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Prisoners' perceived oral and general health and their experience with accessing, understanding and assessing health information: A qualitative study

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Abstract

Prisoners' oral health and general health are closely connected and generally poorer than that of the wider population. Moreover, knowledge of prisoners' health literacy is scarce. This study aimed to explore prisoners' perceived oral and general health and how they accessed, understood and assessed health information to gain insight into their health literacy. Twelve prisoners in a high-security prison and a halfway house participated in individual semi-structured interviews. Data was analysed through thematic analysis, which identified five themes: inconsistent self-reporting of general and oral health; autonomous health behaviour through utilizing personal resources; preference for personalized adapted health information; psychological and physical proximity; and barriers. The prisoners perceived their oral and general health as good despite several health problems. They expressed scepticism towards health information from public authorities and made their own health-related choices based on previous experiences, their own 'common sense' and the experiences of people they trusted. Health information was considered useful when adjusted to their needs. Obtaining health-related information through physical encounters was considered more accessible than through online platforms. Adapting the communication to prisoners' expressed needs and their health literacy can enhance the accessibility to improve their oral and general health. In-person encounters would be preferable.

KEYWORDS
dental health service, dental staff, health literacy, health service, prisons

INTRODUCTION

Health literacy is considered essential for achieving and maintaining good oral and general health [1]. The World Health Organization (WHO) underscores that meeting the health literacy needs of the most disadvantaged and marginalized societies will particularly accelerate progress in reducing social health inequalities [2]. Health literacy is defined as: 'Health literacy is linked to literacy and entails people's knowledge, motivation and competence to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course' [1, p. 3]. WHO emphasises

that health literacy may influence an individual's health more than income, education, ethnicity or employment and that achieving higher health literacy likely can reduce social health inequalities [3]. Health literacy affects people's health through their access to health services, in the interaction between the patient and the health care professional and in self-management [4]. Persons with low health literacy may, for example, have difficulties making appointments with different healthcare services or struggle with understanding health information to evaluate the advantages or disadvantages of treatment options. A European population survey collecting data from eight European Union countries indicated that almost every second person had low or limited health literacy [5]. The study also found an association between low health literacy and poor health [5]. In Norway, a recent study found that one in three adults had inadequate health literacy [6]. Both studies found a social gradient in health literacy, with some population subgroups defined by factors like low education, financial deprivation, low social status, or old age having a higher prevalence of inadequate health literacy [5, 6].

Financial deprivation is the strongest predictor of low health literacy, followed by socioeconomic status, education, and age, with gender having a less significant impact [5]. Vulnerable groups, therefore, often have lower health literacy, poorer health, and poorer oral health than the general population [7, 8]. Prisoners in Norway are considered one such vulnerable group due to their challenging life circumstances [9]. Prisoners have a higher prevalence of substance use disorder, psychiatric illnesses, problematic family conditions, unemployment, and low education levels than the general population [9, 10]. Given previous findings on health literacy in vulnerable groups, it is reasonable to assume that prisoners may have poor health literacy. A Canadian study showed that female offenders had limited health literacy and needed adapted health services in terms of accessible, supportive, and caring services [11]. A mixed-methods study from a prison in England indicated that 72% of male prisoners had low health literacy, and this was associated with mental health challenges, physical well-being, and somatization [12]. There have been no studies on prisoners' health literacy in Norway.

Findings from several countries indicate that prisoners' oral health is poorer than that of the general population [10, 13–16]. In Norway, prisoners have the right to free emergency dental treatment when admitted to prison, as well as free examinations and treatment required for sustaining acceptable oral health if sentenced to more than three months [17, 18]. Dental health services are provided either in a prison dental clinic or outside the prison detention centre [19]. However, recent findings from a Norwegian study indicated that dental appointments were made primarily for urgent emergency treatment and that the public dental health service had a low focus on preventing illness and promoting oral health in prisons [19]. A pilot study in a Norwegian prison found that prisoners had poor knowledge of the relationship among diet, oral hygiene, and oral health [20]. Acknowledging the impact of health literacy, a deeper understanding of what makes health information understandable, accessible, and useful [6] for prisoners is needed. Few oral health-promoting interventions have been tailored to vulnerable groups such as prisoners [10, 21, 22], and there is a lack of knowledge of prisoners' oral health and health literacy. Therefore, this study explored prisoners' perceived oral and general health and how they accessed, understood and assessed health information to gain insight into their health literacy.

