

## MOTIVATION FOR CHANGE IN ALCOHOL CONSUMPTION: BRIEF INTERVENTION AS A MOTIVATIONAL STRATEGY

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### ABSTRACT

Objective: to analyze the effect of brief intervention on motivation to change alcohol consumption. Method: experimental, follow-up study, conducted with 43 participants in two Basic Health Units. The Alcohol Use Disorders Identification Test, the Change Readiness Ruler, and a socioeconomic questionnaire were applied. Results: The experimental group showed a median equal to 10 points (maintenance stage) at the beginning and after 30 days. In the segment, the median was equal to eight points (action stage). The control group had a median equal to eight points at the beginning and after 30 days (action stage). In the segment, median equal to seven points (planning stage). In the 30-day intermediate evaluation, it was noted that there was a statistical difference in motivation between the two groups ( $p=0.029$ ). Conclusion: it was concluded that the Brief Intervention was effective in maintaining motivation in the stages of action and maintenance of change in the consumption of alcoholic drinks.

**DESCRIPTORS:** Motivation; Primary Health Care; Alcoholism; Brief Interventions; Behavior.

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## INTRODUCTION

The 2017 National Survey on Drug Use (III LNUD) showed that more than 100 million people aged 12 to 65 years have consumed alcohol during their lifetime, corresponding to 66% of the population<sup>1</sup>. In addition, the largest consuming public is in the 25- to 34-year-old age group, with 74.5% having consumed during their lifetime, 38.2% having used in the past 30 days, and 23.3% having binged<sup>1</sup>.

According to the World Health Organization (WHO), there is a prevalence of 4.8% of mental disorders related to alcohol consumption<sup>2</sup>, and it is considered the cause of 0.7% of disability-adjusted life years lost (DALYS) in the world. In Brazil this number rises to 1.67%, and in Minas Gerais it increases to 2.28% of the total<sup>3</sup>.

Alcohol brings considerable harm, raising the number of hospital admissions. In the period from June 2019 to June 2020, there were 51,004 alcohol-related hospitalizations, of which, 19,446 hospitalizations (38% of the total) occurred in the Southeast region alone, and 6,461, in the state of Minas Gerais alone, (12.6% of the total) in Brazil<sup>4</sup>.

The WHO recommends the practice of Brief Interventions (BIs) as a strategy to reduce alcohol use<sup>2</sup>. Studies indicate that BIs are a short-term, low-cost, and highly effective strategy for behavior change, and can be done individually or in groups<sup>5-7</sup>.

They are aimed at people who present problematic alcohol use, with the purpose of motivating a change in risk behavior for alcohol use<sup>5-7</sup>. Research on the practice of Brief Intervention in the context of Primary Health Care is important to highlight the needs and problems in the area of BI detection in different social contexts, which may guide the design for the development of Brazilian public policies better directed to the harmful use of alcohol, since such results present a positive perspective for the academic community, coupled with the fact that BI is still little explored in the Brazilian territory, either in the experience of health professionals or in research practices, requiring more scientific evidences<sup>8</sup>.

Therefore, considering the behavioral motivation and its oscillations, knowing the state of readiness for change becomes essential for a directed and effective BI practice<sup>8</sup>.

The present study aimed to analyze the effect of Brief Intervention on motivation to change alcohol consumption.

## METHOD

This is a pilot, experimental study and is based on the original study: "Care strategies against risky and harmful alcohol use", with three-month follow-up, carried out in two Basic Health Units (BHU) of a city in the metropolitan region of Belo Horizonte - MG - BR, during the period from October 2019 to June 2020.

People over 18 years of age who sought the respective health services or who were accompanying patients at the time of data collection were invited to participate in the study. Those who were intoxicated at the time of data collection and those who were unable to answer the survey were excluded from the sample.

The instruments used were a questionnaire with sociodemographic, clinical, and behavioral questions; the AUDIT (Alcohol Use Disorders Identification Test)<sup>9</sup>; and the Readiness to Change Ruler (RPM)<sup>10-11</sup>. The sociodemographic, clinical, and behavioral questionnaire was designed by the researchers and contained 18 questions regarding

sociodemographic information (age, gender, race/ethnicity, marital status, religion, education, occupation, family, and family income); clinical (personal background), and behavioral information (physical activity and substance use).

The AUDIT is a standardized instrument used for screening risky and harmful alcohol use. It is composed of 10 questions, which assess recent alcohol use and dependence symptoms as well as alcohol-related problems. Its final score classifies consumption into level I, low-risk use (0-7 points); level II, risky use (8-15 points); level III, harmful use (16-19 points); or level IV, probable dependence (20 points or more)<sup>9</sup>. The AUDIT has been validated in several countries, including Brazil, showing good levels of sensitivity (87.8%) and specificity (81%) for detecting the harmful use of alcohol, and its performance has been positively evaluated in primary health care services<sup>9</sup>. Additionally, in the Brazilian validation, the AUDIT showed satisfactory reliability (0.8) and responsiveness to changes in alcohol consumption<sup>9</sup>.

The use of the readiness ruler is an instrument that simply and quickly assesses the stage of readiness for change, as it is a scaling strategy that conceptualizes readiness/motivation for change along a continuum, which asks the individual about "how ready do you feel for change on a scale of one to 10?", aiming to investigate the stage of change in which the individual finds him/herself<sup>10-11</sup>. In RPM, the stages of change are classified according to the scores: Pre-contemplation (one-two), Contemplation (three-four) Planning (five-six), Action (seven-eight) and Maintenance (nine-ten)<sup>10-11</sup>.

Screening was performed using the AUDIT, which was applied to all individuals who were willing to participate in the study. Participants with scores that classified them in zones II, III, and IV of the AUDITs were included in the sample and subsequently randomly allocated to one of the two study groups: experimental (EG) and control group (CG). The cards were placed in closed and numbered envelopes, making it impossible for the applicator to see their contents. The participant was allocated to the group according to the card drawn.

