadres are selected randomly multi-stage random sampling, starting with randomization of the Puskesmas area, sub-districts, community units (RW), and finally the Dasa Wisma cadres from each community group (RW), all taken at random. The Wilcoxon test results for the knowledge variable were  $z = -2.969$  and  $p = 0.003$ , which means that Dasa Wisma cadre training was effective in increasing Dasa Wisma cadres' knowledge about the prevention of Chronic Kidney Disease. The results for the family assistance skills variable are  $z = -2.259$  and  $p = 0.024$ , which means that the training of Dasa Wisma cadres is effective in improving the skills of Dasa Wisma cadres in providing assistance to families to prevent Chronic Kidney Disease.

Training is a non-formal education model in the form of providing the employer's instructional experience to workers to increase knowledge and skills that can be applied after attending training to achieve the employer's vision, mission and goals. (Ginicola MM, 2017). In the context of this research, training is provided to Dasa Wisma cadres so that the knowledge and skills of Dasa Wisma cadres regarding the prevention of Chronic Kidney Disease increase, so that Dasa Wisma cadres can help achieve the goal of reducing the incidence of Chronic Kidney Disease in hypertension sufferers. Dasa Wisma cadre training is carried out as an effort to increase community participation in improving the health status of individuals, families and communities, so that Dasa Wisma cadres are formed who have the knowledge and skills to provide family assistance in caring for family members who are sick with hypertension. Efforts to produce Dasa Wisma cadres begin with the selection of participants who meet the requirements according to the inclusion criteria (voluntarily willing to become Dasa Wisma cadres, minimum high school or equivalent education, aged 25 – 45 years, domiciled in one RW area, no memory problems, never been receive the same training, and be able to operate a cellphone). Through this selection, Dasa Wisma cadre candidates are obtained who are equal and provide good training results. Selection of prospective cadres is an important step in efforts to produce competent cadres (Centers for Disease Control and Prevention, 2024).

The training method applied to increase knowledge is through interactive lectures through discussions, brainstorming and questions and answers. The interactive lecture method is quite effective in increasing knowledge (Ssemugenyi, 2023). Apart from that, the knowledge of the Dasa Wisma cadres before being given training was not that low with an average score of 67.73, a minimum score of 46.67, but the maximum score was very high, namely 93.33. This means that in general the Dasa Wisma cadres have sufficient initial knowledge, so it is relatively easier to accept new information provided by the trainer. These conditions support the success of the training as shown by the average knowledge score after being given the training is 79.47 with the minimum score increasing to 40.00 and the highest score being 93.33. Increased knowledge can also be seen from the 50th percentile value or median which increased from 66.67 before training to 80.00 after training. The training method applied to train family assistance skills is by simulation or demonstration and using videos. The simulation or demonstration method is an effective method for improving skills (Retnawati et al., 2014) (Abildgren et al., 2022). Simulation methods and audiovisual media are also quite effective in improving the skills of Dasa Wisma cadres in

providing family assistance, as shown by an increase in the average value of mentoring skills from 91.73 to 97.87. The interesting part of this variable is that the initial ability of Dasa Wisma cadres in providing family assistance turns out to be quite good (91.73). This is inseparable, because the selected Dasa Wisma cadres are generally community leaders who have often or are accustomed to giving advice or other assistance to families, and have a fairly good educational background, namely high school, diploma and bachelor's degrees. An interesting part of the Dasa Wisma cadre training process is the material on early detection of the risk of chronic kidney disease with Q-Kydney. This topic turned out to be quite interesting for training participants, because it is something new and relatively easy and practical to use to find out how big a person's risk of developing Chronic Kidney Disease is. Because Q-Kydney does not require complicated laboratory tests and the results in the form of numbers are quite easy for Dasa Wisma cadres to accept (Chiu, 2020).

## CONCLUSION

Dasa Wisma cadre training is effective in increasing the knowledge and skills of Dasa Wisma cadres to prevent chronic kidney disease in hypertension patients.

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