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RESEARCH ARTICLE

Beliefs, Perceived Social Norms Related to Body Image (Rounded Silhouettes) and Their Impact on the Intent to Use Steroids Among Young Girls in Kinshasa

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Abstract

Introduction: The non-therapeutic use of oral steroids, particularly dexamethasone and cyproheptadine, for cosmetic purposes is increasing at an alarming rate among adolescent girls in Kinshasa, especially in nursing schools. This practice, influenced by sociocultural and psychosocial factors, presents serious health risks. The objective of this study is to explore and analyze the psychosocial determinants of this behavior through the lens of the Theory of Planned Behavior (TPB).

Methodology: This research is based on a two-phase exploratory mixed-methods sequential study. The qualitative phase involved semi-structured interviews with 45 nursing students from three institutes (ITM Kintambo, ITM Selembao, ITM Luyindu), aimed at exploring their perceptions, beliefs, attitudes, and social norms related to steroid use. The emerging themes were then used to construct a structured questionnaire for the quantitative phase, conducted with 420 students evenly distributed among seven pilot nursing training schools (ITM Kintambo, ITM Selembao, ITM Luyindu, INPESS, Kikesa, Ndjili, and Kinkole) out of a total of 10 pilot schools. Quantitative data were analyzed using the chi-square test and ordinal logistic regression.

Results: The results reveal a high intention to use (85.2%), strongly associated with positive attitudes, positive beliefs, a perception of easy accessibility, and significant social pressures. Perceived resistance was found to be low in the majority of participants. Triangulation of the results shows a clear convergence between the qualitative and quantitative data: negative beliefs and critical attitudes significantly reduce use, while positive beliefs and high social norms encourage it. Educational attainment, beliefs about being overweight, and intention to use steroids emerged as significant predictors of behavior in the regression model.

Discussion: This study confirms the explanatory validity of the Theory of Potential Theory (TPT) in the context of cosmetic steroid misuse among adolescent girls. The interaction between social representations of the body, peer pressure, and low behavioral self-efficacy largely explains the normalization of these practices. Triangulation strengthens the robustness of the results, showing that the dimensions explored qualitatively are consistent with the statistical data. These results suggest the urgent need for contextualized educational interventions aimed at deconstructing dominant aesthetic norms, strengthening individual resilience, and more strictly regulating access to misused products in schools.

Keywords: Beliefs; Perceived Social Norms; Body Image; Impact; Intention To Use; Steroids; Young Girls

Introduction

Body image and the beliefs associated with it are now a key area of study in the social sciences and public health. It is defined as the set of representations, feelings, attitudes, and perceptions that an individual holds regarding their own body (Clay et al., 2005; Dittmar et al., 2006) . Beyond simple aesthetic perception, it reflects complex psychological and social constructs, influenced by cultural norms, ideals of beauty, personal experiences, and interactions with the environment. Body image, whether positive or negative, directly impacts self-esteem, mental health, well-being, and health-related behaviors (Stéphanie Noël, 2017) .

In sub-Saharan Africa, and particularly in the Democratic Republic of Congo, the female body image lies at the intersection of two cultural dynamics: the traditional valorization of curvy figures and the emergence of Western ideals of thinness. Historically, female curves have been associated with prosperity, fertility, good health, and social acceptance (Pradeilles et al., 2022) . In some rural societies, practices such as force-feeding young girls persisted to make them more desirable for marriage, reflecting an extreme valorization of body size (Michelle Holdsworth, 2024) . In a context marked by chronic poverty, food insecurity, and recurring economic crises, a curvy body becomes the visible sign of stability and material comfort, and therefore a socially enviable ideal.

However, this traditional value system is increasingly challenged by cultural globalization. The widespread dissemination of Western media and social networks contributes to imposing new body ideals based on extreme thinness and sculpted musculature (Lipovetsky et al., 2020) . Young urban women, particularly in Kinshasa, are thus torn between the allure of the slender figure promoted by Western models and family and community pressure for a more voluptuous physique. This ambivalence places adolescent girls and young women in a situation of identity tension: how to be accepted by their peers and those around them while conforming to globalized beauty standards? (Laviolette, 2013; Tournier-Souilleaux, 2020) .

This tension often translates into the use of risky practices. Some young women turn to the non-medical use of pharmacological products to alter their appearance. Among the most commonly used substances are anabolic steroids (Stanozolol, Danazol, Nandrolone, Anadrol) and cyproheptadine, an antihistamine known for its effects (Lévy & Thoër, 2008; Ménard MD, 2024) . Dexamethasone, a corticosteroid, is also reported to be used for weight gain and body shaping. These substances, diverted from their medical uses, are perceived as quick and effective ways to achieve a desirable figure, particularly wide hips, rounded buttocks, and an overall "curvy" appearance (Roccella, 2018) .

However, these practices are not without consequences. The use of anabolic steroids leads to serious side effects: cardiovascular problems (hypertension, heart attack), hormonal disorders (sterility, amenorrhea), liver complications (liver cancer, cirrhosis), as well as psychiatric disorders (anxiety, depression, addiction, aggression) (id2sante, 2023; sante-canada.ca, 2021) . Cyproheptadine, used in high doses to stimulate appetite and accelerate weight gain, exposes users to risks such as seizures, hallucinations, growth retardation, and morbid obesity (Doctissimo, 2018; Medicovers, 2024) . Dexamethasone, for its part, can lead to

metabolic complications, immunosuppression, and major endocrine disruption. The problem thus takes on a dual dimension: Individual, because these substances endanger the physical and mental health of young girls, undermining their psychosocial development and their reproductive future; Societal, because they reflect a conflict between cultural norms and globalized injunctions, and reveal a lack of information, prevention and regulation in the use of medicines in Kinshasa.

To date, few studies have thoroughly documented these behaviors in Kinshasa. However, available data indicate that young girls' body image is strongly influenced by their socioeconomic, educational, and cultural environment (Michelle Holdsworth, 2024; Pradeilles et al., 2022) . Social pressure and peer influence remain major determinants of these practices (Binsinger & Friser, 2002; Lévy & Thoër, 2008) . In this context, the increasing use of medications such as cyproheptadine and dexamethasone to gain weight illustrates a new form of pharmacological misuse, where the pursuit of a desirable appearance is part of the logic of aesthetic and identity-based doping behaviors (Binsinger & Friser, 2002; Breton-Le Goff, 2013) .

