



SELF-ESTEEM, IN CONNECTION WITH ALCOHOL CONSUMPTION

Nursing

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ABSTRACT

Summary

Introduction: Even though there's abundant literature about alcohol consumption and self-esteem, the results are still contradictory.

Objective: to make a systematic review and meta-analysis which analyzes the role that self-esteem plays in alcohol consumption in Latino adolescents.

Method: A systematic review was made with meta-analysis, based on Copper's recommendations (2009) and PRISMA protocol. The literature search was conducted in the electronic database which are especially recognized in the area of health: PUBMED, LILACS, SCOPUS and EBSCO. Resultados: 140 primary articles were identified, they were evaluated through title, summary and finally through full text and in the end 8 articles were selected for the review and meta-analysis. A defect size was reported ($Z = -4.404247$, $p < 0.0001$) and a grouped correlation of $r = -0.073$. Discussion and conclusion. Self-esteem is related negatively and significantly to alcohol consumption in Latino adolescents.

KEYWORDS

Self-esteem, Alcohol consumption, Adolescents, Meta-analysis.

Introduction

Alcohol is the most extended psychoactive substance of consumption among the population in general, in 2011 there was a 77.1% of the people aged 18 to 64 years with consumption at least one time in their lives, 55.7% with consumption in the last year, 35% with consumption in the last month and 0.9% with daily consumption of alcohol, focusing the highest consumption at the weekends especially among young people aged 15 to 34 years (Villatoro, et al., 2012). On the other hand the World Health Organization (2015) reports that the starting age of alcohol consumption is before 14 years and an adolescent older than 15 years old consumes 6.3 liters of alcohol per year, which means 13.5 grams of alcohol per day. By doing so, it shows the high prevalence of people who consume alcohol which may result in addiction.

In current society, dependence and alcohol abuse represent a psychopathological phenomenon of great clinical and social relevance, the high prevalence rates we can observe in the population, are related with the easy access to alcohol, with a low price, with its psychoactive properties and its cultural integration.

Alcohol has always been part of the lifestyles of numerous towns, for religious rituals and the eating habits of Latinos and Europeans (Baltazar, 2015). The negative consequences of alcohol consumption can group chronic effects regarding health (damaging organs and the emergence of diseases) in physical effects, in a brief period of time (the loss of motor coordination, alter good judgement, the impossibility to maintain focus) and social issues (damage to interpersonal relationships, not planned sexual activity, academic problems, legal issues, family issues) (Torres, Arévalo, Rodríguez & Cuevas, 2006).

One of the studied protection factors of alcohol consumption and still controversial is self-esteem (Aguirre, Castillo & Zanetti, 2014; Pérez, 2010; Raffaelli, et al., 2007). Self-esteem is a psychological resource considered as an element in the healthy human development and it was defined by Rosenberg (1989) as a positive attitude towards oneself. However, self-esteem against the phenomenon of alcohol consumption is not clear because the evidence reviewed (Aguirre, Castillo & Zanetti, 2010; Mouttapa, Weiss & Hermann, 2009; Villarreal-González, Sánchez-Sosa, Musitu, & Varela, 2010) holds that it can be a protection factor or risk. Another aspect which makes self-esteem and its relation with alcohol consumption is not enough clear is that it has been defined in score terms (high score versus low self-esteem). Besides it can act according to personal factors of the adolescent and the coping of self-esteem itself (Raffaelli et al., 2007).

Therefore, we can conclude that there is abundant literature about

alcohol and the variables that can influence in consumption versus no consumption like self-esteem, even though contradictory results are shown (Swaim & Wayman, 2004; Taylor et al., 2011). Consequently, the objective of this study was to perform a systematic review and meta-analysis which examines the role that represents self-esteem in alcohol consumption in latino adolescents.

Method

The systematic review was conducted by using the recommendations of PRISMA protocol ("Preferred Reporting Items for Systematic Reviews and Meta-Analyses") (Cooper, 2016; Liberati et al., 2009). The studies included were of association, descriptive and correlative, in the languages of English, Spanish and Portuguese. The literature review was performed in the platforms of search like (PUBMED) Latin American and Caribbean literature in health sciences (LILACS), SCOPUS y EBSCO (Academic Search Complete, Business Source Complete, MediciLatina y Fuente Academica). To determine the descriptors, the Medical Subject Headings (MeSH) and the descriptors in health science (DeCS) browsers were used, combined through Boolean operators AND and OR.

