

## Healthy Feet Application As An Educational Medium For The Elderly To Increase Knowledge About Foot Problems

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### Abstract

One of the physical changes caused by aging is in the musculoskeletal system, namely joint problems which is a common disease that is strongly associated to the aging process. Joint discomfort is a prevalent condition among the elderly. Apart from age, joint pain arises because many older individuals are unable to control their lifestyle. There are numerous methods to address pain complaints in the elderly, but both the elderly and their relatives forget what they were taught when they were in the hospital or Posyandu. Efforts to maintain comfort, eliminate complaints, and improve the quality of life for elderly people with leg pain must develop strategies to help them remember what they have learned. The goal of this service is to give an alternative treatment for older people with leg issues by developing an application that serves as a reminder of the activities needed to overcome what has previously been taught. This service is provided to 30 older adults who have foot problems. This activity is carried out by teaching the elderly how to use an Android application that provides a menu on how to screen foot health based on complaints, and then the elderly can find out if their feet are healthy or have neuropathy and a menu on how to deal with them. This activity is carried out by teaching the elderly how to use an Android application that provides a menu on how to screen foot health based on complaints, and then the elderly can find out if their feet are healthy or have neuropathy, as well as a menu on how to deal with them. Assistance for older adults with foot complaints for one month (June - July 2023) through the implementation of the Healthy Feet Application as an instructional medium for elderly people with foot difficulties. A comparison of the degree of information about foot health gained before 43,71 and after 87,24 the educational technique with the Healthy Feet application was offered revealed a substantial increase in knowledge about foot health with a value of  $p = 0.000 < 0.05$ . Using the Healthy Feet application to assess foot health and make attempts to address concerns will boost foot health knowledge and self-awareness.

**Keywords:** Elderly, Foot Health Problems, Healthy Feet Application

### Abstrak

Salah satu perubahan kondisi fisik karena menua adalah pada sistem muskuloskeletal yaitu gangguan pada persendian yang merupakan penyakit yang sering dijumpai yang sangat erat hubungannya dengan proses menua. Nyeri Sendi merupakan penyakit yang umum terjadi pada masyarakat dari kelompok lansia. Hal ini dikarenakan, Selain faktor usia, nyeri sendi muncul karena banyaknya lansia yang tidak bisa mengontrol gaya hidupnya. Banyak tindakan untuk mengatasi keluhan nyeri pada lansia, akan tetapi baik lansia maupun keluarganya lupa mengingat apa yang sudah di ajarkan saat di Rumah Sakit atau Posyandu. Upaya untuk

kenyamanan, pengurangan keluhan dan peningkatan kualitas hidup untuk lansia dengan nyeri kaki harus dibuatkan metode untuk memudahkan mengingat apa yang sudah diajarkan. Tujuan pengabdian ini untuk memberikan alternative penanganan lansia dengan keluhan pada kaki melalui membuat aplikasi sebagai pengingat tindakan – tindakan untuk mengatasi yang sudah di ajarkan sebelumnya. Subyek pengabdian ini adalah lansia yang mengalami keluhan kaki sebanyak 30 lansia, Kegiatan ini dilakukan dengan mengajarkan cara mengoperasionalkan aplikasi melalui android yang berisi tentang menu cara screening kesehatan kaki berdasarkan keluhan, selanjutnya lansia bisa mengetahui skorenya apakah kakinya sehat atau mengalami neuropati dan menu bagaimana cara mengatasi masalah berdasarkan hasil skorenya. Pendampingan pada lansia yang mengalami keluhan kaki dalam jangka waktu 1 bulan (juni – juli 2023) dengan menerapkan Aplikasi Healthy Feet Untuk media edukasi pada lansia yang mengalami masalah pada kaki. Dari kegiatan ini didapatkan perbandingan tingkat pengetahuan tentang Kesehatan kaki sebelum adanya metode edukasi dengan aplikasi Healty Feet dan setelah diberikan edukasi, terjadi kenaikan signifikan pengetahuan tentang kesehatan kaki dengan nilai  $p=0.000 < 0.05$ . Penerapan aplikasi Healty Feet untuk mengetahui keadaan kesehatan kaki dan upaya penanganan masalah keluhan tersebut mampu menambah pengetahuan dan kewaspadaan diri terhadap kesehatan kaki.

