The current issue and full text archive of this journal is available on Emerald Insight at:
www.emeraldinsight.com/2586-940X.htm

Received 13 August 2018
Revised 21 November 2018
Accepted 30 November 2018

Application of social dance exercise and social support program to improve quality of life for Thai older adults

Kwanrutai Sampoon, Nuengruethai Posri and Boonsri Kittichotpanich
College of Nursing and Health, Suan Sunandha Rajabhat University, Bangkok, Thailand

Abstract

Purpose – The purpose of this paper is to test the effectiveness of social dance exercise and social support program to improve quality of life (QOL) for older adults in Thailand.

Design/methodology/approach – A quasi-experimental pre-test and post-test research design was used. The participants were 102 older adults selected by systematic sampling technique. Participants were assigned using the matched-pair technique by age, physical fitness test by the Time up and Go test into intervention and control groups of 51 subjects each. Intervention was conducted for 12 weeks, three times weekly, to improve physical, psychosocial and spiritual domains leading to enhanced QOL as measured by the World Health Organization Quality of Life (WHOQOL–BREF–THAI) assessment parameter. Data on QOL were collected before and after a 12-week training period.

Findings – Most adults were between 70 and 79 years old (67 percent). After program completion, before and after mean QOL scores for the intervention group at 60.15 and 95.82, respectively, were statistically significant with p-value < 0.05. Post-program QOL shown by the intervention group was significantly higher than the control group ($p < 0.05$).

Originality/value – Application of social dance exercise and social support program is an alternative to traditional methods to improve QOL and maintain functional capacity for older adults.

Keywords Social support, Older adult, Quality of life, Thailand

Paper type Research paper

Introduction

Quality of life (QOL) among the older adult population is affected by many factors as multiple health disorders lead to diverse physical and mental disturbances. Nowadays, people aged 60 and older comprise 900m of the global population. This number is expected to reach nearly 2.1bn by 2050, with a threefold increase in those aged 80 years or over[1]. The Thai elderly adult population has increased sevenfold from 1.5m in 1960 to 10.7m, representing 16 percent of the total population in 2015. In 20 years' time, projections indicate that the Thai elderly population will comprise 25 percent of the overall population[2]. Aging

© Kwanrutai Sampoon, Nuengruethai Posri and Boonsri Kittichotpanich. Published in *Journal of Health Research*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at http://creativecommons.org/licences/by/4.0/legalcode

The authors declare no conflicts of interest. The authors would like to express sincere thanks to the Institute for Research and Development, Suan Sunandha Rajabhat University, Bangkok, Thailand and the National Research Management System (NRMS), Thailand for financial support. The anonymous elderly in the community and experts who voluntarily gave their time to participate in this study are gratefully acknowledged and their assistance greatly appreciated.

Journal of Health Research
Vol. 33 No. 3, 2019
pp. 260-266
Emerald Publishing Limited
2586-940X
DOI 10.1108/JHR-08-2018-0071

is a biological process that occurs over time[3] and affects physical, emotional and social abilities. Demographic changes can increase the incidence rate of non-communicable diseases such as osteoporosis, diabetes, high blood pressure, heart disease and cancer[4]. Chronic non-communicable diseases were the leading cause of death in both high- and low-income countries at 70 percent in 2008[5]. High levels of many diseases lead to reduced physical performance, lower QOL and a higher risk of death[4,6]. Older adults are more likely to suffer from social and economic losses caused by retirement, social withdrawal and loss of social involvement[7]. Reduced physical activity leads to limited mobility, the need for help from others and cognitive impairment[8]. Chronic expenses are estimated at 75 percent of all health costs involving medical services, medical care, medical consultation, transportation, rehabilitation or long-term care[9].

Social dance exercises are particularly important for the elderly as they help to maintain bodily health and slow down degeneration through improved balance and gait with better coordination of various organs. Falling over represents a major public health challenge for the elderly, and exercises that improve balance are recognized as effective fall prevention strategies which lead to improved QOL[10, 11]. Poor balance is associated with an increased risk of falling, disability and death in older populations[12]. Social dance exercise improves physical health aspects by improving symptoms of fatigue and enhancing balance and gait and muscle tone. Psychological aspects include improved well-being which reduces stress, anxiety and psychological distress[13, 14]. Interestingly, older adults reported that they found dancing to be an attractive social activity because the activity made them feel playful and "re-live" happy experiences from their youth[15, 16]. Furthermore, social dance builds relationships between older adults through their partners, their friends and their families.

