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Perspectives of clinicians and screening candidates on shared decision-making in prostate cancer screening with the prostate-specific antigen (PSA) test: a qualitative study (PROSHADE study)

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10.1136/bmjebm-2024-113113

► Additional supplemental material is published online only. To view, please visit the journal online (https://doi.org/10.1136/bmjebm-2024-113113).

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To cite: Sanchis MJ, Guilabert M, Parker LA, *et al. BMJ Evidence-Based Medicine* Epub ahead of print: [please include Day Month Year]. doi:10.1136/bmjebm-2024-113113

Abstract

Objective The objective of this study is to analyse the perspectives of screening candidates and healthcare professionals on shared decision-making (SDM) in prostate cancer (PCa) screening using the prostate-specific antigen (PSA) test.

Design Descriptive qualitative study (May–December 2022): six face-to-face focus groups and four semistructured interviews were conducted, transcribed verbatim and thematically analysed using ATLAS.ti software.

Setting Data were obtained as part of the project PROSHADE (Decision Aid for Promoting Shared Decision Making in Opportunistic Screening for Prostate Cancer) to develop a tool for SDM in PCa screening with PSA testing in Spain.

Participants A total of 27 screening candidates (three groups of men: 40–50 years old; 51–60 years old and 61–80 years old), 25 primary care professionals (one group of eight nurses and two groups of physicians: one with more and one with less than 10 years of experience), and four urologists. Focus groups for patients and healthcare professionals were conducted separately.

Main outcome measures Participants' perceptions of shared decision-making related to PSA opportunistic screening, including their understanding, preferences, and attitudes.

Results Three themes were generated: (1) perceptions of SDM, (2) perceptions of PSA testing and (3) perceptions of SDM regarding PCa screening. Theme 1: screening candidates valued SDM when it included clear information and empowered them. There was consensus with primary care health professionals on this point, although their knowledge and implementation of SDM varied. Theme 2: candidates were divided on PSA testing; some trusted it for early detection, while others expressed scepticism due to concerns about false positives and invasive procedures, reflecting gaps in accessible information. Theme 3: professionals

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Current clinical practice guidelines recommend shared decision-making (SDM) in prostate cancer (PCa) screening based on prostate-specific antigen (PSA) testing; however, several factors have hindered this implementation.

WHAT THIS STUDY ADDS

⇒ Screening candidates request information based on practice to empower them in making clinical decisions.

⇒ Primary care professionals recognise the importance of SDM with the patient, but in the case of the PSA test, clinical judgement should prevail.

⇒ Urologists prioritise their clinical judgement in decision-making, but in the case of PSA testing, they advocate for an SDM process with the patient.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The integration of evidence-based tools and practice into clinical practice is a crucial step towards the improvement of SDM in PSA-based PCa screening.

⇒ Reorganisation of the healthcare system to achieve effective coordination and to improve communication between the different professionals would facilitate the implementation of SDM in practice.

across primary and specialised care stressed the need for standardised SDM protocols. Primary care physicians were particularly concerned that PSA decisions align with scientific evidence and urologists recognised SDM as valuable in PSA testing only if it was adequately explained to each patient. Barriers to implementing SDM included insufficient coordination across care levels, lack of consensus-driven protocols and limited clinical time.

Conclusions While patients expect comprehensive information, primarily based on practice to achieve empowerment, healthcare professionals face obstacles such as limited time and insufficient coordination between primary care and urology. All stakeholders agree on the importance of evidence-based tools to reinforce effective SDM and enhance collaboration across urologists and primary care in the context of PSA testing.

Background

The benefit–harm ratio of early detection of prostate cancer (PCa) through prostate-specific antigen (PSA) testing remains controversial. PSA testing can result in false-positive results, complications and overdiagnosis (risk estimates of up to 67%), leading to unnecessary additional testing and overtreatment.[1] There are conflicting data on mortality reduction due to early PCa detection,[2–4] and treatment of early PCa can lead to adverse outcomes, lower quality of life and increased healthcare spending.[5 6] Consequently, making decisions on early PCa detection represents a challenge for screening candidates and healthcare professionals, and guidelines on this topic from different professional organisations provide divergent recommendations. Nonetheless, all guidelines agree that shared decision-making (SDM) is the best model for doctor–patient communication on sensitive medical decisions,[7] such as early PCa detection.

