



Original Article

The Context of Nursing Intervention of Sand Bed Culture in Reducing Osteoarthritis Pain Scale

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ABSTRACT

Aging causes physiological function to decrease as a result of the aging process. Osteoarthritis is common in the elderly causing chronic pain conditions. The purpose of this study is to explain the context of nursing interventions in the sleeping culture on the sand in reducing osteoarthritis pain. The method uses a qualitative approach with a descriptive design. Data collection techniques using in-depth interviews, participant observation, and documentation. The selection of participants in this study used a snowball sampling technique, with elderly key informants, leaders, nurses, and the community so that the total number of informants was 21 participants. Data analysis used Sandelowki's qualitative content analysis approach. The result is the cultural intervention of sleeping on the sand based on three nursing actions; namely, preserving the sleeping culture on the sand, accommodation, and negotiating the sleeping culture on the sand with an artefact in the form of a box that is wide enough, ceramic with a depth of 30 cm so that it can immerse its body in the sand. The new pattern according to local culture where the container is placed on the bed, informants feel more comfortable, and provides physiological benefits in reducing osteoarthritis pain. It can be concluded that providing the nursing interventions for sleeping culture on the sand with a sleeping position on the lower extremities inserted into the sand will provide a function as a support for the knee which is expected to reduce complaints of pain, joint stability, and limited movement in osteoarthritis.

GRAPHICAL ABSTRACT



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Introduction

Elderly is a part of life span in humans which is considered a decline phase because in this phase, an individual experiences various kinds of setbacks in his life including physical decline and cognitive function which results in the elderly being often seen as individuals who need a lot of help in his daily life [1, 2]. Indonesia contributes significantly to the growth of the elderly worldwide and is expected to experience an "elderly population boom" in the early two decades of the 21st century as a result of the baby boom several decades ago.

The elderly naturally experience changes in the structure of functions, both physical and mental, which affect a person's ability to keep doing activities [1]. The process of normal or physiological development occurring in the elderly in the final stages of the human life cycle is a natural fact that cannot be avoided by the elderly [3]. Increasing age causes physiological functions to decrease due to the aging process so several diseases caused by degenerative processes appear in the elderly [4]. Decreased organ function in the elderly includes the musculoskeletal organ system, including arthritis which is a condition of joint inflammation that can attack several joints [5]. In general, osteoarthritis is a pain experienced by many elderly, especially in the joints [6]. Osteoarthritis is a disorder characterized by the thinning of the cartilage in the joints, thus interfering with joint motion [5].

Individual perception of pain has an impact on pain management, controlling uncontrolled pain in the elderly can cause many physical complications [7, 8]. The feeling of discomfort or pain is one of the most common chronic conditions experienced by the elderly, pain does not go away, and continues to affect the majority of the elderly globally with around 70% of the elderly population feeling joint pain [6]. Someone who feels pain means that his comfort needs are not met, this is where the role of the nurse is to meet the comfort needs, with various pain management given to assess and treat pain in the elderly [9].

Non-pharmacological pain management is a concern and a top priority for nurses to deal with pain problems. Pain management in the elderly depends on pain-reducing drugs. The use of non-pharmacological pain management is still rarely used, even though its use reduces the risk of side effects from drug use [10].

Efforts to maintain and develop a culture in Indonesia require the local strength to support national strength that is able to bring Indonesia's name to the international scene, but still with the noble values that have been built by the ancestors of the Indonesian people. The development of this local culture is one of the supporting steps for the cultural, economic, and socio-cultural development of the Indonesian people. Cultural care is very important for nurses to meet the cultural needs of the elderly, manage differences, and provide the best possible care.

Cultural inability has an impact on the results of care, this can be done to provide attention and welfare for the elderly [11, 12]. The phenomenon of indigenous coastal communities with unique traditions whose daily habits start sleeping in the sand, playing in the sand, soaking on the beach, and giving birth in the sand. Indonesia with various ethnic groups, each of which has its own cultural characteristics, which are caused by individual backgrounds that are also different from one another. This is the background in every region in Indonesia has its own cultural characteristics.

