

# Group Brief Intervention: effectiveness in motivation to change alcohol intake

*Intervenção breve grupal: efetividade na motivação para a mudança do uso de álcool*  
*Intervención grupal breve: efectividad de motivación para cambios en el consumo de alcohol*

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## How to cite this article:

Soares J, Vargas D. Group Brief Intervention: effectiveness in motivation to change alcohol intake. Rev Bras Enferm. 2020;73(1):e20180138. doi: <http://dx.doi.org/10.1590/0034-7167-2018-0138>

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EDITOR IN CHIEF: Antonio José de Almeida Filho

**Submission:** 04-20-2018    **Approval:** 06-09-2018

## ABSTRACT

**Objective:** To verify the effectiveness of the group brief intervention (GBI), performed by nurses in motivational stages to change the pattern of alcohol intake. **Method:** Randomized controlled trial with 3-month follow-up. The ruler of readiness for change was applied in 180 individuals with risk or harmful alcohol intake pattern in basic health unit. Only the experimental group (EG) was submitted to the intervention. Both groups (experimental and control [CG]) participated in the follow-up. **Results:** EG had a mean score before GBI=6.55 (SD=3.41) points (preparation). After GBI=8.00 (SD=2.88) points (action) and in the follow-up 7.92 (SD=3.06) points (action). CG presented a mean score before GBI=5.42 (SD=3.26) points (preparation); after GBI=6.67 (SD=3.05) points (preparation) and in the follow up had a mean score of 4.80 (SD=2.86) points (contemplation). There was a statistically significant difference between the two groups at the motivational stages ( $p \leq 0,03$ ). **Conclusion:** It was evidenced that GBI was effective in increasing the motivation to change harmful alcohol intake.

**Descriptors:** Community Health Nursing; Alcoholism; Clinical Trial; Motivation; Primary Health Care.

## RESUMO

**Objetivo:** Verificar a efetividade da intervenção breve grupal (IBG), realizada por enfermeiros, nos estágios motivacionais para a mudança do padrão de consumo de álcool. **Método:** Ensaio clínico randomizado controlado com *follow-up* de 3 meses. Foi aplicada a régua de prontidão, para a mudança em 180 indivíduos com padrão de uso de risco ou nocivo de álcool em uma unidade básica de saúde. Somente o grupo experimental (GE) foi submetido à intervenção. Ambos os grupos (experimental e controle-GC) participaram do *follow-up*. **Resultados:** O GE apresentou escore médio antes da IBG=6,55 (dp=3,41) pontos (preparação). Após, a IBG=8,00 (dp=2,88) pontos (ação) e no seguimento 7,92 (dp=3,06) pontos (ação). O GC apresentou escore médio antes=5,42 (dp=3,26) pontos (preparação); após=6,67 (dp=3,05) pontos (preparação) e, no seguimento, o escore médio de 4,80 (dp=2,86) pontos (contemplação). Houve diferença entre os dois grupos, nos estágios motivacionais, estatisticamente, significativa ( $p \leq 0,03$ ). **Conclusão:** Evidenciou-se que a IBG foi efetiva ao aumento da motivação para a mudança do consumo nocivo de álcool.

**Descritores:** Enfermagem em Saúde Comunitária; Alcoolismo; Estudos de Intervenção; Motivação; Atenção Primária à Saúde.

## RESUMEN

**Objetivo:** Verificar efectividad de intervención grupal breve (IGB) realizada por enfermeros en etapas motivacionales para cambios del estándar de consumo alcohólico. **Método:** Ensayo clínico randomizado controlado, con seguimiento de 3 meses. Se aplicó regla de aproximación para el cambio en 180 individuos con estándar de consumo riesgoso o nocivo de alcohol, en una unidad básica de salud. Solamente el grupo experimental (GE) recibió la intervención. Ambos grupos (experimental y control-GC) participaron del seguimiento. **Resultados:** El GE presentó puntaje promedio previo a IGB=6,55 (SD=3,41) puntos (preparación). Después, IGB=8,00 (SD=2,88) puntos (acción), y en seguimiento 7,92 (SD=3,06) puntos (acción). El GC presentó puntaje promedio previo=5,42 (SD=3,26) puntos (preparación); después=6,67 (SD=3,05) puntos (preparación) y en seguimiento, el puntaje promedio de 4,80 (SD=2,86) puntos (contemplación). Hubo diferencia entre ambos grupos en etapas motivacionales, estadísticamente significativa ( $p \leq 0,03$ ). **Conclusión:** Se evidenció que la IGB fue efectiva, aumentando la motivación para cambios del consumo nocivo de alcohol.

