



ASSOCIATION OF DEPRESSION WITH QUALITY OF SLEEP AND QUALITY OF LIFE IN GERIATRIC POPULATION IN OLDAGE HOMES –AN OBSERVATIONAL STUDY

**Dr. Anil.
Rachappa.
Muragod**

MPT, PhD Head Of Department Of Geriatrics Physiotherapy, KLE Academy Of Higher Education And Research Institute Of Physiotherapy, Belagavi, Karnataka, India.

**Sindoora
Sreenivas***

PT Masters Of Geriatric Physiotherapy Student, KLE Academy Of Higher Education And Research Institute Of Physiotherapy, Belagavi, Karnataka, India.

*Corresponding Author

ABSTRACT

INTRODUCTION: The old age home individuals have psychological and health issues as they are neglected by their families. Mood and behavior differs in elderly who are living with and without family. Depression is a prevalent and disabling condition in older persons (≥ 60 years) that increases the risk of mortality and negatively influences quality of life (QOL). Sleep insufficiency is one of the major problems in facing elderly, it may decrease ability of performing daily tasks and may also increase risk of fall. Ageing may consequently impair the quality of life (QOL) of older adults. Hence there is necessity to study relationship with depression, sleep quality and quality of life in elderly in oldage homes in India.

MATERIALS & METHODOLOGY: A cross-sectional, observational study was conducted in Belagavi city across 5 oldage homes. Screening of depression by using geriatric depression scale (short form). 55 subjects met with the inclusion criteria. Elderly suffering with depression was target population. 55 subjects met the inclusion criteria. The inclusion criteria was subjects scores >5 . Elderly subjects in oldage homes since 1 month or more. Exclusion criteria was who all are wheel chair bounded/ dependent elderly. Individuals with neurological conditions such as stroke, Parkinson's disease. Any surgeries done in past 6 months, elderly who are incomprehensible. Outcome measures used for screening depression in elderly by using geriatric depression scale (Short form) then quality of sleep assessed by using Pittsburg's sleep quality index and quality of life using CASP-19 scale in elderly in oldage homes. .

RESULTS: The correlation analysis was found by Spearman's correlation analysis. GDS with CASP-19 is positive and statistically significant at 5% level (0.014). GDS with PSQI positive and statistically insignificant association p value as (0.293).

CONCLUSIONS: The study concluded that the sleep quality and quality of life are associated with depression in older adults. There is direct relationship between depression, sleep quality and quality of life. This findings states that if depression can be prevented there would be a improvement in sleep quality and QOL in older individuals in old age homes.

KEYWORDS : Depression, Quality Of Sleep, Quality Of Life, Gds, Casp-19, Old Age Homes.

INTRODUCTION:

Major changes in elderly people is biological and psychological functions. These degenerative changes begins when age increases.¹ In 2020 WHO predicted main badly problem for elderly will be disability in world wide.²

Elderly more than 60 years depression is more prevalent. Depression increases in elderly who all are hospitalized or institutionalized because of reduced physical functions.³ Mood changes when depression extent to its severity, duration and symptoms. The frequent cause of physical suffering and emotional are depressive symptoms and other disorders.⁴

There is an association between risks of disability in diverse areas of functioning, quality of life will impair, among older individuals it leads to increase risk of death.45% above population in world which affect sleep insufficiency. It has importance when older adults are considered with many restorative functions.

Sleep is an important physiological process. It maintains the circadian rhythm of the body.⁵ Which influence the sleep quality in elderly there are multiple etiologies.⁶ Insufficiency of sleep is a variable of importance in older adults. ie it will affect many components like attention ,impairments, response time slows, concentration and memory problems ,difficulty to do daily task and risk of fall increases. Along with the physical changes that happen as we age, changes to sleep pattern are a part of normal aging.⁷ In older individuals ageing may consequently impair the QOL.⁸

World health organization has defined that quality of life as subjective evaluation in specific cultural, social and environmental context.⁹

It is not necessary related to their quality of life that elderly live longer period, many older adults depend on medication and medical care. The QOL of these people has become pertinent with the demographic shift which was greying of population. There are many concept that related to QOL in elderly. There concept and concern are entirely different

from general population.¹² Adaptation may play important part in maintaining better QOL. Although there are no cultural difference in the subjective dimension of quality of life, in the objective dimension such differences exist.¹²

Depression is a common and disabling problem in elderly i.e. ≥ 60 years that increases the chance of mortality and might negatively influences qol.

