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Review Article

Community-based interventions to improve prostate cancer screening and implications for black men: a scoping review

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ABSTRACT

The role of early detection of prostate cancer through prostate specific antigen (PSA) testing with or without digital rectal examination (DRE) to improve prostate cancer outcomes remains contentious, with ongoing debates about benefits and risks. Despite limitations, PSA testing with or without DRE remains the mainstay of early prostate cancer detection. Still, research findings have demonstrated underutilisation among black men who are most at risk. In this scoping literature review, three databases (PubMed NLM, CINAHL, and PsycINFO) were searched to identify and characterise community-based interventions to promote early detection of prostate cancer. Review studies, systematic or not, were excluded as well as studies that were not published in English, nor focused mainly on prostate cancer. Fifteen studies met the search criteria and were included in the review, with only one published in the UK, one in Iran, and 13 in the USA. The authors utilised community engagement strategies with faith-based groups, especially churches, making key contributions within American society. Decision aid tools to help men overcome their decisional conflicts and navigate to the point of screening were an important feature of many of the studies. Our findings suggest that well-designed and carefully tailored community-based interventions could contribute to creating awareness and informed decisions for PSA testing with or without DRE. In the UK society, such interventions are still required and should be prioritised without delay to help improve early prostate cancer detection among black men.

Keywords: PSA, DRE, Community, Interventions, Black, Men

INTRODUCTION

Globally, prostate cancer remains a significant public health concern. In 2022, prostate cancer was the fourth most commonly diagnosed cancer, accounting for 7.3 per cent.[1] With increasing incidence and mortality rates, prostate cancer has huge and ever-increasing cost implications for healthcare systems.[2-5] In the UK, prostate cancer is the most common male cancer, with increasing incidence and prevalence rates. Between 2000 and 2021, its incidence increased from 109 per 100,000 person-years to 159 per 100,000 person-years, while the prevalence rate increased from 0.4% to 1.4%.[6]

Ethnicity is an important underlying risk factor for prostate cancer. Research findings have consistently shown that prostate cancer rates are substantially higher among black men compared to white men.[7-9] Lifetime risk of being diagnosed with prostate cancer is higher (1 in 4) among black men compared to 1 in 8 among white men.[10] When it comes to mortality from prostate cancer, black men are also disproportionately affected.[9-12] Hence, prostate cancer is not only significant public health problem, but it is also glaringly a vital health disparity issue.

Apart from ethnicity, studies have explored modifiable lifestyle and environmental risk factors that could be associated with the risk of developing prostate cancer and related mortality. Among these are roles that metabolic syndrome might play in increasing risk, association between smoking, obesity and prostate cancer mortality

and the beneficial effect of regular physical activity on disease progression.[13] Systematic reviews with focus on LMICs identified higher fat intake, alcohol consumption, red meat intake and smoking as risk factors, while higher vegetable intake and tea consumption could lower risk.[14] Despite these findings, risk reduction measures that are based on these modifiable factors have no definite role in approaches to prevention/early detection and treatment of prostate cancer.

It has been hoped that early detection of prostate cancer at a stage which is treatable and curable using PSA testing with or without DRE could potentially reduce disease-related mortality. However, this benefit has not been demonstrated in research findings.[15] A recent systematic review concluded that prostate cancer screening using the PSA test could be associated with only a small reduction in disease-specific mortality, with no effect on overall mortality.[16] Some argue that apart from not achieving a remarkable reduction in mortality, PSA testing could engender fainting episodes and overdiagnosis, as well as contribute to complications like bleeding, clot formation, infection and urinary symptoms attributable to subsequent diagnostic procedures.[15,17] DRE has been associated with pain or bleeding.[15] Hence, PSA testing with or without DRE remains controversial, with no national screening programme for prostate cancer to drive early detection.

More recently, the US preventive services task force (USPSTF) reviewed evidence of benefits versus risks of PSA- based prostate cancer screening, with evidence that prostate cancer screening in men aged 55 to 69 years could prevent 1.3 deaths over 13 years per 1000 men screened and prevent 3 metastatic diseases per 1000 men screened. It also documented psychological problems associated with false positive results and physical complications due to treatment, with conclusions that overall, for men aged 55 to 69 years, there is a small net benefit of PSA-based testing. However, for men aged 70 years and above, there is no net benefit.[18] Based on USTPSTF recommendations, men aged 55-69 years could decide on an individual basis to undergo PSA- based prostate cancer screening after considering the potential benefits versus risks.[18] In the UK, asymptomatic men over the age of 45 years can request and be offered PSA tests during primary care consultations with their GP.[19]

Despite compelling evidence that black men bear a disproportionate burden of prostate cancer compared to their white counterparts, prostate screening remains far from the ideal among this population. Research shows that black men are less likely to utilise opportunities for PSA testing and therefore likely to present late with advanced symptoms of prostate cancer, consequently missing out on critical early intervention.[20] A US study cites low awareness of cancer, a lack of recognition of risks and benefits of screening as contributing factors to low participation in prostate cancer screening. The study also identified fear of the screening process, as well as a positive diagnosis and mistrust of the health system, as barriers to prostate cancer screening for black men.[21]

To improve the participation of black men in prostate cancer screening, innovative community-based interventions have been developed and implemented in different country settings. Such interventions have been the subject of systematic and non-systematic reviews. Lopez et al identified and reviewed three full-text articles published in peer-reviewed journals between 2017 and 2023 while Benedict et al reviewed 21 studies carried out between 2010 and 2021.[22,23] Our review complements these and provides additional information and insights, especially in the era of vast and ever-evolving opportunities provided by advanced internet technology, including artificial intelligence. Specifically, we aim to improve outcomes for prostate cancer for black men in the UK through promoting early detection of prostate cancer. Unlike the previous reviews, this review prioritises the content and context of the interventions, including design, recruitment strategies, community participation, the role of faith organisations, technology, and outcomes. The findings would help to develop and implement appropriate, suitable and innovative prostate cancer screening interventions at the community level for underserved and hard-to-reach men in the UK.

LITERATURE REVIEW

This review is narrative and employs a non-systematic purposive literature review methodology to identify and characterise community-based interventions for improving prostate cancer screening. Compared to systematic reviews, the strength of this methodology lies in its flexibility, which extends beyond the rigid framework of systematic reviews, offering the opportunity to explore far-reaching questions and pursue novel insights. On the contrary, while systematic reviews involve rigorous methods to identify and select articles, there is the risk of excluding potentially insightful studies which do not fit into the pre-defined criteria.[24]

Using the search term “community-based interventions for prostate cancer screening” and related terms, three databases (PubMed NLM, CIHAHL, and PsycINFO) were purposively selected and searched for relevant literature published between January 2015 to December 2024. Studies were included if they were published between January 1, 2015, and December 31, 2024, and contained a well-defined community-based intervention to improve screening for prostate cancer. The included studies were also limited to those with a focus on adults and studies that had abstracts, full-texts, and references available. Review studies, systematic or not, and study protocols were excluded, as well as studies that were not published in English/focused mainly on prostate cancer.

