

General Practitioners' Perspectives Over Solutions To Change BZD Prescription Trends – A Qualitative Study

Teresa Reis (✉ teresa.reis@nms.unl.pt)

Universidade Nova de Lisboa

Helena Serra

Universidade Nova de Lisboa

Inês Faria

University of Lisbon (CSG-SOCIUS/ISEG, U.Lisboa)

Miguel Xavier

Universidade Nova de Lisboa

Research Article

Keywords: General Practitioners, Primary health care, Prescription, Benzodiazepines, Qualitative research, Solutions.

Posted Date: September 22nd, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-889021/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

Abstract

Background: This qualitative study explores General Practitioners' (GPs) perspectives on solutions to address the problem of excessive prescription of benzodiazepines (BZDs). Over-prescription of BZDs at a primary health care settings is a prevalent issue in the region under analysis, but also elsewhere internationally. GPs are the gatekeepers to these medicines in primary care, but for several subjective, organizational and external reasons, they find it difficult to change current prescription patterns. Simultaneously, GPs recognize the issue of BZD excessive prescription practices, and propose possible solutions to invert the trend.

Methods: Qualitative data were collected in seven primary health care centers in an interior and mostly rural region of Portugal. We conducted 12 semi-structured interviews with GPs. Interviews were audio-recorded, transcribed verbatim and underwent thematic analysis. The themes were integrated and organized into eight axes for action.

Results: Solutions proposed by GPs focused on organizational aspects, such as human resources, infrastructure and training (including on withdrawal schemes), alternative approaches, and wider community-based initiatives to counter societal aspects affecting mental health in the identified region. The themes were integrated and organized into eight axes for action.

Conclusions: The findings provide an assessment of the priorities to change excessive BZDs prescription, as suggested by the GPs in primary health care settings, and hence reflecting what they consider to be context specific needs. Both experts and multi-stakeholders bottom-up perspectives should be taken into account when proposing new policies and local strategies to tackle current excessive BZD prescription, especially considering the failure of previous strategies to change this well-known public health issue. We consider that our results to be generalizable to all countries where primary health care plays a central role in care provision.

Trial registration: ClinicalTrials.gov number NCT04925596

Background

During the 1960s and 1970s, after the introduction of the first antidepressants and benzodiazepines (BZDs) on the market, there was a growing feeling in medical spheres that prescribing such kind of medications was a safe, justifiable and effective way to help patients to cope with the stresses and strains of everyday life. Thus, the medical profession found itself providing a pharmacological response to psychological problems, a situation with profound implications for society as a whole [1]. These early practices paved the way for a certain structural, political, as well as public health disregard for what are the social determinants of mental health [2–4]. This, together with wider organizational issues regarding mental health care provision, and a lack of human resources in primary health care units has given rise to what has been called the “psychopharmaceuticalization of human suffering” [5].

In this context, the prescription of BZDs, among other kinds of psychopharmaceuticalization and polypharmacy, grew dramatically [6]. Despite early beliefs about BZDs being a panacea for mental health issues related to anxiety and depression, their continuous utilization is today recognized as being strongly associated with several serious side effects and dependence issues [7]. These include the association of BZDs intake with an increased number of falls and bone fractures [8–10], and with a higher number of road accidents [9, 11]. They have also been identified as possibly influencing suicide risk [12–14].

BZDs are globally one of the most prescribed psychotropic drugs. They are not only prescribed by mental health experts, but also, and mostly, by General Practitioners (GPs). In fact, GPs are responsible for the majority of BZDs

prescriptions, which has become a pressing issue in the management of long-term BZDs intake, both in the context of the research underlying this article – conducted in Portugal - but also elsewhere [15–17]. Previous research has shown that BZD prescription by GPs is an ambivalent process [18]. Despite the fact that GPs often refer to the act of prescribing as a consequence of the quest for patients’ well-being, they still perceive these actions as worrisome - particularly when considering prescribing restrictions coming from both society and health authorities [19, 20], versus their own (GPs’) subjective doubts and concerns regarding withdrawal processes [21].

The best way to avoid continuous BZDs use is by cautious prescription and, where possible, by avoiding initial prescription altogether, limiting the time of intake by the patient, and recommending withdrawal strategies to long-term users [20].

A large number of interventions using different methodologies have been implemented to change BZDs prescription patterns, such as minimal educational interventions [22–24], systematic discontinuation interventions [25, 26], audit and feedback interventions [27], and policy interventions [28, 29]. The results are variable, inconsistent and, when positive, the effect is frequently lost after a short period of time - shedding light on characteristics seemingly related to a particular countries’ primary health care settings, but also on broader societal medicine consumption patterns.

