



**International Journal of Biology, Pharmacy  
and Allied Sciences (IJBPAS)**

*'A Bridge Between Laboratory and Reader'*

[www.ijbpas.com](http://www.ijbpas.com)

---

---

## A CROSS-SECTIONAL INVESTIGATION OF THE SOCIOECONOMIC IMPACT ON THE QUALITY OF LIFE OF PEOPLE SUFFERING WITH CHRONIC DISORDERS IN GUNTUR

Sk. JAHEDA\*, N. RAMA RAO, A. MOUNIKA, A. LAKSHMI HIMA BINDU, CH. PU-  
JITHA, J. SUSHMA AND K. JAYASRI

Chalapathi Institute of Pharmaceutical Sciences, Lam, Guntur, Andhra Pradesh

\*Corresponding Author: Dr. Shaik Jaheda Begum: E Mail: [jahedazb@gmail.com](mailto:jahedazb@gmail.com)

Received 28<sup>th</sup> July 2024; Revised 10<sup>th</sup> Sept. 2024; Accepted 3<sup>rd</sup> Oct. 2024; Available online 1<sup>st</sup> Oct. 2025

<https://doi.org/10.31032/IJBPAS/2025/14.10.9470>

### ABSTRACT

**Aim:** Our study aims to assess the impact of socio-economic variables on the Quality of Life (QoL) of individuals with chronic diseases in Guntur. This study investigates socioeconomic status, and quality of life, and identifies significant factors that may influence individuals' health outcomes. Additionally, this survey highlights challenges faced by individuals that may influence their healthcare decisions and assess the impact of patient counselling recommendations on the individual's ability to enhance the overall quality of life.

**Methodology:** Conducted from August 2023 to February 2024, the study involved 994 individuals, with 820 having chronic diseases. The cross-sectional study employed stratified random sampling to enroll participants from healthcare facilities, community centers, and outreach programs. Data on socio-economic status were collected through validated surveys, and QoL evaluation was conducted with the WHOQOL-BREF questionnaire.

**Results:** Most individuals with chronic diseases were in the upper-lower class. Statistical analysis using the Chi-square test unveiled a significant relationship between socio-economic status and QoL. Participants in lower classes preferred generic medications and self-medicated more, while higher classes favored branded medications and had more regular health checkups. Despite socio-economic challenges, the upper and lower classes reported higher QoL scores. Patient counseling interventions significantly improved medication adherence, awareness of chronic disease risk factors, and health management skills.

**Conclusion:** The research underscores the complex relationship between socio-economic variables and QoL in individuals with chronic diseases in Guntur, emphasizing the need for targeted interventions to raise socio-economic standards, enhance healthcare access, and bolster social support systems.

**Keywords:** Chronic diseases, Socioeconomic class, Quality of Life, WHOQOL-BREF, Kuppuswamy Socioeconomic Scale

## INTRODUCTION:

India has acquired the label of a chronically diseased nation with most of its population being upper lower and lower class [1-4]. This gives rise to a new set of medical, social, and economic problems that require suitable initiatives [5-15]. The increase in urbanization, evolving lifestyles, and shifting demographics have led to a variety of challenges confronting the Indian population. A variety of long-lasting medical disorders that call for constant care and attention are referred to as chronic diseases. Many studies have been done on chronic illnesses, but there isn't enough information available in Guntur, which is why we are doing this study. The Modified Kuppuswamy Scale provides the foundation for the socio-economic classification [16-24]. In this study, we analyzed different factors like QoL, occupation, educational background, medication, source of medication, self-medication practices, and health checkup frequencies among the five different socioeconomic classes.

## OBJECTIVE

- To describe the demographic and survey-based characteristics of patients with chronic diseases.

- To investigate how patients with chronic illnesses perceive their quality of life in relation to their socioeconomic situation.
- The purpose of patient counseling effect analysis is to evaluate how patients' behavior has changed in relation to health management and to educate them about the prevention and management of chronic diseases.

