



GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 20 Issue 10 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460x & Print ISSN: 0975-587X

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GJHSS-H Classification: FOR Code: 139999



SKILLDEVELOPMENTANDMOTIVATIONALENHANCEMENTTOCHANGE DRINKING BEHAVIOR IN SABAH BORNEO

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Skill Development and Motivational Enhancement to Change Drinking Behavior in Sabah Borneo

Asong Joseph ^α & Nanthakumar Tamilselvam ^ο

Abstract- Alcohol is the third highest risk factor for disease prevalence in the world and threatens the quality of life of people and societies. Consumption of alcohol is a challenge in a few of the native communities of Sabah and Sarawak with the highest prevalence of risky drinking in Malaysia. This study aimed to compare drinking refusal self-efficacy (DRSE) and quality of life (QOL) between the experimental group and the control group before and after the Motivational Enhancement Intervention (MEI); and to compare DRSE and QOL of the experimental group before and after the MEI. A quasi-experimental design was used to assess the effectiveness of MEI at baseline and three months follow-up by using pretest and posttest design. A total of 56 villagers in the West Coast Division of Sabah participated in this study. Purposive sampling by using Alcohol Use Identification Test (AUDIT) was applied to select hazardous and harmful drinkers between age 18 to 56 years old. Data was analyzed by using IBM SPSS version 26.0. The result found a significant difference in DRSE and QOL in the intervention group before and after MEI. A significant difference in these measures was also found between the intervention and control groups after MEI. The study results are significant to provide direction for the next action plan for intervention purposes aimed to increase the ability to resist drinking alcohol in various situations and to improve the QOL among the indigenous communities of Sabah.

Keywords and phrases: drinking refusal self-efficacy; alcohol consumption; quality of life; motivational enhancement; indigenous communities.

I. INTRODUCTION

Alcohol is the third highest risk factor for disease burden globally (WHO, 2018). Alcohol is one of the most popular psychoactive substances in the world (Morgan et al., 2013). The harmful use of alcohol ranks among the top five risk factors for disease, disability, and death throughout the world (WHO, 2018). Alcohol has been linked to more than 200 diseases and injury conditions (WHO, 2014; Rehm et al., 2012). Alcohol has effects on every organ in the body but these effects depend on the individual's Blood Alcohol Concentration (BAC) over time (Zakhari, 2006). The BAC level and the individual's reaction to the BAC is

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influenced by their gender, age, weight, metabolism, frequency of drinking, the duration of drinking, amount of alcohol and the amount of food in the stomach prior to drinking (WHO, 2015).

According to the World Health Organization (WHO, 2011) and National Institute on Alcohol Abuse and Alcoholism (2018), there were more than 2 billion people worldwide consuming alcoholic beverages and 76.3 million had an alcohol use disorder. Malaysia is reported to be the tenth largest consumer of alcohol in the world (Arshad et al., 2015; WHO, 2011). Each year, Malaysian adults spend a total of USD 500 million on alcohol (WHO, 2011). Mutalip et al. (2014) reported that one in two current drinkers in Malaysia engaged in harmful drinking patterns. The highest prevalence of alcohol consumption in Malaysia is found among 18 to 39-year-olds which found 49.5% of all the risky drinkers. Sabah is reported as having a higher prevalence of high-risk drinkers with 18.4%, after Kuala Lumpur (20.3%) and Sarawak (19.7%). Some groups of the indigenous communities in Sabah (such as Kadazandusun, Murut, Sungai, and Rungus) consider alcohol to be part of everyday life and a way to maintain their culture (Joseph et al., 2020; Lasimbang et al., 2015; Jamali et al., 2009). Various forms of traditional liquor are easily available and can be bought at a house whose owner had been producing them in small quantities, at the village sundry shops and at restaurants or eating stalls (Jamali et al., 2009).

