

## Elderly Sleep Quality in Crosscultural Perspective

Syaifurrahman Hidayat<sup>1\*</sup>, Kusnanto Kusnanto<sup>2</sup>, Mujib Hannan<sup>3</sup>

1. Student of Nursing Doctoral Department, Faculty of Nursing Airlangga University, Indonesia.
2. Professor of Nursing, Doctoral Department of Nursing, Faculty of Nursing, Airlangga University, Indonesia.
3. Lecturer of Nursing, Faculty of Health Science, Wiraraja University Madura, Indonesia.

### Abstract

Around 50% of the elderly have poor sleep quality. Culture in the community is closely related to several activities in the concept of healthy illness in the elderly. Culture can become a tradition that can respond to elderly health problems. This study aimed to review the available relevant literature on sleep quality in the elderly from a cross-cultural perspective.

Literature study for 2017-2020, data were obtained from databases including Science Direct, ProQuest, Scopus and Google Scholar, with the keywords elderly, sleep quality and cross-cultural.

The researchers found 25 articles that fit the inclusion and exclusion criteria. From the review of the article, it is known about the quality of sleep for the elderly based on cross-cultural elements and cultural forms in fulfilling the quality of sleep for the elderly.

The poor quality of sleep in the elderly is often ignored compared to other general health problems, so the need for an understanding approach to cultural contexts that contain multicultural characteristics with comfortable habits in the elderly's environment will automatically form the inherent traditions of the elderly. Several studies include the culture of sand mattresses, sand tray cultural methods, cultural rituals of religion and culture related to language.

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### Introduction

Sleep is a basic physiological need and is very important for health and wellbeing. In the elderly, sleep disorders are influenced by several factors, including primary sleep disorders such as sleep apnea, periodic sleep disorders<sup>1</sup>. Sleep is part of the needs of each individual life which has differences in sleep quality, health status, daily activities, and age. The need for sleep in the chronically ill elderly is different from the healthy elderly even though they are in the same age range, this is due to health problems or pain suffered<sup>2</sup>.

According to<sup>3</sup>, approximately 50% of elderly experience poor sleep quality. The experienced signs and symptoms include longer sleep onset times, lower levels of sleep efficiency, frequent waking up late at night, early wake up time or

sleepiness during the day. All these symptoms often ignored by the elderly unlike physical health problems, this right is due to the majority of the elderly feel that it is part of old age that they must live through.

A good quality of sleep that can produce new energy as a process of restoring body cells and poor sleep quality results in a decrease in the speed of activities or walking in the elderly<sup>4</sup>. So that it can shorten the length of treatment in the elderly. Conversely, if the quality of sleep is disturbed, the regeneration of body cells will not be maximized, the body will experience susceptibility to disease, along with aging, increasing sleep disorders in the elderly<sup>5,6</sup>.

Sleep disorders are of particular concern on people aged 55 and over given that and estimation of 50% reported had sleep problem such as difficulty of initiating or maintaining sleep. Poor sleep quality in older adults is often associated with increased health problems<sup>7,8</sup>.

Poor sleep quality is one of the most common difficulties that middle-aged and older adults face. The prevalence of poor sleep quality ranges from 3.9% to 40%. Despite the availability of efficacious pharmacologic and non-

#### \*Corresponding author:

Syaifurrahman Hidayat,  
Student of Nursing Doctoral Department, Faculty of Nursing  
Airlangga University, Indonesia.  
E-mail: [syaifurrahman.hidayat-2020@fkip.unair.ac.id](mailto:syaifurrahman.hidayat-2020@fkip.unair.ac.id)

pharmacological sleep interventions, <15% of patients with chronic insomnia receive treatment or consult to a health care provider<sup>9</sup>.

Physiologically, a decrease in growth hormone production in older people decreases the percentage of deep slow-wave sleep, while an increase in cortisol levels associated with an increase in age causes fragmented sleep and a decrease in sleep with rapid eye movement<sup>3</sup>. Poor quality sleep in the elderly contributes to increased daytime sleepiness and decreased daytime function, causing them to be less involved in work activities during the day and decreased levels of physical activity<sup>10</sup>. The elderly tends to spend a large part of their daily life inactive and lose meaningful social activities. They tend to spend long hours in bed with frequent naps during the day and this can be explained by a lack of involvement in work activities.

Lack of day activity of the elderly render the health professional failed to assess the various beliefs and practices which are sensitive to the cultural needs of the elderly. Culture defines and promote health, health promotion and disease prevention differently<sup>11</sup>. Efforts to maintain and develop culture in Indonesia require local strength to support national strength, but still with the noble values that have been built by ancestors in society. The development of this local culture is one of the steps to support the cultural, economic, and socio-cultural development of the Indonesian nation. Cultural care is very important for nurses to meet the cultural needs of the elderly, manage differences, and provide the best possible care. Cultural disability has an impact on treatment outcomes. This can be done to provide attention and welfare to the elderly<sup>12,13</sup>.

Cultural suitability is defined as the conformity between the elderly with cultural values and their environment. Cultural compatibility in care settings to improve sleep quality in the elderly will lead to positive effects and well-being. This literature review provides some insights and challenges for health care professionals to consider cultural values in caring for the elderly towards the quality of sleep. In which physiologically elderly sleep quality is decreased. So, this research was purposed to review the relevant literatures available on sleep quality in the elderly in a cross-cultural perspective.

## Materials and methods

The articles inclusion criteria were studies covering sleep quality in the elderly in a cross-cultural perspective. Searching for articles using the keywords “sleep quality” and “cross-cultural” and “elderly” in the Scopus, PubMed, Science Direct, and Google Scholar databases obtained 1,219 articles for the 2014-2020 publication years relevant to the topic, but only 25 articles met the inclusion criteria. The exclusion criteria were as follows: (a) the article did not meet the components of a good article (consisting of Abstract, Introduction, Methods, Results, Discussions, Implications, and References); (b) the content of the article is irrelevant to the topic.

The stages and methods that have been carried out are (Figure 1):

- Finding Resources for Literature Review Materials or Literature Studies.  
This stage is carried out by looking for quality literature sources or research articles. There are 25 journal articles
- Conduct a critical appraisal analysis of the journal articles that have been obtained
- Compile a summary of the article
- Write the literature review

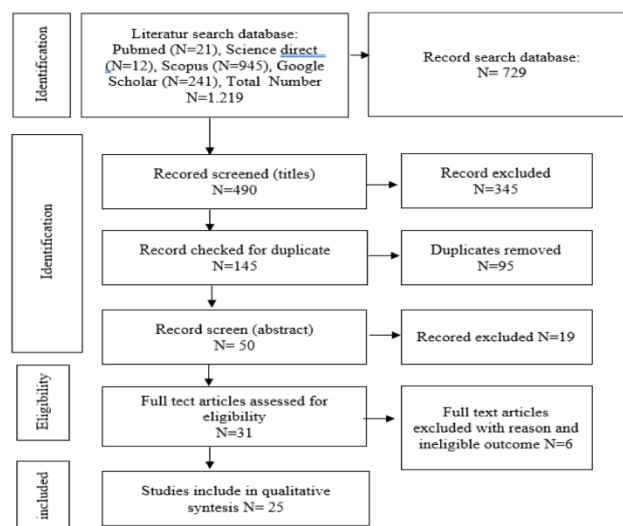


Figure 1. The Stage of Systematic Review.

