

## Healthy Lifestyle on Quality of Sleep among Elderly: A Cochrane Review

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### ABSTRACT

*Introduction: People who don't value their elderly have forgotten whence they came and whither they go. The natural ageing process includes changes to our sleep patterns in addition to the physical changes that take place as we age. People tend to have more difficulty staying asleep, as they get older compared to when they were younger. Many people believe that as they become older their need for sleep decreases. This literature review aimed to investigate the lifestyle, quality of sleep of elderly in order to obtain a holistic view about healthy lifestyle.*

*Method: A Cochrane literature review was done involving life style modifications on quality of sleep among elderly. Electronic database and search engine like PubMed (PMC-PubMed Central), Scielo (Scientific Electronic Library Online), CINAHL (Cumulative Index of Nursing & Allied Health Literature), Scopus, VHL (Virtual Health Library), PsycINFO, APAPsycNET, LILACS (Latin American & Caribbean Health Sciences Literature), IBECs and journals like IJBNPA, European Journal of Physiotherapy, MRM were reviewed. The search strategy was extended by combining "Lifestyle", "Quality of Sleep" and "Elderly" keywords. Certain specific healthy life style behaviors like ROM Exercises, avoiding coffee, tea, soda & chocolate, bed schedule, wash feet with cold water before going to bed and regularly taking the medicines were included in the review. Moreover lifestyle modification and quality of sleep were reviewed respectively.*

*Results: Review of appropriate literature resulted in identification of 20 relevant references. Literature whichever retrieved were of cross-sectional study, randomized controlled trial, secondary data analysis, meta-analysis, analytical cross-sectional study and articles of literature review which are focused on evaluation of effectiveness of healthy life style interventions on quality of life and quality of sleep among elderly. Results of most of the studies concluded that elderly people not adopting healthy lifestyle were more likely to have poor quality of sleep as well poor quality of life. Healthy lifestyle interventions like exercises, yoga, meditation, diet, smoking cessation, quit alcohol, managing stress, ROM Exercises, avoiding coffee, tea, soda & chocolate, bed schedule, wash feet with cold water before going to bed and regularly taking the medicines were found to improve the quality of life of elderly.*

*Conclusion: In conclusion, there is no magic number or ideal amount of sleep to get each night that could apply broadly to all. The optimal amount of sleep should be individualized, as it depends on many factors. However, it is a fair assumption to say that the optimal amount of sleep, for most people, should be within the age-appropriate sleep duration recommended ranges. In the meantime, promoting the importance of a good night's sleep should be a priority given its influence on other behaviors and the well-known adverse consequences of insufficient sleep. Important sleep hygiene tips include removing screens from the bedroom, exercising regularly during the day, and having a consistent and relaxing bedtime routine.*

**Key words:** Healthy lifestyle, Quality of sleep, Elderly

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### INTRODUCTION

People who don't value their elderly have forgotten whence they came and whither they go. Along with the substantial changes that occur as we catch elder, changes

to our sleep patterns part the normal aging process. As people age they will go through a tough time falling asleep and more trouble staying asleep than before. It is a common mistaken belief that sleep needs reduce with age. In actuality, research says that our sleep needs, remain constant throughout adulthood. So, what's the reason for seniors reduced sleep? Changes that occur in the pattern of our sleep – what specialist's call "sleep architecture" – as we age, may contribute to sleep problems. Sleep occurs in multiple stages, including dreamless periods of light- deep sleep and intermittent periods of active dreaming (REM sleep). The sleep cycle is repeated several times during the night, and even if total sleep time remain unchanged, older people spend more time in the lighter stages of sleep, than in deep sleep.

Even though not all older adults, several report that they are less satisfied with sleep and more tired during the day. Studies on the sleep habits of Americans show an increase in the time they take to fall asleep (sleep latency), an overall decline in REM sleep, also an increase in sleep fragmentation (waking up during the night) with increase in age. Sleep disorders are tending to increase with ageing. But, research suggests that much of the sleep interruption among the elderly can be attributed to physical and psychiatric illnesses, and the medications used to treat them.

