

Evaluating the implementation of a primary care intervention to reduce prescriptions of benzodiazepines (BENZORED IV)

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Abstract

Background: General practitioners (GPs) in developed countries widely prescribe benzodiazepines (BZDs) for their anxiolytic, hypnotic, and muscle-relaxant effects. Treatment duration, however, is rarely limited and this results in a significant number of chronic users. Long-term BZD use is associated with cognitive impairment, falls with hip fractures, traffic accidents, and increased mortality. The BENZORED IV trial was a hybrid type 1 trial conducted to evaluate the effectiveness and implementation of an intervention to reduce BZD prescription in primary care. The purpose of this qualitative study was to analyze facilitator and barriers to implement the intervention to primary care settings.

Methods: Focus group meetings with GPs from the intervention arm of the BENZORED IV trial were held at primary healthcare centers in the three districts. For sampling purposes, the GPs were classified as high or low implementers according to the success of the intervention measured at 12 months. The Consolidated Framework for Implementation Research (CFIR) was used to conduct the meetings and to code, rate and analyze the data

Results: Three of the 41 CFIR constructs strongly distinguished between high and low implementers: The complexity in the intervention, the individual Stage of Change and the key stakeholder's engagement. Seven constructs weakly discriminated between the two groups: the adaptability in the intervention, the external policy and incentives, the implementation climate, the relative priority, the self-efficacy and formally appointed implementation leader engaging. Fourteen constructs did not discriminate between the two groups, six had insufficient data for evaluation, and eleven had no data for evaluation.

Conclusion: We identified constructs that could explain the variation in the implementation of the intervention, this information is relevant to design successful implementation strategies to implement the intervention.

Contributions To The Literature

We used the Consolidated Framework Implementation to identify barrier and facilitator to implement an intervention to reduce benzodiazepine prescription in primary health care centers.

We identified constructs in Consolidated Framework Implementation domains that were related to more successful implementation of the intervention (The complexity in the intervention, the individual Stage of Change and the key stakeholder's engagement)

We propose an implementation strategy based on redefining the modifiable constructs related to more successful implementation and incorporate GPs proposals for implementation.

Background

General practitioners (GPs) commonly prescribe benzodiazepines (BZDs) for their anxiolytic, hypnotic, and muscle relaxant effects, but often duration of treatment is longer than clinical indication with a progressive increase in BZD prescriptions and the long-term consumers of these drugs.

There is high variability in prescription for BZDs among different countries. In addition, there have been declines in prescriptions for BZDs in many European countries during the last decade, but the prescription rate is still high in Spain. Spain has an average consumption of 32.5 daily doses of hypnotics and sedatives (ATC: N05C) per 1000 inhabitants per day, and 56.8 daily doses of anxiolytics (ATC: N05B) per 1000 inhabitants per day.(1)

Long term use of BZD can lead to dependence, tolerance, and an increased risk of falls and hip fracture (2) (3)(4). It may be related with cognitive impairment (5)(6)(7) and increase the risk for traffic accidents (8)(9)(10)and mortality (11)(12)(13).

Due to physical dependence and tolerance, long-term users experience withdrawal symptoms and the worsening of anxiety or insomnia when they abruptly stop consumption making it more difficult for patients to stop. GPs could prevent dependence limiting the duration of treatment when a BZD is first prescribed, and should consider withdrawal for patients who are long-term users.

Evidence-based withdrawal interventions recommend a gradual dose reduction over time (14) (15) (16). However, these strategies are poorly implemented in primary care.

The average time for an evidence-based practice recommendation to be incorporated into routine general practice is 17 years (17) and only about half of all evidence-based practice recommendations are generally accepted in clinical practice (18)

More than 70% of an organization's efforts to implement changes in clinical practice are not successful (19)

Hybrid clinical trials type 1 could provide useful information about effectiveness and the implementation process into "real world" settings facilitating the adoption of research findings in routine clinical practice (20)

The BENZORED phase IV trial has a hybrid type-1 design that seeks to evaluate the effectiveness and the process of implementing an intervention based on a GP training workshop on the appropriate initial prescription of BZDs and on deprescribing BZD in long-term users, monthly feed-back about BZD prescriptions, and access to a support web-page. The study protocol was published in *BMJ Open Access* in 2018 ([http:// dx. Doi.org/ 10. 1136 / bmjopen- 2018–022046](http://dx.doi.org/10.1136/bmjopen-2018-022046)). This manuscript describes the results of the qualitative evaluation and focuses on identifying the barriers and facilitators for implementing the intervention.