**Descriptor:** Enfermería en Salud Comunitaria; Alcoholismo; Estudios de Intervención; Motivación; Atención Primaria de Salud.

## INTRODUCTION

Currently it is estimated that two out of five people in the world population drink alcohol beverages, and among them 20% use it in a harmful way, that is, a consumption that can cause various psychic, physical or social damages to the individual and it is a phenomenon that is one of the largest and most costly public health problems in the world<sup>(1)</sup>.

In Brazil, harmful alcohol intake is similar to that of the world's population, that is, 16% of drinkers made episodic heavy alcohol use in 2016<sup>(2)</sup>, which can lead to serious health damages<sup>(2-3)</sup>. However, Brazilian estimates show that per capita consumption of alcohol increased by 43% in the population in recent years<sup>(4)</sup> in addition, its use may be responsible for more than 10% of the total health problems in the country<sup>(5)</sup>, which seems to justify the presence of users who meet the criteria for risk and harmful use of alcohol in Brazilian health services, whether hospital or Primary Health Care (PHC)<sup>(6-9)</sup>. For this reason, it has been indispensable to think of coping strategies to this problem, as in the application of brief interventions.

Brief intervention is a time-limited mode of care focusing on the individual's behavioral change, following the steps of the FRAMES acronym: 1. Feedback. 2. Responsibility. 3. Advice. 4. Menu of options. 5. Empathy. 6. Self-efficacy<sup>(10)</sup>. Its practice has been effective in the context of primary health care, to reduce alcohol consumption, including in Brazil<sup>(9,11-16)</sup>.

Considering that primary health care services are strategic areas<sup>(17)</sup> for the implementation of brief interventions and for the reduction of risk and harmful alcohol intake, both to its universality and to the large proportion of the population that accesses them every year, researches have been developing, in several parts of the world, and assessing the individual brief intervention<sup>(9,11-16,18)</sup>. It was observed that this intervention is an effective and low-cost strategy<sup>(13-16,18)</sup> and led the World Health Organization (WHO)<sup>(17)</sup> (2001) to suggest the use of brief interventions globally.

However, although brief intervention is a worldwide validated strategy, its use by health professionals is poorly disseminated in Brazil, since in recent years researchers have evidenced and pointed out several barriers to the implementation of these strategies in health services including primary care, some of these barriers are: the lack of training of professionals, and the lack of sufficient human resources to meet the demand<sup>(18-19)</sup>.

Although there are difficulties for the implementation of the brief intervention, studies<sup>(18-19)</sup> have shown that nursing professionals are more willing to implement this practice<sup>(9,13-14,20)</sup> and these professionals have been effective in its application<sup>(13-14)</sup>.

Thus, considering that nurses are in greater numbers in primary health care services, it is important to think of strategies that can meet the demand of these services in an extended way and in a short time, optimizing the professional's time. In this perspective, group interventions can be a valuable resource to solve this problem.

Considering that the behavioral change of an individual goes through a motivational process, that is, it analyzes the principle that motivation is affected by a variety of internal and external conditions to the person and, in the case of addiction to alcohol and other drugs, Miller and Rollnick<sup>(21)</sup> suggest that motivation should not be thought of as a personality problem, nor as a trait that the person carries when looks for the therapist, but as a state of readiness for

change that can oscillate from time to time or from one situation to another, and this state can be influenced at any time of life<sup>(21)</sup>.