The CG participants were given the RPM instrument when they entered the study, as well as feedback about their AUDIT scores and advice about further telephone contact. Participants in the EG went through the same process as the CG and received the BI on an individual basis. The BI application followed the FRAMES<sup>2</sup> model and was carried out in an office or private room, with sessions lasting an average of 20 minutes. After the participant's acceptance, the feedback related to the AUDIT result was given, and after talking about the person's responsibility to want more information about alcohol consumption and possibilities of behavior change, counseling was carried out, in which the pros and cons of changing drinking behavior were listed, approaching the effects of the substance in life, and thinking with each participant about a menu of options for changing drinking behavior. Finally, self-efficacy was worked on<sup>2</sup>.

The follow-up of the groups was done by telephone, with one contact 30 days after the study entry and another contact 90 days after the first telephone contact. In these two contacts, the AUDIT and RPM instruments were applied again.

A descriptive analysis (median, percentage) of the data collected and the association between the participants' profile variables and the motivational stages was performed using the chi-square or Fisher's exact test and the correction proposed by MacDonald and Gardner (2003)<sup>12</sup>. The Kruskal-Wallis's test was used to analyze the differences between the EG and CG regarding the stage of readiness for change (RPM) at the three time points (initial assessment, after 30 days, and at 90-day follow-up). To analyze intra-group differences, the paired Wilcoxon test was used. The analyses were performed using SPSS 20.0 for Windows and adopting a 5% significance level.

The present study was authorized by the Municipal Health Secretariat of the municipality of Sabará, located in the state of Minas Gerais (MG) - Brazil (BR), and approved by the Research Ethics Committee under protocol number 3.586.888.

## RESULTS

A total of 416 people were interviewed, of whom 327 (78.6%) had low risk drinking and 89 people (21.4%) were identified as having problem drinking patterns. Forty-three people (48.9%) participated in the study and were randomly assigned to either the CG (n=21) or EG (n=22). Among the 43 randomized subjects, 27 (62.8%) scored in zone II of the AUDIT (risky use); 9 (20.9%) scored in zone III (harmful use); and 7 (16.3%) scored in zone IV (probable dependence). 40 participated in the 30-day follow-up, 20 from the CG and 20 from the EG. At the 90-day follow-up only 26 participated, 12 from the CG and 14 from the EG, as illustrated in Figure 1.

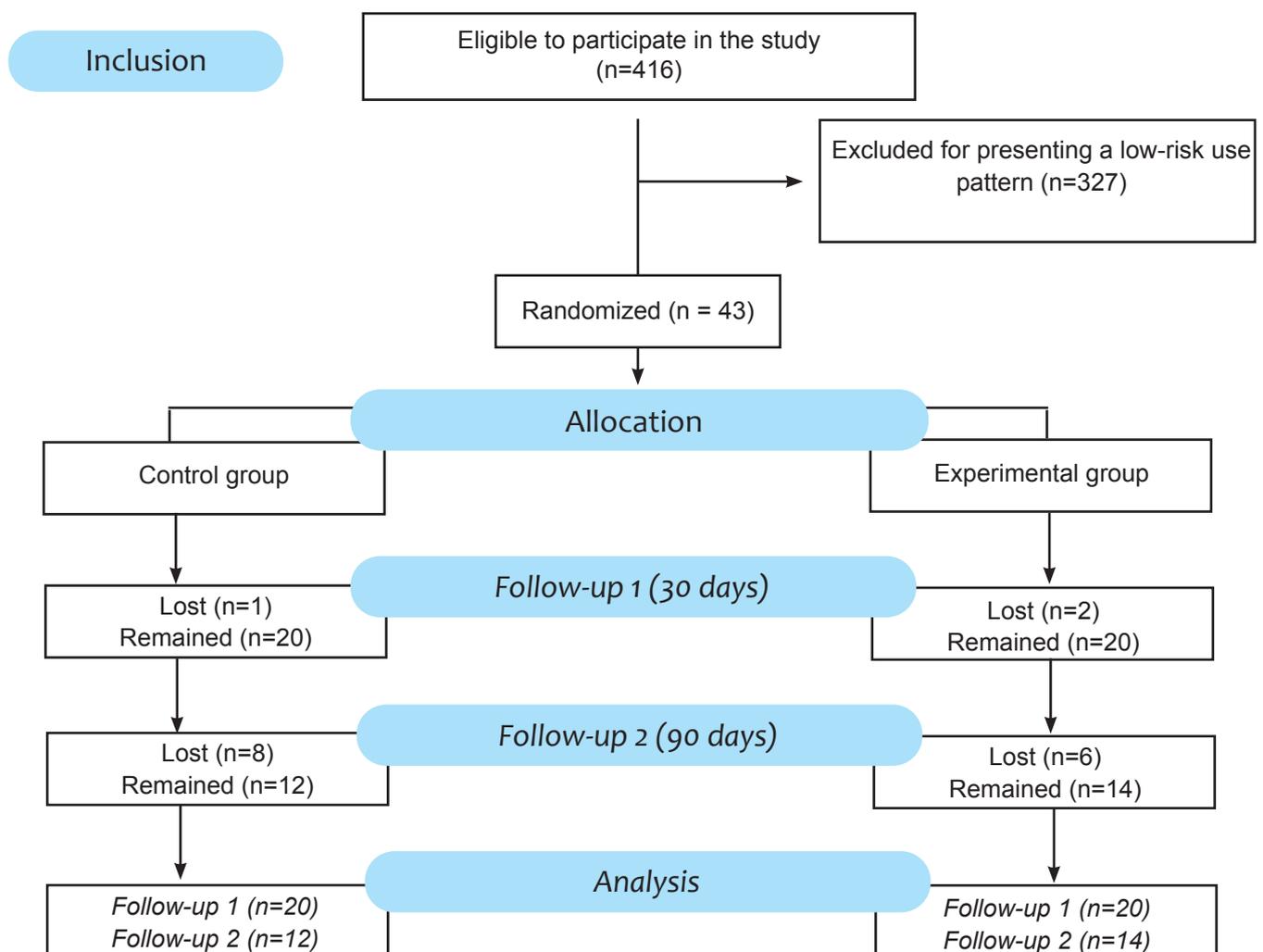


Figure 1 - Description of the stages of the study. Sabará, MG, Brazil, 2021

Source: Authors (2021).

