A Study of Sociodemographic and Morbidity Profile of Women Residing in the Rural Area of Beed District

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ABSTRACT

Introduction: In rural India adequate attention has not been focused at studying disease pattern, trend and its consequences along with the epidemiological transition. Also the health of the women is mostly neglected in rural areas. Keeping the above facts in mind, the following study was undertaken. Study aimed to study the sociodemographic and morbidity profile of women residing in the rural area of Beed district.

Materials and methods: A Community Based Cross-Sectional Descriptive study was conducted in the rural area of Beed district. Total of 994 women were studied. Predesigned structured questionnaire was used to record the necessary information related to sociodemographic characteristics and morbidity pattern of subjects. Respiratory morbidity was labelled depending on the PEFR values of the respective subjects.

Results: Mean age of subjects was 41.25 ± 15.97. 46.1% subjects were illiterate. 31.2% subjects were housewives, 57.0% were farm labourers and 7.8% having other occupations. Out of 994 subjects, 72.9% were using only biomass and 12.1% were using only LPG for cooking. 7.95% were suffering with Chronic Obstructive Pulmonary Disease, followed by Hypertension (6.04%), Diabetes Mellitus (4.02%). Statistical association was observed between respiratory morbidity and age of subjects ($p<0.001$) with higher morbidity seen in the higher age group.

Conclusion: The current morbidity pattern in women residing in the rural area in Beed district can help in planning pilot projects on future health related challenges and then implementing it at nationwide level.

Keywords: Rural Area, Women, Sociodemographic Profile, Morbidity.

INTRODUCTION

The health of an individual does have a direct relationship with human resources development and economic development of a nation. From the time of Alma Ata declaration to achieve "Health for All by 2000", lot of planning, effort and public expenditure had been devoted to improve the health of the people both in rural and urban areas in India. Further, the spread and accessibility of medical care has also improved substantially across the country. However, inspite of these efforts, India is one of the many developing countries, which have high levels of morbidity.[1] Due to industrialization and the persisting inequality in health status between and within States and Union Territories (due to varying economic, social and political reasons), India currently face a "Triple burden of diseases", which are the unfinished agenda of communicable diseases, emerging non-communicable diseases related to lifestyles and emerging infectious diseases.[2]

Unfortunately, in rural India adequate attention has not been focused at studying disease pattern, trend and its consequences along with the epidemiological transition. To test such hypotheses, paucity of adequate, accurate and appropriative statistical data on one hand and complex pathogenesis of some important diseases (like heart disease, cancer, diabetes mellitus) on other hand makes the analysis of disease pattern more complex.[3] Since the role of women generally includes responsibility for procuring household fuel and carrying out cooking, it is women who bear most of the burden on health and other aspects of their lives. Furthermore, women often have less control of resources (including land use) and decision-making, which means that they have little control over measures that could improve these conditions.[4]

Keeping the above facts in mind, the following study was undertaken to assess the sociodemographic profile as well as morbidity profile of women residing in the rural area of Beed district.

MATERIAL AND METHODS

A Community Based Cross-Sectional Descriptive study was conducted in the rural area of Beed district. Subjects comprise of all the women aged above 15 years, non-smokers and non-pregnant women and those who were regular resident of a village (study area). Smokers, pregnant women and Women who did not give consent to participate in the study were excluded from the study. Total of 994 subjects were studied. A house to house survey was done using interview technique as a tool for data collection. Predesigned structured Questionnaire was used to record the necessary information which included complete personal information, sociodemographic profile, present complaints, past history, family history and general household condition. Detailed clinical examination was done which includes general examination along with systemic examination by using standard procedures. The respiratory morbidity was labelled depending on the PEFR values of the respective subjects. PEFR values less than 80% of expected PEFR was taken as abnormal and labelled with respiratory morbidity.

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STATISTICAL ANALYSIS

SPSS version 21 was used for the statistical analysis. Descriptive statistics like mean and percentages were used for the quantitative analysis of data. Chi square test was used for the comparision.

RESULTS

Depending upon the inclusion and exclusion criteria decided for the subjects, 994 women were included in the study.

Age: Mean age of subjects involved in this study was 41.25 with SD ± 15.97. In the present study, maximum number of subjects belonged to the age group of 15 – 30 i.e. 359 (36.1%) whereas only 118 (11.9%) subjects belonged to age group 46 – 60 years.

Religion: majority of subjects belonged to Hindu religion i.e. 775 (77.9%), followed by Buddhists i.e. 139 (14.0%) and Muslims i.e. 80 (8.1%). No subjects belonged to other religions.

