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### Comparison Between Head Village and Midwife as Health Educator of Maternal and Child Health (MCH) in Increasing Husband's Knowledge of MCH in the Village

#### Perbandingan Antara Kepala Desa dan Bidan Sebagai Penyuluh Kesehatan Ibu dan Anak (KIA) dalam Meningkatkan Pengetahuan Suami Tentang KIA di Desa

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#### Abstract

**Background:** Partnership with local head villages to deliver maternal and child health (MCH) education is considered necessary, as the availability of health professional is limited in rural remote area. While the head villages could be viewed as credible, they have rarely been involved as a health communicator in their villages.

**Objective:** This study aimed to analyze the difference of the knowledge level of the heads of family (husband) after attending MCH education delivered by the head village and midwife.

**Methods:** The research method applied was quasi experiment with non-equivalent control design conducted in two remote villages in Timor Tengah Selatan District. The population was all heads of the family (husband) living in two selected villages, with a total of 920. The sample of 60 men was selected purposively. The experiment and control group consisted of 25 and 35 men, respectively. Data were analyzed using t-test dependent and t-test independent.

**Results:** The result showed that 1. Both MCH education delivered by the head village and midwife increased the level of knowledge of husband with the value of  $(p) 0,00 < (\alpha) 0,05$ ; 2. The head village and midwife were equally effective as communicators in increasing the knowledge level of husbands about MCH with the value of  $(p) 0,245 > (\alpha) 0,05$ .

**Conclusion:** Both the village head and the midwife can be educators in increasing the knowledge of MCH among husbands. Thus, the village head could also be empowered as an alternative MCH communicator.

**Keywords:** Head Village; Midwife; Health Communicator; Maternal and Child Health (MCH); Village

#### Abstrak

**Latar belakang:** Kemitraan dengan kepala desa sebagai komunikator kesehatan ibu dan anak diperlukan karena keterbatasan tenaga kesehatan di desa terpencil. Kepala desa adalah komunikator yang dianggap credible, tetapi jarang dilibatkan sebagai komunikator kesehatan di desa.

**Tujuan:** Penelitian ini bertujuan untuk menganalisis perbedaan tingkat pengetahuan suami tentang kesehatan ibu dan anak setelah mendapatkan penyuluhan dari kepala desa dan bidan.

**Methods:** Penelitian ini menggunakan *quasy eksperiment* dengan *non-equivalent control design* yang dilakukan di dua desa terpencil di Kabupaten Timor Tengah Selatan. Populasi dalam penelitian ini adalah para suami yang tinggal di kedua desa tersebut (total 920 orang). Sampel berjumlah 60 orang yang dipilih secara *purposive*. Sampel pada *eksperiment group* berjumlah 25 orang dan pada *control grup* berjumlah 35 orang. Data dianalisis menggunakan t-test dependent dan t-test independent.

**Hasil:** Hasil penelitian menunjukkan bahwa 1. Terdapat peningkatan pengetahuan suami tentang kesehatan ibu dan anak setelah dilakukan penyuluhan baik oleh bidan dan kepala desa dengan nilai  $(p) 0,00 < (\alpha) 0,05$ . Kepala desa dan bidan adalah komunikator yang efektif dalam meningkatkan pengetahuan suami tentang kesehatan ibu dan anak dengan nilai  $(p) 0,245 > (\alpha) 0,05$ .

**Kesimpulan:** Kepala desa dan bidan adalah komunikator yang efektif dalam meningkatkan pengetahuan suami tentang KIA sehingga kepala desa dapat diberdayakan sebagai penyuluh alternatif KIA.

**Kata Kunci:** Kepala Desa; Bidan; Komunikator Kesehatan; Kesehatan Ibu dan Anak; Desa

## INTRODUCTION

One of the Sustainable Development Goals (SDGs) priorities is to reduce Maternal Mortality Rate (MMR). It is found that around 830 women die every day due to cases related to pregnancy and childbirth, of which 99% occurs in developing countries including Indonesia, with 305 cases per 100,000 live births. To deal with maternal death, The World Health Organization emphasizes that each birth needs to be assisted by professional health workers and conducted in adequate health facilities to control complications that may appear (1). Various efforts have been made both nationally and internationally to overcome the issue of maternal health. However, this problem still threatens the lives of women and infants in East Nusa Tenggara (NTT) province, particularly in the Timor Tengah Selatan (TTS) district. Data shows that in 2010, out of 252 maternal deaths (during pregnancy, maternity, and postpartum) reported to the NTT Health Office, the largest contribution came from TTS, for 46 cases. Although NTT has the Maternal and Child Health Revolution (Revolusi KIA) proposing that 'all pregnant women should give birth in adequate facilities', the coverage of delivery assistance by health workers in TTS only reached 60.83%, the lowest percentage compared with other districts (2). The low coverage of deliveries by health workers in TTS district contributes to the minimum coverage of delivery assisted by health workers in the province, which has only reached 75.41%(2).