Sand is a unique tradition in coastal communities that use sand for daily life, sand which is usually only used as a means of tourism, but is used for everyday life such as sleeping on sand [13]. Accommodation of the sleeping culture on the sand is a process of long-term change and dynamic stages in the empowerment process including creating an atmosphere or climate that allows the community potential to develop, strengthening the potential or strength they have, and protecting interests by developing a protection system for the community, where sleeping on the sand is believed and beneficial for health, coastal communities support the tradition of sleeping on the sand and do not regard it as a nuisance or problem, information that this tradition or behaviour is beneficial to health is

maintained and needs to be empowered and developed [14, 15].

[16] mentioned that the daily temperature of the sand even though the post-rain weather conditions the temperature of the sand is quite warm, and at night there is a decrease in the sand temperature, this phenomenon indicates that the sand has a warm temperature and can store this warm temperature where in physics sand is a slow conductor. The sleeping tradition on the sand depicts patterns of life, beliefs, and habits of the elderly that are usually passed down from one generation to another.

According to [17], trust, and patterned disclosure can help the elderly to maintain their health, and improve their health condition of the elderly. Referring to the transcultural nursing theory model in empowering the sleeping tradition on the sand, it is necessary to carry out three types of nursing actions; namely, first, based on maintaining the sleeping culture on the sand so that it will be harmonious according to the needs and values of the elderly, second, paying attention to ways of negotiating with the local culture. Third, restructuring or creating new patterns according to local culture. Based on this phenomenon, researchers are interested in researching the development of a transcultural nursing-based sleeping on sand empowerment model for comfort and arthritis pain scales in coastal elderly, it can be assumed as part of a culture with a broad understanding of knowing, explaining, calculating, and predicting nursing care phenomena and to direct the practice of nursing care in an effort to increase the comfort and pain scale of arthritis in the elderly.

Materials and Methods

This research method uses a qualitative research approach with a descriptive research design, in which the research describes the theme of accommodation context of the sleeping culture on sand in reducing the osteoarthritis pain scale which is the background of a phenomenon that exists in society related to the health sector [18]. Data collection techniques using in-depth interviews, participant observation, and documentation. The research location was in East

Legung Village, Batang-Batang District, Sumenep Regency which was carried out from June to September 2022. The participants in this study were the elderly who experienced osteoarthritis pain, traditional leaders, nurses, and the community in Legung Village, Batang-Batang District, Sumenep Regency.

The sampling technique used snowball sampling. According to [19], *snowball sampling* is a technique of determining a sample that is initially small in number then enlarges. Researchers chose snowball sampling. The informants in this study were 21 participants

The focus of this qualitative research consists of the cultural context of sleeping in the sand, the need to pay attention to three types of nursing actions; namely, based on maintaining the sleeping culture in the sand so that it will be harmonious according to the needs and values of the elderly, paying attention to ways or negotiating with local culture, and restructuring or make new patterns according to the local culture. Data analysis in this study used a qualitative content analysis approach [20] which states that qualitative content analysis is a choice analysis strategy in a qualitative descriptive study.

Results and Discussion

Participants' characteristics

Participants in this study were the elderly who experienced osteoarthritis pain based on data from the Legung Health Centre, traditional leaders, nurses, and the community in East Legung Village, Batang-Batang District, Sumenep Regency, the number of informants was 21 participants as presented in Table 1. It is known that the participants in the initial phase of this study stated that as many as 21 participants, including 10 elderly people, 4 community members, 3 nurses, and 4 community leaders, and religious leaders as presented in Table 1.

Maintenance of sleeping in the sand culture

"Yes, sir, it has been passed down as a culture and family habit of sleeping on the sand... Yes, children sleep on the sand too, sir. But if you are just born, sleep on the bed, sir" (LS02/11)

Table 1: Characteristics of participants in the elderly, community leaders, religious leaders, nurses, and the people of Legung Village, Batang-Batang District (n = 21)