Besides changes in sleep style that occur as we age, other factors affecting sleep are the circadian rhythms that harmonize the timing of our bodily functions, including sleep. For example, older adults may seem to be sleepy before bedtime and wake up earlier compared to young adults. This outline is called advanced sleep phase syndrome. The sleep rhythm is shifted forward so that 7 or 8 hours of sleep are still obtained but the individuals will rouse extremely early because they have gone to sleep relatively early. The reason for these changes in sleep and circadian rhythms as a person grow older is not still clear. Many researchers believe it may have to do with light exposure and treatment options for advanced sleep phase syndrome typically take account of bright light therapy.

The frequency of insomnia is also elevated among older adults. According to NSF's 2003 Sleep in America poll, 44% of older persons experience one or more of the nighttime symptoms of insomnia no less than a few nights per week or more. Insomnia may be chronic (lasting over one month) or acute (lasting a few days or weeks) and is often times related to an core cause such as a medical or psychiatric condition.

It is recommended to discuss the symptoms of sleeplessness with your doctor, as well as any potential repercussion. Your doctor can advise you on what to do and how serious of a problem it is. For instance, reducing coffee intake and taking naps may assist to solve the issue. It is crucial to seek therapy if insomnia is having major consequences, making other conditions worse, or making a person too exhausted to carry out daily

activities. When symptoms are severe and go untreated, insomnia can have a negative impact on one's health. People who have insomnia may be excessively sleepy throughout the day, have trouble focusing, be at higher risk for accidents and disease, and have a much lower quality of life. Behavioral treatments and prescription medications singly, or in combination are considered effective means to treat insomnia. The proper choice should be matched to a variety of factors in discussion with a physician.

For almost 90 million American adults—of whom 37 million snore regularly—snoring is the main source of sleep disruption. Overweight people are most frequently linked to snoring, and the disease frequently gets worse with age. Because it can be a sign of obstructive sleep apnea (OSA) and is linked to high blood pressure and other health issues, loud snoring is especially dangerous. The amount of oxygen in the blood decreases, frequently to very low levels, and breathing ceases with OSA, sometimes for as long as 10 to 60 seconds. The brain becomes alerted as a result, briefly waking, and breathing resumes. These breathing pauses can be frequent, leading to numerous sleep disturbances during the night, which impede daily performance and cause excessive drowsiness.

A person who has untreated sleep apnea runs the risk of developing heart disease, headaches, memory loss, and depression. Although it is a serious disorder, it is manageable. Regular snoring that can be heard in another room, claims that you stop breathing while sleeping, or loud or gasping noises are all indications that you may have sleep apnea and should be examined with your doctor.

Restless Leg Syndrome (RLS) is a neurological movement condition that is characterized by an overwhelming need to move the limbs. RLS causes uncomfortable, tingling, creeping, or pulling sensations that are usually felt in the legs, get worse in the evening, and make it difficult to fall asleep and stay asleep. About 10% of persons in North America and Europe are known to have RLS symptoms, and its frequency rises with age. According to one study, about 45% of all elderly adults have at least a mild type of periodic limb movement disorder (PLMD), which affects about 80% of patients with RLS.

Age-related increases in medical issues, many of which are chronic, are common. People with poor health or long-term medical disorders typically have more sleep issues. For instance, heart failure, which affects almost 5 million Americans, is linked to OSA, and hypertension is connected to both snoring and OSA. Additionally, the menopause and its associated hot flashes, respiratory problems, and declining hormone levels can cause numerous sleepless nights [1].

