

Prostate Cancer Education Among African American Men and Its Impact on Prostate-Specific Antigen Screening: A Systematic Review

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Abstract

African American men are at higher risk than any other race for prostate cancer, and they have a higher mortality than any other race. Current guidelines state that men need to make an informed decision before getting screened for prostate cancer. Studies have shown that one of the barriers to prostate cancer screening is a lack of knowledge about the disease and screening. A systematic review was performed to determine if education by an advanced provider will impact African American men prostate cancer screening. This systematic review is based on bibliographic searches in CINAHL Complete, MEDLINE Complete, and PsycInfo using pertinent search terms. Five hundred twenty-eight articles were identified using the search terms and Boolean operators: Prostate cancer screening and African American men or black men and education. Seven articles met the inclusion criteria. The results of this systematic review indicated that provider education about prostate cancer and screening impacts the knowledge and PSA screening of African American men. Providers should take an active role in identifying African American patients who are at risk of prostate cancer within their practice and take the initiative of educating them about prostate cancer and encouraging them to decide about prostate cancer screening.

Keywords: Prostate cancer education, African American men, prostate-specific antigen screening, provider education.

Prostate Cancer Education Among African American Men and Its Impact on Prostate-Specific Antigen Screening: A Systematic Review

Prostate cancer accounts for 29% of the cancers diagnosed in men in 2023, and it is estimated that there will be about 34,700 deaths from prostate cancer in 2023 (Siegel et al., 2023). Mortality among African American men (AAM) diagnosed with prostate cancer is about two to four times higher than any other race or ethnic group (Siegel et al., 2023). AAM are at higher risk than any other race of developing aggressive prostate cancer at a younger age (Coughlin et al., 2021). Despite their high risk and mortality, AAM are the least likely group to get screened for prostate cancer (Woods-Burnham et al., 2018). Recent studies suggest that a lack of knowledge about prostate cancer and prostate cancer screening may be the reason AAM are not getting screened for prostate cancer (Coughlin et al., 2021). A systematic review is necessary to determine the impact of educational interventions on African Americans' awareness of prostate cancer screening.

Background and Significance

The prostate-specific antigen (PSA) test was initially introduced in 1986 and gained approval as an additional screening tool for detecting prostate cancer in men aged 50 and above in 1994 (National Cancer Institute [NCI], 2022). The use of PSA screening helped decline the number of patients with advanced disease by 80%, and it helped decrease the age-adjusted prostate cancer mortality rate by more than 53% (Catalona, 2018). The unrestricted use of PSA screening for all men continued from 1994 until 2012 (NCI, 2022)

PSA screening standards have evolved, and as the guidelines change, so does the number of prostate cancer cases. In 2012, the United States Preventive Services Task Force (USPSTF)

recommended against PSA screening for the general male population, giving a grade D recommendation (D- recommendation against the service). This was in part due to the overtreatment of benign prostate cancers (Carthon et al., 2021) and concerns of overdiagnosis (Negoita et al., 2018). This recommendation reduced the frequency of prostate cancer screening in AAM by 11.6% (Chowdhury-Paulino et al., 2022). These changes also resulted in a 29% fall in screening rates for marginalized individuals and an increase in the rate of regional and distant metastasis cancers (Carthon et al., 2021).

In 2018, the USPSTF revised its recommendation for prostate cancer screening, assigning it a grade C, meaning that this service should be offered or provided to individual patients, considering the professional judgment of healthcare providers and patient preferences (USPSTF, 2018). As per the guidelines set by USPSTF in 2018, it is recommended that individuals engage in a comprehensive dialogue with their healthcare providers regarding the potential benefits and associated risks of prostate-specific antigen (PSA) screening. This informed discussion should empower individuals to make an autonomous and well-informed decision regarding the pursuit of prostate cancer screening. However, African American patients continue to demonstrate consistently low rates of prostate-specific antigen (PSA) testing due to limited access to credible information and educational resources, notwithstanding the modifications in PSA screening guidelines (Carthon et al., 2021).

