



Nutritional and Health Status Assessment of Rural Hilly areas with Special Focus on Vulnerable Groups -A Comprehensive Community Research Review Report

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1. ABSTRACT

A descriptive cross-sectional community research was conducted by students of Govt College of nursing & paramedical sciences Budgam associated with Govt. Medical College Srinagar in rural hilly areas of District Budgam. A total of 50 subjects were assessed comprising 20 Anganwadi registered children, 20 pre-school children and 10 elderly patients. The study used anthropometric measurements, clinical examination and a structured checklist. Mean and median were calculated for quantitative variables. The reported findings identified anemia and under-malnutrition as major concerns among children, while elevated blood pressure and comorbidities were prominent among elderly participants. In Anganwadi children, mean weight was 11.8 kg and median 11.5 kg. Among elderly participants, mean systolic BP was 148 mmHg and median 146 mmHg. Ethical principles including informed consent, confidentiality and privacy were maintained under supervision of Dr. Sheikh Masood.

2. INTRODUCTION & BACKGROUND

Community health nursing is the backbone of the public health system in India. Rural hilly areas of Jammu & Kashmir face unique challenges including geographical inaccessibility, harsh climate, poor transportation, low socio-economic status, illiteracy and limited health infrastructure. Vulnerable groups such as children under five, pre-school children and elderly people are at increased risk of nutritional and health problems. Children are in a rapid growth phase and require adequate protein, calories and micronutrients. Deficiencies may contribute to stunting, wasting, underweight and anemia. Pre-school children may be affected by inadequate dietary iron, worm infestation and repeated infections. Elderly people in rural areas may experience a dual burden of non-communicable diseases such as hypertension, diabetes and arthritis along with nutritional deficiencies. Limited access to regular follow-up and medicines can increase the risk of complications. Keeping these issues in view, Govt. College of Nursing & Paramedical Sciences, Budgam organized a research-oriented community visit focusing on vulnerable populations. The visit also provided nursing students with practical exposure to community assessment, anthropometry, clinical observation, health education and research methodology. The Anganwadi /ICDS system, primary health care and the role of nursing students in community research formed important components of the field activity.

3. NEED FOR THE STUDY

The need for this study arises from the vulnerability of rural hilly populations to nutritional deficiencies and chronic disease, the challenges of growth monitoring and health-service access, and the limited local research data available from hilly areas of Budgam . The study also served as a practical learning exercise for nursing students in data collection, anthropometry, calculation of mean and median, interpretation of findings and community health education. The findings can provide baseline observations for future student projects and may help identify areas where community-level screening, nutrition education, growth monitoring, deworming, anemia prevention and elderly care can be strengthened.

4. OBJECTIVES

General Objective: To assess the health and nutritional status of rural hilly areas.

Specific Objectives:

1. To assess 20 Anganwadi registered children using anthropometric measurements.
2. To assess 20 pre-school children for nutritional deficiencies.
3. To assess 10 elderly patients for comorbidities.
4. To calculate mean and median for quantitative health parameters.
5. To identify common health problems.
6. To maintain ethical principles during research.

RESEARCH METHODOLOGY

Research Approach:

Quantitative Design:

Descriptive cross-sectional Setting:

Rural hilly villages of Budgam — including areas in the Busnwoder, Mujpthari Doodhpathri belt. Population: Vulnerable groups.

Sample Size:

50, based on feasibility for a student community project.

Sampling Technique:

Non-probability purposive sampling.

Inclusion Criteria: Anganwadi registered children, pre-school children 3–6 years, elderly & 60 years, willing participants and residents of the area for more Than six months.

Exclusion Criteria: Severely ill persons, those unwilling to participate and children with congenital anomalies.

Tools and Instruments:

demographic preform; digital weighing machine; audiometer; infant meter; MUAC tape; head-circumference tape; clinical assessment checklist; BP apparatus; and elderly comorbidity assessment preform.

Procedure: Students were divided into three groups, supervised by senior faculty under the overall supervision of Dr. Sheikh Masood. Consent was obtained, anthropometry was performed using standard techniques, privacy was maintained, and observations were entered into a master sheet. Mean, median and percentages were calculated.

Mean:

Sum of observations ÷ total number of observations. Median: Middle value after arranging observations in ascending order.