Participant Code	Participant Criteria	Initial	Gender	Age	Education	Occupation
LS01	Elderly	Mrs "NM"	F	70	No School	Housewife
LS02	Elderly	Mr "AY"	M	64	Elementary School	Trader
LS03	Elderly	Mrs "TN"	F	63	No School	Farmer
LS04	Elderly	Mr "SB"	M	67	Elementary School	Fisherman
LS05	Elderly	Mr "AH"	M	70	No School	Farmer
LS06	Elderly	Mrs "AR"	F	65	No School	Housewife
LS07	Elderly	Mrs "MD"	F	66	Elementary School	Trader
LS08	Elderly	Mr "SY"	M	69	Elementary School	Fisherman
LS09	Elderly	Mrs "ST"	F	68	No School	Housewife
LS10	Elderly	Mr "MS"	M	73	No School	Farmer
TK01	Public figure	Mr "MT"	M	58	Senior high school	Self-employed
TK02	Religious leaders	Mr "SM"	M	55	Senior high school	Self-employed
TK03	Religious leaders	Mr "AS"	M	70	Elementary School	Self-employed
TK04	Public figure	Mr "HM"	M	55	SMA	Self-employed
MSY01	General public	Mrs "RN"	F	46	Senior high school	Trader
MSY02	General public	Mr "IH"	M	60	Senior high school	Fisherman
MSY03	General public	Mrs SDN"	F	55	Senior high school	Trader
MSY04	General public	Mrs "ASN"	F	35	Senior high school	Trader
TKes1	Nurse	Mr "AB"	M	48	Ners	Government employees
TKes2	Nurse	Mrs "DS"	F	39	Ners	Government employees
TKes3	Nurse	Mrs "HN"	F	45	Ners	Government employees

Table 2: Results of participant data analysis

No.	Theme	Sub-theme	Category
1	Maintenance of Sleep Culture in the sand	Understanding of Culture	Hereditary Culture from birth
		Planning to keep the culture	Maintaining Culture Maintain
		Cultural preservation efforts	Conserve Nurse Maintenance
2	Cultural Accommodation or Negotiation	Modification of the sand mattress shape design	Sand bed design Sand pot Sand thickness Sand sleeping position
		Adding artefact	Rubber carpet Towel
3	New patterns according to local culture	There is resistance to the new pattern	Not available Touch the ground Sleep downstairs
		keep sleeping on the ground/floor	Sleep on the floor
		Unable to use bed	Not satisfied Don't be on top

The results of in-depth interviews with elderly informants understand that the sleeping culture on sand has become a hereditary habit, from parents to children. However, if a child who is still small sleep on a new mattress when he is 1 year old, the parents will get used to their child sleeping on the sand.

"Yes, according to my parents before, their children are always used to sleeping on the sand ... but I think sleeping on the sand will definitely keep decreasing" (LS03/12).

The results of interviews with the elderly to maintain the culture of sleeping with sand have been passed down from the past. If parents sleep with sand, surely their children will sleep following their parents because they have been used to it since they were small and environmental factors have become a very strong driver in the tradition or culture of sleeping on the sand.

"Yeah, I don't know... it's up to my children and grandchildren... it's up to my children and grandchildren, I don't know... if I think the children will still follow, they will sleep on the sand like me" (LS10/58).

"Yes, it is preserved for the grandchildren" (MSY02/16).

The results of in-depth interviews with elderly informants and the community in efforts to preserve the culture of sleeping on sand will continue to follow their elders because they have been accustomed from childhood to sleep on sand mats so that this culture will be passed on to their children and grandchildren even bigger and it is difficult to change in the habit of sleeping on the sand. This statement is the same as the statement of the village nurse who asks her patients directly that this culture should be continued by their children and grandchildren as follows:

"It seems that it will be passed on to the grandchildren, sir... because the children have been used to it since they were young" (TKes1/18).

Accommodation or cultural negotiations

"The ceramic one is definitely more comfortable than using it as usual... in my opinion, I want to change it to a better place, sir... the soil is also sir, really white..." (LS04/11).

The results of in-depth interviews with elderly informants that the thickness of the sand does not affect the comfort of sleeping with the reason that sand is only that if the size is larger it can accommodate many people to sleep on sand mats and if the sandbox is modified using ceramic it makes the place even better and according to the informant, it is more comfortable to use ceramic.

"I want to make one measuring 180×200 cm, and then given the foundation for the sand. For example, later on, there are guests who want to know what a sand bed is like, they can be told how, for example, a sand bed...yes, so my intention is in an open area, it's up to you wherever you are, as long as you stay in this area. The sand was then given a roof on it. Now, when a guest wants to know what a sand bed looks like apart from the residents, they can know that this is a sand bed. "Oh like this, bed of sand" so that's it.... yes, 30cm. The problem is if it's too low it's not comfortable either, you can't lower it... yes, some are cemented or tiled"(TK01/101).

The results of interviews with the design figures for the box-shaped sandbox with a size large enough to fit many people are the same as stated by the elderly in the form of a box and ceramics, but with a minimum depth of 30 cm so that they can immerse their bodies in the sand to make it more enjoyable.

