

Impact Analysis – AYUSH Mobile Medical Unit

Dr. Kavya Ajay, Dr. Krishnendhu VK, Dr. Sreedhish KS, Dr. Thripathi T

Introduction

The AYUSH Mobile Medical Unit (AMMU) is a significant public health initiative introduced by the Ministry of AYUSH, Government of India, to provide preventive, promotive, and curative AYUSH healthcare services to underserved communities. In Kerala, the Ministry of Health and Family Welfare, Government of Kerala, has implemented this program under the National AYUSH Mission (NAM) in collaboration with the Department of Indian Systems of Medicine (ISM) and the Department of Homoeopathy. The AMMU program is designed to address healthcare gaps by reaching tribal populations in remote and underserved areas through mobile medical units, ensuring better access to healthcare services.

The program focuses on screening and managing communicable and non-communicable diseases through medical camps and health awareness initiatives. Kerala has a tribal population of 4,84,839 individuals, constituting 0.5% of India's total tribal population and over 1% of Kerala's population (Census 2011). The highest concentration of Scheduled Tribes (ST) is in Wayanad district (31%), with the majority (89%) residing in rural areas. This population faces a high burden of malnutrition, anaemia, infectious diseases, dermatological conditions, arthritis, and neurological disorders, which are further aggravated by illiteracy, poor hygiene, socio-economic constraints, substance abuse, and limited access to healthcare services.

Tribal communities often experience barriers in accessing conventional healthcare services due to geographical remoteness, financial instability, and cultural preferences for traditional healing practices. The low health-seeking behaviour in these communities stems from limited healthcare infrastructure, socio-cultural beliefs, and lack of awareness, leading to delayed diagnosis and treatment of various health conditions. While modern healthcare services struggle to gain acceptance in these communities, the AYUSH system aligns more closely with indigenous healing traditions, making it a more culturally acceptable and effective healthcare solution.

To bridge this gap, AMMU services were introduced in different districts of Kerala, where tribal populations are significantly underserved. The program delivers preventive, promotive, and curative AYUSH services directly to the most remote tribal settlements, thereby improving healthcare accessibility and reducing disease burden. Through regular medical camps, disease screenings, and health awareness programs, AMMU enhances early detection, treatment, and health education among tribal populations.

Given the unique health challenges faced by tribal communities, it is essential to evaluate the impact of AMMU in improving healthcare access and health outcomes. This impact assessment aims to analyze the program's reach, effectiveness, and community response, providing valuable insights for future improvements, policy decisions, and expansion strategies to strengthen tribal healthcare in Kerala.

Objectives

1. To understand the impact of AYUSH Mobile Medical Units in four selected districts of Kerala: Wayanad, Idukki, Kannur, and Palakkad.
2. To assess the accessibility of healthcare facilities for beneficiaries in the project locations.
3. To evaluate the satisfaction levels of beneficiaries regarding AMMU services in communicable and non-communicable disease conditions.

Methodology

To capture the true impact of the AYUSH Mobile Medical Unit (AMMU) program, a well-structured and systematic approach to data collection was adopted. The study focused on four selected districts of Kerala—Wayanad, Idukki, Kannur, and Palakkad—which include a higher concentration of tribal population and where AMMU services are operational, providing Homoeopathy and ISM healthcare to tribal communities.

Recognizing the unique challenges faced by these populations, a quantitative survey was designed. A structured questionnaire was carefully developed, covering key aspects such as demographic details, healthcare access, service utilization, and overall satisfaction with the program. Given the linguistic and cultural diversity of the respondents, face-to-face interviews were conducted. Medical officers stationed at AMMU service points played a pivotal role in data collection, directly engaging with beneficiaries to gather firsthand accounts of their healthcare experiences. Responses were initially recorded manually and later digitized for systematic analysis. Data were processed using percentage distributions, highlighting trends in service accessibility, patient satisfaction, and areas needing further improvement. Data analysis was done by the Project Coordinators of ISM and Homoeopathy.

Results

Table 1: Findings of Impact Assessment of AYUSH Mobile Medical Unit.

Category	Sub-category	Percentage
Age Distribution	< 18 yrs	3%
	18-30 yrs	17%
	31-50 yrs	31%
	> 50 yrs	49%
Gender Distribution	Female	73.23%
	Male	26.77%
Education Levels	No Formal Education	39%
	Primary School	36%
	High School	20%
	Higher Secondary	0.79%
	Graduate and above	4%
Occupation Categories	Daily Wage Labourers	55.07%
	Homemakers	32%
	Agriculture	8.21%
	Students	4%
	Others	0.74%
Distance to Healthcare Centres	Within 5 km	41.82%
	5-10 km	44.55%
	Above 10 km	13.64%
Mobile Health Unit Visits	Monthly	63.64%
	Fortnightly	36.36%
Health Improvements	Significant Improvement	74%
	Minor Improvement	26%
Reduction in Health Issues	Nutritional Deficiencies	62%
	Other Ailments	22.38%
	Chronic Conditions (Hypertension & Diabetes)	15.78%

The survey results provide valuable insights into the **demographic distribution** and service utilization of AMMU. Nearly half of the respondents are above 50 years of age, making up 49% of the surveyed population. A significant portion, 31%, falls within the 31 to 50 age brackets, while 17% are between 18 to 30 years old. Only a small fraction, 3%, are below the age of 18.

Gender distribution among the respondents reveals that a substantial majority, 73.23%, are female, while only 26.77% are male.

The **educational background** of the respondents highlights that 39% have received no formal education. A significant number, 36%, have completed only primary schooling. High school education accounts for 20% of the respondents, while those with graduate-level education or

above make up merely 4%. The least represented category consists of individuals with higher secondary education, comprising only 0.79% of the surveyed group.

