

**PROMOTION AND CONTROL OF HYPERTENSION DISEASE PREVENTION
THROUGH EMPOWERMENT *Dalihan Na Tolu* THE PUNGUAN INTEREST IN THE
PROVINCE BENGKULU BATAK TOBA**

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ABSTRACT

The Public of Batak has a kinship system "*Dalihan Na Tolu*" that governs all activities of the Batak included in Bengkulu. The kinship system is applied throughout the Batak community social activities such as the "PunguanMarg, a social capital is very strong due to being carried out regularly and continuously. The purpose of this study was to lower hypertension risk factors by empowering role *Dalihan Na Tolu* on *punguan* Batak Toba in the province of Bengkulu. This study design mix method, quantitative and quantitative, quantitative research using a quasi-experimental design *nonrandomized control group pre-test and post-test design*. The group intervention as a member of *Punguan Silauraja* in Bengkulu City, while the control group is a member *Punguan Simbolon* in Rejang Lebong. A sample of 100 people with the intervention and control groups ratio of 1: 1. Qualitative research methods focus Group Discussion (FGD). Data were analyzed using univariate and bivariate data, analysis of qualitative *content analysis*.

The results of a research significant difference in the average knowledge ($p = 0.0001$) and attitude ($p = 0.0001$) before and after intervention *in the intervention group, no difference* *Punguan* members' knowledge before and after the intervention in the control group, with $p = 0.053$. *Ada different* member *Punguan* attitudes before and after the intervention in the control group, with $p = 0.0001$. *Na Tolu Dalihan* can be empowered as an information channel, container construction, solving problems and drive change. Kinship systems Batak Toba people can be empowered to improve their knowledge and attitude improvements in the prevention and control of hypertension and *Punguan Batak Toba* can be used as a container *Pos Pembinaan Terpadu (Posbindu)*.

Keywords: *Dalihan Na Tolu*, Health Promotion, Hypertension

Introduction

Disease patterns in Indonesia are currently experiencing an epidemiological transition, characterized by the shift of the cause of death which was originally dominated by infectious disease remains a health problem, shift to non-communicable diseases (PTM), which became a new health problem and social and economic impacts. PTM tendency in Indonesia showed a significant increase including

hypertension caused by various behavioral risk factors that can be modified through health interventions, such as through modification of health behavior that can reduce the prevalence of hypertension (MoH, 2013).

Batak society has a kinship system as the local wisdom into social capital are highly respected, namely *Dalihan Na Tolu*. The research shows that *Dalihan Na Tolu* has a very strong role that the social system

will be effective in influencing the behavior of Batak Toba society. *Na Tolu Dalihan* can serve as a channel diffusion, container diffusion and diffusion mover in various activities in Batak. through role *Na Tolu Dalihan* in the behavior change process, can accelerate Batak tribal society until the adoption decision behavior. The high respect Toba Batak society against the social system *Dalihan Na Tolu* to facilitate the public receive the adoption of behavior including healthy behavior changes. But in Indonesia *Dalihan Na Tolu* empowerment in the health sector which has not been done. This study aims to empower *Dalihan Na Tolu* in the prevention and control of hypertension in *Punguan* Batak Toba In Bengkulu.

METHODS

using qualitative and quantitative approaches, quantitative research using a quasi-experimental design *nonrandomized control group pre-test and post-test design*. The intervention group was a member *Punguan Silauraja* in Bengkulu City Marga given health promotion, early detection of risk factors for hypertension, and hypertension through empowerment gymnastics *Na Tolu Dalihan* role as a cadre of health on *punguan*.

, While the control group was *Punguan Simbolon* in Rejang Lebong. whereas the control group was given a leaflet campaign using the media. A sample of 100 people, divided into two groups of intervention and control (1: 1). The key informant was caretaker *punguan* clan *Silauraja* Bengkulu city and *punguan Simbolon* in Rejang Lebong. The additional informant is *Dalihan Na Tolu*. The independent variable is the empowerment intervention *Dalihan* *punguan* Batak *Na Tolu* in health promotion. The dependent variable is the adoption decision behavior prevention and control of hypertension and

blood pressure as well as knowledge and attitudes *Punguan* members in the prevention and control of hypertension. The research instrument used is the observation sheet cadres ability *Dalihan Na tolu* health promotion, Form fields early detection of risk factors of hypertension, FGD Guidelines and measuring anthropometry, blood pressure using Omron brand tensimeter digital type IA1. Qualitative data management stages of the stages of the transcript, data reduction and interpretation of data, which is analyzed by *content analysis*. Quantitative data were analyzed using **the Wilcoxon Signed Ranks Test**.