## METHODOLOGY

The cross-sectional study was conducted in the Indian state of Andhra Pradesh, Guntur district between August 2023 and February 2024. This study included an initial sample size of 994 individuals, out of which 820 were identified to be suffering from chronic diseases. The study was commenced after receiving consent from all study participants before their inclusion in their survey, ensuring ethical compliance. We developed a well-validated data collection form that included various demographic factors such as age, sex, height, weight, BMI, marital status, social history, lifestyle factors, economic class, and health status. In this survey, we used the standard WHOQOL-BREF (World Health Organization Quality of Life Brief

version) survey to evaluate the quality of life of those suffering from long-term illnesses. The validity and usefulness of this questionnaire in gauging people's quality of life are well acknowledged. The data was collected by online and offline versions of the above-mentioned data collection forms by properly guiding the individuals or their representatives. It was ensured that the responses were recorded accurately and completely. The collected data was analyzed using chi-square statistical test [23] (using an [online statistical calculator](#)) to examine the relationships of QoL with different variables like demographic factors, lifestyle factors, socioeconomic status, and health status. The obtained results from the data analysis were carefully evaluated to conclude the factors influencing the quality of life in individuals with chronic diseases.

### RESULTS:

Approximately 56.22% of the population fell within the 31-50 age range, consisting of 263 (63.22%) males and 198 (49%) females (See Table 1). The analysis of disease distribution by age groups and gender revealed a higher disease incidence among individuals

aged between 31-50 (Refer to Table 1). Also, both sexes were almost equally affected by chronic diseases, with 404 (40.27%) women and 416 (50.73%) men impacted (See Table 1). Individuals who come under the upper lower class (49.63%) have the highest prevalence for chronic diseases when compared to other classes like upper (5.36%), upper middle (13.66%), lower middle (22.81%) and lower class (8.54%) (See Table 2). We observed that the upper socioeconomic class had a high literacy rate (100%), and were more likely to hold professional or skilled occupations. In contrast, lower socioeconomic classes had lower literacy rates (7.14%), and were more likely to hold unskilled or manual labor occupations (See Table 3).

The influence of the counseling sessions on the health management behavior the individuals belonging to all socioeconomic classes. Notable transformations include a reduction in alcohol consumption and enhanced adherence to medications, along with an increase in health checkup frequency (See Table 6, 7).

Table 1: Distribution of chronic disease burden in the study sample

Chronic Disease		Females	Males	Total
Yes	Age intervals			
	<20	75 (18.56 %)	37 (8.89 %)	112 (13.66%)
	31-50	198 (49.01 %)	263 (63.22 %)	461 (56.12%)
	>50	131 (32.43 %)	116 (27.89 %)	247 (30.12%)
	Total	404 (100%)	416 (100%)	820
No	Total	94	80	174
	Total	498	496	994

Table 2: Chronic disease distribution among different socioeconomic classes

Socioeconomic class	Chronic Disease	Hypertension	Diabetes	Hyperthyroidism	Hypothyroidism	Chronic kidney disease	Arthritis
Upper class	44 (5.36%)	68.18%	34.09%	29.54%	4.54%	11.36%	31.82%
Upper Middle class	112 (13.66%)	66.96%	38.39%	16.07%	8.93%	16.96%	30.36%
Lower Middle class	187 (22.81%)	57.22%	33.69%	16.04%	7.49%	17.11%	29.41%
Upper Lower class	407 (49.63%)	64.61%	36.61%	14.0%	58.57%	20.88%	33.17%
Lower class	70 (8.54%)	67.14%	34.28%	20%	10%	20%	25.71%

Note: The table above shows simply the distribution of individual chronic diseases among different socioeconomic levels. However, it is vital to note that a single patient may or may not have multiple chronic diseases listed in the table above. As a result, the above table does not provide the percentage distribution of co-existing chronic diseases in the aforementioned socioeconomic classes

