ORIGINAL ARTICLE

Utilization Pattern and satisfaction level of Old Age Pension Scheme Among Elderly in Rural Areas of Puducherry: A Cross Sectional Study

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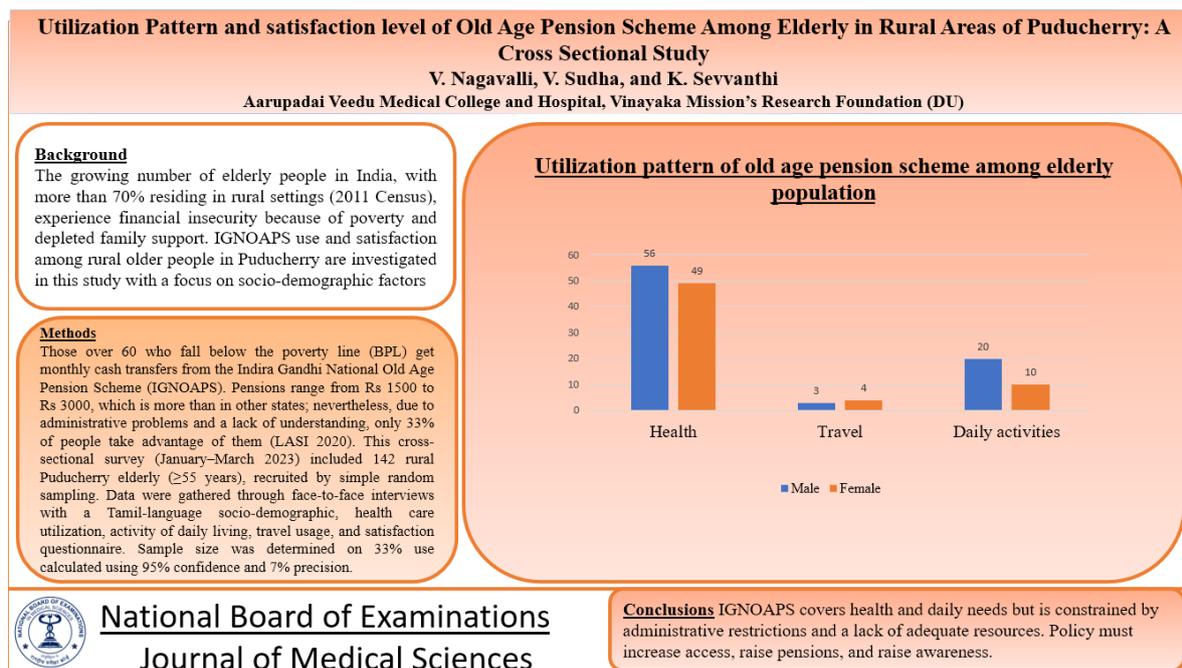
Abstract
Background: The growing number of elderly people in India, with more than 70% residing in rural settings (2011 Census), experience financial insecurity because of poverty and depleted family support. IGNOAPS use and satisfaction among rural older people in Puducherry are investigated in this study with a focus on socio-demographic factors. **Materials and Methods:** Those over 60 who fall below the poverty line (BPL) get monthly cash transfers from the Indira Gandhi National Old Age Pension Scheme (IGNOAPS). Pensions range from Rs 1500 to Rs 3000, which is more than in other states; nevertheless, due to administrative problems and a lack of understanding, only 33% of people take advantage of them (LASI 2020). This cross-sectional survey (January–March 2023) included 142 rural Puducherry elderly (≥55 years), recruited by simple random sampling. Data were gathered through face-to-face interviews with a Tamil-language socio-demographic, health care utilization, activity of daily living, travel usage, and satisfaction questionnaire. Sample size was determined on 33% use calculated using 95% confidence and 7% precision. The data were analysed using SPSS 26.0 with descriptive statistics and chi-square tests. Ethical clearance and informed consent were received. **Results:** Study participants (55.6% male, 66.2% literate, 97.9% unemployed) utilized pensions mainly for health (56 males, 49 females) and activities of daily living (20 males, 10 females) with little expenditure on travel. Satisfaction was related to gender (p=0.019). Age, education, employment, and health had no significant relationship. **Conclusion:** IGNOAPS covers health and daily needs but is constrained by administrative restrictions and a lack of adequate resources. Policy must increase access, raise pensions, and raise awareness.