According to the results of the various studies conducted earlier among elderly regarding healthy life style and their quality of life, the findings concluded that their performance in promoting healthy lifestyles is poor as

their quality of life. Lack of awareness of this age group population in adopting healthy lifestyles was found to be the cause for insomnia in elderly. To the best of our knowledge, there was no systemic reviews and/or meta-analysis that examined the overall effectiveness of lifestyle interventions, or identified potential strategies to promote or modify the senior population's quality of life and sleep. Therefore this review was carried out to summarize that, simple healthy lifestyle like ROM exercises, avoiding coffee, tea, soda & chocolate, bed schedule, wash feet with cold water before going to bed and regularly taking the medicines might improve the quality of sleep among elderly.

## METHODS

### Search strategy

A Cochrane literature review was done involving life style modifications on quality of sleep among elderly. Electronic database and search engine like PubMed (PMC – PubMed Central), SciELO (Scientific Electronic Library Online), CINAHL (Cumulative Index of Nursing & Allied Health Literature), Scopus, VHL (Virtual Health Library), PsycINFO, APAPsycNET, LILACS (Latin American & Caribbean Health Sciences Literature), IBECs and journals like IJBNPA, European Journal of Physiotherapy, MRM were reviewed. The search strategy was extended by combining “Lifestyle”, “Quality of Sleep” and “Elderly” keywords. Certain specific healthy life style behaviors like ROM Exercises, avoiding coffee, tea, soda & chocolate, bed schedule, wash feet with cold water before going to bed and regularly taking the medicines were included in the review. Moreover lifestyle modification and quality of sleep were reviewed respectively.

### Inclusion criteria

As the literature review is a discipline of broad range, a literature review was carried out by using definite and concise criteria to identify, scrutinize and select the literature. The studies taken up for review were limited by topic, keywords, date and year of publication & language. Studies carried out recently within 15 years are included in this literature review.

### Exclusion criteria

The sources of literature which are of the language other than English and studies conducted 15 years before were excluded. Studies not related to the keywords like lifestyle, quality of sleep and elderly are exclude from literature review.

## RESULTS

A Cochrane review of appropriate literature resulted in identification of 20 relevant references. Literature whichever retrieved were of cross-sectional study, randomized controlled trial, secondary data analysis, meta-analysis, analytical cross-sectional study and articles of literature review which are focused on evaluation of effectiveness of healthy life style

interventions on quality of life and quality of sleep among elderly. Results of most of the studies concluded that elderly people not adopting healthy lifestyle were more likely to have poor quality of sleep as well poor quality of life. Healthy lifestyle interventions like exercises, yoga, meditation, diet, smoking cessation, quit alcohol, managing stress, ROM Exercises, avoiding coffee, tea, soda & chocolate, bed schedule, wash feet with cold water before going to bed and regularly taking the medicines were found to improve the quality of life of elderly.

Weerakorn Thichumpa, et al. conducted a separate study among 266 randomly selected adults in the rural district of Chiang Rai, northern Thailand. The study aimed to highlight the prevalence of unsatisfactory sleep quality and to identify related factors among older adults living in a community in northern Thailand. Data was collected by interviewing the study sample, using the Thai version of the Pittsburgh Sleep Quality Index (PSQI). About 44.0% of participants had poor sleep quality (PSQI score, > 5), 9.4% used sleeping pills, 27.1% had weak family relationships, and 12.0% had mild depression. A detailed analysis of the systemic retreat showed that femininity (odds ratio [OR], 1.74; 95% confidence interval [CI], 1.10 to 3.02), higher education level (OR), 3.03; 95% CI, 1.34 to 6.86 primary school; (OR), 2.48; 95% CI, 1.31 to 5.44 higher than elementary school), low stress (OR), 2.65; 95% CI, 1.11 to 6.36), and poor family relationships (OR), 3.65; 95 % CI (1.98 to 6.75) were strongly associated with poor sleep quality. The prevalence of reduced sleep quality among the elderly, was relatively high. Health care providers should regularly monitor sleep quality and stress, provide dental health education, and to create interventions to encourage participation in family activities, resolve conflicts, share ideas, and create consensus within the family [2-6].