The relationship between depression and qol has been increasing in recent years researches yet review can contribute to a greater understanding in older persons is lacking.

METHODOLOGY:

STUDY DESIGN AND SAMPLE:

The present observational study was carried out on elderly staying in oldage homes in Belagavi, Karnataka. The study was approved by the Institutional Ethical Review Committee. Informed consent obtained from all subjects who all are willing to participate in the study. 55 subjects met the study criteria. The inclusion criteria was subjects scores in geriatric depression scale (short form) greater than 5. Elderly subjects who all are in oldage homes since 1 month or more. Exclusion criteria was who all are wheel chair bounded/ dependent elderly. Individuals with neurological conditions such as stroke, Parkinson's disease etc. Any surgeries done in past 6 months, elderly who are incomprehensible.

PROCEDURE:

Demographic data was obtained from each subject followed by filling Geriatric depression scale, Pittsburg's sleep quality index, CASP-19.

GERIATRIC DEPRESSION SCALE (SHORT FORM)

GDS is 15 items scale. Which is short screening tool used to find the depression in elderly population. It mainly consist of 5 components from traditional format and two or more answers in bold form are more suggestive for depression. This scale is self-rating of depression. ($r = .84, p < .001$)

PITTSBURG'S SLEEP QUALITY INDEX

It helps to find differences from poor to good sleep quality by using seven components they are sleep quality (C1),sleep latency (C2),sleep duration (C3),Habitual sleep efficiency (C4),sleep disturbances(C5),use of sleep medications (C6),day time dysfunction(C7).For over last month is assessed. Each domains has range of 0-3 scores. Total score of 21.Overall good reliability (a = 0.83).A score of 5 indicates impaired sleep quality.

CASP-19

A CASP-19 is a scale of 19 items, mainly four domains: control, autonomy, pleasure, and self-realization. Possible range of score is 57. Higher score represents better quality of life.

STATISTICAL ANALYSIS:

We expressed estimates as means with SDs or proportions, as appropriate. Significant outcome in the observation sets using small sample Kolmogorov-Smirnov test. We used spearman's correlation coefficient with Man Whitney test Independent test compare continuous variables.

RESULTS:

Data set is not normally distributed as the variables have indicated significant outcome in the observation sets using small sample Kolmogorov-Smirnov test (Table 1). Used non-parametric tests for data analysis purpose. Descriptive statistical analysis was done between age and elderly who stays in oldage homes. The mean and SD calculated i.e. related to age is 71.25± 7.05. Old age home stay is 23.91±23.21. Gender wise descriptive statistical analysis male & female 70.82± 5.62 and 71.44±7.66. Oldage home stay months male & female 30.35±24.08 and 21.03±22.54. (Table-2).

Spearman's correlation analysis was done to correlate Old home stay and Geriatric Depression Scale Score in which the association is negative and it is statistically not significant (0.253). It is inferred that as the old home stay period increases; the scale value decreases indicating inverse relationship between the oldage homes stay GDS, PSQI. Old home stay and CASP -19 score in which the association is positive and it is statistically significant at 10% level (0.075). It is inferred that as the old home stay period increases; the scale value increases indicating direct relationship between old age home stay and QOL. (Table: 3)

The correlation between Geriatric Depressions Scale Score and Pittsburg Sleep Quality Index Score in which the association is positive and it statistically not significant (0.293). It is observed direct relationship between depression and sleep quality. Geriatric Depression Scale Score and CASP -19 score in which the association is positive and it is statistically significant at 5% level (0.014). It is observed depression and quality of life is directly proportional to each other (Table: 4). Relation with Pittsburg Sleep Quality Index Score and CASP -19 score in which the association is positive which is statistically not significant (0.309). It is observed direct relationship between quality of sleep and quality of life. (Table: 5)