## Results

Total of 1.219 articles were identified on the *Scopus, Pubmed, Science Direct, and Google Scholar* databases with 2014-2020 issue year relevant to the topic. Identification at the

*Record excluded* stage as many as 345 articles, *Duplicates removed* as many as 95 articles, and *Recorded excluded* as many as 19 articles, remaining 31 articles left, then Eligibility data was carried out by categorizing Full text articles excluded with reasons ineligible outcome as many as 6 articles, Finally 25 research articles were taken for review relating to the quality of sleep in the elderly based on Cross-Cultural Elements and cultural manifestations in meeting the sleep quality of the elderly.

Articles taken from 25 selected papers came from abroad. The articles in this study used qualitative and quantitative research methods varying sample each other, with total of review at least 12 respondents to 1,934 respondents in the elderly. The focus of the review in those articles is the quality of sleep in the elderly and cultural manifestations based on cross-cultural in each country. The problem of sleep quality and cultural manifestations for the elderly from several studies can be seen in the Study Characteristics and Findings table 1 including the culture using sand tray therapy method<sup>14</sup>, Sand Village Culture<sup>15</sup>, Korean religious ritual culture<sup>11</sup>, and cultural suitability related to the language used<sup>16</sup><sup>17</sup>.

First, the results of a literature study indicated that many factors are associated with sleep quality such as Nuctorian<sup>3</sup>, participation in sports<sup>9</sup>, and participation in aerobic exercise<sup>18</sup>. In addition, this literature study showed that sleep quality is also associated with depressive symptoms<sup>1,19</sup>, improving depressive mood<sup>20</sup>, quality of life<sup>21</sup>, increased inflammatory markers<sup>22</sup>, weakness with psychological mediators<sup>23</sup>, and risk of health and functional problems in future<sup>24</sup>. More complex<sup>4</sup> suggested that poorer sleep quality was associated with slower walking speed and reduced of functional mobility, which were also associated along with dynamic balance disorders to higher level of anxiety and depression.

Finally, this literature study showed a big role of culture in improving sleep quality of the elderly from various cross-country studies<sup>25-27</sup>. Culture is something to consider in intergenerational care<sup>28</sup>, even by doctors, psychologists, and program planners working with elderly<sup>29</sup>.

## Discussion

### Sleep Quality for the Elderly Based on Cross-Cultural Elements

Sleep is a physiological condition that cycles periodically longer than awake<sup>14</sup>. Sleep complaints often occur in the elderly<sup>15</sup>. Poor quality sleep in the elderly contributes to increased daytime sleepiness and decreased function during the day, causing the elderly to be less involved in their activities resulting in decreased levels of physical activity<sup>1</sup>. Such environmental conditions result in the identification of the people in the environment, so that this geographical condition also affects culture and requires cultural adaptation in maintenance<sup>16</sup>. In regard to cultural elements, the behavior of the elderly can be seen as a means to explore family relationships rather than just fulfilling personal needs in terms of daytime work activities; an example is Korean traditional collectivism culture which emphasizes the picture of close relationships with family members, where the culture that the elderly wants is most important always being with family in one place to live<sup>11,17</sup>.

Sleep has been considered a critical brain condition for motor learning and memory consolidation<sup>18</sup>. Elderly tend to spend long hours in bed and often take naps during the day so that there is no involvement in physical activities<sup>19</sup>. The formation of this habit begins with the elderly's way of thinking which can shape the elderly to continuously spend their time in bed<sup>1</sup>. Changes in sleep in the elderly can actively explore the potential for sleep complaints so that it is necessary to identify measures that can be implemented to improve their sleep quality. Therefore, public health problems significantly impact the health of the elderly, both physically and psychologically, so that an understanding approach is needed. A culture that contains multicultural and global characteristics, where the comfortable habits in the elderly environment will be formed by the traditions inherent in the elderly<sup>11</sup>.

As we get older, the risk of sleep problems also increases which is a public health problem for the elderly<sup>20</sup>. Poor sleep quality is often neglected compared to other common health problems, this may be because most of the elderly have accepted it as part of normal aging<sup>3</sup>. Changes in the circadian rhythm of sleep lead to

poorer sleep quality<sup>1</sup>. Subjective / objective sleep quality, for example, shorter sleep latency and less arousal<sup>9</sup>. Sleep disorders that increase drastically or become chronic can increase stress where the elderly with chronic sleep problems always complain about various serious health conditions<sup>15</sup>. Other studies have also shown that sleep deprivation and sleep disturbances can cause changes in the inflammatory, immune, metabolic, and neuroendocrine systems<sup>21</sup>.

This phenomenon is partly due to physiological changes associated with the aging process, which can affect sleep quality. However, there are several potentially modifiable factors, including psychosocial, environmental, medical, pharmacological and behavioral aspects<sup>1</sup>. Sleep quality and psychological stress are predictors of weakness in the elderly<sup>22</sup> followed by increased sleep latency which negatively impacts the quality and quantity of sleep. PSQI sleep latency reflects sleep latency and frequency of sleeplessness within 30 minutes. Therefore, as the time needed to fall asleep decreases, the frequency of experiencing sleep complaints also decreases and sleep efficiency also shows an increase in both subjective (PSQI) or objective (actigraph) measurements<sup>9</sup>. Li et al. (2018) showed that the measure of poor sleep quality was significantly associated with depressed mood in the elderly who reported at least moderate sleep problems, so the role of the environment to provide comfortable support, making the elderly's mood calm needs to be cultivated in daily life by the family in the environment.

Cultural elements are very universal in the three forms of culture, namely cultural system, social system and elements of physical culture. Beliefs and beliefs that are owned are total beliefs not only from the benefits of sleep, but almost all of their time or activities are related to sleep where sleep for the elderly is part of their life so that the feeling arises that the habit of daily activities is resting in bed. Such daily habits require systematic and effective cultural adaptation to overcome beliefs in culturally specific elderly care<sup>23</sup>.

The total sleep time should be an average of 6-7 hours. The bedtime schedule is usually not quite early enough, after sleeping hours are adjusted for age, the wake time is from 03.00 to 04.00. That is, awake occurs at a time that is socially undesirable. In addition, the fact that

sleep occurs too early contributes to increased sleep latency, because it does not match the circadian rhythm of endogenous sleep. This aspect reminds us of the importance of creating behavioral rules (sleep time) according to the natural circadian rhythm of sleep in the elderly so as to avoid behaviors that are out of sync with the internal biological clock<sup>1,24</sup>. For the elderly with poor sleep quality problems, it is necessary to have assistance and support from the family, where the family is the closest person.

