



Original Research Article

Sleep Disturbances and Death Anxiety among the Elderly in a Rural Area of Southern Karnataka

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ABSTRACT

Introduction: Sleep disturbances (sleep disorders) are a common problem with implicit health consequences. The elderly are vulnerable to this syndrome. Most often the sleep disorder is exacerbated or complicated by the phenomenon of Death Anxiety (DA) among the elderly. DA is the morbid, abnormal or persistent fear of one's own death or the process of dying. "Death anxiety" is a term used to conceptualize the apprehension generated by death awareness and is experienced with variable severity during one's life.

Objectives: To determine the prevalence of sleep disturbances among elderly and to study the pattern of death anxiety among the elderly residing in the study area.

Methodology: A cross sectional study was conducted in villages under Sarjapur PHC, Anekal Taluk, Bangalore Urban District during July to August 2014 and the study populations were participants aged ≥ 60 years. Data was collected using pretested semi structured questionnaire and standard tools namely Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), and Death anxiety scale. Simple random sampling is used. The estimated sample size is 230.

Results: Of 230 elderly 110 (47.8%) were females, 120 (52.2%) were males. 41.7% of elderly suffer from sleep disturbances and 19.6% of elderly are found to have death anxiety and further an association between health problems and sleep disturbance was found to be significant.

Conclusion: This study would help to understand and therefore suggest measures to promote better therapeutic measures. Further, guidelines can be developed to address sleep disorder and reduce death anxiety among elderly. Screening for sleep disorders can be a part of primary geriatric care services.

Key words: Sleep disturbances/disorder, death anxiety, elderly people.

INTRODUCTION

Life expectancy has increased and so is the proportion of elderly in the population. In low income countries of Asia, including India, Latin America and Africa there is a rapid demographic transition, with a bulging apex of age pyramid. Currently, elderly

constitute about 8% of population in India. The elderly are a vulnerable group and ageing further complicates this situation with consequent medical and social concerns. Sleep disorders are an addition to other common problems like dementia and related neurological problems and

musculoskeletal conditions. Sleep disturbances remain a largely under-diagnosed and under-recognised medical condition in India.

Sleep disturbances are a common health problem. Most often it is the elderly who are at risk and suffer this condition. [1] Suen and Wong found that about 70% of elderly people in long term care suffer from sleep disturbances. [2] In another study by Ancoli-Israel et al, the aging process itself is not the main cause of sleep disturbance per se, but the possibility to sleep progressively decreases with age coupled with attributed health conditions. [3] Clinical complaints of sleep difficulty are common among the elderly. In a study by National Institute on Aging (United States), it is reported that, of over 9,000 persons aged 65 years and older, over one half of the men and women reported at least one chronic sleep complaint. [4] Typical symptoms of sleep problems in the elderly include difficulty falling asleep and maintaining sleep, early-morning awakening and excessive daytime sleepiness.

A variety of processes may interfere with sleep and wakefulness in the elderly. [5,6] Among them are common chronic conditions like DM, hypertension, arthritis, psychiatric ailments, primary sleep disorders, social changes, poor sleep habits and circadian rhythm shifts. Sleep-wake problems may be compounded further by inappropriate treatment initiated by the patient, family members, physicians or other care providers.

Chronic sleep problems and or chronic use of medications thereof may lead to falls and accidents. [7,8] Sleep-disordered breathing may have serious cardiovascular, pulmonary and central nervous system effects. Evidence supports a strong association between sleep apnoea and hypertension. [9-11] In persons with dementia, severe sleep disruption often leads to

nursing home placement. For all of these reasons, sleep problems in elderly patients should be properly evaluated and treated.

Investigators have increasingly turned their attention to attitudes toward death and factors related to them. The current study seeks to shed light on sleep disturbances and death anxiety among elderly residents in a rural area and to find the associations with both the variables. This study would help to understand and therefore suggest measures to promote better therapeutic measures. There is dearth of literature on this topic, especially related to rural settings.

MATERIALS AND METHODS

Elderly people (≥ 60 years) residing in villages under Sarjapur PHC area was study population. The Inclusion criteria were elderly residents (>60 years) residing in villages under Sarjapur PHC. Exclusion criteria were those elderly patients who were moribund, speech and hearing impaired.

Subjects were selected by simple random sampling. Informed written consent was taken. Structured interview schedule and standard questionnaires were used, which are described below.

Structured interview schedule with 3 parts: The interview schedule is divided into 3 parts. The first part consists of the socio demographic detail of the workers; the second part is the Standard Pittsburgh Sleep Quality Index (PSQI) scale. The Pittsburgh Sleep Quality Index (PSQI) is an effective instrument used to measure the quality and patterns of sleep in the older adult. The PSQI has internal consistency and a reliability coefficient (Cronbach's alpha) of 0.83. Numerous studies using the PSQI in a variety of older adult populations internationally and in India have supported high validity and reliability. And the third part is The Epworth Sleepiness Scale (ESS). The Epworth Sleepiness Scale (ESS) is an

effective instrument used to measure average daytime sleepiness. The ESS may be used for both initial assessment and on-going comparative measurements with older adults across the health care continuum. There is a high level of internal consistency between the eight items in the ESS as measured by Cronbach's alpha, ranging from 0.74 to 0.88. It has been used in many Indian studies.

