



SUICIDE BEHAVIOR AND ALCOHOL CONSUMPTION AMONG ADOLESCENTS: INTEGRATION REVIEW

***¹Thaise Queiroz de Melo, ¹Delmilena Maria Ferreira de Aquino, ¹Paula Andréa de Melo Valença, ²Carolina da Franca Bandeira Ferreira Santos, ²Fabiana de Godoy Bene Bezerra, ²Viviane Colares Soares de Andrade Amorim, ²Valdenice Aparecida de Menezes.**

¹ Hebiatrics Master Student– Health determinants in adolescent. University of Pernambuco– UPE. Camaragibe-PE, Brazil

²PhD in Pediatric Dentistry at University of Pernambuco– UPE. Camaragibe-PE, Brazil

ARTICLE INFO

Article History:

Received 24th July, 2018
Received in revised form
28th August, 2018
Accepted 06th September, 2018
Published online 30th October, 2018

Key Words:

Suicide,
Alcohol consumption,
Adolescent.

ABSTRACT

The complexity of suicide lies in not being able to attribute to this phenomenon a single factor, stressor or cause. In this way, the studies run to create joint associations to assist in the determination of factors in order to improve in prevention and promotion tools. A relevant risk factor would be alcohol consumption, a licit drug consumed worldwide and reaching both gender, when used with abuse or excess increases the injuries. In adolescents, it may favor exposure to health risk factors, especially by substance abuse beyond suicidal behavior, because this phase is characterized by the search for autonomy and personal independence.

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Citation: Thaise Queiroz de Melo, Delmilena Maria Ferreira de Aquino, Paula Andréa de Melo Valença, et al. 2018. "Knowledge level of pigeonpea seed growers about improved seed production technologies- a critical analysis", *International Journal of Development Research*, 8, (10), 23806-23811.

INTRODUCTION

Adolescence is considered a transient phase between childhood and adult life, it is a stage of life in which essential biological, physical, social and psychological changes occur. In addition, it manifests itself in the quest for autonomy and independence, which may favor exposure to health risk factors, especially regarding suicidal behavior. In general, it perpetuates itself throughout life, so it is necessary to understand this phase as a critical moment for health interventions in order to prevent injuries (Becker, 2017). Suicide is responsible for 1.5% (about 800,000) worldwide mortality, it is estimated that every 40 seconds an individual commits suicide, and that prior to death, there have been up to 20 suicide attempts (Freitas, 2014). It is damage that has remained among the main public health problems since the 90s, and for the young population it is the second cause of death, between 15 and 29 years old (Who, 2017).

***Corresponding author: Thaise Queiroz de Melo,**
Hebiatrics Master Student– Health determinants in adolescent.
University of Pernambuco– UPE. Camaragibe-PE, Brazil

It is an underreported phenomenon and may be confused with or another cause of death, in addition to the stigmatization suffered by that community, which makes it difficult to demonstrate more reliable data (Who, 2014). The consummate suicide or its attempt to commit suicide doesn't match with any penal type, but only the aid, inducement and incitement to the suicide are inserted in the Penal Code, under penalty of imprisonment between 02 to 06 years, and may vary according to the severity of the injury (Brasil, 1940). The complexity of suicide lies in not being able to attribute to this phenomenon a single factor or stressful cause. In this way, the studies run to create joint associations to assist in determining the factors. These factors are influenced by individual or collective characteristics directly or indirectly (Who, 2017). A relevant risk factor would be alcohol consumption, a licit drug consumed worldwide and reaches both gender, with addiction that comes from abuse. The initiation of alcohol use has been shown to be early, with consumption at the highest level in developed countries (Cisa, 2014). Now about the protective factor, they may be from strong personal relationships; religious or even spiritual beliefs; and also lifestyle practice of