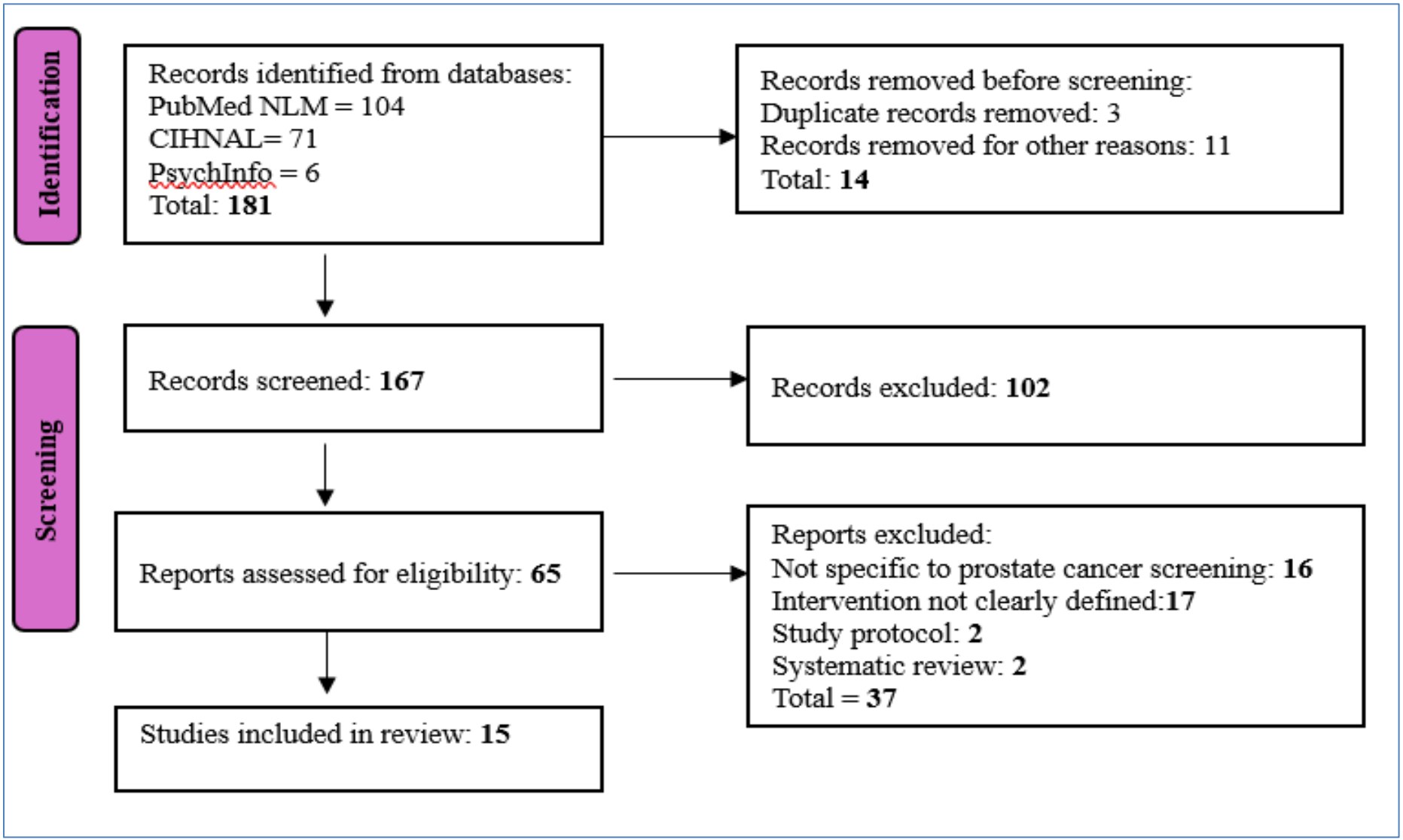

Figure 1: Flowchart showing screening process for included studies.

Table 1: List of included studies.

