## Sigma Theta Tau International's 29th International Nursing Research Congress

# **Community Genogram: An Innovation to Guide Health Promotion and Risk Reduction Interventions in Rural Thailand**

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#### **INTRODUCTION:**

Chronic non-communicable diseases (NCD) such as heart disease, stroke, cancer, chronic respiratory diseases, hypertension, and diabetes mellitus are the most significant causes of death globally where 80% of chronic disease mortality occurs in low and middle income countries (World Health Organization, 2011) including Thailand (Benjarak, Krobmai, Naraongat, Ruksakulpiwat, & Singha-Dong, 2016; Ministry of Public Health, 2016).

In rural Thailand, patients have limited health literacy and limited points of contact with providers within the health care system further underscoring the need for prevention efforts and access to local educational sessions. Local sub-district health promotion hospitals are well positioned to deliver educational sessions to rural Thai villagers, but often retroactive, individual-based, lack resources and validated programs. Understanding community dynamics, relationship, and wellbeing is very important to community nurses to guide health promotion and risk reduction interventions in such setting.

The purpose of this study was expand on previous work that evaluated a family genogram that was initiated to prevent stroke and improve patient outcomes in a high-risk, underserved population in a rural community of Nakhon Ratchasima, Thailand. This study aims to evaluate the usefulness of the genogram for its capacity to serve as an aid to better understand family structure and dynamics at a community level and guide health promotion and risk reduction interventions in rural close-knit communities of Chok Chai District in Nakhon Ratchasima, Thailand.

#### **METHOD:**

Community leaders and lay health volunteers were contacted and informed regarding purpose, strength, and limitation of genogram application. Upon agreement, residents were informed and invited to provide family information household by household. Residents were interviewed at their houses or community hall. The composition of each household was recorded using a genogram. Details of family illness, housing, and occupation were noted. Age, medical history, health status, risk behaviors, and causes of morbidity and mortality of individual member were taken. Every individual older than 15 years old was

screened for diabetes, hypertension, stroke risks, and risk factors for coronary heart disease. Family genograms of at least five generations were grouped into community genogram starting with the family with the largest members identified by community and families with frequently found NCD burden. Community genogram was analyzed for health needs and findings were presented and discussed with community leaders and members through community forum. Health promotion and risk reduction interventions were proposed, discussed, and agreed by the forum and implemented for a duration of four weeks. Data were analyzed using descriptive, comparative, and inferential statistics.

#### **RESULTS:**

Meeting residents proactively was an effective and apparently efficient way of providing basic screening and plan for intervention. It allowed nurses to learn about the structure of families, the social problems faced by their community, and the areas in which their health care could be improved. Visualizing risks through community genogram increased family and community awareness regarding NCD as well as other illnesses. The genogram facilitated the identification of key resource persons for disease control and prevention. Moreover, the community genogram increased community engagement and participation in health promotion and risk reduction interventions. More than half of those at NCD risk voluntarily participated in multiple interventions tailored to their needs. The interventions resulted in significant improvements in knowledge, risk reduction skills, lifestyle, and clinical outcomes.

#### **CONCLUSION:**

The community genogram is a graphic tool that places emphasis on the positive strengths and resources that can be used to guide health promotion and risk reduction interventions. This application of community genogram provides a model which could be adapted with other disadvantage or 'hard-to-reach' communities to improve health and wellbeing of their population.

#### Title:

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#### **Keywords:**

community genogram, health promotion risk reduction and rural community

### References:

Benjarak, A, Krobmai, P, Naraongat, P, Ruksakulpiwat, S, & Singha-Dong, N. Epidemiology and Health Care of Stroke in Nakhon Ratchasima, Thailand. A presentation at the International conference Moving Towards the New Era of NCDs and Global Health. October 27-28, 2016 Cape Panwa Hotel, Phuket, Thailand

Bureau of Policy and Strategy. Mortality statistics. Nonthaburi, Thailand: Ministry of Public Health of Thailand; 2011.

Ministry of Public Health (2016). National Health Improvement Policy 2017-2021 [In Thai]. Bangkok: Vetarian Press.

Singha-Dong, N., Bigelow, A. (2017). SUT Stroke Specific Genogram: Application of Genogram on Screening for individual at Risks of Stroke in Rural Thai Community. Glob J Medical Clin Case Rep, 4(3): 058-064.

Singha-Dong, N., Bigelow, A., Pardee, M., Wongthi, P., Ackaraprasertkul, P., Kangromklang, T., Sandee, N., Vachada, U., Janphet, J., Sookserm, P., Flood, R., Johnson, S., & Kummant, K. (2016, April 5). Impact of a Screening Family Genogram on Hypertension Control and Stroke Prevention: a case from the Thai Rural Community. A presentation at the Symposium on Global Health: 125 years of Research and Impact. Ann Arbor, Michigan, USA.

World Health Organization. Global status report on noncommunicable diseases 2010. Italy: World Health Organization; 2011.

#### **Abstract Summary:**

This study aims to evaluate the usefulness of the genogram for its capacity to serve as an aid to better understand family structure and dynamics at a community level and guide health promotion and risk reduction interventions in rural close-knit communities in Nakhon Ratchasima, Thailand.

#### **Content Outline:**

- I. Introduction
- A: Non-Communicable diseases are a global, national, and local problem but largely preventable
- B: Rural communities often retroactive, lack health literacy and resources to be able to administer effective prevention programs to population
- C: Community genogram is an innovative approach to promote heath and reduce risks proactively
- II. Body
- A: Methodology
- i. Application of community genogram in risk assessment, intervention planning, and evaluation
- ii. Community-based health promotion and risk reduction interventions derived from community genogram
- iii. Data analysis
- B: Results:
- i. Pre-test and post-test knowledge assessment on modifiable risk factors for hypertension and stroke prevention
- ii. Community genogram increased awareness of NCDs and increased participation in community-wide interventions and improved clinical outcomes
- III: Conclusions

A: Community genogram increased disease awareness and increased participation in community-wide interventions

B: Knowledge of modifiable risk factors increased post intervention

C: Recommendations

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