Social support is another important factor for older adults who are more likely to suffer from social isolation by living alone, low mood swings from increased health risks and reduced self-care ability to perform basic activities of daily living[17, 18] Additionally, older adults lack social support, while somatic health problems are associated with psychological distress. The combination of poor social support, poor somatic health and economic problems render the elderly vulnerable with respect to mental health[19]. Interventions which highlight social support are considered to be beneficial and promote mental health. Older adults need support from friends and family to overcome anxiety or loneliness and make them feel a productive part of society. In crisis situations, friends, family and social support must work together. Previous research suggested the benefits of various intervention packages based on the concept of social support to improve the QOL for the elderly[20, 21]. In Thai culture, sons and daughters often care for their parents and grandparents to show their gratitude. All the same, a strong social support system is key to promoting self-care behaviors which lead to improved QOL for older adults.

In this study, a social dance program was developed along with social support to motivate exercise amongst the Thai elderly based on social support concepts and the concept of QOL[22, 23]. Results were assessed to determine improvements in QOL. Previous investigations have not studied psychological and social relations among the elderly. Our findings can be used as key information for promoting healthcare behavior among the elderly, leading to a better QOL in the future.

Methods

Study design and participants

This quasi-experimental research used a pre-test and post-test design to evaluate how social dance exercise and social support impacted on the QOL for a sample of Thai older adults. Instruction was provided by an expert in social dance with classes lasting 45 min, three times weekly for three months. The sample size was determined by the statistical software package G*Power with an effective size $= 0.50$, $(\alpha) = 0.05$, and $(1-\beta) = 0.80$. Systematic sampling was employed to select 102 subjects, and the matched-pair technique

was used to assign subjects into intervention and control groups of 51 subjects each. All participants were 60 years or older, under no physical activity restrictions imposed by their physicians and living in a local Thai community. Exclusion criteria were individuals with Alzheimer's disease and other cognitive disorders who were unable to answer questions or respond during the interview process. All subjects were assessed before and after the training period. The study was conducted in a community of Bangkok Metropolitan Thailand from April to August 2018. Research approval was granted by the Ethics in Research Committee of the Suan Sunandha Rajabhat University Institutional Review Board (COA 1-058/2017).

Application of the social dance support program

Subjects voluntarily participated in a three-month social dance exercise and social support program with classes lasting 45 min three times a week for three months. In the first phase, one week before the commencement of the class, voluntary partners or primary caregivers of older adults who were willing to participate in this research were trained in the social support program. The social support program included training in emotional support, instrumental support, appraisal support and information on the methods used by the researcher team to support older adults during class that were to be continued in the participants' homes. During the first week of the second phase, subjects received knowledge concerning the social dance exercise and the social support program such as emotional support, instrumental support, appraisal support and information support from their partner or primary caregiver and the researcher. The 2nd to 12th weeks involved practice in social dance exercise routines with social support from partners who volunteered to join the program since almost all the older adults were widows or widowers. Our research prevented bias using the matched-pair technique. The intervention program was conducted by experts in social dance exercise at a fitness center in the community. The social dance and social support program consisted of three sessions: Session 1, "warming up" lasting 10 min; Session 2 "practice" lasting 30 min and including Cha-cha-cha, Taloong and Paslop, with some repeated movements during the exercise; and Session 3 the "cool-down exercise" phase, lasted for 5 min. The same dance routine was followed in each class. The social support program was divided into two parts with the first part during the practice provided by partners or primary caregivers and the researcher. The second part was provided after each practice session by partners or primary caregivers to motivate the subjects to continue practising at home. The researcher monitored the intervention process by making telephone calls to subjects and their partners or primary caregivers after each class. There was an open time of 24 h for subjects to call the researcher if they had any problems.

Research instruments

Research instruments used in this study included demographic data, The Time up and Go (TUG) test and the modified World Health Organization Quality of Life (WHOQOL)–BREF–THAI that contained three domains with 25 items[23] for data collection.