Scientific societies such as the American Urological Association[8] and the European Association of Urology,[9] as well as the United States Preventive Service Task Force[10] recommend SDM on PSA testing for the opportunistic screening of PCa. However, to date, there is no consensus on how to integrate SDM into clinical practice, and the results obtained after SDM implementation are inconclusive. According to a previous systematic review, an intervention to promote SDM in PCa screening, compared with usual care, led to a small but significant improvement in patients' knowledge of PCa and early PCa detection, but had no significant effect on decisional conflict or the frequency of PSA testing.[11] The studies included in this review were mostly conducted in the primary care setting, where PSA tests are usually ordered; however, most guidelines are produced by urologists and public health specialists. Therefore, primary care physicians request the PSA test based on the recommendations of other healthcare professionals.[12] Research has shown that knowledge, opinions and practice vary considerably between primary care physicians and urologists[13]; for example, primary care physicians tend to be less inclined to request PSA tests for patients compared with urologists, and also less adherent to the available recommendations. One previous qualitative study of primary care physicians found substantial variability in their approaches to discussing PSA testing with asymptomatic men.[14] Although SDM is becoming more common, there is no established SDM strategy for PSA testing, and the available recommendations do not reflect usual practice because they are missing the input of primary care professionals.

There are various tools and aids for promoting informed medical decision-making on PCa detection, but they do not guarantee true collaboration between health professionals and patients. One recent meta-analysis revealed difficulties in the practical implementation of PCa screening decision aids; while they may improve patients' knowledge about the benefit–risk ratio of PSA, they do not promote SDM.[15] The organisations responsible for developing SDM guidelines must take into account patients' perspectives so that healthcare professionals can help each screening candidate evaluate the benefits and risks that are most relevant to him.

Therefore, the PROSHADE study team aims to develop a new aid to promote SDM on PSA testing for opportunistic PCa screening.[16] One key part of the development process involves exploring the perceptions of all relevant healthcare professionals (urologists, primary care physicians and primary care nurses) and PCa screening candidates on the barriers to and limitations of SDM, particularly in the context of opportunistic PCa screening. Because healthcare professionals and screening candidates evaluate medical options differently, each group requires specific information to reach an informed and shared medical decision.

The aim of this study was to analyse the collective perspectives of screening candidates and healthcare professionals regarding SDM in PSA-based PCa screening, and to identify the primary factors influencing the SDM process.

Methods

Study design

We conducted a qualitative study based on focus groups[17] and semistructured interviews[18] followed by a thematic analysis of the collected data.[19 20]

Setting

All field work was carried out in Madrid (Spain) from May to December 2022.

Participants and procedure

We conducted six focus groups with participants from the two populations that we considered for the study: screening candidates (three groups) and healthcare professionals (three groups). In the case of screening candidates, we conducted a focus group for each age range (40–50 years old, 51–60 years old and 61–80 years old). Focus groups of screening candidates were conducted by age group in order to assess different perspectives, knowledge and attitudes towards PCa screening that may differ significantly with age. As PCa risk increases with age, older and younger men may perceive the importance of screening differently, have different health priorities and have different levels of awareness. In addition, generational differences in health attitudes, decision-making preferences and social norms, such as views on SDM and gender roles in healthcare, necessitated an age-segmented approach to ensure a comprehensive understanding of these diverse views.[21] We sought to achieve a variety of educational levels in each group. We excluded men with previous PCa diagnoses. In the youngest group, we also excluded men with a previous blood PSA measurement. In the case of healthcare professionals, there were two focus groups of primary care physicians (divided by years of experience: ≥10 years and <10 years), and one focal group of primary care nurses (with varying professional experience). In these focus groups of primary care professionals, we sought equal or over-representation of women, as both professions are female dominated. In addition, we conducted four semistructured interviews with urologists (two women with <10 years' experience and two men with ≥10 years of experience). Given that PSA test as a PCa opportunistic screening is usually ordered in primary care, we decided to conduct focus groups in this setting. We decided to also include urologists' point of view through semistructured interviews. The inclusion of urologists' views in the study is crucial, even though PCa screening is primarily initiated in primary care, because urologists play a key role in the diagnostic process, treatment decisions and management of patients with PCa. Their experience and expertise provide valuable insight into the clinical considerations, decision-making processes and challenges they face when interpreting screening results and discussing treatment options with patients. In addition, understanding the views of urologists helps to create a more complete picture of the multidisciplinary approach to PCa care and SDM.