Drinking alcohol is known to have some benefits such as helping to celebrate and socialize, and enhancing the joyfulness of ceremonies (Fortin, et al., 2015; Hoops, 2011; Jamali et al., 2009). It is also used as part of social, business, and family life, an enjoyable and habitual accompaniment to food and celebrations. In Sabah, alcohol is considered to be a part of traditional culture, especially for some indigenous groups (Shoesmith et al., 2016; Lasimbang et al., 2015). Some indigenous communities in Sabah, such as Kadazandusun, Murut, Sungai, and Rungus (Jamali et al., 2009), consider alcohol to be part of everyday life and is one key factor in maintaining the culture and traditions (Jamali et al., 2009). Drinking alcohol to the point of intoxication has never been part of any tradition among these indigenous groups (Asmat, 2018). This abuse of alcohol can destroy the aim of the indigenous

group cultures and traditions, where it was used to welcome people as well as enjoying ceremonies.

The government of Malaysia has acknowledged the harmful effects of alcohol on the community and has introduced various strategies to address these problems. However, it needs the voluntary people to go to the rehab center or hospital for further treatment, while people will only go to the hospital or rehab center when they are sick. According to Di Clemente et al. (1999), motivation is a key factor in alcohol use disorder treatment by influencing clients to seek, comply and complete treatment for long-term successful reduction or cessation in their drinking. Motivational interviewing (MI) (Miller et al., 2012) is a person-centered counseling style aimed at helping clients to explore and resolve ambivalence for change. This method works on facilitating and engaging motivation within the client in order to change behavior. This approach is an evidence-based communication style that highlights the importance of motivation, ambivalence, and resistance for behavior change.

The Motivational Enhancement Intervention (MEI) by Joseph et al. (2019) aimed to reduce the negative impact of drinking behavior for individuals and communities. The MEI is designed to enhance participants' motivation to change their drinking behavior. It uses multimethod approaches including focus group discussion and peer support groups to increase participants' motivation to change their drinking behavior. The module provides guidelines, suggested activities, planning templates and information regarding alcohol related benefits and harm.

The MEI method combines Motivational Interviewing (MI) (Miller, 2012) with the brevity of less intensive intervention. The intervention comprises 4 sessions over 12 weeks, each running for between 60 to 90 minutes. In the first session, the facilitator works on identifying and naming ambivalence using the Diamond Dialogue tool, building motivation for change and constructing a decisional balance for a change. During session 2, the facilitator concentrates on developing a change plan with the participant. This involves setting behavioral goals and strengthening the participants' commitment to change by using MI approaches that are appropriate for the participants' stage in the change process. It also entails helping the participants develop a specific plan for change (e.g., what he or she will do, how he or she will do it, and who can help).

During sessions 3 and 4, the facilitator focuses on reviewing participants' progress and renewing motivation and commitment. This involves discussing and overcoming challenges and solving ambiguities as well as exploring the level of self-strength that the participant has about changing their desired behavior. Termination of the treatment and future plans are also discussed at the end of session 4, which incorporates a summary of the treatment progress. The facilitator

reviews motivational themes, summarizes the participants' stage of change, elicits self-motivational statements for maintaining change, and explores future areas of change and resources for help.

II. OBJECTIVES

1. Comparing the drinking refusal self-efficacy of the experimental group before and after the Motivational Enhancement Intervention implementation.
2. Comparing the drinking refusal self-efficacy between the experimental group and the control group before and after the experiment.
3. Comparing the quality of life between the experimental group and the control group before and after the experiment.
4. Comparing the quality of life of the experimental group before and after the Motivational Enhancement Intervention implementation.

III. HYPOTHESIS

H1a: There is no significant difference in drinking refusal self-efficacy between the experimental group and the control group before the experiment.

H1b: There is a significant difference in drinking refusal self-efficacy between the experimental group and the control group after the experiment.

H2: There is a significant difference in drinking refusal self-efficacy of the experimental group before and after the Motivational Enhancement Intervention implementation.

H3 a: There is no significant difference in the quality of life between the experimental group and the control group before the experiment.

H3 b: There is a significant difference in the quality of life between the experimental group and the control group after the experiment.

H4: There is a significant difference in the quality of life of the experimental group before and after the Motivational Enhancement Intervention implementation.