"It's the same, sir, a large kalua fits a lot more...but it's better with ceramics and given a base... yes, if I want it, I want it repaired to a better one, sir" (LS05/74).

I personally think the shape is up to you. Want it round or square? The important thing is the quality of the sand (as important as sand, Pak Mon Modella Saromben). White and 20 cm deep. "The size of the side of the box is cemented first. Just sandboxed. The size is approximately 30 cm" (TKes1/31).

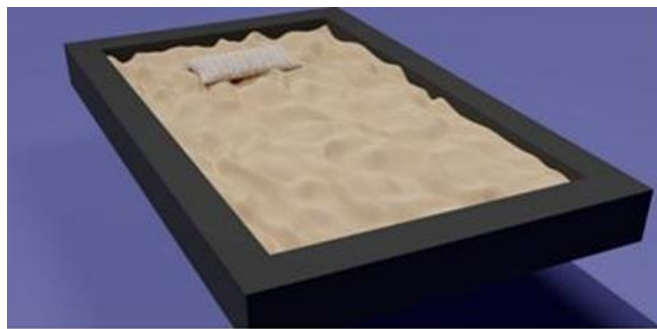


Figure 1: Cultural modification of the sand bed artefact



Figure 2: Sleeping position on sand

The results of in-depth interviews with the elderly, village leaders, and nurses stated that a form of cultural creativity in making a sandbox to be used as a mat for resting or sleeping uses white sand and uses ceramic or cement as a container as presented in Figure 1. The sleep duration for elderly informants and the community is 7-8 hours at night, on average, the informants sleep on the sand, the same as the sleep of the community or people who sleep on mattresses, there is no difference, it is just that what distinguishes the mat used is sand for sleeping, which generally uses a mattress or carpets and so on. The people of Legung village use sand mats for their resting places, and sleeping positions on sand used by the elderly are:

"Yes, on your back, sir, you can tilt to the right or to the left, on your stomach it's okay because you use a pillow, or sometimes you do not use a pillow, only your hair is dirty" (LS07/26).

"It's up to you, it's good to lie on your back, yes, on your back, but when you get a good night's sleep, there's a lot of sand already" (TK06/22).

"All positions sir, supine, sideways and others. If I'm told to sleep on the bed, I don't want it to be hot when I'm on the bed" (MSY02/14).

The results of the analysis of in-depth interviews with the three informants; namely, the elderly, leaders, and the community, for sleeping positions on free sand, there are no binding provisions, prone, tilted, and so on, there is no difference and it also does not harm people who sleep on sand so they are the same as the community who sleeps on a mattress as presented in Figure 2.

New pattern according to local culture

"Yes, it's up to you sir, the important thing is that you can sleep on your body... if you put sand on top it doesn't look good, sir, because it doesn't blend well with the body" (LS09/28).

"It's better downstairs... in my opinion, it's better to stay downstairs sir, don't change it, because it seems uncomfortable if you sleep on top" (TK02/29).

The results of in-depth interviews with the elderly and leaders do not want the container to be placed above using a cot or bed and placed above the community/informants prefer to be

placed below for the reason that it is more comfortable if it is below. This statement is the same as when the nurse was interviewed as follows:

"It still doesn't taste good, in my opinion, sir, the problem is the naturalness that people here need... you can't, just modify the edges" (TKes2/32).

According to the village nurse, the community will not want the place to be innovated to become a cot. According to the village nurse, it is natural for the Legung people to sleep on the sand and stick together with the ground.

Nursing services for clients need to pay attention to cultural values in the context of health and illness, where each individual can define culture based on their own experiences and perceptions, the culture of sleeping on sand also determines cultural harmony in health services for coastal elderly [21], and then nurses are advised to get to know about the client's culture in improving the client's health including in maintaining a culture of sleeping on sand in reducing osteoarthritis pain [22]. When nurses ask for comfort from the elderly or objectively, such as observing complaints of osteoarthritis pain or changes in behaviour [23, 24], so the need for nurses to be able to consider the form of nursing intervention based on the client's culture, in this case; namely, nursing culture of sleeping on sand which is believed to be coastal elderly.

