

MORTALITY CAUSED BY THE CONSUMPTION OF ALCOHOLIC BEVERAGES

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The abusive consumption of alcohol expresses itself into a serious public health problem throughout the world. The objective of this study was to describe the deaths which are caused by alcohol in Sergipe between 1998 and 2010. Data have been collected using the Mortality Information System and were analyzed by the TabWin program. An increase has been observed in the number and the coefficients in the whole regional health, among men, at the age between 45 and 54 years, in a hospital environment and whose root cause was related to mental and behavioral disorders. In this way, by extending the approach of mortality, this study can help in future research, as well as contributing to health managers, especially regarding mental health.

Descriptors: Mortality; Alcohol-Induced Disorders; Alcoholic Beverages.

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MORTALIDADE ATRIBUÍVEL AO CONSUMO DE BEBIDAS ALCOÓLICAS

O consumo abusivo de álcool se traduz em grave problema de saúde pública em todo o mundo. Neste trabalho objetivou-se descrever os óbitos atribuíveis ao álcool em Sergipe, entre 1998 e 2010. Foram coletados dados contidos no Sistema de Informações sobre Mortalidade e analisados pelo programa TabWin. Observou-se aumento do número e dos coeficientes em todas regionais de saúde, entre os homens, na idade entre 45 e 54 anos, em ambiente hospitalar e cuja causa básica estivesse relacionada aos transtornos mentais e comportamentais. Dessa forma, ao ampliar a abordagem da mortalidade, este estudo poderá subsidiar futuras investigações, bem como contribuir para os gestores de saúde, em especial da saúde mental.

Descritores: Mortalidade; Transtornos Induzidos por Álcool; Bebidas Alcoólicas.

LA MORTALIDAD ATRIBUIBLE AL CONSUMO DE ALCOHOL

El abuso de alcohol se traduce en un grave problema de salud pública en todo el mundo. Este estudio tuvo como objetivo describir las muertes atribuibles al alcohol en Sergipe, entre 1998 y 2010. Se recogieron datos sobre el Sistema de Información sobre Mortalidad y fueron analizados por el programa TABWIN. Se observó un aumento en el número y los coeficientes en toda la salud regional entre los hombres, entre las edades de 45 a 54 años, en el hospital y cuya causa subyacente estaba relacionada con los trastornos mentales y de comportamiento. De este modo, mediante la ampliación del enfoque de la mortalidad, este estudio puede ayudar a las futuras investigaciones, tanto para los gestores de salud especialmente de la salud mental.

Descriptores: Mortalidad; Trastornos Inducidos por Alcohol; Bebidas Alcohólicas.

Introduction

Alcohol is considered a major contributor to the disease burden and premature deaths worldwide⁽¹⁾. Most hospital costs resulting from the use of psychoactive substances in Brazil is due to the misuse of alcohol (83.1%) against 16.9% regarding the expenses coming from the use of other psychoactive substances⁽²⁾.

The drugs, the alcohol and the lawful use, with great reach and social acceptance, however, their excessive consumption causes medical, psychological, professional and family problems, leading to high economic and social costs⁽³⁻⁴⁾. This is a paradoxical fact, since this substance has its use accepted and even encouraged in various situations, such as religious

rituals, family ceremonies, get-togethers with friends, celebratory events and popular festivals, among others⁽⁵⁾.

The alcohol intake was evaluated in 193 countries, and it was found that worldwide about 2.5 million people die every year because of abusive consumption, resulting in approximately 4.0% of total deaths⁽⁴⁾, which is a serious problem for public health⁽⁶⁾.

Alcohol consumption is one of the main risk factors for premature mortality around the world, accompanied by smoking, obesity, physical inactivity and high blood pressure, being directly or indirectly connected to the development of numerous diseases, such as liver cirrhosis, arterial hypertension, cardiomyopathy, alcohol dependence, nutritional deficiencies, neurological

disorders and numerous types of cancer⁽⁷⁻¹⁰⁾, besides traumatic and violent situations such as accidents at work, traffic accidents, domestic violence and homicide⁽⁴⁾. One of the ways to approach alcohol disorders⁽¹¹⁾ is through life cycles; each step involves a number of risks, and is concluded by the necessity of preventive efforts and treatment strategies. Certain social sectors or circumstances should be free of alcohol and in particular should not be consumed during childhood and adolescence⁽¹²⁾. Other situations are when driving a vehicle or during pregnancy⁽¹⁾. Workplace, social, physical, legal, family and other related violence are also⁽⁵⁾ singled out as problems related to alcohol use.

