目錄

報告內容

探討運動介入計畫方案對社區焦慮症患者降低焦慮與提昇整體健康狀態之成效
The Effects of Physical Activity Program on Anxiety Decrease and General Health Status Improvement for Community Patients with Anxiety Disorders

摘要

本研究目的為檢測此針對焦慮症患者之運動計畫方案成效，伴隨運動的介入，對焦慮症患者具有身體與心理健康之多重性功效。因此，為了促進社區焦慮症患者之健康狀態，本此運動方案之內容以Ma's Model of Physical Activity for Persons with Anxiety (2008)為基礎設計，並考量台灣文化的信念對身體活動與焦慮影響之兩個主軸作為策略之運用，發展適合台灣社區焦慮症患者之運動方案，而設計一套兼具居家自我學習的運動計畫方案(HBSL exercise program)。目前進行收案達實驗組74人，對照組73人，完成前側之總人數147人，其中79人已經完成後側第一次。仍持續進行研究中。

關鍵字: 身體活動、運動方案、焦慮、焦慮症、健康狀態、介入計劃

Abstract

Anxiety is one of the most prevalent types of psychological distress. The number of patients diagnosed with anxiety disorders has recently increased dramatically. An increasing number of studies support physical activity as an effective therapeutic technique in decreasing anxiety levels, especially in improving mild to moderate symptoms of anxiety disorders. Research about the effectiveness of physical activity programs in Taiwanese persons with anxiety disorders has been limited. So that, a physical activity program based on culture influences is designed in this study and will be evaluated its effectiveness of program for Taiwanese people with mental illness. The objective of this study is to determine the effects of a combining home-based self-learning (HBSL) exercise program on anxiety decrease and general health status improvement for patients with anxiety disorders in community.

The study subjects will be selected from psychiatric clinics and randomly assign in two groups, experimental and control groups. Now we recruited 74 participants in experimental group and 73 participants in control group that makes a total of 147 persons in this study. Among these subjects, 79 people 79 completed the first post-test and the data collection is still on going.

Key words:

physical activity, exercise programs, anxiety, anxiety disorders, health status, intervention study

INTRODUCTION

Evidence indicates that Taiwanese people with anxiety disorders underutilizes mental health services (Hsiao *et al*. 2002). Anxiety disorders in Taiwan are officially managed following

aWestern medical-care model. However, only 8.5% of 2,534 Taiwanese people with mental illness chose to 'visit a Western doctor' when they had an anxiety problem (Soong 1998). Instead, most patients in that study preferred to reduce anxiety by 'thinking it over' (61.5%) and 'participating in leisure activities' (50.8%) (Soong 1998). Over 40% of women using a mental health clinic in a gynecologic outpatient setting during a 6-month period had anxiety disorders, especially generalized anxiety disorder (29.4%) (Hsiao *et al*. 2002). Moreover, the majority of patients with anxiety disorder (76%) had never visited any mental health professional (Hsiao *et al*. 2002).

People with anxiety disorders are easily ignored by the routine social system, and they finally frequently smoke, drink alcohol, or take drugs to reduce their anxiety without seeking medical help (Costa e Silva, 1998; Young, Klap, Sherbourne &Wells, 2001). All of these factors potentially contribute to the acquisition of chronic diseases and resultant poor health. For these reasons, mental health care providers may encourage Taiwanese people with anxiety disorders to participate in physical activity programs to improve physical and psychological health.

Physical activity is a health promoting behavior that good for protection from illness and for promoting psychological well-being (United States Department of Health and Human Services (USDHHS), 1996, 2000, 2001). An increasing number of studies support physical activity as an effective therapeutic technique in decreasing anxiety levels, especially in improving mild to moderate symptoms of anxiety disorders. Although medical treatment and psychological counseling help people deal with their anxiety symptoms, physical activity may improve outcomes when combined with these treatments (Dodd &Wellman, 2000; Russoniello & Howard, 2005).When considering the side effects of medication and the amount of time requested for cognitive behavioral therapy for people with anxiety, regular physical activity is a potentially convenient and effective therapy to reduce anxiety symptoms without side effects or high costs.