Thus, group brief intervention may be a strategy used to motivate the individual in reducing alcohol consumption<sup>(22)</sup>, so, this study aimed to verify the effectiveness of this intervention in the stages of motivation for change in users with risk or harmful use of alcohol attended at a primary health care service.

## OBJECTIVE

To verify the effectiveness of the group brief intervention performed by nurses in the motivational stages to change the pattern of alcohol intake.

## METHOD

### Ethical Aspects

The research was approved by the Research Ethics Committee of the Nursing School of the University of Sao Paulo and the Municipal Health Secretariat of São Paulo based on Resolution 466/12 of the National Health Council.

### Design, setting and period

A randomized controlled trial (RCT)<sup>(23)</sup> with three-month *follow-up*, conducted in a Basic Health Unit (BHU), located in the Se area, in the downtown district of São Paulo. All individuals over the age of 18 years old who came to BHU were invited to participate in the study, from January to July 2015, regardless of the reason for the demand.

### Sample, inclusion and exclusion criteria

Eligibility criteria for the sample included individuals over the age of 18 years old who were available to attend the intervention during the determined time and schedule and to participate in the follow-up (initial evaluation, after one month and after three months), who also could read and write and that presented scores consistent with AUDIT Zone II and III<sup>(24)</sup>. Individuals who at the time of collection had visible behavioral changes, were intoxicated or were not available to receive follow-up, were excluded from the sample.

### Study protocol

#### Research team

The research team consisted of four nurses from the Center of Studies and Researches in Nursing in Additions - alcohol and other drugs (NEPEAA) of the Nursing School of the University of Sao Paulo, all of them trained for the development of screening and GBI.

#### Sample size

The sample size calculation was based on the pilot study (n=10)<sup>(23)</sup> obtained by ANOVA model for repeated measures which were significant with power of 95% and significance level of 5%. Based on the pilot test, it was observed an effect size of 0.43. Thus, for

the effect size observed to be significant with type I and II errors specified in this model, the minimum sample required was 10 people and, assuming that 30% of the people allocated in the intervention group would not accept to participate in the first phase of the research, as well as a loss of 20% in the 90 days follow-up (Attrition)<sup>(23)</sup>, the minimum sample was increased to 20 people, with 10 allocated in the control group (CG) and 10 in the experimental group (EG).

### Instruments of data collection

To identify the pattern of alcohol intake, the Alcohol Use Disorders Identification Test (AUDIT) was applied, consisting of 10 questions that assess recent alcohol use, addiction symptoms and alcohol-related problems. Based on AUDIT scores, the alcohol user's have a pattern that can be classified into one of four risk zones according to the score obtained: zone I (up to seven points: indicates low risk use or abstinence); zone II (eight to 15 points: indicates use of risk); zone III 16 to 19 points: indicates noxious or harmful use) and zone IV (above 20 points: shows a possible dependence). This instrument was validated in Brazil presenting good levels of sensitivity (87.8%) and specificity (81%) for the detection of harmful use of alcohol, showing good performance in primary health care services<sup>(24)</sup>. In addition, AUDIT presented satisfactory reliability (0.8) and ability to respond to changes in alcohol consumption in the Brazilian validation<sup>(24)</sup>.

To evaluate the motivational stage, along with the AUDIT, the Ruler of Readiness for Change (RRC) was also applied. The use of the ruler of readiness is a simple and quick way to assess the readiness stage for change<sup>(25-26)</sup>, because it is a scheduling strategy, which conceptualizes the readiness/motivation for change over a continuous, questioning the individual about "how much do you feel ready for change on a scale of 1 to 10?", aiming to investigate the stages of change in which the individual is, with the stages classified according to RRC in: Pre-contemplation (PC=1-2 points); contemplation (C=3-4 points); preparation (P=5-6 points); action (A=7-8 points); maintenance (M=9-10 points).



Source: Sobell and Sobell<sup>(27)</sup>.