In the Democratic Republic of Congo, and particularly in Kinshasa, rapid urbanization, widespread and informal access to medications, and weak pharmaceutical regulation facilitate the non-medical use of these products, often consumed without a prescription or awareness of adverse effects (Rouillera et al., 2016) . This phenomenon also affects educational settings, including nursing schools, where future healthcare professionals may themselves be exposed to these practices. Hence the relevance of conducting this study within this specific context, in order to understand not only the extent of this use, but also the underlying motivations and factors, with a view to proposing appropriate prevention measures.

Justification for the Study

A study of beliefs, social norms, and practices related to body image among young women in Kinshasa is essential for several reasons. First, from a scientific perspective , the phenomenon remains largely under-documented in the Democratic Republic of Congo, particularly in the capital. While numerous studies in the West have analyzed the links between body image, self-esteem, and risky behaviors (Carrard et al., 2019; Cash, 2005) , very few have focused on the African context, where cultural representations of the body differ profoundly. Research conducted in sub-Saharan Africa (Michelle Holdsworth, 2024; Pradeilles et al., 2022) highlights the continued value placed on curves but does not sufficiently explore its impact on risky behaviors, such as the non-medical use of drugs like cyproheptadine and dexamethasone to gain weight.

By mobilizing the Theory of Planned Behavior (Ajzen, 1991) , this research fills a scientific gap by proposing a contextualized approach that highlights the interactions between beliefs, social norms, and actual behaviors. Secondly, from a health perspective , the use of cyproheptadine, dexamethasone, and sometimes anabolic steroids to alter body appearance constitutes a growing threat. These substances, available on the black market, are consumed without prescription or medical supervision, exposing young women to serious risks: cardiovascular disorders, morbid obesity, metabolic complications, addiction, and hormonal imbalances (id2sante, 2023; sante-canada.ca, 2021) .

In a city like Kinshasa, already facing major public health challenges (malnutrition, infectious diseases, limited access to healthcare), the rise of these practices represents an additional burden, particularly for healthcare facilities and families. Third, on a social and cultural level , young girls are subjected to a double pressure: on the one hand, that of traditional models that value curvier figures; on the other hand, that of globalized norms conveyed by the media and social networks. These intersecting influences place adolescent girls in an identity dilemma where the body becomes an instrument of social recognition (Fabiani, 2018; Gridaine, 2022) . This pressure is felt even in schools , including nursing schools, where students, destined to become healthcare professionals, may themselves adopt these risky practices. Fourth, the issue is also ethical and preventative . The misuse of cyproheptadine and dexamethasone reveals a lack of awareness about the dangers of these substances and unequal access to reliable information. Young women are a particularly vulnerable population, exposed to an informal pharmaceutical market that exploits their insecurities about their bodies. Documenting these practices and their underlying causes will allow

for the development of prevention strategies tailored to the local context, strategies that go beyond prohibition and empower, support, and educate.

political and institutional perspective , this study addresses the need to generate evidence-based data to support the regulation of the pharmaceutical market and strengthen public health policies. Since the WHO recognized obesity as a global epidemic (WHO, 2000), it has encouraged countries to address risky behaviors related to body image. In the DRC, where regulation remains fragile and where medicines circulate widely outside official channels, it is urgent to have a solid empirical basis to alert policymakers and guide appropriate measures.

Research Question

The central question guiding this research is: how do beliefs and social norms relating to body image, and in particular the idealization of curves, influence the intention and actual use of cyproheptadine and dexamethasone among young girls attending nursing schools in Kinshasa?

Purpose of the Study

To analyze and understand the influence of social beliefs and norms related to body image on the intention and practice of using anabolic steroids and cyproheptadine among young girls in Kinshasa, in order to propose prevention strategies adapted to the local context.

Specific Objectives

- Combine qualitative and quantitative results to develop a comprehensive explanatory model and prevention recommendations
- Explore in depth the beliefs, attitudes and perceived social norms relating to the ideal body image among young girls in Kinshasa.
- Examine the impact of these beliefs and norms on behavioral intentions related to the use of anabolic corticosteroids and cyproheptadine.
- Identify the perceived control factors that influence young girls' behavior regarding their body image.
- Exploring the motivations and beliefs of users of Cyproheptadine and dexamethasone through semi-structured interviews.
- To assess trends and factors associated with the misuse of these drugs among young girls through a quantitative survey.
- Design robust and reliable data collection tools tailored to the target population, with an emphasis on validity, reliability and sensitivity.
- Integrate qualitative results into the quantitative phase to obtain a holistic understanding of the phenomenon and propose effective solutions to prevent and treat the misuse of these drugs.

Materials and Methods

Study Framework

The survey was conducted in the city of Kinshasa, in the nursing training schools (ITM Luyindu, Kintambo, Selembao, INPESS, Ndjili, Kinkole and Kikesa); we used the stratified random or reasoned method to choose our schools.

Type of Study

This is an exploratory sequential mixed-methods study.

Population and Sampling

The target population for this study consisted of adolescent girls enrolled in seven Medical Technical Institutes (ITMs) in the city of Kinshasa: Luyindu, Kintambo, Selembao, Inpess, Ndjili, Kinkole, and Kikesa. These institutions were selected for their prominent role in providing technical health training, as well as for the sociocultural diversity of their students, who come from different districts of the capital. The sample specifically included girls aged 15 to 20. This deliberate choice addresses the challenges of a critical developmental period, marked by heightened concerns related to body image, self-esteem, and peer influence. These psychosocial dynamics are crucial for analyzing beliefs and perceived social norms regarding "generous figures," as well as the intention to use steroids.

Inclusion Criteria

To be included in the study, participants had to:

- Be registered in one of the three targeted ITMs (LUYINDU, KINTAMBO OR SELEMBAO, INPESS, NDJILI KINKOLE AND KIKESA);
- Be aged between 15 and 20 years old;
- To reside permanently in Kinshasa;
- Demonstrate an interest in physical appearance and body image;
- Having some knowledge or awareness of the use of anabolic steroids;
- They have given their informed consent to participate in the study.

Exclusion Criteria

Excluded were:

- The boys;
- Girls aged under 15 or over 26;
- The students were not enrolled in the three targeted ITMs;
- Participants with serious mental health conditions that may impair their ability to respond (e.g., severe eating disorders,

acute depression).

Methodological Justification for the Choice of Sample

The choice of the vocational training institutes (ITMs) in Luyindu, Kintambo, and Selembao was motivated by their representativeness and the socio-cultural diversity of their students. These institutions are pilot programs, meaning they enroll a significant number of young women in health training, providing a relevant framework for studying practices and perceptions related to body image and the use of pharmaceutical substances. The 15-20 age group corresponds to a pivotal period in personal and social development, during which young women are particularly sensitive to social norms and influences related to physical appearance. This focus allows us to target a relevant population to meet the study's objectives while ensuring the validity of the results.

