

ORIGINAL

The relationship between screen time, nutritional status, and sedentary lifestyle among adolescents aged 12-17 in Commune 5 of the Autonomous City of Buenos Aires, during the first four months of 2025

La relación entre el tiempo en pantalla, el estado nutricional y el sedentarismo en adolescentes de 12-17 años de la comuna 5 de la Ciudad Autónoma de Buenos Aires, durante el primer cuatrimestre del 2025

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ABSTRACT

Introduction: prolonged screen time has been linked to changes in nutritional status and physical activity habits among adolescents. Understanding this relationship is essential for designing interventions to improve youth health.

Method: a quantitative, descriptive, and correlational study was conducted with 200 adolescents aged 12 to 17 years from Comuna 5, Buenos Aires City. Structured questionnaires were used to measure screen time, calculate body mass index (BMI), and assess sedentary behavior levels. Data were analyzed using vertical and percentage analyses.

Results: obesity was most prevalent among adolescents with less than one hour of daily screen time (93,3 %), decreasing in groups with moderate screen time and increasing again in those exceeding three hours (70,4 %). Overweight increased with screen time, particularly in medium and long durations. Normal BMI peaked in the group with around three hours of screen time. High sedentary behavior showed an increasing trend with more screen time, reaching 43,7 % in adolescents with over three hours daily. Medium and low sedentary levels were more frequent in groups with intermediate and short screen times.

Conclusions: there is a complex, non-linear relationship between screen time, nutritional status, and sedentary behavior in adolescents. Increased screen exposure is associated with higher sedentary levels and nutritional alterations, underscoring the need for comprehensive interventions to promote healthy habits and regulate screen use in this population.

Keywords: Screen Time; Adolescents; Nutritional Status; Body Mass Index (BMI); Sedentary Behavior; Physical Activity.

RESUMEN

Introducción: el aumento del tiempo diario frente a pantallas se ha relacionado con alteraciones en el estado nutricional y patrones de actividad física en adolescentes. Esta investigación busca analizar la relación entre el tiempo en pantalla, el índice de masa corporal (IMC) y el nivel de sedentarismo en adolescentes de 12 a 17 años de la Comuna 5 de la Ciudad Autónoma de Buenos Aires.

Método: se realizó un estudio cuantitativo, descriptivo en una muestra de 200 adolescentes, utilizando encuestas estructuradas para recopilar información sobre el tiempo dedicado a pantallas, la medición del IMC

y la evaluación del sedentarismo. Los datos fueron analizados mediante tablas de distribución porcentual y análisis vertical para identificar tendencias en las variables estudiadas.

Resultados: la obesidad mostró una mayor prevalencia en adolescentes con menos de una hora diaria frente a pantallas (93,3 %), disminuyendo con tiempos moderados y aumentando nuevamente en quienes exceden las tres horas (70,4 %). El sobrepeso fue más frecuente en tiempos medios y largos de pantalla. La proporción de IMC normal fue máxima en el grupo con alrededor de tres horas de uso. En relación con el sedentarismo, se observó un aumento progresivo del sedentarismo alto conforme se incrementó el tiempo en pantalla, alcanzando un 43,7 % en quienes superan las tres horas diarias. Los niveles medio y bajo de sedentarismo mostraron distribuciones más heterogéneas, con mayor presencia en tiempos intermedios y cortos.

Conclusiones: el tiempo en pantalla está asociado de forma compleja y no lineal con el estado nutricional y el nivel de sedentarismo en adolescentes. El uso prolongado de dispositivos electrónicos contribuye a mayores niveles de sedentarismo y a alteraciones en el estado nutricional, lo que resalta la necesidad de estrategias integrales que promuevan hábitos saludables y regulen el tiempo frente a pantallas para mejorar la salud de esta población.

Palabras clave: Tiempo en Pantalla; Adolescentes; Estado Nutricional; Índice de Masa Corporal (IMC); Sedentarismo; Actividad Física.

INTRODUCTION

In recent years, the use of electronic devices has increased significantly in the adolescent population, which has generated concern about their possible effects on physical and behavioral health.^(1,2,3) Several studies warn that excessive use of screens may be linked to an increase in sedentary lifestyles, dietary alterations and changes in body mass index (BMI), especially during developmental stages such as adolescence.^(4,5,6,7,8)

This paper aims to answer the following problem question: *What is the relationship between time in front of screens, nutritional status and level of sedentary lifestyle in adolescents between 12 and 17 years old; in Commune 5 of the Autonomous City of Buenos Aires during the first four-month period of the year 2025?*

The general hypothesis holds that: *The greater the daily screen time, the greater the probability of presenting high sedentary lifestyle and unhealthy nutritional status (obesity or overweight) in the adolescent population.*

The purpose of this research is to generate local empirical evidence to guide prevention and health promotion policies for adolescents, especially in urban settings.

