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# Assessment of Housing Standards in the field practice area of a Medical College in Andhra Pradesh

Dr. Mendhe H[1], Dr. Amarnath M[2], Hanumanth N[3]
[1](Asst.Proessor, Dept. of Community Medicine, Dr PSIMS & RF, India)
[2](Professor, Dept. of Community Medicine, Dr PSIMS & RF, India)
[3](Lecturer in Statistics, Dept. of Community Medicine, Dr PSIMS & RF, India**)**

***Abstract: Introduction:*** *House provides safety, security and shelter to the members living in it. Proper housing is required for maintaining optimum health. By deductive reasoning, a strong relationship can be established between poor housing and conditions such as respiratory infections, skin infections, house accidents and psychosocial problems. In India, about 68.8% of the total population lives in rural area, most of them are poor and landless. So the present survey conducted in the field practice area of Rural Health and Training Centre, to know the housing condition and housing facilities as per rural housing standards in India and its association with infestation.*

***Methodology:*** *Field practice area of Rural Health and Training Centre of Dr PSIMS & RF caters services to 9 villages. Out of the 9 villages, 3 villages were selected using simple random sampling technique. From each village, 100 households were selected. The survey covered a sample of 300 households in the study area.*

***Results:*** *Average household size was 4.5, 43% households were using packaged mineral water for the drinking purpose, 52.3% household were using tap water for drinking purpose, 41% household family members had to travel more than 0.5 Km distance to get drinking water, 43% households had no access to any type of toilet facility,73% households had no separate kitchen, 31% households had less than two living rooms. The relationship between type of house and rodents manifestation was found to be statistically significant. The relationship between overcrowding and scabies manifestation was also statistically significant.*

***Conclusion:*** *Government of India should take initiative for granting the monetary assistance for the construction of houses and latrine in accordance with housing standards under various schemes. The morbidity and mortality associated with poor housing will greatly reduced with the houses constructed as per standards and quality of life of the people will improve so that they will enjoy healthy and meaningful life.*

## I. Introduction

House provides safety, security and shelter to the members living in it. Proper housing is required for maintaining optimum health[1]. By deductive reasoning, a strong relationship can be established between poor housing and conditions such as respiratory infections like common cold, tuberculosis, influenza, diphtheria, bronchitis, measles, whooping cough etc, skin infections such as scabies, ring worm, impetigo, leprosy etc, rat infestation, arthropods- house flies, mosquitoes, fleas bugs etc, house accidents and psycho social problems such as irritability, frustration, lack of sleep, anxiety, violence and mental disorders[2].

In India, about 68.8% of the total population lives in rural area [3]. India has the largest number of rural poor as well as the largest number of landless households in the world. Housing is the basic human need. Even after more than 67 years of independence, majority of the Indian people have been deprived of standard housing without access to the basic minimum facilities of drinking water, domestic and peri-domestic sanitation and public hygiene etc that requires urgent attention. To ensure environmental sustainability, Millennium Development Goal's Target 9 advocate to integrate the principles of sustainable development into country's policies and programme so as to reverse the loss of environmental resources[4]. With the broadening concept of housing, the concept of housing standards has also changed. The standards are no longer confined to narrow health criteria like per capita space or floor space. Social and economic characteristics such as family income, family size and composition, standard of living, life style must be taken into consideration in determining housing standards. Because of the cultural diversity and other factors such as climate and social traditions, standard of housing must vary from country to country and from region to region. In short, there cannot be rigid and uniform standards [2]. However, minimum standards are still maintained by building regulations. The standards in India are those recommended by Environmental Hygiene Committee 1949. In rural areas, the "approved" standards may be lower than in town. So the present survey conducted in the field practice area of Rural Health and Training Centre, to know the housing condition and housing facilities as per rural housing standards in India and its association with infestation.

## II. Objectives

1. To find out housing condition and housing facilities available in each house hold
2. To know the association between poor housing, infestation and overcrowding.