Keywords: Old age pension, Rural elderly, Utilization, Satisfaction, Puducherry

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Graphical Abstract

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Utilization pattern of old age pension scheme among elderly population

National Board of Examinations Journal of Medical Sciences

Conclusions IGNOAPS covers health and daily needs but is constrained by administrative restrictions and a lack of adequate resources. Policy must increase access, raise pensions, and raise awareness.

Introduction

India's aging population is increasing at a fast pace with rising life expectancy and falling fertility rates, with more than 70% of them living in rural regions, as indicated by the 2011 Census [1]. This population transition presents formidable challenges for the economic protection of the elderly, many of whom suffer from financial insecurity arising from poverty, poor access to formal sector employment, and erosion of traditional family support networks [2]. Indira Gandhi National Old Age Pension Scheme (IGNOAPS), initiated in 2007 under the National Social Assistance Programme (NSAP), offers monthly cash benefits to Below Poverty Line (BPL) people aged 60 years and above to overcome these issues [3]. In Puducherry, a Union Territory with robust socio-economic parameters, the state adds to the central pension value, distributing Rs 1500 to 3000 depending on age categories, which is higher compared to several other states. This provides Puducherry as a suitable context to observe pension utilization trends [4].

Even with its intentions, the IGNOAPS has some setbacks in rural areas, which according to studies, has poor take-up resulting from hindrances such as low awareness, cumbersome administrative procedures, and delay in disbursement of pension [2]. The Longitudinal Ageing Study in India (LASI, 2020) revealed that only a third of rural BPL elderly who are eligible receive the benefits of IGNOAPS, with challenges such as documentation issues and low awareness creating barriers to access [1]. In rural Puducherry, where multimorbidity and chronic conditions are prevalent among the older population, there is a need to understand how pension money is utilized, whether for healthcare, day-to-day needs, or maintenance of family and evaluate the scheme's role in quality of life (QOL) [1,2]. Recent findings indicate that receiving pensions can enhance economic empowerment and health-seeking behavior,

but contextual utilization patterns are least explored in rural settings [2].

The goal of this study is to investigate usage patterns, degree of satisfaction with the IGNOAPS among the older population in rural Puducherry, spending habits on health, daily living, social needs, and family support, as well as the social and demographic factors influencing such patterns. In filling these lacunae, the study offers evidence-based recommendations for maximizing the effectiveness of the scheme and guiding policy interventions for the rural elderly.

Methodology

This cross-sectional descriptive, community-based study was carried out among the elderly age group of 55 years and above residing in the rural field practice areas of a Private Medical College in Puducherry, India. The purpose of this study was to explore the utilization patterns and satisfaction levels of the Indira Gandhi National Old Age Pension Scheme (IGNOAPS) among this age group, particularly considering how pension money is spent and the socio-demographic determinants of these patterns.

The research was conducted among chosen rural villages under field practice areas of the Rural Health Training Centre of the tertiary care institute in Puducherry between January and March 2023. Puducherry was selected because it has a comparatively high pension grant of Rs 1500 to 3000 every month based on, as compared to many other states, and it has high human development indices, offering a special setting for testing the usage of pension. The study sample consisted of older adults aged 55 years and older, who had been living in the chosen rural communities for one year or more and were

registered in or eligible for the IGNOAPS. Those with severe cognitive impairment or who were not willing to give informed consent were excluded.

Sample size was calculated based on a study from 2020, which showed that 33% of rural Below Poverty Line (BPL) elderly who were eligible used the IGNOAPS [2]. Applying the cross-sectional study formula, $n = (Z\alpha/2)^2 * p * (1-p) / d^2$, where $Z\alpha/2 = 1.96$ (95% level of confidence), $p = 0.33$ (proportion of use), and $d = 0.07$ (absolute precision), the sample size needed was found to be around 129. Adding a non-response rate of 10%, a total of 142 participants were approached. A simple random sampling method was used, a list of eligible old people that was provided by household records kept by the Rural Health Training Centre. Out of this list, 142 participants were selected randomly with the help of a random number generator in order to have a random selection process.

Data were gathered using face-to-face interviews by means of a pretested semi-structured questionnaire. The questionnaire elicited socio-demographic factors (age, gender, education, marital status, socioeconomic status, pension use information (cognitive awareness of IGNOAPS, having received pension, amount received, and spending pattern in health, everyday activities, social requirements, and family support), morbidity and utilization behavior (self-reported chronic conditions and utilization of pension amounts for medical expenses), Interviews were carried out in Tamil to procure cultural and linguistic sensitivity. Quantitative data were processed with SPSS software version 26.0. Descriptive statistics, such as percentages, means, and standard deviations, were applied to present

socio-demographic characteristics and patterns of pension utilization. Comparisons between the relationships between socioeconomic factors and pension usage were made using chi-square tests. The Institutional Ethics Committee of the Private Medical College approved the study, and written informed consent was taken from all participants, ensuring confidentiality throughout the study.

