

## ALCOHOL USE BY NURSES AND ITS EFFECTS ON HEALTH CARE – INTEGRATIVE REVIEW

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**ABSTRACT:** Descriptive and exploratory study aimed to describe the patterns of alcohol use among nurses and its effects on healthcare. The study was conducted in October 2015, with the search of five electronic databases. After implementation of the inclusion and exclusion criteria, the final sample consisted of six publications. The selected publications showed that alcohol use by nursing professionals is a matter of concern, since there is a prevalence of nursing professionals with less or more severe problems related to alcohol use. Night work, long working hours and excessive weekly workloads were positively correlated to alcohol use. In addition, stress, depression, anxiety and dissatisfaction with work were reported as risk factors for excessive drinking in the studies.

**DESCRIPTORS:** Female and male nurses; Alcohol-use related disorders; Alcohol-induced disorders; Consumption of alcohol beverages.

### CONSUMO DE ÁLCOOL POR ENFERMEIROS E IMPLICAÇÕES PARA O TRABALHO EM SAÚDE – REVISÃO INTEGRATIVA

**RESUMO:** Trata-se de estudo exploratório descritivo com objetivo de descrever o padrão de consumo de álcool entre enfermeiros e suas implicações para o trabalho em saúde. A pesquisa foi realizada em outubro de 2015, em cinco bases eletrônicas de dados. Após a aplicação dos critérios de inclusão e exclusão, a amostra final resultou em seis publicações. Os estudos selecionados mostraram que o consumo de bebidas alcoólicas por profissionais de enfermagem estava presente, de forma preocupante, em todas as pesquisas analisadas. Os resultados mostraram que há prevalência de profissionais de enfermagem com problemas relacionados ao consumo abusivo de álcool, em alguns menos e em outros mais acentuados. Observou-se que o trabalho noturno, longas jornadas de trabalho e carga horária semanal elevada demonstraram relação positiva com o consumo de álcool. Além disso, estresse, depressão, ansiedade e insatisfação com o trabalho foram apontados como fatores de risco para o abuso de álcool nos estudos.

**DESCRIPTORES:** Enfermeiras e enfermeiros; Transtornos relacionados ao uso de álcool; Transtornos induzidos por álcool; Consumo de bebidas alcoólicas.

### CONSUMO DE ALCOHOL POR ENFERMEROS Y CÓMO ESO IMPACTA EN EL TRABAJO EN SALUD – REVISIÓN INTEGRATIVA

**RESUMEN:** Estudio exploratorio descriptivo cuyo objetivo fue describir el modelo de consumo de alcohol entre enfermeros y sus implicaciones para el trabajo en salud. La investigación fue realizada en octubre de 2015, en cinco bases electrónicas de datos. Después de la aplicación de los criterios de inclusión y exclusión, la muestra final resultó en seis publicaciones. Los estudios seleccionados mostraron que el consumo de bebidas alcohólicas por profesionales de enfermería fue constante, de modo preocupante, en todas las investigaciones analizadas. Los resultados revelaron prevalencia de profesionales de enfermería con problemas relacionados al consumo abusivo de alcohol, algunos menos y otros más acentuados. Se observó que el trabajo nocturno, largas jornadas de trabajo y carga horaria semanal elevada presentaron relación con el consumo de alcohol. Además, estrés, depresión, ansiedad e insatisfacción con el trabajo fueron apuntados como factores de riesgo para el abuso de alcohol en los estudios.

**DESCRIPTORES:** Enfermeras y enfermeros; Trastornos relacionados al uso de alcohol; Trastornos inducidos por alcohol; Consumo de bebidas alcohólicas.

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## ● INTRODUCTION

Alcohol consumption is common in many cultures, particularly in social celebrations. On the other hand, excessive drinking is a risk factor for non-communicable chronic diseases such as addiction, liver cirrhosis and cancer. Alcohol use is also associated with accidents and episodes of violence. These factors are directly related to situations that lead to disability and death worldwide<sup>(1)</sup>.