Miranda Varrasse, et al. did a systematic review of the books on Exercise and Sleep in the Community of Older Adults. The conclusion of this book review is, Insomnia and other sleep disorders are more common in adults living in the community but are often undetectable. Age-related changes may affect sleep, but sleep disorders and complaints should not be considered normal in this population. Various physical, psychological, and social effects have been linked to insomnia and sleep disorders. Treatment options are available so it is important to diagnose and treat these people in order to promote healthy aging. Exercise is known to have a variety of health benefits, but unfortunately older adults exercise less and grow older. This paper describes the age-related changes in sleep, clinical indications of insomnia, the effects of untreated insomnia, and non-medical treatment for insomnia in older adults, focusing on the relationship between exercise and sleep in older adults living with insomnia or sleep complaints. . Possible processes that explain the relationship between exercise and sleep are discussed. Although research to date shows promising evidence of exercise as a safe and

effective treatment for insomnia and sleep complaints in older adults living in the community, future research is needed before exercise could be the first treatment for insomnia and sleep complaints in this population [7-9].

Reid et al., an RCT was conducted to assess the effectiveness of moderate aerobic physical activity through sleep hygiene education to improve sleep, mood and quality of life in the elderly with chronic insomnia. RCT comparing 16-week aerobic physical activity and sleep hygiene with non-physical activity and sleep hygiene was done. The results of the study are as follows: Physical activity groups include; sleep quality (global PSQI  $p < 0.0001$ ), sleep latency ( $p = 0.049$ ), sleep time ( $p = 0.04$ ), daytime dysfunction ( $p = 0.027$ ), and sleep efficiency ( $p = 0.036$ ), PSQI subscales, compared to the controls. Relief of depressive symptoms ( $p = 0.044$ ), daytime sleepiness (0.02), and improved vitality ( $p = 0.017$ ) compared to baseline. So it is concluded that, sleep quality, mood and quality of life of the study population was effectively improved by aerobic physical activity and sleep hygiene education [10].

Baron et al., Secondary data analysis was performed to assess the daily two-way relationship between exercise and sleep in the elderly. The results showed that global PSQI improved ( $p < 0.05$ ). Baseline drowsiness was negatively correlated with exercise time ( $p < 0.05$ ). After a long night of SOL ( $p < 0.05$ ), participants completed a short 30-minute aerobic exercise session three times a week for 16 weeks. TST relaxed the daily relationship between TST and the next day's exercise ( $p < 0.05$ ). Secondary data analysis concluded that sleep was more likely to affect sleep the next day than exercise affected sleep [11].

King et al., Randomized Controlled Trials (RCTs) were conducted to investigate, the 12-month effects of physical activity on the objective and subjective sleep quality of inactive elderly people with mild to moderate sleep disorders. RCTs have been assigned to a 12-month program of moderate, endurance exercise or health education management. Relevant data such as PSG, sleep quality, physical activity, and subjective measurements of physical fitness are collected for analysis. The main result of this study is that exercisers spend less PSG time in sleep stage 1 ( $p = 0.03$ ) and more time in sleep stage 2 ( $p = 0.04$ ) and less awakenings during the first third of sleep cycle ( $p = 0.03$ ). Improvements in PSQI sleep disturbance subscale ( $p = 0.009$ ), sleep diary-based sleep time to fall asleep ( $p = 0.01$ ), and morning rested ( $p = 0.02$ ) compared to controls. The study concludes with improved sleep dimensions, subjective and objective to modest degree [12].

Buman, et al. performed secondary RCT analysis (12-month medium-intensity endurance exercise program or health education management), Physical exercise was performed to determine if Intra-individual variability (IIV) in self-rated sleep outcomes, was reduced in middle-aged and elderly with Insomnia. For analysis of data, Daily sleep logs, PSQI, in home PSG, IIV

for SOL, time in bed, feeling rested in morning, number of nighttime awakening, wake after final awakening were collected. The results are as follows: SOL-based IIV decreased in the training group ( $p = 0.025$ ). Bedtime, morning rest, and WAWA were not significantly different in both groups. A secondary analysis of RCTs concluded that, 12 months of moderate intensity physical activity reduced nighttime variability in self-assessed sleep time [13].

