

## Non-substance related addictions in first-year medical students of the “Calixto García” Faculty

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### ABSTRACT

**Introduction:** new addictions are frequent and include the excessive use of the Internet, computer or mobile phone, social media, video games, cybersex, and to a lesser extent, those related to products containing caffeine. **Objective:** to characterize the behavior of non-substance-related addictions in first-year medical students of “Calixto García” Faculty during the period from October to November 2020. **Method:** an observational, descriptive, cross-sectional study was carried out. The universe consisted of 36 students and it was studied as a whole. The analyzed variables were: age, sex, dependency and educational capacities. **Results:** the average age was 18,5 years old and female sex predominated in 72,2 %. Thirty point five percent of the students presented mild dependence; 61,1 %, moderate; and 8,3 %, severe. The most frequent were the use of cell phones with 77,8 % and Internet with 44,4 %. Educational skills were generally favorable. Planning for the future, thinking about negative consequences and resistance to group pressure were identified as the most representative. The least frequent were self-control and impulsiveness in problem solving. **Conclusions:** moderate dependence on the use of cell phones and Internet access predominated over the students of the “Calixto García” Faculty. The students' educational skills were favorable for the prevention of addictive behavior.

**Keywords:** Students; Medical; Internet Addiction Disorder; Technologies of the Computer Science.

Young people constitute a vulnerable population to the development of addictive behavior due to the biological, physical, psychological and social changes that they encounter with at this stage of life<sup>1,2</sup>

When talking about addictions in this age group, the most common refers to substances that are harmful to health such as alcohol, tobacco or other drugs. However, reality shows more and more cases of young people reported with dependence on the so-called “new addictions”. The most frequent are the excessive use of Internet, computers or mobile phones, social media and video games<sup>1,2</sup>.

Others of lower incidence are reported, such as addiction to products containing caffeine<sup>3,4,5</sup>. Spe-

cial attention is also given to sexual disorders in the youngest, which seem to be increasing due to the use of technology<sup>6</sup>.

The boundary between excessive or problematic use and addictive behavior is unclear. The term “addiction to Information and Communication Technologies (ICT)” has not been officially recognized by international organizations, such as the American Psychiatric Association (APA) or the World Health Organization (WHO). As it is a disorder that still has little recognition in diagnostic and assessment guidelines, it can be difficult to detect this addiction<sup>7</sup>.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) does not include the so-called “new addictions”, but the addition of the section on non-substance related addictive disorders is an important step forward<sup>8</sup>.

Of the wide variety that are reported as common and new addictions, the most advanced in research are those involving new technologies, internet and social media<sup>9,10,11</sup>. The Internet was born in the early 1960s and it is now a fundamental component of telecommunications, business, education and entertainment. However, a loss of control over its use would have negative impacts on daily life functions, family relationships and emotional stability<sup>11</sup>.

Cuba had its first Internet connection in 1996, since then, the use that has been given to it, even the access routes have varied considerably<sup>12</sup>. The possibilities of Internet access have increased in

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### Conflict of interests

The authors declare no conflict of interest.

the country, and with it, the means of communication and the flow of available information, and for its part, the university context is not exempt from these changes.

In view of the importance of early prevention of addictive behavior, Cuba is developing actions, aimed at delaying or reducing them. This research represents a starting point for the design of an educational program, through the discipline of Biological Bases of Medicine for the prevention of addictive behavior. Responding to this need, the present study was carried out with the objective of characterizing the behavior of non-substance related addictions in first-year medical students of "Calixto García" Faculty, during the period from October to November 2020.

**METHOD**

**Type of study:** an observational, descriptive, cross-sectional study was carried out in first-year medical students of "Calixto García" Faculty of Medical Sciences (FCMCG), in the period from October to November 2020.

**Universe and sample:** the universe included 36 first-year medical students of "Camilo Cienfuegos" University Polyclinic, that belongs to the "Calixto García" Faculty of Medical Sciences. Those students who did not complete the applied surveys were excluded. The whole universe was studied.

**Variables and data collection:** the studied variables were: age, sex and dependence according to the general addiction scale<sup>13</sup> and educational skills for the prevention of addictive behavior according to the Alfaro scale<sup>14</sup> and the life-skills model proposed by WHO<sup>15</sup>.

Educational skills included future planning, self-control, thinking about negative consequences, and impulsiveness in problem solving, while social and emotional resistance to group pressure were evaluated through the expression of emotions and anger management.

The data were obtained from the applied survey (Available at Complementary Files to this article).

**Statistical processing:** Microsoft Excel 2010 was used for the registration, processing and descriptive analysis of the information, which allowed the calculation of absolute and relative frequencies.

**Ethical standards:** the research was approved by the Medical Ethics Committee and the Scientific Council of the FCMCG. The informed consent of the students was requested. The principles of respect for people, beneficence, non-maleficence and justice, as established in the II Declaration of Helsinki, were complied with.

**RESULTS**

The average age was 18,5 years old and female sex predominated in 72,2 %.Sixty-one point one

percent of students with moderate dependency were identified (Table 1).