**Kata kunci:** Aplikasi Healty Feet; Lansia; Masalah Kesehatan Kaki

## INTRODUCTION

As the number of aged individuals in Indonesia grows, so do the disease problems caused by the ageing/degenerative process. Problems that necessitate special treatment for the elderly are related to the ageing process, which results in physical, cognitive, emotional, social, and sexual changes (Agustina, 2014). Ten health concerns affect the elderly, with sickness being the most frequent. Infectious diseases (NCDs) include joint pain. After hypertension, joint discomfort is the second most common condition. At some point, all humans will go through the ageing process. One of the physical changes caused by age is in the system Musculoskeletal is a disorder of the joints that is frequently seen and is directly associated with the ageing process with symptoms mostly pain (Dewi, 2009). Joint discomfort is a prevalent condition in the aged population. Aside from age, numerous factors influence acceleration and joint discomfort occurs because many senior individuals are unable to control their lifestyle (Kurnia, 2015). According to WHO, 151 million people worldwide suffered from joint pain in 2008, with 24 million of them living in Southeast Asia. Prevalence In Indonesia, joint disease affects 34.4 million individuals, with a disease ratio of 15.5% in males and 12.7% in women.

## GENERAL DESCRIPTION OF THE COMMUNITY, PROBLEMS AND TARGET SOLUTIONS

### General description

Data from Prevalence Health Research According to (Riskesdas), 11.5% of the Indonesian population suffered from joint discomfort in 2013. East Java has a high prevalence of joint illness, reaching 30.9%. One solution is to purchase over-the-counter medication or take him to the hospital But, what if the pain complaint does not significantly improve? what if the complaint recurs frequently due of lifestyle? In the area of service, namely at the Cempaka Putih Posyandu, Kedunganyar sub-district, the action taken by the elderly and their families to deal with complaints of pain in the elderly is to seek treatment at the Community Health Center or Hospital, but both the elderly and their families forget to remember what they have been

learned while at the hospital or Posyandu. The solution method used for overcoming leg pain in the elderly is creating an application as a reminder of actions to overcome what has been taught previously. One of method that can remind you of the efforts that have been made is using the Healthy Feet Application which is accompanied by the Hydrotherapy SOP exercise foot and logbook to record complaints that are felt. According to In the above explanation, the author intends to implement Healthy Feet, which can be effective for the elderly with foot problems and for enhancing the elderly's quality of life. Apart from that, this community service activity is an attempt to carry out MBKM activities in collaboration with others. The application of IKU 2,3,5 is to provide students with opportunities to gain experience outside of campus (implementation of IKU 2), lecturers carry out activities outside of campus through community service (implementation of IKU 3), and the results of University Personnel High in this case the innovative work of lecturers through the Healthy Feet Application can benefit the elderly (implementation of IKU 5). Posyandu Cempaka Putih Kedunganyar Surabaya is located in the subdistrict Sawahan Surabaya and has a total of 55 old, 30 of whom have complained of joint discomfort. Despite the fact that the old person have relatively low the intensity, all preventive measures and pain treatment are still ineffective in improving the quality of life of the elderly. Some activities for the elderly are already carried out by the Community Health Center through Posyandu programs, one of which is a sports routine that is carried out every two weeks. However, because posyandu is only implemented once a month and solely for the elderly without having to be accompanied by their family, senior people are sometimes less able to recall what has been supplied either through counselling or consultation with personnel Health. As a result of these conditions, the elderly unable to optimize their efforts. Joint pain complaints reappear and disrupt regular activities. As a result, elderly persons can not move sufficiently resulting in complaints of joint pain. With the emergence of problems, particularly joint pain in the elderly in Posyandu Cempaka Putih, strategies for dealing with joint pain in the elderly, namely by implementing the Healthy Feet Application. Healthy Feet Application is an application that serves as a reminder about the actions that elderly people should take when joint pain appears. The application includes SOPs for soaking feet, foot exercises, pamphlets explaining the benefits of soaking feet, and a notebook to record any complaints that arise

### **Problem**

1. Lack of understanding among elderly people or their families about managing joint pain
2. Lack of companions for the elderly
3. There has been no effort from elderly cadres to provide visits for the elderly who suffer from physical problems
4. There are still many elderly people who are bored of seeking treatment at health service facilities because the disease does not go away
5. Decreased activity during joint pain so that quality of life decreases
6. The ability to remember the elderly has decreased if there is education, and counselling provided.