Family involvement is part of cultural activities, it is important to create a safe and comfortable environment to enhance the family's important culture<sup>25</sup>. Examples in the cultural context of religiosity/ family spirituality can provide a rich description of their experiences related to spirituality in a cultural context<sup>11</sup>. It will relieve the elderly and overcome their poor quality of sleep; this is a good example of the finding in the study that the positive effects of cultural conformity were mainly felt by elderly families. Family members are often relieved that caring for the environment is compatible with culture<sup>26</sup>.

This review found that the relationship between cultural suitability and family is very close depending on the cultural group studied. The exact nuances have not been fully explored in detail and would be an interesting topic for further research - for example, the extent to which customs and values are culturally dependent, and how this affects the provision of care to the elderly from aspects of each culture<sup>26</sup>. Furthermore aiming to maintain and improve the health of the elderly it is necessary to expand the scope of the caregiver's knowledge about the beliefs, values, and socio-cultural patterns of certain community groups<sup>27</sup> so that the problem of poor sleep quality in the elderly can be resolved.

### **A Form of Culture in Fulfilling the Quality of Sleep for the Elderly**

In cognitive anthropologists, caring is expressed in the form of motivation and individual experiences, emotional attachments that are formed in the relationship of caring and the identity and context of caregivers and care recipients<sup>28</sup>. The power of culture shapes the next elderly planning process<sup>29</sup> In exploring cultural contexts, it is important to understand the complex picture of integrating individual experiences and emotional interconnections into



culturally evolving interventions. For instance, the Koreans rely on prayer and use healthy food to solve problems, while Swedes use meaningful coping as a means of meditation or relaxation<sup>11</sup>. This shows that each region has a unique form of hereditary beliefs and beliefs.

A form of culture for the elderly from several studies including the use of the sand tray method, for cross-cultural work has been carried out since the beginning of the development of sand tray therapy<sup>30</sup>. When language or cultural experiences limit understanding between client and therapist, creating a world on the sand can build a strong medium for connection and exploration of diversity and opportunities in cross-cultural counseling; the use of the sand tray method can provide a means to increase understanding in cross-cultural contexts. Second, Kampung Pasir, which is the name of a place where residents live, has a unique tradition of sleeping on and doing various activities on the sand. A tradition that has been carried out for a long time has earned the village the nickname Kampung Pasir. This tradition is claimed to have various health benefits, like treating stress, blood circulation and warms the body during cold weather conditions. Scientifically, this tradition has also proven that used sand contains the chemical element CaO<sub>2</sub> or calcium oxide, which has good heat dissipation power to the media<sup>31</sup>.

Third, Korean religious rituals such as food are the basic ingredients to provide unity in the family<sup>11</sup>. Cultural traditions are often infused with food<sup>32</sup> according to Lewis and Allen (2017), in the context of cultural rituals and religious routines that provide togetherness in the family, where the belief is centered on religious or socio-cultural routines. Religious rituals and routines are important phenomena reflecting family traditions and religious practices originating from culture. Fourth, another review found relationship between cultural suitability with the language used. It provides variations in the language used depending on the cultural group or language studied<sup>26</sup>. It has different impacts on language, cultural ideas and practices, local biology, and generational experiences in cultural-mediated historical change<sup>33</sup>.

Providing care to the elderly is a cultural obligation not an option. Caring is a sign of respect, nurture is a sign of love and a source of pride, nurture leads to emotional attachment and bonding. This is a cultural scheme that is widely

shared and internalized by the elderly<sup>34</sup>. A culture-based nursing service initiative in the elderly needs health promotion as a fundamental model complementing long-term care services<sup>33</sup>. Beliefs in knowledge of cultural concepts are influenced by age, level of education, years of experience, and cross-cultural experiences<sup>35</sup>. Interventions designed with a cultural approach, especially therapeutic communication, are used by nurses to create a valued and cared atmosphere for the elderly<sup>13</sup>. The findings of previous studies also show that establishing a routine is very important for unity and health in the elderly and families<sup>11</sup>.

Culture-based expectation interventions improve the quality of life of the elderly. This is shown in the 3 - 6 months evaluation after the cultural intervention<sup>13</sup>. The sleep activity with quality of life has been studied before partially adjusting for time spent in other behaviors such as sleeping habits in the elderly<sup>36</sup>. The results of this study are in line with several other studies, where intercultural communication is becoming increasingly important, including the sand tray therapy which is effective for cross-cultural counseling because it provides a window into other people's cultures and experiences. If practiced with care and respect, it can become a means of conveying the knowledge and healing created by figures and symbols in the sand<sup>30</sup>. So it fixes the elderly's quality of sleep problem by balancing the physiological functions of the elderly through a stable 24-hour cycle, also known as the circadian rhythm<sup>21</sup>, because sleep has therapeutic and regenerative properties which is one of the basic human needs<sup>37</sup>.

## Conclusions

The poor quality of sleep in the elderly is often ignored compared to other general health problems. It needs an approach to understand the cultural contexts that contain multicultural traits of comfortable habits for the elderly's environment. The trait will form by itself from the inherent traditions of the elderly. A cultural form for the elderly was stated by several studies, including the sand mattress culture, sand tray cultural methods, religious ritual culture and culture related to language.

### Acknowledgements

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### Declaration of Interest

The authors report no conflict of interest.

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
1.	<b>Title:</b> Comparing sleep quality in institutionalized and non-institutionalized elderly individuals, <b>Author:</b> Martins da Silva et al. (2020)	<b>D:</b> Cross-sectional observational study. <b>S:</b> Elderly who are at least 65 years old and have cognitive, interpretive, and communication skills (N = 100) <b>V:</b> Quality of sleep in institutionalized and non-institutionalized parents <b>I:</b> Sociodemography, clinical, environmental and quality of life, the Pittsburgh sleep quality index (PSQI), the Epworth somnolence scale (ESS), the Geriatric depression scale (GDS) <b>A:</b> Chi-square test, Fisher's exact test and T-test for independent variables or Mann-Whitney U test when not normally distributed. Correlations between sociodemographic variables and PSQI, ESS and GDS scores were tested using the Spearman correlation coefficient (Rs).	GI seniors showed poorer overall sleep quality and higher levels of daytime sleepiness and depressive symptoms. A positive correlation was found between sleep quality, daytime (ESS) ( $p < 0.01$ ) and depressive symptoms (GDS) ( $p < 0.01$ ).