Studies have tried to explore the experiences, attitudes and perceptions of GP’s regarding BZDs prescribing patterns [7, 18, 30], but there is still a gap in the research concerning an in-depth analysis of what GPs are available to do in order to change the complex behavior implied in BZD prescription. This article explores the solutions suggested by GPs to reduce BZDs prescription, upon using (or failing to use) a Digital Behavior Change Intervention (DBCI), called ePrimaPrescribe, focused on BZD prescription and withdrawal strategies. The data for this article are derived from the qualitative arm of a larger effectiveness-implementation type 1 hybrid study.

We asked GPs to focus on solutions they considered pertinent and feasible for implementation in their daily clinical practice. This concerned both aspects of GPs’ everyday lives, as well as wider aspects concerning the improved organization of the health care services, in order to create the ideal conditions for the start of a definite change in BZD prescribing patterns. We argue that bottom-up perspectives should be considered when creating innovative proposals to solve excessive BZD prescribing patterns within and beyond clinical practice, particularly considering the failure of previous strategies to change this well-known public health issue.

Research Design And Methods

Methods

We applied a qualitative research approach using semi-structured interviews. This method was chosen due to the flexibility and depth it offers in exploring individuals’ experiences, perspectives and discourses on particular matters [31], and due to the potential for articulation with further data, gathered in existing research on the same subject and in the quantitative arm of this study.

Research design and sampling

We conducted semi-structured interviews with GPs included in a qualitative, intervention arm of a hybrid type 1 study cluster randomized study, with the aim of evaluating the effectiveness and implementation process of a DBCI – called ePrimaPrescribe - to change BZD prescription trends. The interview was tripartite: the first part of the interview concerned the facilitators and barriers to changing BZD prescription trends; the second part of the interview concerned the facilitators and barriers to implementing a DBCI that aimed to contribute to the development of

innovative medical educational tools; the third and final part of this in-depth interview concerned asking participants to suggest solutions to facilitate their ability to change BZD prescription trends and, secondarily, in a much broader sense, solutions to improve the management of patients with anxiety and depression (to which these medicines are often prescribed) in primary health care settings.

We defined an initial convenience subject sample for the interviews, balanced for the following characteristics: having, or not having, specific training in mental health; having used, or not having used, the ePrimaPrescribe educational platform during the intervention implementation phase of the study; and working in different types of primary health care units. In Portugal, the national health service (NHS) distinguishes two types of primary health care unit: the default is the 'personalized care units' model (UCSP), in which professionals receive a fixed salary; the second is the 'family health units' model (USF), in which health professionals have higher functional and organizational autonomy and where they might have a mixed payment scheme that includes salary, capitation and payment for performance [32, 33]. These criteria were chosen considering their influence on behavior regarding implementation of the ePrimaPrescribe educational program and on changing their prescribing patterns.

We carried out 12 interviews until saturation was reached. The interviews were made by the first author, in person at clinical settings and by phone (to comply with Covid-19 restrictions).

Data analysis

Interviews were transcribed verbatim, read and re-read, and analyzed. Segments of text were coded, synthesized and integrated into categories according to similarities of meaning [34, 35]. Patterns within and across categories were analyzed and grouped into themes. Both deductive and inductive approaches were employed in the analytical strategy [34]. Categories and themes were driven by literature concerning the problematic of excessive BZDs prescription, on interventions to change prescription patterns, and on barriers and facilitators to such changes. Furthermore, the researchers were aware as new concepts emerged from the data itself and coding continued until no new concepts emerged from the data. Coding, category-building procedures and thematic analysis were discussed by the authors until consensus was reached. Data analysis was supported by ATLAS.ti [36]. Participants' quotes were translated from Portuguese to English and cross-checked for accuracy.

Ethical considerations and informed consent

Before each interview, participants were informed about the purpose of the study, that participation was voluntary and that they could withdraw at any time for any reason. It was explained that the data would be anonymized and that the participants could request to have any of their statements deleted from the record. All participants who were approached confirmed their willingness to participate and consented to the interviews being audio recorded. When transcribing the interviews, all names of persons, services, cities and municipalities were exchanged with anonymized identifiers.

Results And Solutions Proposed By Gps

We performed 12 semi-structured interviews with GPs. Table 1 presents the characteristics of the participants. Table 2 describes the themes obtained from the content analysis.

