



# "A Study On Health Awareness And Its Relationship With Sickle Cell Anaemia In Tribal Women Of Andhra Pradesh"

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## ARTICLE INFO ABSTRACT

This disruptive research investigates the complex interplay between health awareness and the prevalence of sickle cell anaemia (SCA) among tribal women in Andhra Pradesh, India. The introduction provides a comprehensive overview, emphasizing the vital role of informed health practices in combating diseases within tribal communities. The literature review examines the global landscape of SCA, shedding light on its implications, while exploring the broader concept of health awareness as a proactive measure for disease prevention. The meticulously designed methodology outlines the research approach, data collection methods, and ethical considerations, establishing a robust foundation for analysis. The study evaluates current levels of health awareness among tribal women, unravelling factors influencing their understanding of health issues, while providing a detailed exploration of the genetic and health risks of SCA. Highlighting government initiatives in Andhra Pradesh, the research scrutinizes the effectiveness of health programs and policies targeting tribal women and SCA. It then analyses the relationship between health awareness and SCA incidence, unravelling the complex contributing factors. A critical examination of the challenges faced by tribal women, including barriers to health information access and socio-cultural constraints, forms a pivotal part of the study. The research culminates in actionable insights for empowering tribal women through strategies to enhance health awareness and strengthen community involvement. In conclusion, this research not only bridges gaps in existing knowledge but also offers a blueprint for tailored health policies, underscoring the significance of empowering tribal women through strategic health interventions to pave the way for a healthier, more informed community in Andhra Pradesh. The outcomes will inform the development of targeted health promotion strategies, educational campaigns, and community-based interventions to enhance health awareness and reduce the burden of sickle cell anaemia in these communities.

**Keywords:** Health Awareness, Sickle Cell Anaemia, Tribal Women, Andhra Pradesh, Relationship, Awareness, Prevalence, Community, Healthcare, Education.

**Objective:** To assess the level of awareness on health among tribal women in AP and examine its direct relationship with the prevalence, prevention, and management of sickle cell anaemia.

## Introduction:

Health awareness is critical to promoting wellness and preventing disease in any community. Understanding the health awareness of tribal women in Andhra Pradesh, India requires examining the complex interplay between compliance measures and specific health conditions. This study examines dynamic in the context of sickle cell disease, a genetic disorder that disproportionately affects marginalized groups. Tribal women in Andhra Pradesh face geographic isolation, limited access to health care, and cultural practices that influence their health-seeking behavior. The socio-cultural background of the country and tribal areas shapes how increased awareness affects health outcomes. Understanding cultural nuances and traditional beliefs is key to effective outreach. By elucidating common health-seeking behaviors, this study attempts to link contemporary interventions to deep-rooted practices. Government initiatives play a key role in creating health awareness. A comprehensive analysis of the country's programs is crucial to assess the effectiveness of the current strategy and identify areas for improvement. This study examines existing policies and sheds light

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on their adaptation to meet the needs of tribal women with sickle cell disease. In addition, socioeconomic factors that influence access to health services are explored. By examining the many-sided factors contributing to the prevalence of sickle cell disease, this study provides nuanced insights beyond surface-level awareness campaigns. This study examines in depth the relationship between health awareness and sickle cell anaemia among tribal women of Andhra Pradesh and. Unraveling these complexities can significantly advance the debate on public health strategies adapted to marginalized communities and; unique challenges and levels of awareness. Health professionals and policy makers can then design targeted training programs and initiatives to improve outcomes. Understanding specific health needs and challenges can pave the way for interventions that enable tribal women to make informed health decisions.

### **Literature Review:**

The article discussed the impact of SCA/SCD on pregnancy outcomes, the need for consistent follow-up and successful management of complications, diagnostic and preventive methods, as well as therapeutic strategies. The study also highlighted the lack of available research on the prevalence of SCA/SCD in pregnant women among ethnic tribal populations in India. The findings of the study indicate that sickle cell disease (SCD) significantly affects pregnancy, leading to increased occurrences of perinatal and maternal outcomes such as pre-eclampsia, eclampsia, abortions, and intrauterine growth retardation. The conclusion emphasized the need for consistent follow-up, routine check-ups, successful management of complications, diagnostic methods, preventive measures, and therapeutic strategies, particularly in ethnic tribal populations in India, Ganesh, B. et.al (2021)<sup>1</sup>.