### Sociodemographic, clinical, and behavioral characteristics

Of the 43 participants allocated to the study groups, ages ranged from 18 to 71 years, with a mean age of 44.7 years, 18 (41.9%) were female, 23 (53.5%) were brown, and the other variables were: 17 (39.5%) were married, 16 (37.2%) were catholic, 16 (37.2%) had incomplete primary education, and a mean of 3.8 people in the family, 13 (30.2%) worked in formal jobs, and 20 (46.5%) worked full time in the last 12 months. All reported

living in their own or rented house, and 27 (62.8%) belonged to economic class E

Regarding the clinical characteristics, five (11.6%) people informed that they were undergoing clinical treatment for Systemic Arterial Hypertension, and nine people (20.9%) reported being treated for more than one chronic health problem. In questions related to mental health, eight (18.6%) reported having some mental disorder, and five (11.6%) reported having psychiatric treatment. Among the psychiatric disorders, anxiety and depression were the most reported, with the equivalent of five (11.6%) of the total.

About behavior patterns, only 14 (32.6%) reported the habit of practicing physical activity. Among those analyzed, three (7%) informed about the use of drugs, being the association of marijuana and cocaine the most reported two (4.7%). The frequency of daily or monthly drug use was the same (2.3% each). About tobacco use, 11 participants (25.6%) informed that they used and seven (16.3%) used daily. Regarding the use of alcohol in the 30 days prior to data collection, 37 (86.0%) reported having consumed alcohol, and 24 (55.8%) consumed it weekly. Considering the identification of the type of beverage most consumed, beer was the beverage of greatest consumption in the month, being mentioned by nine (20.9%), beer was considered the beverage consumed in the last month, and 24 (55.8%) did not specify, as shown in Table 1.

Table 1 - Frequency distribution of sociodemographic, clinical, and behavioral variables at time 0. Sabará, MG, Brazil, 2021

Variables	Control n=21(%)	Experimental n=23(%)
Gender		
Male	9 (42.9%)	6 (27.7)
Female	12 (57.1)	6 (27.3)
Color/Race		
Brown	9 (42.8)	14 (63.6)
Black	8 (38.1)	5 (22.7)
White	2 (9.5)	2 (9.1)
Undeclared	1 (4.8)	1 (4.5)
Indigenous	1 (4.8)	0
Marital Status		
Married	5 (23.8)	12 (54.5)
Single	9 (42.9)	5 (22.7)
Married	5 (23.8)	3 (13.6)
Divorced/Separated	2 (9.5)	0
Widow/Widower	0	2 (9.1)
Religion		
Catholic	7 (33.3)	9 (40.9)
Evangelical	9 (42.9)	6 (27.3)
None/Agnostic/Declared	5 (23.8)	3 (13.6)
Spiritualism and derivatives	0	3 (13.6)

Christian unspecified	0	1 (4.5)
Education		
Illiterate	0	1 (4.5)
Elementary School incomplete	8 (38.1)	8 (36.4)
Elementary School complete	4 (19.0)	3 (13.6)
High School incomplete	1 (4.8)	3 (13.6)
High School complete	6 (28.6)	5 (22.7)
Incomplete Higher education	1 (4.8)	0
Complete Higher education	0	2 (9.1)
Outros	1 (4.8)	0
Occupation		
Formal employment	8 (38.1)	5 (22.7)
Informal employment	5 (23.8)	6 (27.3)
Retired	2 (9.5)	8 (36.4)
None	5 (23.8)	2 (9.1)
Student	1 (4.8)	1 (4.5)
Mental disorder		
No	18 (85.7)	17 (77.3)
Yes	3 (14.3)	5 (22.7)
Treatment for Mental Disorder		
No	20 (95.2)	18 (81.8)
Yes	1 (4.8)	4 (18.2)
Type of Mental Disorder		
None	18 (81.7)	17 (77.3)
Anxiety	2 (9.5)	1 (4.5)
Other/Unspecified	1 (4.8)	2 (9.1)
Depression	0	2 (9.1)
Physical Activity		
No	16 (76.2)	13 (59.1)
Yes	5 (23.1)	9 (40.9)
Type of physical activity		
None	16 (76.2)	13 (59.1)
More than one type	1 (4.8)	4 (18.2)
Walking/Running	1 (4.8)	2 (9.1)
Sports	1 (4.8)	1 (4.5)
Gym	1 (4.8)	1 (4.5)
Other	1 (4.8)	1 (4.5)
Type of physical activity		
None	21 (100.0)	19 (86.4)

More than one type	0	3 (13.6)
Walking/Running		
Sports	21 (100.0)	19 (86.4)
Gym	0	2 (9.1)
Other	0	1 (4.5)
Frequency of use		
None	21 (100.0)	20 (90.9)
Daily	0	1 (4.5)
Monthly	0	1 (4.5)
Tobacco use		
No	17 (81.0)	15 (68.2)
Yes	4 (19.0)	7 (31.8)
Frequency of use		
None	17 (80.9)	15 (68.2)
Daily	3 (14.3)	4 (18.2)
Not identified	1 (4.8)	2 (9.1)
Monthly	0	1 (4.5)
Use of alcohol in the last 30 days		
Weekly	12 (57.1)	12 (54.5)
Monthly	5 (23.8)	4 (18.2)
None	3 (14.3)	3 (13.6)
Daily	1 (4.8)	3 (13.6)

Source: Authors (2021).