Methods

Setting and participants

This qualitative study evaluated the implementation of the BENZORED IV intervention in primary health centers (PHCs) of 3 districts in Spain: Balearic Islands (Ib-Salut), Catalonia (Institut Català de la Salut; Tarragona-Reus district), and Valencia (Conselleria de Salut Universal; Arnau de Vilanova-Llíria district).

Focus group (FG) meetings were organized in each district after the 12-month intervention. Participants were the GPs from the BENZORED IV trial allocated to the intervention arm. GPs were classified as high implementation GPs (HIGPs) if they prescribed significantly fewer and as low implementation GPs (LIGPs) if they prescribed the same amount or more BZDs after 12 months. We invited 4 GPs (2HI and 2 LI) from each participating PHC.

One HIFG (high implementation focus group) and one LIFG (low implementation focus group) were organized in each Health District, but in the Valencia District only one HIFG and two semi-structured telephone interviews were conducted with two LIGPs. All physicians signed consent for participation and agreed to be audio-recorded and were offered a 60 euros bonus as incentive.

Intervention

The multicomponent intervention follows TIDieR guidelines for reporting and consisted of an educational workshop for GPs, monthly feedback about BZD prescriptions, and a support web page. GPs received a 2-hour educational workshop in their PHCs from the research team (Gps) which provided training about appropriate procedures for prescribing BZDs. This included educational information about the pharmacological properties of BZDs, the prevalence of long-term use, indications for prescription, recommended duration of use, dependence, tolerance, effects and consequences of long-term use, and a structured BZD discontinuation intervention based on gradual tapering of dose.

After the initial training workshop, all participating GPs received an automated monthly feedback report of their total BZD prescriptions for 12 months compared to the mean DDDs per 1000 inhabitants per day of the PHC and the health district.

GPs also received a password to access to a support web page that provided additional information that reinforced the messages of the workshop. This web site included videos, descriptions of practical cases, and a patient information leaflet about BZDs, Z-drugs, and sleep hygiene.

Data collection

The FG meetings were conducted between June and July 2018, each group had about 6 to 9 participants, and the meetings lasted 90 to 120 min. Two researchers with experience in leading discussion groups moderated the FGs, and several members of the research team participated as observers. All FG meetings and interviews were audio-recorded, transcribed verbatim, and checked for accuracy.

The Consolidated Framework Implementation Research (CFIR) was used to guide development of the FG meetings and for coding and data analysis (21) (22) (23). The CFIR is a theoretical framework that

provides a list of 41 constructs organized in five domains that can negatively or positively influence implementation:

(1) **Intervention Characteristics:** Intervention Source, Evidence Strength and Quality, Relative Advantage, Adaptability, Trialability, Complexity, Design Quality and Packaging, Cost.

(2) **Outer Setting:** Patient Needs and Resources, Cosmopolitanism, Peer Pressure, External Policies and Incentives.

(3) **Inner Setting:** Structural Characteristics, Networks and Communications, Culture, Implementation Climate with 6 Sub-constructs, Readiness for Implementation with 3 Sub-constructs.

(4) **Individuals Characteristics:** Knowledge and Beliefs about the Intervention, Self-efficacy, Individual Stage of Change, Individual Identification with Organization, Other Personal Attributes.

(5) **Process:** Planning, Engaging with 6 Sub-constructs, Executing, Reflecting and Evaluating.

We identified the health districts as the “Outer Setting” domain and the PHCs as the “Inner Setting” domain.

The FG meetings began with open and general questions about each CFIR domain. This was followed by questions related to some specific CFIR constructs previously selected by the research team as keys to the implementation process, if these issues were not already addressed during the session of general questions. (Annex 1.).

At the conclusion of the FG meeting, GPs were asked to suggest how the intervention could be improved to help develop a successful implementation strategy.

Data coding and rating

Each transcript was coded and rated independently by two analysts. After carefully reading the transcripts, they collected all GPs statements for each construct and imported them into an Excel document for coding, rating, and analysis. A deductive approach for data coding was used to apply the CFIR codebook (available at cfirwiki.org).