On one side the inclusion criteria were "Latin American adolescents" and on the other hand they were "alcohol consumption" and "self-esteem". In deferral criteria, temporary limiters nor thematic were used but gray literature was not added (articles not published). Table 1 shows MeSH and DeSC, as well as the search strategy that was used in PUBMED and EBSCO base, which was adapted to the database.

Table 1. MeSH and DeSC used to search for studies

Search strategy
#1 ((((((esteem) OR self concept) OR self esteem) OR autoimagen) OR autoimagen))
#2 ((((((alcohol) OR etanol) OR binge drinking) OR alcohol drinking) OR alcoholism) OR alcoholic beverages))
#3 ((((((adolescent) OR minors) OR child) OR adolescente) OR adolescencia)
#4 ((((((Hispanic) OR Hispanic Americans) OR Mexican Americans) OR Hispanos) OR Hispanoamericanos) OR Americanos Mexicanos))
#1 AND #2 AND #3 AND #4

Note: MeSH = Medical Subject Headings; DeCS = Descriptors in Health Sciences; # = search number.

Study selection

The bibliographic organizer, END NOTE, was used to select articles with a two-stage procedure. In the first one, duplicates were eliminated and in the second one, titles were analyzed and summaries were reviewed.

Evaluation of methodological quality and Data mining

To evaluate the methodological quality of studies selected the STROBE list was used (Von Elm et al., 2008) and a code table that was carried out systematically evaluating and punctuating each article. To carry out the evaluation and punctuation the following questions were considered: What kind of study was it? Environment where the study took place? Study methodology, randomization? Which is the study population? Place of origin of the participants considering they should be of Latin origin? Besides, the studies should contain the inclusion variables previously mentioned.

Analysis results

An analysis of data obtained from eight studies was performed, first, it was a descriptive way of the main characteristics of the studies. Subsequently, meta-analysis was performed with the statistical package Stats Direct for windows 3rd version. All these analysis were made assuming the fixed defect models, since generalization of meta-analysis results will be limited to a study population of similar characteristics. The size of medium effect was calculated, the confidence interval up to 95% (CI 95%) and the contrast of its statistical significance with the Z test.

To examine heterogeneity of size effect, a forest plot (with the size effect of each study, the size of medium effect and its confidential limits up to 95%) was built, and Cochran Q and I² index were calculated. This index is interpreted as the percentage of total variation that cannot be explained by a mistake of random sampling, but the existence of distinguishing characteristics within meta-analyzed studies. I² values are interpreted the following way: 25% low heterogeneity, 50% moderate and 75% heterogeneity.

To check if the publication bias could threaten the validity of the results, a funnel plot was built from the effect sizes against its typical errors, in order to observe if the aspect of graphic resultant moves away from its symmetry with the Begg-Mazumdar: Kendall's tau method, Egger test was applied.

Results

140 primary articles were identified, 50 from Pubmed, 15 from Ebsco, 63 from Scopus and 12 from LILACS, and 4 articles which were duplicated in the END NOTE program were eliminated. When making the sieving by titles 107 articles were excluded because the variables were not related directly to the topic, when reading the summary 14 articles were eliminated because they didn't belong to the inclusion criterion, when reading the complete text 7 more articles were eliminated because they were not related to the objective of this study. Therefore, 8 articles were analyzed (see figure 1).

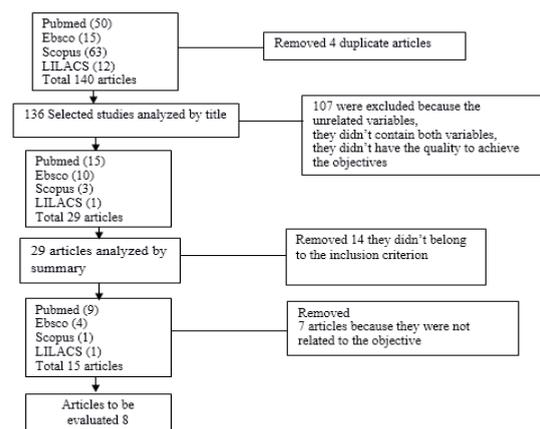


Figure 1. Flowchart of identification, selection and inclusion of studies for meta-analysis.