Education: Maximum of the subjects were illiterate i.e. 458 (46.1%). Among the literate subjects, 215 (21.6%) subjects had education upto secondary school, followed by 209 (21.0%) subjects upto primary school, 85 (8.6%) subjects had higher secondary education, and 25 (2.5%) subjects had studied upto graduate level. Only 2 (0.2%) subjects had completed post-graduation.

Occupation: 310 (31.2%) subjects were housewives. Among the working subjects, 566 (57.0%) were farm labourers and 78 (7.8%) subjects were having other occupations like teacher, nurse, industrial labourers, etc.

Marital Status: Among the study population, 846 (85.1%) subjects were married and 43 (4.3%) were unmarried. Also, 80 (8.1%) subjects were widow and 25 (2.5%) were divorced and separated.

Socioeconomic Class: Using Modified B.G. Prasad classification for socioeconomic classes, 534 (53.7%) subjects belonged to class V, whereas, only 20 (2.01%) belonged to class I. the number of subjects in class II, III and IV was 43 (4.3%), 101 (10.1%), and 296 (29.7%) respectively.

It was observed that 578 (58.2%) subjects resides in kachha house, followed by 339 (34.1%) resides in pacca house and 77 (7.7%) in semi-pacca house.

In the present study, out of 994 subjects, 725 (72.9%) subjects were using only biomass and 120 (12.1%) subjects were using only LPG for cooking. In this study, none of the subjects were using kerosene as the only fuel for cooking. While, 149 (15%) subjects were using combination of fuels for cooking (Table 1).

The distribution of subjects depending on the BMI shows that 675 (67.9%) had normal BIM in the range of 18.50 – 24.99 kg/m^2, whereas 217 (21.8%) were underweight whereas, 102 (10.3%) were overweight.

More than eighty percent of subjects were healthy i.e. 816. Among the affected subjects, 79 (7.95%) were suffering with Chronic Obstructive Pulmonary Disease (COPD), followed by Hypertension i.e. 60 (6.04%), Diabetes Mellitus i.e. 40 (4.02%). Only 19 (1.91%) were suffering with Bronchial Asthma. None of the subject gave the history of past or active tuberculosis infection (Table-2).

Present study reported respiratory morbidity in 379 (38.1%) subjects. Maximum respiratory morbidity was seen in subjects more than 60 years i.e. 160 (16.1%), followed by subjects in the age group 15 to 30 years i.e.100 (10.1%). Statistical association was observed between the respiratory morbidity and age of subjects ($p<0.001$) with higher morbidity seen in the higher age group subjects (Table 3).

Above table shows the distribution of subjects according to various morbidities. In ocular system, 914 (92.0%) subjects had complained of watering of eyes, followed by blurring of vision by 635 (63.9%) subjects. Occurrence of cataract was

S. No.	Factors	No. of subjects	Percentage (%)
1	Age (Years)		
	15 - 30	359	36.2
	31 - 45	337	33.9
	46 - 60	118	11.8
	>60	180	18.1
2	Religion		
	Hindu	775	77.9
	Muslim	80	8.1
	Buddhist	139	14.0
3	Education		
	Illiterate	458	46.1
	Primary	209	21.0
	Secondary	215	21.6
	Higher Secondary	85	8.6
	Graduate	25	2.5
	Post-Graduate	2	0.2
4	Occupation		
	Housewife	310	31.2
	Farm labourers	566	57.0
	Students	40	4.0
	Other (ANW, Teacher, Industrial worker, Nurse)	78	7.8
5	Marital Status		
	Married	846	85.1
	Unmarried	43	4.3
	Widow	80	8.1
	Others (Divorced, Separated)	25	2.5
6	Socioeconomic Class		
	Class I	20	2.0
	Class II	43	4.3
	Class III	101	10.2
	Class IV	296	29.8
	Class V	534	53.7
7	Type of Fuel Used for Cooking		
	Biomass	725	72.9
	LPG	120	12.1
	Mixed	149	15

Table-1: Distribution of Subjects According to Demographic Characteristics:

Sr. No	Major Illness	Number of subjects (N=994)	Percentage (%)
1.	COPD	79	8.0
2.	Bronchial Asthma	19	1.9
3.	Diabetes Mellitus	40	4.0
4.	Hypertension	60	6.0
5.	None	816	82.1

