

## ACKNOWLEDGEMENT

For the success and final outcome of this thesis, I respect and deeply thank to my advisor, Assistant Professor Dr. Wanvisa Treebuphachatsakul for her valuable advice, consultation, and suggestion throughout time of this thesis. She is always kind, support and patient with me during the thesis.

Special appreciation is also extended to Professor Dr. Gerald J. Kost and my co-advisor, Assistant Professor Dr. Anchalee Chittamma for their excellence advice and support.

I thankfully acknowledge the Thai Research Fund (TRF), MRG 5080370 and Graduate School of Naresuan University for financial support.

I owe my profound gratitude to the participants from Tambon Ban Krang, and Naresuan University personnel, Muang District, Phitsanulok, Thailand, that took an interest and participate in the thesis.

Many greatly thankful to all personnel of Ban Krang Primary Care Unit for their support and arrange an appointment with the participants.

I heartily thank Police Colonel Roong-aroon Dee-in, the chief of Clinical Chemistry Laboratory at Police General Hospital, Bangkok, Thailand for her kindness and support, together with the other officer of Clinical Chemistry Laboratory.

I am sincerely grateful to Ms. Janet Mayhew for her advice on writing and Ms. Mabelle Wilson, biostatistician at University of California, Davis, for her nice support and guidance on data analysis.

At least but not the last, I wish to thank my parents for their endless love, tenderness, moral support and affectionate precept. I would like to thank my brother for his love and believe in me. Finally, I would like to thank my wife for her kindness, keeping her fingers crossed to me, hardly walk abreast of me and giving me any chance.

Patawee Ngamlert