Analysts compared their codes in regular meetings, discussed the differences, and agreed on the final codes.

To rate the statements on each construct, the analysts followed the CFIR Rating Rules (available at cfirwiki.org) and used a qualitative consensus-based rating process. These rules rate the construct's statements based on the valence (positive or negative influence) and strength (weak [1] or strong [2]). Thus, the range of rating is “-2” to “+2”, and “0” is a neutral rating. M indicated a mixed rating (*) with mainly positive statements (+*) or mainly negative statements (-*). All ratings were shared and agreed upon by the analysts.

Data analysis and interpretation

A table was developed with the ratings of each construct in each group, with the HIFGs in one column and the LIFGs in another column. This facilitated the identification of patterns in ratings of the CFIR constructs that distinguished these two groups.

Constructs were identified as:

- **Discriminatory** if the construct weakly or strongly distinguished the HI and LIFGs
- **Non-discriminatory** if the construct did not distinguish the HI and LIFGs
- **No data or insufficient data** if the effect of the construct could not be assessed

Two analysts independently analyzed and interpreted the constructs' ratings. Decisions were shared, differences were discussed, and the final interpretation was agreed upon.

Results

A total of 5 FG meetings and 2 semi-structured individual telephone interviews took place, and these included 40 GPs (22 HIGPs and 18 LIGPs). The Table 1. shows the characteristics of participating GPs in the two FG categories.

Three of the 41 constructs strongly discriminated between the HI and LIFG (Intervention Complexity, Individual Stage of Change, and Engagement Key Stakeholders) and 7 constructs weakly discriminated these two groups (Intervention Adaptability, External Policy and Incentives, Implementation Climate, Compatibility, Relative Priority, Self-Efficacy and Formally Appointed Implementation Leader Engaging). Fourteen constructs were not discriminatory. Six constructs had insufficient data for evaluation and eleven constructs had no data for evaluation. (Table 2)

We further describe the discriminatory constructs in each CFIR domain and provide brief descriptions of some constructs that were not discriminatory but important to take in account for a future implementation strategy.

Domain I: Intervention Characteristics

Complexity was a strong discriminatory construct. The HIGPs perceived the intervention as having low complexity, wellbeing-conceived, having steps that were clear and concise, and not requiring great effort.

"... I think that the intervention was well thought out, I haven't found it difficult at all, I don't see it as a chore, as a specific task that you have to do, the truth is it hasn't been difficult for me."(6)HIFG-3

One LIFG perceived the intervention as having high complexity because asking a patient about BZD consumption meant "opening a Pandora's box" that could lead to emotional stress and necessitate recommendations for psychotherapy sessions, delays in the consultation, and difficulties in involving the

patient. The other two LIFG stated that they did not find the intervention very complex but LIGPs reported that they were unclear about BZD's discontinuation plan and that they often had to review the instructions.

"... you get to a point when you can't, you don't get out the paperwork (intervention instructions) every day, because our day to day goes so fast that you have to plan it, you're not going to open the drawer every day to see what the intervention was about."(77)LIFG-1

Adaptability was a weakly discriminatory construct. The HI and LIFGs supported the adaptation of BZD withdrawal to patients by making it slower or faster, but the HIFGs provided more supportive, stronger, and creative comments regarding the tailoring of BZD withdrawal individually for each patient.

"..... .tell them that they had to reduce their dose, we'll reduce it by a quarter or you would tell them to file down the tablet every week with a nail file, the first week twice, bam bam, the next week, 3 or 4 times, because that will help us to stop it sooner, filing it down with a nail file because it's very difficult to remove a quarter. They are very old and their eyesight isn't good, the nail file works well for me..."(19)HIFG-2

" I'll halve the dose and you come back to see me in a month, I'll halve the morning dose and you come back in ... or in two months, ... "(73)LIFG-1

Analysis of other constructs in this domain indicated that GPs perceived the intervention as an internal intervention (Intervention Source) and they felt valued as enablers because those who designed the intervention were also GPs and understood primary care settings. Most clinicians placed greater value on the benefit of the intervention to the patient than scientific evidence regarding its implementation (Evidence Strength & Quality).