We based our focus group and interview scripts on the results of a previous systematic review.[22] Although the script was adapted to each group of participants, all the scripts comprised the following dimensions: (1) perceptions of SDM, (2) perceptions of PSA testing and (3) perceptions of SDM in PCa screening (see online supplemental table 2).

Researchers from APLICA, a social research cooperative specialising in health and well-being (https://aplicacoop.com) with experience in qualitative research since 2018, moderated the interviews and focal group discussions (a women and a men). No specific biases, assumptions or personal interests in the research topic were reported by the researchers. Their role was to moderate the focus groups and interviews, ensuring a neutral environment, with no indication that their personal views influenced the research process. Focus groups were held in person in a neutral environment outside the health centre, and the semistructured interviews with urologists were conducted in medical offices. The focus group discussions and interviews were recorded (with the prior consent of all participants) and transcribed verbatim. Only participants and researchers were present for both focus groups and interviews.

Sampling and selection of participants

We followed two different strategies to select participants. First, we published and disseminated advertisements through various social media channels. These announcements provided basic information about the study and the contact details of the research team for those interested in participating. We also conducted snowball sampling to maximise the richness of the discussion in the focus groups. There was no prior relationship between the participants and the researchers. Participants were informed that the study aimed to explore their perceptions regarding SDM and PSA testing in PCa screening, without disclosing any personal goals or specific reasons behind the researchers' interest in this topic.

Data analysis

We performed a thematic analysis of the transcripts[19 20] using ATLAS.ti. This methodology is especially suitable for research that aims to achieve an in-depth understanding of people's subjective experiences and how these relate to social and health contexts. We open coded the transcripts to identify relevant emerging concepts and themes in the participants' discourse, then we performed selective and axial coding to refine and organise the thematic codes in a theoretical structure.[23] We carried out the thematic analysis through researcher triangulation: the study authors compared the codes in pairs and discussed possible discrepancies (three authors, MJSR, MG and BL). Transcripts were not returned to participants for comments or correction.

Results

Characteristics of participants

There were 56 participants in total (27 screening candidates, 25 primary care professionals and four urologists). Table 1 presents the main sociodemographic characteristics of the sample.

Figure 1 presents a description of the main participants' perceptions about the three main themes. In addition, table 2 presents a summary of the main results for each theme included in the focus group.

Theme 1: perceptions of SDM

Screening candidates and healthcare professionals from primary care were in favour of SDM, although they perceived it in different ways. In contrast, urologists were more prone to focus on the health professional's decision.

Patient involvement preferences

Screening candidates saw SDM as a process in which the clinician explains the different treatment options with their benefits and risks, but where the patient always has the last word.

> The doctor, the doctor only gives information. He advises you and tells you, the patient always has the last word. Always. (FG1, male, screening candidate, 40–50 age group).

Healthcare professionals' attitudes towards patient involvement in decision-making

Primary care professionals

Primary care nurses associated SDM with patient empowerment and indicated that understandable information is crucial to ensure active patient participation. Some of the primary care nurses perceived a direct link between health education and SDM, since both empower patients and facilitate informed decision-making. They emphasised the importance of developing standardised SDM protocols and training health professionals to apply them (see online supplemental table 2_ref.1).

> Practically all health education is focused on empowering the patient and enabling them to increasingly make decisions for themselves, because even reaching a shared decision would be fantastic, right? (FG6, female, primary care nurse group).

Some primary care physicians considered it necessary to negotiate and to trust patients' intuition. They described a positive transition towards SDM, recognising the importance of informing and empowering the patient while still highlighting the relevance of clinical information. SDM implementation can be difficult because of patients' expectations (see online supplemental table 2_ref.2).

> There are times when, as it's shared, you have to give in [...] We can't be authoritarian [...] It's a negotiation (FG4, male,

Table 1 Sociodemographic characteristics of the subjects included in the focus groups and the semistructured interviews

A. Men (screening candidate)				
	Total	**Focus group 1 (40–50 years)**	**Focus group 2 (51–60 years)**	**Focus group 3 (61–80 years)**
	10	10		
	9		9	
	8			8
Educational level				
Primary	2	0	0	2
Secondary	13	5	4	4
University	12	5	5	2
B. Primary care providers				
	Total	**Focus group 4 Physicians: more professional experience (>10 years)**	**Focus group 5 Physicians: less professional experience (<10 years)**	**Focus group 6 Nursing: diverse professional experience**
	14	10	0	4
	11	0	7	4
Sex				
Men	10	5	4	1
Women	15	5	3	7
C. Urologists				
	Total	**Interview urologists: more professional experience (>10 years)**	**Interview urologists: less professional experience (<10 years)**	
	2	1	1	
	2	1	1	
Sex				
Men	2	2	0	
Women	2	0	2	

primary care clinician with more professional experience group).