For between group analyses, male and female separately analyzed depression by using geriatric depression scale. Mann Whitney Test was used and it was found to be insignificant at 5% level. It was observed that female sample respondents have indicated higher mean and lower SD values as compared to male sample respondents. For between male and female sleep quality assessed using Pittsburg's sleep quality index analyses, it was found to be insignificant at 5% level. It was observed that male sample respondents have indicated higher mean and lower SD values as compared to female sample respondents.CASP-19 analyzed between male and female. It is significant at 5% level and female sample respondents have indicated higher mean and lower SD values as compared to male sample respondents. (Table: 6)

Table 1: Normally distributed data outcomes

Variables	Z-value	p-value
GERAITRIC DEPRESSION SCALE SCORE	0.209	0.001
PITTSBURG SLEEP QUALITY INDEX SCORE	0.245	0.001
CASP -19 SCORE	0.147	0.005

Table 2: Descriptive Statistical analysis

Particular	GENDER	MEAN±SD
AGE [Year]	MALE	70.82±5.62
	FEMALE	71.44±7.66
Old age home stay[months]	MALE	30.35±24.08
	FEMALE	21.03±20.54
Total		193.64±57.9

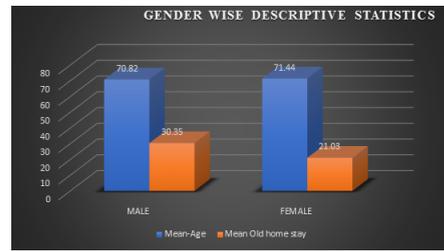


Table 3: Association of oldage home stay with depression, quality of sleep and QOL.

Variable 1	Variable 2	r-value	p-value	Result
	GERAITRIC DEPRESSION SCALE SCORE	-15.7	0.253	Negative & insignificant association
	PSQI SCORE	-7.3	0.596	Negative & insignificant association
	CASP -19 SCORE	24.2	0.075**	Positive & significant association at 10% level

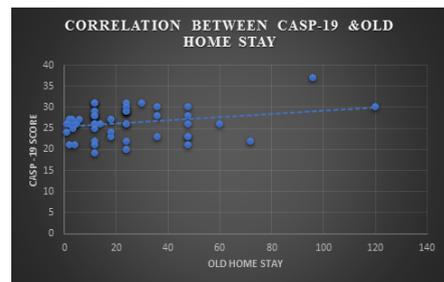
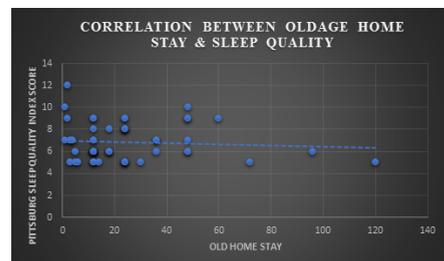
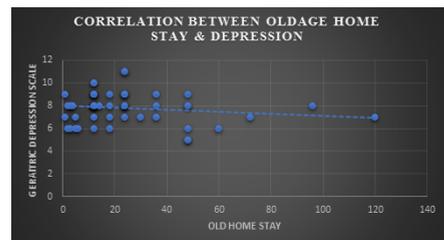


Table: 4 Correlation analysis between Depression with quality of sleep and QOL.

Variable 1	Variable 2	r-value	p-value	Result
GERAITRIC DEPRESSION SCALE SCORE	PITTSBURG SLEEP QUALITY INDEX SCORE	14.4	0.293	Positive & insignificant association

CASP -19 SCORE	32.9	0.014*	Positive & significant association at 5% level
----------------	------	--------	--