Dependence		No.	%
Classification	Points		
Mild	11-34	11	30,5
Moderate	35-51	22	61,1
Severe	59-64	3	8,3

Source: Applied survey.

The most frequent dependencies in students were the use of cell phones and Internet access with 77,8 % and 44,4 % respectively (Table 2).

Dependencies	No.	%
Shopping	1	2,8
Chocolate	3	8,3
Candies	9	25
Coffee	8	22,2
Cola Drink	4	11,1
Working	3	8,3
Internet	16	44,4
Sex	14	38,9
Video games	5	13,9
Cell phones	28	77,8
Television	12	33,3

Regarding the use of cell phones, 25 % was identified as mild dependent; 47,2 %, moderate; and 5,5 %, severe (Figure 1).

The students' educational skills for the prevention of addictive behavior were generally favorable. They were found to be above 64 points, a value considered as average and they were close to 128, the maximum value according to the scale that was used. However, it was observed that the skills score decreased as dependence increased (Table 3).

The most favorable cognitive educational skills were planning the future, which was obtained in 100 % of the mildly dependent; followed by thinking of negative consequences with 100 % of severe dependents.

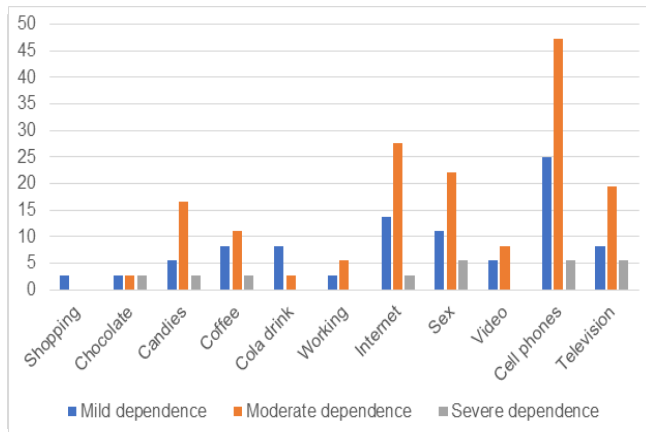


Figure 1. Behavior of new addictions according to dependencies.

Dependence	Abilities(points)	No.	%
Mild	83-112	11	30,5
Moderate	75-109	22	61,1
Severe	82-98	3	8,3

In this category, the most disadvantaged were self-control with 33,3 % in the case of severely dependent; as well as impulsiveness to solve problems with 36,3 % of mild dependents (Figure 2).

The social skill related to group pressure resistance was identified in 100 % of moderate and severe dependents. As for the abilities of emotional type, the most disadvantaged was anger management, which was only observed in 54,5 % of the mild and moderate dependents (Figure 2).

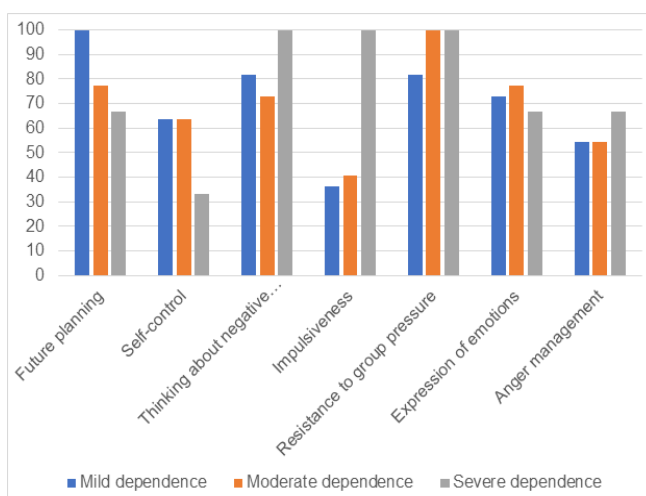


Figure 2. Students' educational skills for addiction prevention according to the level of dependence.

## DISCUSSION

The present study revealed the predominance of moderate dependence on general addictions, the most frequent dependencies were the use of cell phones and the Internet. Similar results were obtained by Barbosa et al.<sup>16</sup> in Colombia, where moderate dependence on the Internet predominated, represented by 61,4 %. Coincidences were also found with an investigation carried out by Álvarez et al.<sup>11</sup> at the University of Villa Clara, in which Internet addiction prevailed with medium levels in 34,3 % of women and 53,3 % of men. Aponte et al.<sup>9</sup> and Siguencia et al.<sup>10</sup> in studies conducted in Ecuador found a predominance of mild dependents. Demographic and cultural differences between countries could explain these results.

According to some research<sup>11,17</sup>, the reason behind the use of Internet and social media by university students, is related to the loss of communicative inhibitions and the need to escape from the reality that surrounds them. It is also suggested that the trust generated in virtual friends reduces tensions and conflicts, and generates cohesion, harmony and cooperation. The main reason is related to social acceptance, since many of them feel that if they do not constantly update their profiles they could be socially rejected. Others perceive the Internet as a means to pass time, maintain family relationships, forget about problems and for social sharing<sup>18</sup>.

