Violence in the school context and suicidal ideation in adolescence

Violência no contexto escolar e ideação suicida na adolescência
Violencia en el contexto escolar e ideación suicida en la adolescencia

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Abstract: Objective: to analyze the school violence suffered and practiced and its association with suicidal ideation among adolescents aged 12 to 18 years. Method: study conducted with 643 adolescents registered in state schools in the city of Recife, Pernambuco, Brazil. Two questionnaires were applied: “Global School-based Student Health Survey” and “Violence at School”. For statistical analysis, the Chi-square test was used, degree of association was analyzed using the prevalence ratio. Results: the prevalence of school violence and suicidal ideation was 62.2% and 17.4%, respectively. About 28% of the adolescents reported having felt very sad, 14% of them reported feeling loneliness frequently. There was a significant association between suicidal ideation and violence in the age group of 15-18 years. Conclusion: the results point to the need for health actions aimed at strengthening the protective and prevention factors of risk situations for violence and suicidal ideation.

Descriptors: Violence; Students; Adolescent behavior; Suicidal ideation

Resumo: Objetivo: analisar a violência escolar sofrida e praticada e a sua associação com a ideação suicida, entre adolescentes com 12 a 18 anos. Método: pesquisa realizada com 643 adolescentes, matriculados em escolas estaduais da cidade do Recife, Pernambuco, Brasil. Foram aplicados dois questionários: “Global School-based Student Health Survey” e “Violência na Escola”. Para análise estatística utilizou-se o teste Qui-quadrado, grau de associação foi analisado por meio da razão de prevalências. Resultados: as prevalências de violência escolar e de ideação suicida foram de 62,2% e 17,4%, respectivamente. Cerca de 28% dos adolescentes relataram já terem se sentido muito triste, 14% deles declararam sentir solidão frequentemente. Houve associação significativa da ideação suicida com a violência sofrida na faixa etária de 15-18 anos. Conclusão: os resultados apontam para a
Introduction

Violence is a serious social problem that affects different populations and needs a cross-sectional investigation. This complex and comprehensive theme has integrated the agenda of discussions and concerns in Brazil and in several countries, especially when its occurrence is related to the school environment. According to the United Nations Children’s Fund (UNICEF), half of the adolescents in the world are victims of violence at school. This phenomenon cannot be sustained and trivialized by daily life, especially when it occurs in an environment such as school, which is one of the institutions responsible for the psychosocial formation of children and adolescents. Based on the understanding that violence at school harms the health of all individuals involved, especially children and adolescents, this article focused on the research within the context of public health, focusing on adolescents.

The adolescent’s development involves a progressive independence and autonomy from the family, a greater association with peers, the formation of identity and physiological and cognitive maturation. Evidence points to the association between early entry into puberty and the adoption of health risk behaviors, in addition to increased exposure to these factors with
advancing age. Moreover, health or health risk behaviors acquired in adolescence tend to be perpetuated in adulthood, with the respective consequences for quality of life. In this sense, the importance of school violence among adolescents is emphasized in order to explore behavioral problems that will compromise their physical and mental integrity, such as suicidal ideation.

Suicidal ideation is a serious public health problem and is considered a predisposing factor for self-inflicted violence. For decades, it has been one of the leading causes of death among adolescents in the world population. According to the 2014 World Health Organization (WHO) report, suicide is the third leading cause of death among young people aged 15 to 24, and the sixth leading cause of death for children aged 5 to 14 years. In Brazil, between 2002 and 2012, the annual suicide rate among adolescents and young people increased by 15.3%, from 2,515 to 2,900 deaths. Taking into account the population aged 15 years or older, the age group from 15 to 19 years was the one with the highest growth in the number of suicide cases in the period from 1990 to 2012.