Review of the Literature

The high risk for prostate cancer and the lower screening rates of AAM has prompted several studies related to prostate cancer and PSA screening. In rural Alabama, a longitudinal quantitative study from three different counties, which included 33 AAM and their caregivers, found that both the men and the caregiver had limited knowledge of prostate cancer risk and the

need for screening (Oliver et al., 2018). Another qualitative study in four rural areas of Alabama that included 43 AAM also found that among these men, there is limited understanding of prostate cancer, and there is poor patient/provider communication (Hooper et al., 2017). In 2021, Coughlin conducted a comprehensive review of the literature to determine if a lack of knowledge about prostate cancer prevented AAM from getting screened for the disease. The systematic review comprised 42 eligible English-language articles published between 1993 and July 31, 2020. Coughlin found in this systematic analysis that AAM had a poor understanding of prostate cancer and that this problem was more prevalent among older, less-educated, lower-income, unmarried men, as well as those without a regular physician or health insurance.

Most of these studies conclude that there is limited knowledge about prostate cancer among AAM. Lack of knowledge has been the common conclusion among the studies; however, there is a lack of literature reviews that evaluate if providing education to this group will impact their knowledge and decisions about prostate cancer screening.

Purpose and Clinical Questions

AAM have a higher incidence and mortality of prostate cancer (Siegel et al., 2023). PSA screening for African Americans is associated with less prostate cancer-specific mortality and annual screening is associated with reduced risk of the prostate for AAM (Sherer et al., 2022). Current data and reviewed articles exposed the evident problem: there is a gap in education about prostate cancer in AAM. The role of the provider should be to change the current statistics and improve the overall knowledge of prostate cancer and PSA screening in the high-risk population, the AAM. This systematic review aims to investigate in AAM how prostate cancer education by advanced practice providers impacts PSA screening.

Conceptual Framework

The Stetler Model of Evidence-Based Practice (EBP) was developed by Cheryl Stetler (Stetler C. B, 2001). The main objective of this framework is for the user to move from merely critiquing research to applying findings in clinical practice (Melnyk & Fineout-Overholt, 2019). The model comprises five phases: preparation, validation, evaluation/decision-making, translation/application, and evaluation (Melnyk & Fineout-Overholt, 2019). The Stetler Model has helped identify the project's purpose and assess current research findings.

Methods

Project Design

This systematic literature review covers prostate cancer education and PSA-based screening in AAM. The Stetler Model of EBP guided this project during the search to determine a purpose and to validate and evaluate evidence that could be translated into practice.

Search Strategy

PRISMA Declaration guidelines were used for this systematic review (Page et al., 2021). For this review, the databases CINAHL, MEDLINE Complete, and APA PsycInfo were selected via the EBSCO search engine. The search encompassed the complete database history until 2023. The search was composed of terms, Boolean operators and search fields as follow: “prostate cancer screening,” AND “African American men or black men,” AND “education”. The inclusion criteria used were peer-reviewed studies published in English from 2017 to 2023, African American men over 18 years old, and performed in the United States; studies included were qualitative studies, quantitative case studies, cohort studies, and randomized control studies (RCTS). Studies excluded were those that did not involve provider education treatment, non-

PSA screening methods, systematic reviews, and meta-analyses. The rapid critical appraisal tools for evidence in Appendix B from Melnyk and Fineout-Overholt were used to determine the quality and exclusion of studies (Melnyk & Fineout-Overholt, 2019). A study was used if the score was five out of eight when using the rapid appraisal for case studies tool. RCTS were used if the score was nineteen out of twenty-six when using the "rapid critical appraisal questions for RCTS."

Selection Process

The method used for determining which articles to retain consisted of a preliminary review of the title and a subsequent evaluation of the abstract. After inputting the specified search terms, a comprehensive 528 articles were retrieved. Specifically, 140 articles from CINAHL, 262 articles were sourced from MEDLINE Complete, and 126 articles from APA PsycInfo.

The flow diagram proved beneficial during the selection process and was a valuable tool for documenting the search. Following the completion of the search, inclusions were implemented, resulting in 410 articles being deemed ineligible. One hundred eighteen articles met the inclusion criteria: 23 from CINAHL, 69 from MEDLINE Complete, and 26 from APA PsycInfo. A total of 83 duplicate articles were removed. After all ineligible and duplicates were removed, 35 articles were evaluated using a thorough screening process, in which the titles were carefully reviewed. Subsequently, 20 articles were excluded from further consideration due to their lack of appropriate focus or relevance to the intended population. Fifteen articles were obtained and uploaded to the Zotero software, which was used for the entire review process. The title and their abstracts were examined. Four articles were excluded as they did not pertain to provider education. One article was excluded as it focused on non-PSA screening methods.