Authors/ setting	Participants/ sample size	Design	Recruitment	Intervention	Outcome measures	Findings
Ba et al USA	87 Black men aged 45-79 years with no history of prostate cancer and PSA testing	Pre/post Pre-intervention, participants were texted by REDCAP a link to fill out a baseline demographic survey and a series of short questionnaires from the PhenX Toolkit protocols Post-intervention, participants were automatically sent by REDCAP another link to complete a series of follow-up questionnaires.	Eligible participants were identified by TriNetX, a network of electronic medical records and clinical-based data repositories; then randomly sampled and invited by mail to join the study. Word-of-mouth and StudyFinder, a platform that matches volunteers to research opportunities A professional studio- based 5-min video presentation of the Navigator, who described this study's background and goals and provided his contact information was utilized.	A navigator led 40 min session with additional Q and A time using the Avaya 2050 IP Softphone for remote communication with participants. PowerPoint presentation based on learned lessons from prior FGDs about perceptions of telehealth for health care, concerns about impersonal communication with unknown healthcare providers and role of PSA screening in context of cancer screening used. Showed USPTSF recommendations for informed decision-making only for PCS decisions and a YouTube video of a TV interview of a physician as well as a Black prostate cancer survivor recommending annual PSA screening for Black men. Graphs were also presented on increasing rates of late-stage prostate cancer in Black men, which has occurred since USPTSF recommendations. Session ends with Q and A and offer for participants to schedule a free 20-min session with the study urologist for further questions about clinical management of high PSA scores and prostate cancer	Utility of navigator-guided decision-making aid for prostate cancer screening	The majority of subjects strongly agreed or agreed that they understood the benefits and risks of prostate cancer screening and that they felt confident and informed about their choices. The navigator agreed or strongly agreed that the sessions addressed the participant's concerns and questions on PCS and that the video sessions went well. Six participants scheduled an informational session with the study urologist.
Cho et al USA	521 Asian Americans (Vietnamese South Asian Chinese)	Secondary analysis of the PoP project Pre/post	Prostate outreach program (POP) in which a mobile unit facilitated screening and education sessions at various venues where participants were already gathered for planned activities (e.g., churches, community centres, and grocery stores).	Used video content developed by a multidisciplinary panel. Content covered prostate cancer prevention, early detection risks and benefits, and treatment options. Narration was available in English, Spanish, Chinese, and Vietnamese. Additionally, bilingual volunteers and staff aided translation for limited English proficiency individuals. Men opting for testing underwent a PSA blood test with/without DRE.	Prostate cancer-related knowledge	Enhanced knowledge
Martinez-Lopez USA	118 Black men	Two-arm comparative study: CHW vs Physician educator	Recruited through pulpit announcements and flyers distributed throughout the church [FBOs and Masons' Lodges in the New York City region]	CHW delivered seminar based on the American cancer society (ACS) decision aid for PSA screening at 3 sites. Physician educator delivered same intervention at 5 additional sites. The decision aid content includes the benefits/ risks, and controversies of screening for PSA, demonstrates prostate cancer rates, explains the incidence of false-positive and false-negative tests, and provides decision coaching. Sessions took place at community sites at the time convenient for the participants	Knowledge, Decisional conflict Perceptions about the intervention.	Overall, there was improved knowledge, but CHW-led group showed significantly greater knowledge post intervention. Reduced decisional conflict. Physician-led group were more likely to agree that the speaker knew a lot about PSA testing and were more likely to trust speaker.
Wray St Lois USA	151 AA/whites/ others	Single-arm, pre-test post-test design Participants completed a 37-item pen-paper pre-test survey before proceeding through the educational process.	Attendees at community-based outreach education and screening events (e.g., health fairs at local churches, wellness programs, homeless shelters) were invited to participate in the study.	Flip chart in one-on-one conversations or small groups PowerPoint presentation for larger groups. Content described the anatomy and function of the prostate; a range of illnesses affecting the prostate, including cancer; PCa risk factors, symptoms, prevalence, and disparities; and screening and treatment options, risks, and benefits. Option to obtain a free blood draw for PSA screening.	Increased knowledge about PCa and risks of screening. Strengthened attitudes and beliefs related to screening decisions Increased self- efficacy in decision Reduced anxiety about PCa and screening Increased intention to engage with a provider about PCa	Improvement in knowledge Greater awareness of the importance of weighing pros and cons of screening and considering recommended actions given a positive screening result. The scale assessing changes in self-efficacy related to screening decision also increased at post-test. Decrease in anxiety scale in post-test. Intent to engage provider did not exhibit a statistically significant shift. Virtually all participants reported receiving a PSA test at event they attended.

Continued.

Authors/ setting	Participants/ sample size	Design	Recruitment	Intervention	Outcome measures	Findings
Carlson et al **USA**	175 AA and other ethnicities. 79 in the SDM arm (investigation) 96 in the IDM arm (control)	Randomized control trial comparing SDM with IDM Both pre- and post-tests included 15 questions, which tested each cohort on knowledge of PCS, as per ACS guidelines. Multi-step com-prehensive approach covering aspects of education including SDM and IDM components, screening options and process, patient navigation and close patient follow up.	Through the Cleveland clinic Taussig cancer institute outreach program, local community centres, churches and church groups.	The intervention is embedded in preexisting community outreach program and implemented in multiple men's health events Annual one-day outreaches between 2017 and 2019, at Cleveland clinic facilities. Both arms received a 20-min PowerPoint presentation that covered prostate cancer features and risks, method of screening: PSA), followed by DRE, natural history of prostate cancer, risks, and benefits of PCS; all aspects of IDM for both groups SDM group's education includes a decision tool embedded in the educational power point presentation before making a decision Afterwards, patients could elect to be screened with PSA and DRE, to not be screened, or state they were unsure. Screening was provided either on-site during the event or scheduled at a later time in an outpatient office, if selected.	Proportion of participants over 40 who did not demonstrate decisional conflict about prostate cancer screening measured by the SURE score Change of knowledge score about prostate cancer screening.	Both groups had significant improvement in knowledge about PCS Most preferred education prior to screening. Both arms had low decisional conflicts score. Did not show significant differences in the primary endpoints between SDM and IDM
Allen **USA**	41 AA men aged 45-70 with no past h/o procan	Pre/post test evaluation design	Recruitment fliers were placed in a variety of community-based organizations, including churches, barbershops, public housing, and social service agencies. Those interested in participating were screened for eligibility by phone by research assistants.	Interactive Web-based decision aid (DA; prostate cancer screening preparation [PCSPrep]) for African American men, designed to promote informed decision making for prostate cancer screening. Contents: 5-min video talk show 'learn more'-more info and personalized risk assessment 'decide now'-men were led through steps of decision making "Next Steps" included suggestions and tips about how to communicate one's preference and concerns to a provider as well as information about how to access screening if not otherwise available	Recognition of the PSA test Prostate cancer knowledge Decision self-efficacy, or confidence in the ability to make an informed decision and to participate in the decision making at a personally desired level Value of screening Decisional Conflict which assesses the degree to which an individual feels informed to make a decision consistent with his values, experiences uncertainty in choosing options Preparedness for decision making Perceived risk of cancer Decisional status	Significant improvement in knowledge about prostate cancer and available screening methods. Confidence in the ability to make an informed decision (self-efficacy) was high at baseline and did not change. Lower levels of decisional conflict about screening. Perceptions about the advantages of screening decreased At post-test, fewer men rated their risk of developing prostate cancer to be lower than men of the same age. Most men reported that using PCSPrep prepared them "very well" or "well" to make informed decisions in partnership with their provider. There were no changes in men's screening preferences before and after using PCSPrep The vast majority of men preferred to be screened, and this did not change between test pre-test and post-test

Continued.