5. DETAILED OBSERVATIONS WITH TABLES**TABLE 1: Demographic Distribution of All Subjects N= 50**

Variable	Category	Frequency	Percentage	Mean	Median
Age Group	1–5 Years	20	40%	3.2 yr.	3.0 yr.
	3–6 Years	20	40%	4.5 yr.	4.6 yr.
	>60 Years	10	20%	66.8 yr.	65.5 yr.
Gender	Male	28	56%	—	—
	Female	22	44%	—	—

TABLE 2: Detailed Anthropometric Analysis of Anganwadi Registered Children n=20

S. No	Parameter	Calculated Mean	Calculated Median	WHO Expected	SD (approx.)	Result
1	Age	3.2 years	3.0 years	—	1.1	—
2	Weight	11.8 kg	11.5 kg	14.3 kg	1.8	Low
3	Height	87.4 cm	86 cm	95 cm	6.2	Stunted
4	MUAC	12.8 cm	12.7 cm	>13.5 cm	0.9	MAM
5	Head Circumference	46.1 cm	46 cm	49 cm	1.2	Low

TABLE 3: Nutritional Status Classification of Anganwadi Children n=20

Indicator	Normal	Abnormal	Percentage Abnormal
Weight for Age	8	12 Underweight	60%
Height for Age	12	8 Stunted	40%
Weight for Height	14	6 Wasted	30%
MUAC <12.5 cm	13	7 MAM	35%

TABLE 4: Assessment of Pre-School Children n=20

Parameter	Mean	Median	Clinical Finding	Frequency
Age	4.5 yr	4.6 yr	—	—
Weight	13.2 kg	13.0 kg	Underweight	11 (55%)
Hb%	9.2 gm.%	9.0 gm.%	Anemia / Pallor	14 (70%)
BMI	13.8	13.6	Low BMI	10 (50%)

TABLE 5: Health Problems in Pre-School Children n=20 — Multiple Responses

Problem	Frequency	Percentage
Anemia / Pallor	14	70%
Under-malnutrition	11	55%
Dental Caries	6	30%
Worm Infestation (H/O)	8	40%
Upper Respiratory Infection	5	25%

TABLE 6: Assessment of Elderly Patients n=10

Parameter	Mean	Median	Range	Interpretation
Age	66.8 yr.	65.5 yr.	60–78 yr.	Mean > Median = Positive Skew
Systolic BP	148 mmHg	146 mmHg	124–178 mmHg	Hypertensive
Diastolic BP	92 mmHg	90 mmHg	78–110 mmHg	Hypertensive
Random Blood	142 mg/dl	138 mg/dl	98–210 mg/dl	High

Sugar				
BMI	24.2	23.8	19–29	Normal to Overweight

TABLE 7: Comorbidities among Elderly n=10 — Multiple Responses

Comorbidity	Frequency	Percentage	Mean Duration of Illness
Hypertension	6	60%	4.2 years
Arthritis / Joint Pain	5	50%	3.8 years
Diabetes Mellitus	3	30%	2.5 years
COPD / Chronic Bronchitis	3	30%	5.1 years
Visual Impairment / Cataract	4	40%	—

TABLE 8: Consolidated Major Findings N=50

Health Problem	Total Cases	Percentage	Mean Age of Affected
Anemia	28	56%	3.9 yr.
Under-malnutrition	24	48%	3.8 yr.
Hypertension	6	12% of total	68 yr.
Respiratory Issues	8	16%	—

Interpretation of Table 2: Both mean and median are lower than the expected reference values presented in the supplied project data. The mean being slightly higher than the median for weight suggests that some children had comparatively higher measurements while many remained on the lower side. Such descriptive statistics help summarize the distribution but do not by themselves establish causation.