RESULTS

Utilization *Punguan*

container Batak people have called *Punguan* clan associations. This is a container *Punguan* Batak society interact, which rules in *Punguan* belt by Batak. Batak society while Overseas, there is a message that should be followed is to look for the family as a shelter, the people of the clan joined in *Punguan*. Activities undertaken by *Punguan* is friendship and social activities such as visiting each other when experiencing joy and sorrow, preparing a big event for a wedding, death, and others. *Punguan* role is perceived as a form of mutual assistance Batak society in social activities and the implementation of the Batak customary in everyday life

Although the benefits *Punguan* Batak society, there are some disadvantages especially those related to health. A diet high in fat, drinking alcohol (wine) which is a typical drink Batak, smoking and others- are examples of some of the behaviors that hurt when *Punguan* activities take place. This is consistent with respondents' statements below:

Losses well unwitting loss of time, the promise of hours of

6 is not timely, then who do not smoke cigarette smoking, diet Batak people are not spared from the slaughterhouse, we can not resist the taste, typical drink our wine, plus cholesterol disease, gout, excess posting can not control appetite (informants 7)

After the intervention, modification through health promotion activities hypertension, with the empowerment of Dalihan Na Tolu. Punguna activity turned into 1) anthropometric measurements (measurements of weight, height, waist

circumference) and Health examination (blood pressure and blood sugar levels). 2) Day: praying, singing, preaching, raising healthy. 3) Arisan: news discusses the ups and downs member Punguan 4) Health Promotion 5) Eat together. 6) mandok Hata (representing Boru / bere / ibebere, Dongan Tubu, Hula-hula, the Manager and Host) In each month of the fourth week of activities Punguan Silauraja Boru Bere and Ibebere, figures Hula-hula Punguan always convey messages and appeals to all punguan member disease anticipate the impact of hypertension, diet and comply with health messages.

Table 1. Characteristics of Cadre and Health Workers

Identity	Age	Gender	Education	Work
Kader1	45	Female	High School	housewife
Cadre 2	40	Female	Senior	Entrepreneurial
3Kader	36	Women's	High School	housewife
Kader4	41	Female	High School	Private
Cadres 5	47	Female	High School	Entrepreneurial
6 Cadre	51	Women's	School	housewife
1health workers	45	Women's	DIIIHealth Analyst	Civil cervant
2health workers	32	Women's	Nursing DIII	Private
3 health workers	35	male	Nursing DIII	Civil cervant

Table 2. characteristic of Bengkulu city Silauraja Punguan Member (intervention group) and Punguan Simbolon Kabupaten Rejang Lebong (control group)

Characteristics	intervention group		Control group		P value
	n	n%	n	n%	
Gender					
● male	24	48.0	23	46.0	0.841
● Female	26	52.0	27	54.0	
Education					
● elementary	1	2.0	2	4.0	0.093
● Junior	14	14.0	5	10.0	
● High School	32	64.0	22	44.0	
● DI / DIII / S1	20	20.0	21	42.0	
Work					0.101
● Housewife/ Not Working	18	36.0	9	18,0	
● Entrepreneurial	14	28.0	14	28.0	
● Civil cervant	2	4.0	2	4.0	
	16	32.0	25	50.0	

- Farmer

Age			0.025
● Minimum	25	24	
● Maximum	70	65	
● average	46.56	51.02	
● Standard Deviation	10.22	9.37	

Table 3. Karakteritik Anthropometric Size Pungan Member intervention group and control group

Anthropometric Characteristics	Intervention group	Control group	P *
IMT Before Intervention			0.212
Minimum	20.96	19.40	
Maximum	47.75	35.56	
Average	27.181	20.96	
Standard Deviation	5.085	3.844	
After the interventionIMT			0.306
Minimum	21.64	19.10	
Maximum	47.75	35.56	
average	27.03	26.103	
Standard Deviation	5.058	3.773	
** p	0.012	0.332	
Abdominal circumference Before Intervention			0.121
Minimum	63	71	
Maximum	158	110	
average	94.202	90.186	
Standard Deviation	15.55	9.32	
Intervention After Abdominal circumference			
Minimum	65	70	
Maximum	157	109	
average	93.99	90.08	
Standard Deviation	15.20	9.19	
p **	0.037	0.322	

Table 4. Effect of Health Promotion interventions Knowledge and Attitudes towards the Prevention and Control of Hypertension