MATERIAL AND METHODS

Study design

To explore and understand prisoners' health literacy, a qualitative approach was chosen. Qualitative research methods are recommended for exploring and understanding a condition, situation, or experience from a personal perspective [23]. This study used an exploratory qualitative design with an abductive approach.

Study setting and participants

The study was conducted in Norway in a high-security prison and in the prison's halfway house, which is where prisoners can apply to serve the last part of their sentences. The prison granted a recruitment period from May to September 2021. Due to the few prisoners recruited from the high-security prison during the permitted timeframe, the halfway house was included in the study in June. The prisoners were recruited by either a dental hygienist who regularly offered in-house dental consultations to the prisoners, or by the first author during two mandatory information meetings at the halfway house. The prisoners were given both verbal and written information about the study. Fifteen prisoners initially agreed to participate, but three withdrew their consent before the interviews started. In total, twelve prisoners participated: nine men and three women, aged from 20 to 50 years. Speaking Norwegian and being a prisoner were the study's only inclusion criteria. Reasons for imprisonment and length of sentence were not known.

Data collection procedures

All four authors developed the interview guide. Two of the three health literacy domains described by Sorensen et al. [1]—*healthcare* and *health promotion*—guided its

development. Due to the study's objective including health promotion, the dimension of *disease prevention* was excluded. The interview guide was sectioned into three themes: (1) health, (2) health promotion and (3) health care. The study participants were asked about experiences within these three themes from both the outside and inside prison context. The first theme, health, focused on the participant's experiences related to their general and oral health. The second theme, health promotion, focused on their experiences relating to them finding, understanding, and evaluating health information and how it affected their health-related behaviour and measures of caring for their health. The last theme, health care, focused on understanding instructions and prescriptions for medicines, assessing the advantages and disadvantages of different treatment options, dental health service utilization, and their experiences with receiving and understanding oral health information provided at the dental clinic. A general focus during the interview was on what made verbal or written health information easy and useful and, if not, how could it be improved.

Because of the COVID-19 pandemic, the ten interviews with the participants from the high-security prison were conducted digitally, while the interviews with the two participants from the halfway house were conducted in person at the halfway house. The digital interviews were conducted using the Norwegian Correctional Service's virtual meeting app and were audio recorded, as were the physical interviews. Before the participants signed the consent form on the day of the interview, information about the study and their right to withdraw from the study at any time was repeated. The consent forms were collected by a reintegration coordinator at the prison and posted to the first author. The twelve semi-structured individual interviews lasted 49 min on average (range 34–57 min). The first author conducted and transcribed all the interviews. Data saturation was reached when no new themes emerged after the twelfth interview, and this coincided with the end of our data recruitment period. The quotations were translated from Norwegian into English by an independent researcher not involved in the study. The translated quotations were discussed within the team and adjusted to ensure the meaning was upheld after translation.

Data analysis

The data were analysed using thematic analysis [24], which is considered a foundational method for qualitative analysis, focusing on identifying, analyzing, and reporting patterns or themes within data sets [24, 25]. The first author and the fourth author first read the transcribed interviews to become familiar with the data. Next, each of these two authors began to systematically analyse the data to identify and obtain an underlying sense of the patterns or initial subcategories in the participants' responses. Both authors performed the coding independently. The patterns or initial codes were then discussed to reach a first-round agreement before the preliminary subcategories were identified. The data were then further systematized by these two authors separately to review the coded data and organized the subcategories more thoroughly into themes. This systematizing was compared, and preliminary themes were identified, refined, and condensed into the present configuration of the findings. Quotations within each theme were chosen to reflect the theme.

Ethics

The study was approved by the Norwegian Centre for Research Data (NSD ID: 282876), the Regional Committee for Medical and Health Research Ethics in Western Norway (REK no: 235912) and the Norwegian Correctional Service, Southwest Norway. The study was conducted in accordance with the Helsinki Declaration [26].

RESULTS

Exploring the twelve participants' perceived oral and general health and how they accessed, understood and assessed health information to gain insight into their health literacy led to five themes. Table 1 outlines the identified themes that resulted from the analysis.

Theme 1: Inconsistent reporting of general and oral health

All participants reported good physical health. According to the participants, the index of having good health was having no physical pain. However, during the interviews, several participants revealed that they suffered from severe diseases or injuries, including heart disease, liver disease due to substance use disorder, previous comprehensive dental trauma, or acute dental pain, Bechterev's disease and chronic pain. For example, one participant said:

> *I'll start treatment for hepatitis C when I get released, but I have not had any issues regarding this. Except for the hepatitis, I am completely healthy*. (ID8)

The participants also mentioned long-term effects on their daily lives of earlier injuries and illnesses. One participant said:

TABLE 1 Themes and subcategories.