There was consensus among healthcare professionals from primary care and screening candidates on the importance of informing and empowering patients, although knowledge and implementation of SDM varied. Key points raised were the importance of clear information in decision-making and the need for a standardised protocol for applying SDM. The influence of external information sources, time limitations and doctor–patient trust issues were common challenges (see online supplemental table 2_ref.3).

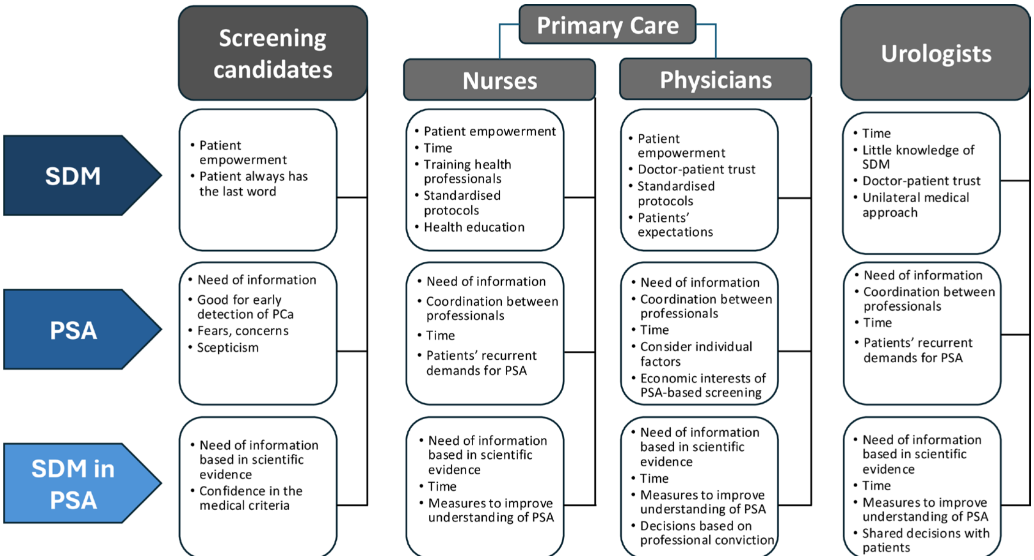

Figure 1 Description of the main participants' perceptions about the three main themes. SDM, shared decision-making; PCa, prostate cancer; PSA, prostate-specific antigen.

Table 2 Summary table of the main results, according to the three themes included in the focus groups

Theme	Aspects	Key insights
Theme 1: perceptions of SDM	1.1 Patient involvement preferences	Screening candidates value SDM where clinicians explain options, but patients make the final decision.
	1.2 Healthcare professionals' attitudes towards patient involvement in decision-making	Primary care healthcare professionals: support SDM, emphasising patient empowerment and clear information. They face challenges like time constraints and patient expectations.
		Urologists: less supportive of SDM, preferring clinician-led decisions. They consider patient preferences but prioritise clinical information.
Theme 2: perceptions of PSA testing	2.1 Screening candidates' attitudes towards the test	Mixed opinions: some support PSA testing for early detection, while others are sceptical due to concerns about false positives and invasive procedures.
	2.2 Screening candidates' knowledge gaps	Lack of information about PSA testing: they expect detailed explanations and statistics from their doctors.
	2.3 Challenges of risk communication between health professionals and screening candidates	- Time constraints often lead to ordering tests without full explanations. - Variability in SDM implementation. - External information sources (eg, 'doctor Google'). - Economic interests of PSA-based screening.
Theme 3: perceptions of SDM in PCa screening	3.1 Age and gender factors	Older men: more accepting of doctors' decisions, with some preferring male doctors. Younger men: more receptive to SDM regardless of the doctor's gender.
	3.2 Need for SDM protocols	Advocate for standardised SDM protocols, particularly for ordering PSA tests.
	3.3 Healthcare professionals' views on SDM in PSA testing	- Urologists: acknowledge the importance of SDM in PSA testing but face challenges due to time constraints.
		- Primary care physicians: some see limited application for SDM in PSA testing, prioritising clinical evidence over patient preferences.