However, there are reports which state that moderate intake of alcohol has a protective effect regarding cardiovascular disease, which presents lower mortality rates compared to teetotalers and people who take part in exaggerated use⁽¹³⁾.

To prevent deaths related to alcohol consumption⁽¹⁴⁾, ways of prevention and health promotion are necessary, including those regarding the school population⁽¹⁵⁾, aiming at the reduction of consumption and consequent reduction of the risk of disease and early death.

In the world, the population who is most affected by alcohol related deaths⁽⁴⁾ are men from Europe (10.8%), from the USA (8.7%) and from Oceania (8.5%). Populations who suffer less consequences are from Eastern Mediterranean (0.9%), from Africa (3.4%) and from Southeast Asia (3.7%), especially regarding countries and regions with a Muslim culture, where this habit is forbidden because of religious and cultural reasons. Among women, there are more deaths in Europe and America (1.7% in both cases), followed by Oceania (1.5%), Africa (1.0%), Asia (0.4%) and the Eastern Mediterranean (0.2%).

Research regarding addiction in the European Union between 1980 and 2003, has shown that deaths related to alcohol accounted for over 10% of all mortality, and the authors highlighted the importance of national prevention strategies⁽¹⁶⁾.

In Brazil, the Ministry of health (MS)⁽¹⁷⁾ revealed that there was an increase from 16.1% to 19.0% regarding Brazilians who have admitted the abuse of alcohol (consumption of five doses of alcohol in a single time for men and four for women) between 2006 and 2008. In the same

period there was an increase in diseases and mortality coefficient attributable to the abusive consumption of this substance.

MS found that between 2000 and 2006 in Brazil 92,946 deaths have been registered, whose root cause was one of the diseases directly attributable to alcohol, and 146,349 had this group of diseases as root cause or associated cause⁽¹⁸⁾. Another study⁽¹⁹⁾ conducted in the country, between 2006 and 2010, showed deaths linked to mental and behavioral disorders due to use of alcohol by units of the Federation. The state of Minas Gerais presented the greatest mortality coefficient. Other places with relevant indices of mortality were the States of Ceará and Sergipe. Given this, the objective, in this work, is to describe the deaths attributable to alcohol in Sergipe, between 1998 and 2010.

Method

We conducted a study of mortality, showing as the cause of death of alcoholic beverage consumption. To this end, the data were collected by the Mortality information system (SIM)⁽²⁰⁾. The methodological procedure used was the descriptive epidemiology. We analyzed the categories and subcategories of the International statistical classification of diseases and Related Health Problems-10th revision (ICD 10)⁽²¹⁾, containing, as root cause in the Declaration of death, diseases whose policies, by definition, are fully attributable to alcohol⁽²²⁾.

Natural causes related to the exposure to alcohol

- E244 - Pseudo-Cushing Syndrome induced by alcohol
- F10 - Mental and behavioral disorders associated with the use and abuse of alcohol
- G312 - Degeneration of the nervous system due to alcohol
- G405 - Special Epileptic Syndromes
- G621 - Alcoholic Polyneuropathy
- G721 - Alcoholic Myopathy
- I426 - Alcoholic Cardiomyopathy
- K292 - Alcoholic Gastritis
- K70 - Alcoholic liver disease
- K852 - Acute pancreatitis induced by alcohol

- K860 - Cryogenic designs-chronic pancreatitis induced by alcohol
- O354 - Assistance to the mother regarding injuries caused to the fetus by maternal alcoholism
- P043 - Fetus or newborn affected by the use of alcohol by mother
- Q860 - Fetal alcohol Syndrome
- R780 - Presence of alcohol in the blood

External causes related to the exposure to alcohol

- T51 - toxic effects of ethanol
- X45 - Accidental poisoning by alcohol exposure
- X65 - Voluntary self-poisoning by alcohol
- Y15 - Alcohol poisoning with undetermined intent
- Y90 - Evidence of alcoholism detected by/alcohol rates
- Y91 - Evidence of alcoholism determined by the level of intoxication.