Lastly, some articles were excluded because the focus was prostate cancer treatment. The study was conducted by a single reviewer who utilized Zotero software to manage all references.

In order to evaluate the seven articles that fulfilled the criteria for the systematic review, an assessment of potential bias was conducted utilizing the suitable Quality Appraisal tool. RTCTs were evaluated per the Rapid Critical Appraisal Questions for RCTS. Rapid critical appraisal queries for case studies were utilized to evaluate the remaining six studies (Melnik & Fineout-Overholt, 2019). Both surveys evaluate the extent to which they are valid, dependable, and applicable. The assessments involved evaluating each article and assigning a point value to each affirmative response to determine the articles' validity and potential for bias.

Synthesis Method

Once the articles had been evaluated for bias, validity, and reliability, the synthesis table proved to be a valuable tool in extracting information that facilitated the systematic review's comparison and identification of themes. Information extracted from each of the seven articles comprised the following: objective, framework, study design, sample, setting, methods employed, and results obtained. The extracted information was utilized to review the appraisal and analyze its limitations. The primary objective of all studies was to compare the efficacy of provider-led prostate cancer education as an intervention. The data were compared with the PICO question in consideration, and any similarities observed across all studies were duly noted. The synthesis table facilitated the identification of study patterns that assisted in formulating the systematic review's themes.

Results

Search Results

Any article that included the terms prostate cancer screening, African American men, or black men, and education were first searched for and identified. A total of 528 articles met the search criteria: 140 articles from CINAHL, 262 articles from MEDLINE Complete, and 126 articles from APA PsycInfo. After the inclusion criteria were applied, 410 articles were eliminated.

Following the completion of the search, and after inclusions were applied, 118 articles met the inclusion criteria: 23 from CINAHL, 69 from MEDLINE Complete, and 26 from APA PsycInfo. A total of 83 duplicate articles were removed. The title of 35 articles was reviewed, and 20 were eliminated based on the exclusion criteria. Fifteen articles were uploaded to Zotero software and reviewed; eight more articles were excluded from the systematic review because they did not involve provider education, treatment, or other non-PSA screening methods. This process can be seen in the PRISMA flow diagram in Figure 1.

The inclusion criteria included peer-reviewed articles published in English between 2017 and 2023 and performed in the United States. The exclusion criteria: Did not involve provider education; involved treatment; involved other non-PSA screening methods.

Characteristic of Studies

The articles reviewed consist of four quantitative pre/post-survey cohort studies (Adams et al., 2020; Choi et al., 2018; K. Dhillon et al., 2019; Troy et al., 2022), one randomized controlled trial (Carlson et al., 2021), one qualitative study (Shungu & Sterba, 2021), and a mixed-methods instrumental case study (Henderson et al., 2022). The purpose ranges from providing prostate cancer education to high-risk AAM and assessing their knowledge by using pre/posttests (Adams et al., 2020; Choi et al., 2018; K Dhillon et al., 2019; Henderson et al.,

2022; Troy et al., 2022), comparing two different ways of provider education to determine which one is more helpful for AAM, and assessing the knowledge of participants using pre/post surveys (Carlson et al., 2021); and to identify the factors that impact making informed decision about prostate cancer in AAM (Shungu & Sterba, 2021).

The education provided in some groups consisted of power points (Adams et al., 2020; Carlson et al., 2021; K Dhillon et al., 2019), oral presentations (Adams et al., 2020; Choi et al., 2018; K Dhillon et al., 2019), education questionnaires and individual interviews (Henderson et al., 2022; Shungu & Sterba, 2021). The sample sizes ranged from 10 participants (Henderson et al., 2022) to 149 participants (Carlson et al., 2021), totaling 427 participants across the studies.