IV. METHOD

a) *Participants and Location*

Purposive sampling was used to select hazardous and harmful drinkers from the Sabah indigenous communities. According to Babor et al. (2001), hazardous and harmful drinkers are recommended for brief education and short intervention to reduce alcohol-related harm. Understanding the impacts of drinking style on alcohol-related harm will indeed help to promote effective approaches for further study. Assessment through Alcohol Use Identification Test (AUDIT) was performed to identify participants who scored between 8 to 15 (hazardous drinker) and 16 to 19 (harmful drinker) based on AUDIT. Data has been collected during a community meeting, 'Leaders United

Event of indigenous people of Sabah' at Partnership of Community Organization (PACOS-Trust)) located in Penampang, Sabah. PACOS-Trust is a community-based organization dedicated to the support of indigenous communities in Sabah. A sample of 171 respondents from the Sabah indigenous communities represented by the Sabah West Coast Division were screened and only 56 villagers who were at the level of hazardous and harmful drinkers were eligible and had agreed to participate in the assessment.

b) *Materials and Procedures*

There were three measurements used in this study. First, Alcohol Use Identification Test (AUDIT) by Saunders et al. (1993) was used to identify the drinking pattern of participants. The AUDIT consists of a 10-items self-report tool that measures the amount and frequency of alcohol consumption (item 1 to 3), alcohol dependence (item 4 to 6), and alcohol problems related to alcohol consumption (item 7 to 10). Scores range from 0 to 40, and the generally accepted cut-off point of the scale to identify potentially hazardous alcohol intake is 8. For the purpose of this study, those who scored between 8 to 19 on AUDIT were eligible to participate in this study. Second, Drinking refusal self-efficacy questionnaire-revised (DRSEQ-R) was modified by Oei et al. (2005) to measure the participant's ability to resist drinking alcohol in various situations. It consists of a 19-item self-report questionnaire that uses a 6-point scale response with the following choices from 1 (I am very sure I would drink) to 6 (I am very sure I would NOT drink) with a higher score reflecting their DRSE. The measure incorporates three subscales reflecting drinking refusal self-efficacy relating to social pressure (item 1 to 5), emotional relief (item 6 to 12) and opportunity to drink (item 13 to 19). This DRSEQ-R new factor structure with confirmatory factor analysis found the DRSEQ-R Alpha reliability to range from .87 to .94, and test retest reliability range from .84 to .93 (Oei et al., 2005). An example item for DRSEQ-R is "When I am out for dinner ...".

Third, Personnel wellbeing index - Adult (PWI-A) which was developed by the International Wellbeing Group of Australia (Cummins et al., 2013) to measure an individual's quality of life in accordance with his or her wellbeing. The PWI-A contains 8-items of well-being assessed by the PWI-A which are: standard of living; personal health; achieving in life; personal relationships; personal safety; community-connectedness; future security; spirituality and religion. This widely used 8-question survey has an 11-point response set. The possible responses are anchored on each end with the responses completely dissatisfied at the zero points and completely satisfied at the 10-point end of the scale. The Cronbach alpha for the PWI-A, in Australia and overseas, is stated to be between 0.70 and 0.85 (Cummins et al., 2013).

This study started with screening by using AUDIT to select participants which have scored between 8 to 19 on AUDIT or were known as hazardous and harmful drinkers. Those who were eligible and agreed to participate were then asked to complete the consent form and answer a set of questionnaires. A set of the questionnaire consists of demographic questions, DRSEQ-R and PWI-A was given for the pretest propose. Participants then went through the Motivational Enhancement Intervention (MEI) which aimed to increase their DRSE and to improve their QOL. Posttest data were collected at baseline and three months follow-up. The internal consistency of the DRSEQ-R as measured using Cronbach's alpha was .862 while PWI-A was .931.

c) *Data Analysis*

Data was analyzed by using IBMSPSS.26.0 according to the objectives of this study. Statistic descriptive was used to measure the demographics of participants. The participants were characterized by using basic frequencies and means, while baseline characteristics of the experimental and control groups were compared using a non-parametric test. Non-parametric statistics such as Mann-Whitney U Test and Wilcoxon Signed-Rank Test were used to test the hypothesis. The Mann-Whitney U test was used to measure the comparison of drinking refusal and quality of life between experimental groups and control groups before and after the experiment. The Wilcoxon Sign Rank Test was used to measure the comparison of drinking refusal self-efficacy and quality of life before and after the intervention of the experimental groups.

V. RESULT

The results and discussions are reported according to the objectives of this study as follow:

The differences in drinking refusal self-efficacy and quality of life between the experimental group and the control group before the Motivational Enhancement Intervention Implementation.