In general, GPs stated that the intervention required more time than their usual in clinical practice. Some comments indicated they believed the intervention offered them advantages over their usual practice (Relative Advantage), but others believed there was no advantage because application of the intervention greatly prolonged the consultation. The training workshop and the quality of the support materials (Design Quality & Packaging) were valued as enablers of implementation, but some LIGPs found the workshop too theoretical and requested a workshop that provided more practical advice.

Domain II: Outer setting (Health District)

External Policy & Incentives was a weakly discriminatory construct.

We distinguished health districts that did and did not have local policies regarding BZD prescribing including indicator and incentives.

One LIFG without district health local policies made reference to the lack of strategies of the health district regarding safe prescription of BZDs (personalized audits of GPs to improve their BZD prescriptions, global strategies aimed at professionals in all levels of care including the hospital, primary care, nursing homes.....). HIFGs did not comment on this topic.

GPs in the health district with local policies regarding BZD prescribing stated that knowing that the goals of the intervention were aligned with the goals of their health district encouraged them to implement the intervention. They perceived a greater willingness of patients to participate in the intervention because patients received the same information from multiple sources (brochures in the waiting rooms, comments between patients, dialogue with GPs). HIGPs made stronger supportive comments about the intervention and local policies on BZD and were more willing to adopt it.

"I think that the indicator is good because it's also an indicator of poor practice, that's why it's there, to help you get information about how you're doing, an indicator can also help you meet the indicator at a particular time." (45)HIFG-2

"The pharmacy also gave us some leaflets to hand out about benzodiazepines....., and that also helps, you give it to the patient.....and then they read it ...of course the leaflets I've mentioned have nothing to do with this, but I've used them, and they've worked for me..." (12)HIFG-5

"... .that not all the health system has this culture of evaluation, in specialist care, there is no control over prescriptions, unlike us, it doesn't matter to them if they prescribe one thing or another because nobody is going to check." (42)LIFG-1

Domain III: Inner setting (Healthcare Center)

Implementation Climate was a weakly discriminatory construct. The HIFGs referred to the high degree of participation of their team in the project, to their high capacity to accept new challenges, and the role of the medical director as promoter. However, comments by the LIFGs were completely opposite.

"We take everything on board, we're pioneers, everything, we sign up for everything at our center....."
(50)HIFG-2

"In our center the same, it has been very well received, in this respect, there are no problems with implementing it,.....what's more, our coordinator is very interested in us doing new things, in participating in things like this,....." (51)HIFG-2

"Bad in my center, anything new is a struggle" (59)LIFG-1

Compatibility was a weakly discriminatory construct. Although all GPs believed that implementing the intervention required more time than is usually available in primary care consultations, the HIGPs expressed more interest in the intervention and said they were more likely implement it when their workload was light and vice versa. However, the LIGPs reported that implementing the intervention was not compatible with workflows, because if they did, they caused significant delays.

"First I thought it was going to be a little difficult because of the stress of everyday work, this requires more time than usual, to reduce benzodiazepines you sometimes need to have good conversations....., so, at least in my case, I did see that at the beginning...I was gradually reducing doses, then we had a period with more winter illnesses and the practice was much busier than usual etc., and this was when I

stopped doing as much but then,....., sometimes you try, but depending on the time of year, you succeed or you don't....."(1)HIFG-3

" ... but when it comes to putting it into practice, in doing it in everyday practice when you're under pressure, when you're up to your neck like always, it's very difficult..."(10)LIFG-1

Relative priority was a weakly discriminatory construct. All physicians stated that it was necessary to address the high rate of BZD prescriptions in primary care settings (Tension for Change), but only the HIGPs prioritized implementation of the intervention. Some HIGPs attached great importance to the project because it made them aware of the high consumption of BZDs and the need to address this problem.

"Rather than priority, what I liked most about it was that it raised awareness but I would put it at the same level as so many of the other interventions that we implement,..... but it is true that it has been a wake-up call, it's raised awareness about an important issue. " (59)HIFG-2

"It depends on the case, we've tried to prioritize, you have to realize that all the doctors are more motivated, but I don't think they have prioritized this intervention over other things." (24)LIFG-4

In the Access to Knowledge & Information construct we assessed access to the support web-page, which has a video describing intervention instructions and supporting materials. GPs reported technical problems accessing the website. The GPs who were able to access and use the support materials rated them as high quality.

