

OSTEOPOROSIS-CONCERNED GROUP AND ELDERLY EMPOWERMENT MODEL TO INCREASE CALCIUM INTAKE: A STUDY AMONG INDONESIAN ELDERLY

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ABSTRACT

Aging process leads to decline in body functions, including in musculoskeletal system. Bone mass loss (osteoporosis) is one of the problems in musculoskeletal system which often experienced by elderly. Osteoporosis could have a great impact on elderly's life, such as increased risk of fractures and decreased quality of life. The objective was to construct models of the formation of osteoporosis care group (OCG) and empowerment of the elderly to increase calcium intake to reduce the osteoporosis incidence. This study uses Participatory Rural Appraisal (PRA) approach. Participants are Posyandu Lansia cadres and members of Posyandu Lansia in the Dawuhan village, Padamara District, Central Java, Indonesia. The following steps were implemented in this study 1) problem identification 2) formation of OCG, 3) OCG training, and 4) OCG mentoring process. Data was analyzed using qualitative method. Results showed that knowledge and skills of OCG members in regards to osteoporosis management were improved following training and mentoring process. Further, OCG members can apply their knowledge and skills to empower elderly for increasing calcium intake. OCG which is involving cadres and community leaders and elderly as its members are very important to cultivate awareness in health maintaining in order to prevent osteoporosis.

Keywords: osteoporosis care group, cadres, empowerment, elderly

ABSTRAK

Proses penuaan menyebabkan penurunan pada fungsi tubuh, termasuk di fungsi muskuloskeletal. Hilangnya masa tulang (osteoporosis) adalah salah satu masalah di sistem muskuloskeletal yang sering dialami oleh lansia. Osteoporosis dapat memiliki dampak yang cukup besar bagi kehidupan lansia, seperti meningkatnya resiko fraktur dan menurunnya kualitas hidup. Tujuan penelitian ini adalah untuk mengembangkan model pembentukan Kelompok Peduli Osteoporosis (Osteoporosis Care Group/ OCG) dan pemberdayaan lansia untuk meningkatkan intake kalsium untuk menurunkan insidensi osteoporosis. Penelitian ini menggunakan pendekatan Participatory Rural Appraisal (PRA). Partisipan adalah kader Posyandu Lansia dan para anggota Posyandu Lansia di desa Dawuhan, Kecamatan Padamara, Jawa Tengah, Indonesia. Berikut ini adalah langkah-langkah yang diimplementasikan dalam penelitian ini: 1) identifikasi masalah 2) pembentukan OCG, 3) pelatihan OCG, dan 4) proses pendampingan OCG. Data dianalisa menggunakan metode kualitatif. Hasil menunjukkan bahwa pengetahuan dan ketrampilan anggota OCG terkait dengan manajemen osteoporosis meningkat setelah diberikan

pelatihan dan proses mentoring. Selanjutnya, anggota OCG dapat mengaplikasikan pengetahuan dan ketrampilan mereka dalam rangka memberdayakan lansia untuk meningkatkan intake kalsium. OCG yang melibatkan kader, tokoh masyarakat dan lansia sebagai anggotanya sangat penting untuk mengembangkan kesadaran untuk mempertahankan kesehatan dalam rangka mencegah osteoporosis.

Kata kunci: kelompok peduli osteoporosis, kader, pemberdayaan, lansia

BACKGROUND

Calcium deficiency commonly occurs in elderly. This increases the risk of developing diseases like osteoporosis. A study showed that 28.8 percent of men and 32.3 percent of women suffer from osteoporosis, while 41.8 percent of men and 90 percent of women experienced osteoporosis symptoms (Tandra, 2009). Osteoporosis could lead to other problems. Osteoporosis may increase risk of fracture which further can decrease the quality of life (Zhao et al., 2007; Guglielmi & Michelangelo, 2013).

Calcium is a mineral which has vital function in the body. Calcium is commonly found in products like vegetables, milk, and bread. However, due to decrease in gastrointestinal function, elderly often suffer from chronic calcium deficiency. Unfortunately, calcium deficiency most often is asymptomatic. Individual often doesn't realize it until the symptoms get worse. Apart from osteoporosis, elderly also often suffer from osteoarthritis which is characterized by pain due to inflammation process of bones and joints. These musculoskeletal diseases could have a great impact on individual's life. Individual becomes immobile and feel uncomfortable during activities. Further it could lead to depression and impaired socialization. Bone, muscle and joint pain are the main complaint by most of elderly in Dawuhan village, Purbalingga District (Patient Visits Books, Village Polyclinic, 2014). This

problem could be detrimental since the majority of elderly works as farmer.

