出國報告（出國類別：出席國際會議）

參加第 22 屆北歐老年學大會

服務機關：國立體育大學運動保健學系
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摘 要

本次北歐老年學大會（22nd Nordic Congress of Gerontology, 22NKG）為北歐老年學聯合會、瑞典老年學學會及瑞典老年醫學會共同主辦，今年大會主題為「整全老化：個人與社會的挑戰（Age Well: Challenges for Individuals and Society）」。

這次參加的國際會議特別針對高齡個體、機構或社會與國家政策層面進行相關主題的發表，對於學習面對我國未來高齡化的準備有許多的啟發與學習。本次參加會議之收穫之餘，特別提出下列三項心得與建議：一、高齡者的研究跨越學門與領域；二、高齡者的政策超越國家地域性；三、高齡者的服務要有想像力。透過這項國際學術交流，反思我國體育界與其他相關領域整合性活動較闕如，有待跨學門整合，並民間與政府合作的決策行動，以吸取彼此推動高齡者健康促進的經驗，期使我國高齡者運動健康促進與疾病預防的工作更有效能。

」

目 錄

壹、目的

台灣高齡化的趨勢明顯，高齡者透過運動以促進健康與成功老化為未來重要的趨勢議題。本次北歐老年學大會由北歐老年學聯合會、瑞典老年學學會及瑞典老年醫學會共同主辦，已進入第 22 屆，在國際相關會議中扮演重要領導地位。基於北歐為全球老化最快速地區之一，期透過參加本次會議與論文發表，吸收北歐高齡者活躍老化的經驗、增加本校國際學術地位與能見度，並增進國際學術交流與情誼。

貳、過程

一、 會議背景與活動簡介

如前所述，本次北歐老年學大會（22nd Nordic Congress of Gerontology, 22NKG）由北歐老年學聯合會、瑞典老年學學會及瑞典老年醫學會共同主辦，大會的主題為「整全老化：個人與社會的挑戰」。本次會議著重從生物性（個人）到社會性及文化（社會）方面中的個人功能與幸福感相關議題。大會期間，與眾多專家接觸與進行高齡化相關知識與研究發現的現場溝通，除了透過傳統老化多學科方面主題的交流外，也有更多的應用老年學和服務與照護工作的相關訊息。

本次會議的主要贊助單位為 Age UK 及 Age International 兩個機構，Age UK 為英國最大的慈善機構，專為是北歐地區的老人發聲，透過提供老人照顧的服務、活動、產品及相關研究來激勵高齡者晚年活得更為精彩。而 Age International 則為 Age UK 的附屬機構，並為英國 HelpAge 全球網絡的一員，其目前已提供超過 40 個開發中國家各項促進或保護老人的相關計畫。從上面的說明，北歐國家的高齡者照護工作，不是僅在歐洲的國家進行，也無特定的照護學門，而是綜合不同領域的專業進行整合服務，值得我國參考。

22NGK 會議管理運作包括：大會報到、講員服務、同儕交流、海報展示、與會人員服務等，會議進行的方式包括：大會主題演講、專題演講、座談會、口頭報告、口頭海報與海報發表等。

二、論文發表經過

本次筆者除了參與參加22NKG會議之外，同時也與校內同事進行了海報發表，主題為：Frailty status and physical functional performance among community-dwelling elderly in Taiwan -- A comparative study using two frailty criteria。衰弱症在高齡化社會下盛行率會有偏高的情形，衰弱的老人往往很快會需要大量使用家庭與國家人力與醫療照護資源，因此衰弱症的預防顯得重要。正確的進行衰弱症的篩檢，以辨別衰弱

症族群，進而提前進行衰弱症的預防對於老人健康促進有重要影響力。本篇發表的論文比較了國際上常使用的2種衰弱症量表，包括 Cardiovascular Health Study (CHS by Fried)及 Clinical Frailty Scale of Canadian Study of Health and Aging (CFS by Rockwood)期探討其國內高齡者的適用性。由於22NKG參與的人員多來自北歐地區的國家，而這些國家的高齡人口比率都已超越我國甚多，因此對於相關衰弱症的篩檢所使用的工具非常的簡易且多元，主要是因為其高齡的人口既多且衰老，因此，對於本項海報發表討論的內容與主題，多以衰弱症篩檢工具的優缺點與不同場域及對象使用的適用性進行交流。

參、心得與建議

筆者進行高齡者相關的健康促進活動設計與介入以忽忽有 10 年之久，而進行高齡者的相關研究雖較少於這些年數，但就運動保健的立場而言，國家高齡人口的增加，也意味著我們需要在老人運動健康促進的主題上更加著力，以幫助國內的老年人活得更加的健康與更有生活品質；而另一方面，如何幫助我們的學生準備好因應這項高齡化的趨勢，也是為人師者的責任之一。