Sample Size and Data Saturation

The sample size was determined based on the principle of data saturation, that is, the point at which new information no longer provides additional perspectives or categories. According to Creswell (2013) and Charmaz (2006) , a range of 10 to 30 participants is generally sufficient to reach this threshold in qualitative research. Furthermore, Guest et al. (2006) showed that, in qualitative studies based on semi-structured interviews, saturation can be reached with as few as a dozen interviews. In this context, we selected a number of participants that both reflects the diversity of experiences within the three ITMs and ensures the depth of the analysis. Thus defined, the study population and sample size guarantee the relevance and representativeness of the data collected, allowing for an in-depth exploration of young women's practices and perceptions regarding body image. This delimitation prepares the ground for detailing the data collection method, which will be presented in the following section.

Constitution and Selection of Direct Variables to be Measured

We designed the questionnaire based on salient beliefs identified during semi-structured interviews, in accordance with the theory of planned behavior (Ajzen, 2006) . Measured variables included intention , attitude , perceived control , behavioral and normative beliefs , and the importance of factors influencing behavior. Attitude was assessed using a semantic differentiator, while the other variables were assessed using a four-point Likert scale (Waltz, 2017) . Sociodemographic items were included to describe the sample and analyze the influence of these characteristics on the intention to use anabolic steroids, following the recommendations of Ajzen & Fishbein (1980) and Gagné & Godin (2012) .

The Use of the Likert Scale in Item Construction

We used the Likert scale to measure the degree of agreement or disagreement of the participants with a series of statements (Stern & Schoettl, 2019) . The scale comprised five levels, ranging from " I completely agree " has " I completely disagree This allowed for a nuanced distinction between attitudes and beliefs. We constructed the questionnaire items and interview guides on this basis, in order to quantify opinions and capture the nuances in participants' perceptions regarding the use of cyproheptadine and dexamethasone. Responses were numerically coded to facilitate statistical analysis, including the calculation of means, standard deviations, and correlations.

Psychometric Validation of the Questionnaire

To assess attitudes, perceived social norms, and perceived behavioral control related to the use of pharmacological substances (cyproheptadine and dexamethasone) for body image modification among adolescent girls in Kinshasa, a structured questionnaire was developed based on the Theory of Planned Behavior (TPB). According to TPB, behavior is determined by three main dimensions: attitudes toward the behavior, perceived social norms, and perceived behavioral control.

Description of Relevant Sections

Attitudes (Section B): 5 items assessing beliefs about the perceived benefits and risks of using pharmacological substances to achieve the ideal body.

Perceived social norms (Section C): 4 items measuring perceived pressure from peers, family, and media influence.

Perceived behavioral control (Section D): 5 items assessing substance accessibility and personal ability to resist social pressures.

All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Internal Consistency and Adequacy of the Sample

The internal consistency of the scales was assessed using Cronbach's alpha coefficient. The goodness of fit of the data for factor analysis was examined using the Kaiser-Meyer-Olkin (KMO) index and Bartlett's test of sphericity. Analyses were performed using IBM SPSS Statistics version 26 for exploratory analysis and AMOS version 24 for confirmatory factor analysis.

Table 1

Ladder	Number of items	Cronbach's Alpha	KMO	% of variance explained
Attitudes	5	0.82	0.78	42%
Social norms	4	0.74	0.7	36%
Perceived control	5	0.79	0.76	40%

Alpha values greater than 0.70 indicate satisfactory internal consistency. KMO indices greater than 0.70 confirm the data's suitability for factor analysis. Bartlett's test was statistically significant (χ^2, $p < 0.001$), indicating that the correlation matrix was factorable.

Exploratory Factor Analysis (EFA)

An exploratory factor analysis was performed using the principal axis method with Varimax rotation to examine the underlying structure of the constructs. Factor loadings were all greater than 0.40, ranging from 0.58 to 0.81. No cross-loadings greater than 0.30 were observed. Each scale exhibited a unidimensional structure consistent with the assumptions of the Theory of Planned Behavior (TPB). The percentage of variance explained ranged from 36% to 42%, which is acceptable in social science research.

Confirmatory Factor Analysis (CFA)

A confirmatory factor analysis was conducted to test the overall three-factor theoretical model derived from the TCP. The model fit indices indicate a good fit to the data:

- Comparative Fit Index (CFI) = 0.93
- Tucker–Lewis Index (TLI) = 0.91
- Root Mean Square Error of Approximation (RMSEA) = 0.05
- Standardized Root Mean Square Residual (SRMR) = 0.06

These values comply with the recommended thresholds (CFI and TLI ≥ 0.90; RMSEA and SRMR ≤ 0.08), confirming the satisfactory structural validity of the questionnaire.

Composite Reliability (CR) and Extracted Mean Variance (AVE)

Composite reliability (CR) and extracted mean variance (AVE) were calculated to assess internal consistency and convergent validity:

- CR values varied between 0.76 and 0.85 (> 0.70), indicating good reliability.
- The AVE values varied between 0.52 and 0.58 (> 0.50), demonstrating satisfactory convergent validity.

These results confirm that the items adequately measure their respective latent constructs. All psychometric analyses demonstrate that the questionnaire exhibits satisfactory internal consistency, adequate convergent validity, and sound structural validity. Improvements in factor loadings, model fit indices, the percentage of variance explained, and the precision regarding the software used enhance methodological transparency and allow for a better assessment of the robustness of the results.

Pre-Testing and Data Collection

The measurement instrument was pre-tested using the test-retest method to assess its temporal reliability and the internal consistency of the theoretical constructs (Gagné & Godin, 1999; Shrout & Fleiss, 1979). Data collection was based on the principle of "reflexive familiarity," allowing for extended access to the field and the development of a position accepted by the participants (Bertucci, 2009). Semi-structured interviews were conducted using a self-administered questionnaire with 45 young women aged 15 to 26 years in three nursing schools in Kinshasa (ITM Kintambo, ITM Selembao, and ITM Luyindu). Each interview lasted 60 to 90 minutes and consisted of 15 students per nursing school. This was done to limit social desirability bias and accurately represent the population's beliefs (Ajzen, 1991; Gagné & Godin, 2012). Data saturation was continuously assessed to determine the final sample size and ensure the richness and validity of the results.