positive coping strategies and well-being (Who, 2014). In order to make suicide prevention probable and more effective, it is of the utmost importance to know its relations and its associated factors, in order to allow the identification of one or more possible predictors of this injury. This study aims to identify in the literature the relation between suicidal behavior and alcohol consumption in adolescents. This study is characterized by being an integrative review of the literature that is a method that combines evidence from several studies about a particular problem, which is the integration of opinions (Whittemore, 2005). This review was carried out through the following steps: identification of the theme / research question, establishment of the inclusion and exclusion criteria, identification of the selected studies and their categorization, analysis and interpretation of the results and presentation of the review (Botelho, 2011). Consultations were carried out at the libraries of the Latin American and Caribbean Center for Health Sciences Information (BIREME) and in Pubmed (Public Medline or Publisher Medline). The databases were: Medical Literature Analysis and Retrieval System Online (Medline) and the Latin American and Caribbean Literature in Health Sciences (LILACS), all of them are contained in the Virtual Health Library (VHL) platform. Two search strategies were performed on each platform from June to October 2017, using the following descriptors: "suicide", "suicide attempted", "suicidal ideation", "alcohol", "adolescent" and "alcohol drinking". The first strategy was: Suicide OR Suicide attempted OR suicidal Ideation AND alcohol AND adolescent The second: Suicide OR suicide Attempted OR suicidal Ideation AND alcohol drinking AND adolescent.

The time line for selecting the analyzed publications was from 2013 to 2018 (July). The guiding question was: "Is there an association between suicidal behavior and consumption of alcoholic beverages among adolescents? ". In the selection phase, the title and the abstract were initially read, and when the summary reading was not conclusive, the article was read in its entirety. The selection of the articles was independently performed by two researchers, and the distinctions regarding the selection of articles were to be analyzed were jointly discussed by the researchers. Then, at the eligibility stage, the following exclusion criteria were applied: (a) samples with children or adults; (b) instrument validation; (c) literature reviews; (d) qualitative studies; (e) those that approached only prevalence; (f) those who had as subjects of the study only the social minorities (g) or that there is a confounding variable directly interconnected. The following inclusion criteria: (a) studies that contemplated the object of study; (b) whose sample had the age range from 10 to 19 years. The results of the two search strategies resulted in 15 selected articles.

RESULTS

All the 15 articles that were selected to compose the sample presented a transverse design. They were performed with individuals of both gender, published in the English language and about half had representative samples. Regarding the place of data collection, school-based surveys were carried out, population surveys and domiciliary surveys. Geographical locations were a little diversified between countries and continents, most of them in Western countries (Tables 1, 2, 3).

Table 1. Studies addressing the association between suicidal behavior and alcohol consumption, Korea

Author / Year	Age	Sample	Instrument	Independent Variable	Dependentvariable	OR (IC 95%)
Kim et al./ 2015	12-19 years	73.238	2010 (K-YRBWS)	Excessive use of alcohol	Suicidal ideation	1,41 (1,20 - 1,65)
					Suicide attempt	1,49 (1,17 - 1,91) (♀) 1,35 (1,10 - 1,65) (♂) 2,27 (1,89 - 2,74)
					Both	1,88 (1,46 - 2,42) (♀) 2,79 (2,13 - 3,63) (♂) 1,61 (1,30 - 1,99) 1,54 (1,34 - 1,78) (♀) 2,06 (1,56 - 2,72) (♂)
Kang et al./ 2015	12-18 years	72.623	2010 (KYRBS)	Álcohol	Suicidal ideation	1.29 (1,23 – 1,35)
					Suicide attempt	1.45 (1,33 – 1,58)
Park et al./ 2016	12–18 years	72.060	2014 (KYRBS)	Alcohol users	Suicidal ideation	1,66 (1,65 - 1,67)
					Suicidal planning	1,87 (1,84 - 1,89)
					Suicide attempt	2,26 (2,22 - 2,30)
Lee et al. / 2015	13-18 years	72.435	2013 (KYRBS)	Alcohol use	Suicidalideation	1.346 (1.25–1.46) (♂) 1.606 (1.51–1.72) (♀)

Table 2. Studies addressing the association between suicidal behavior and alcohol consumption, Americas

