

Effect of a nursing intervention to reduce risky alcohol consumption in older adults

Efecto de una intervención de enfermería para la disminución del consumo de alcohol de riesgo en adultos mayores

Efeito de uma intervenção de enfermagem para reduzir o consumo de álcool de risco em adultos mais velhos

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Abstract

Introduction: Alcohol consumption in older adults is a social and health problem, since it intensifies the harmful effect on them due to the biopsychosocial and spiritual changes as a result of the natural aging process. It affects the family members both emotionally and economically; there is more demand of health services in health institutions; it generates an increase in the consumption of financial and human resources. **Objective:** Evaluate the effect of an intervention to reduce risky alcohol consumption in older adults. **Methodology:** Quasi-experimental study carried out in a Gerontological Center in Mexico; the sample was comprised by 50 participants chosen through a non-probabilistic sampling. The intervention was based on the Rational Emotive Behavioral Therapy. AUDIT was applied, and a notebook with the personal data was available. Frequencies, percentages, measures of central tendency and dispersion were obtained, in addition to the Wilcoxon test. **Results:** Female

individuals predominated (58%); 72% of the participants had incomplete elementary school studies; age ranged between 60 and 71 years (\bar{X} = 64.42; SD = \pm 2.80). When comparing the measurements of alcohol consumption, statistical significance was seen (Z = -6.160, p < .001) and the median was lower in the post-intervention measurement (Medianpre = 12 vs Medianpost = 7). **Conclusions:** The intervention showed an effect in reducing risky alcohol consumption.

Key words: Older adults; Alcohol; Intervention; Nursing (DeCS).

Resumen

Introducción: el consumo de alcohol de riesgo en adultos mayores constituye un problema social y de salud, debido a que intensifica el efecto nocivo en ellos, por los cambios biopsicosociales y espirituales como resultado del proceso natural de envejecimiento; en la familia repercute emocional y económicamente en sus integrantes, en las instituciones de salud demanda servicios, genera incremento de consumo de recursos económicos y humanos. **Objetivo:** evaluar el efecto de una intervención para disminuir el consumo de alcohol de riesgo en adultos mayores. **Metodología:** estudio cuasi experimental realizado en un Centro Gerontológico en México la muestra fue de 50 participantes por muestreo no probabilístico. La intervención se fundamentó en la Terapia Racional Emotiva Conductual. Se aplicaron el AUDIT y un cuaderno de recogida de datos personales. Se obtuvieron frecuencias, porcentajes, medidas de tendencia central y dispersión, además de la prueba Wilcoxon. **Resultados:** predominó el sexo femenino (58%), 72% de los participantes contaban con primaria incompleta, las edades se encontraron entre 60 y 71 años (\bar{X} = 64.42; DE = \pm 2.80). Al comparar las mediciones del consumo de alcohol se observó significancia estadística (Z = -6.160, p < .001) y la mediana fue menor en la medición post intervención (Medianapre = 12 vs Medianapost = 7). **Conclusiones:** la intervención mostró efecto en la disminución del consumo de alcohol de riesgo.

Palabras clave: Anciano; Alcohol; Intervención; Enfermería (DeCS).

Abstrato

Introdução: o consumo de álcool em idosos constitui um problema social e de saúde, pois intensifica os efeitos deletérios sobre eles, devido às mudanças biopsicosociais e espirituais de correntes do processo natural de envelhecimento; Afeta emocionalmente e economicamente a família em seus membros, nas instituições de saúde demanda serviços, gera aumento no consumo de recursos econômicos e humanos. **Objetivo:** avaliar o efeito de uma intervenção para reduzir o consumo de risco de álcool em idosos. **Metodologia:** estudo quase experimental realizado em um Centro Gerontológico do México, a amostra foi de 50 participantes por amostragem não probabilística. A intervenção foi baseada na Terapia Racional Emotiva Comportamental. O AUDIT e um cartão de dados foram aplicados. Foram obtidas frequências, porcentagens, medidas de tendência central e dispersão, além do teste de Wilcoxon. **Resultados:** predominou o sexo feminino (58%), 72% dos participantes possuíam o ensino fundamental incompleto, as idades variaram entre 60 e 71 anos (\bar{X} = 64,42; DP = \pm 2,80). Ao comparar as medidas de consumo de álcool, foi observada significancia estatística (Z = -6,160, p < 0,001) e a mediana foi menor na medida pós-intervenção (Medianapre = 12 vs Medianapost = 7). **Conclusões:** a intervenção mostrou efeito na redução do consumo de álcool de risco.