Evaluating the AUDIT classification, it was observed that 27 (62.8%) presented a risk use pattern, nine (20.9%) presented harmful use, and seven (16.3%) presented scores suggestive of probable dependence. As for the RPM, two (4.7%) individuals were in the pre-contemplation phase, one (2.3%) in the contemplation phase, four (9.3%) in the preparation phase, 13 (30.2%) in the action phase, and 23 (53.5%) in the maintenance phase.

There was an association between occupation and motivational stage ( $p=0.02$ ). In all occupation classes, respondents were concentrated in the highest motivational stages, especially retirees, for whom 90% of respondents were in the highest motivational stage. There was, also an association between having mental disorder and motivational stage, where having mental disorder was associated with the "maintenance" stage ( $p\leq 0.01$ ), given that all eight respondents who reported having mental disorder were in the highest motivational stage. It was not possible to observe an association between the motivational stage and the other variables, as presented in Table 2.

Table 2 - Test of association between the variables and the motivational stages at the initial time. Sabará, MG, Brazil, 2021

Variable	Pre-Contemplation n (%)	Contemplation n (%)	Planning n (%)	Action n (%)	Maintenance n (%)	P
Participants						
General	2 (4.6)	1 (2.3)	4 (9.3)	13 (30.2)	23 (53.5)	
Group						0.625
Experimental	0	0	2 (9.1)	7 (31.8)	13 (59.1)	
Control	2 (9.5)	1 (4.8)	2 (9.5)	6 (28.6)	10 (47.6)	
Age						0.662
18-29	1 (11.1)	0	1 (11.1)	5 (55.6)	2 (22.2)	
30-39	0	0	1 (10)	3 (30)	6 (60)	
40-49	0	0	1 (12.5)	2 (25)	5 (62.5)	
≥50	1 (6.2)	1 (6.2)	1 (6.2)	2 (18.8)	10 (62.5)	
Sex						0.524
Male	0	1 (4)	3 (12)	8 (32)	13 (52)	
Female	2 (11.1)	0	1 (5.6)	5 (27.8)	10 (55.6%)	
Color/Race						0.335
Brown	0	1 (4.3)	1 (4.3)	9 (39.1)	12 (52.2)	
Black	2 (15.4)	0	3 (23.1)	2 (15.4)	6 (46.2)	
White	0	0	0	2 (50)	2 (50)	
Indigenous	0	0	0	0	1 (100)	
Marital Status						0.517
Married	1 (5.9)	0	1 (5.9)	5 (29.4)	10 (58.8)	
Single	1 (7.1)	0	2 (14.3)	5 (35.7)	6 (42.9)	
Married	0	1 (12.5)	0	1 (12.5)	6 (75)	
Separated/Divorced	0	0	1 (50)	1 (50)	0	
Widowed	0	0	0	1 (50)	1 (50)	
Religion						0.371
Catholic	1 (6.2)	1 (6.2)	0	6 (37.5)	8 (50)	
Evangelical	1 (6.7)	0	1 (6.7)	4 (26.7)	9 (60)	
None/ Did not declare	0	0	2 (25)	3 (37.5)	3 (37.5)	
Spiritualist and others	0	0	0	0	3 (100)	
Christian Unspecified	0	0	1 (100)	0	0	
Education						0.479
Illiterate	0	0	0	0	1 (100)	
Elementary School Incomplete	1 (6.2)	0	0	6 (37.5)	9 (56.2)	

Elementary School Complete	0	0	1 (14.3)	2 (28.6)	4 (57.1)
High School Incomplete	0	0	0	3 (75)	1 (25)
High School Complete	1 (9.1)	1 (9.1)	2 (18.2)	1 (9.1)	6 (54.5)
Incomplete Higher School	0	0	0	0	1 (100)
Complete Higher School	0	0	0	1 (50)	1 (50)
Other	0	0	1 (100)	0	0
Occupation					0.022
Formal Employment	1 (7.7)	0	3 (23.1)	4 (30.8)	5 (38.5)
Informal Employment	0	0	0	4 (36.4)	7 (63.6)
None	1 (14.3)	0	1 (14.3)	4 (57.1)	1 (14.3)
Student	0	0	0	1 (50)	1 (50)
Retired	0	1 (10)	0	0	9 (90)
Family Income					0.712
E	1 (3.7)	0	3 (11.1)	9 (33.3)	14 (51.9)
D	0	1 (9.1)	1 (9.1)	3 (27.3)	6 (54.5)
C	1 (33.3)	0	0	1 (33.3)	1 (33.3)
Do not Have	0	0	0	0	1 (100)
Do not Know	0	0	0	0	1 (100)
Health Treatment					0.334
None	0	0	1 (9.1)	6 (54.5)	4 (36.4)
More than one problem	1 (11.1)	0	0	2 (2.22)	6 (66.7)
Others	0	1 (14.3)	0	2 (18.6)	4 (57.1)
Hypertension	0	0	1 (20)	0	4 (80)
Diabetes Mellitus	0	0	0	0	1 (100)
Mental Disorder					0.010*
No	2 (5.7)	1 (2.9)	4 (11.4)	13 (17.1)	15 (42.9)
Yes	0	0	0	0	8 (100)
Mental Disorder Treatment					0.358
No	2 (4.7)	1 (2.3)	4 (9.3)	13 (30.2)	18 (53.5)
Yes	0	0	0	0	5 (100)
Type of Mental Disorder					0.644
None	2 (5.7)	1 (2.7)	4 (11.4)	13 (37.1)	15 (42.9)
Anxiety	0	0	0	0	3 (100)
Other/Unspecified	0	0	0	0	3 (100)
Depression	0	0	0	0	2 (100)

