

## ORIGINAL RESEARCH

How are young people spending their leisure time? Findings from a formative research study in rural central India using a daily activity schedule, V-Can Project

¿Cómo pasan las y los jóvenes su tiempo libre? Conclusiones de una investigación formativa en la India central rural, mediante el registro de actividades diarias, proyecto V-CaN\*

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### Abstract

**Introduction.** The younger population is disproportionately affected by NCDs, which are also rapidly affecting the poorer sections of the Indian population. Adolescents' unhealthy food intake and lack of physical activity are major contributors to the emergence of non-communicable diseases (NCDs). **Objective.** To understand the way leisure time is utilized by the individuals of 10-30 years age from the rural central India, in order to find opportunities for promoting recreational activities. **Methods.** A qualitative study was conducted using Daily Activity Schedule for formative research for V-CaN (Vitalizing Communities against Non-communicable diseases) project in 12 villages selected using convenience sampling maintaining variability with individuals of age 10-30 years. The activity was conducted separately with boys and girls, and content analysis was performed to analyze data

Key words: Recreational activities, adolescent health, non-communicable diseases, modifiable risk factors, Participatory Learning and Action (PLA) activity.

### Resumen

**Introducción.** La población más joven se ve afectada de forma desproporcionada por enfermedades no transmisibles (ENT), que también afectan rápidamente a los sectores más pobres de la población india. La ingesta de alimentos poco saludables y la falta de actividad física por parte de los adolescentes contribuyen en gran medida a la aparición de ENTs. **Objetivo.** Comprender la utilización del tiempo libre por individuos de 10-30 años de edad en la India central rural para encontrar oportunidades de promoción de actividades recreativas. **Métodos.** Se realizó un estudio cualitativo utilizando el Programa de Actividades Diarias para la investigación formativa del proyecto V-CaN en 12 aldeas seleccionadas mediante muestreo de conveniencia manteniendo la variabilidad con individuos de edades comprendidas entre 10 y 30 años. La actividad se llevó a cabo por separado con niños y niñas y se realizó un análisis de contenido.

Palabras clave: Actividades recreativas, salud adolescente, enfermedades no transmisibles, factores de riesgo modificables, actividad de Aprendizaje y Acción Participativos (AAP).

\* V-CaN: Transmisibles Vitalizing Communities against Noncommunicable Diseases / Vitalizando Comunidades Transmisibles contra Enfermedades no Transmisibles



## Introduction

India, constituting approximately 17% of the global population, bears a significant burden of diseases, accounting for a fifth of worldwide cases, including nutritional deficiencies, diabetes, and cardiovascular diseases (CVDs).<sup>1</sup> Projections indicate a substantial increase in non-communicable diseases (NCDs) in India from 3.8 million in the 1990s to 7.6 million in 2020. In 2005, NCDs contributed to 53% of total deaths (10.3 million) and 44% (291 million) of disability-adjusted life years (DALYs) lost, imposing substantial social and economic costs.<sup>2</sup>

NCDs disproportionately affect younger individuals and increasingly impact the poorer segments of the Indian population.<sup>3,4</sup> Poor diet, smoking, sedentary behavior, and being overweight/obese are risk factors that raise the likelihood of non-communicable diseases (NCDs). Most of these start early in life and have an ongoing effect on health. Among teenagers between the ages of 10 and 20, sedentary behavior and physical inactivity (such as watching TV, playing video games, and using computers and smartphones) have been associated with increased rates of obesity and adiposity, poor diet (low intake of fruits and vegetables, salt, sugar-sweetened beverages, saturated fat consumption, low iron, etc.), depression, and a lower quality of life.<sup>5</sup> The government has launched initiatives like the National Program for Prevention and Control of Non-Communicable Diseases (NP-NCD), National Cancer Control Program (NCCP), National Program for Control of Blindness, National Tobacco Control Program, and National Mental Health Program. One element that all these initiatives have in common is health promotion. However, to reach communities in the periphery and have an influence at the population level, the health promotion component of NCD programs must be tailored to the local context, primarily focusing on younger age groups where the greatest benefit of intervention would be observed.

The study discussed here is part of the formative phase of a larger project, a cluster randomized trial; Vitalizing Community against Non-Communicable Diseases (V-CaN).<sup>6</sup> This initiative aims to develop, implement, and evaluate a participatory health promotion program targeting modifiable risk factors for NCDs in rural India. The formative phase involved assessing community perceptions of NCD risk factors and

prevention through various participatory methods. The findings informed the development of a health promotion module for the implementation phase, which includes monthly contact sessions using an Incremental Learning Approach. These sessions focus on strategies for reaching young people aged 10-30 and determining the content and delivery mechanisms of the health promotion module.

