



# **Effectiveness of Self-instructional Module on Knowledge Regarding Healthy Sleep Hygiene Habits on Quality of Sleep, among Arthritis Patients**

**Sheetal Sakharkar <sup>a\*≡</sup>, Ranjana Sharma <sup>a†</sup>, Ruchira Ankar <sup>a‡</sup>,  
Vaishali Tembhare <sup>a≡</sup>, Arati Raut <sup>a≡</sup>, Khushabu Meshram <sup>b≡</sup> and Dinesh V. Mude <sup>c</sup>**

<sup>a</sup> Department of Medical Surgical Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences Sawangi (Meghe), Wardha, Maharashtra, India.

<sup>b</sup> Department of Child Health Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences Sawangi (Meghe), Wardha, Maharashtra, India.

<sup>c</sup> Department of Pharmaceutics Chemistry, DR.R.G. Bhoyar Institute of Pharmacy, Wardha, Maharashtra, India.

## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/JPRI/2022/v34i2A35353

## **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/76186>

**Study Protocol**

**Received 01 November 2021**

**Accepted 02 December 2021**

**Published 11 January 2022**

## **ABSTRACT**

**Aim of the Study:** To assess the effectiveness of self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients.

**Study Design:** The design that will be used in the study is One Group Pre Test Post Test research design.

**Methodology:** A study used a pre-test post-test design with no control group and a pre-experimental design. The study will be conducted during December 2021 to May 2021. The impact of self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients will be assessed using the purposive sampling technique. In this study Evaluatory research approach will be used. Selected 140 arthritis patients will be assessed primarily for knowledge by giving structured questionnaires regarding healthy sleep hygiene habits and then self-instructional

<sup>≡</sup> Assistant Professor;

<sup>†</sup> Professor;

<sup>‡</sup> Associate Professor;

\*Corresponding author: E-mail: sheetalmude14@gmail.com;

module on healthy sleep hygiene habits on quality of sleep, will be given to the selected sample developed by researcher as intervention.

**Expected Results:** To assess the effectiveness of self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients. In this study self-instructional module on healthy sleep hygiene habits on quality of sleep will be useful in improving the arthritis patient's knowledge.

**Conclusion:** The conclusion will be drawn from the results and will be published in per review journal.

*Keywords: Efficacy; self-learning module; understanding; good habits for sleep.*

## 1. INTRODUCTION

Arthritis is an inflammatory condition of the joints and surrounding tissues. It causes pain and generally decreases the quality of life. Arthritis can lead to poor sleep and insomnia due to the chronic joint pain that many patients suffer from. This impacts the patient's quality of life. Lack of sleep can worsen the symptoms of arthritis. This can lead to a positive feedback loop in which the diminished sleep of a patient worsens arthritis-related pain, which in turn leads to even worse sleep. Research has shown that lack of sleep reduces the pain threshold and pain tolerance of an individual [1]. Sleep is a vital indicator of overall health and well-being [2].

### 1.1 Background

Research shows that individuals with osteoarthritis pain who have sleep problems are more likely to experience depression and even become disabled over time. One study found that nearly 70% of more than 300 participants reported having sleep disturbances including having difficulty falling asleep, waking up in the middle of the night, or rising too early in the morning. Results showed that sleep problems predicted increases in depression and disability.

Studies also showed that not sleeping at night exacerbates pain the next day. But there is something about sleep disruption that predisposes people with arthritis to become more disabled over time [3].

### 1.2 Need of the Study

Arthritis pain can ruin sleep and sleep problems can make pain worse. As many as 80% of people with arthritis have trouble sleeping. With aching, stiff and sometimes swollen joints, getting comfy, dozing off and staying asleep while in pain due to arthritis can be a tall order [4].

Sleep hygiene practices aim to nurture healthful habits that reduce the likelihood of insomnia. These life-style changes that can be adopted to aid with insomnia include reducing substances that worsen insomnia (e.g., coffee and tobacco), reducing time in bed while awake, abstaining from heavy meals and drinking before bed, and reducing distractions before bed time (e.g., avoiding electronic screen use in the hours before bedtime) [5].

Adjusting treatment and lifestyle habits might be in order. Establishing better bedtime habits, eating a healthy diet, and exercising regularly can help patients enjoy higher quality sleep [6].

Joint pain is only one of the challenges that patient might face. Some medications used to treat arthritis can increase risk of sleep problems. For example, doctor might prescribe corticosteroids to reduce inflammation of patient joints. These drugs can raise risk of sleep disorders and interfere with sleep cycle. On the flip side, some painkillers can leave feeling drowsy during the day. Patient might be tempted to nap, but too much daytime snoozing can make it harder sleep at night [7].

### 1.3 Problem Statement

Effectiveness of self-instructional module on knowledge regarding healthy sleep hygiene habits on quality of sleep, among arthritis patients.