Irwin et al., Randomized controlled trials were conducted to determine the effectiveness of tai chi in promoting sleep quality in the elderly with moderate sleep disorders. The RCT has assigned 16 weeks of instruction followed by 9 weeks (25 weeks total) of practice and assessment, or management of health education. Poor sleep quality at baseline (PSQI  $\geq 5$ ) improved in 63% of the intervention group, compared with 32% in the control group (total PSQI score  $< 5$  ( $p < 0.05$ ) at 25 weeks). .. Poor sleep quality at baseline showed significant improvements in global PSQI scores ( $p < 0.001$ ) and sub scores, sleep quality, sleep efficiency, sleep time, and sleep disorders (all  $p < 0.05$ ). The study concluded that tai chi, a slow-motion meditation, can be seen as a useful non-pharmacological approach to improving sleep quality in the elderly with moderate illness [14].

Chen et al., Randomized controlled trials were conducted to test the impact of six months of silver yoga practice on the mental health of older people, especially sleep quality, depression, and self-assessment of health promotion. RCTs were assigned to a 6-month yoga program three times a week or to the control group. Significant improvement in the global PSQI score of the yoga intervention group at 3 months ( $p = 0.003$ ) and 6 months ( $p < 0.001$ ). SOL did not improve after 3 months of the yoga training program ( $p = 0.717$ ), but decreased after 6 months ( $p < 0.001$ ). The study results conclude that improved sleep quality was observed in the yoga intervention group [15].

Chen et al., in a research to assess the impact of the Baduanjin exercise programme on Taiwanese senior's sleep quality, 12 weeks of Baduanjin exercise training to one group and a control group were assigned. Data are gathered using instruments like the Geriatric Depression Scale and the PSQI. The average quantity of sleep quality significantly improved in the exercise group compared to the control group on all bases ( $p = 0.024$  to  $p = 0.001$ ) and overall ( $p = 0.001$ ). The findings suggest that elderly persons living in Taiwanese society had better sleep quality, by traditional Chinese exercise known as "Baduanjin," which features mild, gentle, and soothing movements [16].

A similar data analysis of the second clinical trial of lifestyle interventions was conducted by Dzierzewski, et al. to examine the chronic and critical relationship between exercise behavior and sleep reporting in older adults. Tools such as the Modified Leisure-Time Exercise Questionnaire, (LTEQ), SOL reporting, WASO Sleep (SQR) quality rating on a five-point scale was used. The main findings of the data analysis marked a positive between-

person association, between exercise and WASO as well as within- person interaction between, exercise and normal sleep quality Education ( $p=0.02$ ) between SOL predictor; age and physical activity ( $p=0.03$ ,  $p=0.01$ ) between individual WASO predictions; physical activity within a person ( $p=0.05$ ), SQR age and WASO predictions ( $p=0.05$  and  $0.008$ ) among people predicting physical activity; SQR ( $p=0.001$ ) is a prediction of physical activity. It therefore concluded that high levels of long-term exercise were associated with WASO low, increased daily exercise was associated with higher sleepless nights; strenuous exercise-SQR relationships naturally coincided with areas where exercise did not affect the relationship between exercises and sleep [17].

Luana Karoline Ferreira, et al. conducted an integrated review of the literature on assessing Elderly lifestyle and quality of life. The review was performed in Scopus, PubMed, Digital Medical Library, and PsycINFO databases. Four cross searches were done. The English synonyms of the term "Elderly" ("aged", "ageing", "old age") with the words "Quality of life" and "Lifestyle". After making inclusion and exclusion criteria, 21 articles were analyzed. Physical activity, diet, body composition, consumption of alcohol, smoking, and social relationships were the main aspects of the lifestyle studied. Studies show that these aspects influence how the quality of life is perceived by the elderly. In addition to those factors, social demographic factors, characteristics, quality of sleep, functional capacity and associated physical illness are factors that contribute to the quality of life of adults. Interest in relationships between the lifestyle and quality of life of the elderly has increased in recent years. It was noted that the adult lifestyle was investigated in a number of ways; however, no positive research determined the use of the search method followed in this review article. With regard to future ideas, it has long been hoped that tools used for lifestyle evaluation especially in elderly could be developed and that good research could be done to help deepen the complexity of interdependence between lifestyle and special needs, in the past [18-23].