To facilitate the formation of V-CaN clubs, comprising village volunteers, the study aimed to understand the daily routines, free time, current healthy lifestyle practices and recreational activities of the individuals aged 10-30.<sup>6</sup> Because more people can now access devices and the internet, there has been a rise in the use of screen devices in these changing times, and more kids are engaging in less physical activity. This further has impact on their socio-psychological health.<sup>7</sup>

The objective of this formative research was to understand the leisure time utilized by the individuals of 10-30 years age from rural central India to find opportunities for promoting recreational activities. The assessment involved a participatory method; a Daily Activity Schedule to identify optimal times and spaces for promoting a healthy lifestyle and planning activities with this specific age group.<sup>1</sup>

## Methods

This is a qualitative study planned for the formative phase of the project called V-CaN. A Daily Activity Schedule was used to explore and compare how people of age 10-30 years spend their leisure time over the course of a day. This also helped to explore if there is any difference in daily roles and responsibilities based on gender, age, or other factors influencing work and leisure time. The current practices in this age group for recreational and physical activities were assessed through this activity. Efforts were taken to find out opportunities for inculcating healthy lifestyles, like improved physical activity, and methods of stress mediation that did not involve television and phone use. It was important to plan different activities for the promotion of a healthy lifestyle during daily life in 10-30-year-olds, by identifying the best time to work with them.

Daily activity schedules were prepared in the 12 different villages included in the study, while ensuring the variability as shown in Table 1. These villages were selected based on convenience.

These 12 villages were selected from 3 different PHC sectors representative of the population, which included 3 PHC villages, 4 sub-center villages and 5 villages without any PHC or sub-center. Variability of the villages was also ensured based on the population size as well as distance from the PHC. Considering the varied daily activities of the participants, they were separated into age groups of 10–20 and 21–30 years. In total, 135 individuals participated, out of which 69 were male and 61 were female. The participants were asked to list out their routine activities on a typical day in their life. This activity was conducted separately for females and males of the villages. It was also attempted to understand the daily routine of activities for students in the age range of 10 to 20 both during and outside of school.

The project workers, who were knowledgeable and skilled in leading interactive activities in the villages, led the study. Prior training was given to the project workers by the Principal Investigator who was also faculty in the Department of Community Medicine, MGIMS, Sevagram, with expertise in conducting qualitative research and PLA activities. A pilot activity was conducted before starting the data collection. Prior to this activity, the participants were asked about their free time. Following verbal consent, a small group of eight to twelve people from each village participated in the creation of the schedule. After building rapport, the process for creating a daily activity schedule was described to them. An agreement was made to set aside specific times for activity and chart preparation. The decision was made to divide the activities by a three hourly basis on a typical day of their life. The individuals involved in the activity created charts depicting daily activity schedules for the age group they represented. The charts displayed the typical activities that took place within each time frame. After the discussion, the group members decided what should be written in the prepared chart.

Project workers only facilitated the process. The change in the schedule on a typical school day as compared to no-school day was also observed for the school going age group (10–20 years).

Overall daily schedule, free time, work schedule, gender-based work distribution, and other risk factors related to NCDs, such as participation in physical activity, duration of physical activity, stress level, sedentary habits, hobbies, ways of spending leisure time, opportunities for promoting recreational activities etc. were identified for this age group through this participatory approach. This study has been registered with Clinical Trials Registration India prospectively on October 28, 2020. Ethics approval has been obtained from the institutional ethics committee, Mahatma Gandhi Institute of Medical Sciences, before the start of the trial vide letter MGIMS/IEC/COMMED/79/2020.<sup>6</sup> Thematic content analysis of the daily activity charts was done.

## Results

The daily activity schedules were prepared by participants of 10-30 years of age. These were conducted in the 12 conveniently selected villages which are part of the study area of the project. Overall daily plan, free time, work pattern, gender-related distribution of work and other NCD related risk factors like involvement in physical activity, duration of physical activity, stress level, sedentary habits, hobbies, etc. were identified for the participants. The observations for normal no-school / no-college days were described as in table 2. This table shows a distribution of activities for a defined duration of 24 hours, which is divided into 3 hourly intervals in which some activities are common for both the genders. Table 2 also shows the visible differences in the frequencies of some activities between the two genders

**Table 1. Describing age and gender distribution of participants of different villages**

Age	Gender	Numberofparticipants	Villages (Number of participants)
10-20 years	Female	35	Ashta (8), Satoda (12), Taroda (15)
	Male	50	Goji (16), Madani (12), Mandwa (10), Talegaon (12)
21-30 years	Female	31	Anji (11), Kharangna Gode (8), Mirapur (12)
	Male	19	Jamtha (9), Mahakal (10)
Total		135	<b>Source:</b> primary data in all tables