### 1.4 Objectives of the Study

1. To assess the existing knowledge regarding healthy sleep hygiene habits on quality of sleep, among arthritis patients.
2. To assess the effectiveness of self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients.

3. To associate the post-test knowledge score of educational intervention with demographical variables.

## 2. METHODOLOGY

### 2.1 Research Approach

The research approach used in the study will be Evaluatory research approach.

### 2.2 Research Design

The research design adopted for study is a one group pretest posttest design.

### 2.3 Setting of the Study

Setting refers to the area where the study is conducted. Study will be conducted in selected community area of Wardha district.

### 2.4 Population

Population refers entire aggregation of cases that meet a designated of criteria. In this study the population will be arthritis patients of the selected community area in Wardha district

### 2.5 Target Population

Arthritis patients of the selected community area in Wardha district

### 2.6 Accessible Population

Arthritis patients of the selected community area in Wardha district

### 2.7 Sample

The sample for the present study is arthritis patients of the selected community area in Wardha district

### 2.8 Sample Size

The sample size selected for this study is 140

### 2.9 Sampling Technique

Non probability purposive sampling technique is used in the study.

### 2.10 Criteria for Sample Collection

#### Inclusion criteria

- Those arthritis patients who are interested to participate in the study.
- Those arthritis patients who know Marathi

and English language.

- Both male and female arthritis patients of age above 50 years and below 70 years are included.
- Those arthritis patients with complaints of acute or chronic pain are included

#### Exclusion Criteria

- Those arthritis patients who have been already attended the section about healthy sleep hygiene habit since 6 month
- Patients with mental illness are excluded

#### Variables

1. **Independent variable:** self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients
2. **Dependent variable:** knowledge of arthritis patients regarding healthy sleep hygiene habits on quality of sleep,

### 2.11 Tool for Data Collection

Tool consists of two parts.

Part I: information regarding socio-demographic variables. (Age, Sex, qualification, Marital status, Place of residential area

Part II: structured questionnaire regarding healthy sleep hygiene habits.

### 2.12 Validity

In order to obtain content; the tool will be given to experts. After receiving opinions of the experts, certain modification will be done as per their suggestion, same were incorporated into the tool and thus the validity of the tool will be confirmed.

### 2.13 Method of Data Collection

1. The research will be carried out among arthritis patients after obtaining their consent, the tool will be translated in Marathi and Hindi and then data collection will be gathered in which the existing knowledge data will be collected prior of giving intervention by using Structured Questionnaire along with demographic and then self-instructional module will be give and after seven day Post-test by using same tool data will be collected to assess the effectiveness of self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients.

### 2.14 Intervention

Assess the knowledge under the guidance of the Professor of Medical Surgical Nursing.

### 2.15 Statistical Analysis

Statistical analysis done by descriptive and inferential statistics with the help of excel 2019 and SPSS 25 software.

### 2.16 Expected Outcome/ Results

The purpose of this study is to assess the effectiveness of self-instructional module on healthy sleep hygiene habits on quality of sleep, among arthritis patients. Self-instructional module will be useful in improving the respondents' knowledge. It will help for preventing the further complications.

## 3. DISCUSSION

A study is supported through the studies conducted worldwide. According to Hemat Abd Elmoneem and Amal I. Fouad (in 2017). A study was carried out to evaluate the effect of a sleep hygiene program on older adults. A quasi-experimental design is used. In this study quasi-experimental design and a non-probability sampling technique with purposive sampling used. Researcher has taken 67 older adult and gathered information by using structured interview questionnaire and implemented Sleep Hygiene Program on older adults. Outcome, The designed sleep hygiene program had statistically significant improvement in elderly knowledge and practices and recommendation was Educational programs for elderly individuals with insomnia to improve their sleep quality with more efforts to improve the awareness