Regarding safe pregnancies and childbirths, women in the villages tend to have a higher risk of maternal death compared to those who live in urban areas. Data shows that in Indonesia, the use of facilities for delivery in urban areas reaches 80% while in rural areas only reaches 45% (3). It can imply a gap between women in the city and the village in terms of Ante Natal Care (ANC) and childbirth assistance by health workers resulting a higher risk of maternal death in village women.

Maternal mortality in TTS is attributed to three delays in making decision to seek health services, reaching health services, and obtaining adequate health services (3). Mothers in remote rural areas are estimated to be more at risk of experiencing three delays than those living in urban areas mainly due to the low socio-economic status of women, cultural problems and the role of traditional birth attendants, geographic problems of limited facilities, and limited health resources. Thus, maternal mortality is a complex issue related to not only a medical problem but also social factors.

Based on the mentioned facts, it is regrettable if the prevention efforts only focus on medical causes without paying attention to the causes related to social factors, especially the three causes of maternal death. Breakthroughs emphasizing on the role of the community are necessary, especially in remote rural areas. Active community participation should be driven by a sense of responsibility to overcome the maternal death because the community is considered the experts in solving their issue (4) (5).

In addition, support from husbands plays a vital role in maternal health. A study suggests that 61% of husbands' social support contributed to 61% of mothers' motivation to maintain the health of their pregnancies and reduce anxiety especially before delivery (6) (7). Husbands need to receive education about breast milk so that they are able to support mothers in providing exclusive breastfeeding (8).

Village heads are also considered as the key actors in driving rural development including health development in regional autonomy. However, they are rarely involved as communicators in education related to Maternal and Child Health (MCH) (9). In NTT, almost all village heads have been involved in the implementation of MCH revolution program and Maternal, Newborn and Toddler Health Regional (KIBBLA) Regulation. However, in an initial interview with six village leaders, the researcher found that none of them had any involvement in MCH promotion.

Communicator credibility is essential in conveying information to the public (10). Communicators who have been known and are part of the community will be more trusted and accepted by the community. Community leaders and religious leaders such as village heads, pastors, church assemblies, and traditional birth attendants are important in providing social support or as a bridge in the three health promotion strategies to address three delays responsible to maternal death (11). However, they are rarely involved as agents in education related to maternal health (12). The role of community leaders and local religious leaders is crucial to help overcome the limitations of health workers and resources in remote villages. In general, midwives from outside the villages find it difficult to be socially accepted in rural communities especially if they have no ability to speak in local language (13). Thus, to accelerate the reduction of maternal mortality, community leaders and religious leaders are an important component that needs to be equipped with adequate knowledge and involved in health promotion efforts (9)(12). This study aims to evaluate the effectiveness of health education delivered by head villages and midwives in increasing husbands' knowledge among husbands. The findings of this study may provide information on potential communicators who might help raise MCH awareness in rural and distant areas.

## METHODS

The research design used was quasy experiment with non-equivalent control group design. The sample was selected by using purposive sampling technique, with the criteria of husbands with children under five, resided in the research locations, and were willing to be respondents. Meanwhile, husbands with conflicting schedule or who were sick at the time of the study would be rejected in this study. The sample of 60 people was divided in two groups: 25 people in the experimental group and 35 people in the control group. Before conducting the experiment, researchers informed respondents about the procedure, risk, and benefits of the research. Respondents who decided to participate would be asked to fill out the informed consent. Respondents could withdraw from the study at any time if needed. The univariate analysis was used to describe the respondent characteristics such as age, level of education and employment and an overview of the level of knowledge before and after the intervention. Under the study objectives, the bivariate analysis used was the parametric statistics t-test. The hypotheses tested were as followed: Ho: There was no difference in the husband's level of knowledge about MCH after being given education by the village head and midwife. Ha: There was a difference in the husband's knowledge about MCH after being given education by the village head and midwife. Ho was accepted if the significance value was the significance of  $t > 0.05$  and was rejected if the significance value was  $t < 0.05$ .