In 2014, according to the World Health Organization (WHO), on average, every person in the world drinks 6.2 liters of pure alcohol per year. In Brazil, the average per capita intake is 8.7 liters, considerably higher than the world average. Although high, this figure indicates a reduction in the average alcohol intake compared to per capita 9.8 liters in 2005<sup>(1)</sup>.

The pattern of alcohol use over time associated to the amount of alcohol consumed is directly related to risk for health damage. Occasional heavy drinking – represented by five or more doses (approximately 60 grams of pure alcohol) at one time (occasion) at least once in the previous month – is associated to acute problems such as car accidents, street fights and domestic violence. This pattern was observed in 16% of the world population that consumes alcohol, and in 22% of the Brazilian population, in 2010<sup>(1)</sup>.

The National Health Survey (PNS) conducted in 2013 published by the Brazilian Institute of Geography and Statistics (IBGE), indicated that the percentage of individuals aged 18 or over who had the habit of consuming alcohol beverages once or more times per week was 24%. Another important aspect was the level of education, since adults with a higher educational level showed a prevalence of alcohol use 30.5% higher than adults with lower levels of education<sup>(2)</sup>.

Regarding mortality rates, it is estimated that 3.3 million deaths worldwide are directly or indirectly related to drinking, which corresponds to 6% of all deaths in the world<sup>(1)</sup>.

The study conducted at a hospital in Rio de Janeiro, in 2014, aimed to describe patterns of alcohol consumption among nurses found that 67.7% of the participants had consumed alcoholic beverages in the last 12 months. Besides, 21.1% of the respondents had drunk alcohol at least once a week in the previous year. Of these, 6.6% reported drinking alcohol two to three times a week<sup>(3)</sup>. It was also found that 2.2% of the population had the habit of consuming alcohol more than three times a week. An important finding of the present study was that 26.6% of the respondents associated consumption of alcoholic beverages with dissatisfaction with work, stress, financial problems and conflicts with colleagues and superiors<sup>(3)</sup>.

Another study with female nurses who worked in Chinese public hospitals, conducted in 2011, correlated the use of alcohol as a risk factor for the development of depression among that population<sup>(4)</sup>.

Studies related to the pattern of consumption of alcohol are more frequent among nursing students, but there are few studies focused on nursing professionals.

This integrative review emerged from the need to investigate the impact of the use of alcohol in the lives of nurses, in order to identify the pattern of alcohol consumption of this population, as well as determine whether risk factors related to the workplace led to alcoholism. The topic of this review was based on the following guiding question: What are the nurses' behaviors regarding alcohol use?

## ● METHOD

Descriptive and exploratory study that uses integrative review to incorporate evidence to clinical practice. The study involved six steps: 1 – Identification of the theme and selection of the hypothesis or guiding question for the integrative review; 2) Establishment of criteria of inclusion and exclusion of studies and literature search; 3) Determination of the data to be extracted from the selected studies/ categorization of the studies; 4) Assessment of the studies included in the integrative review; 5) Interpretation of the results; 6) Presentation of the review/synthesis of knowledge<sup>(5)</sup>.

In the first step, the review intended to assess the pattern of alcohol consumption among nurses, as

well as its relationship with risk factors related to the workplace.

In the second step, five electronic databases: *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS), Cumulative Index to Nursing and Allied Health Literature (CINAHL), *Base de Dados de Enfermagem* (BDENF), Web of Science and *Biblioteca Virtual em Saúde* (BVS) – and the Pubmed portal that comprises the Medical Literature Analysis and Retrieval System Online (MEDLINE), maintained by the US National Library of Medicine were used.

The criteria for inclusion of the articles were original full-text articles published between 2011 and 2015, in English, Portuguese and Spanish that included data on alcohol use by nurses. Review articles, reports or thesis were excluded. The research was conducted in October 2015.

After the initial search, filters were applied to full-text articles in Portuguese, English and Spanish published between 2011 and 2015 available online.

The third step consisted in the search for the information to be extracted from the studies, such as prevalence of consumers, amount of alcohol consumed, frequency of use and possible health and social problems related to alcohol use by nurses.