	Hypertension Score Knowledge			Score Attitudes toward Hypertension		
	Before	After	p *	Before	After	P *
Intervention group			0.001			0.0001
Minimum	4	6		31	37	
Maximum	8	10		45	48	
average	6.76	8.14		38.32	41.86	
SD	0.95	1.03		3.19	2.67	
Control group			0.053			0.0001
Minimum	1	4		24	33	
Maximum	8	8		46	46	
average	6.70	7.12		37.42	40.36	
SD	1.28	0.824		4.80	3.192	
P **	0.792	0.001		0.273	0.012	
* paired t test	** t independent test					

Results prove that there is the effect of interventions on Knowledge and attitude of Prevention and Control of Hypertension. In the intervention group, member Pungan knowledge score before intervention between 4 to 8 with an average of 6.76, after the intervention of a score of 6 to 10 with an average of 8.14. Scores attitude also showed the same trend, increased before and after the intervention. Statistical test results prove that there is a difference in the average scores of knowledge (p = 0.0001) and a

score of attitude (p = 0.0001) before and after the intervention. In the control group, member Pungan knowledge score before intervention between 1 to 8 with an average of 6.7, after the intervention of a score between 4 to 8 with an average of 7.12. Statistical test results prove that there is no difference in the average scores of knowledge (p = 0.053), but there is a difference in attitude scores before and after intervention (p = 0.0001).

Table 5. Effect of Na Tolu Dalihan Empowerment in Health Promotion Against Blood Pressure

Blood Pressure Description	Pre test	Post test 1	Post test 2
Intervention Group			
Minimum	99	100	100
Maximum	194	180	160
Average	138.66	134.66	130.88
Standard Deviation	20.75	19.06	18.19
Control group			
Minimum	100	105	101
Maximum	200	180	221
Average	141.16	142.48	141.6

Standard Deviation	23.34	19.63	23.88
value P	0.573	0.046	0.013

*** t independent test**

above table shows the value of blood pressure variance between interns group and the control group in the 3 measurements. At the second measurement showed no difference in the average blood pressure between interns group and the control group ($p = 0.046$), as well as the measurement to three ($p = 0.013$). On the measurement of the second and third decrease blood pressure significantly. It showed no effect of **Na Tolu Dalihan Empowerment in Health Promotion Against Blood Pressure** Punguan members Batak Toba.

DISCUSSION

A. Punguan Silauraja Bere Ibebere BoruBengkulu City

Public Bengkulu Batak Toba is a society of migrants mostly from North Sumatra, as well as Silauraja clan. Batak tribe much can be encountered in some parts of the region in Indonesia. Batak tribe can be easily found because many of the Batak people who go abroad or move residence. (EN Silalahi, 2013). Batak tribal communities have in common is their *surname* is the last name of the family. The similarity of *the clan* will instinctively make their ties of kinship. Their ties to kinship among the Batak society then met every place Batak society organizations or associations called "Punguan" (SIH, 2008). One Punguan in the city of Bengkulu is "Punguan Silauraja, Boru Bere and Ibebere".

Punguan the Batak ethnic communities have an attachment to the origin, kinship, *clan*, descendants of customs and unity is formed based on the sense of family to preserve and maintain the integrity of *the*

clan.existence *Punguan* is influenced by a high sense of brotherhood among fellow descendants (SIH, 2008). Likewise Punguan Silauraja, Boru Bere and Ibebere in the city, through the activities of *punguan* the three elements with *DalihanNa Tolu (hula,dongan Tubu, and Boru)* many things that can be delivered as information on the prevention and control of hypertension. Factors *punguan* of *Dalihan Na Tolu* as a medium for health promotion has contributed greatly to the adoption of behavioral prevention and control of hypertension. This means more frequent *punguan* do, the more information obtained *punguan* members so that the faster rate of adoption of behavioral changes do *punguan* members.

B. Empowerment of Dalihan Na Tolu

the research found that Dalihan Tolu NA can be empowered to change the behavior of members of *punguan*. Na Tolu Empowerment Dalihan role as an information channel will simplify and accelerate the process of absorption and acceptance *punguan* members about prevention and control of hypertension, because of the Batak Toba people have a tradition of very high appreciation to the elements of *hula*.Therefore, any information submitted *hula* including about health, particularly on prevention and pengendalian hypertension, will be more quickly accepted.