Claudio, et al. conducted randomized controlled trials to improve the quality of sleep by doing home exercises and reducing daytime sleep for the elderly, in northeastern Brazil from May to September 2017, targeting the non-psychiatric adults aged 60 and over, inactive, with lower grades or 5 points at the Pittsburgh Sleep Quality Index(PSQI) and without cognitive decline. Of the 191 potential participants, 28 refused to participate, so 131 ( $68 \pm 7$  years) and 88% of women were randomized into intervention groups, homework and sleep hygiene ( $n=65$ ) and control group sleep hygiene only, ( $n=66$ ). Sleep assessment tool used were: PSQI, Epworth Sleepiness Scale (ESS), and Berlin Clinical Clinic Questionnaire. Physical activity levels were assessed using, the International Adult Exercise Questionnaire (IPAQ) and a Mini-Mental Status Examination for cognitive decline.

All participants were tested before and after the 12-week intervention period, and the assessors were blinded. As a result, sleep quality was significantly improved, with overall PSQI ( $p<0.01$ ) and in all seven test components ( $p<0.05$ ) reduced by  $4.9 \pm 2.7$  points, improving during the day. Drowsiness endpoint, 2.8 points  $\pm$  2.2 reduction in ESS ( $p<0.01$ ). The results suggest that supervised home exercise is effective in improving sleep quality and targeted daytime sleepiness in socially disadvantaged adults with insomnia [24-27].

Vanderlinden, et al. conducted a systemic review on the effect of physical activity programs on sleep outcomes in elderly. Studies were done in Pub Med; Embase; Web of Science; SPORT Discus; Pedro and CINAHL. The methodological quality of the studies taken was rated using the 'Quality Assessment Tool for Quantitative Studies'. Only studies of reasonable and good quality were included. Fourteen studies met the inclusion criteria- six randomized controlled trials and eight pretest-posttest studies, of these five were moderate and nine were strong quality studies. Mean age of study samples were 64 to 76 years ranged. Various activities were included as exercise programmes intended at improving mobility, endurance and strength. Intervention was given for 2 weeks to 12 months duration. Subjective measures of sleep in eleven, objective measures in two and both were used in one study. Sixteen different sleep outcomes were reported, but one study, found at least one significant improvement on sleep outcomes. This systematic review suggests that exercise programs affect positively in different aspects of sleep of healthy older adults. Exercise programs, with a frequency of three times per week and a duration of 12 weeks up to 6 months, with moderate intensity showed the highest number of significant improvements in elderly sleep pattern. Additionally, single exercise types, such as Baduanjin, et al. and the silver yoga program, or a combination showed the highest percentage of significant versus reported sound effects on sleep outcomes [28].

Feifei Wang, et al. conducted a systematic review, on the effect of physical activity on sleep quality. This systematic review aims to examine the effect PA intensity on the quality of sleep in healthy populations. By using search terms 'sleep quality' and 'physical activity' from PubMed and Scopus articles, helped to make out suitable studies. Fourteen studies were included, and result analyses showed moderate PA may be more effective than vigorous activity in improving sleep quality. Furthermore, moderate physical exercise showed beneficial for sleep quality in both young and old populations. Moderate exercise showed more effective on sleep quality than vigorous exercise. Studies are suggested to elaborate detailed exercises, by considering age groups in order to make accurate recommendations for health promotion [29-32].