**Figure 1** - Adaptation of the figure of Ruler of Readiness for Change (RRC), São Paulo, Brazil, 2018

### Screening

The individuals who scored zone I of AUDIT during the screening received an educational leaflet on problems related to alcohol use<sup>(28)</sup>, while those who scored zone IV, besides receiving the informative material, they were referred to the specialized service of reference at the BHU.

Participants who scored in Zone II or III of AUDIT, that is, identified as cases of risk or harmful use of alcohol pattern and that responded to the ruler of readiness for change (RRC) (Figure 1) and that met the inclusion criteria in the study, were invited to participate in the research and were submitted to randomization.

### Randomization

The randomization of the individuals was accomplished through a raffle of two cards containing the initials C, for control group and E, for experimental group. Individuals who raffled the card with letter C were allocated to the control group, and those who raffled the card with letter E were assigned to the experimental group.

An invitation with dates, schedules and location of the intervention sessions was delivered to the experimental group, and for those allocated in the control group, an invitation with the scheduling of telephone contacts for the evaluation of the pattern of alcohol intake and readiness for change (Application of AUDIT and RRC) with the dates and schedules was delivered.

After the randomization, a sequential number of the study was generated according to the order of tracking for the identification of each person in the research and their registration in the study database.

### Control Group

The participants in the control group received from the nurse a feedback of the score with due clarifications, an educational leaflet on problems related to alcohol use<sup>(29)</sup> and an invitation for two phone evaluations, the first evaluation after one month and the other within three months from the last phone call, to check the pattern of alcohol consumption and readiness for change (Application of AUDIT and RRC) during these periods.

### Experimental Group

Participants of the experimental group received a feedback of the score with due clarifications, an educational leaflet on problems related to alcohol use<sup>(29)</sup> and an invitation to participate in four brief group intervention sessions. These participants were divided into groups, consisting of at least five people who received the intervention in four weekly meetings.

### Group Brief Intervention (GBI)

Group brief intervention (BGI) is an intervention based on the combination of two methodologies applied to reduce alcohol and other drugs intake, the brief individual intervention<sup>(29)</sup> and guided self-help technique (GSH) are proposed by Sobell<sup>(30)</sup>, which was conducted in a group coordinated by the nurse aiming at behavioral change, reduction of alcohol use, aimed at people who have a risk or harmful alcohol use pattern.

The GBI was conducted in a room provided by the BHU, where the study was carried out and consisted of four sessions from 60 to 120 minutes.

1st Session - "Reflecting on consumption" (participants presentation, feedback of pattern consumption, advice and accountability).

2nd Session - "Discussing new ways" (Discussion of the decision scale, triggers of use and advice).

3rd Session - "Planning change actions" (Discussion of options menu - pleasurable activities and option for the change plan).

4th Session - "Getting into action" (Development of new options and action plans, discussion of possible opportunities to

test the action plan options for change, risk factors, protection and counseling).

At the end of the 4th session the GBI was closed and the telephone contact period was informed in order to invite them to return for the individual final evaluation (follow up), after three months.

### Follow up

To compare the alcohol use pattern of the participants, a follow-up evaluation was conducted, in which control group and experimental group were submitted, in addition to the initial evaluation, to the other two follow-up evaluations, with the first one conducted shortly after the 4th session of GBI (one-month follow up) and the last one of 3 months was conducted after GBI (3- month follow up), through individual interviews.

### Analysis of results and statistics

A descriptive analysis (mean, percentage) of the collected data was carried out based on proportions and on the Generalized Estimating Equation Model (GEE)<sup>(31-32)</sup>, that is, to verify the readiness stage for the change between control and experimental group in the three time periods/instant evaluated (initial evaluation, after one month and after three months), a significance level of 5% was adopted for all analyzes.

## RESULTS

A total of 180 individuals with a risk/harmful pattern of alcohol were screened, of whom four individuals refused to participate in the study, resulting in a potential sample of 176 individuals. Among the 176 possible participants, 88 (50%) were randomized to control group and 88 (50%) to experimental group. Of the 176 participants, 44 participants were included in the final sample (Figure 2).