Author / Year	Age	Sample	Instrument	Independent Variable	Dependentvariable	OR (IC 95%)
Silva et al./ 2014	13- 18 years	2.259	(YRBS)	Consumo de álcool	Suicidal ideation	2.33 (1.81–2.99)
					Suicidal planning	2.72 (2.01–3.68)
					Suicide attempt	2.35 (1.62–3.39)
Harford et al./ 2016	12–17 years	108.560	(NSDUH)	Alcohol use disorder (AUD)	Self-Directed Violence	2-3 criteria 2.53 (2.18 - 2.95) ≥4 criteria 4.16 (3.25 - 5.33)
				Heavy Drinking Episode (HDE)	Only HDE- 1.72 (1.42 - 2.08) Only AUD- 3.68 (3.12 - 4.34) EBP + TUA 2.77- (2.30-3.33)	
Sharma et al. /2015	15- 18 years	916	(GSHS)	Alcohol consumption	Suicidalideation Suicide attempt	2.33 (1.71–3.17) 2.28 (1.58–3.27)
Valdez- santiago et al. / 2017	10-19 years	21.509	(ENSANU T)	Alcoholconsumption	Suicide attempt	He currently does not drink alcohol. 3.63 (2.89 - 4.56) I drink alcoholtoday 4.33 (3.51-5.35)

Table 3. Studies that address the association between suicidal behavior and alcohol consumption in other countries

Author / Year	Age	Sample	Instrument	Independent Variable	Dependentvariable	OR (IC 95%)
Randall et al./ 2014	11-16 years	2.690	(GSHS)	Use of alcohol	Suicidal ideation Suicidal ideation and planning Suicide attempt	0.57 (0.31–1.05) 1.52 (1.02–2.27) 1 time: 1.11 (0.65–1.90) ≥ 2 times: 1.62 (0.97–2.70)
Amare, Tadele et al. /2018	15-19 years	573	(HLQ) Amharic	Drank alcohol	Suicidalideation	1.24 (0.67, 2.29)
Canbaz, Sevgi; Özlem Terzi/ 2018	15-18 years	2438	(YRBSS)	Alcohol use	Suicidalideation	2.44 (1.63–3.68) 2.33 (1.44–3.78) (♂) 4.56 (1.92–10.83) (♀)
Shaikh et al./ 2016	11-16 years	2.359	(GSHS)	Alcohol use	Suicide attempt	Early age 10.01 (3.71, 27.01) Last 30 days 13.70 (5.98-31.37)
Bousoño et al./ 2017	14 e 16 years	1.026	(PSS)	Alcohol consumption	Suicidalideation	3.44 (1,67 – 7,07)
Mckinno et al./ 2016	13- 17 years	164 770	(GSHS)	Alcohol use	Suicidal ideation Suicidal ideation and planning	1–2 days 1.31 (1.18-1.44) 1.44 (1.34 -1.54) 1.39 (1.27 -1.51) 1.54 (1.41-1.67) ≥3 days 1.47 (1.35-1.60) # 1.67 (1.53-1.81) ## 1.68 (1.50 -1.86) ### 1.69 (1.50 -1.88) #### 1–2days 1.33 (1.15-1.50) 1.57 (1.43-1.70) 1.31 (1.13-1.49) 1.67 (1.40-1.93) ≥3 days 1.45 (1.24 -1.66) # 1.81 (1.61 - 2.01) ## 1.50 (1.19 -1.81) ### 2.18 (1.77- 2.58)####
Mark et al./ 2013	15 years	4.954	(HBSC)	Alcohol use	Suicidal ideation	Drank alcohol 1.3* (0,79 – 2,00) 2.1** (0,97 – 4,33) 1.7*** (1,11 – 2,57) Got drunk 1 time 1.2* (0,74 – 1,95) 2.9** (1,87 – 4,35) 2.1*** (1,44 – 2,99) 2–3 times 1.7* (1,13 – 2,59) 2.4** (1,61 – 3,67) 2.7*** (1,81 – 3,93) ≥4 times 3.0* (2,05 – 4,47) 3.8** (2,53 – 5,77) 3.7*** (2,51 – 5,53) First time you got drunk ≤ 13 years 1.6* (1,14 – 2,12) 1.7** (1,28 – 2,22) 2.6*** (1,80 – 3,73)

Notes: # African Region, ## Region of the Americas, ### Eastern Mediterranean Region, #### Regions of Southeast Asia and the Western Pacific; * Estonia, ** Lithuania *** Luxembourg.