Authors/ setting	Participants/ sample size	Design	Recruitment	Intervention	Outcome measures	Findings
Dhillon et al USA	AA/ Other races and ethnicities, 139	Pre/ post-test design	Embedded a previously established community outreach program and implemented in multiple men's health events. Men for this project were recruited through The Cleveland Clinic Taussig Cancer Institute Outreach Program. Multiple channels were used: local community centres, churches and church groups.	pre-test, followed by an educational intervention, which included all aspects of IDM; a post-test was administered afterwards. 20-minute PowerPoint presentation that covered prostate cancer features and risks, method of screening [PSA, followed by digital rectal exam (DRE)], natural history of prostate cancer, risks and benefits of PCS Screening was provided either on-site during the event or scheduled at a later time in an outpatient office if needed The pre- and post-tests included 15 questions, which tested participant knowledge of PCS, per ACS guidelines. Patient navigation: Patients were followed closely after the event through an established navigation program to ensure that patients had appropriate follow up according to their screening results as well as regular follow up with primary care regardless of screening result.	(a.) the proportion of patients who demonstrated improved knowledge about PCS after the intervention (b.) the proportion of patients who found this educational intervention beneficial regarding PCS. Secondary endpoints included assessment of (a.) 10-year mortality of the participants, utilizing the University of California San Francisco (UCSF) mortality index, and its correlation with their decision about PCS, (b.) proportion of men who chose to be screened, (c.) the proportion of men with abnormal screening results, (d.) the proportion of men with history of prostate cancer, (e.) the proportion of men who preferred screening without IDM, and (f.) the proportion of men who preferred that a physician should make the decision for them.	Improvement in knowledge Most categorized the program as helpful Most indicated that they wanted the screening Most went on to be screened Most were confident about their decision to be screened A small minority preferred the physician to make the decision for them A minority preferred to screening without educational Intervention.
McAllister et al UK	BME, 312 aged 45-75	Not stated but-Pre/post design	Advertising and branding were undertaken in conjunction with the local community. Cycling group involved in raising awareness of prostate cancer in BME men. A community African-Caribbean radio station helped to advertise Radio station also ran a regular health programme which would often feature prostate cancer and recommend that listeners attend clinic for risk assessment.	Participants attended 'Drop-in' clinics. A clinical nurse specialist (CNS) carried out discussion with the patient to determine and explain risk factors (ethnicity, family history, age) and DRE/PSA testing was offered as appropriate. Men who declined a rectal examination would still be offered a blood test. All men were made aware that abnormal blood tests could lead to a recommendation of further testing with a trans-rectal ultrasound-guided biopsy (TRUS). Limitations of PSA testing, and the possibility of false positives were also discussed.	Enhanced prostate cancer detection in men of BME background	14 men were found to have a PSA above their age range and were sent for further investigation, of whom nine were diagnosed with histologically proven prostate cancer. 2 considered to have procan based on clinical/ biochemical parameters.

Continued.

Authors/ setting	Participants/ sample size	Design	Recruitment	Intervention	Outcome measures	Findings
Owens et al USA	76 AA men	Pre/post Six months after use of iDecide, 76 participants were surveyed to determine whether they spoke with a provider about prostate cancer screening, what this conversation entailed, and if shared decision making occurred.	Recruited through follow-up calls to all 354 participants from prior evaluation of iDecide. Each of the participants received three calls before follow-up efforts were halted. Participants received these calls 6 months following their use of iDecide and were informed/consented to follow- up calls during the initial evaluation.	Participants were invited to use iDecide, a computer-based decision aid that contains evidence-based information about prostate cancer, anatomy, risk, symptoms, and screening recommendations; the controversy about the effectiveness of PrCA screening; and the importance of SDM. The decision aid was divided into two 5-min sections.	Participants speaking with a provider about screening Content of conversation entailed Reasons for visiting doctor. Decision about whether to receive PrCA screening. What screening decision was made (PSA and/ or DRE) decided to wait, decided not to be screened. Perception that SDM occurred as opposed to paternalistic/ individual decision making, and Why they felt their decision to screen/ not screen was right for them	Majority of participants had an intention to engage in SDM; about half participated in PrCA screening conversations with their provider. Of participants who spoke with their providers about screening (n=42) a quarter (n=11) engaged in SDM. Most participants (n=25), however, reported making screening decisions independently of the provider. At the conclusion of their conversations with healthcare providers, 43%, (18 of 42) participants decided to receive both the PSA and DRE screenings, 29%, (n=12) solely received a PSA screening, 14%, (n=6) solely received the DRE, 12%, (n=5) decided not to be screened, and only one participant decided to wait to make a decision about screening at a later date.
Roussi et al USA	Caucasians aged 35-69 and had at least 1 first or 2 second-degree relative with prostate cancer. or AA, aged between 35-69 year, independent of family history of cancer. 128	A parallel, prospective, two-arm (1:1 allocation), RCT design. Data was collected at baseline, 3 and 6 months	From high-risk men enrolled in the prostate risk assessment program (PRAP) at fox chase cancer centre (FCCC)	Depending on randomization, participants either received Cognitive-affective preparation (CAP), specifically designed to facilitate the processing of risk feedback through role-play and "pre-living" the receipt of PCa screening results OR General health education (GHE), intervention including provision information relevant to men at risk for PCa that focused on recommendations for general health (i.e. diet, exercise, alcohol use, and smoking)	Monitoring attentional style Knowledge about PCa risk. Perceived risk of PCa. Positive and negative expectancies related to PCa screening Intrusive ideation related to PCa risk	AA men who received CAP reported higher perceived risk than AA men who received GHE. AA men who received CAP experienced less intrusive ideation, Caucasian men who received CAP experienced more intrusive ideation AA men were more likely than high-risk Caucasian men to report negative beliefs associated with PCa screening.
Holt et al USA	Black men, aged 45-69 with no history of prostate cancer	Randomized to 2 intervention groups: Men only OR Men with female partners. completed baseline, post-workshop, and 12-month follow-up surveys.	Community Health Advisors (CHAs) and study participants were recruited through churches	4-part educational series with information about prostate cancer screening, IDM for screening, treatment options, and navigating the healthcare team. Each session incorporated didactic and interactive discussions with opportunities for Q and A; delivered by CHAs.	Primary outcome measure was IDM, which was assessed using: Stage of decision-making scale; *"Haven't begun to think about making a decision," *"started to think about my decision," and *"already made my decision" Preference for role in decision-making (who should make decision versus who made decision) Preparation of decision-making (e.g., if intervention helped prepare them for making decision) Prostate cancer knowledge Prostate cancer screening	Men's reported stage of DM advanced significantly from baseline to the follow-up assessments. Prostate cancer knowledge scores also increased significantly from baseline to 12 months. Men who attended multiple workshops had better IDM outcomes for: stage of decision-making, preference for who should play a role in decision-making about screening, prostate cancer knowledge, and self-reported Including women in the workshops did not result in increased intervention efficacy for IDM for PSA testing. For PSA testing, there was a significant main effect of time showing increases in screening; there were no significant effects for DRE

Continued.