Palavras-chave: Idoso; Álcool; Intervenção; Enfermagem (DeCS).

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Introduction

Alcohol consumption is a worldwide practice, which produces harmful effects on health and society. It is a habit that has been historically evolving from an illegal act, up to its current conception of a socially accepted practice in many cultures ⁽¹⁾. This behavior, as risk factor for disability in the world has the third place, but in the American continent it has the first place ^(2,3); it persists despite the harmful consequences that it has on the body, in a context considered a risky consumption, which represents several problems of public and social health ^(4,5) since physical and mental problems related to risky alcohol consumption occur after several years of consumption, which increases the demand of services to the health system and the burden that this illness represents ⁽⁶⁾. Along with the growth of the population of older adults (AM by its acronym in Spanish), the number of drinkers in risk increases since young adults that in this moment show a risky alcohol consumption will continue with this habit when they are older adults ⁽⁷⁾.

Excessive consumption of alcohol has negative repercussions in the context in which the person lives, since it affects her physical and mental health as well as the family's, and the people who are around them ^(8,9). The aforementioned situations are exacerbated when dealing with AM population, due to the physiological changes that occur due to ageing, therefore, they experience more concentration of alcohol in the blood and deterioration, such as ageing of blood vessels, the volume of the brain decreases, the kidney shows moderate reduction of the speed of the glomerular filtration, muscle mass decreases and increases its fatty infiltration; which increases the risk of morbidity compared to younger adults ^(10, 11,12).

The literature review states that 41% of AM had frequent alcohol consumption and 20% consumed alcohol along with medications ^(11,13). Additionally, it is reported that 60 year old adults showed risky alcohol consumption ^(7, 14) and 21.58% of 70 year old adults were alcohol consumers ⁽⁶⁾. It is registered that in the group ranging between 35 and 65 years of age, 30.6% showed excessive consumption of alcohol in the last year, 2% were dependent consumers, 7.2% were frequent consumers, and 2.3% consume alcohol on a daily basis ⁽¹⁵⁾. According to their sex, it is indicated that males older than 60 years of age showed higher consumption of alcohol than women ($p < .01$) ⁽¹⁶⁾. Moreover, they report that AM who consumed alcohol 13.8% needed a care giver, the prevalence of respiratory infectious illnesses



was higher when the AM mentioned abuse or dependence on alcohol in the last 12 months. In addition, at least one time during their life, alcohol consumption was associated to polypharmacy (OR=1.26, IC95% =1.01-1.57)⁽¹⁷⁾.

Alcohol consumption from AM is a problem that has not received due attention in Mexico, since national addiction surveys usually include people up to 65 years of age.

Factors that favor the reduction of alcohol consumption in this population are: A poor health, lower income, use of multiple medications, and less opportunities to drink. However, the factors that keep this risky behavior are: to be male, to have higher education, to have a good income, to be part of social networks that promote alcohol consumption, and use alcohol to cope with pain, grief, loneliness, and social isolation, among others^(11,14,18).

With respect to the strategies used to decrease the consumption of alcohol in AM, the literature shows that the duration of the interventions ranges between one and three months, with follow-up ranging from two to six months; the frequency of the sessions is between one and two in a weekly basis. The approach is of the education, psychological, or psychoeducative type; their content include consumption feedback, report about healthy behavior in order to reduce risky alcohol consumption, monitoring of the goals with respect to alcohol consumption through text messages, phone calls, or during the session^(10,19, 20, 21).