PCa, prostate cancer; PSA, prostate-specific antigen; SDM, shared decision-making.

> Empowerment requires information. But not from doctor Google, rather directly from us. (FG4, male, primary care clinician with more professional experience group).

Urologists

The urologists said they had little knowledge of SDM and did not apply it, at least consciously, in a systematic way. They mainly associated SDM with purely clinical decisions, focusing on a unilateral approach (of the health professional). While they understood the importance of patients' preferences and fears, they thought these preferences and/or fears should not determine clinical decisions.

> … But for [patients' opinions] to be a very fundamental pillar when then making a decision. […] it's a very subjective thing, which should also be measured separately. It's like a factor to take into account, but that should not be a very relevant factor when taking a shared clinical decision. I would give more importance to the clinical information. (E3, female, urologist with less professional experience)

Theme 2: perceptions of PSA testing

Screening candidates' attitudes towards the test

The perception of PSA testing varied between screening candidates. Some screening candidates said PSA testing is a good thing for the prevention and early detection of PCa and were confident in the medical criteria for its application. However, others expressed scepticism, questioned its usefulness and showed concerns about false positives and the associated invasive procedures, such as biopsies (see online supplemental table 2_ref.4).

> I trust them [doctors] for, to see if I have it or not. But, of course, if every step I take I get deeper into the hole and then it turns out to be a false positive and they've done the biopsy, they've screwed up my life … (FG1, male, screening candidates, 40–50 age group).

Screening candidates' knowledge gaps

Screening candidates also highlighted a gap in knowledge of the PSA test. They considered their doctor should provide detailed information and statistics to help them decide (see online supplemental table 2_ref.5).

> I think there is no information right now. I for example don't know about this test, what the test is, tell me first what the test is and I will decide if I will do it or not…(FG1, male, screening candidate, 40–50 age group).

Challenges of risk communication between health professionals and screening candidates

Health professionals recognised the challenges of transmitting the information needed to improve knowledge. Although urologists considered PSA a useful marker, even for screening, they stressed the difficulty of transmitting complete information on the risks of a positive result. Primary care physicians also highlighted the paucity of information provided to patients and the need to improve doctor–patient communication. However, they pointed out that explaining the implications of the test in a limited time is complicated (see online supplemental table 2_ref.6).

> I think it's very difficult to convey […] the cascade that comes after. To explain all the risks that a positive result entails. (FG4, female, primary care physicians with more professional experience).

Lack of time is a common obstacle for all health professionals, since explaining the test takes longer than the available consultation time. This pushes them to simply order the PSA test, without explaining the benefits and risks, to avoid prolonged discussions with the patient (see online supplemental table 2_ref.7).

> in the end you take much longer explaining and if you have a long waiting list, if you have twenty people outside, you request it so you're not there for half an hour explaining why and maybe he doesn't even understand and leaves angry (FG6, female, primary care nurses with diverse professional experience).

There were varying opinions on protocols and criteria for requesting the test. As the application of protocols varies, participants expressed a clear need for standardisation of applicability criteria based on professional consensus. Some screening candidates questioned the need for testing without obvious symptoms, while healthcare professionals discussed the importance of following stable protocols based on the scientific evidence.

> No, why, if you have no problems, why would you get a test? I don't see the need. The time will come, if it ever does. (FG2, male, screening candidate, 51–60 age group).
> Sometimes we do it, logically, because that's the evidence there is; but since it changes so much and the concept of screening also changes … (E1, male, urologist with more professional experience).

The lack of coordination between professionals of different care levels was an issue raised by urologists, who stressed the need for communication and coordination with primary care physicians to establish referral and follow-up criteria.

> Of course, if there were coordination, it would also improve patient accessibility […] Sometimes patients have doubts they can't express because they can't come here to the clinic, or they can't go to the family doctor's office [to present their doubts]because [the clinician] he has no idea what they are talking about. […] Of course, if we were coordinated, then that would also improve for them. (E3, female, urologist with less professional experience).

Nurses and urologists mentioned the challenge of patients' recurrent demands for PSA testing. They also highlighted the importance of explaining the test and its implications (both positive and negative) in detail, especially to older patients or those with a lower educational level. Primary care physicians said it was crucial to consider individual factors when deciding whether to order the PSA test (see online supplemental table 2_ref.8).