Steps four and five comprised careful reading of the publications and extraction of information related to alcohol use that might answer the questions posed here.

Step 6 consisted in identifying the recurrent themes of the selected studies that addressed risk factors for heavy drinking among nurses, as shown in Chart 1. These themes were then carefully analyzed.

## ● RESULTS

In Pubmed portal, the descriptors of the Medical Subject Headings (MESH) were used with the following search strategy: (Alcoholic Beverages or Alcohol-Induced Disorders or Alcohol-Related Disorders or Alcohol Drinking) and (Nurses or Nurse Practitioners or Nurse Midwives), resulting in 1,306 publications. After the use of filters, there were 89 publications, of which four were selected by title and abstract.

The databases Web of Science and CINAHL do not include controlled vocabulary. At Web of Science, the search strategy Alcohol AND Nurses was used, resulting in 828 references. After the use of filters, there were 149 publications, of which four were selected. The same search strategy used at Pubmed was used for CINAHL, resulting 535 articles. After the use of filters, there were 90 publications, of which four were selected by title and abstract.

At databases BVS, LILACS and BDENF, Health Sciences Descriptors – DeCs were used with strategy (Alcohol-Related Disorders OR Alcohol-Induced Disorders OR Alcohol Drinking) AND (Nurse Midwives OR Nurse Practitioners OR Nurses). At BVS, 51 studies were detected, and seven were maintained after the use of the filters, and none of them was selected by title and abstract. At LILACS, only one result was found, and there was no selection by title and abstract. No references were obtained from BDENF.

The information related to the articles selected is shown in Chart 1.

Of the six articles selected, one was conducted in China, three in Australia, one in Norway and one in the United Kingdom. Two articles were published in 2011, two in 2012 and three in 2015. All the selected articles were published in English.