In general, people who actualize suicide have gone through a long and complex process of suicidal ideation, planning and trying. Data from the 2015 National School Health Survey revealed that students were involved in fights and suffered physical aggression, both at school and in the family, and, among the medium- and long-term consequences of such situations, there is a higher risk of developing emotional disorders such as anxiety, depression, eating disorders, drug abuse, suicidal ideation and even suicide. It is noteworthy that suicidal ideation predicts the act and, therefore, it is essential not only to detect it early, but also to broaden the understanding about its occurrence in adolescence and its relationship with other phenomena that may occur at this moment of the life cycle, such as school violence. The evaluation of health risk factors is an important activity both for the development of preventive programs and for the performance in the context of intervention, such as in cases of violence, abuse, self-aggression, suicide, among other relevant problems of our time.
In this context, the objective was to analyze the school violence suffered and practiced and its association with suicidal ideation among adolescents aged 12 to 18 years.

Method

This article is part of a study conducted with the objective of analyzing the violence suffered and/or practiced by adolescents in the school context and the associated individual and environmental factors in public schools in the city of Recife, Pernambuco, Brazil. This is a cross-sectional design in an estimated population of 4,905 students registered in six state schools in the neighborhood of Santo Amaro, in the city of Recife.

The neighborhood of Santo Amaro is part of the 1st Political-Administrative Region of Recife, Downtown, formed by a total of eleven neighborhoods. For many years, this neighborhood was considered the most violent in the city. The implementation of the “Pacto pela Vida” program significantly reduced the crime rate in this neighborhood, but drug dealing is still very present, increasing the feeling of insecurity of local residents and regulars. The choice of this neighborhood as a field of study was based not only on these characteristics, but also on the fact that it is where the University of Pernambuco is located. The proximity of the university to the local community favors the development of university extension and research work by graduate and postgraduate students, with the central objective of supporting future actions to promote the health of schoolchildren.

The sample consisted of 643 adolescents, aged between 12 and 18 years, as recommended by the Byelaw of Children and Adolescents registered in elementary and high schools. For the sample size and selection of individuals, the probabilistic sampling method was used, stratified by school, considering the estimated population size of 4,905 students registered in the six state schools of the neighborhood studied; margin of error of 5%; reliability of 95% of not exceeding the margin of error; the expected proportion of 50% for each
response category, a value that maximizes the sample size. The total number of students in the sample (643) was distributed proportionally among the six selected schools and in the three school shifts. All calculations for sample determination were performed using the Epi-Info software version 6.04d for DOS. A random draw was performed by shift and class in the schools (extracts) participating in the study.

The inclusion criteria were: Adolescents of both sexes, aged 12 to 18 years whose parents or guardians signed the informed consent form and the assent form signed by the adolescent. Adolescents who had difficulties in answering the questionnaire due to some cognitive deficit, who were on maternity leave, or school suspension were excluded.

The data collection procedure was organized in phases and moments of meetings, and distributed as follows: 1st meeting: Presentation of the project to fathers, mothers and guardians in the monthly meeting held by the schools. 2nd meeting: Presentation of the project for elementary and high school classes. Random selection of participants according to inclusion and exclusion criteria, and distribution of consent and assent forms. Into possession of the signed forms, the 3rd meeting was performed: Application of questionnaires, lasting up to a class time (equivalent to 45 minutes).

Data were collected from May to October 2014, using two self-administered questionnaires (already validated in Brazil): the first, named Global School-Based Student Health Survey, contained sociodemographic and behavioral questions, the second contained questions related to violence suffered and/or practiced within the school context. The questionnaires were digitized in spreadsheets, and the data were analyzed in the SPSS version 21 program.

The variables selected for analysis were classified as: i) the adolescent’s role as a victim and aggressor of violence in the school context (type of violence, who was the aggressor, who was the victim, where the violence occurred, how many times he/she was a victim or aggressor,
whether the aggression continues); ii) related feelings (loneliness, sadness, how many friends, sleep, religion, experience at school and at home); and iii) health risk behavior (suicidal ideation).

The other independent variables were: Sociodemographic indicators: Gender (Male/Female), age group (12 to 14 years, 15 to 18 years); mother’s schooling (< 8 years of schooling, > 8 years of schooling); religion (with religion, without religion); education (elementary school, high school); marital status (unmarried, married); place of residence (rural, urban); people with whom they live (mother, father, grandparents, father and mother).