Authors/ setting	Participants/ sample size	Design	Recruitment	Intervention	Outcome measures	Findings
Ashorobi et al USA	4,420 men, 62.8% (2,667) were African American (AA), Others: Asians, Caucasians, Hispanics	Pre/ post design	Advertisement through mass media outlets such as magazines, radio, and flyers within a variety of community sites (churches, grocery stores, barbershops, community centers). Study recruitment occurred in two phases. In the "static" phase participants were invited to either a general hospital or a community health centre that primarily served a large proportion of AA of low socioeconomic status. In the "mobile" phase a refurbished bus visited various locations where participants were already congregated for pre- planned activities such as church health fairs, barber- shops, grocery stores, and homeless shelters.	Video with information on PCa prevention, the risks and benefits of early detection testing utilizing serum PSA and DRE, as well as treatment options for PCa and com-plications. PCa early detection services were subsequently offered free of charge to eligible participants who signed an informed consent to participate in the study. Prior to blood draw for serum PSA testing, participants had a DRE performed.	Knowledge Screening tests done [PSA, DRE or both]	Threefold increase in knowledge among the participants The majority of men PSA done DRE was performed in the majority of the men Among patients having both a serum PSA test and a DRE, the majority had normal results while a few (15%) have either an abnormal DRE or PSA test
Molazem et al Iran	93 Asian men: (n=48) and a control (n=45) group	Randomized control trial;	From Shiraz community areas in Iran	Intervention group, there were two-hour sessions in the form of presentation, film and slide and also presenting educational pamphlets about prostate cancer. The presented issues were included information about the anatomy and physiology of prostate gland, definition and the rate of prevalence and incident of the prostate cancer, its signs and symptoms, current treatments and side effects, prevention and screening ways and the early detection benefits, reasons and also the treatment of prostate cancer. Enough information was also provided about the test centers and the expenses of doing the test, late detection of the cancer, the consequences of not doing the test and any other probable problems. In the educational programme, the emphasis was on the necessity of PSA testing for the early detection and the prevention of prostate cancer. Control group: routine education about marriage or divorce, addiction or guilt, matrimony relationships and children education. some educational pamphlets were presented to them at the end	Knowledge Participation in PSA testing	The intervention group's knowledge score increased significantly compared to the control group The intervention group's participation in PSA testing increased significantly three months after the intervention. However, no significant change was observed in the control group.
Sandiford and D'Erico USA	A convenience sample of 50 African American men aged from 30-75 years.	Single arm pre/post	Church members were recruited into the study	A prostate cancer screening decision aid was developed and used in conjunction with an educational intervention in local African American churches; PowerPoint® presentation and a four- minute video. Men completed pre- and post-education knowledge questionnaires and a risk assessment decision tool.	Prostate cancer knowledge, Awareness of prostate cancer personal risks and benefits of prostate cancer screening, information needed for initiating discussions with provider, and intention to participate in shared decision making with healthcare providers.	Increase in knowledge was calculated when comparing pre- and post-education responses. Raised awareness of personal risks, having the information needed to initiate a discussion with a healthcare provider, intention to participate in shared decision making within six months, prostate cancer knowledge. Participation in screening increased

Continued.

Authors/ setting	Participants/ sample size	Design	Recruitment	Intervention	Outcome measures	Findings
Frencher Jr **USA**	Convenience sample of 120 AA men aged 40 years and above.	Non-randomized pretest-post-test comparison study	Participants recruited from 50 AA-owned barbershops	Participants received either of 2 decision support instruments (DSI): The FIMDM video, entitled 'The PSA Decision: What YOU Need to Know', approx 23 minutes long, contains recommendations from several urologists and patients alike, some of whom are in favor PSA test as well as others who are against (developed through a systematic approach FIMDM); used a combination of patients' narratives and expert lectures to present information regarding the risks and benefits of CaP prevalence, diagnosis, screening, and treatment. The VCU video, entitled "It's A Big Decision" and was created by (A Hart, study coauthor). The primary difference between the two videos is that "It's A big decision" is based prior focus group data with AA men to develop a decision tool with similar goals to that of FIMDM but tailored to the AA population; cast is predominately AA.	CaP knowledge, intention to screen, and preferences Participants interested in screening were referred to healthcare providers through a community-based patient navigator to obtain prostate-specific antigen	CaP knowledge increased following exposure to DSI in equivalent pro-portions. Similar proportions of men ultimately intended on having a PSA test following both DSI, Culturally tailored DSI demonstrated a statistically significant increase in intention to screen. Participants' degree of certainty in their decision-making process about CaP screening increased following the culturally tailored DSI. Most participants planned on discussing CaP screening with a healthcare provider upon completion of the study. At 3 months follow-up, half (n=58) of the participants underwent PSA testing, which led to the diagnosis of CaP in one participant.

Table 2: Race, study design and intervention content.

Variables	N	Percentage (%)
Race of subjects		
Blacks only	7	46.7
Mixed-black and white	6	40
Other ethnicities-Asians/ Hispanics	2	13.3
Study design		
Experimental	5	33.3
Non-experimental	10	66.7
Intervention content		
Education only	8	53.3
Education + screening on site	4	26.7
Education + screening by referral	1	6.7
Education + both	2	13.3
ALL	15	100

OBSERVATIONS

Fifteen studies met the search criteria and were included in this review. Figure 1 is a flowchart illustrating the search process used to identify the included studies, while Table 1 lists the included studies.

As shown in Table 2, most of the interventions were conducted in the USA, with one each in the United Kingdom and Iran; most were within the context of non-experimental studies. The race of study participants, study design and intervention content are also as shown in Table 2.

COMMUNITY PARTICIPATION

In nine of 15 studies, focus group discussions helped to shape and develop the interventions; in four studies, the interventions took place in the context of pre-existing community-based participatory research programmes, with the community contributing to developing the intervention. In one of the studies, a steering group was set up to guide the development and implementation of the intervention.

Focus groups were used by Ba et al to help understand black men's perspective of prostate cancer screening, perception of health messaging and how comfortable they were with technology, and ultimately contributed to the content and delivery of the intervention sessions.[25]

Prior to intervention, Allen and her team conducted focus groups with African American men from community settings like churches and barbershops. The groups reviewed decision aids developed in previous studies, assessed communication preferences and responses to educational messages. The findings were used to develop and finalise the decision aids utilised for the intervention they delivered.[26]

In Wray et al the intervention involved an academic-community partnership. Faculty, staff and students at an accredited public health school collaborated with a preexisting community organisation, the empowerment network [TEN], which was founded and led by prostate cancer survivors and served African Americans in the community. Within the collaboration, educational material was developed to improve knowledge of prostate cancer and promote prostate cancer screening. The intervention was implemented within this collaboration.[27] Frencher et al enlisted the support of barbershops for their intervention, using such shops as recruitment and intervention centres.[28]