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
2.	<p><b>Title:</b>                      Determinants of poor sleep quality in elderly patients with diabetes mellitus, hyperlipidemia and hypertension in Singapore  <b>Author:</b> Chiang et al. (2018)</p>	<p><b>D:</b> Cross-sectional study  <b>S:</b> 199 Singaporeans aged 65 years and over who have at least one of the three cardiometabolic risk factors (diabetes, hypertension, and hyperlipidemia)  <b>V:</b> IV: Determinants of poor sleep quality in elderly patients. DV: diabetes mellitus, hyperlipidemia and hypertension  <b>I:</b> Kuesioner Indeks Kualitas Tidur Pittsburg (PSQI)  <b>A:</b> Fisher's test and <math>\chi^2</math> test were used to compare groups. Prevalence rate ratios (PRR) and 95% confidence intervals (95% CI) were obtained using a modified Cox proportional hazard regression approach. PASW 17.0 for Windows is used. All statistical tests are two-sided. Statistical significance was defined as <math>P &lt; 0.05</math>.</p>	<p>Nocturia (adjusted prevalence rate ratio 1.54, 95% confidence interval 1.06-2.26) was associated with an increased risk of poor sleep quality in elderly patients with diabetes mellitus, hypertension and hyperlipidemia. Nocturia, a common problem in the elderly Asian population, is associated with poor sleep quality. Therefore, it is very important to identify and treat patients with nocturia to improve the quality of their sleep.</p>
3	<p><b>Title:</b>                      Effects of exercise training on sleep quality and heart rate variability in middle-aged and older adults with poor sleep quality: a randomized controlled trial  <b>Author:</b> Yan et al. (2015)</p>	<p><b>D:</b> Parallel randomized controlled trial, blind review  <b>S:</b> The sample consisted of 40 people those aged <math>\geq 40</math> years with poor sleep quality (mean age = 62 years; 82.5% female)  <b>V:</b> Exercise exercise, sleep quality for the elderly, and HRV for the elderly.  <b>I:</b> Pittsburgh sleep quality index (PSQI) and objective sleep quality assessment (actigraphic recording), cardiopulmonary exercise test, and HRV assessment  <b>A:</b> The normal distribution of the data was guaranteed using the Shapiro-Wilk test. T-test, Mann-Whitney U test, or chi-square test. Two-way repeated ANOVA was used to analyze the differences between groups of all parameters.</p>	<p>The exercise group showed significant improvement in global scores (<math>p = 0.003</math>), all PSQI subscales (<math>p &lt; 0.05</math>), and some HRV parameters compared to the control group. Multiple regression analysis showed that exercise participation was associated with sleep quality (<math>\beta = -0.617</math>, <math>R^2 = 0.407</math>; <math>F = 6.226</math>, <math>p &lt; 0.001</math>) or HFnu (<math>\beta = 0.503</math>, <math>R^2 = 0.225</math>; <math>F = 3.200</math>, <math>p = 0.003</math>) after adjustment for basic characteristics. However, the statistical significance between exercise participation and HFnu was reduced after controlling for PSQI</p>

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
4	<b>Title:</b> The effects of aerobic exercise on sleep quality measures and sleep-related biomarkers in individuals with Multiple Sclerosis: A pilot randomised controlled trial <b>Author:</b> Al-Sharman et al. (2019)	<b>D:</b> A pilot randomized controlled trial <b>S:</b> 40 patients attending a routine neurology clinical appointment at King Abdulla University Hospital (KAUH-Irbid, Jordan) <b>V:</b> Independent; Aerobic exercise. Dependent; measures of sleep quality, a sleep-related biomarker <b>I:</b> Pittsburgh sleep quality index (PSQI) <b>A:</b> T-Sample independent analysis of 300 ance covariance (ANCOVA) tests controlling for baseline differences. The association between score change of 306 in biomarkers and score change of 307 in sleep size was assessed using the nonpara-308 Spearman rank order correlation coefficient.	Seventeen participants in the MAE and 13 in the HEP group completed the study. Compared with the HEP group, people with MS who participated in moderate-intensity aerobic exercise experienced significant ( $P < 0.05$ ) improvements in PSQI, ISI, and several objective sleep parameters measured using actigraphy. Only serotonin levels increased significantly over the six-week period in the MAE group compared with the HEP group. The change in serotonin score (from baseline to follow-up assessment) was significantly correlated with the change in PSQI score ( $r = -0.97$ , $p < 0.001$ ) and change score in ISI ( $r = -0.56$ , $p = 0.015$ ) only in the MAE group but not in the HEP group
5	<b>Title:</b> Level of Cultural Self-Efficacy of Colombian Nursing Professionals and Related Factors <b>Author:</b> Hahn, Raquel Herrero, et al (2018)	<b>D:</b> Descriptive analytical cross-sectional <b>S:</b> 211 Nurse <b>V:</b> Level of Self-Efficacy of Nurse's Professional Culture <b>I:</b> The 26-item questionnaire was grouped into three subscales: knowledge of cultural concepts (3 items), knowledge of cultural patterns (16 items), and beliefs in performing cultural nursing skills (7 items). <b>A:</b> Mean, standard deviation, frequency, and percentage, calculating median (Me), mode (Mo), minimum (min), and maximum (max) values when standard deviation	The level of self-efficacy of nursing culture has the consequent capacity in providing culturally competent nursing care. Belief in knowledge of cultural concepts is influenced by age, level of education, years of experience, and cross-cultural experience. This evidence supports the implementation of change to increase cultural knowledge and therefore the cultural self-efficacy of these professionals.



No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
6	<b>Title:</b> Enduring sleep complaints predict health problems: a six-year follow-up of the survey of health and retirement in Europe <b>Author:</b> Grossman et al. (2017)	<b>D:</b> Prospective studies linking sleep problems with adverse problems. This study used a longitudinal survey. <b>S:</b> 8,934 elderly in Europe <b>V:</b> Episodic sleep complaints, chronic sleep complaints, and physical and mental health (physical symptoms, difficulty in activities of daily life, quality of life) <b>I:</b> Data collection was carried out by personal computer-assisted interviews that lasted approximately 90 minutes, and additional paper Drop-Off questionnaires, which were generally returned later, and paper Drop-Off questionnaires were completed by respondents. One item taken from the European Depression scale <b>A:</b> Logistic regression using SPSS ver. 23.	Logistic regression examined whether episodic and chronic sleep complaints in W1 and W2 predicted W4 health outcomes. Chronic sleep complaints predicted poorer outcomes, compared with no sleep difficulties and episodic sleep complaints, even after adjusting for demographic characteristics and prior health status. Sleep complaints and especially chronic sleep complaints are associated with an increased risk of health and functional problems in the future. Caregivers are encouraged to deal with sleep complaints as early as possible and give older patients the opportunity to get help before sleep complaints become persistent.
7	<b>Title:</b> Sleep and mood in older adults: coinciding changes in insomnia and depression symptoms <b>Author:</b> Li et al. (2018)	<b>D:</b> This study used a secondary analysis of prospective data with a controlled experimental approach. <b>S:</b> 49 Seniors aged 55 to 80 years <b>V:</b> Independent: changes in insomnia symptoms, global sleep quality. Dependent: changes in depressive mood among older adults. <b>I:</b> Athens Insomnia Scale (AIS) and Pittsburgh Sleep Quality Index (PSQI), Changes in depressed mood (Beck Depression Inventory-II; BDI-II) <b>A:</b> Separate linear regression models, testing $\Delta$ AIS and $\Delta$ PSQI associated with $\Delta$ BDI-II, compared regression estimates for $\Delta$ BDI-II on $\Delta$ AIS and $\Delta$ PSQI between complete cases only and multiplying the complete data taken into account.	The change in the AIS score was associated with a change in the BDI-II score ( $\beta = 0.38$ , $p < 0.01$ ). Changes in PSQI scores were not significantly associated with changes in BDI-II scores ( $\beta = 0.17$ , $p = 0.26$ ). Our findings suggest that ten-week improvement in insomnia symptoms rather than global sleep quality coincides with improvements in depressive mood among older adults.
8	<b>Title:</b> The effect of culture-based interventions on satisfaction and quality of life of elderly at social welfare institution in West Sumatera <b>Author:</b> Sabri et al. (2019)	<b>D:</b> This study used a quasi-experimental design, or a pre-post intervention design <b>S:</b> 76 lansia di lembaga kesejahteraan sosial di Sumatera Barat <b>V:</b> Independent: culture-based intervention. Dependent: satisfaction and quality of life of elderly from Minang cultural background <b>A:</b> Data were analyzed using repeated measurements with a general linear model (repeated)	There were differences in life satisfaction and quality of life of the elderly in PSTW (state-run nursing homes) before and after the intervention in both the intervention group and the control group ( $p < 0.000$ ). Culture-based interventions are effective in increasing the satisfaction and quality of life of the Minang elderly.