**Table 2. Describing daily activities for normal no-school/no-college days**

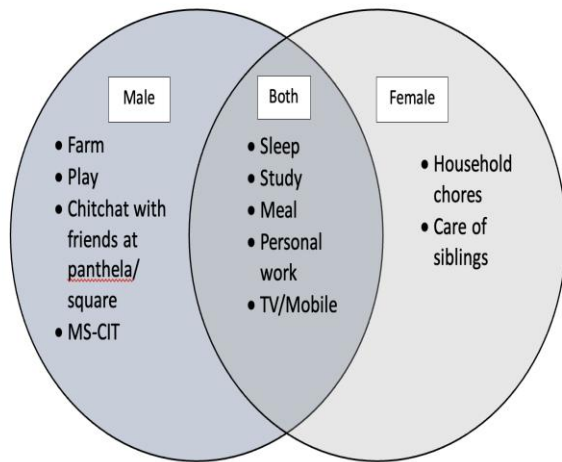
Sr. No.	Activities	Frequency of activities											
		6-9 am		9am-12pm		12-3pm		3-6pm		6-9pm		9pm-6am	
		M	F	M	F	M	F	M	F	M	F	M	F
1.	Sleep	48	29	-	-	21	30	10	19	-	-	60	29
2.	Personal work	50	16	10	-	-	-	-	-	-	-	-	-
3.	Household chores	-	30	08	30	09	42	16	45	-	49	-	12
4.	Care of siblings	-	02	-	-	-	07	-	04	-	06	-	08
5.	Farm	10	-	20	-	07	10	-	12	-	-	-	-
6.	Meal	15	07	40	13	21	07	-	-	36	06	-	15
7.	Play	09	03	27	-	23	-	27	07	10	06	08	-
8.	Study/Tution	01	03	-	-	02	04	-	-	02	07	03	01
9.	Phone/TV	15	14	14	13	06	25	15	20	10	35	30	27
10.	Rest	-	-	-	02	15	17	-	-	-	-	-	-
11.	Chitchat with friends (at home or Panthela or village square)	-	-	17	01	07	-	-	10	14	-	03	-
12.	Roaming	-	-	-	-	-	-	-	-	04	-	12	04
13.	Exercise	06	-	-	-	-	-	-	-	-	-	-	-
14.	MS-CIT	-	-	-	-	03	-	-	-	-	-	-	-
14.	Tailor class	-	02	-	-	-	-	-	-	-	-	-	-
15.	Shop	01	-	-	-	01	-	-	-	01	-	-	-
16.	bank	-	-	-	-	-	-	01	-	-	-	-	-
17.	Drawing/ Mehendi	-	-	-	-	01	01	-	-	-	-	-	-

M= Male (Out of 69) F= Female (Out of 61)

Following are the important findings from the above Table 2.

- Girls were more involved in household chores, taking care of siblings, etc. and boys were more involved in outside work like farming, shopping, banking, etc.
- Uneven distribution of leisure time as per gender was observed, i.e. more leisure time was available for boys than for girls.
- The utilization of free time by both the genders is mainly in the form of using phones/ watching TV.
- Boys also preferred to use their leisure time for chit-chatting with friends, roaming, playing, etc. Their usual places for meeting were places like the *panthela* (Tobacco related goods store in the village) or the village square, etc.
- Some of the students were taking vocational training like MS-CIT, tailoring classes, etc. but they were very few.
- Very few people of both sexes exercised, with girls engaging in less physical activity than boys.

**Figure 1. The most common activities of participants of 10-30 years on a regular day**



Some of the most frequent activities carried out by the participants during the course of a day are depicted in Figure 1. Included are the common activities performed by young participants of both genders as well as activities that are gender specific.

Aside from the aforementioned activities, the majority of a student's (10-20 years old) day at school or college is spent traveling to and from school, getting ready for class, attending class, studying, playing, reading, watching TV or on a mobile device, and sleeping. We have focused more on a no-school day schedule to target leisure time activities as per our objective.

## Discussion

This study provides the formative data on the daily schedules of the students of age 10-30 years. This data gives not only the daily activities of the students but also highlights the variability within the data based on gender of the students, data on free time availability and utilization by the students, schedules of school days and no school days, etc.

The age group of 10-30 years is very important in many aspects for prevention of NCDs. The World Health Organization has previously issued a major public health alert regarding the rising incidence of NCDs among teenagers. The fact that many

significant diseases that affect adults have their origins in adolescence adds to the significance of this age group.<sup>8</sup>

Table 2 shows the gender-based variation in the activities on a normal day of the people aged 10-30 years. This variation includes more involvement of girls in household chores, like taking care of siblings throughout the day, whereas boys are doing more outside work, like going to the farm, to the shop, to the bank, etc.