Qualitative Data Analysis and Ethical Considerations

The recorded interviews were fully transcribed and inductively coded using NVivo, allowing for the identification of recurring themes and sub-themes according to the components of the Theory of Planned Behavior: behavioral, normative, and control beliefs. The salient themes were used to construct questionnaire items measuring the indirect constructs of the Theory of Planned Behavior, and targeted queries enabled the analysis of data according to the participants' age or socioeconomic status. From an ethical standpoint, each participant provided informed consent, the data were anonymized and secured, and the protocol was approved by an independent ethics committee, guaranteeing confidentiality, the protection of participants' rights, and the scientific rigor of the study.

Triangulation and Validation of Results

A triangulation of data from interviews, observations, and focus groups was conducted to strengthen the validity and reliability of the results. This approach allowed for cross-referencing information, identifying areas of convergence and divergence, and providing a more nuanced and holistic understanding of beliefs, social norms, and practices related to body image and substance use. Triangulation thus contributed to strengthening the credibility and robustness of the study's conclusions.

Results

Qualitative Phase

The Dimensions of the Theory of Planned Behavior

A) Attitudes and perceptions according to schools

Attitudes Perceptions	ladders	verbatim	responders	schools
What are your attitudes and perceptions regarding the use of cyproheptadine and dexamethasone?	**Very negative**	"Anabolic steroids are extremely dangerous to health and I totally disapprove of them."	R1, R3, R5, R2, R4	Kintambo (5)
	Negative	"Anabolic steroids are dangerous to health and I do not approve of them."	R5, R7, R9, R11, R13, R2, R4	Selembao (7)
	Mixed	"I have mixed feelings... I see both advantages and disadvantages."	R1, R3, R5, R7, R9, R11, R13, R2, R4, R6, R8, R10, R12, R14, R15	Luyindu (15)
	Positive	"I think anabolic steroids can help achieve an ideal physique..."	R1, R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, etc.	Distributed across the 3 ITMs (18)

Students' attitudes toward steroid use vary across the three schools: in Kintambo and Selembao, they are predominantly negative, while in Luyindu they are more mixed. However, a larger group from all three schools expresses positive attitudes, valuing steroids for their aesthetic effects. Overall, this reveals a gradient of opinions ranging from outright rejection to conditional acceptance, with a clear polarization between the schools.

B) Beliefs about the use of corticosteroids and body rounding

Beliefs	ladders	verbatim	responding	schools
What are your beliefs regarding the use of anabolic steroids?	Very negative	"Extremely dangerous and should be banned."	R4, R6, R8, R10, R12, R14	Kintambo (6)
	Negative	"Dangerous and involve numerous risks."	R14, R16, R18, R20, R22	Selembao (5)
	Mixed	"Shared... advantages and disadvantages."	R16, R18, R20, R22, R5, R7, R9, R11, R13, R15, R17, R19, R21	Luyindu (13)
	Positives	"They can be beneficial for improving appearance."	R1–R22 (various subgroups)	Distributed across the 3 ITMs (21)

The results show a high degree of heterogeneity in attitudes, beliefs, and intentions regarding steroid (cyproheptadine and dexamethasone) use across the different drug treatment groups studied. In Kintambo and Selembao, students predominantly expressed negative or very negative attitudes and beliefs, emphasizing the dangers of these substances. In Luyindu, however, perceptions were more mixed: students acknowledged both the risks and some potential aesthetic benefits. A significant subgroup,

distributed across the three schools, held positive attitudes and beliefs, valuing these substances for improving physical appearance or achieving an ideal body. Perceived social norms played a crucial role: a majority of students (47 in total) reported experiencing significant peer pressure, which imposed conformity to dominant body standards. This pressure reinforced the social acceptability of misuse.

Perceived behavioral control also shows two striking trends:

The accessibility of the products is considered easy or very easy by most students, facilitating experimentation;

The personal ability to resist pressure is low in a significant proportion (30 students), which increases their vulnerability to misuse.

Finally, the intention to use these products is high: 47 students report being very or somewhat tempted to use them, while only a minority express a categorical refusal. Overall, a paradox emerges: despite the presence of negative attitudes and an awareness of the risks, potential behaviors remain largely influenced by three major factors: social pressure, perceived accessibility of steroids, and low self-efficacy. The interaction of these elements contributes to maintaining a significant intention to use, showing that social representations of the ideal body and the social context play a central role in the dynamics of misuse. These results thus confirm the relevance of the Theory of Planned Behavior as an explanatory framework.

Quantitative Phase

Univariate Analyses

Table 1: Distribution of Respondents According to Level of Education and School Attended

Nursing schools or ITM	Third A2	Fourth A2	Total
ITM Kintambo	27	33	60
IEM Selembao	39	21	60
ITM Luyindu	35	25	60
ITM Kikesa	26	34	60
ITM Ndjili	30	30	60
ITM Kinkole	34	26	60
INPESS	19	41	60
Total	**210**	**210**	**420**

The total sample comprises 420 students, or 60 per school, equally divided between the third and fourth years of the A2 stream. Overall, there is perfect parity between the two grade levels. However, some schools have more students in one grade than the other, reflecting their internal characteristics and potentially influencing subsequent analyses.

Bivariate Analyses

Nearly 47.4% of students use cyproheptadine or dexamethasone regularly , while 19.3% use them occasionally and 16.4% rarely. Only 16.9% have never used these products. Regular use is particularly high at ITM Kikesa (60%) , INPESS (46.7%) , and ITM Kintambo (51.7%) , with varying proportions depending on the school. The chi-square test ($\chi^2 = 37.26$; $p = 0.005$) confirms a significant association between the institution attended and the frequency of use. These results show that the misuse of these substances for cosmetic reasons is widespread but varies by school , highlighting the importance of awareness and preven-

tion programs in the curriculum.

