



EXPLORING HEALTH PROFILE AND DETERMINANTS OF RURAL AREA IN SOUTH GUJARAT FACILITATED BY FAMILY ADOPTION PROGRAM.

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ABSTRACT **Introduction:** The National Medical Commission introduced the Family Adoption Programme (FAP) in 2022 with the goal of promoting equity in rural health services by incorporating community-based healthcare into the MBBS curriculum. It provides medical students with hands-on experience with real-world health issues from their first year. A rural area in South Gujarat, a location with a mixed burden of diseases, was the site of this study during a Family Adoption Program visit. **Aim And Objectives:** To explore health profile and determinants of residents of rural village with the help of Family Adoption Programme. **Materials And Methods:** A Family adoption program visit was conducted on 8th April 2025 in Saniya kande village, Surat district, Gujarat, under the coordination of the Department of Community Medicine, Government Medical College, Surat. Students, residents, faculty, and support staff carried out health assessments, including demographic data collection, anthropometry, blood pressure, blood sugar screening, and health education activities. **Results:** The mean age of participants was 32.45 years (SD = 18.57), with BMI averaging 23.02 kg/m² (SD = 8.25), mean SBP of 119.33 mmHg (SD = 8.35), and mean DBP of 79.98 mmHg (SD = 6.34). A chi-square analysis was conducted to examine the association between addiction and the presence of life style related disorders. The results revealed a statistically significant association ($\chi^2 = 26.76$, df = 1, $p < 0.001$). **Conclusion:** This study reveals that, despite socioeconomic challenges and high unemployment, participants generally have normal nutritional and cardiovascular profiles. However, addiction is strongly linked to life style related diseases, indicating the need for targeted interventions.

KEYWORDS : Family adoption programme, health profiles, life style disorders, addiction.

INTRODUCTION

Family is considered a fundamental unit of any society where the individuals are born, nurtured, and socialized with individualistic behaviors. Sociocultural, economic factors, and other social determinants of health influence health behaviors and disease status.

Understanding society plays a vital role in shaping a medical graduate of a country and also in becoming a successful Physician^[1]. To ensure the enhanced health-care services provided by future physicians of India in rural settings and to provide health-care equity across the rural area of India, the National Medical Mission (NMC) has rolled out Family Adoption Program (FAP) in the undergraduate medical education in 2022^[2]. Family Adoption Programme (FAP) aims to provide an experiential learning opportunity to Indian medical graduates towards community-based health care and thereby equity in health. FAP is recommended as a part of curriculum of Community Medicine subject and should begin from first professional year with competencies being spread in ascending manner for entire MBBS training program^[3]. A number of interrelated factors, including as socioeconomic status, cultural beliefs, access to healthcare services, and environmental circumstances, have a significant impact on the health status of India's rural communities. With its varied rural groups, both tribal and non-tribal, South Gujarat offers a distinctive epidemiological profile that captures the burden of both infectious and non-communicable diseases. This study was conducted during a family adoption visit organized in a selected rural village in South Gujarat. The aim was to identify the prevailing health problems, understand the determinants of health, and assess the community's knowledge, attitudes, and practices related to health and hygiene. Through household visits, health surveys, and direct clinical assessments, the family adoption Program provided a platform to document real-world challenges such as malnutrition, maternal and child health issues, waterborne diseases, poor sanitation, and limited healthcare access.

MATERIALS AND METHODS

Study Site

A Family adoption program visit was conducted on 8th April 2025 at

Saniya kande village, under PHC Vanz, Surat district, Gujarat.

Visit Day Operations

A total of six buses transported approximately 240 students, along with faculty members, residents, interns, laboratory technicians, to the village. The heal All students were sent to collect basic household details and do appropriate clinical examinations guided by faculties and social workers

Data collected included:

- Demographic details (age, sex, religion, family type)
- Anthropometric measurements (height, weight, BMI)
- Blood pressure (classified using JNC-8 criteria)
- Capillary blood glucose levels (classified using ADA criteria)

Health talks on anaemia, vision care, and adolescent health were conducted.

Data Analysis

Data were entered in MS Excel 2021 and analysed using descriptive statistics (frequencies, percentages, means, and standard deviation) for relevant variables with the help of MS Excel 2021 and SPSS Version 23.

RESULTS.

The mean age of participants was 32.45 years. Anthropometric measurements recorded for 2701 individuals show an average weight of 54.66 kg (SD = 19.20) and a mean height of 152.06 cm (SD = 26.52). The mean Body Mass Index (BMI) was calculated as 23.02 kg/m² (SD = 8.25), suggesting that, on average, the participants fall within the normal BMI range, though the high standard deviation points to considerable variation. The average systolic blood pressure (SBP) was 119.33 mmHg (SD = 8.35), and the average diastolic blood pressure (DBP) was 79.98 mmHg (SD = 6.34). These values fall within the normal blood pressure range for the majority of participants.