Domain IV: Individual Characteristics (GPs)

In the **Self-efficacy** construct we were interested in determining the self-efficacy of the GPs for each component of the intervention, and therefore divided this construct into two sub-constructs:

1. **1. First prescription:** This was a non-discriminatory sub-construct. All GPs stated that correctly making the first BZD prescription by limiting the duration of treatment was the easiest part of the intervention and the most effective in preventing chronic BZD consumption.
2. **2. Benzodiazepine withdrawal:** This was a strongly discriminatory sub-construct. Despite the difficulty of withdrawing from BZD treatment, HIGPs reported that the intervention offered them a useful tool to assist chronic users to withdraw from BZDs and they saw clear benefits for patients. The LIGPs stated that BZD withdrawal seemed too difficult and in most cases was not even worth trying.

" This is what it has been useful for me personally, for new treatments, taking things more slowly, trying to prevent patients from becoming chronic users, and yes it's given me a tool that I can use to help chronic users come off the drug, a difficult task, but it's given me a system for doing this, little by Little, let's see if we manage to help them, I've definitely changed my attitude towards new patients, it's really helped me with this" (66)HIFG-2

"Now when you prescribe you explain that this is a medication, for a short time, for problems.... For chronic users, I often don't even think about it, I leave things as they are." (67)LIFG-4

Individual Stage of Change was a strongly discriminatory construct. The HIGPs stated that they adopted the intervention and want to keep it in their practices. The LIGPs were enthusiastic about implementing the innovation soon after receiving the training, but they lost enthusiasm over time and began prioritize other activities. None of the LIGPs reported they integrated the intervention into their usual practices.

"It sometimes depends on your caseload, and as it's normally high, but I think that.....,like I've mentioned before, in the height of winter with so many people who are sick there are times... (you stop implementing) and this is reflected in the numbers of course, but, it's something to keep in mind and regardless or not of whether the study finishes, it's something that has sunk in and it's something you get used to doing..."(36)HIFG-3

"...when you do the training at the beginning, you tell everyone, then you go on holidays for a month, the summer comes, and then you forget."(4)LIFG-1

All GPs stated that the doctor-patient relationship and the patient's trust in the GP were key points in being able to initiate BZD withdrawal (Knowledge & Beliefs about the Intervention).

Domain V: Process

Formally Appointed Implementation Leader Engagement was a weakly discriminatory construct. Leaders were valued by HIFGs but by only one LIFG as key elements to drive implementation. The other two LIFGs made positive assessments of the leaders for their personal characteristics, but not as drivers of implementation.

"The person who came to sell us the project has been very important in our center,....he makes everything easier...and then it makes you become more involved, you're going to try this, you're going to get better results....." (67)HIFG-5

"Yes, I think they are very capable people (the implementation leaders), despite that,...I used it (implemented it) but I would like to have used it more..." (6)LI-INTERVIEW

Stakeholders Engagement was a strongly discriminatory construct. The HIGPs were enthusiastic, involved in applying an innovation that offered a clear benefit to patients, incorporated it into their clinical practices, and strove to make it compatible with workflows. In contrast, the LIGPs were not so involved or enthusiastic about the intervention.

"I've realized that it doesn't take a lot of effort,....,just remember, make a little effort, here I'm going to rank number one in terms of users and I've realized that I've brought my numbers down simply by making a little effort,....,so yes, you try to prescribe less, ask why they are taking it, try to negotiate with your patient, reduce it a little, it's not that you have to put up a big fight..." (41)HIFG-3

"I've tried to follow it but sometimes you don't do everything, just a part...., you give them information and aim to continue on other days, and that day then...it often stops there...ask them whatever at the next visit, and then at the next visit if you don't look at what you wrote down, if they don't tell you... and that's it, they don't tell you, patients don't see it as a problem, it's really hard for them to see it as a problem, because taking it makes them feel better.."(24)LI- INTERVIEW

All GPs mentioned the difficulty of getting patients to commit to BZD withdrawal (Engaging Innovation Participants) because they had been taking it for many years without noticing adverse effects and expressed fear of not being able to sleep if BZD was withdrawn. One HIFG made strong comments that patients were more aware of the need for BZD withdrawal because of the local policies regarding BZD prescription. These HIGPs were sometimes surprised by their success in engaging patients and achieving withdrawal or dose reductions.