GPs were selected from the total of nine primary health care units included in the intervention group of our larger effectiveness-implementation hybrid type 1 study, according to their active participation in the study, and looking for a balanced baseline in terms of the previously mentioned characteristics. The sample had 58% of responders prescribing in USF primary health care unit types, and 42% prescribing in UCSP primary health care unit types. It was

balanced in terms of previous training in mental health; 58% of respondents were male and 42% female; and 58% effectively used the platform, as opposed to the 42% who did not use it at all. The mean age was 54 years-old and the mean number of years of clinical practice was 27.

Table 1
GP sociodemographic characteristics

Characteristics of GPs	n (% of total)
Type of primary health care unit	7 (58)
_USF	5 (42)
_UCSP	
Specific training in mental health	6 (50)
_Yes	6 (50)
_No	
Gender	5 (42)
_Female	7(58)
_Male	
Usage of ePrimaPrescribe	7 (58)
_Yes	5 (42)
_No	
Age	Mean: 54.25 SD: 14.88 (Min,Max) (30,67)
Years of clinical practice	Mean: 26.8 SD: 14.56 (Min,Max) (5,40)

The solutions suggested by GPs pertain to wider issues: human resources, training in mental health, communication with psychiatry, time management, performance indicators, collaborative and community-based initiatives and psychotherapy as therapeutic alternatives to BZD prescription.

Table 2
Description of themes for suggested solutions

Theme	Description
Human Resources	Hiring GPs, task shifting, psychologists
Psychotherapy	Psychotherapeutic approach to mental health issues
Training in mental health	Integrated approach in training
Communication with psychiatry	Communication and articulation with mental health specialists
Time management	Time management during consultations
Prioritization of mental health in GP appointments	Creation of specific resources to manage mental illness in primary health care settings
Implementation of performance indicators	Implementation of payment for performance to incentive the management of mental illness in primary health care settings
Collaborative or community-based initiatives	Public campaigns in the media, more community-based activities, more local infrastructure

Human Resources

The solutions mentioned by GPs regarding human resources emphasized the need for more health staff, namely more GPs and nurses. Participants' perspectives concurred when referring to how this would indirectly lead to a change in the current BZD prescribing patterns, since prescribing was often seen as the only resource available to assist patients with psychological suffering.

GPs mentioned that the involvement of nurses and task shifting with this group of professionals would also probably be a facilitating factor, but anticipated difficulties justified by their belief on nurses' lack of interest to be involved in the multidisciplinary management of mentally ill patients.

Additionally, all participants mentioned the need for more psychologists working in primary health care settings, in articulation with GPs. Some of the respondents' opinions were critical about the lack of communication between GPs and psychologists, and they complained that they referred patients to psychologists who were not accepted because of a lack of capacity.

"At least [referral to] psychology, I try. Now, it's not easy, because psychology appointments are completely full, sometimes requests aren't even accepted. (Interviewee 2, female, 39 years old, 9 years of clinical practice, with mental health training, prescribing at an UCSP primary health care unit type, used the ePrimaPrescribe DBCI platform)

Training in mental health

GPs stated recurrently that they needed more training and continuous support to feel confident and able to effectively intervene in mental health, particularly to become more secure to refuse BZD prescription and propose an alternative non-pharmacological treatment. Regarding the specific areas of training GPs require, they suggest more input regarding alternative approaches to prescribing.

“...[training] on the pathology would be important, more important than only at the pharmacological level...It’s true that a brief approach to pharmacology can be important as well, but to focus on the pathology, inclusively focusing [...] on alternatives...to medication, only...maybe to have training about alternatives and how they can be, hum, applied, in different cases, that would be important.” (Interviewee 3, female, 64 years old, 38 years of clinical practice, without mental health training, prescribing at an USF primary health care unit type, used the ePrimaPrescribe DBCI platform).

Regarding the organizational aspect of providing continuous training implementation to improve the quality of mental health care, and hence indirectly to change prescribing patterns, GPs suggested, almost unanimously, the need for this to be compulsory and integrated into clinical time (versus voluntary and taking place on their free time). A significant number also referred to the need for this training to be regular, managed by a specialized mental health professional, and focused on practical situations in daily clinical practice. This training would preferably take place in person, but GPs acknowledged the possibility of online training if introduced/supported by occasional in-person contact with a specialist and, once again, that it be included in their clinical time.

I think it would be important to have regular training and [laugh] mandatory. Even for us that have already finished, that are not interns anymore, and that have no mandatory trainings any longer, I think that would be important. (Interviewee 3, female, 64 years old, 38 years of clinical practice, without mental health training, prescribing at an USF primary health care unit type, used the ePrimaPrescribe DBCI platform)

Communication with psychiatry

GPs stated that communication with a psychiatry specialist would allow them to solve situations in the primary health care units, since it would clarify their questions and help them with more complex clinical cases. One participant stated that such regular communication would work as continuous medical training. To improve communication with specialists, GPs suggested the creation of a telephone line or very short regular meetings specifically to share experiences and discuss clinical cases.

