

# ICN 2013 - Concurrent / Poster Submission

**Topic:**

*Technology supporting equity and access*

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## THE EXPLORATION OF NON-INVASIVE ASSESSMENT METHOD TO PREDICT THE RISK OF METABOLIC SYMPTOM

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**Abstract Content:** *Background:* The threat of metabolic symptom to health for populations is increased. The heart rate variability is often used as prediction index of risks of cardiovascular diseases. Using multiple non-invasive assessments to predict the early stage of metabolic syndrome is beneficial for community populations in health maintenance.

*Purpose:* Use of non-invasive assessment to predict the risk of metabolic syndrome.

*Method:* This study adopted longitudinal study with purposive sampling to recruit subjects from family medicine clinics at a medical center in central Taiwan. Basic personal sheet, Health-Promoting Lifestyle Profile, physical assessment sheet, and 10 blue tooth wireless Bio-feedback were used to assess health status. Statistical analyses were performed with SPSS version 19.0.

*Result:* A total of 154 subjects were categorized into the normal populations (G0), subjects meeting one criterion of metabolic syndrome (G1), those 2 (G2) and patients with metabolic syndrome (G3). The results found that 8 objective measures including body mass index, systolic and diastolic pressure, body fat, neck circumference, waist circumference, hip circumference, and the VLF of heart rate variability were statically significant among all four groups. Health-promotion lifestyle was negatively associated with body fat, systolic and diastolic pressure and positively correlated with HF and VLF of heart rate variability. Meanwhile, diastolic pressure, body mass index and VLF of heart rate variability showed significant predictors of risk of metabolic symptom (Adjust  $R^2=.38$ ,  $F=30.9$ ,  $p=0.000$ ).

*Conclusion/ Clinical Practices:* Subjects in G1, G2, and G3 were found to have lower heart rate variance and lower scores in health-promotion lifestyle. Thus, nursing staff can provide relevant health education and interventions for community people identified as higher risk of metabolic syndrome by through simple, non-invasive assessments of heart rate variability and scales.

**Submission for:** Poster presentation

**Disclosure of Interest:** None Declared

**Keywords:** metabolic syndrome, health-promotion lifestyle, heart rate variability.