With regards to the results of the interventions, the revision of evidence showed that at the end of the intervention, the results indicated a significant difference in the intervention group versus the control group, in drinkers with risky consumption (66% vs 88%) and excessive alcohol consumption (45% vs 68%)⁽¹⁹⁾. Other study mentioned that 41.7% of the participants of the control group showed risky alcohol consumption; on the contrary, in the experimental group the percentage was 28.6 (OR=0.56, IC95%=0.16-1.95, $p=.36$)⁽²⁰⁾. Likewise, changes in the amount of alcohol drinks (14.9 vs 12.1, $p<.05$) and risky consumption (2.8 vs 2.1, $p<.01$)⁽¹⁰⁾ were seen. The results showed a significant association in the reduction of visits to the doctor (-1.14 visitas; $p<.05$), to the emergency room (16% vs 25%; $p<.01$), and of the use of a care giver (12% vs 17%; $p<.01$)⁽²¹⁾.

The impact of risky alcohol consumption in AM is focused on the care, including the need of a care giver due to lack of capacity to carry out basic and instrumental activities of daily living, for example⁽²²⁾. It is evident to promote



interventions for this specific population, in order to reduce the risky alcohol consumption and health damage, through AM training with respect to responsible consumption ⁽²³⁾. In addition, this population is more likely than younger adults to seek care from health professionals, which opens the door to the recognition of risky alcohol consumption in AM ^(21,24).

The participation of the nursing professional is fundamental in the prevention of risky alcohol consumption, since in her professional activity she assesses, diagnoses, guides, favors the development of skills for the prevention of risky behavior, as well as the control of illnesses and prevention of their consequences in order to favor a healthy behavior in the person, family, and community. Thus, the nursing professional has a unique opportunity to detect and prevent the repercussions of risky alcohol consumption in the biopsychosocial and spiritual spheres, which frequently are difficult to intervene in the AM. The object was to assess the effect of nursing intervention for the reduction of risky alcohol consumption in older adults.

Methodology

A quantitative study, a quasi-experimental design with one group and a pre- and post-intervention measurement was used. The universe consisted of the total number of AM (N=145) registered in a Gerontological Center in the Central Region of Mexico. A statistical power analysis was performed applying the methodology and definitions of Cohen's effect size ⁽²⁵⁾, for a test of mean differences, with a significance level of .05, a power of 90%, and an effect size of .80, considering an estimated attrition of 10%, obtaining 50 participants. The eligibility criteria were: Participants aged 60 years and older, with risky alcohol consumption, who were registered at the Gerontology Center, and who gave their informed consent.

Data collection was carried out using a personal data collection notebook that included age, sex, and schooling; in addition to the Alcohol Use Disorders Identification Test [AUDIT]. The AUDIT test is divided into three domains: Risky alcohol consumption, which includes the first three items; dependence symptoms, which includes items 4 to 6; and harmful alcohol consumption, which includes items 7 to 10. The interpretation of the total score is from 0-5 points with no risk; from 6 to 8 points risk consumption and from 9 to 40 points indicates dependence. The



authors of the instrument reported a Cronbach's Alpha reliability of 0.90 ⁽²⁶⁾; the instrument was validated for the Mexican population ⁽²⁷⁾.

The project was approved by the Research Committee of the Division of Health Sciences and Engineering of the University of Guanajuato's Celaya Salvatierra Campus, with registration number CIDSC-3062405 and had the authorization of the Gerontology Center, as well as the informed consent of the participants. Subsequently, in the 145 AM, individually, the personal data collection notebook was applied and alcohol consumption was assessed to identify the type of consumption in the participants through the AUDIT test; this was in the form of an interview, faithfully respecting their answers and without making judgments. Each AM received feedback on their drinking; those who were found to be risky consumers (95 AM) were invited to participate in the intervention; 50 AM accepted.