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
9	<b>Title:</b> Windows and Bridges of Sand: Cross-Cultural Counseling Using Sand Tray Methods <b>Author:</b> Ramsey, (2014)	<b>D:</b> Case Study, Cross-Cultural Counseling Using the Sand Tray Method <b>S:</b> Ethnic Albanian and come from all educational and economic levels background <b>V:</b> Sand Tray Method Cross Cultural Counseling <b>I:</b> Interview <b>A:</b> Cross-cultural therapy. The four stages include: <ol style="list-style-type: none"> <li>1. The development phase</li> <li>2. The bonding phase</li> <li>3. Become a stage</li> <li>4. The title / message of this world</li> </ol>	Sand tray therapy is an effective method for cross-cultural counseling as it provides a window into the culture and experiences of other people. If practiced with care and respect, it can become a means of conveying knowledge and healing across the bridges of understanding created by figures and symbols in the sand.
10	<b>Title:</b> Associations of Activity and Sleep With Quality of Life: A Compositional Data Analysis <b>Author:</b> Verhoog et al. (2020)	<b>D:</b> A cross-sectional analysis was carried out in 2018, embedded in Rotterdam Study, an ongoing prospective population-based cohort learn <b>S:</b> 1,934 participants aged 51–94 years <b>V:</b> Physical activity, sedentary behavior, sleep, and quality of life <b>I:</b> Measured objectively with an accelerometer worn on the wrist combined with a sleep diary, questionnaire EuroQoL 5D-3L <b>A:</b> Accelerometer data is processed in Python, version 2.6.6, using open access PAMPRO software, version 0.3	The reallocation of 30 minutes from sedentary behavior, light-intensity physical activity, or sleep to moderate to vigorous physical activity was associated with higher quality of life, whereas reallocation from moderate-to-vigorous physical activity to sedentary behavior, light intensity. physical activity, or sleep is associated with lower quality of life. To illustrate this point, a reallocation of 30 minutes from sedentary behavior to moderate to vigorous physical activity was associated with a 3% higher QoL score (95% CI = 2.4). In contrast, a reallocation of 30 minutes from moderate to vigorous physical activity to sedentary behavior was associated with a lower quality of life score of 4% (95% CI = 2.6).
11	<b>Title:</b> Association of sleep duration and quality with elevated hs-CRP among healthy Korean adults <b>Author:</b> Lee et al. (2020)	<b>D:</b> Large-scale genomics cohort, HEXA study, in Korea. <b>S:</b> 74,867 middle-aged and elderly people in Korea <b>V:</b> Independent: Sleep characteristics include sleep duration, difficulty initiating sleep, and maintaining sleep. Dependent: Increase in Hs-CRP <b>I:</b> Interview-based questionnaire, physical examination as well as laboratory analysis of collected biological specimens, HEXA studies due to logistical changes regarding hs-CRP measurement. <b>A:</b> Using a logistic regression model.	Excessive sleep duration and poor sleep quality were significantly associated with increased inflammatory markers, particularly hs-CRP. Further research is needed to examine the effect of sleep interventions focused on these factors.

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
12	<p><b>Title:</b> <u>Association between poor sleep quality and depression symptoms among the elderly in nursing homes in Hunan province, China: A cross-sectional study</u></p> <p><b>Author:</b> Hu et al. (2020)</p>	<p><b>D:</b> Sectional study</p> <p><b>S:</b> 817 elderly from 24 nursing homes in China's Hunan province who suffer from chronic diseases</p> <p><b>V:</b> Independent: prevalence poor sleep quality. Dependent: depressive symptoms in the elderly</p> <p><b>I:</b> Pittsburgh Sleep Quality Index (PSQI), Geriatric Depression Scale (GDS).</p> <p><b>A:</b> Linear regression and binary logistic regression models</p>	<p>The mean PSQI score was <math>8.5 \pm 4.9</math>, and the prevalence of poor sleep quality was 67.3%. In addition, the mean GDS score was <math>9.8 \pm 7.5</math>, and the prevalence of depressive symptoms was 36.0%. Elderly with poor sleep quality experienced an increase in GDS score (mean difference = 2.54, 95% CI 1.66 to 3.42) and an increased risk of depressive symptoms (OR = 3.19, 95% CI 2.04 to 4.98) after controlling for demographics, history of chronic disease, lifestyle behavior, social support, daily life activities and negative life events. The prevalence of poor sleep quality is relatively high, and this is associated with an increase in depressive symptoms. Therefore, poor sleep quality can be suspected as a marker of depressive symptoms in the elderly.</p>
13	<p><b>Title:</b> Associations of Sleep Quality and Frailty among the Older Adults with Chronic Disease in China: The Mediation Effect of Psychological Distress</p> <p><b>Author:</b> Fu et al. (2020)</p>	<p><b>D:</b> Cross Section Study</p> <p><b>S:</b> 2,346 elderly with chronic disease in rural China</p> <p><b>V:</b> Independent: Sleep Quality. Dependent: the weakness of the elderly with chronic diseases. Moderator: Psychological Pressure</p> <p><b>I:</b> Fred Phenotype Criteria, Pittsburgh Sleep Quality Index (PSQI), Kessler Psychological Distress Scale (K10)</p> <p><b>A:</b> using STATA 14.2 (Stata Corp; College Station, TA, USA), Chi-square test, ordinal logistic regression</p>	<p>The prevalence rate of fragility in the elderly with chronic diseases is 21% in rural China. Compared to elderly with strong status, respondents identified as having a weakness had lower SES, less vigorous physical activity, and poorer self-reported health status. Poor sleep quality was a significant predictor of weakness with mediators (OR = 1.44, 95% CI = 1.19-1.76). Mediation analysis showed that psychological distress mediated 41.81% of the total effect between sleep quality and weakness. This study shows that poor sleep quality is significantly associated with weakness, and psychological is a mediator of this relationship. However, we were unable to investigate the causal relationship between variables because this is one cross-sectional study. These findings suggest that early detection of sleep problems as well as psychological disorders should be undertaken to prevent weakness among the rural elderly in China.</p>