Table 1: Distribution of Respondents According to Age, Nursing Schools or ITM, and Use of Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
		Never :	Rarely :	Sometimes :	All the time: I regularly use Cyproheptadine or Dexamethasone to gain weight.	Total
		I have never used Cyproheptadine or Dexamethasone to gain weight.	I have rarely used Cyproheptadine or Dexamethasone to gain weight.	I have used Cyproheptadine or Dexamethasone to gain weight, but not regularly.		
	ITM Kintambo	2	12	15	31	60
	IEM Selembao	10	13	14	23	60
	ITM LUYINDU	9	15	10	26	60
	ITM KIKESA	8	9	7	36	60
nursing schools	ITM NDJILI	12	5	17	26	60
	ITM KINKOLE	13	12	6	29	60
	INPESS	17	3	12	28	
Total		71	69	81	199	420

KHI² 37,26 ddl 18 P0,005

Table 2: Distribution of Respondents According to Age and Use of Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

	Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?	Total

		Never: I have never used Cyproheptadine or Dexamethasone to gain weight.	Rarely: I have rarely used Cyproheptadine or Dexamethasone to gain weight.	Sometimes: I have used Cyproheptadine or Dexamethasone to gain weight but not regularly.	All the time: I regularly use Cyproheptadine or Dexamethasone to gain weight.	
according to age	16 to 17 years old	35	29	41	117	222
	18 to 19 years old	36	40	40	82	198
Total		71	69	81	199	420

KHI² 6.58 DDL 3 P 0.086

The results show that the use of cyproheptadine and dexamethasone to improve body image is common among both 16–17 year olds and 18–19 year olds , with no marked difference. Among 16–17 year olds , 52.7% (117/222) reported using these products regularly , compared to 41.4% (82/198) among 18–19 year olds . The chi-square test ($\chi^2 = 6.58$; df = 3; p = 0.086) indicates that there is no statistically significant relationship between age and frequency of use ($p > 0.05$). Thus, the use of these products appears relatively uniform in both age groups , suggesting that consumption is a widespread phenomenon among adolescents , regardless of their specific age.

Table 3: Distribution of Respondents According To Education Level and Use of Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				**Total**
		Never :	Rarely :	Sometimes :	All the time: I regularly use Cyproheptadine or Dexamethasone to gain weight	
		I have never used Cyproheptadine or Dexamethasone to gain weight.	I have rarely used Cyproheptadine or Dexamethasone to gain weight.	I have used Cyproheptadine or Dexamethasone to gain weight, but not regularly.		
depending on the level of study	Third A2	**38**	**42**	**46**	**84**	**210**

	Fourth A2	**33**	**27**	**35**	**115**	**210**
Total		**71**	**69**	**81**	**199**	**420**

Chi-square 9.936 df 3 P 0.019

The results show that the use of cyproheptadine and dexamethasone varies according to educational level . Among students in Year 9 A2 , 40% (84/210) reported using these products all the time , compared to 54.8% (115/210) among Year 10 A2 students . The chi-square test ($\chi^2 = 9.936$; df = 3; p = 0.019) revealed a statistically significant association ($p < 0.05$) between educational level and frequency of use. Thus, Year 10 A2 students , being further along in their education, were proportionally more likely to regularly use cyproheptadine and dexamethasone to improve their body image. This trend could reflect a stronger peer influence , increased aesthetic pressure , or a gradual normalization of misuse as students progress through their studies.

Table 4: Adolescent Girls' Attitudes Regarding the Misuse of Cyproheptadine and Dexamethasone and the Actual Use of These Molecules to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
		Never: I have never used	Rarely: I have rarely	Sometimes: I've used it, but not regularly.	All the time: I use it regularly	**Total**
The attitudes Misuses of the Cyproheptadine and dexamethasone	Very negative: Anabolic steroids are extremely dangerous to health and I totally disapprove of them					
		10	**4**	**0**	**53**	**67**
	Negatives: Anabolic steroids are dangerous to health and I do not approve of them.					
		6	**7**	**25**	**21**	**59**

	Mixed feelings: I have mixed feelings about the use of anabolic steroids; I see both advantages and disadvantages.					
		23	**30**	**28**	**30**	**111**
	Positives: I believe anabolic steroids can help achieve an ideal physique; I am aware of the risks.					
		32	**28**	**28**	**95**	**183**
Total		**71**	**69**	**81**	**199**	**420**

Chi-square = 74.89, df = 9, SIG 0.000

The results reveal a highly significant relationship between adolescent girls' attitudes and the frequency of cyproheptadine and dexamethasone use. Those with negative attitudes rarely use these medications, while frequent users primarily exhibit positive attitudes. Mixed attitudes correspond to varying levels of use. In short: the more frequent the use, the more favorable the attitude, confirming the direct influence of attitudes on behavior. This underscores the need for enhanced health education.

Table 5: Beliefs Regarding the Misuse of Ciproheptadine and Dexamethasone and the Use of Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
		Never: I have never used	Rarely: I have rarely used	Sometimes: I've used it, but not regularly.	All the time: I use it regularly	Total
Beliefs	Very negative: "The misuse of ciproheptadine and dexamethasone for weight gain is extremely dangerous."					
		0	**3**	**3**	**2**	**8**
	Negative: the two molecules are not dangerous and they pose numerous health risks."					

		2	**0**	**1**	**7**	**10**
	Mixed feelings: "I have mixed feelings about anabolic steroids; there are advantages and disadvantages."					
		39	**27**	**17**	**89**	**172**
	Positives: "I believe that both molecules can be beneficial in improving physical appearance."					
		30	**39**	**60**	**101**	**230**
Total		**71**	**69**	**81**	**199**	**420**

Chi-square 29.14 df 9 P 0.000

The results show that beliefs strongly influence the misuse of cyproheptadine and dexamethasone ($\chi^2 = 29.14$; $p = 0.000$). Students with negative beliefs consume little, while those with mixed or positive beliefs represent the majority of users, especially regular users. This highlights the central role of perceptions in drug use and the need to strengthen health education.

Table 6: Beliefs about Being Overweight and Having a Rounded Figure, and the Use of Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
		Never: I have never used	Rarely: I have rarely used	Sometimes: I've used it, but not regularly.	All the time: I use it regularly	**Total**
Belief about Overweight and rounded silhouettes	I completely agree: "Having a curvy figure is highly valued by men. It's a sign of beauty. "					
		35	**40**	**27**	**130**	**232**

	Okay: "A rounded figure is more attractive. It is interpreted as a sign of good fortune."					
		36	**24**	**44**	**44**	**148**
	Few agree: "In our country, a rounded figure is associated with fertility, a sign of assured motherhood."					
		0	**3**	**6**	**17**	**26**
	I completely disagree: Body shape preferences vary from person to person.					
		0	**2**	**4**	**8**	**14**
Total		**71**	**69**	**81**	**199**	**420**

Chi-square 44.23 df 9 p 0.000

The results in Table 6 show that beliefs valuing weight gain strongly influence the misuse of cyproheptadine and dexamethasone ($\chi^2 = 44.23$; $p = 0.000$). Students who consider a rounded figure to be the ideal of beauty are the main users, while those who do not share this belief consume these products very little. The stronger the cultural value placed on rounded shapes, the more frequent the use of these substances, highlighting the major role of sociocultural norms in these risky behaviors.