Results

Table 1. Distribution of study participants based on sociodemographic profile

Demographic characteristics	Frequency	percentage
Age		
55-59	41	28.9
60-79	52	36.6
≥80	49	34.5
Gender		
Male	79	55.6
female	63	44.4
Education		
Illiterate	48	33.8
literate	94	66.2
Occupation		
Employed	3	2.1
unemployed	139	97.9
Type of family		
Nuclear	119	83.8
Joint	23	16.2
Religion		
Hindu	132	93.7
Christian	8	5.6
Muslim	2	1.4

According to the demographic data in table 1, the study participants was predominantly made up of elderly individuals, with 36.6% of respondents falling between the ages of 60 and 79, 34.5% between the ages of 80 and older, and 28.9% between the ages of 55 and 59, indicating a predominantly elderly population. The gender pattern was slightly male-dominated at 55.6% versus 44.4% female. The education levels showed that 66.2% were literate and 33.8% were illiterate, implying a fairly educated population. Occupation-wise, a very large participants 97.9% were unemployed, and just 2.1% were employed, most likely corresponding with the age groups retirement status. Family-wise, the majority was strongly nuclear (83.8%), while merely 16.2% lived in joint families. Religiously, the overwhelming majority were Hindu (93.7%), with a minuscule minority of Christians (5.6%) and Muslims (1.4%), corresponding to a largely Hindu population with little religious diversity.

Table 2. Association between Sociodemographic factors and Satisfaction level of old age pension scheme

Variables	Satisfied N=70		Dissatisfied N=72		Chi-square value	P value
Age						
≤75 Years	30	42.9%	32	44.4%	0.757	0.384
≥75Years	50	71.4%	40	55.6%		
Sex						
Male	32	45.7%	47	65.3%	5.504	0.019*
Female	38	54.3%	25	34.7%		
Education						
Illiterate	19	27.1%	29	40.3%	2.737	0.098
literate	51	72.9%	43	59.7%		
Occupation						
Employed	2	2.9%	1	1.4%	0.37	0.543
unemployed	68	97.1%	71	98.6%		
Socio economic status						
Class I & II	33	47.1%	23	31.9%	3.486	0.062
Class III & IV	28	40.0%	36	50.0%		
Class V	9	12.9%	13	18.1%		
Health condition						
Chronic disease	42	60.0%	39	54.2%	0.493	0.483
Normal	28	40.0%	33	45.8%		

The Table 2 depicts the examination of the association between sociodemographic and satisfaction with the previous old age pension scheme demonstrated different patterns. There was no significant correlation with age (p=0.384), with 42.9% of ≤75 years old and 71.4% of ≥75 years old satisfied, in contrast

to 44.4% and 55.6% dissatisfied, respectively. Gender was highly significant (p=0.019), 45.7% of males being satisfied and 65.3% dissatisfied, and 54.3% of females being satisfied and 34.7% dissatisfied. Education level also revealed no significant association (p=0.098), with 27.1% of literate respondents being satisfied and 40.3% dissatisfied, and 72.9% of illiterate respondents satisfied and 59.7% dissatisfied. Occupation was not found to be significantly associated (p=0.543), with 97.1% of unemployed respondents being

satisfied and 98.6% dissatisfied. Socioeconomic status was not significantly related (p=0.062), with satisfaction levels being 47.1% for Class I & II and 40% for Class III & IV, respectively, as compared to dissatisfaction levels of 31.9% and 50%, respectively. Health condition was also not significantly related (p=0.483), with 60% of patients having chronic diseases satisfied as compared to 54.2% dissatisfied, and 40% of patients having normal health satisfied as compared to 45.8% dissatisfied.
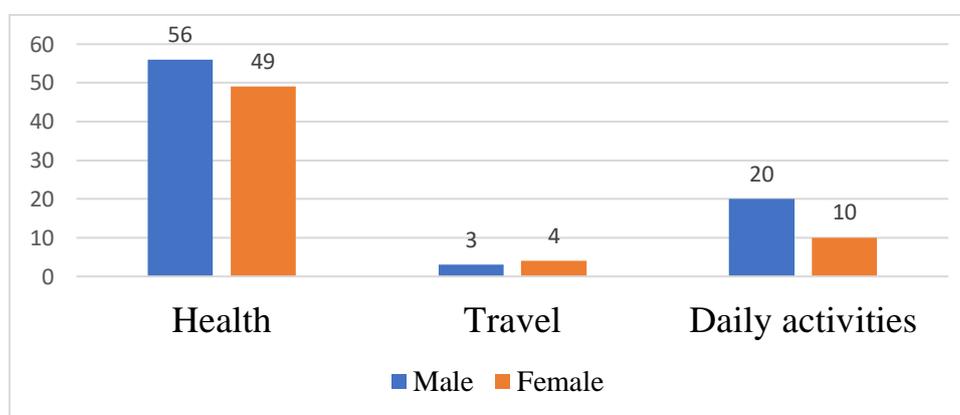