The results of Mann Whitney U test for the pretest in drinking refusal self-efficacy and quality of life of the participants in the experimental and control group is not significant with drinking refusal self-efficacy ($U = -.295, p > .05$) and quality of life ($U = -.222, p > .05$). The mean rank of the pretest drinking refusal self-efficacy score of the experimental group control group was 29.14 and 27.86 respectively. Meanwhile, the mean rank of the pretest quality of life score for the experiment group and control group was 29.98 and 28.02 respectively. The close mean rank of the groups in the pretest indicated that before the implementation of the MEI Module, the experimental and control groups had somewhat equal pretest in drinking refusal self-efficacy and quality of life levels. Therefore, the hypothesis H1a

and H3a were supported. The summary of the results showed in Table 1.

Table 1: Results of the Mann Whitney U Test to Compare the Group Pretest Drinking Refusal Self-efficacy and Quality of Life Scores

Scale	Group	N	Mean Rank	U	Sig
Drinking refusal self-efficacy	Experimental	28	29.14	-.295	.768
	Control	28	27.86		
Quality of life	Experimental	28	29.98	-.222	.825
	Control	28	28.02		

The differences in drinking refusal self-efficacy and quality of life between the experimental group and the control group after the Motivational Enhancement Intervention Implementation.

The results of Mann Whitney U test for the posttest in drinking refusal self-efficacy and quality of life of the participants in the experimental and control group showed a significant difference drinking refusal self-efficacy ($U = -3.829$, $p > .05$) and quality of life ($U = -2.208$, $p > .05$). The mean rank of the posttest drinking refusal self-efficacy score of the experiment group was 20.16, while the participants in the control group had a posttest drinking refusal self-efficacy score mean rank of 36.84. The mean rank of the posttest quality of life score of the experiment group was 33.30,

while the participants in the control group had a posttest quality of life score mean rank of 23.70. The close mean rank of the groups in the posttest indicated that before the implementation of the MEI Module, the experimental and control groups had no equal posttest in drinking refusal self-efficacy and quality of life levels. Therefore, hypothesis H1b (there is a significant difference in drinking refusal self-efficacy between the experimental group and the control group after the experiment) and H3b (there is a significant difference in the quality of life between the experimental group and the control group after the experiment) were supported. The summary of the results showed in Table 2.

Table 2: Results of the Mann Whitney U Test to Compare the Group Posttest Drinking Refusal Self-efficacy and Quality of Life Scores

Scale	Group	N	Mean Rank	U	Sig
Drinking refusal self-efficacy	Experimental	28	20.16	-3.829	.000
	Control	28	36.84		
Quality of life	Experimental	28	33.30	-2.208	.027
	Control	28	23.70		

The differences in drinking refusal self-efficacy and quality of life of the experimental group before and after Motivational Enhancement Intervention implementation.

Wilcoxon Signed-Rank Test was used to test the difference in drinking refusal self-efficacy and quality of life of the experimental group before and after the Motivational Enhancement Intervention (MEI) module. The result of the Wilcoxon Signed-Rank Test for the pretest and posttest in drinking refusal self-efficacy and quality of life of the participants in the experimental group showed significant differences in drinking refusal self-efficacy ($Z = -3.846$, $p < .05$) and quality of life ($Z = -2.369$, $p < .05$). The results explained that the MEI

Module has successfully increased drinking refusal self-efficacy and quality of life of participants. Therefore, the hypothesis H2 (there is a significant difference in drinking refusal self-efficacy of the experimental group before and after the Motivational Enhancement Intervention implementation) and H4 (there is a significant difference in the quality of life of the experimental group before and after the Motivational Enhancement Intervention implementation) were supported. The summary of the results showed in Table 3.

Table 3: Result of the Wilcoxon Signed-Rank Test to compare Pretest and Posttest of the Experimental Group in Drinking Refusal Self-efficacy and Quality of Life

Scale	Treatment	N	Median	Z	Sig	Hypothesis
Drinking refusal self-efficacy	Before	28	43.00	-3.846	.000	Supported
	After	28	34.00			
Quality of life	Before	28	59.00	-2.369	.018	Supported
	After	28	62.00			

VI. DISCUSSION

The aim of this study is to examine the effectiveness of the Motivational Enhancement Intervention (MEI) Module towards the intervention group. Specifically, this study addressed increasing drinking refusal self-efficacy and quality of life of indigenous communities of Sabah. Discussion is presented according to the research objectives.