The well-being of individuals with mental illness is promoted by the World Health Organization (WHO) (WHO 2007), which recommends providing treatment opportunities in community health care services, protecting these individuals from discrimination, and emphasising integrated care to satisfy their needs. Since the treatment of people with mental illness is influenced by cultural differences, awareness of these differences should be the first concern for mental health nurses providing care to this population (WHO 2001). To reduce anxiety levels in people with anxiety disorders, a suggested treatment is regular physical activity (D'Alonzo *et al*. 2004). Thus, this population needs to be encouraged by nurses to engage in a regular programme of physical activity. But yet, few physical activity programs in Taiwan consider how culture influences the participation of Taiwanese people with anxiety disorders in these programs (Ma, Huang, Chang, Yen, & Lee, 2009).

Research about the effectiveness of physical activity programs in Taiwanese persons with anxiety disorders has been limited. In addition, high drop-out rate was found in home-based exercise program intervention study (Ling, et al., 2002). Therefore, in order to encourage people

with anxiety to participate in physical activity as a means to improve health, nurses and other health care professionals need more empirical evidences to evaluate the effectiveness of physical activity programs with suitable design for Taiwanese people with anxiety disorders.

Purpose of this study

The objective is to evaluate a physical activity program for Taiwanese adults with anxiety disorders. The other one is to prepare this activity program to other populations with chronic psychiatric disability. A physical activity program based on culture influences is designed and will be evaluated its effectiveness of program for Taiwanese people with mental illness. The objective of this study is to determine the effects of a home-based self-learning (HBSL) exercise program on anxiety reducing and general health status for patients with anxiety disorders in community. The intervention involves home-based aerobic exercise videos for instruction at home (Ma, et al., 2009). The model of Physical Activity for Persons with Anxiety (PAPA) (Ma, Lane, & Laffrey, 2008) will guide this intervention study and HBSL exercise program is designed based on the impact of culture beliefs on anxiety and physical activity (Ma, et al., 2009). Six hypotheses are for major objective of this study.

Hypothesis 1: subjects at intervention group will demonstrate lower anxiety levels and better health status after intervention than before intervention.

Hypothesis 2: subjects at intervention group will demonstrate lower anxiety levels and better health status than subjects in the control group at one week after the intervention.

Hypothesis 3: subjects at intervention group will demonstrate lower anxiety levels and better health status than subjects in the control group at 3 months after the intervention.

Hypothesis 4: subjects at intervention group will demonstrate lower anxiety levels and better health status than subjects in the control group at 6 months after the intervention.

Hypothesis 5: subjects at intervention group will demonstrate lower anxiety levels and better health status than subjects in the control group at 12 months after the intervention.

Hypothesis 6: subjects at intervention group will demonstrate lower anxiety levels and better health status at 18 months after intervention than before intervention.

Literature review

Anxiety is one of the most prevalent types of psychological distress (American Psychiatric Association, 2000;World Health Organization, 2001). According to Healthy People 2010, more than 19 million people in the United States suffer from anxiety disorders (United States Department of Health and Human Services [USDHHS], 2000). In Taiwan, the major

mental illness in clinical settings is symptoms of anxiety (Department of Health, Republic of China (Taiwan) (DHROCT) 2005). Approximately 20,000 patients seeking help in mental health clinics in 2005 were diagnosed with panic disorders and obsessive-compulsive disorder (DHROCT 2008) based on revised DSM-IV criteria (American Psychiatric Association 2000). This number increased at least 10-fold from 2003 to 2005 (DHROCT 2008). The number of patients diagnosed with anxiety disorders has recently increased dramatically.

The concept of physical activity has been explored in the nursing discipline for different populations or fields, and the outcomes depend on the prescription of physical activity (Morgan, 1997).A well-recognized definition of physical activity is, "any bodily movement produced by skeletal muscles that results in energy expenditure" (Caspersen, Powell, & Christenson, 1985, p. 126). Since 1995, the United States Centers for Disease Control and Prevention (CDC) has suggested that all individuals need to accumulate a minimum of 30 minutes of physical activity on most days to achieve disease prevention and health promotion (USDHHS, 2001).