Time for self is unevenly distributed among the two genders in which male students are getting more free time for themselves, as shown in Table 2 and Figure 1. The utilization of that free time by the boys was usually involved chit-chatting with friends at *panthela* or at village square, along with those activities like using mobile phones, watching TV, etc. These activities themselves have many modifiable risk factors for NCDs, such as daily exposure to *panthela*, a more sedentary lifestyle due to longer sitting hours for using mobile phones and watching TV, etc. They are also getting more time for playing compared to girls. Play includes running, jumping and other on the ground activities. Girls are majorly involved in doing household chores like cooking, cleaning, filling water in tanks, washing clothes, utensils, drawing rangoli, taking care of animals, etc. as shown in figure 1. These results are consistent with the findings of a study conducted in Karnataka, India, which also says Girls may experience fewer of the cognitive, social, and emotional advantages of play, including increased self-assurance, resilience, creativity, ability to resolve conflicts, and readiness for learning, because of playing less. It may be necessary for guidelines, policies, and programs to specifically encourage play as a kind of physical activity in order to guarantee that adolescents of all genders can benefit from these non-physical health benefits.<sup>9</sup>

Another finding revealed that a greater proportion of students in both the genders discussed their use of mobile devices than those who discussed play in their daily activities as shown in table 2. Thus physical inactivity can be seen in both the genders, but it is more in girls compared to boys, which is also found in different studies conducted in India.<sup>7,10</sup> A study in Pakistan also supports this finding which says that physical inactivity and low



fruit and vegetable intake were clearly clustered in both males (O/E 1.10; 95% CI 1.07–1.12) and females (1.08; 1.06–1.10). In females (2.65; 2.28–3.07), the co-occurrence of cigarette smoking, alcohol use, physical inactivity, and low fruit and vegetable intake was 165% higher than predicted, while in males (2.10; 1.90–2.32), it was 110% higher.<sup>11</sup>

The results of the study indicated that some boys and girls took vocational training during their leisure time, such as MS-CIT and tailoring classes, etc., although the percentage is extremely low, as table 2 illustrates. A small number of the girls further worked on making doormats, sieving clothes, etc. Though given the circumstances, we may classify these as recreational pursuits, most of them are part of their regular household duties. While some of them engage in leisure activities such as taking up new hobbies like drawing, mehendi or meeting friends, which can be beneficial in reducing stress, it was not common. Recreational activities have a major positive impact on both individual and communal life. There is much evidence that engaging in recreational activities improves people's quality of life. The study also demonstrated how leading a healthy lifestyle involves recreational activity participation, a balanced diet, and making productive use of free time.<sup>12</sup>

This study has not included any quantification methods, and it had been done in a limited area. This study recommends utilizing the free time of the young people for gathering them together and discussing with them the importance of modifiable risk factors of NCDs and measures to minimize them.

In the implementation phase of the project, the results of this formative study helped the researchers to decide the themes for the modules like physical activity, tobacco use and recreational activities, etc. Similarly, this helped the researchers to gain insight on how the youth spend their free time and provided opportunities to discuss and promote the importance of understanding NCDs and their modifiable risk factors. This information also created opportunities for community engagement through formation of V-CaN clubs. These clubs are the action points for community mobilization for

every village, and the clubs are deciding on action plans for working against these risk factors to reduce them in their community.

This data also encouraged the researchers to devise strategies for community mobilization and engagement that make use of local context, such as mela, mahila mahotsav, and competitions to bring the village together and encourage physical activities and recreational activities that will aid in promoting healthy living habits.

This helped in developing the health promotion modules and community engagement activities and their implementation, with the support of V-CaN clubs, during the project's implementation phase.

## Conclusion

The young people from rural central India, ages 10 to 30, spend their free time chatting with friends, watching TV and using their phones, playing, doing chores around the house, looking after their younger siblings, etc. There are gender-based differences in how much time boys spend playing, how much time girls spend exercising, and other characteristics that give rise to modifiable risk factors for non-communicable diseases. These results can be applied to encourage and support recreational activities for these youth, which may ultimately assist them in making meaningful use of their free time.

## VCaN Collaboration team

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<sup>i</sup>As part of the V-CaN initiative, women's self-help group members, school students, and members of the VHNSC (Village Health Nutrition and Sanitation Committee) were encouraged to start V-CaN clubs in their local village or school to aid in the promotion and dissemination of the participatory health promotion module's lessons. In order to promote health, the members of V-CaN clubs would serve as role models for the general public. In order to apply the knowledge gained from the monthly meetings and to reach every member of the 10–30 age range in their community, the V-CaN club members were asked to create a health plan against NCDs. The club was also expected to carry out actions over the next two years to encourage the community to engage in pro-health behavior by finding and putting into practice initiatives that are feasible and acceptable to the local community.<sup>6]</sup>