The control group consisted of 24 (27.3%) participants in the evaluation after one-month (*Follow-up 1*) and among them, 10 (41.6%) responded to *follow-up 2* (follow-up after three months). Regarding the experimental group, 23 participants attended the 1st session of GBI, however, three people gave up, remaining a total of 20 (22.7%) participants who responded to the evaluation after the intervention (*Follow-up 1*), which 13 (65%) people responded to *follow-up 2*. Figure 2 illustrates the sample composition process.

Regarding the inferential analysis, before the intervention, the experimental group had a mean motivational score of 6.55 (SD=3.41) points (preparation); after the intervention, the mean score was 8.00 (SD=2.88) points (action) and in follow-up, the mean score observed was 7.92 (SD=3.06) points (action). When the readiness scores for change were compared among the three time periods evaluated in the EG, a statistically significant difference ( $p \leq 0.02$ ) was observed, which was maintained in follow-up.

Regarding the control group, initially the mean score of points in RRC was 5.42 (SD=3.26) points (preparation), in the second evaluation (after one month), their score was mean 6.67 (SD=3.05) points (preparation), and in *follow-up 2*, the mean score was 4.80 (SD=2.86) points (contemplation), showing a statistically significant difference in the score of AUDIT after one month ( $p \leq 0.02$ ) (Figure 3).

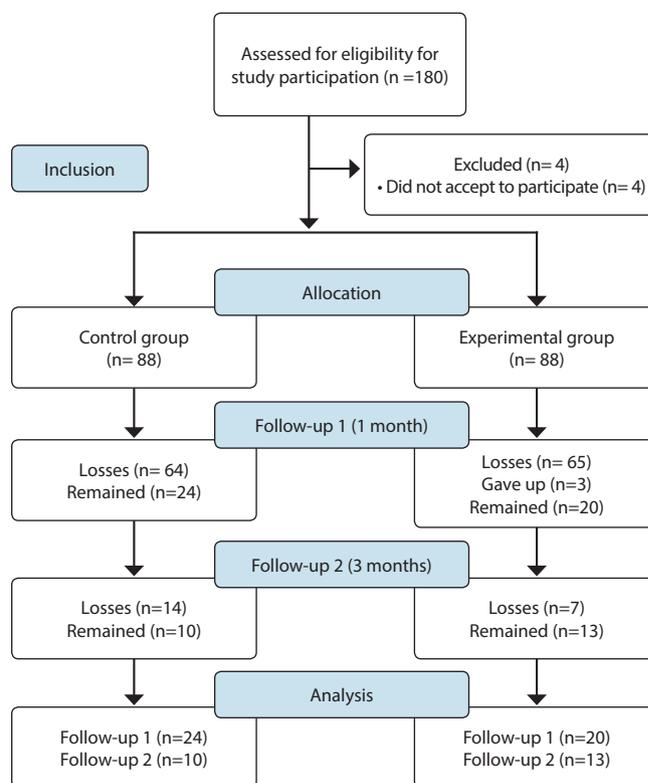


Figure 2 – Sample flowchart, São Paulo, Brazil, 2018

In the comparative analysis between the groups (CG versus EG) significant differences were found between them in three evaluated moments.

At the baseline (before the intervention), compared to one-month follow up (30 days), it was observed that there were significant differences in the readiness stage for change in EG ( $p \leq 0.01$ ).

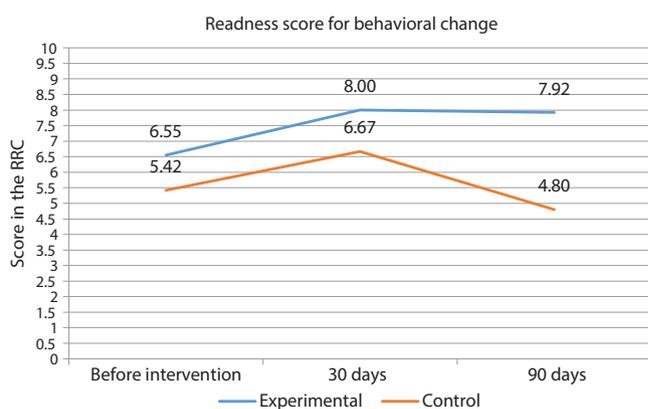


Figure 3 - Distribution of motivation scores for change according to the evaluated period, Sao Paulo, Brazil, 2018