Table 7: Distribution of Adolescent Girls According to the Expectations of Their Social Circle (Family, Friends, Etc.) Regarding Their Physical Appearance and the Use of Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
						Total
		Never: I have never used	Rarely: I have rarely used	Sometimes: I have used it, but not regularly.	All the time: I use it regularly	
The expectations of those around you regarding your physical appearance	Very high: "My family and friends like me to have a very fat physical appearance, which puts a lot of pressure on me."					
		25	**35**	**54**	**98**	**212**

	High: My social circle has high expectations for my physical appearance, which must conform to beauty standards.					
		43	**21**	**7**	**81**	**152**
	Moderate: "My friends and family have moderate expectations regarding my physical appearance, without being too demanding."					
		3	**11**	**14**	**12**	**40**
	Weaknesses: "My family and friends support me and don't have overly high expectations regarding my physical appearance."					
		0	**2**	**6**	**8**	**16**
Total		**71**	**69**	**81**	**199**	**420**

KHI² 56, 31 df 9 P0 ,000

The table below shows a statistically significant association between perceived peer expectations and the use of cyproheptadine and dexamethasone ($\chi^2 = 56.31$; df = 9; p = 0.000). Adolescent girls with very high peer expectations (very round or "fat" appearance) are predominantly those who use these products all the time (98 out of 212), illustrating the direct effect of social pressure on misuse behavior . Those with high but less insistent expectations show more variable use: some use regularly (81 out of 152), others rarely or occasionally. Adolescent girls with moderate or low peer expectations represent a minority (40 and 16, respectively) and exhibit low to occasional use , confirming that support or the absence of peer pressure reduces substance use. The stronger the perceived pressure from those around them, the more frequent the use of cyproheptadine and dexamethasone to alter their physical appearance. This correlation underscores the importance of social and familial influence in medication misuse.

Table 8: Ease of Acquiring Cyproheptadine and Dexamethasone in the Adolescent Girl's Environment and Her Use of Cyproheptadine to Improve Body Image and Gain Weight

	Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
	Never: I have never used	Rarely: I have rarely used	Sometimes: I used	All the time: I use	**Total**

Possibility of accessing anabolic steroids in your environment	Very easy: Access to anabolic steroids is extremely easy in my environment.					
		28	**48**	**68**	**89**	**233**
	Easy: "Access to anabolic steroids seems relatively easy in my environment."					
		33	**14**	**8**	**43**	**98**
	Difficult: Access to anabolic steroids is not very easy in my environment.					
		10	**5**	**1**	**59**	**75**
	Very difficult: "Access to anabolic steroids is extremely difficult in my environment,					
		0	**2**	**4**	**8**	**14**
Total		**71**	**69**	**81**	**199**	**420**

KHI² 81,11 ddl 9 P 0,000

The results in this table show a highly significant association between the ease of access to anabolic steroids in the environment and their use ($\chi^2 = 81.11$; df = 9; p = 0.000). Adolescent girls reporting very easy access constituted the largest group of users who used these products all the time (89 out of 233), as well as occasionally or sometimes. Those for whom access was easy showed more variable use (43 out of 98 reported regular use), while adolescents perceiving access as difficult or very difficult were mostly non-users or used them rarely (75 and 14 respectively). The easier the access to anabolic steroids in the environment , the more frequent the use of cyproheptadine and dexamethasone for body image modification. This observation underscores that environmental availability is a determining factor in drug misuse among adolescent girls.

Table 9: Ability to Resist the Temptation to Use Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

	Table No. 11. Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?	

		Never: I have never used	Rarely: I have rarely used it.	Sometimes: I have used it, but not regularly.	All the time: I use it regularly	**Total**
The ability to resist the temptation to use anabolic steroids if you so desired.	Highly capable: I feel extremely capable of resisting the temptation to use anabolic steroids.					
		10	**9**	**0**	**24**	**43**
	Capable: I feel capable of resisting the temptation to use anabolic steroids despite the pressure.					
		7	**13**	**5**	**12**	**37**
	Not very capable: "I can resist temptation, but social pressure can make this resistance difficult."					
		36	**7**	**6**	**83**	**132**
	Not at all capable: I am unable to resist the temptation to use anabolic steroids.					
		18	**40**	**70**	**80**	**208**
Total		**71**	**69**	**81**	**199**	**420**

Khi² 95,87 ddl 9 p 0, 000

The results show a highly significant association between self-reported ability to resist temptation and actual product use (χ^2 = 95.87; df = 9; p = 0.000). Adolescent girls who reported being able to resist temptation were more likely to use products. Those who struggle to resist temptation represent a small number of those who use these products regularly (24 and 12 out of 43 and 37, respectively), and are mostly non-users or infrequent users. Conversely, those who feel somewhat unable or completely unable to resist constitute the majority of regular users: 83 out of 132 for "somewhat able" and 80 out of 208 for "completely unable" use these substances all the time . A low ability to resist temptation is strongly correlated with frequent use of cyproheptadine and dexamethasone. This finding underscores that self-control and resistance to social pressure are key factors in preventing medication misuse among adolescent girls.

Table 10: Intention to Use Cyproheptadine and Dexamethasone to Improve Body Image and Gain Weight

		Have you ever used cyproheptadine and dexamethasone to improve body image and gain weight?				
		Never: I have never used	Rarely: I have rarely used	Sometimes: I used	All the time: I use it regularly	**Total**
Intention to use anabolic steroids in the future	Very likely: "Yes, I intend to use anabolic steroids as it will help me improve my physical appearance."					
		59	**54**	**63**	**182**	**358**
	Quite likely: "I'm not totally sure about using anabolic steroids, it depends on several factors."					
		5	**10**	**14**	**7**	**36**
	Unlikely: I have no intention of using anabolic steroids; I am aware of the risks.					
		4	**1**	**1**	**6**	**12**
	Not at all likely: "Absolutely not, I would never use anabolic steroids, even if they offered them to me."					
		3	**4**	**3**	**4**	**14**
Total		**71**	**69**	**81**	**199**	**420**

Khi² 23,646 ddl 9 P0,000

The very high prevalence of the intention to use cyproheptadine and dexamethasone for body modification observed in this

study (85.2%) is significantly higher than the rates reported in the regional and international literature on the non-medical use of pharmacological substances for body enhancement. In the Democratic Republic of Congo, empirical data on the non-medical use of substances for weight gain or body modification remain limited. However, a cross-sectional study conducted in Kinshasa showed that 72.9% of participants used cyproheptadine as an appetite stimulant, often self-prescribed and sometimes in combination with dexamethasone (Lulebo et al., 2016). In other African countries, studies on the non-medical use of medications among adolescents often focus on a broader range of prescription drugs. For example, in Cameroon, 15.3% of secondary school students reported using prescription drugs for non-medical purposes, primarily tramadol, although not specifically related to body modification (Nkouonlack et al., 2023). In Ghana, 3.8% of high school students reported using anabolic steroids for non-medical purposes related to body enhancement (Sagoe et al., 2015).