Data collection

The researcher first contacted community leaders and requested permission to collect data from the participants. All subjects accepted the study objectives and were willing to participate. Before the intervention, demographic data were collected on self-reported age, level of education, number of illnesses, medication used, fall accident history and also results from the TUG test conducted by the researcher team. Investigators obtained and recorded baseline assessments of health mobility related to the QOL by the WHOQOL–BREF–THAI version. After the 12-week training period, the WHOQOL–BREF–THAI was used to collect follow-up data.

Data analysis

SPSS 24.0 for Windows was used to calculate all statistical analyses. Data normality was tested by mean and standard deviations. Assumption of normality for the outcome variables were confirmed ($p < 0.05$) and the independent *t*-test was used to determine the QOL for older adults between the intervention group and control group after completing the social dance exercise support program. A paired *t*-test for repeated measures was employed to compare the QOL pre- and post-test within the intervention group. The statistical significance level was set at $p < 0.05$.

Results

Demographic characteristics of subjects in both intervention and control groups showed that most were in the middle-old age group (70–79 years) constituting 67 percent. Females in the intervention group numbered 88 percent with 85 percent in the control group. Divorce status in the intervention group was 75 percent with 70 percent in the control group. For the intervention group, 52 percent had graduated at the primary education level and 45 percent were classified as having a low income. Non-communicable diseases such as hypertension among the control group was at 55.3 percent while the control group level was at 44.7 percent. Diabetes mellitus was at 48.4 percent with 51.6 percent in the control group, and cardiovascular disease at 52.2 percent with 47.8 percent in control group. Total QOL mean score of the intervention group post-test was 95.82, SD = 6.10, significantly higher than the pre-test mean score at 60.15, SD = 9.38 (Table I). Total QOL mean score post-test for the intervention group was 95.82, SD = 6.10, higher than the control group at 68.23, SD = 5.71 with statistical significance ($p < 0.05$) (Table II).

Discussion

Results determined that the intervention group had significantly higher mean scores after attending dance classes. Moreover, when comparing mean scores of QOL in the intervention and control groups, the former gave statistically significant higher results than the latter for all domains. Thus, the QOL for older adults can be enhanced by applying social dance exercises combined with social support programs. Research design activities were based on concepts of social support and QOL[14, 24] as emotional support, valuation support, information support and resource support. Our results suggest that QOL for older adults can be improved by influences from all aspects of physical,

Total quality of life	Mean	SD	*t*-test	*p*-value
Pre-test	60.15	9.38	0.026	0.038
Post-test	95.82	6.10		

Note: $n = 102$

Table I. Pre-test and post-test quality of life scores for the intervention group

Domain	Intervention group ($n = 51$) Mean	SD	Control group ($n = 51$) Mean	SD	*t*-test	*p*-value
Physical	42.15	8.61	26.14	7.56	4.34	0.025
Psychosocial	39.29	4.49	24.57	5.19	3.38	0.041
Spiritual	35.23	5.41	23.48	4.48	2.17	0.032
Total quality of life	95.82	6.10	68.23	5.71	5.85	0.038

Note: $n = 102$

Table II. Post-test scores of quality of life between the intervention group and control group

psychosocial and spiritual domains. With regard to the physical domain, older adults were able to perform daily activities by themselves and their QOL was enhanced[25] as social dance exercise resulted in improved muscle strength[26]. Demographic factors were statistically significantly related to the enhanced QOL for older adults[13, 27]. Exercise can be linked to better social functioning and emotional well-being[14]. Evidence suggested that dance therapy significantly improved blood pressure, quality of sleep and QOL[19, 28]. The psychosocial domain means scores were also higher for the intervention group which can be explained by enhanced social relationships. Social support positively affected QOL for older adults when a family member or neighbor empowered them to exercise. Social support influenced older adults to follow better care behaviors and this resulted in improved QOL. Previous studies suggested that interventions such as regular walking or rehabilitation programs improved older adults' perceptions of happiness[29]. The spiritual domain showed a significantly high value on the intervention group's mean score. When older adults can look after themselves, family and partners, social support helps them to feel proud and this leads to a better QOL. Accordingly, dance intervention and social support increased overall health and well-being[20]. Social dance exercise and social support programs are easily accepted by older adults. They are feasible to implement and offer a way to ameliorate the physical and psychosocial risk factors involved in accidents or falling down for community-dwelling adults[15].