Table 3: Distribution of literacy rate and occupation types in the individuals suffering from chronic diseases belonging to different socioeconomic classes

Socioeconomic class	Education		Occupation		
	Illiterate (%)	Literate (%)	Primary (%)	Secondary (%)	Tertiary (%)
Upper class	0%	100%	0%	0%	100%
Upper Middle class	8.04%	91.96%	0%	20.54%	79.46%
Lower Middle class	57.75%	42.25%	28.34%	21.92%	49.74%
Upper Lower class	82.56%	17.44%	78.87%	20.64%	0.49%
Lower class	92.86%	7.14%	100%	0%	0%

We categorized 820 individuals into different socioeconomic classes using Modified Kuppuswamy Scale. The Kuppuswamy Scale, named after Dr. K. Kuppuswamy, is a socioeconomic classification system widely used in India. The scale considers three main parameters: The family's income, occupation, and level of education of the head of the household.

The data illustrates a clear relation between socioeconomic class and educational attainment, with higher classes demonstrating higher literacy rates and a prevalence of tertiary occupation, while lower classes tend to have higher rates of illiteracy and lower educational attainment overall and are more likely to engage in primary occupations.

Table 4: Medication preference, source of medication, self-medication practices, and health checkup frequency distribution in individuals with chronic diseases belonging to different socioeconomic classes

Variables Assessed		SOCIOECONOMIC CLASS				
		Upper class	Upper Middle class	Lower Middle class	Upper Lower class	Lower class
Medication Preference	Generic(%)	34.09%	62.5%	72.73%	90.42%	90%
	Branded(%)	65.91%	37.5%	27.27%	9.58%	10%
Source of Medication	Government Subsidy	9.09%	18.75%	37.43%	33.17%	55.72%
	Retail Pharmacy	22.73%	38.39%	45.99%	51.35%	34.28%
	Hospital Pharmacy	68.18%	42.86%	16.58%	15.48%	10%
Self-Medication	Yes	54.54%	52.68%	54.01%	51.84%	57.14%
	No	45.46%	47.32%	45.99%	48.16%	42.86%
Health Checkup Frequency	Once in a Week	2.27%	0%	0%	0%	0%
	Once in a Month	38.64%	22.32%	0%	0%	1.43%
	Once in a Year	20.45%	34.82%	51.87%	47.92%	40%
	Only when needed	38.64%	42.86%	48.13%	52.08%	58.57%

The analysis unveils distinct healthcare patterns among different socioeconomic classes. While the upper class leans towards branded medications (65.91%), the lower and upper lower classes predominantly choose generic alternatives, (90% and 90.42% respectively). Notably, the lower class heavily relies on government subsidies (55.72%), contrasting with the upperclass

preference for hospital pharmacies (68.18%). Self-medication tendencies are prevalent across all classes, with the lower class exhibiting the highest rate at 57.14%. Strikingly, no respondents from the upper middle, lower middle, upper lower, and lower classes reported weekly health check-ups, suggesting potential disparities in access to preventive healthcare services.

**Table 5: Number of individuals belonging to different QoL Score (%) categories in different health domains. P-values illustrate the significant association between the socio-economic class and the quality of life(QoL)**

SOCIO-ECONOMIC CLASS	PHYSICAL HEALTH		PSYCHOLOGICAL		SOCIAL RELATIONSHIPS		ENVIRONMENTAL	
	<50%	>50%	<50%	>50%	<50%	>50%	<50%	>50%
Upper class	16	28	19	25	22	22	11	33
Upper Middle class	35	77	40	72	37	75	46	66
Lower Middle class	95	92	45	142	61	126	81	106
Upper Lower class	74	333	107	300	153	254	206	201
Lower class	18	52	24	46	40	30	32	38
P- Value	<0.00001		0.022437		0.001903		0.011576	
Chi-square value	68.071		11.398		17.0348		12.9393	

We classified the QoL scores into two broader categories, <50% and >50% because there was no patient count in the QoL score class above 80% and below 40%. Since upper and upper-middle-class individuals predominantly have QoL scores closer

to 80%, therefore it was included under the >50%. Conversely, lower and upper-lower-class individuals, despite having QoL scores close to 50% are also placed within the >50% due to the binary nature of classification.