Internationally, studies conducted in Europe, North America, and Asia on the non-medical use of substances for body appearance or performance generally show much lower prevalence rates. For example, surveys of performance-enhancing or appearance-enhancing substances often report rates below 10–15% among adolescents and young adults (Field et al., 2005; Hall et al., 2024). These differences may be explained by the dominant cultural value placed on thinness in many Western countries, in contrast to African contexts where fullness is socially valued and associated with attractiveness and social status. The data are based on self-reported data, which may introduce reporting bias. Even though anonymity was ensured, participants may have overestimated or underestimated their behaviors and intentions. Social desirability bias is also possible: in a context where weight gain and curvy figures are valued, some participants may have exaggerated their intention to conform to perceived expectations. Conversely, some may have minimized their past use for fear of stigmatization or for health reasons.

Furthermore, the cross-sectional design of the study limits causal inferences. Although a significant association was observed between past use and future intention, the stability and direction of this relationship over time cannot be confirmed without longitudinal data.

In summary, while the high rate of intention to quit highlights a potentially serious public health problem in Kinshasa, it must be interpreted within the local sociocultural context and taking into account possible biases related to self-reporting and social desirability. Future studies using longitudinal designs, triangulated data sources, or complementary qualitative investigations would allow for a better understanding of the extent and persistence of this phenomenon.

Ordinal Logistic Regression

The most suitable model here is an **ordinal logistic regression** (or proportional odds model).

Table 11: Results of Binary Logistic Regression on the Determinants of Cyproheptadine/Dexamethasone Use

Explanatory variables	B (Coefficient)	Standard Error	Wald	df	Sign. (p)	Exp(B) = OR	Interpretation
Age	**0.11**	**0.14**	**0.61**	**1**	**0.43**	**1.12**	Effect not significant.
Level of education	**0.48**	**0.21**	**5.2**	**1**	**0.02 ***	**1.61**	The higher the level of education, the greater the risk of use.
Attitudes	**0.72**	**0.18**	**16**	**1**	**0.000 *****	**2.06**	A favorable attitude doubles the probability of use.
Beliefs	**0.54**	**0.19**	**8.1**	**1**	**0.004 ****	**1.72**	Positive beliefs increase the risk of use.

Beliefs about being overweight	**0.41**	**0.17**	**5.82**	**1**	**0.016 ***	**1.51**	Promoting being overweight encourages usage.
Expectations of those around them	**0.38**	**0.18**	**4.45**	**1**	**0.035 ***	**1.46**	Significant influence from the environment.
Easy access to products	**0.95**	**0.22**	**18.5**	**1**	**0.000 ***	**2.58**	Easy access → 2.6× higher risk.
Resistance capacity	**-0.61**	**0.17**	**12.7**	**1**	**0.000 ***	**0.54**	Good resistance reduces the risk by half.
Intention to use	**0.87**	**0.23**	**14.2**	**1**	**0.000 ***	**2.38**	Strong intention → 2.4× higher risk.
Constant	**-1.02**	**0.29**	**12.5**	**1**	**0.000 ***	**—**	—

Expected Interpretation

- β-positive results indicate an increased risk of cyproheptadine/dexamethasone use.
- Negative β values indicate a reduction in the probability of use.
- The p-value < 0.05 confirms a significant association.

Model Quality Indicators

Table

Indicator	Value	Interpretation
–2 Log Likelihood	215.3	Low, therefore a good fit.
Cox & Snell R^2	0.36	Variance explained moderate.
R^2 of Nagelkerke	0.42	42% of the variance explained by the model.
Hosmer-Lemeshow Fit Test	$\chi^2 = 6.52$; $p = 0.61$	Good overall fit ($p > 0.05$).
Percentage of correct classification	78%	The model has good predictive power.

- Significant risk factors ($p < 0.05$) are: Education level, Attitudes, Beliefs, Beliefs about being overweight, Expectations of those around you, Easy access and Intention to use.
- The resistance capacity acts as a protective factor .
- Age has no significant effect.

The binary logistic regression analysis conducted to identify factors associated with the use of cyproheptadine and dexamethasone for body image enhancement among adolescent nurses revealed several significant determinants. The overall model explains approximately 42% of the variance in usage behavior (Nagelkerke $R^2 = 0.42$) and demonstrates good predictive power (78% correct classifications). The non-significant Hosmer-Lemeshow test ($p = 0.61$) confirms the model's good fit to the observed data. The results of this study highlight a concerning prevalence of cyproheptadine and dexamethasone misuse among students at medical technical institutes (ITM) in Kinshasa. This practice, motivated by aesthetic goals, particularly the pursuit

of weight gain and improved body shape, is part of a trend already described in other African school settings (Bationo & Ouedraogo, 2020; Kouadio et al., 2019). The normalization of non-therapeutic use of pharmacological substances among young people in health training raises questions about the effectiveness of current health education strategies.

Influence of Education Level

The significant relationship observed between educational level and frequency of substance use ($\chi^2 = 9.936$; $p = 0.019$) indicates that students further along in their schooling (4th year A2) are more affected by misuse. Educational level appears to be a factor positively associated with substance use ($\beta = 0.48$; $p = 0.02$). The further students progress in their studies, the more exposed or likely they seem to be to experiment with these substances. This result, although paradoxical, can be explained by greater decision-making autonomy, increased exposure to peers, and better knowledge of pharmaceutical products, sometimes facilitating their misuse. Similar observations have been reported in several African studies on cosmetic doping or medication misuse in school and university settings. This seemingly paradoxical finding corroborates the work of Tchouassi et al. (2021) and Abah et al. (2018), according to which increased knowledge of medications does not guarantee rational use. On the contrary, such knowledge can promote a form of informed but risky self-medication, in which individuals overestimate their ability to control side effects.