Analyzing the baseline, compared to three-months follow up (90 days), there were statistically significant differences in the readiness stage for behavioral change between CG and EG, ( $p = 0.03$ ). Participants from EG tended to remain motivated ( $p = 0.03$ ) in follow-up (90 days) and a decrease in the motivation scores of CG during the same period was observed.

In one-month follow-up analysis, compared to the three-month follow-up, statistically significant differences in the readiness stage for behavioral change between CG and EG, ( $p=0.02$ ) were also found.

Therefore, EG presented statistically significant difference ( $p\leq 0.02$ ) in the readiness score for change of three points after the intervention, and CG presented statistically significant difference of 1 point ( $p\leq 0.02$ ) in the evaluation after one month. Regarding the three-month follow-up, it was observed that EG maintained the motivational score, while in the CG, a decrease below the baseline score was observed.

## DISCUSSION

The degree of readiness to change alcohol intake was assessed by identifying the stage of motivation the participants presented, and it was observed that before the intervention, both groups were in the motivational stage of preparation.

After the intervention, the experimental group progressed in the motivation stage (from preparation to action) and remained motivated in the three-month follow-up, in contrast, the control group did not present changes in the motivational stages, observing a decrease in the motivation scores after three months (from preparation to contemplation).

The transtheoric model of the motivational stages emphasizes that an individual can take six months to advance from one stage to another<sup>(33)</sup> and this fact may be related to the experimental group staying in the action stage in follow-up. However, although the subjects who received GBI remained at the same motivational stage after 90 days, it does not mean that the intervention was not effective, since the individuals who participated in GBI remained motivated and perhaps the motivational evolution needs a longer time, considering that this time is unique according to the precepts of the motivational theory<sup>(21)</sup>, suggesting that GBI was effective both in advancing the motivational stage and in maintaining motivation, because the experimental group remained motivated in follow-up, different from the control group that decreased their motivation for change over time.

In a study<sup>(33)</sup> it was evidenced that the brief intervention, when applied according to the motivational stage in which the individual presents at that particular moment, has been effective to increase the motivation for change, that is, at the moment when the health professional can identify the stage of motivation for change in which the user is, this person can direct the intervention according to the stage observed and, thus, make the result more effective in the advance from one stage of motivation to the other<sup>(25)</sup>.

The group brief intervention allowed the progression of the motivational stages to occur even in the group, since during the initial interview the degree of readiness for change was identified and, in general, the individuals were in pre-contemplation and, from the information, through the feedback regarding their alcohol consumption pattern, it helped the user to realize the meaning of their usage pattern and encouraged the person to receive more information about the subject.

Regarding the motivation for change, although both groups evolved in a similar way over time (Figure 3), the readiness for change in experimental group was greater when compared to

control group, and after three months, the experimental group maintained the readiness for positive change, different from the control group that, after three months, there was a motivational decrease.

These results were made possible, since the group brief intervention, as well as the individual brief intervention, has as main focus the change in the individual's risk-taking behavior, and for this change to happen, a four session process was developed.

At the moment people participated in the first group brief intervention session, which was intended to guide regarding the alcohol use patterns and the problems related to each one of them, as well as the possibilities of harm reduction, these guidelines had the objective of helping pre-contemplators to raise their perception for a critical reflection on consumption, leading them to think about whether to continue this risk behavior. In addition, the session motivated the ambivalent (contemplators) for the change of drinking behavior. Thus, behavioral change is related to the reflective and motivational (intrinsic) capacity of each person involved in the process<sup>(33)</sup>.