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
14	<b>Title:</b> <u>Effect of Therapeutic Touch on Sleep Quality in Elders Living at Nursing Homes</u> <b>Author:</b> Bağcı & Çınar Yücel (2020)	<b>D:</b> This research was conducted with controlled experimental study (pretest-posttest control group). <b>S:</b> 25 elderly living in a nursing home in Izmir <b>V:</b> Independent: Therapeutic touch. Dependent: Quality of sleep <b>I:</b> Elderly Information Form (EIF), Standard Mini Mental Test (SMMT), Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), State Anxiety Inventory (STAI), 3-day Pittsburgh Sleep Quality Index (PUKİ3 days), International Physical Activity Questionnaire (IPAQ), Sleep Log (SL) <b>A:</b> Homogeneity test, Kruskal-Wallis test.	Although there was a significant ( $p < 0.05$ ) increase in sleep quality in each group, there was no significant difference between groups ( $p > 0.05$ ). The touch of therapeutic methods is effective in improving the quality of sleep of the elderly living in nursing homes
15	<b>Title:</b> The Local Wisdom Of Pasir Village, Sumenep, As The Form Of Harmony Between Humans And The Environment <b>Author:</b> Utomo (2019)	<b>D:</b> Library research methods, literature <b>S:</b> The research was conducted by collecting all sources of text in the form of books, articles, magazines, the internet, or related journals to the sleeping sand tradition that the community has. Kampung Pasir. <b>V:</b> Local Wisdom of Pasir Sumenep Village as a Form of Harmony between People and the Environment <b>I:</b> Checklist. <b>A:</b> The content of analysis methods, In this analysis the process of selecting, comparing, combining and sorting various insights into they find a relevant, cross-library inspection is carried out.	Kampung Pasir is the name of a place where the residents who live in it have their own unique tradition of sleeping and doing various activities on the sand. A tradition that has been carried out for a long time has made the village known as Kampung Pasir. This tradition is claimed to have various health benefits. Such as treating stress, circulating blood and warming the body during cold weather conditions. Scientifically this tradition has also proven that sand used to contain the chemical element CaO <sub>2</sub> or calcium oxide which has good heat dissipation power to the media. This study also explains that the natural environment has a strong influence on the traditions and culture of society because the natural environment which has 550 special styles will force a person to adhere to a lifestyle that follows their natural conditions and produces a culture.

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
16	<b>Title:</b> Sleep Quality, Anxiety, and Depression Are Associated with Fall Risk Factors in Older Women <b>Author:</b> Serrano-Checa et al. (2020)	<b>D:</b> Quantitative research, cross-sectional <b>S:</b> 271 postmenopausal women living in the community aged $\geq 60$ years <b>V:</b> Independent: sleep quality, anxiety, and depression. Dependent: functional mobility, walking speed, and dynamic balance. <b>I:</b> Functional mobility (Timed Up-and-Go Test), dynamic balance (3 meters tandem walking test), walking speed (OptoGait@optical detection system), sleep quality (Pittsburgh Sleep Quality Index), and anxiety and depression (Hospital Anxiety and Depression Scale) <b>A:</b> The Kolmogorov-Smirnov test is used to assess the normal distribution of the variables. Multivariate linear regression and Adjusted-R2	Poor sleep efficiency and use of sleeping pills was associated with decreased walking speed ( $R^2 = 0.072$ ). Poor functional mobility was associated with depression and sleep medication use ( $R^2 = 0.159$ ). In addition, increased symptoms of anxiety and depression were associated with worsening dynamic balance ( $R^2 = 0.127$ ). In conclusion, poorer sleep quality was associated with slower walking speeds and reduced functional mobility, which also associated, along with impaired dynamic balance, to higher levels of anxiety and depression.
17	<b>Title:</b> Cultural Context of Family Religiosity/Spirituality among Korean-American Elderly Families <b>Author:</b> Suk-Sun Kim & Yeoun Soo Kim-Godwin (2019)	<b>D:</b> Qualitative reported here focuses on cultural context by interview <b>S:</b> Elderly family members ( $N = 51$ ). <b>V:</b> Cultural Context of Family Religiosity / Spirituality <b>I:</b> Interview observation sheet, recording device <b>A:</b> Thematic and interpretive are used to analyze recorded and transcribed interviews through the coding process, and identify themes	Culture of Religiosity / Spirituality as a family phenomenon is very important for health care professionals to understand clients about self-perceptions, world views, and behavior in Korean culture. This study adds to the limited literature on the cultural context of FR / S with an in-depth exploration of the experiences of Korean-American elderly families. Because our society is becoming more culturally diverse
18	<b>Title:</b> Alaska Native Elders in Recovery: Linkages between Indigenous Cultural Generativity and Sobriety to Promote Successful Aging <b>Author:</b> Jordan P. Lewis & James Allen (2017)	<b>D:</b> Original PA project with Selection criteria set in Elderly Studies by the PA Coordinating Board <b>S:</b> Elderly 101 PA interviews, 57 individuals from community nominations as examples of calm who are five years or more in recovery, and 10 of this group are aged 50 or over <b>V:</b> Alaska Native Elders in Recovery <b>I:</b> Observation and interview sheets <b>A:</b> Thematic analysis to look for themes that emerge as important motivations for calm and conduct a two-stage analysis	Calmness can place adults between the older generations on the path to successful aging, can position themselves as role models for their families and communities, where they are given the opportunity to engage in meaningful, culturally generative acts.