For data analysis, a database was built in the SPSS program, version 21. For the analysis, descriptive aspects were used through the frequencies (absolute and relative), the existence of an association between two categorical variables was evaluated using the Chi-square statistical test or Fisher’s exact test, adopting the margin of error of 5%, and the degree of association between the variables was evaluated by the prevalence ratio and the respective confidence interval (95% CI).

The project was approved by the Research Ethics Committee at the University of Pernambuco and followed the ethical precepts of Resolution 466/12 of the National Health Council registered under n. 705.598 on 07/01/2014.

Results

The main characteristics of the sample of 643 adolescents surveyed were: predominance in the age group 15 to 18 years (56.5%) in relation to the age group from 12 to 14 years (43.5%), predominantly female (64.2%), unmarried (93.6%), who did not work (87.9%), and considered themselves as non-white (82.3%), mainly pardo/mulatto/Moreno (70.6%). Regarding schooling, 54.1% of the adolescents attended high school, and 52.3% of the mothers of the adolescents surveyed had 8 to 11 years of schooling. Regarding housing, the majority lived in the urban region (95.5%), with their mothers (89.7%), and slightly more than half of them (56.8%) resided
with their fathers. Regarding religiosity, 56.6% of adolescents considered themselves practitioners of their religion, with a predominance of evangelicals (40.4%) and Catholics (29.5%).

Most participants (62.2%) of the study revealed that they had been victims of aggression by mates or other people at school, 51.9% reported having perpetrated violence in the two weeks prior to the research (Tables 1 and 2). The type of aggression most frequently reported as a victim and aggressor was verbal (54.2%; 55.6%, respectively), and most of them were assaulted only once (79.8%), by one person (65.5%), however, about 12.5% continued to be assaulted by the same people. Almost all of the aggressors were classmates (96%), and the place of the school where the most cited acts of violence occurred was the classroom (45.9%). About half (51.3%) of the cases of aggression were witnessed by third parties, who mostly did not take any action (36.7%) or supported the adolescent victim of violence and advised him/her to stay away from the aggressor (27.1%), in the violence perpetrated, 26.3% reported having been supported by mates, who smiled at the situation (Tables 1 and 2).

Table 1 – Distribution of school adolescents, according to issues related to the fact that had been victims of violence at school. Recife, Pernambuco, Brazil, 2013.

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the past two weeks, have you ever felt victimized by aggression, from mates or other people at school? (a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>400</td>
<td>62.2</td>
</tr>
<tr>
<td>No</td>
<td>243</td>
<td>37.8</td>
</tr>
<tr>
<td>Types of aggression suffered (b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>129</td>
<td>24.0</td>
</tr>
<tr>
<td>Verbal</td>
<td>292</td>
<td>54.2</td>
</tr>
<tr>
<td>Psychological</td>
<td>44</td>
<td>8.2</td>
</tr>
<tr>
<td>Property</td>
<td>26</td>
<td>4.8</td>
</tr>
<tr>
<td>Sexual</td>
<td>26</td>
<td>4.8</td>
</tr>
<tr>
<td>Other aggressions</td>
<td>22</td>
<td>4.1</td>
</tr>
<tr>
<td>How often were you assaulted or harassed? (c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once</td>
<td>319</td>
<td>79.8</td>
</tr>
<tr>
<td>Twice or more</td>
<td>81</td>
<td>20.2</td>
</tr>
<tr>
<td>Where in the school did these situations occur? (d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td>224</td>
<td>45.9</td>
</tr>
</tbody>
</table>
Schoolyard 83 17.0
Corridors and/or stairs 88 18.0
Refectory 26 5.3
Physical Education Space 11 2.2
Bathroom 18 3.7

How many people assaulted you? (c)
One 262 65.5
Two 94 23.5
Three or more 44 11.0

Who were the people that assaulted you? (e)
Classmates 384 96.2
Teacher / Head teacher/ other people at school 19 4.8