Osteoporosis can be prevented, but level of participation and self-reliance are still low. Risk factors identification, health education of the importance of activity and balanced diet and community participation has not been done in Dawuhan village. Elderly in Dawuhan is outnumbered the cadre, thus the services is often limited. Elderly Posyandu (center of elderly health) is often focused on curative than preventive. Elderly most often have a great reliance on pharmacological treatment than behavioral modification to manage osteoporosis symptoms. Hence, the development of the model of behavioral change to prevent osteoporosis in elderly by involving community is necessary. Thus Participatory Rural Appraisal method is suitable for this study. This study aimed to construct a model of the formation of Osteoporosis-Concerned Group (OCG) and empowerment of elderly to reduce the incidence of osteoporosis.

METHOD

This study used action research method. Data was collected through the following methods: survey, observation and Participatory Rural Appraisal (PRA). Participants have role in identifying the need, planning, monitoring and evaluating. Participants were 20 Posyandu Lansia cadres and 40 elderly as members. The following steps were implemented in this study 1) problem

identification 2) formation of OCG, 3) OCG training in 7 meetings, and 4) OCG mentoring process for 3 months. In depth interview and observation were used to evaluate the benefits of OCG in assisting the elderly to reduce the osteoporosis incidence.

RESULTS

Problem identification

The researchers facilitated cadre and community leaders to identify health problems among elderly in their area. Impaired physical mobility, bone and joint pain, unstable emotions, and no appetite were the most common problem found in elderly. Following vital sign assessment among elderly, it was identified that half of them have high blood pressure. The level of elderly knowledge about health is generally low. However, they showed high commitment to learn for their better health. Cadres and researchers make a priority for the problems and formulate strategies for its implementation.

The osteoporosis care group (OCG) formation

The preliminary survey found that there are 20 active members of posyandu cadres that work to manage elderly Posyandu routinely. After the interview, most of the cadres said that they are ready to become members of osteoporosis concerned groups (OCG). The formation process was also involved midwives as respected community leaders. Pre-test showed that cadre's knowledge regarding osteoporosis is considering very low.

OCG Training

The action of osteoporosis prevention in the community should be in collaboration with the elderly Posyandu

and OCG. Activities to improve the participation of cadres are as follow:

a. Learning session of osteoporosis

This learning session including the following topics: sign and symptom, prevention strategies and disease management. The session was attended by 22 participants consist of cadres and midwives. During the activity, participants were actively involved and looked enthusiastic.

b. Autogenic relaxation training

First, trainer guided participants to be relaxed. Then, the participants were asked to give suggestions to their selves. The evaluation was done immediately after the participants apply the autogenic relaxation therapy by asking their feelings after the therapy. All of the participants said that they feel relax. Participants can also try this therapy by providing their own suggestions.

c. Herbal therapy skill training

Training given is about herb that widely available in the village. Evaluation was conducted by asking the trainee to gather herbal compound which has been explained in the training. Evaluation showed that 100% participants were able to prepare the herbal compound correctly with the help of the team.

d. Date seed steeping therapy

Osteoporosis was caused by calcium deficiency. Evidence showed that date seed contains some mineral like calcium, magnesium, phosphor, and vitamin. These compounds showed their potency in osteoporosis prevention. However, more evidence regarding how to prepare the date seed is needed.

e. Elderly gymnastic training (for osteoporosis prevention)

The gymnastic are demonstrated 2 times. Before doing the exercise, participants learned the movements through audiovisual media (video). After

that, trainer demonstrated the exercises directly to the participants. The evaluation was conducted by asking participants to do all the movement and assessed using a checklist. Results showed that participants were able to do the exercise properly when they watched the video. All participants received the video after the training.

f. Music therapy training

Training was conducted by listening to a song via laptop / CD player. Memorable songs with medium frequency and slow rhythm were chosen. This activity was evaluated by assessing participant's feeling after listening to the music. The results showed that participants were able to perform the procedure correctly.

g. Brain stimulation training

The training used audiovisual media and practical session. The participants also received CD brain stimulation therapy so that participants can directly demonstrate it at home. The evaluation was conducted by asking them to re-demonstrate after completion of training. Assessment was conducted using checklist. Based on the observation and assessment, the successful rate after training was 100%.

h. Dietary management in osteoporosis

This session was conducted by teaching cadres about calcium rich food. Participants were taught how to plan daily menu and select food for osteoporosis prevention. The results showed that all participants could mention types of food that are good for osteoporosis prevention. Participants can also combine the menu properly.

i. Group activity therapy training

Participants are taught how to perform group activity therapy. In this therapy, participants were asked to discuss their problems and formulate

solutions. Participants were encouraged to give feedback or solution to other participants. Result showed that cadres could perform group activity therapy correctly.

j. Bone density examination training

Bone density examination was conducted by using multifunction scales to determine bone density. Each cadre was asked to try to measure bone density and then analyze the results. Equipment was donated by the researchers to cadres for examining bone density of elderly in the village. All cadres were participated in this session. The result showed that cadres are able to perform simple examination in bone density.

k. Mentoring of lifestyle change

Unhealthy lifestyles need to be modified with assistance. Lifestyle change also requires strong motivation.

l. OCG mentoring

After all cadres finished all trainings, they were given a certificate as evidence that they have completed the Training of Trainers (TOT) "Osteoporosis Care Cadre". After that, OCG invites elderly and explained roles, tasks and activities of OCG. A total of the 40 elderly people attended and participated in all session. The chairman and member of the OCG taught elderly about osteoporosis prevention, detection and treatment, including dietary management in the elderly. OCG also gave training to elderly about osteoporosis prevention gym, relaxation technique and brain stimulation therapy. This session was closed by bone density examination. Researchers as a facilitator supervised the OCG activities.