In this study, a low percentage of students was identified as sex addicts. An investigation carried out by Serrano et al.<sup>6</sup> in educational institutions of the community of Madrid, revealed that sexual activity on the Internet began from the early age of 13 and that there were pathological cases in children and adolescents. However, it showed lower figures in university population, which decreased as years of study moved forward.

In an article published by Mesa et al.<sup>7</sup>, it was suggested that the use of ICTs and the Internet entailed risks such as sexting, especially for adolescents and juveniles. This practice refers to sending sexual messages (erotic or pornographic) via mobile phones to couples or people with whom the youngster wishes to flirt. According to Sánchez et al.<sup>19</sup>, people involved in cybersex minimize the importance and impact of their behavior; however, paradoxically some adolescents are becoming sex addicts without necessarily having ever engaged in sexual intercourse.

Regarding television dependence, in this study 33,3 % of the students were identified. These results are consistent with those obtained by Ríos et al.<sup>20</sup> with students from several Latin American

universities and by Almansa et al.<sup>21</sup> with students from the University of Malaga, Spain, where 45,4 % and 49 % of young people were identified respectively, as daily television viewers.

Coffee addiction was represented by 22,2 % of the students in the present investigation. A similar result regarding the preference of coffee among products that contain caffeine by young people, was found in a study carried out by Espinosa et al.<sup>3</sup> with Ecuadorian university students, which showed coffee as the second most consumed legal drug in 90,7 %, after alcohol. Another study conducted by Morales et al.<sup>4</sup> with university students in Spain, identified coffee as the first most consumed caffeine-containing product in 71 % of those surveyed.

The investigation by Sánchez et al.<sup>5</sup> with Colombian students revealed that cola drinks were the most consumed drink by these young people in 76,5 %, followed by coffee in 50,8 % of them. The differences in terms of figures could be given by social and cultural factors.

The students' educational skills for the prevention of addictive behavior were generally favorable. These results coincide with two studies carried out by Estrada et al.<sup>22</sup> and Domínguez et al.<sup>23</sup> with adolescents in Peru; in which moderate dependence on the Internet predominated and most of the students had partially developed social skills.

These results clearly show the need for educational interventions in the case of students identified as mild and moderate dependents. Those characterized as severe dependents should be studied in greater depth, and educational and specialized intervention

should be implemented before harmful use interferes with academics and personal relationships.

The students' educational skills that were identified, constituted protective and risk factors, which are considered important references for the design and implementation of educational and specialized interventions.

## CONCLUSIONS

Moderate dependence on the use of cell phones and Internet access prevailed among first-year students of "Calixto García" Faculty of Medical Sciences. Students' educational capacities for the prevention of addictions were identified according to the type of dependence, constituting protective and risk factors to take into account for the design of educational and specialized interventions.

## AUTHORSHIP

**YChC:** conceptualization, data curation, methodology, project management, visualization, writing—original draft, writing—review and editing. **LARC:** conceptualization, methodology, writing—review and editing. **NSC:** research, formal analysis, validation, writing—review and editing. **AGR:** research, methodology, writing—original draft.

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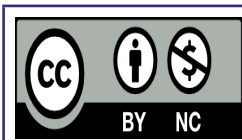
## Adicciones no relacionadas con sustancias en estudiantes de primer año de Medicina de la Facultad "Calixto García"

### RESUMEN

**Introducción:** las nuevas adicciones son frecuentes y comprenden el uso abusivo de Internet, ordenador o móvil, redes sociales, videojuegos, cibersexo y de menor incidencia las relacionadas con productos que contienen cafeína. **Objetivo:** caracterizar el

comportamiento de las adicciones no relacionadas con sustancias en estudiantes de primer año de Medicina de la Facultad "General Calixto García" durante el período de octubre a noviembre del año 2020. **Método:** se realizó un estudio observacional, descriptivo, de corte transversal. El universo estuvo constituido por 36 estudiantes y se trabajó con su totalidad. Las variables analizadas fueron: edad, sexo, dependencia y habilidades educativas. **Resultados:** la edad promedio fue de 18,5 años y predominó el sexo femenino en un 72,2 %. El 30,5 % de los estudiantes presentó dependencia leve, 61,1 % moderada y 8,3 % severa. Las más frecuentes fueron el uso de celulares con el 77,8 % y el Internet con un 44,4 %. Las habilidades educativas de forma general fueron favorables. La planeación del futuro, pensar en consecuencias negativas y la resistencia a la presión grupal se identificaron como las más representativas. Las menos frecuentes resultaron el autocontrol, la impulsividad en la solución de problemas y el manejo del enojo. **Conclusiones:** en los estudiantes de la Facultad Calixto García predominó la dependencia moderada al uso de celulares y al acceso a internet. Fueron favorables las habilidades educativas de los estudiantes para la prevención de conductas adictivas.

**Palabras clave:** Estudiantes de Medicina; Tecnología de la Información; Trastorno de Adicción a Internet.



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