In the Reflecting & Evaluating construct, all GPs agreed on the role of receiving individual feedback to promote implementation because they appreciated the result of their effort. In fact, in one health district, feedback was not sent to each GP's email, but was available on a list of prescription indicators from the primary care organization to which the GP had access. Many GPs did not discover that the feedback was provided in this way, and they criticized this procedure, and even got angry, because they did not have data on their achievements.

Reminder sessions of the intervention were requested and the FG meetings were valued as reinforcers of the implementation.

At the end of the focus group meeting, the GPs were asked to make proposals for improving the implementation (Appendix 1)

Discussion

In this qualitative study we identified constructs in each CFIR domain that were related to more successful implementation of the intervention. We identified 10 constructs that distinguished between HIGPs and LIGPs and suggest a prototype of the HIGP in the Fig. 1.

The complexity was a strong discriminatory construct. The intervention was rated as complex by the LIGPs, especially in the withdrawal component of BZD in chronic users. LIGPs were unclear about BZD's discontinuation plan and their heavy workload did not allow them to review the support materials with instructions as they needed. They also reported difficulty accessing the web. The training workshop was generally valued as a driver of implementation, but some LIGPs considered it impractical and too theoretical.

Previous studies reported that managerial support can promote implementation of innovations(24) (25), in our study, some LIGPs requested local policies regarding BZD prescription but not exclusively focus on the primary care setting. Moreover, HIGPs from health district with local policies (Tarragona-Reus) rated

them as facilitators of implementation. Our results corroborate that the health policies aligned with an intervention increases its visibility(25) and reinforces the importance of implementing it at both the patient and the physician level.

We found that the lack of time and the workload of GPs are important barriers to implementation, as other authors reported (24) (26) (27), also Damschroeder et al(25) found that the provision of more formal time clearly facilitated the implementation of an intervention. HIGPs expressed that they were more likely implement the intervention when their workload was light and vice versa. Some GPs suggested scheduling longer initial appointments for chronic BZD users (the appointment that usually takes the longest). Follow-up appointments to withdrawal BZD require no more time than the usual per patient.

All GPs (LIGPs and HIGPs) declared a strong need to decrease prescriptions of BZDs (Tension for Change) but only the HIGPs prioritized the intervention. Some HIGPs mentioned the medical director as a champion and belonging to teams receptive to new interventions. Previous studies reported a positive role of champions as drivers of implementation (21) (28)(29) (30) but champions only helped to overcome barriers by identifying champions who really believed in the program and who can involve their peers to adopt and maintain the intervention in regular practice (25)

All GPs reported that the first BZD prescription, which limits the duration of treatment according to clinical practice guidelines, was the easiest component of the innovation, and they perceived the highest self-efficacy for this component. They declared it was the most widely implemented component of the intervention and the best way to reduce chronic BZD consumption in the medium- to long-term.

Withdrawal of BZDs was very difficult for the LIGPs and if they tried it caused a significant delay in practice; however, HIGPs stated that the intervention offered them a useful tool to withdraw long-term users and wanted to maintain it in their practice, even that HIGPS also considered long-term BZD user withdrawal as difficult.

Although the perceived difficulty of some component of the intervention, all GPs and specially HIGPs valued as adaptable to the contexts and needs of the patients, the intervention was considered a flexible intervention that can be integrated into GP practices (30)

The HIGPs valued project leaders as enablers of the implementation because of their accessibility and credibility. The lack of a formally appointed internal implementation leader could be a barrier to implementing an intervention in primary care (26)

All the GPs reported negative experiences when participating in other projects in which there was not a project leader who could address problems.

They agreed that would be helpful to have a leader of the project or a champion as a liaison in each PHC to help drive the implementation.

Our findings suggest the importance of reduce the perceived complexity of the intervention, specially the discontinuation of BZD in chronic users to improve the GPs self-efficacy, engagement, and adoption of the intervention in their practice. Perceived complexity of the discontinuation component could be reduced by highlighting the selection of the more suitable patients for withdrawal: those who are emotionally stable, aware of the adverse effects of chronic BZD consumption, and accepting of their GP's withdrawal plan. It is also important to resolve problems with web access to support materials because GPs often mention this as a problem.