北歐國家人口的高齡化盛行率高於地球的許多區域，相對的，由於其中有許多為社會福利國家，因此，其相關研究或福利制度的開發與實踐，顯得較其他區域國家更為完善。筆者有機會參加這次的學術盛宴，心中有許多的感受與啟發，主要整理成下列三點說明：

一、高齡者的研究跨越學門與領域：

高齡者的照護需要不同層面專業的介入，才得以完整。從大會參與者的組成不難發現，來自北歐國家為主的與會者當中，有來自醫療照護、社工團體、民間照護機構、安養單位及其他政府部門，不像其他的研討會可能僅有研究或學術機構才會出席這類會議，並且，即便是同一個政府單位，可能也分別派出不同的部門來參加，如筆者與來自芬蘭的政府機構代表就討論其有不同部門同事前來，丹麥的與會者也有相同的情形。

二、高齡者的政策超越國家地域性：

歐盟國家在整個政治體制改變之後，有許多的跨國補助計畫正在進行，原因之一可能因為歐盟重視這項議題，並且歐洲國家與國民彼此互相合作、競爭、聚集與遷移的頻率比較高，若每一個國家都有相同的高齡者照護議題，透過歐盟大型機構的計畫補助，可以節省各個國家分別進行計畫的相關人力與經費的重複開銷，因此，以區域為主體，進行總體計畫的規劃與執行可以互惠互益。

三、高齡者的服務要有想像力：

我國現在高齡人口約為 11%，雖然政府及相關產業有針對高齡者相關政策制度或產品的開發付出努力，但對將來到達 14%或 20%的 65 歲以上國家人口的相關準備，我們需要有想像力。而北歐或像鄰近日本的高齡化社會模式，是可以提供一定的參考價值，以做為我國在準備進入高齡社會的相關專業人力準備及產業模式開發的重要參考。

附錄一、22nd NGK 大會網路文章標示

Title

Frailty status and physical functional performance among community-dwelling elderly in Taiwan -- A comparative study using two frailty criteria

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Background: Frailty is associated with reduced age-related functional reserve and dys-regulation of multiple systems, leading to vulnerability status or adverse health condition. Recent consensus from 6 major international, European, and US societies stress that physical frailty is an important medical syndrome and can potentially be prevented. Frailty screening such as Cardiovascular Health Study (CHS) by Fried and Clinical Frailty Scale of Canadian Study of Health and Aging (CFS) by Rockwood were used in different studies in Taiwan, and its results showed that mobility is an important aspect of frailty. However, the relationship between other functional performances and frailty has yet to be clarified.
Purpose: The aim of this study was to compare physical functional performances among community-dwelling elderly with different levels of frailty using CHS and CFS.
Methods: Subjects were over the age of 65 resided near the Grand Taipei Areas. They were implemented CHS, CFS, and physical functional tests, including BMI, one-leg standing with eyes-open and eyes-closed, functional forward reach (FFR), back scratch, chair sit-and-reach, grip strength, 30-s chair stand (CS), 2-minute step test (ST), 6-minute walk, 8-ft up-and-go (TUG), and 5-meter walk with usual (UW) and fast pace (FW). One-way analysis of covariance (ANCOVA) was used for analysis. Significant level was set at $p<.05$.
Results: 122 subjects (58 men; 64 women, mean age = 75.92) were recruited in the study. Significant differences were both found in CHS and CFS across levels of frailty in FFR ($p=.000$ vs. $p=.038$), CS ($p=.043$ vs. $p=.012$), ST ($p=.003$ vs. $p=.000$), TUG ($p=.001$ vs. $p=.000$), and UW ($p=.001$ vs. $p=.006$) and FW ($p=.034$ vs. $p=.002$).
Conclusions: The common results from both CHS and CFS showed significant differences in balance, low extremity strength, cardiovascular fitness, and mobility between non-frail and pre-frail groups. It is crucial to incorporate components of these functional performances as the basis in physical frailty prevention for the older population dwelled in the community.

附錄二、發表海報

FRAILTY STATUS AND PHYSICAL FUNCTIONAL PERFORMANCE AMONG COMMUNITY-DWELLING ELDERLY IN TAIWAN - A COMPARATIVE STUDY USING TWO FRAILTY CRITERIA

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INTRODUCTION

Frailty is associated with reduced age-related functional reserve and dys-regulation of multiple systems, leading to vulnerability status or adverse health condition. Recent consensus from 6 major international, European, and US societies stress that physical frailty is an important medical syndrome and can potentially be prevented. Frailty screening such as Cardiovascular Health Study (CHS) by Fried and Clinical Frailty Scale of Canadian Study of Health and Aging (CFS) by Rockwood were used in different studies in Taiwan, and its results showed that mobility is an important aspect of frailty. However, the relationship between other functional performances and frailty has yet to be clarified.