Physical activity is a health-promoting behavior and is increasingly recognized as important in human life. The lifestyle of people in Taiwan also has been described as sedentary (Wu, Ronis, Pender, & Jwo, 2002) and inactive (Kao & Huang, 2000). Although regular physical activity has many benefits for an individual's health, only 14% of 29,226 Taiwanese adults in four national surveys met national recommendations for physical activity (Ku, Fox, McKenna, & Peng, 2006). Lee and colleagues (1995) conducted a large epidemiological study that randomly selected 2,565 adults aged 18 or older living throughout Taiwan. The results indicated that about 41% (N=1052) did not engage in exercise at all, and 51% (N=377) engaged in physical activity regularly. Furthermore, the data become worse for adult employees. Kao and Huang (2000) also reported 35.3% workers never performed any type of exercise, and only 29.0% of 400 adults participated in exercise more than 90 minutes each week during a 3 month's period. This situation was true not only for the general adult population, but also among health care providers (Wu, 1997).

Ma, et al. (2008) proposed a model for examining the factors that influenced physical activity for Taiwanese adults with anxiety, physical activity for persons with anxiety (PAPAmodel). The PAPAmodel was modified from Pender's revised health promotion model (HPM) (Pender, Murdaugh & Parsons, 2002) and Spielberger's cross-sectional model of anxiety (CSMA) (Spielberger, 1966). The PAPAmodel consisted of three personal variables (sex, income adequacy, and trait anxiety), six cognition-emotion variables (perceived life stress events, state anxiety, perceived benefits of activity, perceived barriers to activity, perceived self-efficacy for activity, and perceived friend support for activity), and one regular physical activity behavior outcome (Ma, et al., 2008).

The PAPA model was tested for 252 Taiwanese adults with anxiety, results suggested three variables directly influenced level of physical activity (life stress events, benefits of activity, and self-efficacy for activity), and 8 variables indirect influences physical activity (sex, income adequacy, trait anxiety, state anxiety, benefits of activity, barriers to activity, and friend support

for activity) (Ma, et al., 2008). Ma et al. (2008) provided empirical evidence of PAPA model that can guide mental health nurses and others in physical activity treatment program study for encouraging Taiwanese populations with anxiety disorders to participate in physical activity.

METHODS

Study design and subjects

An experimental design with two groups will for this study. Study subjects will be selected from psychiatric clinics in Taichung city and randomly assign in two groups, experimental and control groups. The participants in control group will also receive CHG exercise program in the end of this study. Criteria for selection will be non -hospitalized men and women, 20 to 60 years of age, diagnosed with anxiety disorders by clinical psychiatrists, able to verbally communicate, and agreed to participate in this study. Subjects meeting these criteria will be identified by psychiatrists at the study sites using the Structured Clinical Interview from the *Diagnostic and Statistical Manual of Mental Disorders (2000).* Individuals will be excluded if they are diagnosed with schizophrenia, mood disorder, impaired cognitive function, or physical disability for the first objective of this experimental study. The sample size is estimated using nQuery Advisor 6.01. This software calculated a sample size of 85 per group (experimental and control) based on mean difference of positive symptoms measure between before and after 10-week exercise program in a study for subjects with mental illness (Acil, Dogan, & Dogan, 2008), a power of .80, alpha .05, and a 2-tailed test of significance. Allowing for a 30% dropout rate, the total sample size will be 221 (each one has 110).

Interventions

The home-based intervention will provide participants a 30-50 minutes exercise video. Study samples can choose one from three videos: tai-chi (Chen, Li, Lin, Chen, Lin, & Wu, 2007), yoga, and aerobic dance. The home-based aerobic exercise videos for instruction at home and participants are advised to exercise by following the demonstration on the videotape. Walking is also encouraged for participants. Encouragement will be given over the telephone and through email or webpage of this study. All study members (both two groups) will be provided an instruction book and a log book. The content of instruction book includes basic knowledge of physical activity, benefits of activity, and how to engage in activity participation. A log book is to record the activity participation everyday for three months.

Procedures and ethic consideration

1. Before data are collected, the study is approved by the Institutional Review Board at the study site.
2. To recruit subjects, the first author will provide exclusion and inclusion criteria to the chiefs and staff members at the study sites.
3. Patients meeting the study criteria are identified by study-site psychiatrists who informed the authors.