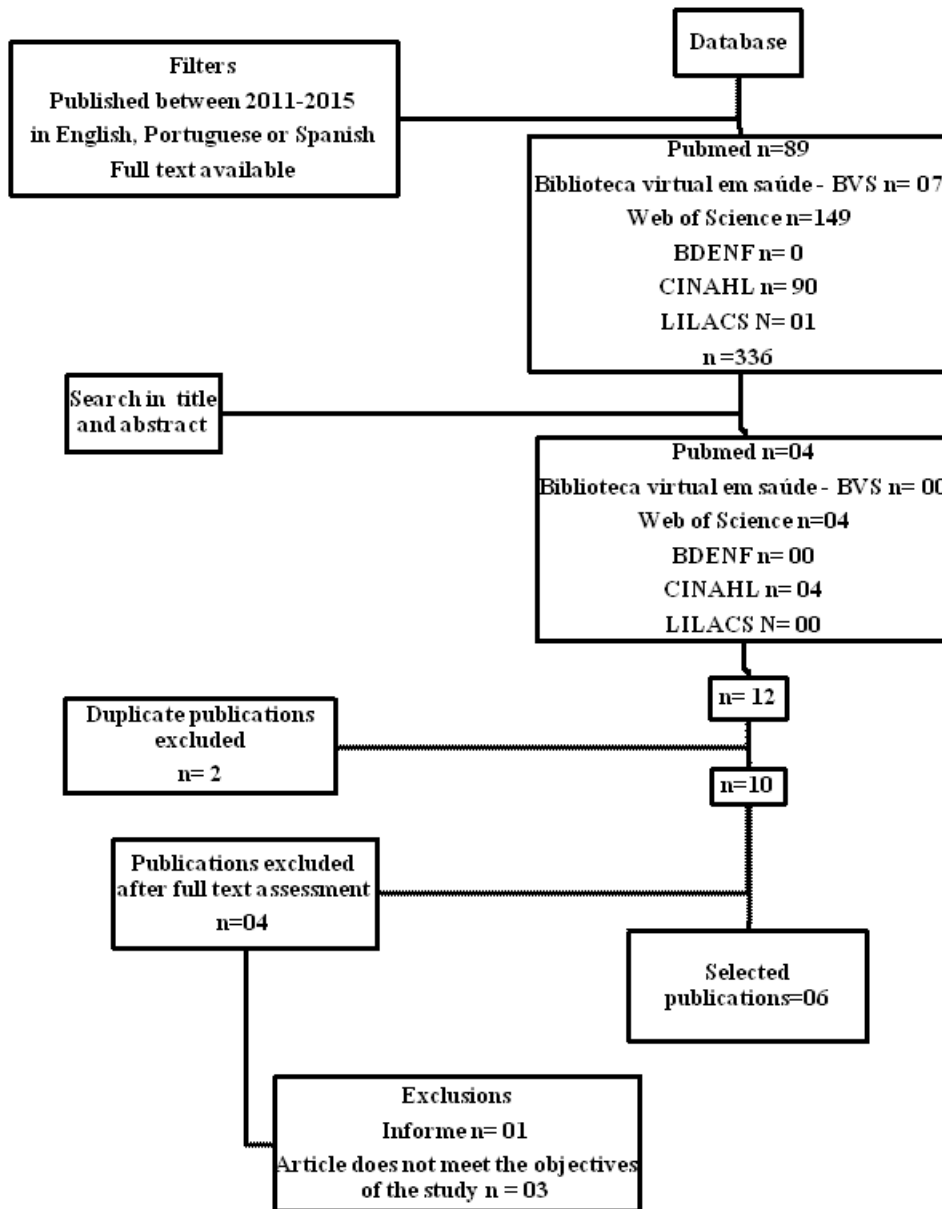


Figure 1 – Strategy of selection of articles. Brasília, DF, Brazil, 2016

Chart 1 – Presentation of the publications selected and that were part of the analysis. Brasília, DF, Brazil, 2016 (continues)

Author/Year	Article title	Type of study / Results
Cheung T, Yip PS. 2015	Depression, anxiety and symptoms of stress among Hong Kong nurses: a cross-sectional study.	Cross-sectional study. Showed that female nurses are more depressive, anxious and stressed than the local general population. Around one third of the participants were classified as having one of these disorders.
Perry L, Gallagher R, Duffield C. 2015	The mental health of nurses in acute teaching hospital settings: a cross-sectional survey.	Cross-sectional study. Showed that nurses and employers must commit themselves to promote health and well-being in the workplace, since the lack of these elements can be deleterious to the mental health of the staff.
Bakhshi S, Sun F, Murrells T, While A. 2015	Nurses' health behaviours and physical activity-related health-promotion practices.	Cross-sectional study. Indicated the need to raise nurses' awareness of the practice of physical activity. Showed that the institutions must promote the practice of physical activity among the workers.

Flo E, Pallesen S, Magerøy N, Moen BE, Grønli J, Hilde Nordhus I, Bjorvatn B. 2012	Shift work disorder in nurses – assessment, prevalence and related health problems.	Cross-sectional study. Indicated a high prevalence of symptoms of disorders associated to the shifts of work.
Schluter PJ, Turner C, Benefer C. 2012	Long working hours and alcohol risk among Australian and New Zealand nurses and midwives: A cross-sectional study.	Cross-sectional study. Established the relationship between alcohol use and long working hours. It also pointed to the need for policies and programs targeted to the control of working hours of health professionals, in order to ensure appropriate health conditions for these professionals and their patients.
Dorrian J, Paterson J, Dawson D, Pincombe J, Grech C, Rogers AE. 2011	Sleep, stress and compensatory behaviors in Australian nurses and midwives.	Cohort study. Found that the study population had a high prevalence of sleep disorders, stress, exhaustion and low professional satisfaction. It also showed that nurses use alcohol and drugs to induce sleep and drink caffeinated drinks to stay awake during their shifts of work.

## ● DISCUSSION

The Alcohol Use Disorders Identification Test (AUDIT) - developed by the WHO in 1989 – is a worldwide adopted validated tool, translated and adapted to several languages, for assessment of the pattern of alcohol use. It is a simple method of screening alcohol problems in primary health care that consists in a 10-item screening tool with scores ranging from zero to 40 points, that identifies four levels (zones) of risk: low risk drinking or abstinence (0-7 points), hazardous alcohol use (8 -15 points), harmful alcohol use (16- 19 points) and symptoms of dependence (20 or more points) <sup>(6)</sup>.