**Table 6: Impact of patient counseling on health management practices of the individuals**

Socioeconomic class	Medication adherence		Reduction in smoking and alcohol consumption	
	Pre-counseling	Post-counseling	Pre-counseling	Post-counseling
Upper class	52.27%	97.73%	9.09%	79.54%
Upper Middle class	26.78%	99.11%	18.75%	78.57%
Lower Middle class	22.45%	96.26%	13.36%	83.95%
Upper Lower class	23.34%	97.30%	11.79%	85.74%
Lower class	21.42%	97.14%	7.14%	87.14%

**Table 7: Pre and post counseling ability to recall risk factors (Based on number of risk factors recalled)**

Socioeconomic class	Pre-counseling ability to recall risk factors (Based on the number of risk factors recalled)		Post-counseling ability to recall risk factors (Based on the number of risk factors recalled)	
	<4 Risk factors	>4 Risk factors	<4 Risk factors	>4 Risk factors
	Upper class	11.36%	18.18%	11.36%
Upper Middle class	13.39%	16.96%	13.39%	77.68%
Lower Middle class	14.44%	17.11%	18.18%	73.80%
Upper Lower class	16.21%	19.16%	15.23%	76.17%
Lower class	11.43%	14.28%	15.71%	78.57%

**CONCLUSION:**

In conclusion, our cross-sectional investigation highlights a profound interdependence between socio-economic status and the quality of life among individuals grappling with chronic diseases in Guntur. Particularly, our findings underscore the disproportionate burden of chronic diseases on upper-lower-class individuals, exacerbating socio-economic disparities. By recognizing and addressing these disparities, we can strive towards enhancing the overall well-being and quality of life for all members of the community affected by chronic diseases in Guntur.

Furthermore, this data suggests the need for targeted interventions and policy initiatives aimed at improving the socioeconomic conditions and quality of life for individuals in the upper lower, and lower classes. By addressing the specific needs and barriers faced by this segment of the population, policymakers and stakeholders can work towards reducing socio-economic disparities and fostering greater equity and inclusion within society.

By incorporating socio-economic background data like education, occupation, and income into the project analysis, researchers can pinpoint the key factors influencing the quality of life for individuals with chronic diseases. This data-driven approach allows for the identification of socio-economic de-

terminants that directly impact health outcomes. By this, researchers can tailor interventions specifically designed to address these disparities and uplift affected communities.

Our comprehensive patient counseling intervention has demonstrated multifaceted benefits, including enhanced risk factor awareness, reduced alcohol and smoking habits, increased attendance at health checkups, and improved medication adherence. These findings underscore the comprehensive and enduring impact of our intervention in enhancing health-related awareness, and promoting healthier behaviors among individuals across diverse socioeconomic backgrounds.

**DISCUSSION:**

The cross-sectional study encompassed a sample size of 994 individuals within the Guntur region, revealing that a substantial majority comprising 820 individuals, had been diagnosed with chronic diseases.

As shown in Table/Fig-5, our investigation into the relationship between socioeconomic class and several facets of population quality of life produced some interesting results. We observed significant disparities across different socio-economic classes in physical, psychological, social, and environmental dimensions of quality of life. Specifically, individuals belonging to the upper middle class demonstrated higher scores in all dimensions compared to those in lower socio-

economic classes. where individuals in the upper middle class reported significantly better outcomes. Conversely, the lower class exhibited lower scores across all dimensions, indicating poorer quality of life in terms of physical, psychological, social relationships, and environmental aspects. Notably, the disparities were most pronounced in the physical dimension, highlighting the challenges faced by individuals from lower socio-economic backgrounds in maintaining their physical well-being.

