

## Health Education and Monitoring Programme for Older Persons with Type 2 Diabetes, Obesity, and Knee Osteoarthritis

Noel Martin\*

Department of Nursing, Mahidol University, Thailand

### Abstract

Examining the effects of a comprehensive health education programme combined with village health volunteer monitoring support on older people with osteoarthritis of the knee who are overweight and have type 2 diabetes is the goal. Methods: A two-group, quasi-experimental pretest-posttest design was used. Older persons who matched the inclusion criteria were divided into two groups using random geographic cluster sampling, with 62 being the intervention group and 71 being the control group. A thorough health education programme and a support programme for village health volunteers were given to the intervention group. Only the full health education programme was given to the control group. Blood sugar levels, knee discomfort and range of motion, body weight, physical capacity (Timed Up and Go Test), weariness, depressive symptoms, sleep quality, and quality of life were all evaluated as study outcomes.

**Keywords:** Community; Diabetes; Health Education; Knee Osteoarthritis; Overweight

### Introduction

One hundred and ten people took part in the investigation (55 participants in each group). The majority of patient outcomes in the two groups improved generally, statistically significantly ( $P < 0.001$ ): pain subsided, physical function increased, depressed symptoms and exhaustion decreased, quality of life increased, and sleep improved [1]. According to each time follow-up, the interaction effect (the group and time) revealed statistically significant differences in pain, knee range of motion, and fatigue between the intervention and control groups ( $P < 0.001$ ). In this group, the comprehensive health education combined with the village health volunteer monitoring assistance programme produces positive patient outcomes [2]. A successful, non-surgical treatment for older persons with type 2 diabetes and knee osteoarthritis is the integrated health education resource and support, which emphasises both professional and non-professional nursing roles [3]. To lessen the effects of chronic diseases and enhance patients' quality of life, nurses should think about developing a health education and monitoring support programme.

There is a critical need to offer older persons with knee osteoarthritis (KOA) appropriate care for promoting health that goes beyond hospitals or conventional services, especially for those with concomitant illnesses. Type 2 diabetes mellitus (T2DM) is a frequent concomitant illness, which makes KOA more challenging to manage, according to the prevalence and coexistence of KOA. Along with having similar risk factors, T2DM also has pathological pathways that affect inflammation processes and worsen outcomes [4]. Additionally, older persons with KOA and T2DM are more likely to be overweight or obese, which increases the risks of KOA symptoms developing and worsening. T2DM and increasing body weight together are more likely to raise risks and change joint loads, which can lead to KOA. In older persons with KOA, being overweight and having T2DM tend to go hand in hand, but the pathogenic interaction between KOA, T2DM, and being overweight or obese is complicated and elusive [5]. Therefore, appropriate care is required in this population of older persons with KOA and T2DM who are overweight in order to stop disease progression and promote health [6].

### Methods

The physical and mental pain of older persons with KOA who are overweight or obese and have T2DM is likely to worsen. In this population, common negative health outcomes include pain, physical impairment, depressive symptoms, sleep disturbance, disability, and increased care needs and/or dependency that lower quality of life (QOL). Amazingly, maintaining healthy behaviours requires continual effort; hence, taking the patient's personal context into account may result in better therapy. Both personal actions and QOL are influenced by how an individual perceives their living condition in relation to social norms, cultural and contextual values, socio-cultural context, and environment. In order to increase adherence and long-term healthy behaviours as well as QOL, comprehensive interventions that incorporate socio-cultural factors and readily available community resources may be beneficial. Evidence, however, shows that current therapies are less theoretically driven and incomplete. For sustaining healthy behaviour modification and enhancing QOL [7], particularly in overweight older individuals with KOA and T2DM who live in Thailand, the relevance of the socio-cultural framework for care and local community resources has, however, remained uncertain. Several multifaceted interventions with multiple components

Surgery is frequently the treatment of choice for severe KOA progression, although the expenses of care are high and not all physical function and mobility are restored. It might be difficult for nurses and other healthcare professionals to manage patients' conditions effectively [8]. To enhance physical functionality, lessen emotional suffering, and decrease healthcare costs, reducing the cost

\*Corresponding author: Noel Martin, Department of Nursing, Mahidol University, Thailand, E-mail: martin.noe@gmail.com

**Received:** 01-Nov-2022, Manuscript No: omha-22-80914; **Editor assigned:** 04-Nov-2022, Pre-QC No: omha-22-80914 (PQ); **Reviewed:** 18-Nov-2022, QC No: omha-22-80914; **Revised:** 22-Nov-2022, Manuscript No: omha-22-80914 (R); **Published:** 30-Nov-2022, DOI: 10.4172/2329-6879.1000440

**Citation:** Martin N (2022) Health Education and Monitoring Programme for Older Persons with Type 2 Diabetes, Obesity, and Knee Osteoarthritis. *Occup Med Health* 10: 440.

**Copyright:** © 2022 Martin N. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

of care in addition to utilising an efficient non-surgical intervention (such as lifestyle adjustment and quadriceps exercise) would be desirable. Nurses or a member of the multidisciplinary team have developed and are leading numerous multidimensional interventions, multicomponent interventions, or multifactor interventions promoting healthy behaviours and QOL. In addition to improving joint health and lowering the risk of rising knee pain for better functional performance, interventions to encourage healthy behaviours (such as food control, exercise, and lifestyle adjustment) have been helpful in minimising KOA issues. For people with T2DM, these therapies have also proven successful [9].