## RESULT

### General Description of the Research Location

The study was carried out in Sunu Village, Amanatun Selatan subdistrict and Boti Village, Kie subdistrict. Boti Village is bordered with Oinlasi and Napi Village in the north, Naekpumek and Bak Village in the west, Belle and Nekmese villages in the east, and the villages of Haunobenak and Babui in the souths. Sunu Village has a border with Netutnana Village in the north, Kokoi Village in the west, Sunu and Nifuleo Villages in the east and Lanu Village in the south.

The village of Boti was located at 1500 above sea level, approximately 12 km from the town of Ki'e Subdistrict and 64 km to the east of Soe, the capital of South Central Timor Regency. Boti can be reached in 2.5-3 hours by four-wheeled or two-wheeled vehicles, and it is 174 km from Kupang city, the capital of East Nusa Tenggara Province. While the distance from Sunu Village to the sub-district is 16km, the distance to the district is 65 km and can be reached in 2.3-3 hours by two-wheeled or four-wheeled vehicles. The two villages consisted of rocky, hilly, and steep roads. With land that was prone to landslides, TTS government is overwhelmed seeking transportation route as it was pretty challenging to reach the villages.

The area of Boti Village was 17.69 km<sup>2</sup> with a population of 2,119 consisting of 994 men, 1,125 women, 120 population densities, and 551 households. In comparison, the area of Sunu Village is 8.29 km<sup>2</sup> with a population of 1,287 consisting of 608 men, 679 women, 155 population densities, and 369 households. Of these households, there were 229 or 40.56% of low-income families in Boti Village and 225 or 60.97% in Sunu Village. The health facilities in Boti Village consisted of four *Posyandu*, one Village Delivery Post (*Polindes*), and one Supported Health Center (*Pustu*), while in Sunu Village there were five *Posyandu*, and one *Pustu*.

### Respondents Characteristics

The characteristics of the respondents in this study are presented in table 1.

Table 1. Respondent Characteristics

Variable	Experiment Group		Control Group		Total	
	n	%	n	%	N	%
<b>Age (Years)</b>						
22-32	8	32	15	42.86	23	38.33
33-42	11	44	11	31.43	22	36.67
43-52	4	16	6	17.14	10	16.67
53-62	2	8	3	8.57	5	8.33
<b>Education</b>						
Not Graduated from Elementary School	2	8	3	8.57	5	8.33
Elementary School	8	32	20	57.14	28	46.67
Junior High School	9	36	7	20	16	26.67

Senior High School	6	24	5	14.29	11	18.33
<b>Occupation</b>						
Farmer	19	76	22	62.86	41	68.33
Builder	0	0	1	2.86	1	1.67
Motorcycle taxi driver	1	4	5	14.29	6	10
<i>Kondektur</i>	0	0	2	5.71	2	3.33
Teacher	2	8	3	8.57	5	8.33
Village Staff	3	12	2	57.71	5	8.33

Table 1 showed that the majority of respondents was in the range of age 33-42 years, namely 44% and 31.43% for experiment and control group respectively, and the smallest percentage was from the age 53-62 for both groups. Based on educational variables, most respondents graduated from junior high school (36%) in experiment group and from elementary school (57.14%) in control group. Most respondents in both groups worked as a farmer.

### Knowledge Level of Experimental Groups and Pre & Post Test Control Groups

The respondent's knowledge level is grouped into three categories, which are adequate (if the percentage of correct answers is 76-100% or able to answer 14 numbers correctly, average (if the percentage of correct answers is 56-75% or able to answer 10-13 questions correctly), and inadequate (if the score percentage is 40-55% or answer <10 questions correctly). The knowledge level of respondents for pre-test and post-test is presented in table 2.

**Table 2.** Pre-test and post-test scores of the experimental and control groups

Knowledge Level	Experiment Group (n)				Control group (n)			
	Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%
Adequate	0	0	8	32	0	0	17	48.6
Average	2	8	11	44	4	11.4	16	45.7
Inadequate	23	92	4	16	31	88.6	2	5.7

Table 2 showed that the majority of respondents' knowledge at pre-test was inadequate amounted to 92% and 88.6% in experimental and control group respectively. Meanwhile, 44% respondents had average level of knowledge in experiment group and 48.6% respondents had adequate knowledge in the control group.

### Bivariate Analysis Dependent t-test

Bivariate analysis was used to determine the efficacy of education delivered by midwives and village heads in increasing husband's knowledge related to MCH. The results showed an increase in respondents' knowledge after getting education from the village head. Table 3 presented the level of knowledge of the experiment group before and after being given MCH education by the village head.