### **Solution**

1. Increase in knowledge, attitudes and self-awareness
2. Applying hydrotherapy and foot exercises simultaneously
3. Assisting with the procedures for using the application
4. Education, and counselling

## METHOD

This activity uses an empowerment approach by developing the elderly community through Education, Counselling and assisting in operating healthy food application

Preparation phase

1. Carrying out permits to the sub-district, sub-district and head of Posyandu Cempaka Putih, Kedunganyar, Surabaya
2. The chief executive will take over the implementation strategy meeting, which will discuss strategies and planning for community service projects that will be implemented.
3. The survey is conducted no later than one day before the activity. I am organizing the setting up of equipment and a variety of activities.
4. Preparation of Facilities and Infrastructure
  - a. Inquiring Cempaka Putih Posyandu providing socialization facilities Healthy Feet application and treatment for joint discomfort
  - b. Preparing a place for the promotion of the *Healthy Feet* Application and education about joint pain and its treatment

The activity implementation stage is the main stage of the community service program public. The target of activities at the implementation stage is the elderly in Posyandu Cempaka Putih, Sawahan District, Surabaya, is divided into 3 stages of activities. The implementation distribution is as follows:

1. The first stage is socialization about joint pain and its treatment to the elderly, their families and elderly cadres. Involvement of family and cadres in the hope it can help provide care and handling while at home.
2. The second stage involves applying hydrotherapy and foot exercises simultaneously and then it can be done independently at home with application guidance which has been made
3. The third stage is assisting with the procedures for using the application together with family and cadres who will accompany you at home

The final stage of the community service program is the implementation evaluation stage, where an evaluation and report will be completed. Evaluation is done before and after the activity by asking and answering questions on health development following therapy. Before the program, the goal is to discover the initial complaints of elderly individuals who have it symptoms of joints and pain in the legs in particular, as well as general conditions. And, following the exercise, to determine how much the improvement in the elderly's physical and psychological condition has increased with online coaching from the Healthy Feet Application..

## RESULTS AND DISCUSSION

Results achieved from the Implementation of the Healthy Feet Application as educational media for elderly people who experience it foot problems as an effort to improve the quality of life of the elderly.

Table 1. Distribution of elderly by age

Age	n	%
45 - 59	18	60.0
60 - 74	9	30.0
75 - 90	3	10.0
≥ 90	0	0
Total	30	100

Source: primary data (2023)

Table 2. Distribution of elderly by gender

Gender	n	%
Man	7	23.3
Woman	23	76.6
Total	30	100

Source: primary data (2023).

Based on the table above, the largest age group for elderly people is 45-59 years, with 18 (60.0%), the largest gender was female, 23 (76.6%)

Table 3. Differences in knowledge, attitudes and self-awareness before and after implementing

Variable	Measurement Result		P Value
	Mean		
	Pre Test	Post Test	
Knowledge	43,71	87,24	0,000
Attitude	60,86	81,36	0,000
Self-Awareness	38,52	72,69	0,000

Source: primary data (2023)