## III. Methodology

Field practice area of Rural Health and Training Centre of Dr PSIMS & RF caters services to 9 villages. Out of the 9 villages, 3 villages were selected using simple random sampling technique. From each village, a total of 100 households were selected. The survey covered a sample of 300 households in the study area. Every alternate household was selected using right hand thumb rule and accordingly the information was collected. The standard questionnaire used by National Sample Survey, Government of India for collection of the housing condition and housing amenities, round 65, July 2008-June 2009, was used to collect the necessary information[8]. Modifications for the questionnaires were done as per the objectives of the study. The survey was conducted during January-2015 to March-2015.

The following minimum standards were taken into consideration

1. There should be at least two living rooms
2. Ample verandah space may be provided.
3. The built up area should not exceed one third of total area.
4. There should be separate kitchen with a paved sink or platform for washing utensils.
5. There should be provided with a sanitary latrine.
6. 6.the window area should be at least 10% of the floor area.
7. there should be a sanitary well or a tube well with in a quarter of mile from the house.8.it is in sanitary to keep cattle and live stock in dwelling houses. Cattle sheds should be at least 25feet away from dwelling houses. A cattle shed should be open on all sided an area 8ft*4ft to sufficient for each head of cattle.9.there should be adequate arrangement for disposal of a waste water, refuse and garbage[5].

Accordingly, the data regarding the housing characteristic in comparison with housing standards was collected, compiled and analyzed using SPSS-version16.The statistical tools applied were percentages, averages and chi-square test.

## IV. Results

**A) Household characteristics:**

- Average household size was 4.5 and 47% household had more than 4 family members.
- 90% head of the household were the males. Only 10% were female.
- 67% families were belonged to Hindu religion, 31% families belonged to Christian religion and only 2% families belonged to Muslim religion.
- 16% families were belonged o Scheduled tribe, 26% families to Scheduled caste, 45% other backward class and 12% others.
- Regarding occupation of the head of the household, 18% were farmers, 70% were unskilled workers, 6% were skilled workers, 5% were teacher and others-1%.
- 12% head of the household possessed land 0.005- 0.02 Hectare, 13% had 0.02-0.2 Hectare and only 8% had land more than 0.21 Hectare.

B) **Particulars of the living facilities:**

- 43% households were using packaged mineral water for the drinking purpose. 52.3% household were using tap water for drinking purpose and only 5% had tube well/ hand pump as the source of drinking water.
- 52.3% household had access to source of drinking water facility within the premise. 41% household family members had to travel more than 0.5 Km distance to get drinking water.
- Only 12% household had attached bathroom facility. 40% household had no bathroom.
- 43% house hold had no access to any type of toilet facility. 36% house holds had latrine which was exclusively used for house hold family members. 12% house holds were sharing latrine facility with other house holds. 70% latrine were septic tank or flush type.
- 90% house holds had electricity facility.

**C) Housing characteristic and micro environment:**

- 21% home plinth area did not cover 1/3 of the total area.
- 25% home plinth level was below 2 feet.
- 58% households had no drainage facility and 38% had open katcha type of drainage system.
- 99% household had no garbage collection arrangement.

- 90% households had no animal shed and of those 10% households who had cattle shed, 40% of those had cattle sheds were within 25 feet limits.

**D) Particulars of the dwelling:**

- 31% households had less than two living rooms.
- 38% household had window area which covered 10% of the total floor area.
- 20% household had no separate room for married couple.
- 73% household had no separate kitchen. 21% house hold had separate kitchen but without water tap.
- 44% houses were katcha type, 29% were semi pakka and only 27% were pakka type. 34% houses had roof made up of grass, straw, leaves, bamboo.
- Only 30% house hold were using gas as the fuel for cooking and 70% were using wood as a fuel for cooking.
- 29% house holds did not have roof above 10 feet from the floor.
- 77% house hold had overcrowding.
- 19% house hold had mosquito breeding places.