To establish such connections, liaisons, between psychiatry and GPs [...], if that was in place in a systematized manner, that would work as continuous training.

(Interviewee 5, male, 67 years old, 40 years of clinical practice, with mental health training, prescribing at an USF primary health care unit type, used the ePrimaPrescribe DBCI platform)

Time management

The issue of time management was raised very frequently and by the majority of participants. GPs stated that the current durations scheduled for medical appointments acted as a direct trigger for BZDs prescription. They suggested that appointments to manage mental health issues should have a longer duration.

“I think that, if I had more time, more time per appointment, we are pressured, hum, a patient every 15 minutes, right? Well a patient that requires a little bit more conversation, right? That is completely impossible, so, hum, I think that at this moment the kind of appointment, or approach we take with patients is a little bit ‘aviar bacalhau ao balcão’ [Portuguese expression to denoting a fast and almost mechanical activity]”. (Interviewee 9, male, 66 years old, 37 years of clinical practice, without mental health training, prescribing at an USF primary health care unit type, did not use the ePrimaPrescribe DBCI platform)

Prioritization of mental health in GP appointments

Two participants mentioned the possibility of having a specific time, or specific mental health consultation, such as exists for perinatal and pediatric care. They recognized, however, the importance of creating a non-stigmatizing environment, and hence suggested that this specific consultation period to be managed by each GP individually, instead of being scheduled and organized by the primary health care unit.

...having more time for these people. Because, for example, we have diabetes consultation, we have a period to schedule x diabetics and to see them, we have a consultation for hypertension, I think it would make sense to have an appointment dedicated to this kind of pathology.

(Interviewee 11, male, 30 years old, 6 years of clinical practice, with mental health training, prescribing at an USF primary health care unit type, did not use the ePrimaPrescribe DBCI platform)

Implementation of performance indicators

GPs had ambivalent perspectives regarding performance indicators as organizational incentives to change their BZDs prescribing patterns and to improve the quality of care in general. Although they recognized that implementing performance indicators might have an immediate effect, they disliked them in general, considering that they are easily circumventable and that they do, in some way, distort the ultimate purpose of a medical intervention, which they consider to be the improvement of patients' health.

"I think things hardly get any more organized by force. I will give you an example. I came across situations where, because of the benzodiazepines, they [GPs] did not prescribe benzodiazepines in the name of the elderly people [taking them], they would prescribe them for their son/daughter" (Interviewee 5, male, 67 years old, 40 years of clinical practice, with mental health training, prescribing at an USF primary health care unit type, used the ePrimaPrescribe DBCI platform)

Our objective should be to treat our patients well, in any area. Hum, when we mix indicators in that, we are biasing such objectives.

(Interviewee 7, male, 60 years old, 33 years of clinical practice, with mental health training, prescribing at an UCSP primary health care unit type, did not use the ePrimaPrescribe DBCI platform)

Collaborative or community-based initiatives

In terms of collaborative or community-based initiatives, GPs recommend fomenting public awareness about mental health, the perils of BZDs and the destigmatizing mental illness, creating socially-adapted consultations for mental health (organized either discreetly by the GP, or by the health unit), the training of health staff to provide support in mental health (task shifting), and more community-based programs and local infrastructure that would enable the pursuit of therapeutic non-pharmacologic alternatives (exercise, activities, etc.).

Regarding specific solutions or interventions, two participants stated that their perspective on awareness campaigns, using, for example, the distribution of leaflets in waiting rooms, would fail to have any significant impact

Concerning leaflets, I don't think so. People normally read them once and throw them away [...]. I don't know if communication media could come in somehow, with some counseling, I think mainly television, radio, they could have that role. Sometimes there are informative programs, pressure programs, that people listen to a lot.

(Interviewee 3, female, 64 years old, 38 years of clinical practice, without mental health training, prescribing at an USF primary health care unit type, used the ePrimaPrescribe DBCI platform)

Psychotherapy

As alternative, and preferable, therapies to medication, GPs mentioned psychotherapy (some specifically mentioned cognitive behavior therapy), and community-based initiatives to promote mental health outside clinical sites.

I think psychologists, as I already said, I think it would be important and that it would allow, in many situations, to take a different approach, and by taking a different approach, the prescriptions would be for smaller amounts of time. This could even lead to a change in prescription patterns.