Theme	Subcategories
Theme 1: Inconsistent reporting of general and oral health	Good self-reported general and oral health Description of specific general and oral health problems
Theme 2: Autonomous health behaviour through utilizing personal resources	Selectiveness in collecting health information Inconsistent health behaviour Symptom intensity decided help-seeking behaviour Self-reported self-efficacy
Theme 3: Preference for personalized adapted health information	Health information modified to situation and need Character of information (in writing, verbal, simple, clear)
Theme 4: Proximity	Physical proximity Psychological proximity
Theme 5: Barriers	Physical barriers Psychological barriers

> *But they were pinched then, the nerves in the arms, so they became numb, and I got radiating pain and lost feeling […] So then I had surgery, as he [the surgeon] wanted to remove it [the cause of the pinched nerves], but it turns out the problem has moved, so I still struggle with it.* (ID6)

Inconsistent self-reported experiences were also significant in the participants' descriptions of oral health. Several participants initially reported good oral health. Several also said that they had had earlier dental treatments, such as fillings, root canal treatments and tooth extractions. However, several had had an acute need for dental treatment for dental pain or had worn down their old fillings, which caused them to be cautious when eating hard food, which again indicated poor oral health status. For example:

> *I have started to notice it slightly as I have used amphetamine. So I have noticed larger spaces between my teeth, which I did not have earlier. I did not even get dental floss between my teeth. But now I can easily.* (ID1)

Theme 2: Autonomous health behaviour through utilizing personal resources

Several participants voiced doubt about health information and health-related research and towards health authorities and their agenda for offering health information. They expressed scepticism towards research findings and stressed the importance of making up one's mind:

> *I have some common scepticism, I'll say. I am considering, for example, the coronavirus vaccine. I was sceptical to begin with, even though I chose to take the vaccine. […] I do not really know exactly what is in it, but I am thinking that one should not necessarily take everything on trust. There is a lot of research where some research goes against the other and suggests the opposite. One must make up one's own opinion somehow. If it is always the correct way, I do not know.* (ID10)

They trusted what they called 'common sense' to decide what would be suitable for their health. 'Common sense' referred to their own reasoning and reflected basic knowledge acquired through their lifetime about what was best for their health and bodies. The degree of pain and discomfort and how it affected their everyday life predicted their help-seeking behaviour. The participants were hesitant about contacting different healthcare services. One participant said:

> *But I rarely visit my GP* [general practitioner]*; it'll take a lot for me to go there. It almost has to be an emergency*. (ID5)

The same seemed to be the case for using dental health services. The participants reported using this service mainly for acute needs, as one participant stated:

> *I have primarily gone there* [the dental clinic] *when I had something urgent*. (ID7)

Most participants reported that if they were unsure about the health information they were given, they would ask questions to clarify and understand it. They also had discussions with their family and friends if they were uncertain. When assessing health information, the participants highlighted other people's health experiences, including healthcare personnel, as decisive for how much they trusted the information they received.

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Despite their reliance on 'common sense' and other people's personal experiences regarding health information, several mentioned that they knew and trusted organizations like the WHO and the Norwegian Institute of Public Health (NIPH). They referred to NIPH's TV commercials and the use of the organization's logo on web pages:

> *For example, if it comes up with NIPH, it sometimes has advertisements. I think so, okay, it must be good. So, for example, during Corona now, then wash your hands—one metre apart. The kinds of commercials that have been on TV for it, it is, in a way, very relevant and actually reliable.* (ID2)

> *But I am careful; everything is carcinogenic, so I am careful. But you cannot care about all that either. Then, there is almost nothing you can eat. But of course, use some common sense and such.* (ID4)

Also, in line with autonomous health behaviour, several participants spoke about previous substance use disorders at the same time as they were sceptical of using medicines. The participants emphasised that they believed in a healthy diet and regular exercise more than in medicines and treatment. One participant stated:

> *I always read up. I read everything in the Norwegian Pharmaceutical Product Compendium when there are new preparations. Because, I'd rather not take any medication*. (ID1)