The results of the study indicate that the maintenance of the sleeping culture in the sand needs to be maintained and preserved by maintaining and preserving the culture which is shown to continue to maintain. Culture [21] is always taught to their children and grandchildren because of their belief that the culture of sleeping on sand does not cause any harm or negative effects, but rather provides comfort to the elderly. Leininger's nursing theory presents three intervention models so that nurses can help people from cultures, including the maintenance and preservation of cultural care [25] as presented in Table 2.

The context of the sand-bed culture nursing intervention in reducing the osteoarthritis pain scale has an important role in the world of health [26]. mentioned that three types of nursing actions are based on first, maintaining a culture

of sleeping on the sand, thus it will be harmonious according to the needs and values of the elderly, second, paying attention to accommodation or negotiating local culture, and restructuring or creating new patterns according to local culture, this can affect self-care in general where cultural beliefs and social norms influence how individuals interpret and respond to their symptoms [27]. Ultimately, a model emerges that focuses extensively on issues related to health culture, making it a potentially useful context for examining how other providers can contribute to health culture [28, 29]. One of the contributions that can be felt by the elderly is the comfortable feeling of sleeping on sand; it can reduce osteoarthritis pain and can improve the health of the elderly.

The effect of providing nursing interventions on sleeping culture on the sand with the sleeping position on the lower extremities inserted into the sand will provide function as a knee brace (knee brace) which is expected to improve complaints of pain, joint stability, and movement limitation in osteoarthritis. The knee brace also plays a role in preventing joint injuries, one of the roles and types of knee supports in the management of osteoarthritis is the sleeve support [30, 31]. Sleeve-type supports or also known as soft knee braces are non-adhesive supports that can be used to reduce activity limitations in the OA patients. Although the sleeve does not provide structural support, it can provide compression thereby preventing joint effusion. The sleeve acts on the mechanoreceptors in the skin, thereby improving joint proprioception as well as reducing joint pain and instability. Proprioception and pain have been reported to be directly related to physical activity limitations in the OA patients. Tactile stimulation that occurs due to the sleeve can inhibit the delivery of pain signals to innervation. In addition, the use of sleeves also provides additional sensory input so that the joints feel more stable [30, 32].

Ways of cultural care can be developed through cultural attitudes that uphold the core values of the culture itself, in this case; namely, the culture of sleeping on the sand, it takes time to carry out cultural maintenance carried out in daily

activities which will have a significant impact on the treatment experience [33]. Nurses play an important role in providing inclusive and culturally responsive support in meeting individual needs [34]. The nurse also needs to critically review the client's responsibilities and approach to developing and addressing issues in providing a culturally responsive approach to the client [35].

The high value of belief in the efficacy of sand gives birth to behavior where the belief itself is a psychological state when the elderly assume that a premise is correct, if we believe in something, then trust will arise [16]. The belief system is a strong asset, the psychological aspect is the basis that causes the elderly to have a strong belief system and can be a source of true energy in reducing osteoarthritis pain, so that belief will always provide a significant positive relationship between personal and cultural beliefs [36].

Modification of the sleeping culture on sand can be manifested in the form of an artifact of a sand bed which is standardized based on the needs the benefits of a sand mattress to be used as part of therapy for the elderly with osteoarthritis, in the form of a rectangular sand bed with the size of a mattress tub of 180 cm x 200 cm with a thickness of sand 30 cm. Negotiations on the culture of sleeping on the sand are realized in the form of modifications to sand mattress artifacts shown in the behavior of the elderly in carrying out sand cleaning; namely, scheduling sand cleaning using a sieving tool and rubber carpet mats to maintain the cleanliness of the sand mattress environment, so that the elderly can use it in their daily lives besides sleeping on sand; namely, relaxing, enjoying TV broadcasts in groups which are believed to be sitting, sleeping on a stretch of sand will give you a feeling of fatigue, and body aches will disappear [37]. Trust and patterned disclosure can help the elderly to maintain their health, and improve their health condition of the elderly [21].

Conclusion

The context of the nursing intervention of sleeping on sand in reducing the osteoarthritis pain scale has an important role in the world of

health including three types of nursing actions; namely, based on first, maintaining a culture of sleeping on sand will thus be harmonious according to the needs and values of the elderly, second, paying attention to local cultural accommodation or negotiations, and restructuring or creating new patterns according to the local culture, this can make it a potentially useful context for reducing osteoarthritis pain in coastal elderly in Indonesia.

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Authors' Contributions

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