Table 1: Distribution Of Study Participants By Occupation, Education (n=2701)

Occupation	Frequency	Percentage (%)
Clerical, shop owner, farm owner	90	3.3
Professional	282	10.4
Retired	28	1.0
Semi-professional	85	3.1
Semiskilled worker	202	7.5
Skilled worker	234	8.7
Unemployed	1102	46.1
Unskilled worker	46	1.7
Not applicable	631	28.1
Education		
Illiterate	206	7.6
Primary	740	27.4
Secondary	410	15.2
Higher Secondary	470	17.4
Diploma	57	2.1
Graduate	593	21.9
Postgraduate	88	3.3
Not applicable	136	5.0

In terms of occupation, the largest group is the unemployed, which constitutes 46.1% of the sample, followed by a significant portion marked as "not applicable" (28.1%). Among those employed, skilled workers (8.7%) and professionals (10.4%) make up smaller shares, with other occupations such as clerical, shop or farm owners (3.3%), semi-professionals (3.1%), semiskilled workers (7.5%), unskilled workers (1.7%), and retirees (1.0%) making up the remainder. Regarding education, the highest proportion of individuals have completed only primary education (27.4%), while 21.9% are graduates and 17.4% have completed higher secondary school. Secondary education is completed by 15.2%, and a smaller share have a postgraduate qualification (3.3%) or a diploma (2.1%). Additionally, 7.6% are illiterate, and 5% fall under the "NA" (not applicable) category (Table 1).

Table 2: Nutritional Status Of Under Five Children Based On Anthropometric Indicators (n=361)

	Frequency	Percentage (%)
Stunted		
Yes	11	3.1
No	350	96.9
Wasted		
Yes	15	4.1
No	346	95.9
Severely wasted		
Yes	1	0.028
No	360	99.72
Underweight		
Yes	22	6.1
No	339	93.9
Overweight		
Yes	33	9.2
No	328	90.8

In Table 2 only 3.1% of the children are stunted, indicating chronic malnutrition, while 4.1% are wasted, a sign of acute malnutrition. Severe wasting is rare, affecting just 0.28% of children. Underweight reflecting both acute and chronic malnutrition was found in 6.1% of the population. Notably, 9.2% of children were classified as overweight, highlighting the presence of both undernutrition and emerging issues with excessive weight among this group. These findings suggest most children are not malnourished, but the presence of both undernutrition and overweight underscores the need for comprehensive nutrition interventions to support optimal child health and development.

Table 3: Association Of Addiction And Sex With Life Style Disorders Among Study Participants

Variable	Life style disorders		Chi-square	p-value
	Yes	No		
Addiction				
Yes	11	35	26.76	0.0001
No	120	2019		
Sex				
Female	923	45	1.98	0.159
Male	1008	65		

The table 3 demonstrates that addiction is significantly associated with lifestyle disorders, as indicated by a very low p-value (0.0001), while sex shows no significant relationship ($p = 0.159$). This means individuals with a history of addiction are much more likely to experience lifestyle-related disorders compared to those without addiction, regardless of their sex. The data highlights the importance of addressing addictive behaviors since they can have a considerable impact on overall health and increase the risk for chronic lifestyle-related illnesses. In contrast, the absence of a significant association with sex suggests that both men and women are similarly affected by these issues when addiction is present.

DISCUSSION

The findings highlight a predominantly unemployed population, with over 64% not engaged in formal work. Educational levels varied, with most having primary education, though a significant portion had completed graduation.

The nutritional assessment revealed a very low prevalence of malnutrition indicators such as stunting, wasting, underweight, and overweight among the participants. Only a small fraction exhibited signs of undernutrition or overweight. These findings suggest that while malnutrition may not be widespread in the measured sample, the large volume of missing data underscores the need for improved nutritional screening and data collection for accurate population health assessments.

Our study found that participants had a mean age of 32.45 years ($SD = 18.57$), with BMI averaging 23.02 kg/m^2 ($SD = 8.25$), mean SBP of 119.33 mmHg ($SD = 8.35$), and mean DBP of 79.98 mmHg ($SD = 6.34$). These values reflect a generally healthy profile with broad variability.

This aligns with a tribal study in Northeast India, where average BMI was 20.9 kg/m^2 , height 162.0 cm , weight 54.9 kg , and mean SBP $\approx 126.3 \text{ mmHg}$ and DBP $\approx 79.9 \text{ mmHg}$, showing similar cardiovascular parameters despite lower BMI in that specific demographic.^[4]

Similarly, a semi-rural Southern Indian population reported mean SBP = 124 mmHg ($SD = 20$) and DBP = 77 mmHg ($SD = 12$), with higher values in males match our findings, reinforcing the consistency in blood pressure trends across different Indian settings.^[5]

The chi-square analysis revealed a strong association between addiction and life style related diseases ($\chi^2 = 26.76$, $df = 1$, $p < 0.001$), with individuals who use substances being significantly more prone to life style related diseases like diabetes and hypertension. This aligns with findings from a rural India study in Bihar, which demonstrated that tobacco and alcohol use were strongly linked to hypertension and overweight/obesity, both risk factors for NCDs.^[6]

In contrast, our data showed no significant association between sex and life style related diseases ($\chi^2 = 1.98$, $p = 0.159$), suggesting similar prevalence among males and females in this population. However, a broader Indian survey (NFHS 5) found noteworthy gender disparities—with women showing rising trends in hypertension and diabetes, despite lower tobacco and alcohol use compared to men.^[7] The absence of sex-based differences in our sample might stem from demographic homogeneity or specific regional factors not captured in larger national datasets.

CONCLUSION

Despite unemployment and diverse educational backgrounds, the overall nutritional and cardiovascular profiles of the participants were generally within normal ranges, indicating a relatively stable health status in these domains. However, the significant association between addiction and life style diseases highlights a critical area for targeted public health interventions. The lack of sex-based differences in prevalence suggests uniform risk across genders in this community, emphasizing the need for inclusive prevention strategies. Collectively, these findings underscore the importance of integrated community-based health initiatives addressing addiction and related lifestyle diseases to improve health equity and outcomes in rural settings.

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