Theme 3: Preferences for personalized adapted health information

All participants mentioned the internet as a health information source, but not all considered it reliable or useful. Several participants found it hard to access health-related information on the internet because navigating it was overwhelming. However, several had ideas about how health information on the internet could be easier to access with QR codes or health apps. All the participants expressed a need for health information that was simple and clear for them to understand and stressed the importance of health information being specific, concrete and in straightforward language without medical jargon. They preferred simple words, bullet-point setups and pictures in written health information. Several also said that dialect and poor Norwegian could make health information more difficult to understand. A number also expressed a need to get health information both verbally and in writing to be able to recall the information later. One participant stated:

> *If, for example, I'd seen the doctor or I'd been sick and received an explanation, then you probably get both* [verbal and written information], *but then I think it would be good if a doctor explained to you what all these medical expressions actually meant and maybe tried to write it in an understandable way* [and] *that he first explained what this and that is supposed to mean and then receive a copy afterwards.* (ID5)

Several participants reported that it was easier to understand health information provided by dental health personnel than by other health personnel. As one participant stated:

> *I think they are easier than doctors really. […]. It is not a lot and not that advanced right. And it is simple and okay, you know. […] the information they say at the dentist is simple—brush every morning and evening and suchlike.* (ID4)

The interaction and communication between the provider and receiver of health information was deemed important. One participant discussed what had made the encounter with his new dentist positive:

> *She* [the dentist] *told me what she was going to do, what she could have done, telling me in a way what options I had, what it would cost and how long it would take and was very open to questions. All the time, she told me that I should feel free to ask questions, but really, she provided the information in such a way that I did not have any questions—so really good at providing information.* (ID8)

Theme 4: Psychological and physical proximity

Friends, family, or people the participants trusted were often the first persons with whom the participants discussed personal health-related issues. When people they trusted could not provide or explain the information needed, they contacted other sources, such as the general practitioner or pharmacy staff. The analysis indicated that it was crucial for the participants that healthcare personnel talked directly to them and answered them honestly and appropriately. They appreciated the feeling of being taken care of and at the centre of the healthcare personnel's attention, making it easier to trust the health information.

The analysis also indicated that physical proximity to the health information source made it easier to evaluate the information and the source and obtain information based on their individual needs. Physically meeting the individual

providing the advice was also considered a strength, because it made it simpler to judge their reliability. Several participants appreciated it when healthcare personnel told them more than they anticipated. By talking to the source face-to-face, they received both more detailed information and more personally adapted information. One participant noted:

> *I have tried to call the* [substance use disorder] *treatment centre and ask. Usually, when I call to ask how it is, I get told how it is, but if I go to a webpages of some of the different places, there is very little information about how it looks, how it is, what kind of arrangement they have and so on. It is not until I get a tour that I really get information about the questions I have.* (ID9)

Many participants highlighted pharmacy staff as an essential source of health-related information due to their late opening hours and close proximity to other services and their living place. Also, the pharmacy staff were able to answer many health-related questions, as one participant described:

> *That is without you asking; when you buy medicine, they tell you all about the medicine. Because they see it in a way, even though you have purchased it before, they add what is important to remember, how to consume it, together with food and such and maybe common side effects. In a way, they say it unsolicited when you come there to buy the medicine. And they are very discreet, too. Yes, so I think they are good, and I trust those who work at the pharmacy.* (ID8)

Theme 5: Barriers

Barriers preventing the participants from accessing, understanding, assessing, and using health information emerged throughout all the themes. Various barriers were described as occurring both inside and outside the prison context. Barriers included accessing both health-related information and health personnel, negative attitudes towards them and their economic situation outside prison preventing utilization of the dental health service.

Several participants expressed concerns that the prison isolated them from regular access to health information (family, friends, and the internet) and that prison life made it difficult to arrange appointments with health personnel, such as the dentist or doctor alone. One participant emphasized how difficult it was not to be allowed to be alone with the dentist, which he considered a private matter between him and the dentist; he had declined an examination because two prison officers had to be present. Another participant recounted an episode in which he had an urgent toothache and had the experience that the dentist seemed scared of him. It seemed like the dentist was rushing the treatment and was unsure whether he was allowed to touch him, as the participant recalled:

> *I felt I had to say I wasn't dangerous despite sitting with those* [handcuffs]. (ID2)

One participant described experiencing a negative attitude towards people with substance use disorder from dental health personnel, feeling that they would not provide all the information about available treatments because they assumed people with substance use disorder could not afford them, as the participant stated:

> *No, then I do not even bother to ask. To get such an attitude, it is the attitude that is wrong. And you notice it immediately*. (ID8)