Figure 1. Utilization pattern of old age pension scheme among elderly population.

The Figure 1 depicted an old age pension scheme utilization pattern among aged people, gender-segmented (Male and Female) in three categories: Health, Travel, and Daily Activities. Under the category of Health, males had a higher utilization rate of 56 as compared to females at 49, which showed a significant preference among males for this activity. On the other hand, the Travel category registered low usage for both genders, with women leading at 4 while men trailed at 3. Daily Activities saw men again take the lead with an adoption rate of 20, followed by women at 10, indicating a moderate inclination among men here as well. In general, the statistics depicted a trend where men used the

pension scheme more than women, with the greatest usage coming from Health, followed by Daily Activities, and minimal use in Travel for both sexes.

Discussion

The cross-sectional study found the patterns of use and satisfaction levels with the Indira Gandhi National Old Age Pension Scheme (IGNOAPS) among the elderly people of rural Puducherry and generated meaningful knowledge regarding the scheme's ability to meet the economic and healthcare needs of the elderly. The age structure of the study sample was seen to be largely elderly, with 36.6% in the age range of 60–79 years and 34.5% in the over 80

years' age group, reflecting rural India's aging population trends evident from the 2011 Census [6]. The male overrepresentation (55.6%) and high unemployment level (97.9%) correspond to the anticipated retirement status of this age group, in line with the Longitudinal Ageing Study in India (LASI, 2020), emphasizing the economic dependency of rural older populations [1]. The prevalence of nuclear families (83.8%) compared to joint families (16.2%) indicates change from traditional family forms, possibly leading to greater dependence on social security programs such as IGNOAPS with declining family support structures [1,2].

The research identified gender as strong predictors of satisfaction with the IGNOAPS (p=0.019). Interestingly, there was a higher likelihood of females expressing discontent (54.3%) than males (27.1%), which is contrary to some earlier findings reporting females gained more from pension schemes because of higher economic vulnerability [5]. This difference may be due to greater expectations from males or varying access to information and administrative procedures in rural Puducherry. Conversely, literate respondents were more inclined to express dissatisfaction (72.9%) than illiterate respondents (27.1%), perhaps due to higher levels of awareness of procedural inefficacies or greater expectations of the scheme's rewards among educated participants [3]. These results support the significance of socio-demographic variables in influencing perceptions of social security schemes, as proposed by Ravi et al. (2025), who emphasize the role of education and gender in pension scheme participation [2].

The age, education, profession, socioeconomic status, and medical status had no relationship with satisfaction (p>0.05). The absence of correlation with age (p=0.384) indicates that younger (≤75 years) and older (≥75 years) elderly do not differ significantly in their level of satisfaction, which could reflect similar difficulties in receiving or utilizing the pension regardless of age [1]. The lack of a strong correlation with occupation (p=0.585) comes as no surprise in the light of near-total unemployment (97.9%) among this aging population, consistent with economic dependence observed in Pandey and Kumar (2023) [5]. Correspondingly, socioeconomic status (p=0.817) and health status (p=0.655) did not have a significant effect, indicating that the existence of chronic conditions (91.1% of satisfied respondents) does not have a strong effect on satisfaction, possibly due to the fact that pension sizes are inadequate to meet healthcare expenses in rural Puducherry, where multimorbidity is common [1,5].

The poor take-up of IGNOAPS, where less than a third of the rural BPL elderly eligible were covered as per LASI (2020), was echoed in the problems expressed in this study, including unawareness and administrative complexities [1]. These issues will probably account for the high levels of dissatisfaction, especially in males and literate people, who may face or even perceive more procedural obstacles. The dominance of nuclear families (83.8%) could also further increase pressures on finances, since traditional joint family support networks are less accessible, with greater reliance on pensions for day-to-day needs, healthcare, and social care [2]. Yet the evidence of the research implies that the pension value (Rs 1500–3000) in Puducherry, although greater than in most

states, could still be insufficient to make a real difference in terms of quality of life, especially for healthcare needs, considering the high rates of chronic disease [5,6,7].