Five of the studies were focused on rural areas of the community; the main goal was to determine if education would be beneficial among high-risk African Americans in rural communities (Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022; K Dhillon et al., 2019; Troy et al., 2022). Six studies consisted of an education session with a pre-and post-survey to determine if participants had benefitted from the education session (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022; K Dhillon et al., 2019; Troy et al., 2022). In addition, five studies included a question about the decision to get screened for prostate cancer (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; K Dhillon et al., 2019; Troy et al., 2022). All the studies emphasize the commonality of prostate cancer among men and the increased risk that AAM has among Caucasian, non-Hispanic men (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022; K. Dhillon et al., 2019; Shungu & Sterba, 2021; Troy et al., 2022).

Synthesis Across Studies

Education about prostate cancer and PSA screening from a provider helps increase knowledge and help AAM make autonomous decisions regarding prostate cancer screening. All studies found that the participants improved their knowledge of prostate cancer when education was given by a provider (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022; K Dhillon et al., 2019; Shungu & Sterba, 2021; Troy et al., 2022). Posttests from studies demonstrated increased knowledge after education sessions, with an average of 79% throughout the studies (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022).

The primary concern among all studies was the increase of prostate cancer among AAM and the low rates of PSA screening among this group due to a lack of knowledge (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022; K Dhillon et al., 2019; Shungu & Sterba, 2021; Troy et al., 2022). Five studies showed that when providers educate AAM about prostate cancer, the chance of them getting a PSA screen increase; on average among studies, approximately 80% of AAM decided to have PSA screening after an education session (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; K Dhillon et al., 2019; Troy et al., 2022).

All the studies agreed that education was beneficial, and participants improved their knowledge (Adams et al., 2020; Carlson et al., 2021; Choi et al., 2018; Henderson et al., 2022; K Dhillon et al., 2019; Shungu & Sterba, 2021; Troy et al., 2022). However, there is no agreement in any of the studies on the barriers that may prevent AAM from participating in education programs or getting screened for prostate cancer. Among the rural community studies, the biggest challenge expressed by all studies was that of low socioeconomic status (Carlson et al., 2021; Henderson et al., 2022; K Dhillon et al., 2019; Troy et al., 2022); however, this does not

correlate with the lack of participation among the other studies such as those in the college setting (Adams et al., 2020).

The Stetler Model supports compiling and using critical thinking when reading the case studies. Phase one has exposed the problem, which is the need for prostate education among AAMs; the research has validated that there is a need for education that the advanced provider must take into consideration when providing services to high-risk cancer individuals like AAM (Melnyk & Fineout-Overholt, 2019).

Discussion

This study aimed to find how prostate cancer education by advanced providers impacts PSA screening in AAM. This was through a systematic review of seven studies conducted in the last seven years. The review concluded that education by advanced providers increases knowledge and autonomous decision-making in AAM, which helps increase confidence when deciding to get PSA screening. The studies reviewed have demonstrated that education about prostate cancer and prostate cancer screening can impact the group positively. The Stetler model helped examine evidence within the studies and determine what research applies to practice.

Recommendations from Findings

The literature review demonstrated that there is a lack of studies on how to increase awareness about prostate cancer among high-risk communities by advanced providers. Current knowledge is being used among the communities through other entities such as social workers and community health workers (Echeverri et al., 2022; Makarov et al., 2021; Odedina et al., 2022; Wray et al., 2022). The community health workers and social workers focus on educating AAM without insurance about their high risk of prostate cancer.

Based on a survey by Shungu and Sterba, (2021), patients trust their physicians more than anyone when deciding about prostate cancer screening. However, unfortunately, providers can be a barrier to screening when they need to provide the information needed. In the study by Choi et al. (2018), approximately sixty percent of AAM reported that they did not receive any information about prostate cancer or PSA screening.

Two ways that providers can improve the education and impact prostate cancer is by being proactive and finding the most current education and guidelines regarding prostate cancer and PSA screening, creating a reminder in the file of those patients that are considered high-risk so that an appointment can be made to discuss the topic, rather than trying to get the information during other visits would be beneficial in addressing the problem.

Limitations

This literature review was limited to only seven articles due to a lack of newer studies on the subject, which affected the quality of appraising the articles; most of the studies were conducted in small rural areas in Georgia, Ohio, or South Carolina (Carlson et al., 2021; Henderson et al., 2022; K Dhillon et al., 2019; Troy et al., 2022). The sample sizes were very small, with the smallest being 10 participants and the largest being 149 (Carlson et al., 2021; Henderson et al., 2022), which can be an issue because it may indicate that AAM are reluctant to participate in studies and the applicability of rural areas may not apply to a group in urban areas.