In terms of **occupation**, a majority of the respondents, accounting for 55.07%, are engaged as daily wage labourers. Homemakers form the second largest group, representing 32% of the respondents. Those involved in agriculture make up 8.21%, while students constitute 4% of the total population. A very small percentage, 0.74%, falls into other occupational categories.

When assessing access to healthcare, the proximity of respondents to medical facilities is a crucial factor. The data suggested that 41.82% of individuals live within 5 kilometers of the nearest health center, while 44.55% reside between 5 to 10 kilometers away. A notable portion, 13.64%, must travel over 10 kilometers to reach a healthcare facility. Although a majority have relatively close access to healthcare services, a significant number still face challenges due to distance. Regarding the frequency of mobile health unit visits, the findings indicate that 63.64% of the respondents receive these services on a monthly basis, while 36.36% benefit from fortnightly visits.

The impact of AMMU services on health outcomes is significant. A substantial 74% of respondents reported experiencing notable health improvements after availing themselves of the services, whereas 26 % observed only minor improvements. The reduction of specific health issues has also been documented, with 62% of respondents noting improvements in nutritional deficiencies. Other ailments, which included symptoms like fever, headache, upper and lower respiratory tract infections, and gastric complaints, have seen a decrease among 22.38% of the population, while chronic conditions such as hypertension and diabetes have been mitigated for 15.78% of beneficiaries. Women and child health have been key focus areas of AMMU services, with all respondents confirming that these interventions have provided substantial benefits, particularly for pregnant and lactating mothers, as well as children.

The overall satisfaction level among beneficiaries was predominantly positive. A substantial proportion (83%) of respondents reported being very satisfied with the services received, while 16% indicated satisfaction. Only a minimal 1% of beneficiaries expressed dissatisfaction. Respondents rated key service areas based on their quality. The services provided by doctors received highly favorable feedback, with 90% of respondents rating them as excellent, 3% as good, and 0.5% as average. Notably, no respondents rated this category as poor or very poor. The availability of medicines was rated as excellent by 39% of respondents, good by 24%, and average by 26.5%. Only 1% of respondents rated it as poor, with no reports of very poor availability. The behaviour of staff was another crucial aspect evaluated, with 88% of respondents

rating it as excellent, 7.5% as good, and 4.5% as average. No respondents rated staff behaviour as poor or very poor, indicating a high level of satisfaction with service delivery.

Challenges in accessing AMMU services were minimal, as 96% of respondents reported no issues. However, 4% mentioned minor challenges, primarily related to the availability of laboratory facilities. AMMU has played a significant role in raising awareness about health-related issues. Hygiene awareness emerged as the most commonly mentioned area of improvement. Additionally, 22% of respondents reported increased awareness of AYUSH treatments, while 7% gained knowledge about preventive care practices. A significant portion of the surveyed population, 85%, adopted preventive health measures following AMMU awareness sessions, while 5% did not make any lifestyle changes based on the information provided. When asked about the most appreciated aspects of AMMU services, beneficiaries emphasized the quality of treatment and the effectiveness of medicines, with 40% highlighting this as a key factor. The convenience and accessibility of doorstep services were valued by 30%, while 20% praised the compassionate behavior and care provided by the staff. Awareness and health education efforts were recognized by 5% of respondents, and an additional 5% appreciated the availability of supplementary services.

Suggestions for service improvement were also collected from respondents. The most commonly recommended enhancements included the provision of better lab facilities and diagnostic services, as suggested by 20% of respondents. Another 15% emphasized the need for improved medicine availability and the establishment of a dedicated pharmacy setup. Increasing the frequency of mobile unit visits was a priority for 10% of respondents, while 5% recommended the introduction of palliative and specialized care services. Expanding health awareness and preventive care initiatives was also suggested by 5% of respondents.

Additionally, a significant portion (45%) of respondents shared general satisfaction-related suggestions aimed at refining overall service quality. In terms of additional comments, 80% of respondents expressed overall satisfaction with AMMU services. Some suggested improvements in treatment effectiveness and staffing, including hiring additional pharmacists and nurses. A few respondents recommended increasing the frequency of consultations to better cater to the healthcare needs of the community. The service utilization breakdown indicates that 113 respondents accessed homoeopathy services, while 69 respondents utilized ISM (Indian Systems of Medicine) services.

Conclusion

The AYUSH Mobile Medical Unit (AMMU) has demonstrated a transformative impact on healthcare accessibility and service delivery in tribal communities across Wayanad, Idukki, Kannur, and Palakkad. The initiative has successfully bridged the gap between traditional healthcare facilities and underserved populations, bringing quality preventive, promotive, and curative AYUSH services directly to those in need.

The findings highlight that a vast majority (99%) of beneficiaries actively use AMMU services, with significant improvements in nutritional deficiencies (62%), fever management (22%), and chronic disease control (16%). Women, including pregnant and lactating mothers, as well as children, have reported 100% benefit, reinforcing the unit's crucial role in maternal and child health.

Patient satisfaction level was exceptionally high, with 83% rating the services as very satisfactory and another 16% as satisfactory. The availability of doctors and staff behaviour were particularly praised, reflecting the dedication and efficiency of healthcare providers.

Importantly, 85% of beneficiaries have adopted preventive health measures due to awareness programs, showcasing a positive shift in health-seeking behaviour.

Recommendations include enhancing diagnostic services, improving medicine availability, expanding visit frequency, and strengthening health education initiatives. Overall, the AMMU initiative has successfully enhanced healthcare access and quality in the targeted regions.