Andressa Alves da Silva, et al. conducted a systematic review with meta-analysis regarding Sleep duration and mortality in the elderly. The study aimed to evaluate

the association between short and long sleep duration, and all cause of cardiovascular mortality among elderly individuals. Design Systematic review and meta-analysis of population-based cohort studies. From International and National electronic databases setting was taken. Study selection were identified from PubMed, EMBASE, LILACS (Latin American and Caribbean Health Sciences Literature), IBECs (Bibliographic Index on Health Sciences from Spain), and CAPES (PhD thesis repository) between 1980 and 2015. Studies which met all criteria were included; participants aged 60 years or over, assessment of sleep duration as 24 hours, nighttime or daytime sleep, and evaluation of all cause or cause-specific mortality, population-based cohort studies. There were no language restrictions in sample selection, and studies published as abstracts were excluded. Data were analyzed using the Comprehensive Meta-Analysis software (V.3.3.070), and summary estimates (relative risk (RR), 95% CI) were calculated using a random effects model. Heterogeneity and consistency were evaluated through Cochran's Q and I statistics respectively, also sensitivity analyses were conducted. 27 cohort studies were selected, comprising >70 000 elderly individuals, from 34 to 35 years. In the result analysis, long and short sleep duration were associated with increased all-cause mortality (RR 1.33; 95% CI 1.24 to 1.43 and RR 1.07; 95% CI 1.03 to 1.11, respectively), compared with the reference category. For cardiovascular mortality, the relative risks were 1.43 (95% CI 1.15 to 1.78) for a long sleep, and 1.18 (95% CI 0.76 to 1.84) for a short sleep. Daytime napping  $\geq 30$  min was associated with risk of all-cause mortality (RR 1.27; 95% CI 1.08 to 1.49) compared with no daytime sleep, but longer sleep duration ( $\geq 2.0$  h) was not (RR 1.34; 95% CI 1.95 to 1.90). Among elderly individuals, there was an association between long and short sleep duration with increased risk for all-cause mortality. Long sleep duration is associated with cardiovascular mortality [33-39].

Anita Chhantyal, et al. conducted an analytical cross-sectional study. The aim of the study was to identify the factors associated with insomnia among elderly. 64 elderly of Karyabinayak Municipality, Lalitpur was selected using Non-probability purposive sampling technique. Data collection by using structured interview method related to socio-demographic variables and Pittsburgh Insomnia Rating Scale was done from 18th to 30th of September 2016. Descriptive and inferential statistics was used to analyze data using SPSS software version 16. The findings of the study depicted 40.6% of the respondents have insomnia. Also there is significant association of health problems during night sleep with insomnia ( $p=0.003$ ). However, there was no association of age, gender, marital status, educational status, current working status, financial dependency, disease and present medicine use with insomnia. From the findings of the study made, it was concluded that insomnia is present among less than half elderly, and the elderly who had health problems during night have insomnia. The suggestion therefore was made, the awareness program

regarding insomnia should be raised for early detection and appropriate management in order to decrease sleep related health problems and improve quality of life [40-43].

Dhaval, et al. conducted a literature review on insomnia in the Elderly. A Literature review of epidemiology, definition, and age-related changes in sleep, as well as factors contributing to late-life insomnia and scales, were utilized for the assessment of insomnia in older people. The aim was to summarize the present diagnostic guidelines, both non-pharmacological and pharmacological strategies for the management of insomnia in the older population. The literature review concluded that insomnia remains a clinical diagnosis. Several demographic, psychosocial, biologic, and behavioral factors can contribute to late-life insomnia; older adults are at a higher risk for the medical and psychiatric effects of insomnia. The most important aspect in the evaluation of insomnia is, detailed history taking and thorough physical examination. Non-pharmacological treatment options had favorable and enduring benefits, compared to pharmacological therapy [44-50].

## CONCLUSION

The Quality of sleep in the elderly is low and also there is a close relationship between a healthy lifestyle, quality of sleep, and quality of life. The quality of sleep and quality of life in the elderly can be continued and improved, by ensuring sleep hygiene.

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