Are you still being assaulted/harassed by these people? (c)
Yes 50 12.5
No 350 87.5

Did anyone witness these situations? (c)
Yes 205 51.3
No 195 48.8

What did the witnesses do? (f)
Nothing 88 36.7
Resorted to an adult 19 7.9
Asked the aggressor to stop 25 10.4
Supported the aggressor / Laughed at the situation 30 12.5
Supported you/ Advised you to stay away from the aggressor 65 27.1

(a), (c): Percentages calculated in relation to the total answers, being (a) 643; (c) 400. (b), (d), (e), (f): Considering that the same interviewee answered more than one option, the basis for calculating the percentages and not the total responses was recorded, being (b) 539; (d) 488; (e) 403; (f) 240.

Table 2 – Distribution of school adolescents, according to issues related to the fact that had been the authors of the act(s) of violence at school. Recife - Pernambuco, 2013.
Schoolyard 66 16.8  
Corridors and/or stairs 66 16.8  
Refectory 18 4.6  
Bathroom 17 4.3  
How often did you have these attitudes? (d)
Once 260 77.8  
Twice 35 10.5  
Three or more times 39 11.7  
Were you in group or alone? (d)
Alone 217 65.0  
In group 117 35.0  
Did you assault or harass the same person more than once? (d)
Yes 23 6.9  
No 311 93.1  
What reasons led to this behavior? (e)
Revenge 57 15.2  
Defense of other mates 32 8.5  
Just kidding 168 44.8  
Reaction to bullies 32 8.5  
Irritation 59 15.7  
Who were these people? (f)
Classmate 319 94.37  
Teacher (s)/Other employee/ Head teacher 19 5.7  
Did anyone witness these situations? (d)
Yes 179 53.6  
No 155 46.4  
What did the witnesses do? (g)
Nothing 92 47.4  
Resorted to an adult 10 5.1  
Asked the aggressor to stop 15 7.7  
Supported the aggressor / Laughed at the situation 14 7.2  
Supported you/ Advised you to stay away from the aggressor 51 26.3  
Would you like to act differently towards these people? (d)
Yes 185 55.4  
No 149 44.6  
What have you already done to change this behavior? (h)
I don’t want to change my behavior 99 28.4  
Don’t react to bullies 89 25.6  
Keep myself under control 86 24.7  
Be more with mates 48 13.8  

(a), (c), (d): Percentages calculated in relation to the total answers, being (a) 643; (c) 392; (d) 334. (b), (e)-(h): Considering that the same interviewee answered more than one option, the basis for calculating the percentages and not the total responses was recorded, being (b) 388; (e) 375 ; (f) 338; (g) 194; (h) 348.
Regarding the predominant feelings in the past twelve months prior to the survey, most adolescents (68.9%) reported having already felt loneliness (Table 3). Almost one third (28.8%) of the adolescents had already felt very sad or hopeless almost every day or for two weeks or more in a row, to the point of having to interrupt their normal activities. A portion of the adolescents reported having felt loneliness frequently or always (14%), having thought seriously about attempting suicide (17.4%), and even having made plans about their suicide attempt (14%) (Table 3).

**Table 3** - Absolute and relative distribution of the population of school adolescents, according to issues related to feelings and suicidal ideation. Recife, Pernambuco, Brazil, 2013.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the past 12 months, how often did you feel lonely?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>200</td>
<td>31.1</td>
</tr>
<tr>
<td>Rarely/ Sometimes</td>
<td>353</td>
<td>54.9</td>
</tr>
<tr>
<td>Frequently/ Always</td>
<td>90</td>
<td>14.0</td>
</tr>
<tr>
<td>In the past 12 months, have you ever felt very sad or hopeless almost every day or for two weeks or more in a row, to the point of interrupting your normal activities?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>185</td>
<td>28.8</td>
</tr>
<tr>
<td>No</td>
<td>458</td>
<td>71.2</td>
</tr>
<tr>
<td>In the past 12 months, have you ever seriously thought about attempting suicide?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>112</td>
<td>17.4</td>
</tr>
<tr>
<td>No</td>
<td>531</td>
<td>82.6</td>
</tr>
<tr>
<td>In the past 12 months, have you ever planned a suicide attempt?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>90</td>
<td>14.0</td>
</tr>
<tr>
<td>No</td>
<td>553</td>
<td>86.0</td>
</tr>
</tbody>
</table>

(a) Percentages calculated based on the total answers = 643.