Table 4. Terminology adopted between the studies of association between suicidal behaviors and alcohol consumption

Author / year	Adopted terminology
Kim et al. ¹⁶ /2015	Excessive use of alcohol
Silva et al. ¹¹ /2014 Shaikh, et al. ¹³ /2016 Mckinno et al. ¹² /2016.	Ingest in the last 30 days
Park et al. ¹⁷ /2016	Alcohol Users
Sharma et al. ¹⁵ /2015	Use of alcohol in life
Harford et al. ¹⁸ /2016.	Heavy drink episode Drink five or more drinks at the same time on at least 1 day in the last 30 days.
Harford et al. ¹⁸ /2016.	Alcohol use disorder One or more criteria over a 12-month period (DSM-IV Criteria for Substance Dependence and Abuse)
Kang et al. ²⁰ /2015.	Alcohol Drink at least 10 times in the last 30 days. Ingest in the last 30 days
Mark et al. ¹⁹ /2013 Lee et al. ¹⁰ /2015.	Alcohol Use Have you already drank alcohol? Alreadygotdrunk
Mark et al. ¹⁹ /2013 Shaikh, et al. ¹³ /2016	First time you got drunk at age 13 or younger
Bousoño et al. ²¹ /2017	Alcohol Consumption Ingest any amount of alcohol on two or more occasions in 7 days.
Valdez- santiago et al. ⁹ /2017	Alcohol consumption; 0 = never drank alcohol; 1 = do not drink alcohol; 2 = currently Drinks alcohol.
Randall, et al. ¹⁴ /2014.	Bad use of alcohol During your life, how many times have you drunk so much alcohol that you were really drunk?

Alcohol use was associated with all suicidal behaviors. The components of suicidal behavior were found in different classifications. Among all the articles analyzed, regarding suicidal behavior, 12 studies used the term corresponding to suicidal ideation, 08the suicide attempt, 04suicide planningand 01 self-directed violence,01 ideation and attempt together and 02 suicidal ideation and planning together. 03 articlesevaluated the three classifications of suicidal behavior (Tables 1, 2, 3). Regarding alcohol consumption, it was observed that some authors demonstrated the temporality to determine the cut-off point of the study, as life use, in the last 12 months in the last 30 days or in 7 days. Another definition adopted was also regarding consumption, episode of heavy drink, alcohol disorder, episodes of drunkenness and if never consumed, consumed or consumed currently (Table 4). Among the studies, one demonstrated two distinct modalities related to amount of consumption, alcohol use disorder (AUD) and heavy episodic drinking (HED). It was found that the more positive responses to the questionnaire criteria, the more associated with alcohol use disorder, and the more risk of self-directed violence, even when analyzing the (AUD) and (HED) together. Only one study found a negative association of ideation with the use of alcohol. However, when analyzing the suicidal ideation and planning together, it was found that there was a positive association in both gender. All the studies explore other variables besides those mentioned here (psychoactive substance use, low academic performance, anxiety, depressive mood, nicotine dependence, bullying, among others), they belong to a set explored by the authors to investigate their odd goals.

DISCUSSION

During the analysis, the variability of denominations related to suicidal behaviors and alcohol consumption could be evidenced. The non-standardization of the literary environment interfered directly in the comparison of the data. Suicidal behavior was classified into: suicidal thinking (or ideation), suicidal planning, attempted suicide and suicide.