AIM

The aim of this study was to compare physical functional performances in community-dwelling elderly between different levels of frailty status using two screening tools, the Cardiovascular Health Study (CHS) and the Clinical Frailty Scale of Canadian Study of Health and Aging (CFS).

METHODS

Subjects

Subjects were over the age of 65 resided near the Grand Taipei Areas. Those currently with acute injuries or symptoms of inflammation, severe osteoporosis, and could not complete all tests, or conditions may be exacerbated due to the tests were excluded from the study. All data were collected during middle of August 2012 until the end of March 2013.

Testing Procedures

In this cross-sectional study, the CFS and CHS questionnaires were first employed. Based on this results, subjects conducted a brief or a complete functional fitness test. The testing procedure for data collection was shown in Figure 1. Subjects were well informed the purpose of the study and signed their consent before all the procedures. This study was approved by the Institutional Review Board (IRB) of Landseed Hospital.

Figure 1 Testing procedure of the study

Statistical Analysis

SPSS 18.0 was used for data analysis. Descriptive statistics were used to describe demographics and the frailty prevalence for the subjects. One-way analysis of covariance (ANCOVA) was used to test the differences between CHS and CFS using age, number of disease, and physical activity as covariate. Bonferroni post hoc test was conducted to detect source of difference. Significant level was set at $p < .05$.

RESULTS

Subject

A total of 122 subjects (58 men; 64 women, mean age = 75.92 ± 6.39 year-old) were recruited in the study with men older than women (76.45 vs. 75.14). The average number of disease for the subjects was 3.55 (± SD 2.58), and cardiovascular disease rated the most prevalent disease (60.7%), eye and ear diseases the second (50.0%), and muscle skeletal diseases the third (data not shown).

Comparison of Frailty status on physical functional performance between CFS and CHS

Due to little number of subjects in frailty status in both CFS and CHS, we analyzed data only from the non-frail and pre-frail groups. Controlling for age, number of disease and physical activity, this study compared non-frail and pre-frail group differences on all physical functional performances. (Table 1)

Table 1.
Tests of Differences between Non-frail and Pre-frail Groups on Functional Fitness: A Comparison of CFS and CHS (ANCOVA Analysis§)

Functional Fitness Test Items		Non-frail (1) N	Non-frail (1) M	Non-frail (1) SD	Pre-frail (2) N	Pre-frail (2) M	Pre-frail (2) SD	*P*	Post Hoc
Body Composition									
BMI (kg/ m²)	CFS	59	24.6	3.54	60	25.6	3.27	.151	-
	CHS	59	24.5	2.93	55	25.6	3.80	.072	-
Balance									
Open-eyed one-leg stand (sec)	CFS	57	13.8	15.37	51	13.6	27.41	.803	-
	CHS	59	14.4	18.57	49	12.7	25.30	.734	-
Close-eyed one-leg stand (sec)	CFS	55	3.9	5.76	47	3.9	3.74	.940	-
	CHS	56	4.3	5.84	46	3.4	3.46	.385	-
Functional forward reach (cm) #†	CFS	59	25.6	6.99	56	22.2	7.97	.038*	1>2
	CHS	58	27.6	6.62	54	20.6	6.72	.000*	1>2
Flexibility									
Left hand back scratch (cm)	CFS	59	-14.2	13.12	55	-17.7	12.88	.224	-
	CHS	58	-13.7	13.22	54	-18.0	12.69	.131	-
Right hand back scratch (cm)	CFS	59	-8.6	13.17	57	-12.8	14.53	.214	-
	CHS	59	-8.0	13.97	54	-12.4	12.82	.108	-
Left leg chair sit-and-reach (cm) †	CFS	58	-1.5	14.36	56	-0.6	13.20	.469	-
	CHS	59	3.3	13.30	52	-5.3	12.80	.001*	1>2
Right leg chair sit-and-reach (cm) †	CFS	58	-1.4	12.86	56	-2.1	13.02	.908	-
	CHS	59	2.6	12.42	52	-5.9	11.90	.001*	1>2
Muscular strength /Muscular endurance									
Left hand grip strength (kg) †	CFS	59	23.7	7.33	60	22.7	6.14	.283	-
	CHS	59	25.5	7.08	55	21.0	5.39	.000*	1>2
Right hand grip strength (kg) †	CFS	58	25.2	7.68	60	24.5	6.01	.411	-
	CHS	59	28.0	6.16	54	21.7	5.80	.000*	1>2
30-sec Chair stand (times) #†	CFS	59	15.4	3.61	57	13.1	4.58	.012*	1>2
	CHS	59	15.5	4.40	54	13.4	3.69	.043*	1>2
Cardiorespiratory Endurance									
6-minute walk (m) †	CFS	38	433.1	73.97	40	374.7	102.75	.072	-
	CHS	41	452.3	61.09	32	367.9	83.23	.000*	1>2
2-minute Step test (times) #†	CFS	59	95.3	18.08	53	77.9	26.96	.000*	1>2
	CHS	58	96.0	15.62	52	78.9	27.53	.003*	1>2
Mobility									
8-feet timed up-and-go (sec) #†	CFS	59	6.0	1.36	57	7.9	3.40	.000*	1<2
	CHS	59	6.0	1.61	54	7.5	2.92	.001*	1<2
Usual-pace gait speed (m/sec) #†	CFS	59	1.2	0.19	60	1.1	0.30	.006*	1>2
	CHS	59	1.3	0.19	55	1.1	0.28	.001*	1>2
Fast-pace gait speed (m/sec) #†	CFS	59	1.9	0.47	56	1.6	0.39	.002*	1>2
	CHS	59	1.9	0.32	53	1.6	0.53	.034*	1>2