Physical Activity						0.768
No	1 (3.4)	1 (3.4)	2 (6.9)	10 (34.5)	15 (51.7)	
Yes	1 (7.1)	0	2 (14.3)	3 (21.4)	8 (57.1)	
Type of Physical Activity						0.639
None	1 (3.4)	1 (3.4)	2 (6.9)	10 (34.5)	15 (51.7)	
More than one type	0	0	2 (40)	1 (20)	2 (40)	
Walking/Running	0	0	0	1 (33.3)	2 (66.7)	
Sports	0	0	0	1 (50)	1 (50)	
Gym	1 (50)	0	0	0	1 (50)	
Other	0	0	0	0	2 (100)	
Type of Drug						0.215
None	2 (5)	1 (2.5)	3 (7.5)	11 (27.5)	23 (57.5)	
Marijuana	0	0	0	1 (100)	0	
Marijuana and Cocaine	0	0	1 (50)	1 (50)	0	
Frequency of use						0.2
None	2 (4.9)	1 (2.4)	3 (7.3)	12 (29.3)	23 (56.1)	
Daily	0	0	0	1 (100)	0	
Monthly	0	0	1 (100)	0	0	
Use of tobacco						0.259
No	2 (6.2)	0	2 (6.2)	11 (34.4)	17 (53.1)	
Yes	0	1 (9.1)	2 (18.2)	2 (18.2)	6 (53.5)	
Frequency of Use						0.113
None	2 (6.2)	0	2 (6.2)	11 (34.4)	7 (53.1)	
Daily	0	1 (14.3)	1 (14.3)	1 (14.3)	4 (57.1)	
Monthly	0	0	1 (100)	0	0	
Use of alcohol in the month						0.646
Weekly	2 (8.3)	0	3 (12.5)	7 (29.2)	12 (50)	
Monthly	0	0	1 (11.1)	4 (44.4)	4 (44.4)	
None	0	1 (16.7)	0	2 (33.3)	3 (50)	
Daily	0	0	0	0	4 (100)	
Type of Beverages Consumed						0.655
Not Specified	2 (8.3)	0	3 (12.5)	6 (25)	13 (54.2)	
Beer	0	0	1 (11.1)	4 (4.44)	4 (4.44)	
None	0	1 (16.7)	0	2 (33.3)	3 (50)	
Distilled spirits	0	0	0	0	3 (100)	
Liquor	0	0	0	1 (100)	0	

Source: Authors (2021).

## Effect of Brief Intervention on motivation

The EG obtained a median score on the RPM equal to 10, indicating the maintenance stage. After the intervention, in the 30-day segment, the median score remained at 10. In the 90-day segment, the median score was equal to eight, indicating the action stage. The CG obtained median RPM equal to eight at both the time of screening and at the 30-day segment, indicating the action stage. In the 90-day segment, the median was seven, indicating the planning stage as shown in Table 3.

Table 3 - Comparison of median motivation for change in the control and experimental groups at the three evaluation times. Sabará, MG, Brazil, 2021

Group	Time	Median RPM (IQ)	Median differences from the initial time (IQ)	p*	p**
Experimental	Initial	10 (8; 10)	---	---	0.281
	30 days	10 (8.25;10)	0 (0; 0)	0.579	0.029
	90 days	8 (7; 10)	-0.5 (-3; 0)	0.236	0.059
Control	Initial	8 (7; 10)	---	---	---
	30 days	8 (5; 10)	0 (-1; 0)	0.617	---
	90 days	7 (3; 8)	-1 (-7; 0)	0.08	---

\*: intragroup comparison (paired Wilcoxon test) \*\*: intergroup comparison (Kruskal-Wallis's test)  
Source: Authors (2021).

Furthermore, when comparing the distribution of the scores of the RPM scores in the two groups, no statistical difference was found between the groups in the initial evaluation ( $p=0.281$ ) nor in the final evaluation at 90 days ( $p=0.059$ ). However, in the intermediate evaluation at 30 days, it was noted that there was a statistical difference in the motivation of the two groups ( $p=0.029$ ). In intragroup comparisons (Table 3), it was not possible to observe statistical differences in RPM scores when comparing the times 30 and 90 with the beginning of the study for both EG ( $p$ -values equal to 0.579 and 0.236, respectively) and CG ( $p$ -values equal to 0.617 and 0.080, respectively).

## DISCUSSION

The sample analyzed was composed mostly by males. A study by the WHO indicates that in populations over 15 years old, there is a higher prevalence of harmful use and dependence on alcohol among males (6.90%) compared to females (1.60%)<sup>2</sup> and a higher prevalence of binge drinking in the past 30 days (32.6%)<sup>2</sup>. The III LNUD showed similar data, in which more men reported lifetime use of alcohol (74.3%) and binge drinking (24%)<sup>1</sup>. Data from Vigitel<sup>13</sup> reinforce that in the previous 30 days there was more abuse by men (25.3%) than women (13.3%).

When the occupation was analyzed, the data obtained differed from the profile of users of BHU, which identified that 53.8% of users had no occupation<sup>14</sup>. High work stress was pointed out as a factor associated with unhealthy behaviors, including problematic alcohol consumption, justifying the high number of people whose occupation was within the group identified with problematic use patterns<sup>15-17</sup>.