The bivariate analysis of correlation between suicidal ideation and violence suffered and practiced by adolescents (Table 4) revealed the existence of a significant association of suicidal ideation with the occurrence of violence suffered, there was no significant association between suicidal ideation and the occurrence of violence practiced.
Table 4 - Bivariate analysis and crude prevalence ratio (PR) of suicidal ideation among school adolescents, according to the violence suffered and practiced by them. Recife, Pernambuco, Brazil, 2013.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>Violence suffered</th>
<th></th>
<th>Violence practiced</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>p value</td>
<td>PR</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>(95% CI)</td>
</tr>
<tr>
<td>Suicidal ideation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>112</td>
<td>17.4</td>
<td>79</td>
<td>70.5</td>
<td>33</td>
</tr>
<tr>
<td>No</td>
<td>531</td>
<td>82.6</td>
<td>321</td>
<td>60.5</td>
<td>210</td>
</tr>
<tr>
<td>Total</td>
<td>643</td>
<td>100</td>
<td>400</td>
<td>62.2</td>
<td>243</td>
</tr>
</tbody>
</table>

(a) P value determined by Pearson’s Chi-square test. *Significant difference of 5%. CI: confidence interval.

Discussion

The prevalence of violence in the school context, in which the adolescents were victims of the aggressions, was high and reached 62.2% of the surveyed sample, which is line with reports in the national and international specialized literature that point to an estimated prevalence of 18% to 70% in Brazil\textsuperscript{13-14} and of 8% to 60% in other countries.\textsuperscript{15-16} Despite the margins of difference in the prevalence of violence in the school context, these studies stress common central issues to be considered: the school space is not immune to the presence of violence, and the exposure of adolescents to school violence is a worldwide concern that has led scholars from various areas of knowledge to investigate the occurrence of this phenomenon, such as health and education.\textsuperscript{13-16} In the context of the investigated area, and considering that the field of study is located in a highly violent neighborhood, the school environment and cultural, relational and economic factors can influence the violent behavior of the surveyed adolescents.

The violence practiced by adolescents in the school environment was (51.9%), two worrying facts identified were the high incidence (44.6%) of adolescent aggressors who reported not desiring to change their violent behaviors and the percentage of 26.3% of the study participants, who, when witnessing the aggression, supported the aggressor and laughed at the
situation. Such behaviors of students who witness violence may be motivated by the desire to increase their status before peers, since the aggressors usually have greater popularity, or by fear, to protect themselves. It is important to observe the behaviors of adolescents who witness the violent acts of their peers, which have been neglected by scholars; supporting a culture of peace can act as a protective factor against violence among adolescents.17-18

The leads of violence were classmates (96.2%). In general, the episodes of school violence that involves only the students are the ones that occur most frequently and have greater visibility for the different actors of this context. According to UNICEF, about 150 million students between the ages of 13 and 15 have been victims of violence by their mates worldwide. Episodes of aggression occurred inside and outside the school environment.1 School failure and the imposition of rules have been explanatory factors of violence at schools; the construction of a positive and sustainable school environment can promote changes in student behavior and in the development process.19

Violent acts occurred predominantly in the classroom (45.9%), corroborating another study.13 The classroom is one of the contexts with greater influence on the general atmosphere of the establishment and the integration of students, and may be a place of discrimination and daily humiliation on the part of students and teachers. These implications about the perspectives that teachers have about their students influence the quality of the relationships that teachers establish in the classroom in various situations, from the attention given, the dynamics of the class itself (as it is planned and executed), as well as the opportunities offered by student protagonism.19