The second session of GBI, with a central focus on the decision scale<sup>(33)</sup>, had the purpose of reversing the balance for the will to change and to support the determined (preparation for change) to find advantages to change, that is, this session stimulated the reflection on the advantages and disadvantages of risk behavior *versus* the advantages and disadvantages of changing (reducing consumption).

In the third session, the stimulus was the identification of risk factors and life protection of the people to help them in the change, and for that, the participants in the group were encouraged to report on their desires, their sources of pleasure beyond the alcohol consumption, thus, participants who were in the stage of determination for change could work on their action plan for change, thinking about the triggers of consumption and how to deal with each one of them.

The fourth session regarding its fundamental objective of evaluating and reevaluating the changes achieved, as well as stimulating the maintenance of the effective actions in the participants' lives, was focused on self-efficacy<sup>(33)</sup>.

Therefore, the principles of the individual brief intervention adapted to the group format demonstrated to be an effective strategy in changing the motivation stage of the participants, because, as well as the individual brief intervention, GBI had the objective of stimulating intrinsic motivation through empathy and extrinsic through the support and exemplifications of the group members, by means of reports of the changes they practiced over the weeks and of the ones they aimed in a near future, as the motivational theory considers, explaining that when the motivation comes from within the individual outward, it becomes more effective than when it is stimulated only from the outside inward<sup>(25)</sup>.

Considering these results, it is possible to observe that the use of group approaches is also advantageous in this process of behavior change, because regardless their needs, people can benefit from the experience, since group interventions allow learning through feedback from participants. In addition, this approach can generate a lower cost, allowing a professional to assist and guide several people at the same time<sup>(34)</sup>.

## Limitations of the study

It is essential to conduct more comprehensive studies in the field of primary health care, such as BHUs, since it is a service that receives people who are not in a more chronic stage of illness related to alcohol consumption yet and, therefore, using strategies such as group brief intervention, it is possible to reduce the biopsychosocial impacts with an early and economic treatment, but for this, it is important that GBI be dispensed from elsewhere and tested in larger and diversified populations.

The results from these studies suggest that GBI may be an alternative to motivate individuals who have a risk or harmful use pattern of alcohol to change this risk behavior and reduce future psychosocial problems, such as alcohol addiction, since it presented an effectiveness in the change of motivation stage similar to the results of researches that used methods of individual interventions. Because GBI is based on the precepts of the motivational theory, this analysis demonstrated that this intervention motivates the user to reduce alcohol consumption, as well as to stay motivated to change risk behavior for a period of time.

However, it is desirable that studies with longer follow-ups verify the degree of maintenance of the person's motivation regarding the change not only to risky drinking behavior, but also to other health risk behaviors.

## Contributions to the area of nursing and public health

Among the possible implications of this study for the practice of nursing, the fundamental importance of an innovative practice should be highlighted for the nursing area in additions, thus, contributing to one more space of action of the nurse, which legitimates the performance of this professional in mental health

care and, moreover, this evidence implies the strengthening of the area, as in the practice of an effective care technology, in the reduction of alcohol consumption and in reducing the problems resulting from the consumption of alcohol in general.

In the field of public health, this study contributes to the propagation of a low-cost practice, which can be replicated in different realities, with regard to public health, since it is a potential tool for the prevention of risk/harmful use of alcohol, since it can prevent or reduce the emergence of high-cost health problems, such as the treatment of chronic diseases in the long term.

## CONCLUSION

The group brief intervention performed by the nurse proved to be an effective strategy to increase the motivation to change the behavioral stage, considering that after the intervention, the users had scores corresponding to the action for change and remained motivated throughout the follow-up, that is, users who received group brief intervention were practicing some action to change the behavior of risk/harmful alcohol drink during the whole evaluated period.

Thus, we suggest this technique to be replicated in other services, in different locations, in order to offer greater robustness to the results found in this study, as well as the applicability of the alcohol use tracking and the brief interventions in the work routine of primary health care nurses, integrating them in the nursing consultation or in health education groups in these services.

## FUNDING

CAPES – *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (Coordination for the Improvement of Higher Education Personnel).

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