Regarding clinical characteristics, systemic arterial hypertension and diabetes mellitus were the main comorbidities. Studies show that the main diagnosis reported by the Brazilian population is systemic arterial hypertension, which makes up 39.2% of the population that goes to the UBS, followed by diabetes mellitus with 15.9%<sup>15,18-19</sup>. The prevalence of elevated blood pressure was twice as high in individuals who used alcohol heavily than in those who used it lightly, or even in those who did not use alcohol at all, called abstainers<sup>20</sup>.

Anxiety was the most present disorder in the sample. People with anxiety disorders have a higher risk of developing problematic substance use, including alcohol, and are more likely to relapse more rapidly in alcohol dependence treatment<sup>21-22</sup>. Regarding treatments for anxiety, one should pay special attention to drug interactions between alcohol and benzodiazepines since alcohol increases the sedative effect of the medication<sup>23</sup>.

Regarding the consumption of illicit substances and tobacco, most reported not using both, but among those who do, the concomitant use of marijuana and cocaine was the most reported, as well as the daily use of tobacco. The III LNUD pointed out that only 0.2% of the population had used marijuana and cocaine concomitantly in the 12 months prior to the survey. However, it showed that 2.6% of Brazilians made use of alcohol and some illicit substance, and 11.7% made use of alcohol and tobacco<sup>1</sup>. The 2019 PNS pointed out that 12.8% of the Brazilian population reports using tobacco, and in the III LNUD, 33.5% of respondents reported ever having used industrialized cigarettes in their lives<sup>1,20</sup>. The data show that tobacco use is still high among Brazilians, and the concomitant use of more than one substance, especially alcohol is not considered uncommon in the population.

Regarding the use of alcohol, weekly use was the most found, and among the drinks identified, beer was the most frequent. In Brazil, 26.4% of the population reported drinking alcohol once a week or more<sup>20</sup>. The III LNUD shows that only half of the population had a risk perception for binge drinking at least once a week<sup>1</sup>. This may suggest a lack of knowledge about the patterns of alcohol use and its real consequences for the lives of those who consume alcohol in a problematic manner, highlighting the need for interventions that are educational and motivational, so that there is a decrease in the number of Brazilians who use alcohol.

It is possible to infer that the fact that more retired people are in the "maintenance" motivational stage may be due to the reduced level of stress, since the stressor "occupation" is removed from these participants' lives, making them less likely to try to reduce stress with drinking. In addition, the variable age is related to several chronic diseases, which makes them more concerned about their own health, making them willing to change their drinking behavior and maintain a low-risk pattern of use<sup>24-25</sup>.

Observing the association between mental disorder and the "maintenance" motivational stage, people who undergo psychiatric treatment use health services more, making them susceptible to receive guidance about their medications and their health. That said, guidance from professionals about the use of medications, explaining the possible effects and interactions, may have a positive effect on motivation, thus encouraging the reduction of alcohol consumption and keeping it within an acceptable standard, to avoid serious drug interactions and/or worsening of the health condition<sup>26</sup>.

BI is recognized for its effectiveness in behavioral change processes<sup>8-27</sup>. For the change in alcohol consumption, studies indicate positive results about the decrease in consumption<sup>5-28</sup>.

Regarding the motivation for consumption, a study shows that the behavior related to drinking alcohol emerges naturally among the various activities and needs that extend from pleasure to leisure, giving unique contours to the relationships established in this context, since alcohol is recognized as a drug that leads to relaxation and social disinhibition, which favors socialization. However, alcohol abuse is a multidimensional factor, so it is important to consider the relationship with the substance according to the social and cultural context as well as the person's values and beliefs<sup>29</sup>.

In this sense, it is observed that the central objective of the motivational approach is to mobilize the intrinsic motivation of the person so that the extrinsic one finds meaning in order to bring about change; for this, the professional has the role of helping people identify which behaviors they consider harmful and, based on this identification, to think about new ways of relating to the substance, placing the person as an active subject in the desired change and the professional as a facilitator of this process<sup>30</sup>.

The results of this study showed that there was a positive and significant effect of BI on motivation. A study showed similar results when using group BI to change drinking patterns, because people who attended the intervention sessions remained motivated during the three periods evaluated, while the CG had a drop in motivation, which shows that the intervention has a direct effect on people's motivation<sup>29</sup>.

Such effects demonstrate that BI can and should be used, with evidence of its effects on the individual's motivation when initiating a change process. Moreover, with adequate training, any professional can apply the intervention efficiently. Considering that 83.6% of the population consults in their reference BHU two or more times a year, the use of BI by nurses is appropriate due to the professional contingent in the services, which would facilitate the bond and availability to receive the intervention<sup>12</sup>.

As limitations of the study, it is possible to mention the losses associated with loss of contact, since many participants changed phone numbers during data collection, and, due to the lack of updated registration in the BHU, it was not possible to perform the following segments. In addition, the screening of new participants was interrupted due to the Sars-CoV-2 pandemic, which contributed to the reduced number of participants in the final sample.

## CONCLUSION

The BI had a significant effect on the motivation to change the pattern of alcohol consumption in individuals who participated in the study at 30 and 90 days, thus responding to the proposed objective. Most of the sample showed risky drinking, a pattern of use little perceived as problematic by the population and by health professionals, who sometimes focus on the treatment of alcohol-related problems only when it is associated with some disease and/or presents some dependence. This perception shows that there is room for the application of screening and BI practices in BHU.

The results presented show the ability of health professionals, including nurses, to perform actions in primary care that directly influence the behavior of users, being specified here the BI in people who make problematic use of alcohol. In addition, it shows that actions practiced in primary care have a direct impact on other levels of care and on the network, requiring further studies to demonstrate such effects.