(Interviewee 4, male, 63 years old, 37 years of clinical practice, without mental health training, prescribing at an UCSP primary health care unit type, used the ePrimaPrescribe DBCI platform)

GPs were unanimous when referring to the crucial need to integrate a greater number of psychologists into primary health care units to allow them to choose other treatment options over prescribing BZDs. Although the need for articulated care was also mentioned, GPs seemed to recognize the value, or importance of implementing and integrating community mental health teams into their practice.

Discussion

The present study provides an overview of solutions suggested by GPs to bring about a change in BZD prescribing patterns. Identification of the most prominent needs and priorities for prescribers was grounded in perceptions adapted to daily practice in primary health care settings.

The focus of the GP's discourses about their own prescribing patterns, as well as about BZDs prescribing practices in general, reflect ambiguities, but also general patterns regarding the identification of barriers and facilitators that are crucial for a comprehensive understanding of what is at stake in medical practice and in GPs' relations with patients and medicines [3, 37].

Addressing human resources needs, and specifically the need to hire more GPs, was considered a crucial issue to change BZDs prescribing patterns and improve the quality of mental health care in primary health care settings. In fact, the arguments used by the participant GPs to justify this suggested solution are consistent with other research, which reports dissatisfaction among GPs with their large patient loads and perceived work overload [2, 15, 38].

The issue of human resources was also mentioned in terms of the need for task shifting and the involvement of nurses. GPs anticipated difficulties in the articulation with nurses, however, because of a perceived lack of nurse interest in the management of mental illness. This perception might nevertheless be biased, as suggested by the results of a systematic review exploring the barriers and facilitators to different stakeholders to de-prescribe BZDs, where nurses expressed a willingness to be more involved, but reported feeling that their opinion was not considered or valued, and felt powerless to change a prescription or hesitant to contradict the physician [38]. Thus, despite the importance of an integrated - interdisciplinary and intersectoral - collaboration, other factors related to organizational communication between health staff, seem to compromise, to some extent, the effective implementation of wide-scope mental health therapeutic options and solutions to psychopharmaceuticalization.

The need for more psychologists was highlighted as a priority to change the management of mental health disorders in primary health care settings. This is in line with the literature [39]. However, this might not be a direct solution to excessive BZD prescription patterns. Taking the example of England, the access to psychological therapy services through the NHS program "Improving Access to Psychological Therapies", is widely available, either through GP referral or self-referral. However, BZDs utilization in England remains very high and the majority of misuse appears to be with medication legitimately prescribed by health professionals [40], showing, once again, that there are other important factors influencing BZDs prescription. These include not only prescription patterns but also how lay people

deal with mental health issues and the possibility of psychopharmaceuticalization as a way 'out' of unpleasant situations or situations of mental and physical suffering [41].

Regarding training in mental health most studies agree with our data, mentioning that there is a general need for better training of GPs [15]. The suggestion of our GP participants that there be regular compulsory training for GPs, as exists in other European countries [42], would probably be a more feasible and cost-effective solution than the implementation of regular meetings between GPs and psychiatry specialists in the short-term.

GPs' lack of communication with and support from psychiatry specialists is frequently referred to in the literature as an important barrier to changing BZDs prescribing patterns [43]. Thus, it was predictable that the GP participants suggested the improvement of communication with psychiatrists. GPs suggested specific ways to implement this solution, such as the creation of a telephone help line for professionals, as opposed to the idea of regular meetings, which would probably be relatively easy and cost-effective to implement.

The issue of time management was frequently mentioned by the GPs in our study as a significant barrier to changing prescribing patterns, and in general to managing of mental health issues in primary health care settings. GPs mentioned the need for more time to dedicate to patients with mental health issues but solving this problem by increasing the duration of consultations would aggravate the lack of human resources. This reinforces the need for investment in mental health, and more specifically in hiring more health workers for primary health care units [2].

GPs had ambivalent perspectives regarding the implementation of indicators associated with payment for performance (P4P). Despite the fact that P4P has demonstrated significant effects, such as improving the attention given to specific therapeutic areas associated with these types of incentives, patients with mental health disorders would probably require a significant amount of care to reach the indicator target (if ever) [44]. Additionally, when doctors are resource-constrained, a redistribution of care between the patients under P4P inevitably arises, which might lead GPs to dedicate more time and care to patients with disorders that more easily reach performance targets [44]. Thus, such solutions would have to be carefully implemented to avoid unintended inequalities in patients' access to healthcare, and would have to be closely monitored for the maintenance of high ethical standards in primary care.