Conclusions

This applied social dance exercise and social support program presents an alternative to traditional methods, providing the elderly with improved physical, psychosocial and spiritual domains. Focus on functional-based exercises for interventions should be encouraged to maintain and improve the QOL for older adults. Our study has some limitations since we only used the WHOQOL–BREF–THAI test to measure the QOL. Future research could include extra variables such as functional status or social engagements for a more comprehensive understanding of the beneficial effects of a social dance exercise intervention program.

References

1. United Nations, Department of Economic and Social Affairs, Population Division. World population ageing 2017 – highlights. New York, NY: United Nations; 2017.
2. Knodel J, Teerawichitchainan B, Prachuabmoh V, Pothisiri W. The situation of Thailand's older population: an update based on the 2014 survey of older persons in Thailand. Research Collection School of Social Sciences; 2015; 12: 1-98. [cited 2018 Sep 12]. Available from: http://ink.library.smu.edu.sg/soss_research/1948
3. Yarnall AJ, Sayer AA, Clegg A, Rockwood K, Parker S, Hindle JV. New horizons in multimorbidity in older adults. Age Ageing. 2017; 46(6): 882-8.
4. Hajian-Tilaki K, Heidari B, Hajian-Tilaki A. The health related quality of life and its socio-demographic determinants among Iranian elderly people: a population based cross-sectional study. J Caring Sci. 2017; 6(1): 39-47. doi: 10.15171/jcs.2017.005
5. Parekh AK, Barton MB. The challenge of multiple comorbidity for the US health care system. JAMA. 2010 Apr 7; 303(13): 1303-4. doi: 10.1001/jama.2010.381
6. Thavorn K, Maxwell CJ, Gruneir A, Bronskill SE, Bai YQ, Pefoyo AJK, *et al.* Effect of socio-demographic factors on the association between multimorbidity and healthcare costs: a population-based, retrospective cohort study. BMJ Open. 2017 Oct 6; 7(10): 1-14. doi: 10.1136/bmjopen-2017-017264