THE ROLE OF FAITH-BASED GROUPS

In several of the interventions, faith-based groups, especially the church, played significant roles in facilitating participation, including the recruitment of participants, the training of session facilitators/navigators, or serving as sites for the intervention.[26,27,29-34] Focus groups with community clergy and lay leaders helped to provide input on the clarity, legibility and cultural appropriateness of the intervention materials, while the church helped with participant recruitment and served as the venue for the sessions in the educational intervention implemented by Sandiford and D'Erico.[32]

LEVERAGING TECHNOLOGY TO IMPROVE PROSTATE CANCER SCREENING AT THE COMMUNITY LEVEL

Ba et al utilised TriNetX to identify eligible participants for their intervention. TriNetX is a network of electronic medical records and clinical data archives, from which electronic medical records can be accessed.[25] Study Finder, a platform that is designed to match study volunteers to research opportunities, was also utilised for recruiting participants. Furthermore, for this intervention, data capture was web-based using the research electronic data capture (REDCap) application; study participants received a link which granted them access to complete the study-related demographic survey and questionnaire. The educational intervention was virtually carried out using the Avaya 20250 IP Softphone.[25]

In another computer-based intervention, a computer-based decision aid was developed and used as an educational intervention. Named iDecide, it contains evidence-based information regarding prostate cancer anatomy, risk factors, symptoms and screening recommendations. There is added information on the effectiveness and controversies associated with prostate cancer screening, including the role of shared decision making. Study participants were invited to utilise the decision aid and subsequently followed up to the review their behaviours with regard to the prostate cancer screening.[35]

Allen et al developed and implemented a web-based interactive decision aid, prostate cancer screening preparation [PCSPrep] for African American men. It contains a 5-minute video talk show hosted by a couple of actors who posed as African American doctors; a "learn more" section which gives more in-depth information about prostate cancer risks; a "decide now" section which highlights decision-making steps, and the Ottawa decision support framework [ODSF]. In the fourth and final step, "next steps", participants receive information about how to communicate their preferences and concerns regarding prostate screening to a provider.[26]

HEALTH EDUCATION WITH OR WITHOUT DECISION AID TOOLS

Some of the interventions were prepared and delivered in the form of decision aids, designed to support participants to make informed prostate cancer screening decisions by providing specific details about the disease, personalised risk assessment, procedure for the tests, possible test

outcomes and treatment options.[26,29,35] The iDecide and PCSPrep, are notable examples.[26,35] However, in the majority of the reviewed literature, general health education was utilised, to provide general knowledge about prostate cancer screening.[27,33,34,36-38] In a couple of studies, decision aid tools were embedded in the educational materials used.[30,32]

PROSTATE CANCER SCREENING DURING COMMUNITY-BASED INTERVENTIONS

In addition to educational content and or decision aids, some of the reviewed interventions also included PSA testing with or without DRE on site or on referral, as shown in Table 2. McAllister and co-authors described their intervention, which involves a 'drop-in' clinic where participants had discussions with a clinical nurse specialist on risk factors for prostate cancer and were subsequently offered PSA/DRE. The intervention received support from the local community with advertising and branding, which involved working with a cycling group and getting airtime on radio programmes.[39] Prostate screening by PSA testing and or DRE was also available on site or by referral, or scheduling in four other interventions.[27,30,31,33]

OUTCOME OF INTERVENTIONS

Overall, the authors reported positive outcomes of their interventions. Improved or enhanced knowledge was globally reported in all the reviewed interventions. There has been improved understanding of the benefits and risks of prostate cancer screening.[25]

When it comes to decision-making, decisional conflict [uncertainty when choosing between two decisions associated with risks] was lowered after intervention, as well as reduced anxiety about screening with increased self-efficacy-the ability to make an informed decision about prostate cancer screening.[26,27,29,30]

There were reports of a behaviour change as well. Post intervention, participants scheduled informational sessions with study urologists, most went on to be screened, or decided to be screened, and PSA/DRE were performed in the majority of men.[25,31,35,36] Mozalem et al reported increased PSA testing in the intervention group 3 months after intervention; the vast majority of participants preferred to be screened.[26,38] In the MacAllister model of intervention, fourteen participants were detected to have PSA results that were high for age, of which nine were later confirmed to have prostate cancer.[39]

DISCUSSION

Our review findings suggests that community-level interventions to promote and enhance prostate cancer screening remain relevant in today's world, more so in contemporary British society. Ethnic population projections have shown that the British society continues to diversify with an increasing population of black and minority ethnic groups.[40] This amplifies existing health disparities generally and specifically for prostate cancer and its early detection.

Only one of the included studies was undertaken in the UK, while the majority [13/15] were US -based studies, a finding corroborated in previous reviews.[22,23,39] While the interventions described in North American literature are relevant and could be replicable in other country settings like the UK, important contextual differences exist that cannot be overlooked. For example, healthcare-seeking behaviour in the US could be different from the United Kingdom due to disparate health funding systems.[24] Notably, faith-based organisations in North America do have long and well-documented experience in health promotion among blacks and underserved communities.[41] Hence, it remains important to innovate context-specific, homegrown interventions that may yield more positive outcomes in terms of helping black people [and other underserved ethnic minority groups] in their decision-making process for prostate cancer screening. This is especially significant for black men who bear the disease burden but hardly show up for screening interventions.[20,42]

In the absence of national prostate screening programmes, men have to make informed decisions to be screened for prostate cancer. Barriers to such decision-making among black include lack of knowledge, perceived benefits and risks of testing.[20] To overcome these barriers, community-level work needs to be done with black men to help them deal with decisional conflicts, overcome their anxiety and improve self-efficacy. There have been past and present efforts like the PROCAN-B, but more needs to be done.[43] The only UK-based intervention included in this review was primarily designed to provide ready and available screening for participants carrying out 'a discussion' with the clinical nurse specialist who ran the centre. However, it lacks the essentials of a robust assessment and documentation of decision-making, whether informed or shared.[39] In another intervention carried out in South-East England, not included in our review as it did not meet our inclusion criteria, 312 study participants, including men and family members, received 'awareness' about prostate cancer screening, and 12 black men were followed up. This intervention also failed to delve into decisional conflicts associated with prostate screening, hence limiting important generalisable lessons.[44]

Most of the reviewed studies utilised community-based participatory research approaches to facilitate their interventions. They employed Focus Groups to shape and fine-tune interventions, working effectively with community-based organisations and faith-based groups to good effect.[26,27,32,34] This is particularly relevant when it comes to black men in the UK, as most live in under-served areas, which could be hard to reach and lack

access to clear information about risks and benefits, as well as treatment options that could make a difference to decision-making.[45,46] While the findings of the review help us to understand experience with such community-level efforts, especially in the US, it also gives insight into opportunities in the UK. For black men in the UK, a bottom-up approach would be ideal, working with men in their bubbles, understanding their perspectives, fears, motivations and facilitators of their decision-making for availing themselves to be tested.