**Table-1: Relationship between rodent manifestation and type of house**

| House | Rodents | | Chi-Square | P-Value |
|---|---|---|---|---|
| | Present | Absent | | |
| Pakka | 3 | 79 | 181 | <0.01 |
| | 3.70% | 96.30% | | |
| Semi pakka | 64 | 22 | | |
| | 74.40% | 25.60% | | |
| Kucha | 123 | 9 | | |
| | 93.20% | 6.80% | | |

Table no 1 depicts that 93% katcha house had rodents manifestation as compared to only 4% in case of pakka house. The relationship between type of house and rodents manifestation was found to be statistically significant.

**Table-2: Relationship between Scabies and overcrowding**

| Overcrowding | Scabies cases | | Chi-Square | P-Value |
|---|---|---|---|---|
| | Present | Absent | | |
| Present | 36 | 144 | 11.7 | <0.01 |
| | 20% | 80% | | |
| Absent | 7 | 113 | | |
| | 5.8% | 94.2% | | |

Table no 2 depicts that 20% of cases of scabies were found in those houses where overcrowding was present as compared to only 5.8% cases in those houses where overcrowding was absent. The relationship between overcrowding and scabies manifestation was found to be statistically significant.

## V. Discussion

In this present study, the average household size was 4.5. As per Sample Registration System-2013, the average household size in India was about 4.4[6]. In the present study, 8% household possessed land more than 0.21 hectare. According to Draft National Land Reform Policy-2013, Ministry of Rural Development, Govt. of India, 29.8% of households own less than 0.4 hectares of land[7]. In the present study, 57.3% households were using tap water/Tube well as a source of drinking water and 43% packaged mineral water where as 81% households in kerala were using tap water/Protected well as a source of drinking water. Only 52.3% household had access to source of drinking water facility within the premises but 78% household in kerala had access to drinking water facility within their premises[8]. 40% household had no bathroom facility where as 44% rural household in kerala had no bathing place in their premise. 43% household had no access to any type of latrine facility where as 77.9% household in Odisha had no latrine facility[9]. 90% household had electricity facility where as 94% household in kerala had electricity facility for domestic use. 38% household had open katcha type of drainage facility whereas 16% household in Kerala had open katcha type of drainage arrangement. 90% household had no garbage collection and disposal arrangement where as 59% rural households in kerala had no garbage disposal arrangement. Out of 10% households having cattle shed, 40% had cattle shed within 25 feet limit against the standards of housing in rural India. Compared to housing standards in rural India, only 31% household had less than two living rooms, 73% house holds had no separate kitchen, 38% household had

window area which covered 10% of the total floor area, 44% houses were of katcha type and 70% were using wood as a fuel for cooking. In comparison, 86% rural household in kerala where living in pukka structured dwelling. 65% households were using wood as a fuel for cooking in rural Odisha. 60% population in India, used Bio-mass fuel in 2007[4].

In the present study 93% katcha house had rodent manifestations as compared to only 4% in case of pakka house. The relationship between type of house and rodents manifestation was to be statistically significant. In the study done by Bonner PC, Schmidt WP, Belmain SR et. al identified the association between presence of rodents burrows and very poor housing quality was statistically significant[10] Odds Ratio 7.4 and p value less than 0.01. The present study 20% of cases of scabies were found in those houses where overcrowding was present as compared to only 5.8% cases in those houses where overcrowding was absent. The relationship between overcrowding and scabies manifestation was found to be statistically significant. The study done by Helen J. Tindall in Northern Territory Australia found that maximum number of scabies cases below 15 years of age were from that house hold where 10-15 people were living in each house at one point of time, where 3-5 pet dogs were present per house hold and hot water was not available for bathing[11].

Government of India should take initiative for granting the monetary assistance for the construction of houses and latrine in accordance with housing standards under various schemes. The morbidity and mortality associated with poor housing is greatly reduced with the houses constructed as per standards and quality of life of the people will improve so that they will enjoy healthy and meaningful life.

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