7. Abdul Manaf MR, Mustafa M, Abdul Rahman MR, Yusof KH, Abd Aziz NA. Factors influencing the prevalence of mental health problems among Malay elderly residing in a rural community: a cross-sectional study. PLoS One. 2016; 11(6): 1-12. e0156937. doi: 10.1371/journal.pone.0156937
8. Suwanmanee S, Nanthamongkolchai S, Munsawaengsub C, Taechaboonsermsak P. Factors influencing the mental health of the elderly in Songkhla, Thailand. J Med Assoc Thai. 2012; 95(6): 8-15.
9. Nagel A, Witte J, Hodek JM, Greiner W. Relationship between multimorbidity and direct healthcare costs in an advanced elderly population. Z Gerontol Geriatr. 2012 Feb; 45(2): 146-54. doi: 10.1007/s00391-011-0266-2
10. Merom D, Mathieu E, Cerin E, Morton RL, Simpson JM, Rissel C, *et al.* Social dancing and incidence of falls in older adults: a cluster randomised controlled trial. PLoS Med. 2016 Aug 30; 13(8): e1002112. doi: 10.1371/journal.pmed.1002112
11. McMullan II, McDonough SM, Tully MA, Cupples M, Casson K, Bunting BP. The association between balance and free-living physical activity in an older community-dwelling adult population: a systematic review and meta-analysis. BMC Public Health. 2018 Apr 2; 18(1): 431-52. doi: 10.1186/s12889-018-5265-4
12. Merom D, Cumming R, Mathieu E, Anstey KJ, Rissel C, Simpson JM, *et al.* Can social dancing prevent falls in older adults? A protocol of the dance, aging, cognition, economics (DAnCE) fall prevention randomised controlled trial. BMC Public Health. 2013 May 15; 13, 477-85: doi: 10.1186/1471-2458-13-477
13. Boontae U, Duangchan C, Tawchantuk S, Polin S. Elder's health status and quality of life under the health care provided by community network and simulated families. Journal of Nursing and Health Care. 2017; 35(3): 175-85 (in Thai).
14. Baernholdt M, Hinton I, Yan G, Rose K, Mattos M. Factors associated with quality of life in older adults in the United States. Qual Life Res. 2012 Apr; 21(3): 527-34. doi: 10.1007/s11136-011-9954-z
15. Britten L, Addington C, Astill S. Dancing in time: feasibility and acceptability of a contemporary dance programme to modify risk factors for falling in community dwelling older adults. BMC Geriatr. 2017 Apr 11; 17(1): 83-94. doi: 10.1186/s12877-017-0476-6
16. Thogersen- Ntoumani C, Papathomas A, Foster J, Quested E, Ntoumanis N. "Shall we dance"? Older adults' perspectives on the feasibility of a dance intervention for cognitive function. J Aging Phys Act 2017; 1-25. Available from: http://dx.doi.org/10.1123/japa.2017-0203
17. Victor C, Scambler S, Bond J. The social world of older people: understanding loneliness and social isolation in later life. New York, NY: McGraw-Hill Education; 2008.
18. Iliffe S, Kharicha K, Harari D, Swift C, Gillmann G, Stuck AE. Health risk appraisal in older people: the implications for clinicians and commissioners of social isolation risk in older people. Br J Gen Pract. 2007 Apr; 57(537): 277-82.
19. Boen H, Dalgard OS, Bjertness, E. The importance of social support in the associations between psychological distress and somatic health problems and socio-economic factors among older adults living at home: a cross sectional study. BMC Geriatr. 2012 Jun 8; 12: 27-38. doi: 10.1186/1471-2318-12-27
20. Hui E, Chui B, Woo J. Effects of dance on physical and psychological well-being in older persons. Arch Gerontol Geriatr. 2009 Jul-Aug; 49(1): e45-50. doi: 10.1016/j.archger.2008.08.006
21. WHOQOL Group. Study protocol for the World Health Organization project to develop a quality of life assessment instrument (WHOQOL). Qual Life Res 1993; 2(2): 153-59.
22. House JS, Robert L. Measures and concepts of social support. In: Sheldon C, Leonard S, editors. Social support and health. New York, NY: Academic Press; 1985: 83-108.
23. Sunuttra T, Wandee S, Pachariya C. Evaluation psychometric properties of WHO quality of life questionnaire in Thai elderly. Thai Society of Gerontology and Geriatric Medicine. 2001; 2(2): 6-15.
24. House JS. Work stress and social support. Reading, MA: Addison-Wesley; 1981: 83-108.
25. Yamwong N. Quality of life and physical activities of daily living among elderly patients at HRH Princess Maha Chakri Sirindhorn Medical Center. J Med Health Sci. 2014; 21(1): 37-44 (in Thai).

26. Franco MR, Sherrington C, Tiedemann A, Pereira LS, Perracini MR, Faria CRS, *et al.* Effectiveness of senior dance on risk factors for falls in older adults (DanSE): a study protocol for a randomized controlled trial. BMJ Open 2016; 6(12): 1-12 doi: 10.1136/bmjopen-2016-013995
27. Tongdee J., Rongmuang D., Nakchatree C. Health status and quality of life among the elderly in the southern border provinces of Thailand. Nursing J of the Ministry of Public Health. 2014; 22(3): 88-99 (in Thai).
28. Serrano-Guzmán M, Valenza-Peña CM, Serrano-Guzmán C, Aguilar-Ferrándiz E, Valenza-Demet G, Villaverde-Gutiérrez C. Effects of a dance therapy programme on quality of life, sleep and blood pressure in middle-aged women: a randomized controlled trial. Med Clin (Barc). 2016 Oct 21; 147(8): 334-9. doi: 10.1016/j.medcli.2016.06.030
29. Lin YC, Chang JC, Chen YM, Li CM, Huang LH. Health related quality of life among frail and pre-frail older adults in Taiwan. Int J Gerontol. 2017; 11(4): 249-52.

Corresponding author
Nuengruethai Posri can be contacted at: n.ruethaiboodma@gmail.com

For instructions on how to order reprints of this article, please visit our website:
www.emeraldgrouppublishing.com/licensing/reprints.htm
Or contact us for further details: **permissions@emeraldinsight.com**