The religious distribution, with 93.7% Hindu respondents, illustrates the population profile of rural Puducherry and could shape cultural perspectives on the use of pensions, although this was not measured directly [6]. The qualitative aspect of the study in the form of in-depth interviews with Anganwadi workers, non-beneficiaries, and beneficiaries would additionally shed light on such barriers as delay in pension disbursal and documentation hassles, observed in earlier studies [1,2]. Future research should investigate these qualitative findings to craft evidence-based interventions, e.g., streamlined application procedures or sensitization campaigns, to address IGNOAPS uptake and satisfaction.

The pattern of utilization of the Indira Gandhi National Old Age Pension Scheme (IGNOAPS) by rural elderly in Puducherry was such that most of the male and female beneficiaries utilized their pension towards health care expenses, given the prevalent high prevalence of chronic diseases and poor access to geriatric healthcare in rural settings [1,5]. Few employed the pension for travel (3 men, 4 women), possibly because of mobility restrictions or prioritization of basic needs [2]. Notably, more men (n=20) employed the pension for everyday activities than women (n=10), indicating potential differences in financial independence or household function [2,5]. These conclusions reinforce the necessity for gender-sensitive delivery of pensions and increased protection of healthcare cover to limit dependence on the pension for medicine needs [1,4,7].

The strengths and limitations of this research are limited sample size (n=142) and reliance on patient reported data, and such reliance could have introduced recall bias. In addition, the research failed to investigate certain spending patterns (e.g., percentage of pension allocated to healthcare vs. living expenses), which may yield more in-depth utilization insights. Notwithstanding these shortcomings, the research adds to the sparse literature on utilization of IGNOAPS in rural settings, in a high-pension state such as Puducherry [7]. The study emphasizes the requirement of policy measures to overcome administrative hurdles and raise pension values to suit the healthcare and economic requirements of the rural elderly.

Conclusion

This research underscored the pivotal role of the Indira Gandhi National Old Age Pension Scheme (IGNOAPS) in enabling elderly men and women in Puducherry's rural areas to access healthcare and cover other needs of everyday living. Although the scheme ensured basic financial relief particularly for healthcare spending levels of satisfaction differed widely according to gender and education, with educated and male respondents expressing higher levels of dissatisfaction. While Puducherry provided relatively higher amounts of pensions compared to most other states, the results indicated that the financial assistance was still inadequate to address the larger needs of the older persons, especially those with chronic diseases. Travel utilization was low, and gender variations in expenditure on routine activities indicated underlying socio-cultural issues and mobility constraints. The effectiveness of the scheme was also

limited by administrative constraints, ignorance, and weakening traditional familial support. According to the research, measures needed to better address the financial and health care requirements of elderly people in rural areas include better access mechanisms, more initiatives to increase awareness, and a possible rise in the number of pensions. Future research using qualitative methods was suggested to examine greater depth regarding the lived experience and issues confronting beneficiaries.

Statements and Declarations
Conflicts of interest

The authors declare that they do not have conflict of interest.

Funding

No funding was received for conducting this study.

References

1. International Institute for Population Sciences. Longitudinal Ageing Study in India (LASI): Wave 1 Report. Mumbai: International Institute for Population Sciences; 2020.

2. Ravi C, Shankar A, Kishwar S. Ageing in India: Current Demographic and Health Trends and Gaps in Policy. ORF Issue Brief No. 774. New Delhi: Observer Research Foundation; 2025.

3. Government of India. National Social Assistance Programme (NSAP) Guidelines. New Delhi: Ministry of Rural Development; 2024. Available from: https://nsap.nic.in.

4. Government of Puducherry. Old Age Persons and Destitutes Pension. Puducherry: Department of Women and Child Development; 2024. Available from: https://wcd.py.gov.in.

5. Pandey A, Kumar A. Pension for Elderly: Insights from India's Longitudinal Aging Study. In: Ageing in India: Challenges and Opportunities. Cham: Springer; 2023. p. 123-45. doi:10.1007/978-3-031-30546-7_8.

6. Government of India. Census of India 2011. New Delhi: Ministry of Home Affairs; 2011

7. Government of Puducherry. Old Age Persons and Destitutes Pension. Puducherry: Department of Women and Child Development. Available from: https://wcd.py.gov.in.