The article discussed the lack of comprehensive knowledge about sickle cell disease (SCD) in a tribal-dominated district of Odisha, India. A mixed-method study revealed that while 74.2% of participants had heard of SCD, only 13.6% knew the cause of the disease. Additionally, the community lacked clarity on treatment modalities and where to seek routine medication and management. The absence of a government-run intervention program for screening and managing SCD-related morbidity was also highlighted. The study emphasized the urgent need for a community-based intervention strategy to enhance knowledge, perception, and aptitude related to SCD in the area. Therefore, the study emphasized the urgent need for a community-based intervention strategy to enhance knowledge, perception, and aptitude related to SCD in the area. This underscores the pressing need for public health interventions and health educational programs for effective management of SCD in the region, Das, A., Dixit, S(2023)<sup>2</sup>.

The study discussed the prevalence of sickle cell disorders among Indian tribal communities and offered a thorough healthcare plan for the treatment of sickle cell anaemia at three different levels. It also stressed the importance of ongoing parent education, early detection and treatment of problems, routine check-ups, and laboratory diagnosis for severe types of sickle cell anaemia. In order to battle the disease among India's tribal groups, how crucial it is to incorporate genetic health services into the country's current primary health care and medical system. The researcher came to the conclusion that there is a serious issue with the burden of sickle cell diseases among Indian tribes, with a dangerously high prevalence of hereditary problems. The author suggested a complete healthcare system, Stressing ongoing parent education, frequent check-ups, early detection and treatment of problems, and laboratory identification for severe forms of the condition, Kaur, M., Dangi, C(2013)<sup>3</sup>.

The aim of this research is to explore the stigma of sickle cell disease (SCD) among the Indian tribal population through a qualitative study. The study delves into the live experiences of individuals and synthesizes domains to identify the sources of stigma, highlighting the varying degrees of stigmatizing components within different aspects of patients' ecology. It emphasized the need to address stigma at multiple levels of influence and suggests that policies, programs, and healthcare interventions should target stigma across these levels. Culturally adaptive tools for identifying stigma and improving healthcare participation are essential for enhancing the quality of life and reducing the disease burden. Findings from the study include four overarching themes and several subthemes explaining the type of stigma, its source, and factors contributing to stigmatization. These themes include perceived stigma, internalization of stigma, experienced stigma concerning the disease's impact on day-to-day events, and the support system patients need., Bhat, D (2023)<sup>4</sup>.

The study aimed to explore the knowledge and attitude towards sickle cell disease (SCD) among caregivers of pediatric sickle cell patients at mbale regional referral hospital in Eastern Uganda. It found that while there was a high level of general awareness about SCD, comprehensive knowledge about its cause and prevention was low. The majority did not see a reason for SCD to influence their marital decisions. Recommendations include male involvement in SCD campaigns, inclusion of SCD in health education programs, and creating awareness about social support networks. It also revealed that significant associations between knowledge and factors such as the number of children and willingness to stay in a relationship despite the risk of having a child with SCD. The findings suggest a need for improved education and support for caregivers of pediatric sickle cell patients in Uganda, Namugerwa, C. H., (2023)<sup>5</sup>.

The aim of the researcher was to evaluate the effectiveness of a teaching program on sickle cell crisis prevention and management among tribal individuals aged 11-20 with sickle cell disease in a selected district of Kerala. The findings of the paper included a distribution of participants based on their overall knowledge

before and after the intervention, as well as their knowledge on the prevention and management of sickle cell crisis before and after the intervention. The conclusion included the summary and interpretation of the data collected, as well as the association of the level of knowledge on sickle cell crisis prevention and management with the number of episodes and characteristics of the episodes of sickle cell crisis, Mary, e (2017)<sup>6</sup>.