One interesting finding in the review is the role of faith-based organisations [FBO] in the intervention efforts. In particular, the church was active in mobilising members, training trainers, and providing platforms for interventions.[32,33] The capacity of FBOs to manage health promotion activities is well established.[47,48] In the UK, congregants of the various faiths are mostly constituted by immigrants, especially blacks. This presents a significant opportunity to partner with and collaborate with such organisations to reach men. The role of social media has been suggested by some authors, contemporary as this may sound, it should only be supplementary, as the effectiveness of this is yet to be established.[23]

Also of interest is the increasing role of technology, serving as a platform for participant recruitment, implementing interventions or following up participants. The iDecide and PCSPrep probably give us a glimpse of what the future of decision aids might look like, especially in the era of artificial intelligence [AI].[26,35] While such could be developed and deployed for use by black men in the UK, the role of the end users in conceptualising and developing them cannot be overemphasised.

When it comes to outcomes of the various interventions reviewed, they were encouraging, whether within experimental or non-experimental designs. For example, in RCTs, Carlson et al reported significant improvement in prostate cancer screening and lowered decisional conflicts. Holt et al also demonstrated significant increased knowledge about prostate cancer and decision-making stage.[30,34] Based on these, it can be deduced that carefully planned community-level interventions can potentially improve screening rates among black men and contribute to reducing morbidity and mortality from the disease.

A weakness of this review is its non-systematic nature and the subjectivity associated with study selection. However, a non-systematic review of this nature still finds its place in literature reviews, especially when the agenda is to address multiple research questions.[49] The findings unravel the extent of the unfinished work concerning prostate cancer screening among black men and could help to chart the way forward to the design of rewarding community-based interventions.

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REFERENCES

1. Bray F, Laversanne M, Sung H, Ferlay J, Siegel RL, Soerjomataram I, Jemal A, Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA A Cancer J Clin. 2024;74(3):229-63.
2. Culp MB, Soerjomataram I, Efstathiou JA, Bray F, Jemal A. Recent global patterns in prostate cancer incidence and mortality rates. Eur Urol. 2020;77(1):38-52.
3. Wong MC, Goggins WB, Wang HH, Fung FD, Leung C, Wong SY, et al. Global incidence and mortality for prostate cancer: analysis of temporal patterns and trends in 36 countries. Eur Urol. 2016;70(5):862-74.
4. Tangirala K, Appukkuttan S, Simmons S. Costs and healthcare resource utilization associated with hospital admissions of patients with metastatic or nonmetastatic prostate cancer. Am Health Drug Benefits. 2019;12(6):306.
5. Roehrborn CG, Black LK. The economic burden of prostate cancer. BJU Int. 2011;108(6):806-13.
6. Tan EH, Burn E, Barclay NL, Delmestri A, Man WY, Golozar A, et al. Incidence, Prevalence, and Survival of Prostate Cancer in the UK. JAMA Network Open. 2024;7(9):e2434622.
7. Ben-Shlomo Y, Evans S, Ibrahim F, Patel B, Anson K, Chinegwundoh F, et al. The risk of prostate cancer amongst black men in the United Kingdom: the PROCESS cohort study. Eur Urol. 2008;53(1):99-105.
8. Odedina FT, Akinremi TO, Chinegwundoh F, Roberts R, Yu D, Reams RR, et al. Prostate cancer disparities in Black men of African descent: a comparative literature review of prostate cancer burden among Black men in the United States, Caribbean, United Kingdom, and West Africa. Infect Agents Cancer. 2009;4(1):S2.
9. Taitt HE. Global Trends and Prostate Cancer: A Review of Incidence, Detection, and Mortality as Influenced by Race, Ethnicity, and Geographic Location. Am J Men's Health. 2018;12(6):1807-23.
10. Lloyd T, Hounsome L, Mehay A, Mee S, Verne J, Cooper A. Lifetime risk of being diagnosed with, or dying from, prostate cancer by major ethnic group in England 2008-2010. BMC Med. 2015;13(1):171.
11. Hinata N, Fujisawa M. Racial Differences in Prostate Cancer Characteristics and Cancer-Specific Mortality: An Overview. World J Mens Health. 2022;40(2):217-27.
12. Fletcher SA, Marchese M, Cole AP, Mahal BA, Friedlander DF, Krimphove M, et al. Geographic Distribution of Racial Differences in Prostate Cancer Mortality. JAMA Network Open. 2020;3(3):e201839-.