## REFERENCES

1. Bastos FIPM, Vasconcellos MTL, De Boni RB, Reis NB, Coutinho CFS. III Levantamento Nacional sobre o uso de drogas pela população brasileira. Rio de Janeiro: FIOCRUZ/ICICT. [Internet]. 2017 [acesso em 14 jan 2021]; 528. Disponível em: <https://www.arca.fiocruz.br/handle/icict/34614>.
2. World Health Organization. Global status report on alcohol and health. World Health Organization. [Internet]. 2018 [acesso em 14 jan 2021]. Disponível em: <https://apps.who.int/iris/handle/10665/274603>.
3. Institute for Health Metrics and Evaluation. (IHME) Global Burden of Disease. [Internet]. [acesso em 14 jan 2021]. Disponível em: <https://vizhub.healthdata.org/gbd-compare/>.
4. Ministério da Saúde. Sistema de Informações Hospitalares do SUS (SIH/SUS). Departamento de Informática do SUS (DATASUS). Morbidade Hospitalar no SUS. [Internet]. 2020 [acesso em 19 ago 2021]. Disponível em: <http://www2.datasus.gov.br/DATASUS/index.php?area=0203&id=6926&VObj=http://tabnet.datasus.gov.br/cgi/defthtm.exe?sih/cnv/ni>.
5. Soares J, Vargas D de. Effectiveness of brief group intervention in the harmful alcohol use in primary health care. Rev. saúde pública [Internet]. 2019 [acesso 2022 maio 09];530:4. Disponível em: <https://doi.org/10.11606/S1518-8787.2019053000498>.
6. Babor TF, Higgins-Biddle JC. Intervenções Breves para o consumo de risco e nocivo de bebidas alcoólicas: guia para utilização em cuidados primários de saúde. Tradução de José Ramelhe. [Internet]. Organização Mundial de Saúde; 2001 [acesso em 14 jan 2021]; Disponível em: [https://apps.who.int/iris/bitstream/handle/10665/67210/WHO\\_MSD\\_MSB\\_01.6b\\_por.pdf?sequence=2&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/67210/WHO_MSD_MSB_01.6b_por.pdf?sequence=2&isAllowed=y).
7. Formigoni MLO de S, Duarte P do CAV (Org). Módulo 4: intervenção breve. [Internet]. São Paulo: Universidade Federal de São Paulo (UNIFESP), Universidade Virtual do Estado de São Paulo (UNIVESP), Secretaria Nacional de Políticas sobre Drogas (SENAD); 2018 [acesso em 19 jul 2022]; Disponível em: [https://www.supera.org.br/wp-content/uploads/2021/04/SUPERA13\\_modulo4\\_reduzido.pdf](https://www.supera.org.br/wp-content/uploads/2021/04/SUPERA13_modulo4_reduzido.pdf).
8. Soares J, Vargas D de. Group Brief Intervention: effectiveness in motivation to change alcohol intake. Rev Bras Enferm. [Internet]. 2020 [acesso 10 maio 2022]; 73(1). Disponível em: <https://doi.org/10.1590/0034-7167-2018-0138>.
9. Méndez EB. Uma versão Brasileira do AUDIT (Alcohol Use Disorders Identification Test), 1999, 128p. Tese (Mestrado em Epidemiologia) - Faculdade de Medicina, Universidade Federal de Pelotas, Pelotas. [Internet]. 1999 [acesso em 19 ago 2021]. Disponível em: <http://www.epidemiologia.ufpel.org.br/uploads/teses/Brod%20Mendez%201999%20Dissert.pdf>.
10. Organización Mundial de La Salud (OMS). Intervención breve para el consumo de riesgo y perjudicial de alcohol: un manual para la utilización en atención primaria. Valencia: Conselleria de benestar Social, Generalitat Valenciana; 2001.
11. Rollnick S, Miller WR, Butler CC. Entrevista motivacional no cuidado da saúde: ajudando pacientes a mudar o comportamento. Porto Alegre: Artmed; 2009.
12. Macdonald PL, Gardner RC. Type I error rate comparisons of post hoc procedures for I j chi-square tables. Educ. Psychol. Meas. [Internet]. Santa Barbara; 2000 [acesso em 28 jan 2021]; 50(5):735-754. Disponível em: <https://journals.sagepub.com/doi/abs/10.1177/00131640021970871>.
13. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Análise em Saúde e Vigilância de Doenças Não Transmissíveis. Vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico (Vigitel): estimativas sobre frequência e distribuição sociodemográfica de fatores de risco e proteção para doenças crônicas nas capitais dos 26 estados brasileiros e no Distrito Federal em 2019 [Internet]. 2020 [acesso em 19 ago 2021]. Disponível em: [https://bvsmis.saude.gov.br/bvs/publicacoes/vigitel\\_brasil\\_2019\\_vigilancia\\_fatores\\_risco.pdf](https://bvsmis.saude.gov.br/bvs/publicacoes/vigitel_brasil_2019_vigilancia_fatores_risco.pdf).
14. Instituto Brasileiro de Geografia e Estatística (IBGE). Pesquisa Nacional de Saúde (PNS) 2019: atenção