Based on Table 3, the results of Multivariate Analysis of Variance prove that there is differences in knowledge, attitudes and self-awareness before and after This is different in the intervention group, namely the group that uses elderly people who have been taught The *Healthy Feet* application for 1 month of use shows that there are results significant increase in knowledge, attitudes and self-efficacy after intervention with The respective p-value is 0.000 (p-value <0.05). In general, it happened to increase in knowledge, attitude and self-efficacy scores on pretest and post-test measurements. The increase in knowledge scores from the pretest to the post-test reached 43.53. Respondents successfully implemented the application so that in levels "knowing" is part of knowledge cognitive at the lowest level. Respondents at this stage will remember again something specific related to the object being presented. Only ten respondents are at the "understanding" stage after passing the "knowing" level, which is the individual's ability to explain accurately the answer to the question given during the post-test process. According to the Indonesian Ministry of Health's Directorate of Health Promotion and Community Empowerment, health promotion media can be paper-based (printout) such as brochures, posters, temporary banners in the form of documents such as materials, regulations, publications, then audiovisual media in the form of short films, infographics and based media online and social media in the form of health promotion applications, utilizing social media such as Facebook. There was also a 20.5 increase in attitude scores from the pretest to the posttest on attitude factors. According to the findings of the analysis, the majority of the groups in this study have comparable positive attitudes toward neuropathy prevention. The better your attitude, the more effective it will be in generating a favourable attitude in another individual. The level of response attitude in the receiving and responding stages was investigated in this study. Accepting can be viewed as the respondent's willingness to accept the treatment given to him, whereas responding is a type of answer given by respondents by implementing these applications in daily activities (Fitriani, 2011). Andrianto conducted a similar study in 2019 on the formation or influencing factors of attitude. Personal experience, as well as the influence of other persons deemed important, influence culture, mass media, educational institutions, religion, and emotional variables. Attitude is a person's closed response to a stimulus or item that also includes significant opinion and emotional aspects. This also occurs with characteristics

such as self-awareness, where there was a 34.17 increase from the pretest to the post-test for respondents. When compared to senior persons with lower self-awareness, those with a high level of self-awareness will make greater attempts to establish a healthy lifestyle (MASITA, Elly Dwi; RISTANTI, 2020)

Good self-vigilance can help confidence and self-confidence to want to try and obey. This could be a factor inherent and motivates one to carry out a behaviour. This is in line with research conducted by Rachmawati, Bashori & Hayati (2017) revealed that Islamic self-efficacy training can provide positive changes in reducing anxiety about public speaking in students, motivating them to do so positive self-change by maximizing strengths and motivating emergence of positive emotions thereby eliminating irrational thoughts.

According to the results of this program, individuals who have foot difficulties in the elderly are between the ages of 45 and 59, with a prevalence of 60.0%. Many factors influence Joint discomfort, apart from age, many elderly individuals are unable to control their lifestyle (Kurnia, 2015). As people get older, they have more morbidity, less functional status, and are exposed to more risk factors and events in life that might affect their health, putting them at risk of health issues, particularly foot problems. Foot disorders are considerably more common in elderly women, accounting for 76.6% of all cases. This can be caused by women generally having a risk of foot complaints after menopause. Foot issues that are more common in women are the result of biological changes, particularly hormonal changes (Colangelo, LA, 2013). Foot problems are the leading cause of older people experiencing a decline in their quality of life as they age. This is also consistent with Padila's (2003) advice that in old age, you should live your life calmly and happily, and enjoy retirement with your cherished children and grandkids with great affection. Yanis (2022) suggests that the elderly do not require medical care for mild to moderate foot issues. Aside from that, light and moderate foot issues can be treated at home with alternative treatments and foot problem prevention, such as hydrotherapy and foot exercises. Meanwhile, in cases of severe foot complaints, it needs to be given medical treatment because the sufferer experiences various difficulties in carrying out the procedure daily activities well. Implementing Applications Healthy Feet is capable of addressing the distribution of information to the elderly in order for them to improve their health through more knowledge, better attitudes, and self-awareness toward the prevention of more serious issues. When using the application, sense hearing and vision will receive acoustic stimuli in the form of character speech in the story. The audio stimulation is then forwarded to the brain, which digests the source of information to understand, and there is an increase in knowledge of the disease and its problems, which determines the elderly's attitude in efforts to prevent and handle it with self-vigilance towards complications that arise. Simplifying the format of messages given via the application approach makes it easier for older people to understand it.



Picture. 1 dissemination of the *Healthy Feet* Application  
Source: Personal Source (2023)

## CONCLUSIONS AND SUGGESTIONS

At Posyandu Cempaka, the senior cadres' responsibility is to help with application usage. Healthy Feet is an educational medium for older people who have foot difficulties to improve the quality of life of elderly people who have foot problems. It is the best activity for elderly people who have foot health concerns. So that elderly persons can use the Healthy Feet application to detect their health and take preventive steps.

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