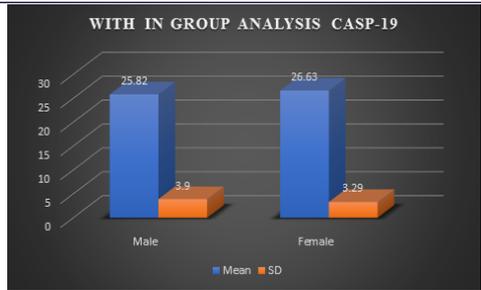
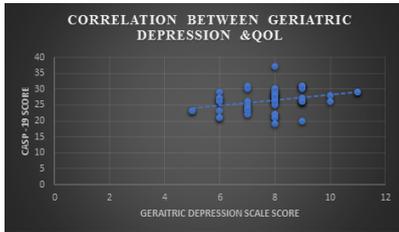
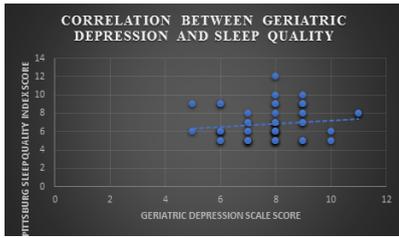


Table 5: correlation analysis of sleep quality with quality of life.

Variable 1	Variable 2	r-value	p-value	Result
PSQI	CASP -19 SCORE	14	0.309	Positive & insignificant association

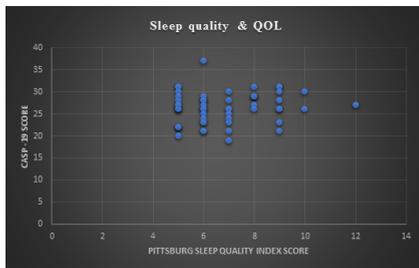
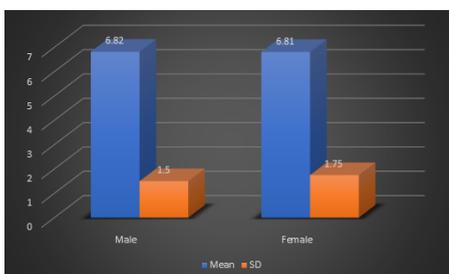
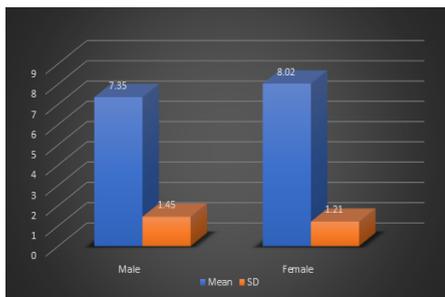


Table 6: with in group gender wise analysis

Variable	Gender	Mean ± SD	z-value	p-value
GDS SCORE	MALE	7.35±1.45	1.464	0.143
	FEMALE	8.02±1.21		
PSQI SCORE	MALE	6.82±1.50	0.214	0.830
	FEMALE	6.81±1.75		
CASP-19 SCORE	MALE	25.82±3.90	1.248	0.212
	FEMALE	26.63±3.29		



DISCUSSION:

The present study has stated that oldage home stay increases then the depressive symptoms in elderly is decreases. That is inversely proportional to each other and even the oldage home stay increases, sleep quality decreases and according to QOL it increases when old age home stay increases. There is an association between sleep quality and quality of life in elderly with depression. This study states that in depressed elderly stays in oldage home their sleep quality and QOL increases .They are directly proportional to each other.

It can be because of older adults taking medications for insomnia. The physical activities increases fatigue in elderly hence sleepiness increases. Even in oldage home group activities is more hence the enjoyment is probably more than that of elderly stays alone in home or without their family. The emotional status varies in those individuals. The prevalence of depression among the older adults in a study was 49.5%.Being introverted, physically inactive to participate in social activity, which are regarded as a natural course of old age, and also the decrease in quality of life may be depression symptoms.

A study was conducted in a rural area of Kerala to examine sleep quality of elderly and to determine its relationship with psychosocial factors. This study found to be a positive association between regular current medication intake and higher scores of PSQI, indicating a poor sleep quality.⁵

The commonly the elderly people estimate their quality of life positively on the base of social contacts, dependency, health, material circumstances and social comparisons. Actual is older ages where living can be described in terms of approaches for maintaining quality of life.¹²

There was a significant association between depression and sleep quality in the study in Taipei, in accordance to our study.¹⁷

LIMITATIONS:

The present study had the following limitations. 1. The elderly stays in oldage home was not willing sign the inform consent.2. Gender wise was not considered the subjects. 3. Physical activity of the subjects included in the study was not assessed.