Data were analyzed by the program TabWin⁽²⁰⁾. In addition to the number and percentage of deaths, it was calculated that the annual mortality is coefficient because of the consumption of alcohol in the State of Sergipe, whose population was also provided by the DATASUS⁽²⁰⁾. The calculations of coefficients for each of the seven regional health (Aracaju, Brazil, Nossa Senhora (NS) do Socorro, NS da Glória, Lagarto, Estância e Propriá). In addition to this, other variables were included: sex, age group and place of occurrence. Finally, it is noteworthy that this work was approved by the Research Ethics Committee of the Universidade Federal of Sergipe (CAEE: 12699213.5.0000.5546).

Results

In Sergipe, in the period between 1998 and 2010, a total of 2,575 deaths, whose root cause was related to alcohol consumption we collected. These deaths (table 1) were distributed mainly in: mental and behavioral disorders related to alcohol (1,314) and alcoholic liver disease (1,161), and the other cases (100) in other categories.

Of these 2,575 cases, those with the dependency syndrome were the most frequent, with a

total of 1,129 deaths (43.8%). In the category of alcoholic liver disease, the disease that predominated was alcoholic liver cirrhosis, with 674 deaths (26.2%), followed by alcoholic liver failure with 240 cases (9.3%).

According to table 2, during the examination period in the State of Sergipe, there has been increase by 1.7 times regarding the mortality coefficient because of the consumption of alcoholic beverages (from 5.1 deaths/100,000 inhabitants to 13.9 deaths/100,000 inhabitants).

2,306 male deaths were observed and 267 female deaths. Regarding males, the deaths were prevalent mental and behavioral disorders due to the use of alcohol, with 1,186 (51.4%) and 1,026 deaths from alcoholic liver disease (44.5%), while among women there was a predominance of deaths by alcoholic liver disease with 133 (49.8%) and 128 for mental and behavioral disorders due to alcohol use (47.9%).

In females, there was a growth from 0.9 deaths/100,000 women to 2.6 deaths/100,000 women (table 2). In males, an increase from 9.5 deaths/100,000 men to 25.8 deaths/100,000 men has been observed. The increase was an increase by 1.9 times in female mortality coefficient and regarding males there was an increase by 1.7 times. Also observed was the average coefficient of 19.1 deaths/100,000 men and 2.1 deaths/100,000 women in the period.

In relation to the age of death (table 3), a predominance of age between 45 and 54 years (28.9%) has been observed, followed by the 35 and 44 years (27.2%), with 1,412 deaths or 56.1% of the total. In the analyzed period, there was an increase in the number of deaths in all age groups from 25 years. The mortality of age less than 35 years were lower than the average coefficient (11.4/100,000 inhabitants), once again highlighting the mortality factors in the range of 45-54, followed by the ranges 55-64 and 65-74.

Table 4 shows the number of deaths and the coefficients for regional health. Aracaju is amongst the regions which shows the largest absolute number, with 914 cases (35.7%), followed by NS do Socorro with 418 (16.3%), Estância with 353 (13.8%), Lagarto with 292 (11.4%), Itabaiana with 263 (10.3%), Propriá with 253 (9.9%) and NS of Glória with 68 deaths (2.7%).

There was a predominance of cases of mental and behavioral disorders due to alcohol, in five of the State's health regional, with exception of Lagarto and NS do Socorro, where the alcoholic liver disease deaths were the most frequent.

Among the health regions of the State regarding mortality coefficient, Aracaju was the region which showed greater stability, while the region of Propriá showed the largest growth during the study period. The regions of Propriá, Estância, NS do Socorro and Aracaju had the

greatest coefficients. Besides NS Da Gloriá, only Lagarto and Itabaiana showed a lower mortality coefficient than the State of Sergipe.

In relation to the place of the occurrence (table 5), a predominance of deaths in hospitals, with 1,421 cases (55.2%) have been observed. In that same time period, there were 983 domicile deaths (38.2%) and 91 death (3.5%) on public roads. It is worth noting that over the period, the percentage of domicile deaths increased from 11.5% in 1998, to 46.3%, in 2010.