GPs considered that solutions integrated in the community would have a significant impact. In fact, the literature points to the importance of involving different stakeholders to achieve a successful change in prescribing pattern. A recent publication is in agreement with the suggestions of the participants in our study, mentioning that cooperation between all stakeholders involved in managing mental health disorders (i.e. GPs and nurses) facilitates successful changes in BZDs prescribing patterns [38]. In addition, this publication emphasizes that increased communication and shared decision-making between GPs and patients would optimize medication according to patient's' preferences.

Regarding specifically community-based solutions, the GPs in our study had more difficulty in mentioning specific solutions, possibly because they had reservations about the impact of interventions such as public awareness campaigns. However, despite most participant GPs questioning the impact of implementing minimal interventions with patients, such as leaflet distribution, this type of intervention has been demonstrated to have a significant impact [45].

Conclusions

The results of most research dedicated to the implementation of interventions to change BZDs prescribing patterns are variable and inconsistent, a finding that is probably related to the particular characteristics of primary health care settings. We believe our study to be innovative since it responds to a gap in the literature by giving voice to GPs to suggest the solutions that they consider most feasible and adapted to their clinical daily routines. Despite some of the solutions maybe being considered very specific to the Portuguese primary health care system, the fact that most of the barriers to prescription change that underlie these proposed solutions agree with the literature, points to the probable possibility of their generalization. Portugal has an NHS with free coverage of the entire territory. Primary health care holds a large share of the responsibility for the provision of care and has a gatekeeping function for hospital care. In this sense, the results of this study can be applied to countries where similar a NHS exists, and where primary health care has a central role in the provision of care.

The solutions suggested by the participant GPs emphasize the relevance of taking GPs' perspectives into consideration when aiming to improve the quality of care. It has been demonstrated elsewhere that the utilization of models, such as practice based research networks, to investigate complex topics such as healthcare disparities, prevention, chronic disease management and mental health can be successful [46]. Thus, practice-based research networks, where groups of primary care practices are devoted not only to the primary care of patients, but also to a mission to investigate questions related to community-based practice and to improve the quality of primary care, could have an interesting and significant impact on the research to improve of health outcomes.

The solutions proposed, such as communication with psychiatry, time management, the prioritization of mental health in GP appointments, and the implementation of performance indicators are mainly organizational. Thus, despite the bottom-up approach of our research, the implementation of the proposed solutions would also depend on profound top-down changes, with simultaneous intervention in areas as diverse as human resource management, collaboration and interdisciplinary training, and would require the commitment of all stakeholders involved in community mental health disease management, namely nurses, GPs, psychologists, psychiatrists and patients. Nevertheless, some suggested solutions that might be feasible internally if better communication and time (and bureaucratic) management strategies are designed, including internal strategies for each primary health care setting, or for the small coverage areas of these healthcare units.

Declarations

Ethics approval and consent to participate

The study was performed in accordance with the Declaration of Helsinki. All participant General Practitioners provided written informed consent. This research was approved by two Ethics Committees: the Ethics Commission for Health of the Regional Administration of Health for Alentejo Region (Portugal) (02/2016(CES); and the Nova Medical School, Nova University Lisbon, Portugal Ethics Commission (47/2016/CEFCM).

The results of this study were disseminated via peer-reviewed publications and conference presentations. All data will be available on request.

Participation was voluntary and informed consent was obtained from all enrolled participants. All information was handled with confidentiality. Each interview was given an anonymized coding number.

Consent for publication

Not applicable.

Availability of data and material

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request. The results of this study were disseminated via peer-reviewed publications and conference presentations. All data will be available on request.

Competing interests

The authors declare that they have no competing interests.

Funding

Not applicable.

Authors' contributions

TAR, HS and MX conceived and designed the study; TR and IF were responsible for data curation and writing the main manuscript text; All authors contributed to drafting the manuscript and reviewing the manuscript.

Acknowledgements

Our thanks go to all of the primary health care unit coordinators in Alentejo central region for facilitating the study implementation, and to all GPs who willingly participated in the study and openly shared their perspectives.