The monthly feed-back about BZD prescriptions component was not discriminatory but was considered as positive for HIGPs and LIGPs as other authors have reported, it is a key element that stakeholders are informed about changes in the intervention's objectives to encourage implementation (30) (31)

Our results also suggest that involving project leaders or champions in PHC could improve the implementation climate and stakeholder engagement. They could carry out proposals suggested by the GPs, such as regular reminder sessions about the intervention, answer questions and share experiences on the implementation and its results among GPs. These sessions could make the team aware of the importance of prioritizing and adopting the intervention because they facilitate improvements in team relationships and strong communication about the intervention, factors reported as keys to drive implementation (30) (22) (32)

We identified some key constructs to driving the implementation. However it is also important to redefine those that are most modifiable (22) (24) (33) (34) and incorporate GPs proposals for improvements as actionable findings to redefine the intervention (35) and the development of an implementation strategy. (Annex 1)

Strength and limitations

We use a systematic approach to evaluate the implementation process and collected valuable information from key stakeholders that influenced the implementation of the intervention prior to the organizational decision to implement it.

We identified relevant constructs in each domain of the CFIR that could drive to successfully implement the intervention.

The study has also a number of limitations, we did not blind analysts to referral rates during the qualitative data analysis, we only collected data at the end of the intervention, collecting data at a halfway point could have allowed redirection of the implementation. We did not interview patients about their experience, especially those that withdrew from BZD consumption.

Conclusion

We identified important new information about factors that influenced implementation of an intervention that seeks to reduce prescriptions of BZDs in the primary care setting and compiled suggestions for

improvement that can help redefine the intervention. We believe that our results could be useful for organizations that decide to develop an implementation strategy to incorporate this intervention into the routine practice of GPs.

List Of Abbreviations

GPs: General practitioners.

BZDs: Benzodiazepines.

CFIR: Consolidated Framework for Implementation Research.

ATC: Anatomical Therapeutic Chemical Classification System.

PHC: Primary health centers.

HIGP: High implementation GPs.

LIGP: Low implementation GPs.

FG: Focus groups.

Declarations

Ethics approval and consent to participate

The study protocol was approved by the Balearic Islands Ethical Committee of Clinical Research (IB3065/15), l'IDIAP Jordi Gol Ethical Committee of Clinical Research (PI 15/0148), and the Valencia Primary Care Ethical Committee of Clinical Research (P16/024).

Authors' contributions:

CV, FB, ES, FDP, RR, and AL collectively drafted the study protocol, and sought funding and ethical approval. HP, IS conducted the focus groups. CVC, AA, ESV, SF, MM participated as observers in the focus groups. HP, IS performed the data coding, rating and analysis. FDP, RR, CV, and ES prepared the monthly reports sent to GPs. CV, FB, and ES were on the steering committee and were responsible for management of the trial. CV, IS, FF, ES, AA, FB, MM, SF, CM, and SA were responsible for development and implementation of the training workshop in the PHC targeted to GPs. CV, IS, FF, ES, JMC, MMR, AA, SA, FB, MM, SF, CM, and AL developed the content of the support web page for the study. CV was the principal investigator, had full access to all the data in the study, and took responsibility for the integrity of the data and the accuracy of the data analysis. All authors have read the draft critically, made contributions, and approved the final manuscript.

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Availability of data and materials. Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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Tables

Due to technical limitations, Table 1 and Table 2 are only available as a download in the supplementary files section.

Figures

-They perceive the intervention as having low complexity and being adaptable to different contexts and individual patients.
-They value the positive role of local policies on BZD prescription that shares the same objectives as the intervention.
-They belong to teams that are receptive to implementation of the intervention and highlight the role of the director in encouraging them to participate in new challenges. -They prioritize the intervention and make the intervention compatible with their workloads.
-They have self-efficacy in prescribing and withdrawing BZDs. -They adopt and maintain the intervention in their usual practice.
-They value project leaders as facilitators of implementation. -They are engaged with the intervention.

Figure 1

Findings from the HIGP prototype.

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