It also consists of death anxiety scale. The investigators were trained by a Psychiatrist for administering the Death Anxiety tools. DAS (Death Anxiety Scale) was developed by Templer. The reliability coefficients of the scale using Cronbach's alpha was 0.75 and this scale is not widely used in India. Therefore a pilot study was done preceding the actual study.

Statistical analysis: Data was entered into Microsoft Excel and analyzed using SPSS version 16. Data was described using, mean, median, mode and standard deviations. Bivariate analysis was done using Chi square tests to assess the factors associated with sleep disturbance and death anxiety. All statistical tests were two-tailed and significance level was set at 0.05.

Written informed consent was obtained from all participants prior to participation in the study.

Ethics statement: Ethical approval for the study was obtained from the Institutional Ethics Committee, St. John's Medical College, Bangalore.

RESULTS

The demographic details of the participants are described in table 1.

TABLE 1: SOCIO – DEMOGRAPHIC PROFILE OF THE STUDY POPULATION:

Age-Gender distribution:

Age	Male n (%)	Female n (%)	Total n (%)
60-69	79(54.1)	67(45.9%)	146(100%)
70-79	30(51.7)	28(48.3%)	58(100%)
80 & above	11(42.3%)	15(57.7%)	26(100%)

Variable	Frequency (n)	Percentage 95)
Educational status		
Illiterate	195	84.8
Primary	32	13.9
High School	2	0.9
Pre University	1	0.4
Family type		
Nuclear	51	22
Joint	62	27
Three generation	111	48
Extended	6	3
Socio economic status (BG Prasad classification)		
Class1	22	9.6
Class 2	80	34.8
Class 3	71	30.9
Class 4	53	23
Class 5	4	1.7
Occupation		
Farming	58	25
Daily wage laborer	21	9
Not working	78	34
Animal rearing	32	14
Housewife	21	9
Others	20	9
Financial dependence		
Fully dependent	98	42.6
Partially dependent	103	44.8
Fully independent	29	12.6

TABLE 2: MORBIDITY PROFILE

Morbidity	Frequency	Percentage (%)
Joint pains	172	74.8
Stress	138	60
Memory loss	88	38.3
Hypertension	69	30
Diabetes	58	25.2
Gastritis	41	17.8
Urinary problems	38	16.5
Recent falls	19	8.3
Headache	13	5.7

Of the 230 elderly participated in the study, majority were found to have joint pain (74.8%) followed by stress, memory loss and other chronic health problems.

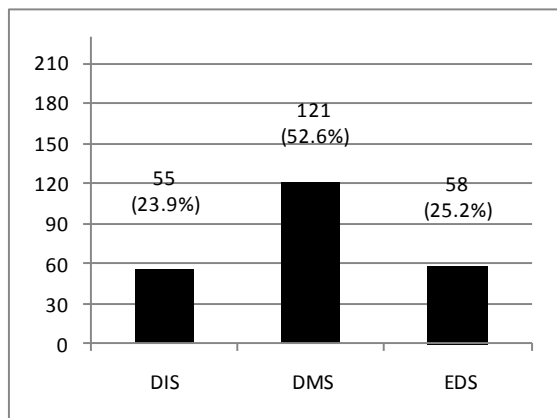


Figure: 1 Pattern of sleep disturbances among the study population

*DIS- difficulty initiating sleep, DMS- difficulty maintaining sleep, EDS- excessive daytime sleepiness

Of all the participants majority fall into the category of difficulty in maintaining sleep (52.6%) followed by excessive daytime sleepiness and difficulty initiating sleep.



Figure: 2 Comparison between subjective and objective sleep disturbance

The number (87) of subjects reporting sleep disturbances were almost the same (96) when assessed by objective scales.

TABLE 3: PERCEIVED SLEEP DISTURBANCES

Sleep disturbance	Frequency (n)	Percentage (%)
No sleep disturbance	144	62.6
Insomnia	64	27.8
Hypersomnia	6	2.6
Snoring	8	3.5
Sleep disordered breathing	8	3.5
Total	230	100

The above table gives the list of perceived sleep disturbances. Insomnia (27.8%) was most common among all.

Using Epworth sleepiness scale, 223(97%) was found to have enough daytime sleepiness and 7 (3%) were found to have average daytime sleepiness.

Of all 230 elderly 3.5% are screened to have risk for restless leg syndrome and 222 (96.5%) were screened to be negative for restless leg syndrome.