References

1. Suss T, Oldani M. Little helpers no more: A framework for collaborative deprescribing of benzodiazepines in older adults. *J Psychosoc Nurs Ment Health Serv.* 2020;58:23–8.
2. Antunes A, Frasilho D, Zózimo JR, Silva M, Cardoso G, Ferrão J, et al. Solutions to tackle the mental health consequences of the economic recession: A qualitative study integrating primary health care users and professionals' perspectives. *Health Policy (New York).* 2019;123:1267–74.
3. Kleinman A. Local worlds of suffering: An interpersonal focus for ethnographies of illness experience. *Qual Health Res.* 1992;2:127–34.
4. Organization WH. Social determinants of mental health. 2014.
5. Whyte SR, Van der Geest S, Hardon A. *Social lives of medicines.* Cambridge University Press; 2002.
6. Oldani M. Deep pharma: Psychiatry, anthropology, and pharmaceutical detox. *Cult Med Psychiatry.* 2014;38:255–78.
7. Neves IT, Oliveira JSS, Fernandes MCC, Santos OR, Maria VAJ. Physicians' beliefs and attitudes about Benzodiazepines: a cross-sectional study. *BMC Fam Pract.* 2019;20:71.
8. Khong TP, De Vries F, Goldenberg JSB, Klungel OH, Robinson NJ, Ibáñez L, et al. Potential impact of benzodiazepine use on the rate of hip fractures in five large European countries and the United States. *Calcif Tissue Int.* 2012;91:24–31.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3382650/pdf/223_2012_Article_9603.pdf.
9. Brandt J, Leong C. Benzodiazepines and Z-drugs: an updated review of major adverse outcomes reported on in epidemiologic research. *Drugs R D.* 2017;17:493–507.

10. Donnelly K, Bracchi R, Hewitt J, Routledge PA, Carter B. Benzodiazepines, Z-drugs and the risk of hip fracture: A systematic review and meta-analysis. *PLoS One*. 2017;12:e0174730.
11. Thomas RE. Benzodiazepine use and motor vehicle accidents. Systematic review of reported association. *Can Fam Physician*. 1998;44:799. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2277821/pdf/canfamphys00050-0109.pdf>.
12. Carlsten A, Waern M, Holmgren P, Allebeck P. The role of benzodiazepines in elderly suicides. *Scand J Public Health*. 2003;31:224–8. <http://sjp.sagepub.com/content/31/3/224.full.pdf>.
13. Neutel CI, Patten SB. Risk of suicide attempts after benzodiazepine and/or antidepressant use. *Ann Epidemiol*. 1997;7:568–74.
14. Cato V, Holländare F, Nordenskjöld A, Sellin T. Association between benzodiazepines and suicide risk: A matched case-control study. *BMC Psychiatry*. 2019;19:1–7.
15. De las Cuevas C, Sanz E, De la Fuente JA, Cabrera C, Mateos A. Prescribed daily doses and ‘risk factors’ associated with the use of benzodiazepines in primary care. *Pharmacoepidemiol Drug Saf*. 1999;8:207–16.
16. Olfson M, King M, Schoenbaum M. Benzodiazepine use in the United States. *JAMA psychiatry*. 2015;72:136–42. <http://archpsyc.jamanetwork.com/data/Journals/PSYCH/932731/yoi140084.pdf>.
17. INFARMED. Benzodiazepinas e análogos 2016. 2017. <https://www.infarmed.pt/documents/15786/2219894/Utlilização+de+Benzodiazepinas+e+análogos/adb100fa-4a77-4eb7-9e67-99229e13154f>.
18. Sirdifield C, Anthierens S, Creupelandt H, Chipchase SY, Christiaens T, Siriwardena AN. General practitioners’ experiences and perceptions of benzodiazepine prescribing: systematic review and meta-synthesis. *BMC Fam Pract*. 2013;14:1.
19. Dybwad TB, Kjolsrod L, Eskerud J, Laerum E. Why are some doctors high-prescribers of benzodiazepines and minor opiates? A qualitative study of GPs in Norway. *Fam Pr*. 1997;14:361–8. <http://fampra.oxfordjournals.org/content/14/5/361.full.pdf>.
20. Anthierens S, Habraken H, Petrovic M, Christiaens T. The lesser evil? Initiating a benzodiazepine prescription in general practice: a qualitative study on GPs’ perspectives. *Scand J Prim Heal Care*. 2007;25:214–9. doi:10.1080/02813430701726335.
21. Bendtsen P, Hensing G, McKenzie L, Stridsman AK. Prescribing benzodiazepines—a critical incident study of a physician dilemma. *Soc Sci Med*. 1999;49:459–67.
22. Cormack MA, Sweeney KG, Hughes-Jones H, Foot GA. Evaluation of an easy, cost-effective strategy for cutting benzodiazepine use in general practice. *Br J Gen Pr*. 1994;44:5–8.
23. Gorgels WJM, Voshaar RCO, Mol AJJ, van de Lisdonk EH, van Balkom AJLM, van den Hoogen HJM, et al. Discontinuation of long-term benzodiazepine use by sending a letter to users in family practice: a prospective controlled intervention study. *Drug Alcohol Depend*. 2005;78:49–56.
24. Bueno MB, de Velasco Artaza ER, Uria JF, Iturbe AG. Benzocarta: intervención mínima para la desprescripción de benzodiazepinas en pacientes con insomnio. *Gac Sanit*. 2019.
25. Richards D, Toop L, Graham P. Do clinical practice education groups result in sustained change in GP prescribing? *Fam Pract*. 2003;20:199–206.
26. Vicens C, Bejarano F, Sempere E, Mateu C, Fiol F, Socias I, et al. Comparative efficacy of two interventions to discontinue long-term benzodiazepine use: cluster randomised controlled trial in primary care. *Br J Psychiatry*. 2014;:bjp. bp. 113.134650.