4. The researcher met with these potential participants in a quiet room to explain the study purposes, data collection procedures, potential risks and benefits of participation, participants' right to decide at any time not to participate, their right to not return the questionnaire, and protection of their confidentiality.
5. When participants understand these details and agree to participant this study, then they will sign an informed consent.
6. After participants sign the consent form, they will be gave a package of questionnaires. Participants then will finish and return the questionnaire.
7. Each subject took 25 to 40 minutes to complete the questionnaires.
8. The demographic data sheet will be coded by ID numbers and contact numbers on a worksheet that is kept in another locked file cabinet accessible only to the principal investigator. The original data sheet will be destroyed after the data are coded on the worksheet for protect participants' confidentiality.
9. Subjects are then randomly assigned to experimental group or control group.
10. Subjects in the experimental group are provided CHSL exercise program. They have right to drop out at any time without any reasons.
11. Subjects in the control group are provided an instruction book that includes basic knowledge of physical activity, the knowledge of benefits of activity, and the knowledge of how to engage in activity participation, and a log book for record the activity participation everyday for three months. A log book is also for provide subjects' time-management skill and they can get the reward from this research by return a log book.

Results and Discussion

Now we recruited 74 participants in experimental group and 73 participants in control group that makes a total of 147 persons in this study. Among these subjects, 79 people 79 completed the first post-test and the data collection is still on going.

參考文獻

American Psychiatric Association (2000) *Diagnostic and statistical manual of mental disorders: DSM-IV-TR* (4th Rev. ed.).Washington, DC, American Psychiatric Association.

Armstrong N & McManus A (1994) Children's fitness and physical activity: a challenge for physical education. *British Journal of Physical Education* **25**, 20-26.

Breus, M. J., & O'Connor, P. J. (1998). Exercise-induced anxiolysis: A test of the "time out" hypothesis in high anxious females. *Medicine & Science in Sports & Exercise, 30*, 1107-1112.

Burroughs VJ, Maxey RW, Crawley LM & Levy RA (2002) *Cultural and Genetic Diversity in America: The Need for Individualized Pharmaceutical Treatment.* Washington, DC, National Pharmaceutical Council and National Medical Association.

Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports, 100*, 126-131.

Centers for Disease Control and Prevention. (2001). Increasing physical activity: A report on recommendations of the task force on community preventive services. *The Morbidity and Mortality Weekly Report (MMWR), 50 (RR-18)*, 1-14.

Chao RK & Sue S (1996) Chinese influence and their children's school success: a paradox in the literature on parenting styles. In *Growing Up the Chinese Way: Chinese Child and Adolescent Development* (Lau S ed.), Sha Tin, HK, The Chinese University Press, pp. 93-120.

Chambers D, Narayanasamy A (2008) A discourse and Foucauldian analysis of nurses health beliefs: implications for nurse education. *Nurse Education Today*, **28**, 155-162.

Chan S (2008) Commentary on Hsiao FH, Klimidis S, Minas H & Tan ES (2006) Cultural attribution of mental health suffering in Chinese societies: the views of Chinese patients with mental illness and their caregivers. *Journal of Clinical Nursing* 15, 998-1006. *Journal of Clinical Nursing* **17**, 558-560.

Chan S, Chung T & Lee DTS (2002) A qualitative study of the experience of a group of Hong Kong Chinese women diagnosed with postnatal depression. *Journal of Advanced Nursing* **39**, 571-579.

Chen CS, Lee SY & Stevenson HW (1996) Academic achievement and motivation of Chinese students: A cross-national perspective. In *Growing Up the Chinese Way: Chinese Child and Adolescent Development* (Lau S ed.), Sha Tin, HK, The Chinese University Press, pp. 69-92.

Chen JH (1993) *A Survey on Physical Fitness Knowledge, Exercise Attitude and Behavior of Employee in the Shi-Lin Electrical Company*. Taichung, Taiwan, Hung-Hsiung (in Chinese).

Chen, K., M. Snyder, et al. (2001). "Tai Chi and well-being of Taiwanese community-dwelling elders." Clinical Gerontologist **24**(3/4): 137-156.

Chen, K.-M., C.-H. Li, et al. (2007). "A Feasible Method to Enhance and Maintain the Health of Elderly Living in Long-Term Care Facilities Through Long-Term, Simplified Tai Chi Exercises." Journal of Nursing Research **15**(2): 156-163.