Table 1 - Number of deaths related to alcohol use. Sergipe, Brasil, from 1998 until 2010

Cause	Year of death														Total
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
Mental and behavioral Disorders due to use of alcohol	55	63	62	50	80	68	134	122	105	132	128	161	154	1.314	
Degeneration of the nervous system due to alcohol	-	2	3	2	3	1	1	-	1	2	2	2	-	19	
Special epileptic syndromes	-	1	1	1	7	3	5	3	2	2	-	4	4	33	
Alcoholic cardiomyopathy	1	1	2	-	3	2	3	2	4	2	5	2	1	28	
Alcoholic gastritis	-	-	-	-	1	1	1	-	1	-	2	-	-	6	
Alcoholic liver disease	31	36	78	60	79	79	102	118	109	110	109	125	125	1.161	
Acute pancreatitis induced by alcohol	-	-	-	-	-	-	-	-	-	-	-	1	2	3	
Chronic pancreatitis induced by alcohol	-	-	-	-	1	-	1	1	-	1	-	1	-	5	
Fetus or newborn affected by alcohol use	-	1	-	-	-	-	-	1	-	-	-	-	-	2	
Voluntary self-poisoning by alcohol	-	-	-	-	1	-	1	-	-	-	-	-	-	2	
Alcohol poisoning with undetermined intent	-	-	-	-	-	-	-	-	1	-	-	-	1	2	
Total	87	104	146	116	175	154	248	247	223	249	246	296	287	2.575	

Source: DATASUS/SIM, 2013.

Table 2 - Number of deaths and mortality coefficient (per 100,000 inhabitants) related to the use of alcohol, according to sex^(a). Sergipe, Brazil, from 1998 to 2010

Year of death	Number			Coefficient		
	Male	Female	Total	Male	Female	Total
1998	78	8	86	9.5	0.9	5.1
1999	86	17	103	10.3	1.9	6.0
2000	130	16	146	14.9	1.8	8.2
2001	101	12	113	11.3	1.3	6.2
2002	160	15	175	17.7	1.6	9.5
2003	136	18	154	14.8	1.9	8.2
2004	218	30	248	23.4	3.1	13.0
2005	222	25	247	23.0	2.5	12.6
2006	198	25	223	20.2	2.5	11.1
2007	220	29	249	22.1	2.8	12.2
2008	225	21	246	23.0	2.1	12.3
2009	273	23	296	27.6	2.2	14.7
2010	259	28	287	25.8	2.6	13.9

(a) Excluded two cases whose sex was ignored.

Source: DATASUS/Yes, 2013.

Table 3- Number of deaths and mortality coefficient (per 100,000 inhabitants) related to the use of alcohol according to age(a). Sergipe, Brazil, from 1998 until 2010

Year	Age									Total
	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and +	
Number of deaths										
1998	-	-	1	10	23	24	18	5	1	82
1999	1	-	2	19	17	44	11	7	3	104
2000	-	1	1	28	41	40	19	10	6	146
2001	-	-	1	19	35	29	16	7	3	110
2002	-	-	6	22	62	37	27	10	10	174
2003	-	-	2	19	45	51	22	11	4	154
2004	-	-	5	36	64	64	44	29	6	248
2005	1	-	9	16	76	75	32	22	16	247
2006	-	-	6	25	68	57	37	20	10	223
2007	-	-	3	26	60	75	54	22	9	249
2008	-	-	3	32	66	72	44	14	14	245
2009	-	1	6	28	67	92	55	32	15	296
2010	-	-	3	31	79	77	55	27	15	287
Mortality coefficient										
1998	-	-	0.3	3.8	12.6	20.0	23.3	10.1	3.1	5.5
1999	0.6	-	0.6	7.1	9.1	36.0	14.0	14.0	9.1	6.9
2000	-	0.3	0.3	10.0	19.6	29.0	21.5	18.4	16.1	9.2
2001	-	-	0.3	6.6	16.4	20.7	17.8	12.7	7.9	6.8
2002	-	-	1.5	7.6	28.7	26.0	29.6	17.9	26.0	10.6
2003	-	-	0.5	6.4	20.5	35.3	23.8	19.4	10.3	9.2
2004	-	-	1.2	12.0	28.7	43.6	46.9	50.5	15.2	14.6
2005	0.6	-	2.1	5.2	32.9	49.5	33.1	37.2	39.3	14.1
2006	-	-	1.4	7.9	29.0	37.0	37.7	33.3	24.2	12.5
2007	-	-	0.7	7.6	23.0	41.7	47.0	32.5	19.9	13.7
2008	-	-	0.8	9.3	25.7	39.5	37.8	20.5	30.8	13.6
2009	-	0.3	1.6	7.9	25.7	48.8	45.7	45.4	32.2	16.3
2010	-	-	0.7	8.6	27.8	37.6	41.4	35.2	29.8	15.1

(a) Deleted 10 cases whose age was ignored.