Objective 1: Comparing the drinking refusal self-efficacy of the experimental group before and after the Motivational Enhancement Intervention implementation.

Objective 2: Comparing the drinking refusal self-efficacy between the experimental group and the control group before and after the experiment.

The result of 12 weeks Motivational Enhancement Intervention (MEI) Module implementation showed a significant difference in drinking refusal self-efficacy (DRSE) of the experimental group before and after the experiment. This study also showed that there is no significant difference in drinking refusal self-efficacy between the experimental group and the control group before the experiment, however, there is a significant difference found after the experiment. It explains that the MEI has succeeded in improving participants' ability to refuse from drinking in a hazardous and harmful way. On the other hand, this study explains that participants were able to refuse from drinking in hazardous and harmful way when they were with someone (e.g. friends, spouse, family member), or while doing some activity (e.g. watching television, reading, having lunch/dinner, after sport, at club/pub), or in emotionally problem (e.g. stress, down, anxiety, upset, angry, worried, sad, nervous). This concept also refers to the concept introduced by Oei et al. (2005) that explains the DRSE as an ability of individuals to resist drinking in various circumstances.

DRSE is highly related to alcohol consumption which can influence the drinking pattern of an individual. It is an important variable to be included in intervention when it focuses on reducing hazardous and harmful drinking patterns (Oei et al., 2006). DRSE as a predictor of alcohol consumption (Oei et al., 2006) and it was negatively related to both volume and frequency of

drinking (Hasking et al., 2002). DRSE is related to self-awareness which represents the ability to control or limit drinking (Foster et al., 2014). The individuals with high self-awareness are predicted to have less drinking (La Brie et al., 2008). Based on these findings, this study can explain that participants who have high DRSE will automatically reduce their alcohol consumption which ranges from hazardous and harmful risk to low risk of alcohol consumption. This supported the study finding which showed the increase of DRSE before and after the MEI Module implementation.

Increasing DRSE among the indigenous communities of Sabah becomes an interesting focus in this study as alcohol plays an important role in these communities. Among the indigenous communities of Sabah, alcohol is considered as a key ingredient in their happiness and overall well-being that used to improve their social connectedness and social activities, whereas without alcohol their life is so uninteresting (Shoesmith et al., 2018). It can be explained by using action-network theory (ANT) by Law (1991). According to ANT, alcohol is a part of the network of relationships in the indigenous communities of Sabah. In fact, these communities enjoy alcohol when being in a community gathering, family parties and even consume more during festive seasons, weekends and when with peer groups (Jamali et al., 2009). It is explained that alcohol is an agent in the social setting of drinking culture which participates in social interaction and working with people to create joyfulness.

This study found that there is a contradiction about drinking alcohol in these communities. These communities drink alcohol to maintain their culture but somehow, they also realize the negative effects caused by alcohol in their community. It can be explained by the theory of cognitive dissonance (Festinger, 1957) that clarifies the contradiction between their belief and current action. This situation explains the dissonance that happened when they want to maintain their culture of drinking but at the same time, they also want to avoid the negative consequences of alcohol. According to Festinger (1957), the greater the dissonance in someone, the more he or she will be motivated to resolve it. On the other hand, the greater the dissonance

of alcohol use between current beliefs and actual behavior of the participants in this study, the more they are motivated to resolve it. This contributes to greater success in DRSE in this study because the MEI Module is working on resolving ambivalence by changing action (drinking behavior) to fit with their current belief (thinking that their drinking pattern causes harm). Besides, the use of the MI approach is also playing an important role in resolving ambivalence that leads participants to change (Miller & Rollnick, 1991) by enhancing participants' motivation to change their drinking behavior.

Objective 3: Comparing the quality of life between the experimental group and the control group before and after the experiment.

Objective 4: Comparing the quality of life of the experimental group before and after the Motivational Enhancement Intervention implementation.