Several participants also underlined the importance of getting enough time for questions, and one participant highlighted the fact that people with a history of substance use disorder might need extra time:

> *Then, we should rather get more time to understand it* [health information] *when it* [the history of substance use disorder in the patient file] *is noted, right? It should be the exact opposite.* (ID8)

Several participants did not use dental health services regularly, whether inside or outside prison. Being imprisoned or in rehabilitation, however, enhanced dental service use because then the dental examination and treatment were free, as one participant noted:

> *It was when I was under* [substance use disorder] *treatment, then I went to the dentist. And now that I am imprisoned, I have visited the dentist. I was given a little push here.* (ID1)

Their economic situation was mentioned as one of the main reasons for not utilising dental services outside prison. Several emphasized how expensive it was, including the following participants:

> *It is true that people refrain from going there because of the costs [. . .] yes, including myself, right [. . .] it is very, very expensive*. (ID12)

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> *Yes, it is only the personal economy—nothing else. Even when I was drug-free for seven and a half years, I only went once to the dentist due to my personal economic situation. And then I was scared to death of how expensive it would be, and yes, I paid something like 1200–1300 NOK. So, it wasn't bad, but if I was going to do what I should have done and what I wanted to do, it would cost me somewhere around 7000–8000 NOK. So, nothing was done.* (ID1)

Getting access to a dental appointment in prison was reported to be challenging due to long waiting lists, and those experiencing acute pain were usually prioritized. However, the participants reported that access was often easier when a dental clinic was inside the prison, as two participants recalled:

> *I was in another prison in another part of the country, and there was a dentist there, so it was very good. But here in this prison, I feel it has taken some time. You have to get out of prison, and there is a waiting list. So things take more time.* (ID12)

> *You only get help once you are in real pain. I know that. I am aware that there is no point in even asking if you are not in a lot of pain, that it inhibits you in your everyday life. Because you are going out of prison, and it is very strict. It is a bit silly that it should be like this. You have to be in real pain before you can* [get a dental appointment]. (ID8)

One participant emphasized that information about the dental health system in prisons should be repeated several times to ensure that prisoners understood the system. This was considered necessary because much information upon arrival at the prison about many things is given, and some prisoners were very weary during their first time in prison, as one participant observed:

> *There is so much new then, so someone should've repeated it when you have landed a bit after a week. Depending on how people are, it could be brought up a couple more times so that one's certain that the person has understood it. Because there can be a bit too much information at once* [in prison] *in terms of rules, outside time, locking in time, and then there also comes 'We have a dentist service, but it's only when it's urgent'. […]. There is so much. […]. So just that it was informed about very shortly with everything else when you arrived and repeated on another occasion alone.* (ID8)

DISCUSSION

This study explored prisoners' perceived oral and general health and how they accessed, understood and assessed health information to gain insight into their health literacy. The findings indicated that the participants reported good health and good oral health, but they often simultaneously reported suffering from illnesses and/or injuries. They expressed scepticism towards health information and made choices concerning their own health based on their own 'common sense', former experiences and information from people they trusted. When health information was adjusted to their needs and situations, they understood and accepted it more easily. The results further indicated that psychological and/or physical proximity to the health information source made the information easier to access, understand and assess. Nevertheless, the participants experienced several barriers preventing them from accessing, understanding, assessing, and using health information both inside and outside prison.

Findings from several studies indicate that prisoners are a vulnerable group with more physical, mental, and oral health challenges, substance use disorder and low health literacy [9–12]. However, most participants reported good general and oral health despite reporting diseases, previous treatments, and injuries. This inconsistency contrasts with other studies exploring prisoners' self-rated health and chronic conditions [27–30]. The reason for the inconsistent findings in this study may be that being interviewed by a dental hygienist might have caused the participants to underreport oral health problems. Most participants in this study had been recruited by a dental hygienist during a consultation they had requested. This may indicate that the participants utilized the dental health service as a resource they could access in prison more than other prisoners who did not participate in the study and therefore actually had better oral health than the average prisoner. The participants also linked absence of pain to good oral health, which may have caused them to report good oral health. Considering absence of pain as an indication of good oral health might indicate low ability to understand information on risk factors for poor oral health [1].