The participants received the nursing intervention that addressed: Personalized assessment, feedback, goal setting, and monitoring. The intervention in question was based on Rational Emotive Behavioral Therapy (REBT) ⁽²⁸⁾, given that it enables people to practice responsible drinking by meeting their purpose-goals, focusing on staying alive, obtaining the greatest possible well-being, and preventing unnecessary discomfort, all of these which are important aspects in the reduction of risky alcohol consumption in older adults. The intervention was designed by three nursing professionals and received feedback from an expert in intervention design and one expert in TREC (REBT).

The methodology considered for the design of the intervention was that proposed by Sidani and Braden ⁽²⁹⁾. The duration of the intervention was determined based on the synthesis of evidence, the recommendations for the application of the TREC ⁽²⁸⁾, the characteristics of the AM population, and the pilot study of the intervention; thus, obtaining nine sessions grouped in three modules, implementing one session per week with a duration of 60 effective minutes. The purpose of the intervention was to enable participants for responsible alcohol consumption. The intervention was implemented by a facilitator trained in TREC and a logistics team.

In the first module, alcohol consumption was assessed, risk was identified, and the AM's commitment and objective for responsible alcohol consumption was established. In the second module, the AM's skills and abilities for



responsible consumption were worked on, where the internal and external triggering factors of risk consumption were identified; they received orientation regarding strategies for controlling thoughts, emotions, and behaviors, self-help actions, how to take care of oneself, and explore one's spirituality. The third module dealt with motivation to prevent relapse, working on intelligence, willpower, projections towards the future, moments of inactivity-boredom. Table 1 shows the general characteristics of the intervention.

Table 1. Intervention characteristics

Characteristic	Description
Purpose	Enable participants to drink alcohol responsibly.
Reference	Rational Emotive Behavioral Therapy (REBT) (TREC by its Spanish acronym)
Content	Module 1: risk of alcohol consumption, commitments and objectives for responsible alcohol consumption. Module 2: skills and abilities for responsible consumption, triggering factors for consumption, control strategies, self-help actions. Module 3: Motivation, intelligence, willpower, projections towards the future.
Quantity and duration	Nine sessions, lasting 60 minutes, took place once a week.
Delivery method	Individual face-to-face
Delivery location	Gerontological Center
Equipment requirement	Facilitator with TREC background, logistics team (3 members) Facilitator's manual and participants.

Source: Own development

The data were analyzed using the Statistical Package for the Social Sciences® (SPSS) version 21, descriptive statistics were performed using frequencies and percentages of the categorical variables, and measures of central tendency and dispersion were obtained for the numerical variables. Moreover, the Kolmogorov-Smirnov goodness-of-fit test with Lilliefors correction was performed to contrast the hypothesis of normality in the distribution of the variable, so the Wilcoxon test was used to compare pre- and post-intervention consumption.



Results

Table 2 shows the variables corresponding to the sociodemographic characteristics of the study population, where it can be observed that 58% of the older adults were female; according to schooling, the greatest proportion (72%) of the participants had incomplete elementary education. The age of the participants ranged from 60 to 71 years, with an average of 64.42 years (SD = ± 2.80).

Table 2. Sociodemographic characteristics of the study population.

Variable		<i>f</i>	%
Sex	Female	29	58
	Male	21	42
Schooling	Completed Elementary School	3	6
	Incomplete Elementary School	36	72
	Incomplete Junior High School	8	16
	Did not go to school at all	3	6

Source: Personal data collection notebook

n=50

Table 3 shows the comparison of pre- and post-intervention measurements of the risky alcohol consumption variable in which statistical significance was observed ($Z=-6.160$, $p<.001$) and the median was lower in the post-intervention measurement.