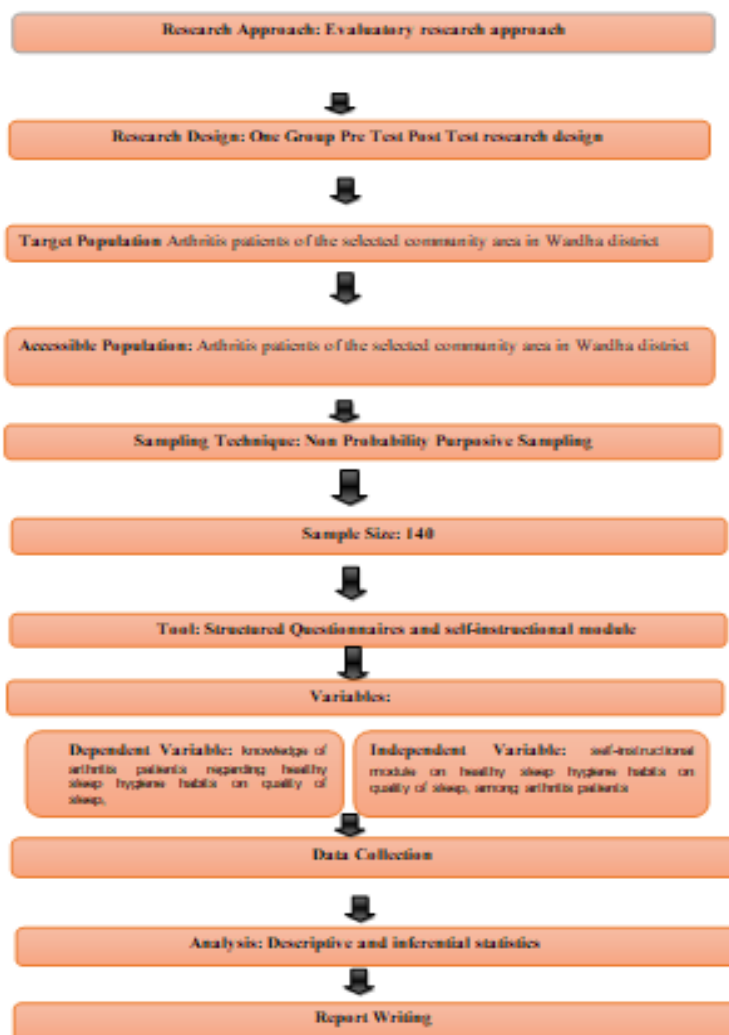


Fig. 1. Flowchart of Sample analysis

of the elderly regarding the importance of sleep hygiene and the avoidance of risk factors of insomnia through posters, pamphlets, and booklets [8]. Hence, the current study aims to assess the effectiveness of self-instructional module on healthy sleep hygiene habits on quality of sleep; among arthritis patients.

Several studies found that higher disease activity is associated with sleep problems. A study by Wolfe et al. showed that sleep disturbance could be attributed to RA in up to 42% of cases, linking sleep disturbance to pain, mood, and disease activity. Similarly, a Korean study found decreasing subjective sleep quality as the disease activity was increasing. Conversely, studies have also found that reducing the active inflammatory disease and the arthritic process have a positive effect on sleep quality [9].

#### 4. CONCLUSION

Final conclusion will be drawn from final result of the statistical review.

#### CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

#### ETHICAL APPROVAL

Study was approved by the Institutional Ethics Committee (letter no –DMIMS (DU)/IEC/2021-22/530) and the study will be conducted in accordance with the ethical guidelines prescribed by institutional Ethics Committee on Human Research.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Does Poor Sleep Worsen Arthritis? [Internet]. News-Medical.net. 2019 [cited 2021 Oct 14].

- Available: <https://www.news-medical.net/health/Does-Poor-Sleep-Worsen-Arthritis.aspx>
2. Jain S, Bhombe K, Deolia S, Patil S, Rajnalwar B, Sen S. Association of impaired sleep, impaired awakening, vitality, and fatigue related to dental caries. Archives of Medicine and Health Sciences. 2017;5(2):223.
  3. Arthritis Pain at Night: Sleeping with Arthritis | Arthritis Foundation [Internet]. [cited 2021 Oct 14]. Available: <https://www.arthritis.org/health-wellness/healthy-living/managing-pain/fatigue-sleep/sleep-and-pain>
  4. Osteoarthritis and Sleep [Internet]. [cited 2021 Oct 14]. Available: <https://www.arthritis.org/health-wellness/healthy-living/managing-pain/fatigue-sleep/osteoarthritis-and-sleep>
  5. Irish LA, Kline CE, Gunn HE, Buysse DJ, Hall MH. The Role of Sleep Hygiene in Promoting Public Health: A Review of Empirical Evidence. Sleep Med Rev. 2015 Aug;22:23–36.
  6. Rheumatoid Arthritis and Sleep: Insomnia, How to Cope, and More [Internet]. [cited 2021 Oct 14]. Available: <https://www.healthline.com/health/rheumatoid-arthritis-insomnia-sleep-problems>
  7. Arthritis - Diagnosis and treatment - Mayo Clinic [Internet]. [cited 2021 Oct 14]. Available: <https://www.mayoclinic.org/diseases-conditions/arthritis/diagnosis-treatment/drc-20350777>
  8. (PDF) The Effect of a Sleep Hygiene Program on Older Adults [Internet]. ResearchGate. [cited 2021 Oct 14]. Available: [https://www.researchgate.net/publication/340038158\\_The\\_Effect\\_of\\_a\\_Sleep\\_Hygiene\\_Program\\_on\\_Older\\_Adults](https://www.researchgate.net/publication/340038158_The_Effect_of_a_Sleep_Hygiene_Program_on_Older_Adults)
  9. Grabovac I, Haider S, Berner C, Lamprecht T, Fenzl K-H, Erlacher L, et al. Sleep Quality in Patients with Rheumatoid Arthritis and Associations with Pain, Disability, Disease Duration, and Activity. J Clin Med. 2018 Oct 9;7(10):336.

© 2022 Sakharkar et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:  
<https://www.sdiarticle5.com/review-history/76186>