Note:
N: number of subjects; M: mean; SD: standard deviation.
§Covariance adjusted were age, number of disease, and physical activity.
* $p < .05$.
# Significant differences between Non-frail and Pre-frail Groups using CFS
† Significant differences between Non-frail and Pre-frail Groups using CHS

CONCLUSIONS

The common results from both CFS and CHS showed significant differences in balance, low extremity strength, cardiovascular fitness, and mobility between non-frail and pre-frail groups. It is crucial to incorporate components of these functional performances as the basis in physical frailty prevention for older population dwelled in the community in Taiwan.

ACKNOWLEDGEMENT

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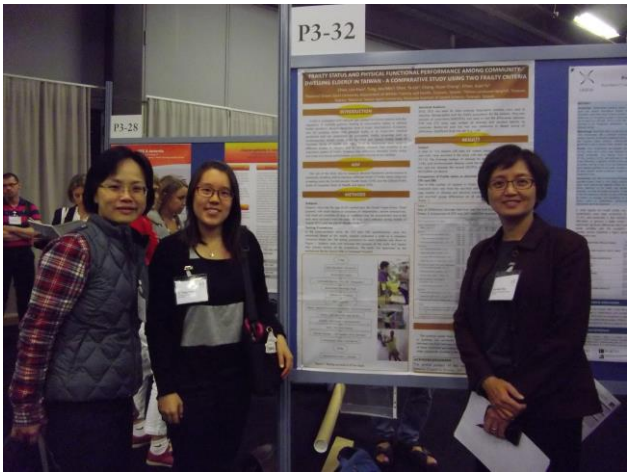
附錄三、照片

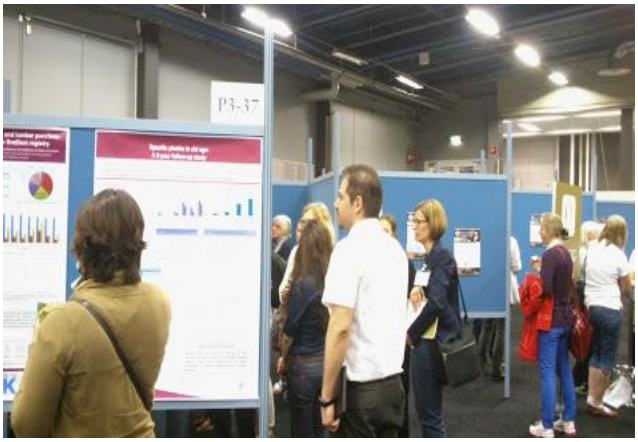
報到會場前場景

大會交流活動

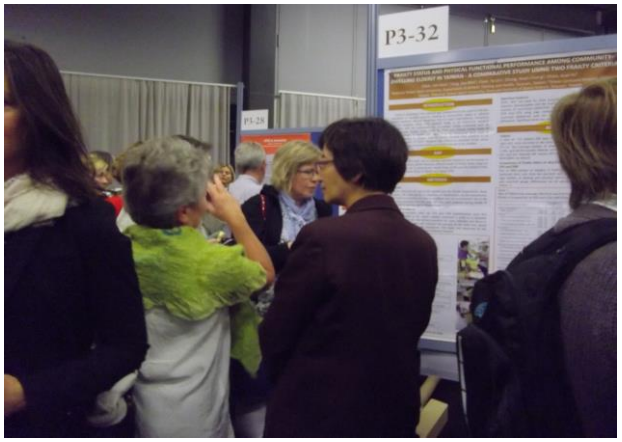


與芬蘭留學生蔡立棠合影

大會會場展覽



大會海報發表場景



筆者於海報現場發表場景