The p-values and chi-square values further demonstrate the statistically significant relationship that our investigation found between socioeconomic class and several aspects of quality of life. These results underline the significance of socioeconomic factors in determining overall quality of life outcomes and draw attention to the stark differences between various socioeconomic classes. They also emphasize the necessity of focused interventions to address these disparities and enhance the well-being of vulnerable populations.

Our results showed that irrespective of the socioeconomic class there was a significant improvement in medication adherence due to our patient counseling intervention. Following patient counseling sessions, individuals across all socioeconomic classes demonstrated significant improvement in their ability to identify and list out risk fac-

tors, indicating the effectiveness of our intervention in enhancing awareness and understanding of health-related risks.

Our analysis revealed a marked decrease in alcohol consumption and smoking habits subsequent to patient counselling, showcasing the positive impact of our intervention on promoting healthier behaviours among individuals from diverse socioeconomic backgrounds.

#### **FINAL THOUGHTS:**

In summary, the influence of socioeconomic status on the standard of living of individuals with chronic diseases in Guntur, Andhra Pradesh, holds significant importance. Addressing disparities in income, education, and resource accessibility is essential to guaranteeing equitable health care and improving the well-being of undeserved populations. Future research endeavors must concentrate on crafting specific interventions that target social determinants of health and enable individuals to effectively manage their health conditions.

**Acknowledgement:** Authors are thankful to the management, principal, Chalapathi Institute of Pharmaceutical Sciences.

#### **REFERENCES**

- [1] Alam M. Ageing, Socio-economic Disparities and Health Outcomes: Some Evidence from Rural India. *Indian Journal of Human Development*. 2009 Jan;3(1):47–76.

- [2] Samson. Estimation of Lifestyle Diseases in Elderly from a Rural Community of Guntur District of Andhra Pradesh. *Journal of Clinical and Diagnostic Research*. 2014 Jan 1.
- [3] Lena A, Ashok K, Padma M, Kamath V, Kamath A. Health and social problems of the elderly: A cross-sectional study in Udupi Taluk, Karnataka. *Indian Journal of Community Medicine [Internet]*. 2009;34(2):131-134.
- [4] Mahin Alineghad, Hossein Matlabi, Akbar Azizi Zeinalhajlou. Healthy Lifestyle Status among Non- Institutionalized Older People: A Literature Review. *DOAJ (DOAJ:Directory of Open Access Journals)*. 2015 Dec 1.
- [5] Frantz, J.M. (2008). A knowledge assessment questionnaire relating to risk factors for chronic disease of lifestyle for high school learners: validity and reliability. *Journal of Community and Health Sciences*, 3. [https://repository.uwc.ac.za/bitstream/handle/10566/2765/Frantz\\_Knowledge%20assessment\\_2008](https://repository.uwc.ac.za/bitstream/handle/10566/2765/Frantz_Knowledge%20assessment_2008)
- [6] Kebede T, Taddese Z, Girma A. Knowledge, attitude and practices of lifestyle modification and associated factors among hypertensive patients on-treatment follow up at Yekatit 12 General Hospital in the largest city of East Africa: A prospective cross-sectional study. Siddiqi TJ, editor. *PLOS ONE*. 2022 Jan 27;17(1):e0262780.
- [7] Steyn K, Damasceno A. Lifestyle and Related Risk Factors for Chronic Diseases [Internet]. 2nd ed. Jamison DT, Feachem RG, Makgoba MW, Bos ER, Baingana FK, Hofman KJ, *et al.*, editors. PubMed. Washington (DC): World Bank; 2006. Available from: <https://pubmed.ncbi.nlm.nih.gov/21290651/>
- [8] Marovich S, Luensman GB, Wallace B, Storey E. Opportunities at the intersection of work and health: Developing the occupational data for health information model. *Journal of the American Medical Informatics Association*. 2020 Jun 10;27(7):1072–83.
- [9] Lhadon T, Kitreerawutiwong N. Assessment of competencies in the prevention and control of chronic diseases and their influencing factors among health assistants in Bhutan: a cross-sectional study. *BMC Health Services Research*. 2022 Nov 10;22(1).
- [10] Leng B, Jin Y, Li G, Chen L, Jin N. Socioeconomic status and hypertension. *Journal of Hypertension*. 2015 Feb;33(2):221–9.
- [11] Meetoo D. Diabetes: complications and the economic burden. *British Journal of Healthcare Management*. 2014 Feb;20(2):60–7.
- [12] Png ME, Yoong J, Phan TP, Wee HL. Current and future economic burden of