> …often young patients, that is, who have no indications for doing a PSA, come to ask you for a PSA. And I, when they come to ask for it and don't have indications, I tell them. I tell them they have no indications for a PSA, but then there are people who really insist, so I request it. (E2, male, urologist with more professional experience).

Primary care physicians also brought up the cost of PSA testing and the potential hidden economic interests of PSA-based screening, underlining the importance of not ordering the test indiscriminately (see online supplemental table 2_ref.9).

> With PSA and with many other things in preventive and curative medicine, the industry plays a role. The more people want to sell robots for prostate operations, the more essential it is going to be to do PSA testing. (FG4, female, primary care physicians with more professional experience).
> You can't tilt at windmills. (FG4, female, primary care physicians with more professional experience).

The vision of the people involved in PSA-based PCa screening reflects significant challenges ranging from lack of information and effective clinician–patient communication—sometimes due to limited appointment times—to the need for closer coordination and interaction between different care levels. Moreover, patients often recurrently demand PSA testing, posing another significant challenge for healthcare professionals.

Theme 3: perceptions of SDM in PCA screening

Age and gender factors

According to primary care health professionals' perception, age was a determining factor in the screening candidates' perception of SDM in PSA testing. Older men were more willing to accept the doctor's opinion as the final decision. It seems some older men are less receptive to information provided by younger professionals and women (see online supplemental table 2_ref.10).

> …with some patients, if you [a female nurse] explain it to them, but then if the [male] doctor says it then they keep their mouth shut, you know, older people. (FG6, female, primary care nurses with diverse professional experience).
> If they see you as young it's very difficult. (FG6, female, primary care nurses with diverse professional experience).

However, most screening candidates indicated they had no preference for male or female health professionals, and that trust and professionalism were more important than gender (see online supplemental table 2_ref.11).

> Today, look, thank God that […] any elderly person goes to a female doctor, and we confide in her just as if we were in front of our wife. That trust, if it were the 1940s or 1950s… Imagine me telling a female doctor things about sex or things happening in my private parts. No way, not at all, my God, my God! And yet, today, 99% of elderly people go to a female doctor, and it seems that if it's a woman, we feel like… right? Well, no. Before, you would tell a man with confidence… But today, thank God, the mindset we have has greatly improved life. Yes, we do tell those problems to the female doctor. (FG3, male, screening candidates, >60 age group)

Nevertheless, some men expressed individual preferences, sometimes based on gender.

> I prefer a man… (FG1, male, screening candidates, 40–50 age group).

Need for SDM protocols

Nurses considered that establishing SDM protocols for ordering PSA tests would be beneficial. They stressed the need to protocolise certain aspects related to the criteria for ordering a PSA and the steps to follow during SDM. The aim would be to achieve uniform procedures across different teams of professionals.

> It can't be that some professionals do respect the protocols and the current recommendations and the current scientific evidence and so on and they [referring to other professionals] work on autopilot, don't read them […] but it's true that protocolising would be agreeing on some things like these for example and everyone working along the same lines. (FG6, female, primary care nurses with diverse professional experience).

Healthcare professionals' views on SDM in PSA testing

Although urologists had previously expressed little knowledge of SDM in a general sense, they recognised its importance for ordering a PSA test. They said the test must be explained in detail to each patient and should only be carried out if the patient agrees, but they considered time limitations an important challenge (see online supplemental table 2_ref.12).

> Yes, with the PSA, well yes, with the PSA it [SDM] is what should be done, of course. For example, it shouldn't be ordered if the patient doesn't agree. We have to explain well what we want to find and that sometimes we might find things we don't want. (E3, female, urologist with less professional experience).

In contrast, although primary care physicians 'perception was in favour to SDM in general, some primary care physicians had a more critical stance in relation to SDM on PSA testing. While recognising the importance of SDM, they said that some decisions, such as PSA test ordering, should be based on scientific evidence and professional conviction. Some argued for the need to empower the patient and avoid paternalism, while others maintained that in the case of the PSA test, there is not really a shared decision to make, and that the professional is responsible for making the decision and explaining it to the patient (see online supplemental table 2_ref_13).

> Well, I think shared decision-making is very important, but without losing focus on what I think in some aspects I think yes you have to follow a line that you can't really deviate from. Sometimes yes, you can give in so as not to spoil the relationship or people who've been coming for a long time… But in general, if you have evidence or a more or less strong conviction that this patient is not going to benefit from ordering a PSA, I think there shouldn't be much debate. (FG4, male, primary care physicians with more professional experience).