Table-2: Distribution of Subjects According to History of Major Illness:

seen in 139 (14.0%) of subjects. Diminished hearing was seen in 100 (10.1%) subjects. In respiratory system, rhinitis was seen in 716 (72.0%) subjects, 478 (48.0%) subjects complained of cough during cooking, crepitations were found in 339 (34.1%) subjects, 319 (32.1%) subjects complained of dyspnea during cooking. Decreased air entry was found in 219 (22.0%) subjects. In cardiovascular system, 74 (7.4%) subjects complained of palpitations. Complaint of headache was given by 456 (45.8%) subjects. In gastrointestinal system, 74 (7.4%) complained of epigastric pain, 56 (5.6%) complained of dyspepsia. In Urogenital system, 80 (8.0%) subjects complained of burning micturition. In Locomotor system, 416 (41.9%) subjects had arthritis and 60 (6.0%) subjects complained of backache. Out of 994 subjects, 473 (47.6%) subjects had pallor, 84 (8.5%) subjects had cyanosis. Other complaints such as pedal oedema, icterus, etc. were seen in very few numbers of subjects. (Table 4)

Sr. No	Type of Morbidity	Subjects (N=994)	
		Number of subjects	Percentage (%)
1.	Ocular System		
	Blurring of vision	635	63.9
	Watering of eyes	914	92.0
	Cataract	139	14.0
2.	Ear		
	Diminished hearing	100	10.1
3.	Respiratory System		
	Decreased air entry	219	22.0
	Crepitation	339	34.1
	Wheeze	21	2.1
4.	Cardiovascular System		
	Palpitation	74	7.4
	Murmurs	40	4.0
5.	Central Nervous System		
	Hemiparasis	11	1.1
6.	Gastrointestinal System		
	Dyspepsia	56	5.6
	Epigastric pain	74	7.4
	Constipation	43	4.3
7.	Urogenital System		
	Burning Micturition	80	8.0
	Urinary Incontinence	18	1.8
8.	Locomotor System		
	Backache	60	6.0
	Arthritis	416	41.9
9.	General		
	Pallor	473	47.6
	Pedal Oedema	40	4.0
	Icterus	20	2.0
	Clubbing	18	1.8
	Cyanosis	84	8.5
	Lymphadenopathy	23	2.3

Table 4- Distribution of subjects according to Various Morbidity

DISCUSSION

In the present study, the mean age of subjects was 41.25 (+ 15.9) years where majority of subjects were in the age group of 15 – 30 i.e. 359 (36.12%). The difference in the mean age of females may be due to difference in the age distribution in the study area. Maximum numbers of subjects were Hindu (77.97%) which could be due to the demographic characters of the population in the particular area. No significant association was seen between the religion of subjects various morbidities ($p>0.05$). Mishra V, et al (2003) who analyzed the data of India's second National Family Health Survey conducted in 1998–1999 and showed that 82.7% females belonged to Hindu religion, followed by 10.6% to Muslim religion and 6.7% to other religions i.e. Sikh, Buddhist, Christian, Jain, etc.[5] Study indicates that the maximum of the subjects were illiterate i.e. 458 (46.08%), while 536 (53.92%) literate. Mishra V, et al (2000) analyzed the data from India's 1992–93 National Family Health Survey (NFHS) and report that 64.6% were illiterate subjects residing in rural area while 26.7% had education below high school and 8.7% had education of high school and more.[6] In India, the overall literacy rate of female population is low but much lower in rural areas. The proportion of females getting higher education is still low. The main reasons behind such difference in rural areas are less accessibility to schools and colleges, financial problems, etc. In the present study, 310 (31.19%) subjects involved in cooking were housewives. Among the working subjects, 566 (56.94%) were farm labourers. The variation in the number of housewives in these studies could be due to cultural difference where females are not allowed to work and forced to remain housewives. Large difference is observed in the occupation of the women in the rural areas, where agriculture is the primary occupation. Around two third of the subjects belonged to low socioeconomic class. The bulk of the field population belonged to class IV and V socioeconomic status or low socioeconomic status, the reason being the rural area and farming being the main source of income for the families. Due to lack of industrial growth, less job opportunities and business, the earning of the rural populations get affected in comparison of urban populations. Distribution of females depending on the type of house shows that 578 (58.15%) females resides in kachha house, followed by 339 (34.10%) resides in pacca house and 77 (7.75%) in semi-pacca house. Such distribution is mainly observed in the rural areas in India where kachha and semi-kachha type of houses are commonly seen. In urban areas,

