



Title	Heart diseases and physical frailty in community-dwelling older populations
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Abstract of Thesis

Name (Klinpudtan Nonglak)	
Title	Heart diseases and physical frailty in community-dwelling older populations (地域在住の高齢者における心疾患と身体的フレイル)
概要（500字程度にまとめてください。） Background: Heart diseases have been associated with an increased risk of physical frailty. However, the association remains ambiguous and both directions are plausible. This study set out to examine the direct association by a cross-sectional study and a longitudinal study between heart diseases and physical frailty in community-dwelling older populations. Methods: Both studies recruited the participants from the septuagenarians, octogenarians, nonagenarians investigation with centenarians study (SONIC study) in three age groups including 70, 80, and 90 years old, respectively. The survey site assessed questionnaires on medical history, social factors, blood test, and physical examination. Physical frailty was defined base on slow gait speed or weak grip strength. Consequently, the first study was a cross-sectional study to examine the association between heart diseases, social factors, and physical frailty. A total 1,882 participants were recruited to the study. Associations were analyzed using multiple logistic regression with adjustments for covariate factors. The second study was a longitudinal study to examine the association of walking speed and handgrip strength with coronary heart disease (CHD). A total 1272 older people free from heart diseases at the baseline. Any new case of CHD was obtained based on a self-reported doctor's diagnosis. Cox-proportion hazard models were adjusted for covariate factors to examine the CHD risk. Results: First study indicated that heart diseases were associated with a slow gait speed. Frequency of going outdoors and direct interaction with relatives or friends were associated with a slow gait speed. Living alone and frequency of direct interaction with relatives or friends were associated with physical frailty in subjects with heart disease. The second study indicated that walking speed was strongly associated with CHD risk after adjusting for all confounding factors in the total participants and women. Conclusion: In this study, the result revealed that heart diseases were associated with physical frailty based on slow walking speed, and on the other hand, walking speed is a strong surrogate predictor of CHD risk among older people. Our findings emphasize the need to improve physical function in order to prevent frailty and heart disease among older populations.	

論文審査の結果の要旨及び担当者

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論文審査の結果の要旨

Background: Heart diseases have been associated with an increased risk of physical frailty. However, the association remains ambiguous and both directions are plausible. This study set out to examine the direct association by a cross-sectional study and a longitudinal study between heart diseases and physical frailty in community-dwelling older populations.

Methods: Both studies recruited the participants from the septuagenarians, octogenarians, nonagenarians investigation with centenarians study (SONIC study) in three age groups including 70, 80, and 90 years old, respectively. The survey site assessed questionnaires on medical history, social factors, blood test, and physical examination. Physical frailty was defined base on slow gait speed or weak grip strength. Consequently, the first study was a cross-sectional study to examine the association between heart diseases, social factors, and physical frailty. A total 1,882 participants were recruited to the study. Associations were analyzed using multiple logistic regression with adjustments for covariate factors. The second study was a longitudinal study to examine the association of walking speed and handgrip strength with coronary heart disease (CHD). A total 1272 older people free from heart diseases at the baseline. Any new case of CHD was obtained based on a self-reported doctor's diagnosis. Cox-proportion hazard models were adjusted for covariate factors to examine the CHD risk.

Results: First study indicated that heart diseases were associated with a slow gait speed. Frequency of going outdoors and direct interaction with relatives or friends were associated with a slow gait speed. Living alone and frequency of direct interaction with relatives or friends were associated with physical frailty in subjects with heart disease. The second study indicated that walking speed was strongly associated with CHD risk after adjusting for all confounding factors in the total participants and women.

Conclusion: In this study, the result revealed that heart diseases were associated with physical frailty based on slow walking speed, and on the other hand, walking speed is a strong surrogate predictor of CHD risk among older people. Our findings emphasize the need to improve physical function in order to prevent frailty and heart disease among older populations.

高齢者において心疾患とフレイルの密接な関連が指摘されている。両者の関係の因果関係や、介在要因を明らかにすることは、健康寿命延伸の実現に有用である。本研究は、心疾患を有する高齢者における社会要因の関与を明らかにし、歩行速度の低下が冠動脈疾患発症の原因になることを示した重要な知見である。本研究は、心疾患とフレイルの関係性と修飾要因から、介護予防のターゲットを明らかにした重要な研究と言える。したがって本研究は博士（看護学）の学位授与に値すると判断した。