

A CROSS SECTIONAL STUDY OF PREVALENCE OF RESPIRATORY MORBIDITY AND ASSESSMENT OF QUALITY OF LIFE AMONG ELDERLY POPULATION AT A VILLAGE IN BANGALORE URBAN DISTRICT

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ABSTRACT

Background: The prevalence of respiratory morbidity among elderly in rural area ranges between 31- 35%. Quality of life is a subjective measure of wellbeing. Multiple morbidities have effect on quality of life.

Aims & Objective: (1) To study the prevalence and risk factors of respiratory morbidity among the elderly at a village in Bangalore Urban district; (2) To assess the quality of life among them.

Materials and Methods: This study was a cross sectional study conducted at Tarabanahalli, Bangalore Urban District, Karnataka. Study subjects consisted of elderly population aged ≥ 60 years residing at Tarabanahalli for at least 6 months. Data collection was done using a structured interview schedule based on SGRQ- C (St George's respiratory questionnaire for COPD) and WHOQOL-BREF. Brief clinical examination of respiratory system was also done. Data analysis was done using SPSS for frequencies, measures of central tendencies, independent sample T test.

Results: Total number of study subjects was 64. Males were 23(36%) and females were 41 (64%). Majority of the study subjects i.e 44 (68.75%) belonged to the age group 60- 69 years. Longest held job by most of the respondents was agriculture 61(95.3%).100% reported that they had 'moderate' occupational exposure to dust. 24 (37.5%) of the study subjects had the respiratory morbidity. Inadequate ventilation in the kitchen and use of firewood as cooking fuel were significantly associated with respiratory morbidity. There was no significant association between age, gender, type of job, years of exposure to dust, level of exposure at workplace, H/o smoking tobacco ever, current smoking, passive smoking & respiratory morbidity.

Conclusion: A significant negative association was found between respiratory morbidity and 'Physical health' domain of quality of life.

Key Words: Respiratory Morbidity; Elderly; Quality Of Life

Introduction

Respiratory illness is one of the major public health problem in India. COPD, Bronchial Asthma, pneumonia and Tuberculosis are the major contributors to morbidity among the elderly population in the country. The prevalence of respiratory morbidity among elderly in rural area ranges between 31- 35%^[1,2] according to several studies. Respiratory illnesses form a major chunk of morbidity profile among the elderly. Lower respiratory infections rank 2nd and COPDs rank 11th in the list of diseases leading to DALYs (Disability Adjusted Life Years).

According to WHO, Quality of life is defined^[3] individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. WHO also defines it as "a composite measure of physical, mental and social wellbeing as perceived by each individual or by group of individuals - that is to say,

happiness, satisfaction and gratification as it is experienced in such life concerns as health, marriage, family, work, financial situation, educational opportunities, self-esteem, creativity, belongingness, and trust in others. Quality of life is a subjective measure of wellbeing. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment.

Among the aged individuals, progressive decrease in physiological capacity of respiratory functions is a well-known physiological phenomena. Several studies^[4-6] have shown that multiple morbidities have effect on quality of life. There is dearth of studies trying to assess the relationship between respiratory morbidity and its effect on quality of life in rural south India

Aims: (1) To study the prevalence and risk factors of respiratory morbidity among the elderly at a village in

Bangalore Urban district. (2) To assess the quality of life among the study population.

Materials and Methods

Study Design: This study was a cross sectional study conducted at Tarabanahalli village under Hesaraghatta PHC area, Bangalore North Taluq, Bangalore Urban District, Karnataka. Study subjects consisted of elderly population aged ≥ 60 years residing at Tarabanahalli for at least 6 months. Those elderly whose houses were locked even after three visits were excluded from the study.

Data collection and Study Tool: Data collection was done using a structured interview schedule. It had the following three parts: *Part 1:* Consisted of demographic details; *Part 2:* Modified version of SGRQ- C 7 (St George's respiratory questionnaire for COPD patients to assess respiratory morbidity); and *Part 3:* WHOQOL-BREF 8 to assess the quality of life. WHOQOL- BREF consisted of 26 questions under four domains namely: physical, psychological, social relations, environmental domains. Each question had a scoring of 0 to 5. The scores were then transformed to a scale of 0-100. The interview schedule was translated to Kannada and then back-translated to English. Brief clinical examination of respiratory system was also done.