Therefore, for older persons with KOA who are overweight or obese and have T2DM, preventing further chronic illness and postponing functional deterioration and reliance would be ideal. Promoting healthy behaviours requires ongoing support with strong motivation; highly motivated people are more likely to stick with programmes. However, family-centered programmes that promote for elderly persons living alone without family support or equitable access to resources, increased motivation and healthy behaviour modification may be less advantageous. Collaboration with local healthcare workers may be more effective than other methods for monitoring, boosting health, and guaranteeing care equity because older individuals' dependence seems to be rising. Additionally, the available research indicates that in order to improve care, particularly for the KOA population, comprehensive health education and theoretically based interventions are required [10]. Therefore, implementing a thorough health education intervention with local healthcare professionals may close treatment gaps. Evidence evaluating health education programmes overseen by neighbourhood healthcare resources is, however, scarce. The effects of incorporating neighbourhood resources, other healthcare workers, like village health volunteers, and health outcome monitoring are yet unclear. Therefore, offering health education and care interventions that integrate local healthcare resources (such nurses and village health volunteers), especially in rural regions, will make a great contribution in low- to middle-income nations [11].

## Discussion

However, the presence of comorbid illnesses makes it more difficult to maximise treatment for KOA in older persons. Effective practical interventions to reduce reliance and incapacity are necessary. When it comes to the complexity of KOA and associated conditions like T2DM and obesity, Thailand is comparable to the rest of the world's population. Depending on the region, KOA prevalence in Thailand has been shown to range from 9.0% to 64.7%. Most often, KOA is accompanied by concomitant morbidity, especially T2DM. Recent research on T2DM found that pathogenic pathways—chronic hyperglycemia and insulin resistance—significantly affect the inflammatory processes and raise the risk of negative outcomes in the population with osteoarthritis. Using SPSS for Windows, we examined descriptive and inferential statistics.

Blood glucose levels, pain, and physical ability (TUGT) were different between groups during a preliminary analysis of all variables. Based on the multivariate analysis of covariance (MANCOVA) methodology's basic premise, these three variables should be classified as covariates. It was a violation for further analysis using MANCOVA because the earlier study showed non-linearity and a weak correlation between these covariate dependent variables. Consequently, a different

approach to statistical analysis is necessary because precision

## Conclusion

Additionally, T2DM and osteoarthritis share a number of risk factors, and more and more elderly persons are being diagnosed with both conditions. Particularly, the riddle In senior obese or overweight individuals, T2DM seems more complex. Evidence has shown that overweight or obese older persons with KOA and T2DM report faster KOA progression. The development and symptoms of KOA and T2DM are influenced by pro-inflammatory molecules and insulin resistance, all of which are significantly influenced by obesity or being overweight. Therefore, a person with KOA who has T2DM is more likely to increase the likelihood of severe arthritis and changed joint results of this study were gathered using questionnaires on medical equipment, health information, and self-report and objective assessments at the beginning, three months later, and six months later. Two graduate nursing students who had received training as research assistants evaluated the patient outcomes—blood glucose level, range of motion (ROM), body weight, knee discomfort, and TUGT—using industry-standard medical tools. Standard measurements were used to assess the patient-reported outcomes (fatigue, depressive symptoms, sleep quality, and QOL). Participants who were unable to complete the 6-month evaluation were excluded from the final analysis.

## References

1. U.S. Department of Labor Occupational Safety and Health Administration (OSHA). Guidelines for Preventing Workplace Violence for Healthcare and Social Service Workers (2016). <https://www.osha.gov/sites/default/files/publications/osha3148>.
2. Giménez Lozano JM, Martínez Ramón JP, Morales Rodríguez FM (2021) Doctors and Nurses: A Systematic Review of the Risk and Protective Factors in Workplace Violence and Burnout. *Int J Environ Res Public Health* 18(6):32- 80.
3. Zaffina S, Brugaletta R, Rongoni S, Derrico P, Raponi M, et al. (2017) La gestione del rischio stress lavoro-correlato in sanità come sfida per il miglioramento continuo e per l'eccellenza. *Tecnica Ospedaliera* 11:2017.
4. Aljohani B, Burkholder J, Tran QK, Chen C, Beisenova K, et al. (2021) Workplace violence in the emergency department: a systematic review and meta-analysis. *Emerg Med Australas* 2017 Jun;29(3):265-275.
5. Cabilan CJ, Johnston AN (2019) Review article: Identifying occupational violence patient risk factors and risk assessment tools in the emergency department: A scoping review. *Emerg Med Australas* 31(5):730-740.
6. Richardson SK, Grainger PC, Ardagh MW, Morrison R (2018) Violence and aggression in the emergency department is under-reported and under-appreciated. *N Z Med J* 131(1476):50-58.
7. Adelman RD, Tmanova LL, Delgado D, Dion S, Lachs MS (2014) Caregiver burden: a clinical review. *JAMA* 311(10):1052-60.
8. Kumari A, Kaur T, Ranjan P, Chopra S, Sarkar S, et al. (2020) Workplace violence against doctors: Characteristics, risk factors, and mitigation strategies. *J Postgrad Med* 66(3):149-154.
9. Dalmaso G, Di Prinzio RR, Gilardi F, De Falco F, Vinci MR, et al. (2021) Effectiveness of Psychological Support to Healthcare Workers by the Occupational Health Service: A Pilot Experience. *Healthcare (Basel)* 9(6):732.
10. La Torre G, Raffone A, Peruzzo M, Calabrese L, Cocchiara R A, et al. (2020) Yoga and mindfulness as a tool for influencing affectivity, anxiety, mental health, and stress among healthcare workers: Results of a single-arm clinical trial. *J. Clin. Med* 9(4):1037.
11. Wolf L, A, Perhats C, Delao A M, Clark P R (2017) Workplace aggression as cause and effect: Emergency nurses' experiences of working fatigued. *Int. Emerg. Nurs* 33:48-52.