The AUDIT is an easy-to-use tool that can be adopted in primary care settings and in studies aimed to identify individuals that can be classified at the levels of risk (zones) that indicate harmful alcohol use or dependence on alcohol that require immediate interventions. Two studies included in this integrative review used this strategy to assess alcohol consumption <sup>(6)</sup>.

A study on the relationship between night work and health problems in nurses conducted in Norway analyzed alcohol use through the AUDIT test. Although the referred study identified professionals at risk for excessive drinking, it did not establish a precise relationship between alcohol use and the investigated disorder <sup>(7)</sup>.

In the United Kingdom, a cross-sectional study was conducted to determine the health behaviors of nurses and the practices of health promotion related to physical activity. Patterns of physical activity, alcohol use, smoking habit and weight were assessed. Regarding alcohol use, the first three questions of the AUDIT were posed: How often do you have a drink containing alcohol? How many drinks containing alcohol do you have on a typical drinking day? How often do you have six or more drinks on one occasion? In total, 623 nurses were interviewed. Of these, 89.5% were women. Regarding alcohol use, 22% (n=133) of the respondents said they had never drunk <sup>(8)</sup>.

On the other hand, of the 78% who had drinks with alcohol, 25% (n=144) were at risk, i.e. scored more than 8 according to the AUDIT identification test <sup>(8)</sup>. Of these, those who were at high risk for alcohol-related harm – or else, those who reported drinking alcohol four or more times per week – corresponded to one fifth of the sample, or 29 respondents. As for those at lower risk, with a score up to 7 in the AUDIT, they accounted for 1% (n=6) of the total sample. Most of the study population, 88% (n=511) reported having 1-4 standard drinks on a typical day with consumption <sup>(8)</sup>.

Another study, which was conducted in Brazil, investigated the use of drugs by postgraduate students in health sciences, and most of the sample consisted of nurses. Asked whether they had tried or used drugs at some point in their lives, 83% of the participants answered yes, and most of this use concerned alcoholic beverages (51.4%). The referred study used the AUDIT to assess the pattern of alcohol use and demonstrated that 30.6% of the consumers were at high risk of alcohol-related harm,

a percentage slightly higher than that of the previously mentioned study<sup>(9)</sup>.

The other selected articles did not use a specific tool for assessment of alcohol use by nurses, thought they asked these professionals about alcohol use through other data collection tools.

On the other hand, one study with 41 female nurses and 21 midwives from Australian hospitals, conducted from 2005 to 2009, aimed to describe sleep, stress and compensatory behaviors among these professionals. The study found that 44% of these female nurses and 9% of the midwives reported the use of alcohol as a sleep aid, at least once during the study period. Moreover, one out of three respondents consumed alcoholic beverages regularly as a strategy to induce sleep. However, no details were obtained on the amount of alcohol consumed and type of alcoholic beverage. Thus, it is not possible to determine whether the level of alcohol consumption is deleterious to the health of the participants<sup>(10)</sup>.

Another study that allows identifying alcohol consumption by nurses is the cross-sectional study carried out in Australia and New Zealand that attempted to analyze the association between long working hours and alcohol use related problems. The study sample was composed of 4,419 nurses and midwives, and more than 90% of them were women predominantly aged 40-49 years<sup>(11)</sup>.

Also, 13.9% of the respondents reported having two or more standard drinks per day and 1.6% reported having been diagnosed with disorders associated to alcohol dependence. Another important finding was that 0.3% of the participants reported daily use of more than two standard drinks and diagnosis of alcohol use disorders, while 13.6% had not been diagnosed with alcohol use disorders despite having more than two standard drinks per day<sup>(11)</sup>.

On the other hand, 1.2% of the study population, despite consuming less than two standard drinks per day, was diagnosed with alcohol-related disorders. Finally, 84.9% of the participants consumed less than two daily standard drinks and had no alcohol-related problems<sup>(11)</sup>.