Discussion

This study shows the different perceptions held by screening candidates and health professionals regarding SDM in relation to PSA test-based PCa screening. Screening candidates were generally in favour of SDM. From their perspective, SDM was an empowering process but must be based on clear and easily understood information. In line with the published literature, they defended their active participation in health decisions,[24–26] highlighting patient autonomy as a fundamental principle of SDM.[26–28] Some screening candidates insisted that they should always have the last word, which reflects the transition from medical paternalisms towards a more participatory model where patients assume a leading role in their health decisions. On the other hand, while both primary care providers and urologists recognised the importance of SDM, they approached it from different angles. Primary care providers felt that some decisions, such as ordering a PSA test, should be primarily based on scientific evidence and professional conviction, and urologists emphasised that PSA testing, with its complexities and implications, requires detailed patient explanation and agreement.

Although, in general, primary care health professionals recognised the importance of considering patient preferences, they also acknowledged issues related to not meeting the patients' expectations, while urologists, mainly in favour of unilateral clinical decisions, highlighted barriers to the implementation of SDM, mainly related to limited time and knowledge. This attitude is not aligned with the literature that advocates more equitable and collaborative SDM between clinicians and patients.[27] There is a need to address healthcare professionals' perceptions of and attitudes towards SDM to achieve a more effective implementation. The lack of specific knowledge regarding SDM among some healthcare professionals indicates a gap in the conscious application of this approach.[28]

In relation to the utility of PSA-based PCa screening, we observed considerable differences in screening candidates' opinions. While some of them said they trusted the PSA test for early PCa detection, others expressed scepticism owing to concerns about false positives and invasive procedures. These discrepancies may reflect lack of clear and understandable information regarding the PSA test, which constitutes a challenge for patients and healthcare professionals alike.[26 29 30] In addition, this scepticism expressed by some patients towards PSA testing may be due not only to a lack of clear information, but also to a deeper understanding of the test's limitations, such as its lack of specificity and the potential for false positives to lead to invasive procedures. This might also suggest that, as patients become more informed, their attitudes towards the test may become more cautious.

It is crucial for patients to have access to information on the risks and benefits of the PSA test,[31 32] as many men who are not considered candidates for screening demand the test. To tackle this, our participants called for standardised protocols and evidence-based information tools to facilitate SDM implementation. These concerns about the lack of detailed information and statistics based on scientific evidence are consistent with the literature on communication challenges in the context of screening.[28] In fact, previous recommendations emphasise the importance of developing structured and accessible resources for patients and healthcare professionals.[33–36] In this sense, patient's perceptions of their right to receive information and be heard by healthcare professionals directly impact the quality of communication.[26] The diversity of perspectives on the use of the PSA test and limitations in the effective transmission of information, exacerbated by the lack of time in consultations, highlights the urgent need for strategies that address these communication barriers.[22 29 30]

Our findings showed varied perspectives among healthcare professionals regarding the importance of applying SDM in PCa screening which may reflect differing views on the usefulness of the PSA test. Advocacy for SDM in PSA testing is primarily linked to the complexity and implications of the test, which involve significant patient participation and consent.

Urologists emphasise the importance of detailed patient explanations in PSA testing due to the complex implications of the test, such as the potential for false positives and invasive procedures, which can have significant psychological and physical impacts on patients.[9]

This approach might align with the goal of involving patients in fully informed decision-making. Primary care physicians may tend to prioritise scientific evidence and clinical guidelines when deciding on PSA screening, possibly due to the resource constraints and time limitations often present in primary care settings. Such conditions might make it challenging to implement SDM comprehensively, leading primary care physicians to favour an approach that emphasises professional judgement based on established clinical protocols. In line with other studies, urologists agreed that the PSA test is a useful tool in PCa detection.[37] However, they also insist that time limitations constitute an obstacle to implementing properly informed SDM in PSA testing.[22 29 30] It is possible that primary care professionals support SDM yet may prefer that decisions regarding the ordering of a PSA test be primarily guided by scientific evidence and professional judgement. They recognised the importance of patient involvement, but also felt that SDM could complicate or delay decisions that should be based on established clinical guidelines and evidence.

Additionally, given the time constraints and practical challenges in primary care settings, these professionals might see adherence to evidence-based protocols as a more efficient approach in order to ensure timely and focus patient care, especially when the benefits and risks of the PSA test are well documented and widely known. This perspective could reflect their interest in balancing patient autonomy with the need for efficient and evidence-based clinical practice.