- primária à saúde e informações antropométricas. [Internet]. Rio de Janeiro: IBGE, Coordenação de Trabalho e Rendimento, 2020a. [acesso em 19 ago 2021]. Disponível em: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv101758.pdf>.
15. Instituto Brasileiro de Geografia e Estatística (IBGE). Desigualdades sociais por cor ou raça no Brasil. [Internet]. Brasília: IBGE; 2019. [acesso em 19 ago 2021]. Disponível em: [https://biblioteca.ibge.gov.br/visualizacao/livros/liv101681\\_informativo.pdf](https://biblioteca.ibge.gov.br/visualizacao/livros/liv101681_informativo.pdf).
16. Medisaukaite A, Kamau C. Does occupational distress raise the risk of alcohol use, binge-eating, ill health and sleep problems among medical doctors? A UK cross-sectional study BMJ Open. [Internet]. 2019 [acesso em 19 ago 2021].;9:e027362. Disponível em: <http://doi.org/10.1136/bmjopen-2018-027362>.
17. Gomes TB, Vecchia MD. Harm reduction strategies regarding the misuse of alcohol and other drugs: a review of the literature. Ciênc. Saúde Colet. [Internet]. 2018 [acesso em 2018 fev 21]; 23(7). Disponível em: <https://doi.org/10.1590/1413-81232018237.21152016>.
18. Vidal JM, Abreu AM, Portela LF. Estresse psicossocial no trabalho e o padrão de consumo de álcool em trabalhadores offshore. Cad. Saúde Pública. [Internet]. 2019 [acesso em 19 ago 2021]; 33(6). Disponível em: <https://doi.org/10.1590/0102-311Xe00116616>.
19. Instituto Brasileiro de Geografia e Estatística (IBGE). Pesquisa Nacional de Saúde (PNS) 2019: percepção do estado de saúde, estilos de vida, doenças crônicas e saúde bucal. [Internet]. Rio de Janeiro: IBGE. Coordenação do Trabalho e Desenvolvimento; 2020b. [acesso em 19 ago 2021]. Disponível em: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv101764.pdf>.
20. Guibu IA, Moraes JC de, Guerra Junior AA, Costa EA, Acúrcio F de A, Costa KS, et al. Características principais dos usuários dos serviços de atenção primária à saúde no Brasil. Rev Saude Publica. [Internet]. 2017 [acesso em 19 ago 2021]; 2:17s. Disponível em: <https://doi.org/10.11606/S1518-8787.2017051007070>.
21. Biddinger KJ, Emdin CA, Haas ME, Wang M, Hindy G, Ellinor PT, et al. Association of Habitual Alcohol Intake With Risk of Cardiovascular Disease. JAMA Netw Open. [Internet]. 2022. [acesso em 05 maio 2021]; 5(3):e223849. Disponível em: <http://doi.org/10.1001/jamanetworkopen.2022.3849>.
22. Anker JJ, Kushner MG. Co-occurring alcohol use disorder and anxiety: bridging psychiatric, psychological, and neurobiological perspectives. Alcohol Research: Current Reviews. [Internet]. 2019. [acesso em 06 fev 2021]; 30:40(1). Disponível em: <https://arcr.niaaa.nih.gov/alcohol-use-disorder-and-co-occurring-mental-health-conditions/co-occurring-alcohol-use-disorder-anxiety>.
23. Buckner JD, Morris PE, Abarno CN, Glover NI, Lewis EM . Biopsychosocial model social anxiety and substance use revised. Curr Psychiatry [Internet]. 2021 [acesso em 06 fev 2021]; 23(35). Disponível em: <https://doi.org/10.1007/s11920-021-01249-5>.
24. Davis A, McMaster P, Christie DC, Yang A, Kruk JS, Fisher KA. Psychiatric comorbidities of substance use disorders: does dual diagnosis predict inpatient detoxification treatment outcomes?. Int J Ment Health Addiction. [Internet]. 2022 [acesso em 06 fev 2021]; 30(1). Disponível em: <https://doi.org/10.1007/s11469-022-00821-1>.
25. Silva JVF da, Silva EC da, Rodrigues APRA, Miyazawa AP. A relação entre o envelhecimento populacional e as doenças crônicas não transmissíveis: sério desafio de saúde pública. Ciênc. Biol. Saúde [Internet]. 2015. [acesso em 07 fev 2021]; 2(3). Disponível em: <https://periodicos.set.edu.br/fitsbiosauade/article/view/2079>.
26. Jacauna JSP, Rodrigues Junior OM. Pharmacological care in drug interaction: clonazepam with alcohol. RSD [Internet]. 2021 [acesso 2022 maio 10];10(15):e226101522771. Disponível em: <https://doi.org/10.33448/rsd-v10i15.22771>.
27. Fernandes AC, McIntyre T, Coelho R, Prata J, Maciel MJ. Impacto de uma intervenção psicológica no estilo de vida, fatores de risco e conhecimentos de doença durante a fase I da reabilitação cardíaca pós-síndrome coronária aguda. Rev. Port. Cardiol. [Internet]. 2019 [acesso em 07 fev 2021]; 38(5). Disponível em: <https://doi.org/10.1016/j.repc.2018.09.009>.

28. Jo SJ, Lee HK, Kang K, Joe KH, Lee SB. Efficacy of a web-based screening and brief intervention to prevent problematic alcohol use in Korea: results of a randomized controlled trial. *Alcohol Clin Exp Res*. [Internet]. 2019 [acesso em 06 fev 2021]; 43(10). Disponível em: <https://doi.org/10.1111/acer.14169>.
29. Carmo DRP, Faria FL, Pelzer MT, Terra MG, Santos MA dos, Pillon SC. Motivações atribuídas por adultos ao consumo de bebidas alcoólicas no contexto social. *Psicologia: Teoria e Prática* [Internet]. São Paulo, SP, 2018 [acesso em 19 jul 2022]; 20(2), 225-239. Disponível em: <http://dx.doi.org/10.5935/1980-6906/psicologia.v20n2p240-253>.
30. Pechansky F, Baldisserotto. Tratamentos psicoterápicos utilizados no tratamento de pessoas dependentes de substâncias psicotrópicas. In: Duarte P do CAV, Formigoni MLO de. *Modalidades de tratamento e encaminhamento: módulo 6*. 11. ed. [Internet]. Brasília: Secretaria Nacional de Políticas sobre Drogas, 2017 [acesso em 19 jul 2022]. Disponível em: <https://www.lume.ufrgs.br/bitstream/handle/10183/198396/001097884.pdf?sequence=1>.

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