The results clearly showed that the quality of life (QOL) of participants in the experimental study have been increased after the Motivational Enhancement Intervention (MEI) Module implementation. Besides, there was no significant difference in the quality of life between the control group and the experimental group before the experiment. However, a significant difference in the quality of life was found between the control group and the experimental after the experiment. It explains that the MEI has succeeded to improve the well-being of the indigenous communities of Sabah after the 3 months follow-up. It can conclude that participants who are able to refuse from drinking in a hazardous or harmful way in various situations, would be beneficial to reduce the risk of drinking as well as improving their QOL. A similar result was also found in previous studies which stated that participants who reduced their alcohol consumption were reported with high QOL (Walters et al., 2009; Deappen et al., 2014; Frischknecht et al., 2013).

Quality of life becomes an individual umbrella in the concept of human beings. This concept is defined as a complete physical, mental and social well-being (WHO, 1985). The ability of an individual to develop and improve QOL will significantly impact his or her health and well-being (Yamaguchi, 2015). In conclusion of this study, people who able to refuse from drinking in risky behavior (hazardous and harmful pattern), would also be able to avoid alcohol-related harm and it significantly impacts on their life satisfaction which includes standard of living, health, life achievement, personal relationships, safety feeling, being part of community, security, and religion. This study area is important to measure social health, emotional health, and relationships with other people and our environment, including values and attitudes (Educanda, 2018). It also helps to reduce the tendency of an individual to be involved in substance abuse.

Overall results of this study supported previous findings that found the brief motivational intervention to enhance motivation showed effective to change drinking behavior (DiClemente et al., 1999; Saunders et al., 1993; Babor et al., 1992; Miller et al., 1991). In fact, this study has proven that the adaptation of Motivational Enhancement Therapy (by DiClemente et al., 1999) with Motivational Interviewing approach (by Miller et al., 1991) that have suited the culture of indigenous communities of Sabah showed effective to increase readiness to change, drinking refusal self-efficacy. At the same time, it's also succeeded in reducing the risk of drinking and alcohol-related harm as well as improving well-being in life satisfaction among hazardous and harmful drinkers.

VII. CONCLUSION AND DIRECTION FOR FUTURE RESEARCH

This study has shown a significant difference in drinking refusal self-efficacy (DRSE) and quality of life (QOL) in the intervention group before and after motivational enhancement intervention (MEI) implementation. A significant difference in these measures was also found between the intervention and control groups after the implementation of MEI. Those results are significant to provide direction for the next action plan for intervention purposes which aimed to increase the ability to resist drinking alcohol in various situations and to improve the QOL among the indigenous communities of Sabah. This finding adds evidence-based data to the existing literature that by enhancing motivation to change drinking behavior in the intervention succeed to increase drinking refusal self-efficacy and quality of life of the participants.

This study proposes some directions for future research. First, a support group at the community level would be an interesting topic to be studied. The support group at the community level would be able to help the community with alcohol problems to provide supportive care and make it sustainable. Future research may include collaborative networks between professional or stakeholder groups in the community-based intervention to reduce alcohol-related harm. The research should focus on modifying drinking cultures that could affect change in local policies, structures, and systems, for example improving local policies on alcohol, strengthening collaborative networks between professional or stakeholder groups, or involving local communities in efforts to achieve change. Ensuring the sustainability of the effectiveness program requires changes in behaviors and social structures to be embedded in local policies, cultures, and practices. Therefore, collaborative networks between professional and stakeholder groups can be powerful mechanisms to address alcohol problems in communities as well as making its sustainable program. Follow-up intervention

after 3 months would also be interesting to study to examine the sleeper effect after the termination of the intervention.

a) Ethics Approval

This study was given ethical approval by the Ethics Committee at Universiti Malaysia Sabah with ethical approval code JKEtika3/17(3).

b) Conflict of Interest

Author has declared that no competing interests exist.

ACKNOWLEDGEMENT

This study was financially supported by the Ministry of Education, Malaysia through the scholarship Mybrain15. I would like to thank my supervisors (Prof. Dr. Helen Benedict Lasimbang, Assoc. Prof. Dr. Chua Bee Seok and Sandi James) for help and guidance in doing this study, and to the head of villages for giving the permission to conduct this study in their village. I also appreciate all villagers for participation and information given in this study.

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