As table 2 illustrates, the analyzed studies were published between the years 2002 and 2014 and these corresponded to studies of descriptive,

correlational and/or predictive designs, the sample of participants ranged from 102 and 1598 Latino students. We can highlight that the population of the analyzed studies was higher in women, with a higher percentage up to 50% (between 51.6% and 56.0%) and with an average age of 17 years old (between 12 and 23 years old).

Table 2. Relation of selected studies

N	Study	Design	Population	Results
1	Taylor, Walker, Austin, Thoith & Welch (2011)	Descriptive correlational	872 students. Average age 16 years old	55.4% correspond to female. It was found a (r ² = -.008, p < 0.01) between self-esteem and alcohol consumption.
2	Alvarez-Aguirre, Alonso & Zanetti (2014)	Descriptive correlational	575 students. Age between 12 and 18 years old	51.5% correspond to female. It was found a (r ² = 0.007, p = 0.09) between self-esteem with alcohol consumption.
3	Tomaka, Morales & Shamaley (2013)	Descriptive correlational	399 students. Average age 21 years old	53% correspond to male. It was found a (r ² = -0.21, p < 0.01) between self-esteem with a problem index of alcohol consumption
4	Becker & Grilo (2007)	Descriptive correlational	458 students. Age between 12 and 19 years old	Self-esteem showed a negative correlation to alcohol consumption (r ² = -0.10, p<0.05).
5	Villarreal-González, Sánchez-Sosa, Musitu & Varela, (2010)	Explanatory	1245 adolescents between 12 and 17 years old	A (r ² =-0.132, p < 0.01) was reported of self-esteem with alcohol consumption. Alcohol consumption is associated with academic self-esteem (β= -0.096, p < 0.001).
6	Aguirre, Castillo & Zanetti (2010)	Descriptive	109 students between 17 and 20 years old	Self-esteem reported that 94% showed high self-esteem level and 5.5%. Average self-esteem, in relation with the kind of alcohol consumption, it was found that 80.7% of the participants had a harmless consumption, 13.8% a dependent consumption and 3.7% a harmful consumption.
7	Mouttapa, Weiss & Hermann (2009)	Explanatory	1598 students. Average age 14 years old	Female 51.6%. 72.6% belong to junior high school. 61.2% of students live with their parents (β =0.51, p < 0.05) as protectors towards alcohol consumption
8	Raffaelli, et al 2007	Descriptive	148 students. Average age 23 years old	No relation of self-esteem with alcohol consumption

Note: %=percentage; β = beta value; r² = statistical correlation; p = statistical significance

Among the results found we can highlight that exists a direct relation between self-esteem and alcohol consumption in the role of age (Becker & Grilo, 2007; Taylor et al., 2011) specifically Tomaka, Morales-Monks, & Shamaley (2013) and Aguirre, Alonso and Zenetti (2010) claim that from 20 years old on, self-esteem is related to alcohol consumption issues.

Meta-analysis

We must mention that meta-analysis was performed with 5 studies to analyze the relationship between self-esteem and alcohol consumption. Size effect was determined by Z which was calculated with the model of fixed effects and it was found that Z test was significant (Z = - 4.404247, p < 0.0001) and grouped correlation of r = - 0.073 with CI up to 95% = -0.106649 -0.041094 (see figure 2).