Case Definition for respiratory morbidity for the current study was taken as "a person is said to have respiratory morbidity if he had a) h/o chronic cough, or b) phlegm for 4 or more days a week, or c) breathlessness or d) > 3 episodes of wheeze currently / week e) haemoptysis"

Data Analysis: Analysis was done using SPSS for frequencies, measures of central tendencies, independent sample T test

Results

Total number of study subjects was 64 (Refer to Table 1). Males were 23 (36%) and females were 41 (64%). Majority of the study subjects i.e. 44 (68.75%) belonged to the age group 60- 69 years. Majority were educated up to primary school. Most of the elderly were married and were living with spouse 55 (86%). Most of them i.e. 45 (70%) had some source of income and out of them majority had income from lands 26 (57.7%). Most of the elderly 45 (70%) were practicing agriculture as their occupation.

Table-1: Demographic profile of study participants

Age and gender distribution of study subjects			
Age (years)	Male	Female	Total
60-69	15 (34)	29 (66)	44 (68.75%)
70-79	6 (42.8)	8 (7.2)	14 (21.9%)
>80	2 (33.3)	4 (66.6)	6 (9.4%)
Total	23 (36%)	41 (64%)	64 (100%)
Educational status of study subjects			
Illiterate	5 (8%)		
Primary school	29 (45%)		
Middle school	23 (36%)		
High school	7 (11%)		
Marital status of study subjects			
Unmarried	3 (5%)		
Married and living with spouse	55 (86%)		
Widowed	6 (9%)		
Total	64		
Source of income			
Lands	26 (57.7%)		
Lands & Rent	4 (0.8%)		
Lands & other source	3 (0.6%)		
Pension	4 (0.8%)		
Others	8 (1.7%)		
No income	19 (30%)		

Table-2: Respiratory morbidity and associated risk factors

Age v/s respiratory morbidity	Respiratory morbidity		Chi square	P value
	Present	Absent		
60-69	18(41%)	26(59%)	0.77	0.38
70-79	4(28.6%)	10(71.4%)		
>80	2(33.4%)	4(66.6%)		
Gender v/s respiratory morbidity			0.00	0.05
Male	9(37.5)	15 (62.5)		
Female	15(37.5)	25 (62.5)		
Type of fuel used v/s respiratory morbidity			15.79	0.001*
LPG	0	17		
Kerosene	11(42.3)	15(57.6)		
Firewood	13(61.9)	8(38.1)		
Ventilation in the house v/s respiratory morbidity			10.9	(Fischer's exact)
Adequate	15 (28.3%)	38 (71.7%)		
Inadequate	9 (81.8%)	2 (18.9%)		
Total	24(37.5)	40(62.5)	64	

Table-3: Respiratory morbidity and quality of life

Domains	Respiratory Morbidity (Mean score)		t	P
	Present	Absent		
Physical health	54.42	57.9	2.383	0.020
Psychological	73	72.7	-0.206	0.838
Social relationships	52	51	-0.473	0.638
Environment	59.75	63	1.757	0.084
Total scores	238.78	244.88	1.729	0.089

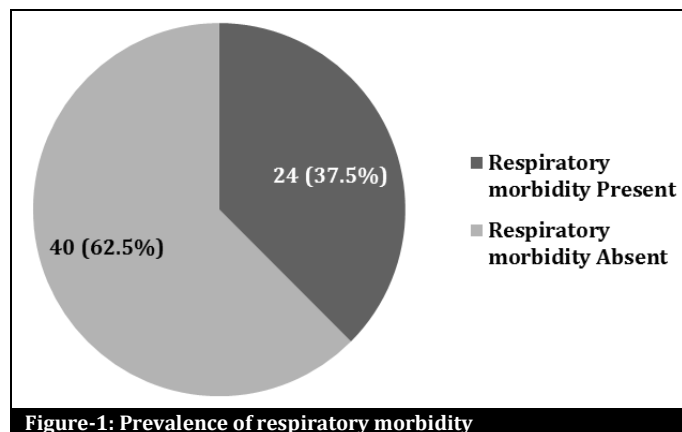


Figure-1: Prevalence of respiratory morbidity

Occupational Exposure to Dust: Longest held job by most of the respondents was agriculture 61(95.3%).100% reported that they had 'moderate' exposure to dust for more than a year at workplace. Mean years of exposure to dust at workplace was 22 ± 6.9 .

Exposure to Tobacco Dust: 27 (42%) of the elderly gave a positive smoking history and 14 of the 27 (52%) reported to smoke currently. Average number of beedi or cigarettes smoked by them / day was 5.4 ± 4.75 . 50 (78%) gave a history of passive smoking.

Indicators of Housing: 45 (70%) of the study subjects lived in Kacha house and 53 (83%) had adequate ventilation at their houses. 26 (41%) reported using kerosene as the fuel for cooking. None of them were the primary cook at home.