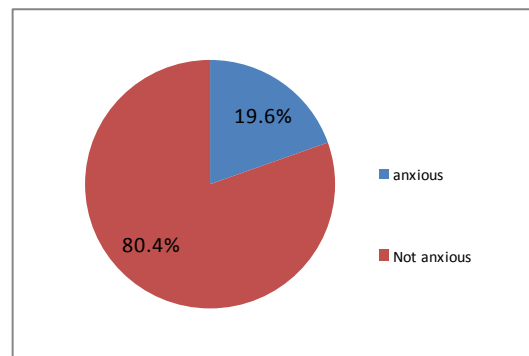


Figure 3: Death anxiety among study population

Of all 230 elderly 45(19.6%) are found to have death anxiety.

Table 4: ASSOCIATIONS:

Table 4.1: Between variables and sleep quality:

Variables	PSQI ≤ 5 (goodsleep)	PSQI>5 (poor sleep)	P value
Gender	134(100%)	96(100%)	0.039
Occupation	134(100%)	96(100%)	0.001
Marital status	134(100%)	96(100%)	0.011
Body Mass Index (BMI)	134(100%)	96(100%)	0.021
Perceived stress	134(100%)	96(100%)	0.03
Exercise	134(100%)	96(100%)	<0.001
Urinary problems	134(100%)	96(100%)	0.048
Regular sleep timings	134(100%)	96(100%)	0.037
Perceived memory loss	134(100%)	96(100%)	<0.001

P value of <0.05 is significant

Table 4.2: Between variables and death anxiety:

Variable	Anxious	P value
Socioeconomic status	45(100%)	0.033
Financial dependence	45(100%)	0.023
Diabetes mellitus	45(100%)	0.011

P value of <0.05 is significant

DISCUSSION

Among the 230 elderly subjects studied, we found a prevalence of 41.7% sleep disturbances. Also 19.6% of elderly was found to have death anxiety. Studies from various settings have shown sleep disturbances ranging from 30-50%. [2] Study done in United States [12] with 113 as sample size have shown that (14%) has difficulty in maintaining sleep followed by excessive daytime sleepiness (7%) and difficulty initiating sleep (7%) as compared to our study which shows (52.6%) with difficulty in maintaining sleep followed by excessive daytime sleepiness (25.2%) and difficulty initiating sleep (23.9%). Our study found women to have poorer sleep quality. Further, occupation and sleep quality were found to be statistically significant. Poorer sleep quality was found among subjects who were not working.

The study found a significant association between widow/ widowers and poorer sleep quality, indicating companionship rendering emotional and psychological stability. Evidence for the role of sleep in regulating our emotional brain-state is surprisingly scarce, and the deregulation of affective stability following sleep loss has received subjective documentation. [13]

The study also found a significant association between currently married subjects and a good sleep quality. In terms of BMI (Body Mass Index), the study found a significant association with sleep quality indicating that those with BMI in normal range are found to have sound sleep compared to those with high BMI. It was also seen that an association between

perceived stress and sleep quality was statistically significant.

Further, lack of exercise was found to be strongly associated with poor sleep quality. Elderly persons with urinary problems were found to have significantly poorer sleep quality. A statistically significant association was found between regular sleep timings and sleep quality, wherein subjects with regular sleep timings were found to have better sleep quality.

Elderly persons with perceived memory loss were found to have significantly poorer sleep quality. Elderly persons who were financially fully dependent were found to have significantly higher levels of death anxiety.

Sleep quality did not have association with age, beverages (like coffee, tea and alcohol), socio economic status, financial dependence, falls, smoking, alcohol use, diabetes and hypertension.

No significant association was found between death anxiety and sleep disturbances, gender, education, marital status and hypertension. A study done in Iran [14] has shown a high death anxiety in contrast to our study which can be explained by a fact that the study also has a qualitative component in it which could able to explore more on death anxiety. Certain limitations of the present study were biases like recall and social desirability bias.

CONCLUSION

The majority of the elderly persons suffer from sleep disturbances. Among the 230 elderly persons, 96(41.7%) were found to have poor sleep quality (PSQI scale). However, 144 (62.6%) responded that they have sleep disturbance.

According to the Epworth sleepiness scale, 97% are found to have enough sleep, 3% are found to have average sleep 3.5% are screened to have restless leg syndrome. However, 64 (27.8%) respondents stated

they have insomnia and 19.6% are found to have death anxiety.

Most common health problems are joint pain followed by stress, memory loss, hypertension, diabetes, gastritis, urinary problems, falls, and headache. There is significant association between sleep quality and gender, occupation, marital status, BMI, perceived stress, exercise, urinary problems, regular sleep timings, perceived memory loss.

RECOMMENDATIONS

Health care providers to screen and identify sleep disorders among elderly. Health promotion measures to improve the quality of sleep among elderly persons. Physical activity among elderly persons should be encouraged. Regular sleep timings, treating major urinary problems and stress reduction should be promoted. Measures to reduce death anxiety among elderly persons like regular counseling should be promoted. Wherever possible the services of a clinical psychologist could be engaged.

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