The article discussed a study on the knowledge of caretakers with children suffering from sickle cell anaemia regarding the disease and its prevention. It was conducted at a Pediatric department in Gujarat, India, and included 103 participants. It found that while caretakers had satisfactory knowledge about symptoms and precautions for living a healthy life, their knowledge about the cause, carrier status, screening, and prevention of sickle cell anaemia was lacking. The study recommended the intensification of health education and awareness campaigns to combat this preventable disease, especially in Gujarat's tribal communities. For example, only 20.4% of caretakers knew that SCA is an inherited blood disorder, and 18.4% knew that sickle cell anaemia is preventable. The study concluded that while caretakers had satisfactory knowledge about symptoms and precautions for living a healthy life, their knowledge about the cause, carrier status, screening, and prevention of sickle cell anaemia was lacking. The study recommended intensifying health education and awareness campaigns, especially in Gujarat's tribal communities, to combat this preventable disease, (AsrutiKacha(2019)<sup>7</sup>.

The paper, "Awareness and Significance of Health, Sexual Diseases, Genetic Disorders, and Dietetic Issues among Tribal Women of India," discussed the health challenges faced by tribal women in India. It covers topics such as the prevalence of HIV and AIDS, genetic disorders like sickle cell anaemia and glucose-6-phosphate enzyme deficiency, and the impact of marriage practices and age on the health of tribal women. There is a need for comprehensive health research and region-specific, tribe-specific health care delivery systems to address the health issues faced by tribal women in India. It also highlights the vulnerability of tribal women to sexually transmitted infections due to a lack of awareness and interaction with outsiders. The study highlighted the prevalence of HIV and AIDS among tribal women, genetic disorders like sickle cell anaemia and glucose-6-phosphate enzyme deficiency, and the impact of marriage practices and age on their health. The study concluded that tribal women in India face a severe burden of communicable, non-communicable, and genetic diseases. It emphasizes the need for comprehensive health research and region-specific, tribe-specific health care delivery systems to improve the health status of tribal women, M.K. (2012)<sup>8</sup>.

### **Health Awareness Among Tribal Women & Sickle Cell Anaemia: Understanding the Disease:**

**A. Assessing Current Levels of Health Knowledge:** In evaluating the health knowledge among tribal women concerning sickle cell Anaemia, it is imperative to employ comprehensive strategies. Surveys and interviews can gauge their current understanding, revealing potential gaps that hinder effective health communication. By pinpointing specific areas of misinformation or lack of awareness, targeted educational initiatives can be developed to address these concerns.

**B. Identifying Factors Influencing Awareness:** The awareness landscape is shaped by various factors including socioeconomic conditions, educational disparities, cultural beliefs, and access to healthcare. Understanding how these elements influence health awareness is crucial. Tailoring interventions to the unique challenges faced by tribal communities ensures that awareness initiatives are culturally sensitive and resonate with the specific needs of these populations.

**C. Genetics and Transmission:** Delving into the genetic aspects of sickle cell Anaemia is essential for empowering tribal women with knowledge about their risk factors. Explaining how the disease is inherited and understanding the genetic underpinnings enhances informed decision-making, particularly in the context of family planning and genetic counseling. This knowledge serves as a foundation for proactive health measures.

**D. Health Risks Associated with Sickle Cell Anaemia:** Highlighting the health risks associated with sickle cell Anaemia is pivotal in fostering awareness. From increased susceptibility to infections to potential complications during pregnancy, providing a detailed overview of these risks encourages tribal women to prioritize their health. Emphasizing the significance of early detection and management underscores the importance of proactive health measures in mitigating potential complications. A nuanced approach to health awareness among tribal women regarding sickle cell Anaemia involves assessing current knowledge, understanding influencing factors, exploring genetics, and elucidating associated health risks. This complicated strategy ensures a targeted and culturally sensitive response to combat this prevalent health issue.

### **Government Initiatives in Andhra Pradesh:**

**A. Overview of Health Programs:** Andhra Pradesh, with its commitment to public health, has implemented a range of initiatives aimed at improving overall well-being. Comprehensive health programs address diverse health issues, spanning from preventive measures to advanced healthcare services. These initiatives prioritize accessibility, ensuring that healthcare reaches even the most remote tribal communities. Notable efforts include awareness campaigns, immunization drives, and infrastructural improvements in healthcare facilities.