The analysis indicated that the participants showed autonomous health behaviour. They mainly made decisions about their own health based on health information collected from trusted sources (family or friends) or their own reasoning, which they referred to as 'common sense'. The participants generally expressed scepticism towards health-related research, health authorities and health information provided by public sources but could in some cases use it. A study from England on prisoners' mental health

problems and help-seeking behaviour supports this finding, whereby informal sources of health information, such as family, were very important for prisoners, especially younger prisoners [31]. Autonomous health behaviour may be a sign of empowerment, which again may be a positive indicator of good health and good health literacy [32, 33]. However, empowerment combined with low health literacy might lead to choices that could directly harm a person's health: a Hungarian study indicated that those with low health literacy and high empowerment had the same poor health as high-need patients with both low health literacy and low empowerment [33]. Therefore, even though the participants in our study seemed to be competent in finding health-related information, the information sources were not always reliable, potentially leading to poor health.

The participants preferred health information provided in straightforward language and information given both written and verbally. If the health information they were given was adapted to them and their needs, the participants felt more cared for and accepted. Findings from a study by Donelle and Hall [11] support this; they found that prisoners expressed a need for health information to be less complex and provided by caring and supportive health workers who met them as persons. By using plain language rather than medical jargon, the healthcare provider created a supportive environment and involved the receiver instead of creating a situation that inflicted shame and embarrassment [11].

Interestingly, the participants in our study mentioned that dental health personnel were easier to understand than other health personnel, perhaps because general health information can be more complex than oral health information. It might also be, as one participant pointed out, that the same information has been repeated over and over again every year since childhood, making it easier to understand and remember. The repetitive nature of the dental health information may have led to the perception among our participants that dental health personnel were easy to understand. It should also be considered that being interviewed by a dental hygienist might have affected their statements.

The participants reported pharmacies and pharmacy staff to be important sources of health-related information, mainly because most pharmacies have many locations and long opening hours, making them easy to access. This finding is consistent with a previous study [11], which indicated that prisoners benefited from easily accessible health services.

The participants experienced barriers to accessing different health services and health information, both inside and outside prison. The strict prison regulations and the prisoners' rights to dental health services in prison were barriers to accessing the public dental health service in prison and to accessing health information. The participants highlighted the lack of rights to have dental health examinations and dental treatment when not imprisoned for longer than three months (unless they had acute pain), the opportunity to have some privacy, being allowed to be alone with the dentist and the long waiting lists for dental examination and treatment as important barriers for dental treatment when imprisoned.

Several participants mentioned negative attitudes from dental health personnel towards them, both when imprisoned and outside the prison, as a significant barrier to seeking and receiving dental examinations and treatment. A Norwegian study found that patients on an opioid maintenance treatment experienced stigmatizing attitudes from the dental health personnel at the dental clinic, which was considered a barrier to using oral health services [34]. Another study on help-seeking behaviour among male offenders in England found that the offenders 'wanted to feel listened to, acknowledged and treated as individuals by their general practitioners' [35 p. 306]. This is consistent with our findings: the participants described both positive and negative experiences with dental health personnel, depending on their attitudes and communication, which affected both the participant's service utilization and the experienced benefits of the dental health service.

Their personal economic situation was also highlighted as a barrier for not having regular dental visits or dental treatment outside prison. Regular dental visits are associated with better clinical and self-perceived oral health [36, 37]. Barriers to utilizing dental services prohibit people from getting the treatment they need, and from receiving health information provided by dental health personnel, which might affect their health literacy and, again, their ability to make good choices for their health.

This study has some limitations. Only prisoners who contacted the dental hygienist in the high-security prison were asked to participate. Recruiting participants during a dental appointment they had asked for might partly explain them reporting good health, as the participants might have had more interest in their own health than other prisoners. Therefore, the results should be interpreted with caution.

It is important to adapt both the dental health service and the providers' communication to this vulnerable group to make the information necessary to take care of their own oral health and general health more accessible. The participants identified in-person encounters as preferable. In-person encounters naturally give rise to the fact that the provider can adapt their communication to an individual's health literacy. However, more knowledge about how prisoners experience and use health information, in addition to their use of health care services, is needed. Large-scale studies and a validated and tailored health literacy questionnaire for this vulnerable group are needed to gain more knowledge.

AUTHOR CONTRIBUTIONS

Conceptualisation: Kathrine Høyvik Bergum; Vibeke Hervik Bull; Kjersti Berge Evensen. **Methods**: Kathrine Høyvik Bergum; Linda Maria Stein; Kjersti Berge Evensen.

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CONFLICTS OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support this study's findings are available from the corresponding author upon reasonable request.

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