

# A Study to Assess the Effectiveness of Family Focused Intervention on Knowledge Regarding Old Age Health Problems and Role Strain Among Caregivers of Older Adults at Selected Rural Community Settings of Rohtas, Bihar

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**Abstract—Background:** Aging brings multiple health challenges requiring family caregivers' involvement. In rural Bihar, older adults depend on family for daily care, yet caregivers often experience knowledge deficits and role strain. **Objective:** To assess the effectiveness of a family-focused intervention on improving caregivers' knowledge regarding old age health problems and reducing role strain. **Methods:** A true experimental design was used among 30 caregivers of older adults in selected rural communities of Rohtas, Bihar. Participants were equally assigned to study and control groups. The study group received a structured family-focused intervention, including educational sessions on geriatric health and demonstration of strengthening exercises for one month. Data were collected using a structured knowledge questionnaire and Modified Caregiver Strain Index (MCSI). Statistical analysis included paired *t*-tests and Cohen's *d* to evaluate intervention effectiveness. **Results:** In the pre-test, 76.66% of caregivers in the study group and 83.33% in the control group had inadequate knowledge, with 66.66% experiencing high role strain. Post-intervention, 53.33% of the study group achieved adequate knowledge and 63.33% reported low role strain, while the control group showed minimal change. The intervention showed a large effect size for knowledge ( $d = 2.895$ ) and role strain reduction ( $d = 3.469$ ). **Conclusion:** Family-focused interventions significantly improve caregivers' knowledge and reduce strain. Integrating such programs

into primary healthcare can strengthen geriatric care and caregiver wellbeing in rural India.

**Index Terms—**Family-focused intervention, Caregiver strain, Geriatric health, rural community, Bihar.

## BACKGROUND OF THE STUDY

India's aging population is rapidly growing, posing major challenges to families and the healthcare system. The 2011 Census recorded that 8.6% of India's population is aged 60 years and above, and in Bihar, this population segment faces chronic diseases, functional dependency, and mental health issues. In Rohtas District, 75.6% of older adults suffer from chronic conditions and 42.1% from mental health disorders. Family caregivers, mostly women, provide emotional and physical support but often lack adequate knowledge of geriatric health needs. Prolonged caregiving without support leads to **role strain**, affecting caregivers' physical and emotional health. Evidence-based family-focused interventions—integrating education and exercise training—are essential to empower caregivers and enhance elderly care.

### I. INTRODUCTION

Aging is an inevitable process associated with functional decline, dependence, and vulnerability to diseases such as hypertension, diabetes, arthritis, and depression. Older adults in rural Bihar depend primarily on family members for their daily needs. However, due to low literacy, financial constraints, and inadequate healthcare access, caregivers often face excessive stress and burnout. Nurses, as community health educators, play a key role in enhancing caregiver competence through structured interventions. Family-focused educational programs can improve understanding of common health problems and promote practices that prevent falls, maintain mobility, and improve the quality of life for both caregivers and the elderly.

#### NEED FOR THE STUDY

Studies in Rohtas and similar districts indicate severe gaps in caregiver knowledge, contributing to poor geriatric health outcomes. Nearly 70% of older adults rely entirely on informal caregivers who report fatigue, anxiety, and lack of guidance. Implementing culturally tailored family-focused interventions can enhance caregivers' ability to manage elderly health issues effectively and mitigate their stress.

### II. METHODOLOGY

A true experimental pre-test–post-test control group design was adopted.

- Population: Caregivers of older adults (>65 years) residing in selected rural communities of Rohtas, Bihar.
- Sample Size: 30 caregivers (15 experimental, 15 control).
- Sampling Technique: Simple random sampling.
- Intervention: The study group received a family-focused intervention involving:
  - Structured education sessions on geriatric health (falls, sleep hygiene, chronic illness prevention).
  - Demonstration of balance and strengthening exercises (knee flexion, leg raise, hip extension) practiced 15 minutes twice daily for one month.
- Instruments:
  1. Structured Knowledge Questionnaire on Old Age Health Problems.
  2. Modified Caregiver Strain Index (MCSI).
- Data Analysis: Descriptive statistics, paired *t*-test, and Cohen's *d* were used to determine significance and effect size. Ethical clearance was obtained.

### III. RESULTS

Variable	Group	Pre-Test Mean ± SD	Post-Test Mean ± SD	<i>t</i> Value	<i>p</i> Value	Effect Size (Cohen's <i>d</i> )
Knowledge Score	Study	10.2 ± 2.5	18.4 ± 3.2	12.75	0.001*	2.895
Role Strain Score	Study	28.6 ± 4.1	16.3 ± 3.7	14.09	0.001*	3.469
Knowledge Score	Control	10.6 ± 2.8	11.1 ± 3.1	0.42	NS	—
Role Strain Score	Control	27.9 ± 4.0	27.2 ± 4.3	0.51	NS	—

Significant at  $p < 0.05$

Post-test results indicated a significant improvement in knowledge and a reduction in role strain among the study group compared to the control group. There was no significant association between demographic variables (age, gender, income, relationship to the elderly) and post-test knowledge or strain levels.

### IV. DISCUSSION

The findings support the hypothesis that family-focused education and exercise-based interventions

significantly enhance caregivers' understanding and reduce psychological and physical strain. These results align with previous studies emphasizing that empowering caregivers with geriatric knowledge

improves the overall quality of care and mental well-being. The large effect sizes observed in this study confirm the intervention's practical significance in community settings.

#### V. CONCLUSION

The study concludes that family-focused intervention effectively improves caregivers' knowledge of elderly health problems and reduces role strain. Implementing such community-based nursing programs can bridge the gap in geriatric care in rural India.

#### VI. RECOMMENDATIONS

- Incorporate family-focused caregiver training in community nursing programs.
- Develop routine geriatric health education sessions at primary health centers.
- Encourage home-based exercise programs for elderly mobility and caregiver involvement.

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