**Table 3.** Pre-test and Post-test Results of Experiment Group

Experiment Group	Mean	SD	n	p-value
Pre-test	30,84	14,273	25	
Post-Test	70, 32	17,284	25	0,000

Table 3 showed that the mean of husband's knowledge about MCH before education was 30.84 and was increased to 70.32 after the intervention by the village head with p value (0,000) <math>\alpha</math> (0.05). It was concluded that there is a significant difference between husband's knowledge about MCH before and after education delivered by the village head.

The results also showed an increase in husbands' knowledge about MCH after being given education by midwives. The results of the pre-test and post-test were presented in table 2.

**Table 2.** Pre-test and Post-test Results of Control Group

Control	Mean	SD	N	p-value
Pre-test	70,32	17,284	35	
Post-Test	75,43	16,107	35	0, 000

The table showed that the mean of husband's knowledge of MCH before giving education was 32.37 and 75.43 after the education given by a midwife with p value (0,000) <math>\alpha</math> (0.05). The result identified a difference in the knowledge levels of husbands about MCH before and after the midwife delivered the information.

### Independent t-test

The researchers used independent t-test to determine the effectiveness of the village head and midwife as a health communicator in increasing husbands' knowledge about MCH. The results showed that midwives and village heads were effective in increasing husbands' knowledge about MCH. The statistical test results were presented in table 4.

**Table 4.** Independent T-test result

Control	Mean	SD	n	p-value
Pre-test	70.32	17.284	35	
Post-Test	75.43	16.107	35	0.000

## DISCUSSION

The characteristics of respondents described in this study were age, level of education, and employment. The age of the youngest husband was 22 years. The age of marriage in the village was still acceptable as the National Family Planning Coordinating Board (BKKBN) stated that the recommended age for marriage for women was 21 and 25 years for men. The age of marriage affects the biological and psychological readiness of the family. Besides age, this study also showed that the education level of respondents was relatively low. In Green's theory, the level of education was one of the predisposing factors that influence behavior (11). In general, the research respondents only graduated from elementary and junior high school. The low level of academic background could have an effect on the knowledge about maternal health and children's issues. This study also found that maternal health knowledge of husbands was inadequate as the average score before health education for both groups was only around 30. Consequently, husbands' interest and involvement in maternal health programs would likely be negative (5). This study also showed that almost all respondents had irregular jobs as farmers, motorcycle taxi drivers, and builders. This might limit the husbands' capacity to meet the nutritional needs of families. Husbands usually carried the job out in the morning, preventing them from accompanying mothers to visit *Posyandu*. This suggested that only mothers obtain adequate health information from health cadres. Husbands who often accompanied mothers in maternal services were associated with the high frequency of visits and maximum preparedness to face labor (14).

This study found a relatively low knowledge of husbands related to MCH prior to education. Husband's knowledge was essential because the decision-making depends on husbands in the patriarchal system. The target of MCH education was dominantly for mothers leaving husbands with limited exposure to the necessary information required in making a favorable health decision. As husband participation in improving maternal and child health was vital, husbands needed to be considered as "clients" and "solutions" in improving maternal and child health (14) (15). The limited presence of husbands with their spouses in *Posyandu* was due to the farming activity in the morning. Thus, only mothers received information about MCH. This condition suggested that the health of mothers and children was solely the responsibility of mothers. Husband's relatively low knowledge level could worsen the effort to safe pregnancy and childbirth linked to the three delays.

Researchers empowered village heads as health communicators to increase husbands' knowledge. The head of the village was credible as the communicator, and this credibility determined the acceptance of message in the targeted groups since the village head was a figure who had power in the community (10). We observed that village heads could gather husbands to attend education activities in the experiment and control group. The head could also attract respondents' attention during education. This could be due to the fact that the village head was chosen by the community. According to Alamsyah in Afifah et al (16), social link, which was part of social capital, arose during head village selection because people discussed candidate characteristics suitable to be the leader. This fact might help increase head village's credibility as a health communicator. Also, a head village plays a crucial role as motivator, mediator, and facilitator in rural development (17), including health development. Thus,

the village head could be an alternative communicator, given the limitations of health workers who cannot stay in the village for a more extended periods.

One of the challenges for public health practitioners was to ensure that implemented programs were sustainable and empower the community to actively take part in bottom-up programs instead of top-up programs (18). Many programs have been carried out in villages to improve MCH, but the sustainability was minimum. MCH Revolution and the KIBBLA Regional Regulation, for example, have helped to improve program objectives, namely to increase the coverage of childbirth by health workers. Still, it has not been maximized in enhancing community capacity within the empowerment framework.

## CONCLUSION

Increased knowledge of husbands and empowerment of village heads as health communicators can be a solution to improve MCH in remote rural areas.

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