DISCUSSION

This action research was conducted to construct a model of osteoporosis-

concerned groups (OCG) formation and the empowerment of the elderly to reduce the osteoporosis incidence. This community empowering model can be applied in the village or rural area. This study was conducted along with the community member to identify and recognize the problems. Involvement of cadres, community leaders and the elderly are very important to cultivate awareness in health maintaining.

The assessment was performed along with cadres to identify elderly health problem in Dawuhan village. Furthermore, the cadres together with researchers developed plan to solve the problem. The planned activities were arranged in a schedule. Calcium deficiency is often asymptomatic. It is usually detected when individual have symptoms or musculoskeletal problem, such as fracture (Zhao, Liu and Liu, 2007). Therefore, education about calcium intake and osteoporosis prevention is needed before the deficiency occurs. The first activity is to increase the cadres' knowledge about osteoporosis with counseling and training. Once the activity is completed, an evaluation was conducted using questionnaire and participant's interview. All participants showed increased knowledge related to osteoporosis and bone-joint complaint. During the counseling session, participants seemed enthusiastic to follow and to ask health problems related to bone and joint pain.

Beside bone mass loss, chronic pain in osteoporosis often occurs. Some activities were arranged to minimize pain related to osteoporosis, including relaxation therapy, herb therapy, exercise, music therapy, brain stimulation, dietary management and group activity. A study showed that autogenic relaxation therapy can reduce

or eliminate bone and joint pain and reduce anxiety as well (Kanji, White, and Ernst, 2006). During the relaxation therapy, participants seemed enjoy the silence and relax. Participants expressed that they feel relaxed and peaceful after the relaxation.

Elderly generally use pharmacological treatment to treat pain related to osteoporosis. However, the treatment often has side effects, particularly in elderly. Herbal therapy is expected to reduce pain with minimum side effect. Herbal therapy was made from herbal ingredients that are often found in the village. Date seed steeping is one of herbal therapy which could be use an alternative therapy. Another therapy is music therapy. Music therapy training was provided to reduce nervousness. Fatigue can be reduced by listening favorite songs especially memorable song. The basic principle of music therapy is it releases nervousness by relaxing mind (Bradt, Dileo, and Potvin, 2013).

Declining of brain function in elderly will have the negative effect on their ability to maintain their activities and health (Widyastuti, 2004). Optimal functioned brain will keep the functions of various systems in the body. Brain stimulation increases the blood flow to the brain, improves the balance of left and right brain and enhances memory. Group activity therapy aims to relieve stress. This therapy is very easy to do, for example by socializing with neighbors, attending the religious activities, social gathering, walking and joining in community social activities.

Food intake could have great effect on the body's health. Many compounds in foods are vital to ensure the function of the cell. Calcium is important for bone mineralization thereby it could prevent

bone mass loss. Unhealthy diet will increase the risk of health problems. Generally, osteoporosis occurs due to lack of daily calcium intake. It would make blood taking calcium slowly from the bones. Menopause in women also takes part in initiating osteoporosis. Unhealthy lifestyle such as smoking, junk food consumption, alcoholic and rarely exercise could also play important role in osteoporosis. These lifestyles will accelerate the process of bone mass loss (Tandra, 2009).

Knowledge and willingness is the key to maintain healthy lifestyle. Health education and technology transfer has been proven to be an effective method of increasing the knowledge and skills of the elderly (Saryono, Nani, and Proverawati, 2015; Saryono, Dardjito, and Proverawati, 2016). Continuous mentoring and monitoring are important to maintain healthy lifestyle of the elderly (Saryono, Rahmawati, and Proverawati, 2016).

CONCLUSION

Community members, who are represented by cadres and elderly, are able to identify their own health problem. Cadres actively participated in all training sessions. OCG cadres are able to perform autogenic relaxation therapy, elderly gymnastics, music therapy, brain stimulation, herbal therapy and simple examination of bone density. At the end of the session, participants will be able to mention dietary management for osteoporosis which has been suited with the needs of society. Chairman of OCG is able to lead a group activity therapy. Most of the elderly showed changes in lifestyle behaviors.

Reward system for OCG needs to be done by the local government in order to increase community participation to

improve the health status of the community. Support from public health center and health care provider is needed to maintain activities of OCG. This can improve the health status of elderly people and society generally.

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