Sr. No	Age Groups (Years)	No. of Subjects with Respiratory Morbidity				Total
		Present	%	Absent	%	
1.	15 – 30	100	10.1	259	26.1	359 (36.2%)
2.	31 – 45	60	6.0	277	27.9	337 (33.9%)
3.	46 – 60	59	5.9	59	5.9	118 (11.8%)
4.	>60	160	16.1	20	2.0	180 (18.1%)
	Total	379	38.1	615	61.9	994 (100%)
(Chi square = 278.719, $p<0.001$)						

Table-3: Distribution of Subjects according to Age in relation with Respiratory Morbidity:

pacca types of houses are more common. Ventilation is usually inadequate in kachha type of houses which hampers the smoke outflow and could lead to various morbidities. M Goswami in their study reported 20.47%, 77.16% and 2.36% were kachha, semi-pacca and pacca type of houses respectively.[7] In the present study, it was observed that out of 994 subjects involved in cooking, 725 (72.9%) were using only biomass and 120 (12.1%) were using only LPG, 149 (15%) were using combination of fuels. Higher percentage of biomass fuel was seen in the study done by Saha A, et al (2005) i.e. 94.1%. Only LPG was used by 8 (3.9%) female subjects.[8] Johnson P, et al (2011) conducted a study showed that maximum participants used biomass as their primary fuel i.e. 83.7% in unimproved stoves as compared to only 16.3% using cleaner fuels such as kerosene and LPG.[9] Mishra V, et al (1999) analyzed in the data of National Family Health Survey (NFHS) 1992–93 and reported that 93.1% population in rural area use biomass fuels for cooking while only 6.9% population use cleaner fuels for cooking.[6] The choice of fuel is mainly a matter of availability, affordability and habit. Various other factors being domestic needs of energy, sustainability of alternate source, cultural and economic aspects, etc. There has been a major difference in the type of fuel used by the rural and urban population. Biomass becomes the commonly used fuel in rural areas due to easy availability of wood, crop residues, cow dung, etc. in rural areas. Also population belonging to low socioeconomic class mainly use biomass fuel for cooking due to financial incapability to use cleaner fuels like LPG. The distribution of subjects depending on the BMI shows that 675 (67.9%) had normal BMI which explains the adequate nutritional status of the subjects, whereas 217 (21.8%) were underweight whereas, 102 (10.3%) were overweight. Arora P, et al (2014) explained the BMI in rural females using biomass fuel as 21.24 $\pm$ 3.80 whereas, 22.24 $\pm$ 4.17 in urban females using cleaner fuels. No significant association was seen between BMI and type of fuel used for cooking in this study.[10]

The study showed the presence of respiratory morbidity in 379 (38.1%) subjects. Among the subjects age more than 60 years, 160 (16.1%) had respiratory morbidity. COPD was the most commonly found respiratory morbidity in our study i.e. 7.95%. Long term exposure to biomass fuel combustion products leads to the occurrence of various obstructive and restrictive pulmonary diseases. Respiratory morbidity increases with the increase in the age. The association between the age of subjects and respiratory morbidity was found statistically significant ($p<0.001$). Also, 41.9% subjects had Arthritis and complained of joint pain in major joints. Unilateral or bilateral cataract was seen in 14.0% subjects.

Study by S.Gopalakrishnan et al clearly shows that nearly 67% of the patients reported with problems affecting the four major systems; respiratory illnesses, complaints with 'symptoms and signs', musculo-skeletal and digestive diseases.[1] A study in Kerala showed that the major diseases prevalent were: diseases of bones and joints, hypertension, viral fever, diabetes, common cold, asthma, diseases of the nerve system, cardiovascular diseases, cough and acute bronchitis. These diseases account for about 75% of the total illness in the population.[11] A study in Ahmedabad city showed mainly 3 type of morbidity in the study population. They were musculoskeletal disorders, respiratory disorders and digestive disorders. Their contribution was more than 50% of the reported morbidity.[12] Around half of the subjects were Anaemic (47.6%). In a study conducted by Goswami M, et al (2010) Anemia was found in 19% of females of age group of 15-44 years in present study.[7] The prevalence found in the present study is higher compared to other studies could be due to geographical distribution and various cultural beliefs.

CONCLUSION

Providing early diagnosis, adequate treatment and preventive management of the morbidity by health care providers is an important public health measure. The current morbidity pattern in women residing in the rural area in Beed district can help in planning pilot projects on future health related challenges and then implementing it at nationwide level.

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