6. CRITICAL ANALYSIS AND DISCUSSION

Why Mean and Median Matter Mean and median provide complementary summaries of the measured variables. In the child groups, the two values are relatively close for several measurements, suggesting that the observations are not dominated by a small number of extreme values. In the elderly group, mean age (66.8 years) is greater than median age (65.5 years), consistent with a right-skewed distribution in this small sample. Similarly, mean systolic BP (148 mmHg) exceeds median systolic BP (146 mmHg), suggesting that higher readings contributed to the average. Nutritional

Findings: The reported data show substantial nutritional vulnerability among the assessed children. In Anganwadi children, 60% were classified as underweight by the supplied table, 40% as stunted and 30% as wasted. Among pre-school children, 55% were reported underweight and 70% had anemia/pallor. These findings highlight the importance of routine growth monitoring, dietary assessment, anemia screening and timely referral. Anemia: The reported 70% anemia/pallor among pre-school children represents a major concern within this

sample. Potential contributing factors in rural settings can include inadequate dietary iron, parasitic infections, recurrent infections and barriers to supplementation. These are hypotheses that should be confirmed through individual clinical and laboratory assessment rather than assumed from the survey alone. Elderly Health: Hypertension was reported in 6 of 10 elderly participants, while arthritis/joint pain, visual impairment, diabetes and chronic respiratory symptoms were also observed. This pattern reflects the need for integrated elderly care, including BP and glucose monitoring, medication review, functional assessment, vision screening and health education. Social Determinants: The field observations point toward the importance of household income, education, access to safe water and sanitation, food availability, indoor smoke exposure, transportation and distance from health facilities. These determinants can influence both nutritional status and chronic disease management. Interpretation with Caution: The study uses a small purposive sample of 50 participants. Therefore, percentages describe the assessed group and should not be generalized to the entire Budgam district or all rural hilly populations without larger representative studies. Some reference values and literature comparisons in the supplied draft should be verified against the exact WHO/NFHS source before formal publication.

7. ETHICAL CONSIDERATIONS

Ethics formed an essential part of the community visit. Permission was taken from the relevant institutional and community authorities. The purpose of the activity was explained in an understandable local language, and consent was obtained from adult participants and from parents/guardians for children. Participants were informed that participation was voluntary and that they could refuse or withdraw without penalty. Confidentiality was maintained by coding participant records rather than using names in the working dataset. Privacy was respected during assessment, particularly for female participants, and examinations were conducted in an appropriate private setting where feasible. No invasive or harmful procedure was undertaken as part of the routine community assessment. Health education and appropriate advice for follow-up were provided when concerns were identified. The activity was conducted under the supervision of Dr. Sheikh Masood, Nodal Officer, to support scientific quality, participant safety and ethical compliance.

8. SUMMARY OF FINDINGS

The community visit assessed 50 vulnerable participants across rural hilly areas of Budgam. The child assessments indicated important concerns related to underweight, stunting, wasting, low MUAC, low BMI and anemia/pallor. Among elderly participants, elevated BP and multiple chronic conditions were prominent. Mean and median values provided a concise way to describe the central tendency of the quantitative measurements. The findings support the need for continued community-level screening, nutrition promotion, growth monitoring and elderly health services.

9. CONCLUSION & RECOMMENDATIONS

Conclusion: The research-oriented community visit successfully combined field learning with assessment of nutritional and health indicators in a rural hilly population. The observed burden of nutritional problems among children and chronic health conditions among elderly participants emphasizes the importance of accessible primary health care, preventive services,

nutrition education and regular follow-up. Recommendations:

1. For Anganwadi Workers: Strengthen routine growth monitoring, nutrition supplementation and home visits for children at risk.
2. For the Health System: Conduct regular anemia screening, deworming and appropriate iron-folic acid supplementation according to current government guidelines, with referral of children requiring further assessment.
3. For the Community: Promote balanced diets, locally available nutritious foods, kitchen gardens where feasible, breastfeeding, hand hygiene and safe sanitation.
4. For Elderly Care: Strengthen BP/diabetes screening, medication continuity, physiotherapy and vision assessment, and consider outreach/mobile services for hard-to-reach villages.
5. For Students: Continue structured community research and follow-up studies using standardized tools and larger samples to build reliable local evidence.

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11. Annexure

A: Demographic Proforma Annexure

B: Anthropometric Assessment Sheet Annexure

C: Clinical Assessment Checklist Annexure

D: Elderly Comorbidity Assessment Proforma

12. REFERENCES

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Photograph 1: Community field visit activity.





Photograph 2: Community field visit activity.

Photograph 3: Community field visit activity.



Photograph 4: Community field visit activity.



Photograph 6: Community field visit activity.



Photograph 7: Community field visit activity.