No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
19	<b>Title:</b> Language and Culture in the Caregiving of People with Dementia in Care Homes - What Are the Implications for Well-Being? A Scoping Review with a Welsh Perspective <b>Author:</b> Conor Martin & Bob Woods & Siôn Williams, (2018)	<b>D:</b> Systematic review <b>S:</b> Relevant literature 50 articles <b>V:</b> Language and Culture in Nurturing People <b>I:</b> Literature recap <b>A:</b> The data is then coded for the areas relevant to the scoping review and reviewed twice. Codes are grouped into families and weighted according to their frequency of occurrence throughout the literature.	This scoping review found that the presence of cultural and linguistic suitability was generally perceived to be beneficial for persons with disabilities living in nursing homes, and their absence was detrimental. The absence of linguistic suitability is a strong predictor of decreased welfare in people in such settings, due to communication barriers between residents and caregivers, which is mainly due to the loss of persons with disabilities Second language skills
20	<b>Title:</b> "We Never Graduate from Care Giving Roles"; Cultural Schemas for Intergenerational Care Role Among Older Adults in Tanzania <b>Author:</b> Sylvia Karen Rutagumirwa & Inge Hutter & Ajay Bailey (2020)	<b>D:</b> Qualitative research to gain a deeper understanding of cultural schemas <b>S:</b> Seniors 60 years and over <b>V:</b> Cultural Schemas for the Intergenerational Care Role of the Elderly <b>I:</b> Observation sheet with open questions <b>A:</b> Atla.ti 7 to manage the coding process. further groups the codes into related categories - axial encodings.	The mismatch between the schemes / expectations and reality of the elderly causes tension, sadness, frustration and feelings of neglect. This study suggests that there is a need to put in place interventions that promote intergenerational care. These intervention programs should seek not only to consider but also to build on the strength of cultural values and beliefs.
21	<b>Title:</b> Menopause and Midlife Aging in Cross-Cultural Perspective: Findings from Ethnographic Research in China <b>Author:</b> Jeanne L. Shea, (2020)	<b>D:</b> Qualitative ethnograph research, community-based survey <b>S:</b> 55 years old female from my Chinese sample (n = 156) <b>V:</b> Menopause and Middle Aging from a Cross-Cultural Perspective: <b>I:</b> Questionnaires and interview sheets <b>A:</b> Participant observation scenarios like the one in the opening of this article, and other related data collected during formal interviews, conducted twelve times, one interview conducted one-on-one or involving senior environmental volunteers	Taken as a whole, showing how menopause and midlife aging as concepts and as life experiences are subject to variations associated with differences in language, cultural ideas and practices, local biology, and experiences of generations of cultural-mediated historical change

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
22	<b>Title:</b> Financial Preparation for Retirement in Brazil: a Cross-Cultural Test of the Interdisciplinary Financial Planning Mode <b>Author:</b> Lucia H. F. Franca & Douglas A. Hershey, (2018)	<b>D:</b> Qualitative <b>S:</b> 167 Brazilians (113 men; 54 women) between the ages of 21 - 69 <b>V:</b> Financial Preparation for Retirement in Brazil: A Cross-Cultural Test of an Interdisciplinary Financial Planning Model <b>I:</b> 5-point Likert type questionnaire <b>A:</b> The three psychological indicators in the model (perception of financial knowledge; clarity of retirement goals; future time perspective) are drawn from previous investigations	This investigation examines the psychological, social, and economic motivational forces underlying the tendency to plan and save for retirement among working adults living in Brazil, the development and delivery of future retirement planning intervention programs that focus on financial literacy and solvency in end of life.
23	<b>Title:</b> Cultural Dimensions of Diabetes Management: a Qualitative Study of Middle Eastern Immigrants in the U.S. <b>Author:</b> Jasmin Tahmaseb McConath & V. K. Kumar & Elizabeth Raymond & Amarachi Akwarandu (2019)	<b>D:</b> Qualitative <b>S:</b> 17 women and 11 men aged between 60 and 80 years, older Middle Eastern immigrants who had been diagnosed with diabetes or pre-diabetes in the past 3 years <b>V:</b> Cultural Dimensions of Diabetes Management <b>I:</b> Interview Sheet <b>A:</b> The analysis was carried out inductively (from the bottom up) and deductively (from the perspective of social support theory) so that no additional themes could be identified.	Implications for physicians, psychologists and program planners working with a variety of older people who struggle with one or more chronic conditions that require lifestyle changes. Physicians should consider patients of cultural backgrounds in advising them about difficulties in making lifestyle changes, particularly regarding family roles, cultural dietary habits, and exercise preferences. In some cases, family counseling may be needed
24	<b>Title:</b> Cultural Adaptation of a Community-Based Hearing Health Intervention for Korean American Older Adults with Hearing Loss <b>Author:</b> Janet S. Choi & Kyoo S. Shim & Na E. Shin & Carrie L. Nieman & Sara K. Mamo & Hae-Ra Han & Frank R. Li (2019)	<b>D:</b> experiment <b>S:</b> 15 elderly with hearing loss and 15 elderly communication partners <b>V:</b> Independent: Cultural Adaptation of Community-Based Hearing Health Interventions Dependent: Hearing Loss <b>I:</b> Interview Sheet, hearing aid <b>A:</b> adaptation test	This community-based hearing care model is an effective way of dealing with poor access to hearing care among other racial / ethnic minorities with language and cultural barriers. With the upcoming changes in hearing aid regulation and the manufacture of over-the-counter hearing aids, models such as HEARS and K-HEARS are essential in connecting the elderly to the technology they need.

No.	Article Title; Author; Year	Research methodology (DSVIA)	Research findings
25	<b>Title:</b> Cultural Issues in the Provision of Emergency Care to Irregular Migrants Who Arrive in Spain by Small Boats <b>Author:</b> Molina, José Granero <i>et al</i> (2018)	<b>D:</b> Qualitative study based on Gadamer's phenomenology <b>S:</b> Dark Immigrants (N = 12) <b>V:</b> Culture in Providing Emergency Care for Illegal Migrants <b>I:</b> Interview sheet <b>A:</b> The first step, the relevance of the research question is assessed, the second step reflects on their pre-understanding of the phenomenon, the third step is dialogue between the researcher and the participants. The fourth step of text analysis aims to understand this phenomenon through	Three main themes emerge from illegal immigrants driven by the culture of emigration in the country of origin, namely the risk of finding a better life and the need for cultural adaptation in emergency care.