Source: DATASUS/Yes, 2013.

Table 4 - Number of deaths and mortality coefficient (per 100,000 inhabitants) related to the use of alcohol, second regional health^(a). Sergipe, Brazil, from 1998 to 2010

Year	Regional health															
	Estância		Itabaiana		NS do Socorro		NS of Gloriá		Propriá		Lagarto		Aracaju		Total	
	N	COE	N	COE	N	COE	N	COE	N	COE	N	COE	N	COE	N	COE
1998	11	5.4	4	2.0	19	7.8	-	-	6	4.4	8	3.9	36	6.3	84	5.0
1999	8	3.9	5	2.4	12	4.8	4	3.4	6	4.4	7	3.4	62	10.6	104	6.1
2000	17	8.1	12	5.7	25	9.7	3	2.2	13	9.1	11	5.0	62	10.2	143	8.0
2001	19	9.0	7	3.3	15	5.6	4	2.9	10	6.9	7	3.1	50	8.1	112	6.2
2002	26	12.1	16	7.4	24	8.8	3	2.1	10	6.8	16	7.0	80	12.7	175	9.5
2003	17	7.8	16	7.3	25	8.9	3	2.1	13	8.8	14	6.1	66	10.4	154	8.2
2004	36	16.3	30	13.6	37	12.8	4	2.8	19	12.7	31	13.3	91	14.1	248	13.0
2005	31	13.7	33	14.5	51	16.6	8	5.4	25	16.3	25	10.5	73	11.0	246	12.5
2006	24	10.5	17	7.4	30	9.5	8	5.3	27	17.4	32	13.2	85	12.6	223	11.1
2007	40	17.3	27	11.5	42	13.0	7	4.6	33	21.1	22	9.0	78	11.4	249	12.2
2008	38	16.6	31	13.5	37	12.6	11	7.2	25	16.3	48	20.1	53	7.5	243	12.2
2009	48	20.7	35	15.2	46	15.4	6	3.9	31	20.1	34	14.1	95	13.4	295	14.6
2010	38	16.6	30	12.9	55	17.9	7	4.5	35	23.1	37	15.3	83	11.1	285	13.8

(a) Excluding 14 cases whose residence region was ignored.

Source: DATASUS/Yes, 2013.

Table 5 -Deaths related to the use of alcohol, second place of occurrence. Sergipe, Brazil, from 1998 to 2010

Year	Place of occurrence											
	Hospital		Domicile		Another establishment		Public road		Ignored		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
1998	73	83.9	10	11.5	-	-	4	4.6	-	-	87	100.0
1999	68	65.4	27	26.0	-	-	4	3.8	5	4.8	104	100.0
2000	110	75.3	28	19.2	-	-	4	2.7	4	2.7	146	100.0
2001	71	62.8	36	31.9	-	-	2	1.8	4	3.5	113	100.0
2002	117	66.9	49	28.0	-	-	6	3.4	3	1.7	175	100.0
2003	115	74.7	33	21.4	-	-	5	3.2	1	0.6	154	100.0
2004	139	56.0	99	39.9	-	-	2	0.8	8	3.2	248	100.0
2005	124	50.2	107	43.3	-	-	9	3.6	7	2.8	247	100.0
2006	123	55.2	89	39.9	-	-	4	1.8	7	3.1	223	100.0
2007	123	49.4	98	39.4	3	1.2	11	4.4	14	5.6	249	100.0
2008	106	43.1	125	50.8	-	-	11	4.5	4	1.6	246	100.0
2009	129	43.6	149	50.3	1	0.3	8	2.7	9	3.0	296	100.0
2010	123	42.9	133	46.3	2	0.7	21	7.3	8	2.8	287	100.0

Source: DATASUS/Yes, 2013.

Discussion

In Sergipe a predominance of deaths regarding mental and behavioral disorders due to alcohol and related to the alcoholic liver disease have been observed. These results are consistent with those taken from the capitals of the North, Southeast and Midwest⁽¹⁵⁾. According to the authors, in the Northeast and South, there were more deaths from alcoholic liver disease.