Suicide is self-inflicted practice, in which the individual aims to die. The attempt occurs when the subject has invested in the suicide, but did not obtain a fatal result, coming to achieve serious damages. Planning would be decision-making as to the means to commit suicide. The suicidal ideation would be the presence of thoughts with the intention of promoting the interruption of life (Wenzel, 2010). Among the other suicidal behaviors, suicidal ideation reached lower risks of health problems, and could be associated with the faulty issues, mainly in the conceptualization of this phenomenon, from the fleeting thoughts to the intense concerns about the decision to live or die, that is, how the questions that contributed to the data collection are explained (Oms, 2006). Of all the studies analyzed, only one article did not show a positive link The study by Randall, et al. (2014), showed that there is no risk between drunkenness due to high alcohol consumption and suicidal ideation, the author justified that the sample of adolescents was underestimated in alcohol, illicit drug and bullying related issues, since there were a significant number of students who stopped responding.As a consequence, it allowed biases and showed a negative trend due to lack of data. The influence of the amount of alcohol consumed by adolescents was also reported in the study, carried out in 12 state schools in Asturias (Spain), in which alcohol consumption increased by three times the chances of suicidal ideation (Busoño, 2017) A study conducted in Africa revealed that the chances of attempting suicide are up to 13 times higher in those individuals who have used excessive alcohol (Shaikh, 2016).Its consequences may be directly related to the disorders caused to the body by the use of this substance, changes in organic functions, such as: changes in consciousness (increased cognitive distortions), thinking (decreased problem solving ability), that debilitates the individual to the harmful behavior (Esposito, 2004). A study conducted in Colombia compared individuals with alcohol use disorder (AUD) and heavy episodic drinking (HED) regarding suicidal behavior. It was verified that with the increase of positive responses to the questionnaire, the greater the relations with the AUD, as well as the chances of committing self-directed violence.

In the sample of adolescents who had HED, they had a higher risk throughout the study, even when compared to those who had use disorders and drank excessively (Harford, 2016). It was found that the practice of regular HED ($\geq 60\text{g}$ of pure alcohol on a single occasion) or AUD characterized a greater severity involved for suicidal behaviors, which corroborated with similar studies (Mckinnon, 2016), (Tuisku, 2011). Therefore, it is necessary to know another term involved for categorization Binge Drinking (BD), which was defined as using alcohol for at least 05 drinks at the same time (Us Department of Health and Wuman Services, 2004). There were differences when related to gender, this information corroborated with a worldwide study (Who, 2014). The variables show that suicidal ideation and suicide attempt behaved differently between genders and various suicidal behaviors, ideation was more at risk in girls and more attempt at boys. When there was a joint analysis of the suicidal variables, the male gender presented greater vulnerability even in a study with a limited age group (Kim, 2015).

These issues were related by the fact that male adolescents had higher levels of consumption, since they ingest more frequently and in larger quantities. However, the vulnerability to alcohol consumption in the female population should not be ruled out, as they have a lower hepatic capacity and higher proportions of body fat, which would facilitate greater concentrations of alcohol in the body, even at the same dose of intake (Mello, 2001), (Whilsnack, 2009). Another aspect that can be evidenced is the age at which the first contact of the adolescent with the alcoholic beverage occurred. Early drinking (<14 years) was considered a predictor of health problems, since it could trigger pathologies associated with alcohol abuse and adolescence dependency that has been found to perpetuate to adulthood (Who, 2014). The auxiliary tools to prevent these situations include everything from media regulatory measures and means of communication, to strict control of access and supply of alcohol. This was reinforced in a study which emphasized that there should be support for school-based health services and suicide prevention education, especially in the prevention of risk behaviors (Kim, 2015).

Conclusion

From the data obtained through this integrative review, it was possible to indicate the complexity involved in this issue, especially in the young population. Given the importance of adolescence as a transition period between childhood and adulthood, where alcohol experimentation or initiation of use usually occurs, research should be conducted and promoted to question the better definition of intensity of use issues, in order to differentiate and promote a better knowledge of this involvement. It is vital to expand the search for new information about suicidal behavior in the same way, it is a matter of public and mental health that requires priorities, so that it can promote better quality and prevention of injuries, both for the victimized individual and for his family. It should be reflected that the lack of adequacy of the data can lead to a misinterpretation and consequently a misclassification of the injury. The existence of a perceived association between suicidal behaviors and alcohol consumption in the various classifications, evidenced the need to obtain improvements, mainly in the identification of associations with other comorbidities in suicidal behavior among adolescents, which become aggravating factors to risk behaviors.

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