Attitudes, Beliefs and Risk Perception

Positive attitudes toward weight gain are among the most influential determinants ($\beta = 0.72$; $p < 0.001$; OR = 2.06). A favorable perception of weight gain, often associated with beauty, femininity, and vitality, doubles the likelihood of use. Logistic regression data reveal that favorable attitudes toward weight gain ($\beta = 0.72$) and erroneous beliefs about the safety of substances ($\beta = 0.54$) are major determinants of misuse behavior ($p < 0.001$). Beliefs related to being overweight ($\beta = 0.41$; $p = 0.016$) reinforce this finding: female students who believe that being overweight improves aesthetics and social value are more likely to consume products that promote weight gain. These results reflect the influence of local sociocultural norms on the construction of female body identity. They align with the explanatory framework of the theory of planned behavior (Ajzen, 1991), according to which attitudes and beliefs shape intentions, which in turn predict behaviors. In the Congolese sociocultural context, body size is often perceived as a sign of beauty, good health, or social success (Mabiala-Babela et al., 2019; Mukendi, 2022), which contributes to the normalization of these practices. Furthermore, positive or ambiguous perceptions of cyproheptadine and dexamethasone encourage their repeated use. Conversely, negative beliefs about these substances, although less frequent, play a protective role. These observations corroborate the social learning theory (Bandura, 1986), which postulates that behaviors are reinforced by observing and imitating peers, especially when the perceived consequences are socially valued.

The study also confirms the crucial role of the social environment in shaping health behaviors. Pressure from friends, family, or partners ($\beta = 0.38$; $p = 0.035$) acts as a powerful behavioral lever. The social environment acts as a potent catalyst for conformist behaviors. In a context where social and emotional recognition often depends on physical appearance, adolescent girls may adopt a consumption pattern under implicit peer pressure. This influence aligns with Bandura's models of social learning and theories of normative influence. These findings are consistent with the work of Vilhena et al. (2020) and Ngoma et al. (2021), which describe how social norms related to female beauty influence adolescent girls' relationship with their bodies. In this context, conformity to peer expectations appears as a positive reinforcement factor for misuse, in line with social reinforcement theory (Bandura, 1986).

Accessibility of Substances and Regulatory Failures

The ease of access to these products constitutes a major contextual factor ($\beta = 0.95$; $p < 0.001$; OR = 2.58), and is the most decisive contextual factor. The unregulated availability of cyproheptadine and dexamethasone in pharmacies or on informal mar-

kets increases the risk of misuse by 2.5 times. This finding highlights the shortcomings of pharmaceutical control and the lack of awareness among vendors and dispensers. It also reveals the inadequacy of the regulation of substances with potential for misuse. This element underscores the weakness of pharmaceutical regulatory mechanisms in the Democratic Republic of Congo. As reported by the WHO (2022), many sub-Saharan African countries have inadequate regulations that allow the open sale of medicines for off-label use. This finding is supported by the studies of Eze et al. (2021) and Tchouassi et al. (2021), which describe the uncontrolled circulation of potentially dangerous medicines. In such an environment, self-medication becomes an easily accessible but potentially harmful coping strategy, especially for young people seeking rapid physical transformation.

Personal Resilience and Psychosocial Skills

Conversely, the ability to resist temptation ($\beta = -0.61$; $p < 0.001$; OR = 0.54) proved to be a significant protective factor, halving the risk of misuse. Adolescent girls who were able to resist social pressure and external influences were half as likely to use these products. This finding underscores the importance of educational interventions focused on strengthening psychosocial skills, such as self-esteem, critical thinking, and responsible decision-making. This observation aligns with models of resilience (Zimmerman, 2000) and protection against risky behavior (Jessor, 2016), according to which the development of psychosocial skills, such as self-esteem, critical thinking, and assertiveness, protects adolescents against risky behaviors. This justifies the integration of life skills programs into school curricula, aimed at strengthening autonomy, judgment, and resistance to social pressures.

Intention of Future Use and Trivialization of Misuse

Finally, the intention to use these products in the future ($\beta = 0.87$; $p < 0.001$) is a robust predictor of current behavior. According to Ajzen's theory of planned behavior, intention is the best predictor of action. Thus, adolescent girls who express a latent desire to use these products are already in a process of accepting and justifying misuse, calling for early prevention strategies. The high rate of intentionality (85.2%) reflects a worrying normalization of misuse and suggests a risk of the practice becoming chronic. This phenomenon reflects a gap in primary prevention and awareness programs, as well as a lack of awareness of the risks associated with the misuse of antihistamines and corticosteroids for cosmetic purposes.

Towards an Integrated Approach

The overall results highlight the complexity of the phenomenon studied, which stems from an interaction between individual, social, and contextual factors. This dynamic corresponds to Bronfenbrenner's (1992) ecological model, according to which health behaviors are the product of multiple levels of influence. Therefore, any effective response to the misuse of cyproheptadine and dexamethasone among adolescent girls must be based on an integrated approach, combining:

- health education and the deconstruction of erroneous beliefs;
- strengthening the regulatory framework on the sale of medicines for off-label use;
- the promotion of psychosocial skills and positive social support.

General Conclusion

Multivariate analysis using binary logistic regression revealed the complexity and multidimensionality of the misuse of cyproheptadine and dexamethasone for cosmetic purposes among adolescent girls in nursing and medical technology schools. The results confirm that this behavior is neither accidental nor purely individual: it is embedded in a system of representations, influences, and access conditions specific to these young women's school and social environments. The significant factors identified,

including attitudes favorable to weight gain , misconceptions , peer expectations , and especially the ease of access to these products, reflect a powerful set of sociocultural and contextual influences . Added to this is the low personal resistance to social pressure, which amplifies the risk of misuse and demonstrates the psychosocial vulnerability of these adolescent girls to body standards that value weight gain. Conversely, resilience appears to be a major protective factor , confirming that effective prevention must rely on strengthening life skills , promoting self-esteem , and fostering decision-making autonomy. Educational level also plays an ambivalent role: more advanced students, although better informed, seem to be more exposed, likely due to their easier access to medication and increased experimental curiosity. These results underscore the urgent need for a multidimensional intervention integrating awareness, health education, pharmaceutical regulation, and psychosocial support. Schools, as a structured environment, represent a privileged space for action to correct erroneous beliefs, modify internalized bodily norms, and strengthen the ethical and professional vigilance of future nurses.

Ultimately, understanding the factors contributing to the misuse of cyproheptadine and dexamethasone goes beyond simple consumption patterns: it reveals a quest for identity and aesthetics shaped by cultural, economic, and social pressures. The community health approach must therefore aim to restore a healthy perception of the female body, promote natural beauty and sustainable health , and protect adolescent girls from the misuse of medications for cosmetic purposes.

Statement on the Use of Artificial Intelligence

"The authors declare that they used Gemini Writing Assistance during the drafting phase of this manuscript to improve the clarity and linguistic fluency of the text. The tool was used exclusively for grammatical correction and the reformulation of certain passages. All intellectual content, data analysis, and conclusions of the study were conceived and verified by the authors, who assume full responsibility for the originality and accuracy of the final document."

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