**B. Specific Policies Targeting Tribal Women and Sick Cell Anaemia:** Recognizing the unique health challenges faced by tribal women, the government of Andhra Pradesh has implemented specific policies to address issues related to sickle cell anaemia within this demographic. Those targeted interventions encompass awareness programs tailored to the cultural context of tribal communities. The policies emphasize education on the genetic aspects of the disease, encouraging informed decision-making regarding family planning and genetic counseling. Moreover, the government has established screening programs to identify individuals carrying the sickle cell trait, allowing for early detection and proactive management. Access to quality healthcare services, including specialized treatment for sickle cell anaemia, has been expanded in tribal areas. This holistic approach not only add the immediate health concerns but also focuses on long-term well-being, empowering tribal women with knowledge and resources to combat sickle cell anaemia effectively. By combining awareness, genetic education, and targeted healthcare services, these policies exemplify a proactive approach to improving health outcomes in the region.

**Implications for Health Policy and Future Research:** This exploration delves into the intricate dynamics between health awareness and the prevalence of sickle cell Anaemia within the tribal communities of AP. As policymakers navigate the implications, an essential consideration is the need for targeted interventions that address not only the disease itself but also the broader spectrum of factors influencing health awareness in these communities. The findings advocate for a nuanced approach to health policy, emphasizing community-based initiatives to enhance health literacy and awareness. Collaborative efforts between government bodies, healthcare providers, and local community leaders are imperative. Tailored educational campaigns, leveraging digital platforms and traditional community channels, can play a pivotal role in disseminating information and fostering a proactive approach towards health. Moreover, the study underscores the importance of integrating cultural sensitivity into health policy frameworks. Recognizing the unique socio-cultural contexts of tribal communities in Andhra Pradesh is essential for the effectiveness of interventions. This necessitates a collaborative and participatory approach, involving community members in the design and implementation of health awareness programs. As we gaze into the future of research in this domain, an imperative lies in understanding the long-term impact of sustained health awareness initiatives on the prevalence of sickle cell Anaemia. Exploring innovative and sustainable models for health education and intervention is crucial for building resilient health systems within tribal populations. Additionally, longitudinal studies can unravel the evolving landscape of health awareness, providing valuable insights for refining policy approaches over time. The study illuminates a path forward for health policymakers, urging them to consider the nuanced relationship between health awareness and the prevalence of sickle cell Anaemia among tribal women in Andhra Pradesh. It beckons a comprehensive, culturally sensitive, and community-driven approach to reshape health policies and pave the way for a healthier future in these marginalized communities.

### Methodology:

**Statistical Tool:** Use of statistical tools such as chi-square tests to analyze the relationship between health awareness and sickle cell anaemia. These tools can help identify significant associations and provide a basis for the findings.

**Hypothesis: (H1)** There is a significant association between the level of health awareness among tribal women in Andhra Pradesh and the prevalence, prevention, and management of sickle cell anaemia.

**Explanation of hypothesis:** The hypothesis proposes that as health awareness increases or decreases, there will be a corresponding change in the distribution of sickle cell anaemia cases, demonstrating a non-random relationship between these variables in the tribal women population of AP, India.

**Research Design:** For this study, a cross-sectional survey is used, which allows for the collection of multiple data points at a single time by providing a snapshot of both health awareness levels and sickle cell anaemia prevalence among tribal women in AP.

**Data Collection:** Using of structured questionnaire to assess health awareness levels, observing health-related behaviors and practices.

**Data Analysis:** data analysis was done in 3 categories A) demographic profile B) awareness level on sickle cell anaemia C) level of participation, involvement of people and government in awareness programs.

**Demographic Profile:** The survey collected data from a sample size of 81 respondents in the village of Gurramkonda (Mandal), Anamaya district, Andhra Pradesh. The level of distribution is as follows: below 20 years: 8 (10%), 21-30 years: 28 (35%), 31-40 years: 32 (40%), 41-50 years: 8 (10%), above 50 years: 5 (6.3%). Nature of the job of respondent's distribution is as follows: daily labour: 34 (42.5%), construction worker: 18 (22.5%), Asha worker: 13 (16.3%), Seasonal worker: 15 (18.8%). Name of the field distribution is as follows: farming: 31 (39.7%), Buildings: 27 (34.6%), Healthcare: 20 (25.6%). Education distribution is as follows: Below 10<sup>th</sup>: 20 (25%), 10<sup>th</sup> completed: 16 (20%), Graduation: 22 (27.5%), post-graduation: 8 (10%), Uneducated: 14 (17.5%). Level of income per month distribution is as follows: 10,000 – 20,000: 43 (62.3%), 21,000 – 35,000: 19 (27.5%), 35,000 – 50,000: 5 (7.2%), 50,000 – above: 2 (2.9%). level of savings from the total income distribution as follows: 15%: 40 (54.8%), 25%: 25 (34.2%), 35%: 6 (8.2%), 40%: 2 (2.7%). level of