Table 3. Pre- and post-intervention comparison regarding risky alcohol consumption

Risky alcohol consumption	<i>Mean</i>	<i>Median</i>	<i>SD</i>	<i>Z</i>	p-Value
Pre intervention	12.62	12.00	1.67	-6.160	.001



Post intervention	7.16	7.00	.933
Source: AUDIT	n=50		

Nota: *DE*= Standard Deviation, *Z*= Wilcoxon Test

Discussion

In the present study, the empirical application of the theoretical concept of alcohol consumption and Rational Emotive Behavioral Therapy in older adults with risky alcohol consumption was feasible.

Regarding the effect of the intervention, it was proven that it was statistically significant ($Z=-6.16$, $p<.001$), and the median was lower in the post-intervention measurement (Median=7). These results have similarity with the study conducted at the University of California that evaluated an educational intervention to reduce alcohol consumption in adults aged 50 years and older. The results reported a significant difference in the results of the intervention group vs. Control group; risky consumption drinkers (66% vs. 88%), heavy drinkers (45% vs. 68%)⁽¹⁹⁾. The similarity of the results may be because both interventions worked on feedback about the specific risks associated with alcohol risky drinking. When the nursing professional explains to the person about the risks associated with her current behavior at personal and family levels, the behavior of the person can be influenced, thus, being able to modify it.

Also, with the results of the research carried out in Zurich, Switzerland, which consisted of a program to reduce alcohol consumption in outpatients aged 50 to 65 years, it was observed that 41.7% of the participants in the control group had risky alcohol consumption, while in the experimental group the percentage was 28.6 (OR=0.56, 95%CI 0.16-1.95, $p=.36$)⁽²⁰⁾. These results were similar to those of the aforementioned study, possibly because both interventions included monitoring of alcohol consumption goals. By establishing the goal of reducing alcohol consumption by the person herself for the period of time that she decides, and having the accompaniment of the nursing professional, the compliance of the goal could be guaranteed.

Additionally, with another study conducted by the University of California, which consisted of an educational intervention to reduce the risk of drinking in older adults aged 60 years and older, the results showed a significant



association in the reduction of risk consumption (56% vs. 67%; $p < .001$) and the amount of drinks consumed (-2.19 drinks per week; $p < .001$)⁽²¹⁾. The approximation of the results with the indicated study is due to the fact that in both interventions it was worked with consumption diaries and individual counseling during the intervention session. The use of an alcohol consumption diary allows the person to know her progress between one session and another, and when receiving nursing guidance, the person looks for strategies to modify her behavior.

Likewise, with the study conducted in Southeastern California, which evaluated an intervention in older adults aged 55 years and older who decided to change their alcohol consumption. In their results, at the end of the intervention, changes were observed in the amount of alcoholic beverages (14.9 vs. 12.1, $p < .05$) and risk consumption (2.8 vs. 2.1, $p < .001$)⁽¹⁰⁾. The similarity with the aforementioned study is perhaps because both interventions worked on how to reach the greatest possible well-being, by modifying risky drinking behavior to responsible drinking. The person is able to reduce her alcohol consumption by thinking that it will benefit her personally and also the family context.

Conclusions

The objective of the study was to evaluate the effect of the intervention on the reduction of risky alcohol consumption in older adults. Based on the findings of the study, it is possible to conclude that the intervention showed an effect on the reduction of risky alcohol consumption in the older adults who participated in the intervention. Therefore, the intervention presents a feasible alternative to address the reduction of risky alcohol consumption in older adults.

With these results, the health personnel of the Gerontological Center have a starting point to follow up on AM with risky alcohol consumption. Likewise, they can reinforce their actions to maintain responsible consumption and thus optimize the economic resources of the institutions in which this type of intervention is applied.

It should be noted that the nursing professional is a key player in gerontological centers, because in addition to detecting risky alcohol consumption, she participates in its reduction. Additionally, given the scarce scientific production on this topic, mainly in Mexico, the study contributes to the generation of knowledge regarding this phenomenon.



Conflict of interests

The authors declare that there is no conflict of interests.

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