METHOD

A quantitative, descriptive and correlational study was conducted with a sample of 200 adolescents between 12 and 17 years of age, selected on a non-probabilistic basis in educational institutions and community spaces in Commune 5 of the Autonomous City of Buenos Aires.

During the first four-month period of the year 2025, a structured questionnaire was administered, designed to collect information on:

- Daily time in front of screens (categories: less than 1 h, about 1 h, 2 h, 3 h and more than 3 h).
- Eating habits and nutritional status (calculated by means of BMI).
- Level of sedentary lifestyle (high, medium, moderate, low).

The data were processed by frequency and percentage analysis. Vertical analyses were performed to identify patterns within each category and comparisons between the different screen time groups.

RESULTS

The findings show a complex relationship between screen time, nutritional status and sedentary lifestyle:

Obesity was more prevalent in the group with less than one hour daily screen time (93,3 %), decreased with intermediate times (60-70 %), and increased again in those exceeding three hours daily (70,4 %). Overweight increased with screen time, especially in the two- and three-hour categories. Normal BMI was more frequent in the three-hour daily group (18 %). Underweight was rare and was recorded only in the higher exposure groups. There was an increasing trend of high sedentariness as screen time increased, reaching 43,7 % in those who used screens more than three hours a day. Moderate and low sedentariness was mainly concentrated in those who used screens less than one or about one hour daily.

The results support the hypothesis: there is a significant association between screen time and increased sedentary behaviors, as well as imbalances in nutritional status. The relationship is not linear, since high prevalence of obesity is observed both in low and high screen time, which could be explained by other factors

such as diet, extracurricular physical activity, family and socioeconomic environment.

Table 1. Percentage distribution of body mass index according to screen time

Time in front of screens No.	Obesity		Overweight		Normal		Underweight		Total (f)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 1 h	14	93,3	1	6,7	0	0	0	0	15	7,5
About 1h	27	87,1	1	3,2	3	9,7	0	0	31	15,5
About 2h	24	72,7	8	24,2	1	3	0	0	33	16,5
About 3h	30	60,0	9	18,0	9	18	2	4	50	25
More than 3 h	50	70,4	15	21,1	4	5,6	2	2,8	71	35,5
Total	145		34		17		4		200	100

Table 2. Percentage distribution of the level of sedentary lifestyle according to time spent in front of screens

Time in front of screens	Sedentary High		Medium sedentary		Moderate Sedentary		Low Sedentary		Total (f)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 1 h	4	26,7	4	26,7	6	40,0	1	6,7	15	7,5
About 1h	7	22,6	14	45,2	7	22,6	3	9,7	31	15,5
About 2h	8	24,2	15	45,5	2	6,1	8	24,2	33	16,5
About 3h	15	30,0	18	36,0	4	8,0	13	26,0	50	25
More than 3 h	31	43,7	20	28,2	6	8,5	14	19,7	71	35,5
Total	65		71		25		39		200	100

The high proportion of sedentary lifestyles in the groups with the highest exposure to screens reflects the need for interventions in the school and community settings. Likewise, the coexistence of overweight and sedentary lifestyle suggests an increasing risk for chronic noncommunicable diseases in the adolescent population.

This study provides relevant evidence for the design of public policies aimed at the promotion of healthy habits, the regulation of screen time and the implementation of physical activity programs adapted to the new digital routines.

DISCUSSION

The findings of this study allow us to affirm that there is a direct relationship between the increase in screen time and the increase in the levels of sedentary lifestyles and in the rates of overweight and obesity in adolescents. As daily exposure to electronic devices increases, there is also a growing trend towards sedentary behaviors and a deterioration in healthy nutrition indicators, which represents a significant risk factor for the overall health of this population.

However, a contradictory phenomenon that deserves special attention stands out: the group that reported less than one hour a day in front of screens presented the highest percentage of obesity (93,3 %). This anomaly suggests the possible existence of other conditioning factors that were not considered in this research, such as a high-calorie diet, the presence of metabolic pathologies, low levels of physical activity for reasons other than screen use, or even an underestimation of the actual time of exposure to devices by the respondents.^(9,10)

This unexpected behavior highlights the need to broaden the spectrum of variables to be considered in future studies and to incorporate mixed methodological approaches that include both quantitative and qualitative analyses. In this way, a more comprehensive understanding of behavioral patterns linked to screen use, nutritional habits and the social or family conditions that influence them could be obtained.⁽¹¹⁾

Consequently, the results obtained not only confirm the importance of establishing public health policies aimed at reducing sedentary lifestyles and promoting healthy eating habits among adolescents, but also highlight the urgency of designing more complex intervention strategies that take into account contextual and psychosocial factors that may influence these results. The implementation of educational programs, community spaces for physical activity and campaigns on the responsible use of technology is presented as a necessary and urgent approach.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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