The data also showed an increase in mortality directly attributable to the consumption of alcohol in the State of Sergipe, between 1998 and 2010 regarding both sexes, which is likely due to the increasing beverage consumption pattern, both in men and in women⁽²³⁾. Similar results were obtained by MS⁽¹⁸⁾, which also found that the consumption is more intense in the country.

The male deaths regarding mental and behavioral disorders due to alcohol (1,186), are different from the female deaths, which were for alcoholic liver disease (133). Men continue to be responsible for most cases⁽²³⁾. A 9/1 scale has been observed regarding male and female deaths, similar to the scale found for Brazil⁽¹⁵⁾, between 1998 and 2002.

However, the rate of mortality among women has been growing with higher indexes than verified for males. Although this difference is not as articulate (1.9 times against 1.7 times), both men and women are dying more each time due to alcohol abuse. Such facts are confirmed by MS, who have observed an

increase in excessive use of alcohol among women, from 8.1% in 2006, to 10.5% in 2008⁽¹⁷⁾.

The present study showed that the abusive consumption of alcohol in the State of Sergipe was directly responsible for 2.0% of total deaths, being 3.2% of men and 0.5% of women. This rate is higher than found in Brazil between 1998 and 2002⁽¹⁵⁾, which showed a 0.8% of male deaths and 0.1% of female death where alcohol was directly responsible for mental and behavioral disorders due to use of alcohol. These results demonstrate the importance of studying mortality and covering all the alcohol-related causes⁽²²⁾.

Male mortality coefficients obtained in the present, were larger than those observed in the series in Portugal⁽²⁴⁾ (in which there was an increase in mortality coefficient, from 19.7 in 2006 to 22.7 deaths per 100,000 inhabitants in 2009). Among women, the Portuguese study also showed lower numbers in relation to men, but also recorded an increase in the series (in 2006 from 3.1 to 3.7 fatalities in 2009 per 100,000 women younger than 65), therefore, higher than the one found in the present study.

The age group that presented the highest number of deaths in the State is the one that lies between 45 and 54 years, being similar to a recently held national survey⁽¹⁸⁾. Data of the OMS⁽¹⁾ showed that alcohol was the main risk factor for death among men aged between 15 and 59 years.

As well as in Portugal, in the year 2010⁽²⁴⁾, there has been an increase in mortality directly attributable to alcohol, in all regions of the health state of Sergipe, which indicates that the consumption has increasingly intensified. The OMS also mentions increased mortality attributable to alcohol in the countries in economic growth, such as Brazil and China⁽¹⁾.

Regarding the place of the occurred death, the majority have taken place in hospital environment. However, it has been observed that there was an increase of deaths at home, almost seven times bigger than the growth observed in hospitals. When analyzing the total deaths during the period, regardless of the cause, the percentage of calls was 33.2%, with a downward trend⁽²⁰⁾, but, in the present study, as mentioned above, the percentage of domicile deaths was 38.0%, in other words a sharply increasing trend.

The growing trend in the number of deaths in the home environment can be indicative that individuals or their families, by not being aware of their condition, are neglecting medical assistance being part of health services in order to combat stigma and prejudice⁽²⁵⁾.

Final considerations

It is worth noting that in this study only the deaths caused directly by the excessive consumption of alcohol were analyzed, being excluded are the cases where the substance is a factor associated with traffic accidents, domestic violence, homicide, heart disease or cancer.

It has been observed that the consumption of alcoholic beverages in Sergipe has been showing increasing levels of mortality in all health regions, in both sexes, being prevalent among men, however, has shown a more articulate increase in female mortality coefficient.

As in the present study we used the mortality attributable to alcohol, it can support future research and contribute to health managers, and in particular to mental health managers. The results indicate that the issue needs to be addressed and that, although there is no specific legislation concerning actions aimed at comprehensive care to people who consume alcohol, this still does not translate effectively in health actions.

At last, it is known that the fraction of risk attributable to alcohol consumption is higher than observed in this research. Because amongst the conditions of death or disease that are fully related to this cause, the conditions for which alcohol was only a component are also included. And therefore is much higher than concluded, revealing that today this is a topic worth considering as an important public health issue.

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