13. Gandaglia G, Leni R, Bray F, Fleshner N, Freedland SJ, Kibel A, et al. Epidemiology and prevention of prostate cancer. Eur Urol Oncol. 2021;4(6):877-92.
14. Cirne F, Kappel C, Zhou S, Mukherjee SD, Dehghan M, Petropoulos JA, et al. Modifiable risk factors for prostate cancer in low-and lower-middle-income countries: a systematic review and meta-analysis. Prostate Cancer Prostatic Dis. 2022;25(3):453-62.
15. Andriole GL, Crawford ED, Grubb III RL, Buys SS, Chia D, Church TR, et al. Mortality results from a randomized prostate-cancer screening trial. N Eng J Med. 2009;360(13):1310-9.
16. Ilic D, Djulbegovic M, Jung JH, Hwang EC, Zhou Q, Cleves A, et al. Prostate cancer screening with prostate-specific antigen (PSA) test: a systematic review and meta-analysis. BMJ. 2018;362:k3519.
17. Djulbegovic M, Beyth RJ, Neuberger MM, Stoffs TL, Vieweg J, Djulbegovic B, et al. Screening for prostate cancer: systematic review and meta-analysis of randomised controlled trials. BMJ. 2010;341:c4543.
18. US Preventive Services Task Force, Screening for Prostate Cancer: US Preventive Services Task Force Recommendation Statement. JAMA. 2018;319(18):1901-13.
19. Bradley SH, Funston G, Jones D, Watson J. Diagnosing prostate cancer in asymptomatic patients. BMJ. 2022;377:e071076.
20. Shungu N, Sterba KR. Barriers and Facilitators to Informed Decision-Making About Prostate Cancer Screening Among Black Men. J Am Board Fam Med. 2021;34(5):925-36.
21. Alexis O, Worsley A. An integrative review exploring black men of African and Caribbean backgrounds, their fears of prostate cancer and their attitudes towards screening. Health Educat Res. 2018;33(2):155-66.
22. Lopez A, Bailey JT, Galloway D, Woods-Burnham L, Montgomery SB, Kittles R, et al. Evidence-based Prostate Cancer Screening Interventions for Black Men: A Systematic Review. J Racial Ethnic Health Disparities. 2024;10:1-9
23. Benedict MO, Steinberg WJ, Claassen FM, Mofolo N. Enhancing public awareness and practice of prostate cancer screening among African men: A scoping review. S Afr Family Pract. 2023;65(1):1-11.
24. Cook DA. Systematic and nonsystematic reviews: choosing an approach. Healthcare simulation research: A practical guide. 2019;55-60.
25. Ba DM, Kayembe C, Littlejohn J, Van Scoy LJ, VanDyke E, Williams J, et al. Navigation-Based Telehealth Informed Decision-Making for Prostate Cancer Screening in Black Men. Curr Oncol. 2024;31(7):3698-712.
26. Allen JD, Reich A, Cuevas AG, Ladin K. Preparing African American Men to Make Informed Prostate Cancer Screening Decisions: Development and Pilot Testing of an Interactive Online Decision Aid. JMIR Mhealth Uhealth. 2020;8(5):e15502.
27. Wray RJ, Nicks SE, Adsul P, Elliot M, Enard K, Jupka K, et al. Promoting informed prostate cancer screening decision-making for African American men in a community-based setting. Cancer Causes Control. 2022;33(4):503-14.
28. Frencher S, Sharma A, Teklehaimanot S, Wadzani D, Ike I, Hart A, et al. PEP Talk: Prostate Education Program, "Cutting Through the Uncertainty of Prostate Cancer for Black Men Using Decision Support Instruments in Barbershops". J Cancer Educat. 2016;31(3):506-13.
29. Martinez-Lopez N, Makarov DV, Thomas J, Ciprut S, Hickman T, Cole H, et al. A Study to Compare a CHW-Led Versus Physician-Led Intervention for Prostate Cancer Screening Decision-Making among Black Men. Ethn Dis. 2023;33(1):26-32.
30. Carlson DS, Grivas P, Wei W, Dhillon PK, Abraksia S. The Effectiveness of Shared Compared to Informed Decision Making for Prostate Cancer Screening in a High-Risk African American Population: A Randomized Control Trial. Cancer Investigation. 2021;39(2):124-32.
31. Ashorobi OS, Frost J, Wang X, Roberson P, Lin E, Volk RJ, et al. Prostate cancer education, detection, and follow-up in a community-based multiethnic cohort of medically underserved men. Am J Men's Health. 2017;11(1):82-91.
32. Sandiford L, D'Errico EM. Facilitating Shared Decision Making About Prostate Cancer Screening Among African American Men. Oncol Nursing Forum. 2016;43(1):86-92.
33. Cho D, Gor B, Hwang H, Wang X, Hernandez M, Jones LA, et al. A Community-Based Prostate Cancer Screening and Education Program for Asian American Men in Medically Underserved Communities. Int J Environ Res Public Health. 2024;21(4):415.
34. Holt CL, Le D, Slade JL, Muwwakkil B, Saunders DR, Williams R, et al. Can Women Facilitate Men's Prostate Cancer Screening Informed Decision-Making? The M-PACT Trial. J Health Communicat. 2017;22(12):964-73.
35. Owens OL, Felder T, Tavakoli AS, Revels AA, Friedman DB, Hughes-Halbert C, et al. Evaluation of a Computer-Based Decision Aid for Promoting Informed Prostate Cancer Screening Decisions Among African American Men: iDecide. Am J Health Promot. 2019;33(2):267-78.
36. Dhillon P, Grivas P, Hobbs B, Carlson DS, Abraksia S. Education and informed decision making for prostate cancer screening in a high risk African American community. Int Clin Med. 2019;3:1-6.
37. Roussi P, Miller SM, Giri VN, Obeid E, Wen KY, Tagai EK, et al. Effects of a randomized trial comparing standard and enhanced counseling for men at high risk of prostate cancer as a function of race and monitoring style. J Health Psychol. 2018;23(14):1800-9.
38. Molazem Z, Ebadi M, Khademian M, Zare R. Effects of an Educational Program for Prostate Cancer

Prevention on knowledge and PSA Testing in Men Over 50 Years old in Community Areas of Shiraz in 2016. Asian Pacific J Cancer Prevent. 2018;19(3):633-7.
39. McAllister BJ, Patterson MI, Sherwood BT, Howarth JA, Malone KJ. Initial experience of a community-based prostate cancer risk assessment clinic for men of black and minority ethnicity background. Int J Urolog Nursing. 2019;13(3):106-9.
40. Rees P, Wohland P, Norman P, Boden P. Ethnic population projections for the UK, 2001-2051. J Populat Res. 2012;29:45-89.
41. Levin J. Faith-based initiatives in health promotion: history, challenges, and current partnerships. Am J Heal Promot. 2014;28(3):139-41.
42. Tipre M, Hardy C, Bowman T, Glover M, Gullet P, Baity D, et al. Concept Mapping with Black Men: Barriers to Prostate Cancer Screening and Solutions. J Cancer Educ. 2023;38(6):1808-15.
43. Christie-de Jong F, Eberhardt J, Ling J, Kotzur M, Oyeniyi OS, Nnyanzi L, et al. The PROCAN-B study protocol: Early diagnosis of PROstate CANcer for Black men-a community-centred participatory approach in Scotland and the North-East of England. PLoS One. 2024;19(12):e0315288.
44. Alexis O, Mansbridge S, Garbrah W. Raising awareness of prostate cancer amongst black communities in the south of England. Ethnicity Health. 2024;29(3):328-42.
45. Haider M, Scott S, Dumagat A, Lamb BW, Paparini S, Rajan P. What Are the Barriers to Early Detection of Prostate Cancer for Black Men in the UK? Trends Urol Men's Heal. 2025;16(1):e12003.
46. Fry SL, Hopkinson J, Kelly D. “We're talking about black men here, there's a difference”; cultural differences in socialised knowledge of prostate cancer risk: A qualitative research study. Eur J Oncol Nursing. 2022;56:102080.
47. Tagai EK, Scheirer MA, Santos SLZ, Haider M, Bowie J, Slade J, et al. Assessing capacity of faith-based organizations for health promotion activities. Health Promot Pract. 2018;19(5):714-23.
48. Ayton D, Manderson L, Smith BJ, Carey G. Health promotion in local churches in V ictoria: an exploratory study. Health Social Care Community. 2016;24(6):728-38.
49. Ferrari R. Writing narrative style literature reviews. Medical Writing. 2015;24(4):230-5.

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