In the present study, 14.0% of adolescents reported feeling loneliness frequently. This result is similar to that obtained in the National School Health Survey conducted in 2015, in which 16.4% of 9th graders in Brazil reported feeling lonely in the 12 months prior to the survey.2 It is noteworthy that, in the present study, a significant percentage of adolescents (28.8%) had
already felt very sad or hopeless almost every day or for two weeks or more in a row, to the point of interrupting their normal activities, 17.4% seriously thought about attempting suicide, and 14.0% made plans on how to commit suicide. Social isolation, the lack of friendship relationships and the impossibility of idealizing the future, being a victim of bullying are factors that can cause the ideation and execution of a suicidal behavior.\textsuperscript{20-21}

A more recent study found that 22.5% and 24.03% of students aged 10 to 19 years have thought and planned suicide, respectively, feeling hopeless or sad in the past 12 months increased the chances of suicide attempt by 4.5 [AOR = 4.51, 95\% CI (2.24, 9.08)] times. Moreover, adolescents who live alone are about twice as likely to report such situations than those who live with their families, living with family members and/or mates encourages adolescents to share their feelings and thoughts, especially during stressful events, which could reduce emotional or mental disorders, parental support, supervision, understanding of adolescents’ problems and concerns, and peer support at schools are recognized as protective factors against suicidal ideation.\textsuperscript{22}

A significant association between suicidal ideation and violence suffered was verified, corroborating a meta-analysis study, which indicated that involvement in bullying-type school violence is associated with suicidal ideation and behavior, and being a bullying victim is associated with higher risk.\textsuperscript{23} It is noteworthy that the presence of suicidal ideation can characterize a first step towards the consolidation of suicide. Therefore, unveiling the behaviors associated with suicidal ideation, such as violence suffered and practiced in the school environment, is salutary, so that the common determinants between different types of behaviors can be identified and, based on these determinants, outline actions to prevent damage and promote health. Schools have a unique and important role to play in addressing the health-related behaviors of all students.\textsuperscript{24} Well-planned and well-implemented school-based prevention programs can significantly reduce student’s health risk behaviors.\textsuperscript{4}
Working the relationships established in the school space favors the teaching-learning process, which can contribute to the construction of a critical and reflective thinking of adolescents in their daily practices. The need to develop actions aimed at preventing violence and promoting the health of schoolchildren is emerging. Thus, one of the health professionals who has a fundamental role in preventing and combating this type of problem is the nursing, as it acts in the promotion of the school health. Therefore, the articulation of nurses with the school is essential for the execution of actions aimed at the care from the perspective of integrality of adolescents, stimulating a culture of peace.

**Conclusion**

The results showed a high prevalence, both for the violence suffered and for the violence practiced, however, in the analysis of the association of violence with suicidal ideation, this event was associated only with the violence suffered.

The main limitation of this study refers to the analysis of cross-sectional data, which does not precisely allow establishing a causal relationship between school violence and suicidal ideation among adolescents. To establish more precise causal connections between these two variables, longitudinal studies are necessary to the better temporal understanding of these associations. The use of self-report as a measure to assess victimization and suicidal ideation can also limit the analysis of the results, since it excludes other methods, such as reports from parents, teachers and mates, which contribute to improving the measures of events and introducing the possibility of shared method variance.

In summary, the data found highlight the importance of identifying factors that are directly associated with violence suffered and/or practiced in the school environment and suicidal ideation, which are essential for the construction of knowledge about violence and suicidal behavior in adolescence. Despite the methodological limitations, the results obtained
contributes to reflecting on how school violence can increase the risk of suicide among adolescents, based on a first empirically supported explanation, besides signaling the need for implementing health actions strengthening the protection factors.

References


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Critical review

3 – Marta Angélica Iossi Silva
Critical review

4 – Cláudia Alves de Sena
Critical review

5 – Cristina Maria Mendes Resende
Critical review

4 – Maria das Graças Carvalho Ferriani
Participated in the conception and planning of the research project; analysis and interpretation of data and critical review.

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