Na Tolu Dalihan can become a place of troubleshooting and foster a positive influence for members *punguan* in health promotion on the prevention and control of hypertension because it can speed up the decision making

process towards the adoption of behavior prevention and control of hypertension. Hula experience as hypertensives can be example pungan members to improve diet and lifestyle. In this case, *Dalihan Na Tolu can be a driver of change Dalihan Na Tolu* role as innovators and facilitators to accelerate the adoption of behavioral prevention and control of hypertension.

C. Health Promotion and Behavioral Changes in Hypertension Prevention and Control of

Implementation of hypertension necessary to prevent the sustainability of target organ damage in a long time resulting in lower morbidity and mortality. Various studies recommend that hypertension can be reduced by modifying lifestyle, weight control, blood pressure, exercise / exercise, healthy diet, lowering alcohol consumption and smoking. *Joint National Committee*(2003) recommended prevention and control of hypertension emphasis on prevention, early detection, evaluation and treatment of hypertension should be done through the promotion of health and healthy lifestyle modifications(Chobanian et al, 2003). In research conducted by the health promotion, Dalihan Na Tolu aimed at increasing non-pharmacological therapy through the promotion of isometric muscle training in patients with hypertension that can modify their daily lifestyle through behavior change low-salt diet, physical exercise and drinking alcoholic beverages. Non-pharmacological interventions when combined with drugs can generate a controlled blood pressure and improve the quality of life (Burke et al, 2005), although the blood pressure a little bit or small but beneficial to

cardiovascular disease (Roger 2001). Increased physical activity and health education program effectively lower obesity, weight loss and hypertension (Arazi, et al, 2012), so the promotion of health in people with hypertension should be on health care primary(Hong, 2010).

Health education can change a person's behavior in knowing the stimulus or object health, then hold a vote or opinion on what is known, the next he will perform or practice what is known (rated good) through the process: *awareness, interest, evaluation, trial, adaption*. Changes in behavior or adopt new behaviors that follow the process step changes in knowledge, attitudes, and actions. This is evident from the findings that an increase in knowledge, attitudes, and actions before and after health promotion.

Health behavior occurs after someone knows a health stimulus, then conduct an assessment of what is known and provide a response in the form of an attitude. Subject expected to carry out what is known or subject to change attitudes(Notoatmodjo,2003). Health promotion from the volunteer once a month for 4 months to increase knowledge about hypertension pungan members. A good understanding of pungan members also supported by education level has been good, adequate employment and age that are still productive. According to Wahid et al (2007), the knowledge of a person is influenced by several factors, among others: education, work and age. Education is the guidance given by one person to another so that they can understand .. Based on the educational characteristics of respondents found the majority (64%) had high school pungan members. Respondents with a high

school education can better understand the prevention and control of hypertension. Low education levels lead respondents do not care about the knowledge of the low-salt diet. Low education cause respondents have difficulty in receiving education on a low-salt diet. Whereas health education on a low-salt diet is one very important component of hypertension.

The results are consistent with research Razqi et al(2013)in the village of Gresik Manyar Banjarsari. The results showed that the knowledge of the value of $p = 0.001$, attitudes to the value $p = 0.000$ and action with the value $p = 0.001$ means there is a health education to influence the behavior of a low-salt diet in patients with hypertension. Health promotion is associated with decreased blood pressure in hypertensive patients through behavior modification ((Hong, 2010). In this study by empowering role Dalihan Na Tolu who have a significant influence on the attitude of members *punguan*, encourage member *punguan* to adopt prevention and control of hypertension. It this indicates that members who receive health education *punguan* acquire knowledge about better health.

CONCLUSION

People *Dalihan Na Tolu* can be empowered in health intervention activities on the prevention and control of hypertension in *Punguan* Marga in Bengkulu City to be a conduit of information, container construction, troubleshooting, as well as a driver of change. Behavioral change member's behavior *Punguan* before and after the intervention of health in implementing prevention and control of hypertension. There is the influence of empowerment Dalihan Na Tolu against by enhancing

the knowledge and attitudes of members *punguan* in the prevention and control of hypertension before and after the intervention. Health Promotion by Dalihan Na Tolu effect on blood pressure reduction.

RECOMMENDATIONS

Recommendations of this study are *Punguan* Batak clan can be tapped as a *Posbindu-Posbindu* optimal, because that was done regularly meeting with members of a relatively settled. As well as to develop the concept of empowerment role *Na Tolu Dalihan* in this research on other *Punguan* or other areas that have a culture of prevention and control of hypertension through the establishment of a cadre of *Punguan*.

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