Chen, C. H. (1995). *Physical exercise and sense of well-being among Chinese elderly in Taiwan.* Unpublished Doctoral Dissertation, University of Texas at Austin.
Cheng TA (1995) Neuroses in Taiwan: findings from a community survey. In *Chinese Societies and Mental Health* (Lin TY, Tseng WS & Yeh EK eds.), New York, Oxford University Press, pp. 167-180.
Chung MH (2001) The relationship between attitude toward physical education and leisure-time exercise in high school students. *Journal of the Physical Educator* **59**, 126-139.
Crowe M (2000) The nurses-patients relationship: a consideration of its discursive context. *Journal of Advanced Nursing* **31**, 962-967.
D'Alonzo KT, Stevenson JS, Davis SE (2004) Outcomes of a program to enhance exercise self-efficacy and improve fitness in Black and Hispanic college-age women. *Research in Nursing & Health* **27**, 357-69.
Health Department, Republic of China (Taiwan) (1997) *The Executive Yuan: The National Health Promotion Plan*. Taipei, Taiwan, Author.
Department of Health, Republic of China (Taiwan) (2005) *The Executive Yuan: The Health White Paper*. Taipei, Taiwan, Author.
Department of Health, Republic of China (Taiwan) (2008) *Health and National Health Insurance Annual Statistics Information Service.* Taipei, Taiwan.
Available at: http://www.doh.gov.tw/statistic/index.htm (accessed 15 June 2008).
DiLorenzo TM, Bargman EP, Stucky-Ropp R, Brassington GS, Frensch PA & LaFontaine T (1999) Long-term effects of aerobic exercise on psychological outcomes. *Preventive Medicine* **28**, 75-85.
Dodd H &Wellman N (2000) Staff development, anxiety and relaxation techniques: a pilot study in an acute psychiatric inpatient setting. *Journal of Psychosocial Nursing and Mental Health Services* **7**, 443-448.
Dunn A, Trivedi M & O'Neal H (2001) Physical activity dose-response effects on outcomes of depression and anxiety. *Medicine & Science in Sports & Exercise* **33** (Suppl.), S587-S597.
Dowda, M., Ainsworth, B. E., Addy, C. L., Saunders, R., & Riner,W. (2003). Correlates of physical activity among US young adults, 18 to 30 years of age, from NHANES III. *Annals of Behavioral Medicine: A Publication of the Society of Behavioral Medicine*, *26*, 1-53.
Endler NS & Kocoviski NL (2001) State and trait anxiety revisited. *Anxiety Disorders* **15**, 231-245.
Fernando S (2002) *Mental Health, Race and Culture*, 2nd ed. New York, Palgrave.
Gesler WM & Kearns RA (2002) *Culture/ Place/ Health*. New York, Routledge. Government Information Office, Republic of China (Taiwan) (2007) *Taiwan Yearbook 2007.* Available at http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/ Accessed March 8, 2008.
限於篇幅，參考文獻暫先提供至此

計畫成果自評

本研究之內容與原計畫相符程度相當接近，除了聽從專家建議將居家運動方案改為以自學為主要概念之居家自學運動方案，其中的團體衛教以衛教手冊以及日誌取代。但是研究設計完全按照原計畫執行。本人自評分二個部份: 第一為介入計畫之完成；第二為收案進度按照原先設計的進行，目前部分研究參予者已經完成第一次後測。

第一部分之介入計劃之完成，本計劃完成居家自學網站以及討論區的設立，並定時有人在網頁上回答相關問題。本計劃易完成三個月的運動日誌小本，所有的參予者對此日誌的方便性皆感到滿意，並且附上生檢查值提醒研究參予者比較與了解自己的生理健康。本研究完成衛教手冊，針對運動對焦慮之好處、運動障礙之克服、時間管理以及溝通等議題皆有詳細提供衛教內容，並且附上CD語音版本有聲書。另外，本研究尋訪民間支援mp42j/4 VCR的內容，製作運動DVD來提供參予者居家學習。此四部份之完成讓介入方案順利進行。也達成研究的設計進度。

第二部份之收案，是本研究相當重要但困難的部份，本研究完成IRB的審核同意後，共三次與收案機構的醫師接洽並說明研究目的，使得醫院同意合作。第一個月，研究主持人與研究助理每天與研究到門診收案適合之病患，收案過程相當辛苦，之後研究個案留在門診計收案，並直接將完成前測之個案，分實驗組與對照組。目前實驗組有74人，對照組有73人，其中79人已經完成後測，本人對刺進度相當滿意，並且繼續完成收案以及介入計劃之推動與後測。

本研究成果相當具有病患為中心的臨床價值，參與之個案對自己身體健康的了解以及運動之動機皆表達肯定，對學術上之價值，需要到99年12月預計完成所有資料收集的步驟，並進行分析以及結果彙整之撰寫後才有明確的實證資料。