27. Baker R, Farooqi A, Tait C, Walsh S. Randomised controlled trial of reminders to enhance the impact of audit in general practice on management of patients who use benzodiazepines. *BMJ Qual Saf.* 1997;6:14–8.
28. Kollen BJ, van der Veen WJ, Groenhof F, Donker GA, van der Meer K. Discontinuation of reimbursement of benzodiazepines in the Netherlands: does it make a difference? *BMC Fam Pract.* 2012;13:111.
29. Gentile G, Lapeyre-Mestre M, Micallef J. Combatting the misuse of benzodiazepines and related Z drugs in French general practice: a clinical review. *BJGP open.* 2020.
30. Oliveira J, Neves I, Fernandes M, Santos O, Maria V. Prescribing and facilitating withdrawal from benzodiazepines in primary health care. *Rev Port Med Geral e Fam.* 2019;35:305–12.
31. Tolley EE, Ulin PR, Mack N, Robinson ET, Succop SM. *Qualitative methods in public health: a field guide for applied research.* John Wiley & Sons; 2016.
32. Pisco L. Primary Healthcare Reform in Portugal on two fronts: autonomous family healthcare units and management of groupings of Health Centers. *Cien Saude Colet.* 2011;16:2841.
33. Pinto D. *Modifying factors for drug prescription behaviour in Primary Care.* Nova Medical School; 2017.
34. Kuckartz U. *Qualitative text analysis: A guide to methods, practice and using software.* Sage; 2014.
35. Green J, Thorogood N. *Qualitative methods for health research.* sage; 2018.
36. Hwang S. Utilizing qualitative data analysis software: A review of Atlas. ti. *Soc Sci Comput Rev.* 2008;26:519–27.
37. Geest S van der, Whyte SR, Hardon A. The anthropology of pharmaceuticals: a biographical approach. *Annu Rev Anthropol.* 1996;25:153–78.
38. Rasmussen AF, Poulsen SS, Oldenburg LIK, Vermehren C. The Barriers and Facilitators of Different Stakeholders When Deprescribing Benzodiazepine Receptor Agonists in Older Patients—A Systematic Review. *Metabolites.* 2021;11:254.
39. Parr JM, Kavanagh DJ, Young RM, McCafferty K. Views of general practitioners and benzodiazepine users on benzodiazepines: a qualitative analysis. *Soc Sci Med.* 2006;62:1237–49.
40. Kapil V, Green JL, Le Lait C, Wood DM, Dargan PI. Misuse of benzodiazepines and Z-drugs in the UK. *Br J Psychiatry.* 2014;205:407–8.
41. Goodman H, Russo B V, Zóximo J. *Beyond these walls: confronting madness in society, literature and art.* Inter-Disciplinary Press; 2013.
42. Kringos DS, Boerma WGW, Hutchinson A, Saltman RB. *Building primary care in a changing Europe. Case studies.* WHO Regional Office for Europe; 2015.
43. Fegadolli C, Varela NMD, Carlini EL de A. Uso e abuso de benzodiazepínicos na atenção primária à saúde: práticas profissionais no Brasil e em Cuba. *Cad Saude Publica.* 2019;35:e00097718.
44. Oxholm AS, Di Guida S, Gyrd-Hansen D. Allocation of health care under pay for performance: winners and losers. *Soc Sci Med.* 2021;113939.
45. Cormack MA, Owens RG, Dewey ME. The effect of minimal interventions by general practitioners on long-term benzodiazepine use. *JR Coll Gen Pr.* 1989;39:408–11.
46. Tapp H, Dulin M. The science of primary health-care improvement: potential and use of community-based participatory research by practice-based research networks for translation of research into practice. *Exp Biol Med.* 2010;235:290–9.