24 (37.5%) of the study subjects had the respiratory morbidity (Figure 1). Inadequate ventilation in the kitchen and use of firewood as cooking fuel were significantly associated with respiratory morbidity (Refer to Table 2)

There was no significant association between age, gender, type of job, years of exposure to dust, level of exposure at workplace and respiratory morbidity among the study population. H/o smoking tobacco ever, current smoking, passive smoking and respiratory morbidity

Quality of Life: Respiratory morbidity showed an inverse relationship with the Physical domain of quality of life and this was statistically significant. However no significant association was found between respiratory morbidity and total quality of life scores.

On examination, 43 (67%) were found to have normal BMI between 18.5- 25. 8 (12.5%) had BMI > 25 and 13 (20%) had BMI <18.5%. 39 (25%) had clinical signs of respiratory morbidity.

Discussion

In our study majority of the elderly were found to be educated and had some source of income. The study area is a peri-urban area which may explain the above finding. In this study 24 (37.5%) had respiratory morbidity which is similar to the findings of other studies.^[1,2] Inadequate ventilation and use of kerosene as cooking fuel were found to be associated significantly with

respiratory morbidity. This finding strongly supports the well-known fact that these risk factors predispose to respiratory morbidity. This is in consistent with findings of several other studies.^[9] However smoking was not significantly associated with respiratory morbidity on the contrary to the findings of some studies.^[10] The reasons are difficult to explain.

Quality of Life: A significant association was found between respiratory morbidity and 'Physical health' domain of quality of life. Physical domain of WHOQOL-BREF assesses Activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest and work Capacity. Only severe cases of respiratory morbidity may affect the other domains (psychological, social relationships, environment). Many studies have reported that multi- morbidities affect quality of life.^[4-6]

Limitations: This study focused only on respiratory morbidity and its effect on quality of life. Further studies may be undertaken with special focus on multi-morbidities and their effect on the quality of life.

Conclusion

The prevalence of respiratory morbidity among the elderly population is as high as 37.5% in our study. Risk factors like indoor air pollution and poor ventilation are found to be significantly associated with respiratory morbidity among the elderly in our study. Respiratory morbidity showed an inverse relationship with the Physical domain of quality of life and this was statistically significant.

RECOMMENDATIONS

Elderly population and their care takers may be educated on improving the ventilation within the house if feasible and also to use less smoke forming fuel for cooking. Health education may be provided to the population on recognition of symptoms, early diagnosis, treatment and better management of respiratory illnesses to improve the physical domain of QOL.

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References

1. Kumar AT, Sowmiya KR, Radhika G. Morbidity Pattern among the Elderly People Living in a Southern Rural India - A Cross Sectional Study. *Nat J Res Com Med* 2012;1:15-9.
2. Lucas A, Amar DS, D'Souza G. A study of respiratory morbidity among the elderly residing in the village of Mugalur in Bangalore in Bangalore district, Karnataka [Dissertation]. Rajiv Gandhi University of Health Sciences. 2007.
3. World Health Organization. Global surveillance, prevention and control of chronic respiratory diseases A comprehensive approach 2007. Available from : URL: http://www.who.int/respiratory/publications/global_surveillance/en/
4. Skevington SM, Lotfy M, O'Connell KA; WHOQOL Group. The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial. A Report from the WHOQOL Group. *Qual Life Res* 2004;13:299-310.
5. Fortin M, Lapointe L, Hudon C, Vanasse A, Ntetu AL, Maltais D. Multimorbidity and quality of life in primary care: a systematic review. *Health Qual Life Outcomes* 2004;2:51.
6. Nóbrega TC1, Jaluul O, Machado AN, Paschoal SM, Jacob Filho W. Quality of life and multimorbidity of elderly outpatients. *Clinics (Sao Paulo)* 2009;64:45-50.
7. Jones PW. St George's Respiratory Questionnaire for COPD Patients (SGRQ-C) 2012. Available from: URL: <http://www.healthstatus.sgul.ac.uk/sgrq-c/sgrq-c-downloads/>
8. World Health Organization. Programme on Mental Health. WHOQOL-BREF Introduction, Administration, Scoring and Generic Version of the assessment 1996. Available from:URL: www.who.int/mental_health/media/en/76.pdf
9. Agnihotram VR. Reviewing respiratory disease burden in rural India: household environment matters. *Rural Remote Health* 2005;5:357.
10. Jaakkola MS. Environmental tobacco smoke and health in the elderly. *Eur Respir J* 2002;19:172-81.

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