Short appointment times limit the possibility of providing detailed information about PSA and thus of carrying out adequate SDM. To deal with this problem, there is a need for additional resources, either in the form of longer appointments or efficient educational tools.[22 33 35] As some clinicians acknowledged, improved interdisciplinary coordination and communication could also resolve these differences between the different health professionals.[38] The varying knowledge and application of SDM among different health professionals warrants the development of standardised and consensus-based protocols. The healthcare professionals in our study called for effective coordination between the different care levels so that they could jointly address the logistical challenges of successful SDM.[38] It is crucial to develop clear guidelines on SDM,[39] ensuring uniform and aligned processes among the various teams of professionals.

Urological problems involve very sensitive issues and a previous survey[40] including more than 1000 patients showed that, regardless of the patients' gender, they preferred a male urologist for issues which they considered embarrassing which affected daily activities or caused concern. However, when problems were perceived as painful, all patients preferred a female urologist. Another survey[41] in a male population found that although most patients (97%) preferred the same-gender urologist because they felt less embarrassed, the main factors influencing their actual choice were the professional competence and skills of the clinician. In our study, primary care health professionals thought that men preferred male physicians to female ones for treatment of suspected prostate diseases. However, for men, the most important factors affecting clinician choice were professional skills, clinical experience and medical knowledge.

Implications for clinical practice and proposals for improvement

Through this qualitative study, we have identified several key areas for improvement. First, it is crucial to adopt a personalised approach (person-centred care) in SDM. Second, new tools based on scientific evidence could provide patients with clear and understandable information based on practice. Practice-based evidence includes information from patient experiences, routine medical records and observational studies, which can provide a more practical and closer understanding of the risks and benefits of procedures such as PSA screening. Adapting decision aids to include practice-based evidence can improve patient understanding by providing evidence of how the test affects people in everyday situations, including information on potential side effects, long-term outcomes and variations in care delivery. A comprehensive approach combining professional experience with supporting tools could help to ensure informed and effective SDM in the context of PCa screening or PSA testing. Third, effective communication and coordination between different levels of care (urologists, primary care physicians and primary care nurses) could improve patient referral and follow-up, ensuring comprehensive and consistent care. Our results demonstrate the need to prioritise training for healthcare professionals on SDM and effective communication with patients. Finally, patients' trust in their clinician influences their perception of information which underlines the importance of establishing and maintaining strong relationships with patients.[42]

Limitations of the study

The selected sample may not fully represent the diversity of perspectives in the screening candidates and among health professional groups. The inclusion of only four semistructured interviews with urologists could seem a small sample size, which could limit the generalisability of the findings, particularly concerning the perspectives of urologists. However, in qualitative research, the focus is less on the number of participants and more on reaching 'data saturation'. Focus groups with 18 primary care professionals might cover a range of perspectives until saturation is reached. Similarly, in-depth interviews with only four urologists may capture unique perspectives relevant to urology that would not emerge in a larger group. Hence, we believe that these interviews provide valuable insights in a context where the PSA test, as an opportunistic screening tool, is primarily ordered in primary care settings. In addition, our study took place in a specific country, which may limit the generalisability of our findings to different health systems. Variability in healthcare systems across countries could influence patients' and healthcare professionals' perceptions and experiences.

Conclusions

Our findings revealed a complex mosaic of perceptions among patients and healthcare professionals on SDM, specifically with regard to the PSA test. While patients expect complete information, mainly based on practice to achieve empowerment, healthcare professionals face obstacles such as lack of both time and interdisciplinary coordination. Patients' heterogeneous perceptions of PSA testing show that professionals require additional resources to effectively explain the risks and benefits of this test. In addition, the differences between the opinions of primary care health professionals and urologists regarding the utility of the PSA test highlight the relevance of evidence-based tools to reinforce effective SDM and the collaboration between different healthcare levels in the context of PSA testing.

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Funding Research funded by Carlos III Health Institute, code PI20/01334, Principal Investigator Dr Blanca Lumbreras Lacarra, cofinanced with FEDER funds from the European Union “A way of doing Europe”. The views expressed in this article are solely those of the authors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Consent obtained directly from patient(s)

Ethics approval This study involves human participants and was approved by The Ethics Committee of Sant Juan d'Alacant Hospital (20/041) on 8 January 2021. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. No data are available. Data are included within the article and uploaded as supplementary information.

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