CONCLUSION:

The study concluded that the sleep quality and quality of life is associated in older individuals with depression. The sleep quality and QOL is directly proportion to depression.

FUTURE SCOPE:

Elderly in oldage home have foremost health as well as psychological problems. There is paucity of studies conducted in old age homes. There is need of research regarding oldage homes to make older adults aware of their problems. Regarding mental health issues further research is essential.

REFERENCES:

- Hae Jin KO and Chang-Ho youn. Effects of laughter therapy on depression, cognition and sleep among the community – dwelling elderly. The journal of geriatric gerontology.2011 (11):267-274.
- Heidi siversten, Guro hanevold, Knut engedal, Gier selback, Anne sofie Helick. Depression and quality of life in older person: A review. Journal of dementia geriatric cognitive disorders.2015 Sep 12;(40):311-339.
- World Health Organization: The Global burden of diseases: 2004 update, Geneva, World Health Organization, 2008.
- Ariel B.Neikrug, Soma Ancoli-Israel.A sleep disorders in older adults-A mini review. Gerontology 2010 Sep 9;(56):181-189.
- George S, Sobha George, Nimitha paul.Study on sleep quality and associated psychosocial factors among elderly in rural population of Kerala, India.International journal of community medicine & public health.2018 Feb; 5(2):526-531.
- Julius sim, Bernadette Barlam, Miriam Bernard. The casp -19 measure of quality of life in oldage evaluation of its use in retirement's community. Qual lif Res. 2011(20):997-

- 1004.
7. World Health Organization (WHO) and United States National Institute on Aging (U.S.NIA) eds. (2011). *Global Health and Aging*. Available from http://www.who.int/ageing/publications/global_health/en/
 8. Nathalia Brandolim Becker, Saul Nerves de Jesus, Mariana Guerreiro. Depression and quality of life in older adults: Mediation effect of sleep quality. *International journal of clinical and health psychology*. 2018 (18):8-17.
 9. Abraham, O, Pu, J, Schleiden, L, J, & Albert, S. M. Factors contributing to poor satisfaction with sleep and health-care seeking behavior in older adults. *Sleep Health*. 2017 (3):43-48.
 10. World Health Organization. *World report on ageing and health*. Luxembourg, Luxembourg: WHO. 2015.
 11. Blazer, D., Hybels, C.; Pieper. The association of depression and mortality in elderly persons: a case for multiple independent pathways. *Journal of Gerontology: Medical Sciences* 2001(56A): 505-50.
 12. Gopalakrisnan Netuveli and Navid Blane. Quality of life in older ages. *British medical bulletin*. 2008 Feb 15 ; (85).
 13. Paudel M, Taylor BC, Ancoli-Israel S, Blackwell T, Maglione JE, Stone K, Redline S, Ensrud KE, for the Osteoporotic Fractures in Men Study Group. Sleep disturbances and risk of depression in older men. *SLEEP* 2013; 36(7):1033-1040.
 14. Livia Carvalho, Sonia Maria soares, Patricia Aparecida Barbosa Silva. Quality of life and associated factors in elderly people at reference center. 2016 Feb 3.
 15. Ki jing chang , Sang joon, yumwan Lee, Young Hwan back, Kang soo Lee, Soo jin Lee. Perceived sleep quality is associated with depression in Korean elderly population. *Achieved of gerontology and geriatrics*. 2014 April 23.
 16. Jeanne E Maglione, MD, PhD, Sonia misti, L. Pandel, Kristine Yaffe Kristene E. Ensrud and Katie Stone PhD. Depression symptoms and subjective and objective sleep in community-Dwelling older women.
 17. *J Am Geriatr soc*. 2012 April; 60(4):635-643. Wu CY, Su TP, Fang CL, Chang MY. Sleep quality among community-dwelling elderly people and its demographic, mental, and physical correlates.