- diabetes among working-age adults in Asia: conservative estimates for Singapore from 2010-2050. *BMC Public Health* [Internet]. 2016 Feb 16;16(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4754926/>.
- [13] Yesudian CA, Grepstad M, Visintin E, Ferrario A. The economic burden of diabetes in India: a review of the literature. *Globalization and Health*. 2014 Dec;10(1).
- [14] Akirov A, Fazelzad R, Ezzat S, Thabane L, Sawka AM. A Systematic Review and Meta-Analysis of Patient Preferences for Combination Thyroid Hormone Treatment for Hypothyroidism. *Frontiers in Endocrinology* [Internet]. 2019 Jul 24 [cited 2022 May 21];10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6667836/>.
- [15] Wang L, Li B, Zhao H, Wu P, Wu Q, Chen K, et al. A systematic review and meta-analysis of endocrine-related adverse events associated with interferon. *Frontiers in Endocrinology* [Internet]. 2022 Aug 5;13. Available from: <https://doi.org/10.3389/fendo.2022.949003>.
- [16] Chiovato L, Magri F, Carlé A. Hypothyroidism in Context: Where We've Been and Where We're Going. *Advances in Therapy* [Internet]. 2019 Sep 4;36(2):47–58. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6822815/>
- [17] Bello AK, Peters J, Rigby J, Rahman AA, El Nahas M. Socioeconomic Status and Chronic Kidney Disease at Presentation to a Renal Service in the United Kingdom. *Clinical Journal of the American Society of Nephrology*. 2008 Jun 25;3(5):1316–23.
- [18] Dominick KL, Ahern FM, Gold CH, Heller DA. Health and Quality of Life Outcomes. 2004;2(1):5.
- [19] Mounica. Bollu, Koushik Nalluri K, Prakash A Surya, Lohith M naga, Venkataramarao N. Study of Knowledge, Attitude, And Practice of General Population Of Guntur Toward Silent Killer Diseases: Hypertension And Diabetes. *Asian Journal of Pharmaceutical and Clinical Research* [Internet]. 2015 Jul 1 [cited 2024 Mar 24];74–8. Available from: <https://journals.innovareacademics.in/index.php/ajpcr/article/view/5526>.
- [20] Singh PK, Singh L, Dubey R, Singh S, Mehrotra R. Socioeconomic determinants of chronic health diseases among older Indian adults: a nationally representative cross-sectional multilevel study. *BMJ Open*. 2019 Sep;9(9):e028426.
- [21] Wani RT. Socioeconomic status scales-modified Kuppaswamy and Udai

- Pareekh's scale updated for 2019. *Journal of Family Medicine and Primary Care*. 2019;8(6):1846.
- [22] Radhakrishnan M, Nagaraja SB. Modified Kuppaswamy socioeconomic scale 2023: stratification and updates. *International Journal Of Community Medicine And Public Health* [Internet]. 2023 Oct 31;10(11):4415–8.
- [23] <https://www.socscistatistics.com/tests/chisquare2/default2.aspx>
- [24] Williams J, Allen L, Wickramasinghe K, Mikkelsen B, Roberts N, Townsend N. A systematic review of associations between non-communicable diseases and socioeconomic status within low- and lower-middle-income countries. *J Glob Health*. 2018 Dec;8(2):020409. doi: 10.7189/jogh.08.020409. PMID: 30140435; PMCID: PMC6076564.