The referred study also showed that higher weekly workload was correlated with a higher percentage of consumption of more than two standard drinks by health professionals. For average weekly workloads up to 30 hours, this consumption was present in 11.8% of the participants; between 30-39 hours, the percentage was 13.8%; between 40-49 hours, 15.4%; and above 50 hours, in 20.2%. These data corroborate the findings of a study with Norway female nurses that suggested a positive correlation between high weekly workload and greater alcohol consumption<sup>(11-12)</sup>.

A cross-sectional study on the prevalence of depression, anxiety and stress among nurses who worked in health services in Hong Kong also contains information on this topic. The study sample was composed of 850 nurses registered at the Hong Kong Association of Nursing Personnel (AHKNS). Of these, 87.6% were women aged 34-44 years and with 10 years of clinical experience<sup>(13)</sup>.

Concerning the characteristics investigated in this study, 24% of the respondents drank alcoholic beverages, and this consumption was significantly related with stress. Of the total number of participants who reported alcohol use, 20% consumed alcohol no more than twice a month, and this group was more likely to report stress symptoms than those who do not drink or who drink regularly (daily or over three or more days a week)<sup>(13)</sup>.

The authors offered three possible explanations for this finding. The first explanation is related to the fact that stressed nurses drink to relax. The study also showed that most of them were sedentary. In addition, the authors noticed that most nurses suffered from chronic physical and psychiatric diseases that impacted their quality of life. Thus, it can be said that nurses drink to overcome stress and induce sleep. This corroborates the previously mentioned study that found that drug consumption is related to stress and poor work conditions<sup>(9, 13)</sup>.

Finally, we refer the exploratory study conducted in Australia aimed to investigate the general health conditions of nurses and the presence of chronic disease, describe behaviors related to the health of these professionals and compare them to those of the general population. The sample comprised 381 nurses with an average age of 39.9, and 82.7% of them were women, 80% worked full time and 93% worked in shifts<sup>(14)</sup>.

In the referred study, 92.5% of the participants reported drinking alcoholic beverages, and 3.5%

used to drink daily. In addition, 39.9% of the participants were classified in the group at high risk for alcohol-related harm<sup>(14)</sup>.

Alcohol consumption is a matter of concern also among health professionals. According to a study conducted in Germany with 790 clinicians, 23% of them reported daily consumption of some type of alcoholic beverage<sup>(15)</sup>.

Another similar study, conducted in Norway, analyzed the variation in the pattern of alcohol use by physicians over a 10-year period. It was found that between the years of 2000 and 2010 the percentage of physicians who had two or more drinks per week increased from 31.4% to 48.7%, while the percentage of those at high risk for alcohol-related problems decreased from 10.7% to 8.2% in the same period. One of the explanations for the decrease of the population at high risk for alcohol-related problems, identified by the study, is the worldwide trend of adoption of a healthy lifestyle, and decrease in alcohol consumption is an important factor in this new scenario<sup>(16)</sup>.

## ● FINAL CONSIDERATIONS

Based on information on the selected publications, it can be affirmed that the topic alcohol use by nurses has been little explored in the literature, with most studies conducted in specific geographic areas. No studies carried in Brazil on the proposed topic were found in this search. Even the studies included in this review were not focused on alcohol consumption by nursing professionals.

Based on the selected publications, the present study aimed to establish the pattern of consumption of alcoholic beverages and relate it to other hypotheses. The results showed a prevalence of nursing professionals with problems related to hazardous alcohol consumption of different levels.

Association of alcohol-related problems with night work is significant, since the studies showed that many professionals who perform their activities in this period usually drink to induce sleep or relax. Long working hours and total weekly workload (including health professionals with more than one employment) deserve careful attention, since a relationship was found between workload and alcohol consumption.

Stress, depression, anxiety and dissatisfaction with work were addressed in the publications and are considered risk factors for alcoholism.

Additional studies are needed to further explore this topic and describe these patterns in greater detail.

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