**Table 1.** Study Characteristics and Findings.

### References

- Martins da Silva R, Afonso P, Fonseca M, Teodoro T. Comparing sleep quality in institutionalized and non-institutionalized elderly individuals. *Aging Ment Heal*. 2020;24(9):1452-1458.
- Wartona T. *Kebutuhan Dasar Manusia Dan Proses Keperawatan*. Jakarta: Salemba Medika; 2010:101-121.
- Chiang GSH, Sim BLH, Lee JJM, Quah JHM. Determinants of poor sleep quality in elderly patients with diabetes mellitus, hyperlipidemia and hypertension in Singapore. *Prim Heal Care Res Dev*. 2018;19(6):610-615.
- Serrano-Checa R, Hita-Contreras F, Jiménez-García JD, Achalandabaso-Ochoa A, Aibar-Almazán A, Martínez-Amat A. Sleep quality, anxiety, and depression are associated with fall risk factors in older women. *Int J Environ Res Public Health*. 2020;17(11):1-11.
- Grossman ES, Shrira A, Bodner E. Enduring sleep complaints predict health problems: a six-year follow-up of the survey of health and retirement in Europe\*. *Aging Ment Heal*. 2017;21(11):1155-1163.
- Hidayat S, Mumpuningtias ED. Terapi Kombinasi Sugesti Dan Dzikir Dalam Peningkatan Kualitas Tidur Pasien. *Care J Ilm Ilmu Kesehat*. 2018;6(3):219.
- Irwin MR. Why sleep is important for health: A psychoneuroimmunology perspective. *Annu Rev Psychol*. 2015;66:143-172.
- Li MJ, Kechter A, Olmstead RE, Irwin MR, Black DS. Sleep and mood in older adults: Coinciding changes in insomnia and depression symptoms. *Int Psychogeriatrics*. 2018;30(3):431-435.
- Tseng T-H, Chen H-C, Wang L-Y, Chien M-Y. Effects of exercise training on sleep quality and heart rate variability in middle-aged and older adults with poor sleep quality: a randomized controlled trial. *J Clin Sleep Med*. 2020;16(9):1483-1492.
- Galimi R. Insomnia in the elderly: An update and future challenge. *G Gerontol*. 2010;58(4):231-247.
- Kim SS, Kim-Godwin YS. Cultural Context of Family Religiosity/Spirituality among Korean-American Elderly Families. *J Cross Cult Gerontol*. 2019;34(1):51-65.
- Mirabelle F. Cultural Differences In Elderly care. *Cult Differ Elder Care A Lit Rev*. ACADA; 2013:9-12.
- Sabri R, Hamid AYS, Sahar J, Besral. The effect of culture-based interventions on satisfaction and quality of life of elderly at social welfare institution in West Sumatera. *Enferm Clin*. 2019;29(2):619-624. doi:10.1016/j.enfcli.2019.06.010
- Potter P. *Fundamental Of Nursing: Concep, Proses and Practice*. Edisi 7. Vol. 3. Jakarta: EGC; 2010:1120-1231.
- Ephraim S, Grossman, Shrira A, Bodner E. Enduring Sleep Complaints Predict Health Problems: A 6-Year Follow-Up of the Survey of Health and Retirement in Europe. *Physiol Behav*. 2017;176(5):139-148.
- Granero-Molina J, Jiménez-Lasserrrotte M del M, Fernández-Sola C, Hernández-Padilla JM, Sánchez Hernández F, López Domene E. Cultural Issues in the Provision of Emergency Care to Irregular Migrants Who Arrive in Spain by Small Boats. *J Transcult Nurs*. 2019;30(4):371-379.
- Notoadmodjo S. *Kesehatan Masyarakat Ilmu Dan Seni*. Jakart: PT. Rineka Cipta; 2007:275-277.
- Al-Sharman A, Khalil H, El-Salem K, Aldughmi M, Aburub A. The effects of aerobic exercise on sleep quality measures and sleep-related biomarkers in individuals with Multiple Sclerosis: A pilot randomised controlled trial. *NeuroRehabilitation*. 2019;45(1):107-115.
- Azri MA, Dahlan A, Masuri MG, Isa KAM. Sleep Quality among Older Persons in Institutions. *Procedia - Soc Behav Sci*. 2016;234(1):74-82.
- Hu Z, Zhu X, Kaminga AC, Zhu T, Nie Y, Xu H. Association between poor sleep quality and depression symptoms among the elderly in nursing homes in Hunan province, China: A cross-sectional study. *BMJ Open*. 2020;10(7):1-8.
- Lee HW, Yoon HS, Yang JJ, et al. Association of sleep duration and quality with elevated hs-CRP among healthy Korean adults. *PLoS One*. 2020;15(8):1-12.
- Fu P, Zhou C, Meng Q. Associations of sleep quality and frailty among the older adults with chronic disease in China: The mediation effect of psychological distress. *Int J Environ Res Public Health*. 2020;17(14):1-11.
- Choi JS, Shim KS, Shin NE, et al. Cultural Adaptation of a Community-Based Hearing Health Intervention for Korean American Older Adults with Hearing Loss. *J Cross Cult Gerontol*. 2019;34(3):223-243.
- Regnani D. *Tradisi Tidur di Pasir dalam Konsep Sehat akit Masyarakat Pesisir Leggung Kecamatan Batang-Batang Kabupaten Sumenep*. Surabaya: FKM Airlangga University; 2014: 304-310.
- Lewis JP, Allen J. Alaska Native Elders in Recovery: Linkages between Indigenous Cultural Generativity and Sobriety to Promote Successful Aging. *J Cross Cult Gerontol*. 2017;32(2):209-222.
- Martin C, Woods B, Williams S. Language and Culture in the Caregiving of People with Dementia in Care Homes - What Are the Implications for Well-Being? A Scoping Review with a Welsh Perspective. *J Cross Cult Gerontol*. 2019;34(1):67-114.

27. Chen ML, Hu J, McCoy TP, Letvak S, Ivanov L. Effect of a Lifestyle-Based Intervention on Health-Related Quality of Life in Older Adults with Hypertension. *J Aging Res.* 2018;2018(1):1-9.
28. Yeates N. Going global: The transnationalization of care. *Dev Change.* 2011;42(4):1109–1130.
29. França LHF, Hershey DA. Financial Preparation for Retirement in Brazil: a Cross-Cultural Test of the Interdisciplinary Financial Planning Model. *J Cross Cult Gerontol.* 2018;33(1):43-64.
30. Ramsey LC. Windows and Bridges of Sand: Cross-cultural Counseling Using Sand Tray Methods. *Procedia - Soc Behav Sci.* 2014;159(1):541-545.
31. Utomo FW. The Local Wisdom of Pasir Village , Sumenep , as The Form of Harmony Between Humans and The Environment. In: *The 4th International Seminar on Social Studies and History Education (ISSSHE) 2019*; 2019(1):549-560.
32. McConatha JT, Kumar VK, Raymond E, Akwarandu A. Cultural Dimensions of Diabetes Management: a Qualitative Study of Middle Eastern Immigrants in the U.S. *J Cross Cult Gerontol.* 2020;35(1):85-98.
33. Shea JL. Menopause and Midlife Aging in Cross-Cultural Perspective: Findings from Ethnographic Research in China. *J Cross Cult Gerontol.* 2020;35(4):367-388.
34. Rutagumirwa SK, Hutter I, Bailey A. "We Never Graduate from Care Giving Roles"; Cultural Schemas for Intergenerational Care Role Among Older Adults in Tanzania. *J Cross Cult Gerontol.* 2020;35(4):409-431.
35. Herrero-Hahn R, Rojas JG, Montoya-Juárez R, García-Caro MP, Hueso-Montoro C. Level of Cultural Self-Efficacy of Colombian Nursing Professionals and Related Factors. *J Transcult Nurs.* 2019;30(2):137-145.
36. Verhoog S, Braun KVE, Bano A, et al. Associations of Activity and Sleep With Quality of Life: A Compositional Data Analysis. *Am J Prev Med.* 2020;59(3):412-419.
37. Bağcı H, Çınar Yücel Ş. Effect of Therapeutic Touch on Sleep Quality in Elders Living at Nursing Homes. *J Relig Health.* 2020;59(3):1304-1318.