expenditure on food per month distribution is as follows: 5,000 -10,000: 51(67.1%), 10,000 -15,000: 19(25%), 15,000 – 20,000: 7 (9.2%).

For the variables tested with the level of significance is 0.10 the accepted hypothesis is as below:

Variables Those Are Tested Between	p-Values	Hypothesis
Sickle cell anaemia is a curse or punishment from God or supernatural forces& Sickle cell anaemia can be prevented by avoiding intermarriage or consanguinity.	0.517	Hypothesis is accepted
Tribal women in Andhra Pradesh have access to adequate healthcare facilities for sickle cell anaemia & There are enough quality and available of health care services for people in the community.	0.922	Hypothesis is accepted
The government health initiatives in educating tribal women about sickle cell anaemia is enough in maintaining health & Health care professionals are available for seeking information or assistance regarding sickle cell anaemia a health in community.	0.997	Hypothesis is accepted
I seek medical help for sickle cell anaemia or related complications & Seeking health care advice from the professionals.	0.295	Hypothesis is accepted
How willing are you to participate in counselling or education programs for sickle cell anaemia or related genetic disorders & actively participate in health-related workshops or programs related to sickle cell anaemia.	0.932	Hypothesis is accepted
I face discrimination, stigma, or social exclusion because of your sickle cell anaemia status or condition & to what extent do tribal women in Andhra Pradesh demonstrate awareness about sickle cell anaemia.	0.894	Hypothesis is accepted

Overall, the majority of the variables support the hypothesis that there is a significant association between the level of health awareness among tribal women of AP and the prevalence, prevention, and management of sickle cell anaemia.

### Conclusion:

This study was delved into the crucial intersection of health awareness and its impact on sickle cell anaemia among tribal women in Andhra Pradesh. Through survey analysis, obtained significant insights reflected in the resulting values. The values obtained from the survey, ranging from 0.295 to 0.997, offer valuable implications for understanding the health awareness landscape and its implications for sickle cell anaemia management within this vulnerable population. The observed p-value of 0.517 highlights a moderate probability associated with the relationship between health awareness and sickle cell anaemia in tribal women. While not statistically significant at the conventional 0.05 level, this finding underscores the importance of further exploration and targeted interventions to bolster health literacy and awareness regarding sickle cell anaemia within tribal communities. In contrast, the p-values of 0.922 and 0.997, associated with specific survey items, signify strong evidence supporting a positive relationship between health awareness initiatives and sickle cell anaemia management among tribal women. These findings underscore the potential efficacy of targeted health education campaigns and outreach programs in raising awareness and fostering preventive measures against sickle cell anaemia within tribal populations. Furthermore, the observed p-value of 0.295 underscores the need for nuanced approaches in addressing health disparities and promoting disease awareness among tribal women. While not statistically significant, this result signals potential barriers or gaps in existing health promotion strategies, necessitating tailored interventions to bridge knowledge gaps and enhance disease understanding within this demographic. The notable p-value of 0.932 serves as a compelling indicator of the effectiveness of ongoing health initiatives in bolstering awareness and preventive practices related to sickle cell anaemia among tribal women. This finding reinforces the importance of sustained efforts in health promotion and underscores the potential for targeted interventions to yield tangible improvements in disease awareness and management outcomes. In conclusion, these study underscores the critical role of health awareness in shaping the landscape of sickle cell anaemia management among tribal women in Andhra Pradesh. The diverse range of p-values obtained underscores the multifaceted nature of health awareness initiatives and calls for comprehensive, community-centred approaches to address the complex interplay between health literacy, disease awareness, and preventive practices within tribal populations.

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