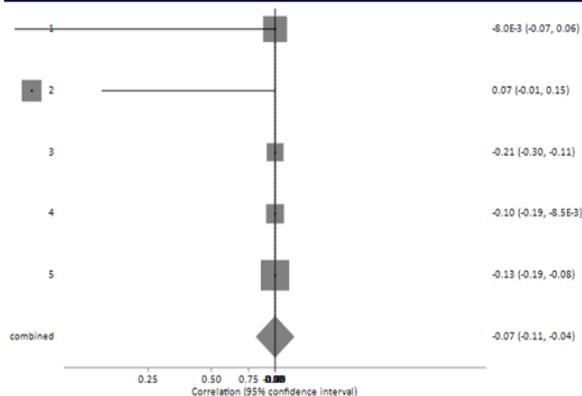


Figure 2. Meta-analysis of the correlation calculated for fixed effects model

Likewise, Cochran Q was calculated ($Q = 27.94122$, $p < 0.0001$) and the inconsistency index [$I^2 = 85.7\%$ (95% CI = 63.4% - 92.1%)] shows high heterogeneity in these studies. Finally, the bias indicator was calculated and it shows that the Egger test was significant ($p < 0.0001$; CI del 95%), which indicates that population bias doesn't exist in the studies used in this review.

On the other hand 3 studies are mentioned (Mouttapa, Weiss & Hermann, 2009; Raffaelli, et al 2007; Villarreal-González, Sánchez-Sosa, Musitu, & Varela, 2010) which were not analyzed because two studies were of prediction (Mouttapa, Weiss & Hermann, 2009; Villarreal-González, Sánchez-Sosa, Musitu, & Varela, 2010) and self-esteem was indicated as protector factor for alcohol consumption in Latino adolescents ($\beta = -0.096$ a $\beta = 0.51$) and we didn't relate self-esteem with alcohol consumption (Raffaelli, et al 2007).

Conclusion and Discussion

In the present systematic revision it was raised as a main objective to describe the role which self-esteem represents in alcohol consumption in Latino adolescents. Meta-analysis was carried out with 5 studies. For the data mining we obtained the most important information which could answer the objective of this revision. We highlight that exists a negative grouped correlation, in other words, the less self-esteem the higher alcohol consumption is; this result can only be considered for Latino population, since only studies of this population were included. For its part, studies with Spanish adolescents have found that it doesn't exist any relation between self-esteem and alcohol consumption. (González, Ortega, Sánchez, Martínez & Sánchez, 2016; Kokkevi, et al., 2007; Sánchez-Queija, Moreno, Rivera, & Ramos, 2015) this could be because self-esteem depends on interactions which the adolescent has in his environment, that's why it is recommended to perform a meta-analysis to identify the role self-esteem has in other populations. Besides, it must be considered that at the beginning of adolescence, self-esteem decreases due to the changes and evolutionary exercises that young people must face. As we are moving towards maturity and acceptance of change, self-esteem increases (Rosenberg, 1989). These results are in accordance with the studies made by Becker & Grilo (2007) and Taylor et al. (2011) who highlighted that the relation between self-esteem and alcohol consumption are in age role, specifically the oldest adolescents showed higher problems of alcohol consumption.

The size of effect ($Z = -4.404247$, $p < 0.0001$) showed to be significant, and the analysis of publication bias eliminates the possible threat among the results of meta-analysis. However, the high heterogeneity among the sizes of effect of different studies ($I^2 = 85.7\%$) implies the existence of moderate variables of the studies analyzed.

Two of the studies not included in the meta-analysis (Mouttapa, Weiss & Hermann, 2009; Villarreal-González, Sánchez-Sosa, Musitu, & Varela, 2010) agree that self-esteem is a protector factor for the consumption of alcohol; these results are due to the majority of adolescents of the studies analyzed indicated that they lived with their parents. According to Armendariz et al. (2014) family influences in a significant way in the development of self-esteem, within family relationships; respect, confidence, protection are manifested and healthy behaviors are carried out.

Finally, it is important to highlight that in the Mexican culture, fundamentally Latin Americans and Mediterranean, alcohol consumption occurs in contexts in social normality, consequently the alarm and social responsibility are less (Meneses et al., 2013). These meetings are directly related with the efficacy of preventive programs. It is expected that the results of this revision help clarify the relation of self-esteem in the phenomenon of alcohol consumption and favor the improvement of interventions in the field of preventions. Among the limitation of this revision, it is highlighted that the most part of the studies included use small samples, so the relation of self-esteem and alcohol consumption could be compromised; however it is important to highlight that gray literature was not included in this meta-analysis.

Finance

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Conflict of interests

The authors declared not to have any conflict of interests

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