More provider-focused randomized control studies are needed to create more reliable systematic reviews, and it would be advantageous to have more studies in urban and rural areas to assess the situation better.

Conclusions and implication

This literature review has been challenging; there is a lack of participation within the AAM. Two more study protocols are currently open and will be open through the end of this year (Echeverri et al., 2022; Makarov et al., 2021); however, they are still open due to lack of participation. As a provider, it is essential to understand that this population needs to be educated when they are in the provider's office.

All studies demonstrated improved knowledge among the participants after education was provided. Regardless of the method, all of the participants demonstrated an increase in knowledge about prostate cancer and screening, and the majority of them felt confident to make their own decisions about prostate cancer screening.

As providers, educating all patients regarding screenings is imperative. Prostate cancer is among the most common cancers in males (Carthon et al., 2021), and the screening for patients should be an informed decision. Providers have the responsibility to educate the patients on any potential problems they may be at risk.

Staying informed on clinical practice guidelines regarding changes in screening practices is beneficial; AAM are more likely to harbor genomically aggressive cancer, and they may benefit more from screening than any other group (Siegel et al., 2023). Therefore, creating a system that can help the provider remember to educate the AAM within their practice is crucial.

References

- Adams, C. D., Forehand, J. W., & Pines, E. W. (2020). Improvement of knowledge, attitudes, and beliefs of African American men toward prostate cancer screening. *Journal of Doctoral Nursing Practice, 13*(1), 84–89. <https://doi.org/10.1891/2380-9418.13.1.84>
- Carlson, D. S., Grivas, P., Wei, W., Dhillon, P. K., & Abraksia, S. (2021). 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, 1*–9. <https://doi.org/10.1080/07357907.2020.1855441>
- Carthon, B., Sibold, H. C., Blee, S., & D. Pentz, R. (2021). Prostate Cancer: Community Education and Disparities in Diagnosis and Treatment. *The Oncologist, 26*(7), 537–548. <https://doi.org/10.1002/onco.13749>
- Catalona, W. J. (2018). Prostate cancer screening. *Medical Clinics of North America, 102*(2), 199–214. <https://doi.org/10.1016/j.mcna.2017.11.001>
- Choi, S. K., Seel, J. S., Steck, S. E., Payne, J., McCormick, D., Schrock, C. S., & Friedman, D. B. (2018). Talking about your prostate: Perspectives from providers and community members. *Journal of Cancer Education, 33*(5), 1052–1060. <https://doi.org/10.1007/s13187-017-1205-8>
- Chowdhury-Paulino, I. M., Ericsson, C., Vince, R., Spratt, D. E., George, D. J., & Mucci, L. A. (2022). Racial disparities in prostate cancer among black men: Epidemiology and outcomes. *Prostate Cancer and Prostatic Diseases, 25*(3), 397–402. <https://doi.org/10.1038/s41391-021-00451-z>

- Coughlin, S. S., Vernon, M., Klaassen, Z., Tingen, M. S., & Cortes, J. E. (2021). Knowledge of prostate cancer among African American men: A systematic review. *The Prostate, 81*(3), 202–213. <https://doi.org/10.1002/pros.24097>
- Echeverri, M., Felder, K., Anderson, D., Apantaku, E., Leung, P., Hoff, C., & Dennar, P. (2022). Fostering shared decision-making about prostate cancer screening among African American men patients and their primary care providers: A randomized behavioral clinical trial. *Trials, 23*(1), 653. <https://doi.org/10.1186/s13063-022-06605-1>
- Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimized digital transparency and Open Synthesis. *Campbell Systematic Reviews, 18*(2), e1230. <https://doi.org/10.1002/cl2.1230>
- Henderson I, G., Baldwin, C., & Hall, C. (2022). A prostate cancer prevention education program to increase knowledge and self-efficacy among African American men. *Clinical Journal of Oncology Nursing, 26*(2), 151–154. <https://doi.org/10.1188/22.CJON.151-154>
- Hooper, G. L., Allen, R. S., Payne-Foster, P., & Oliver, J. S. (2017). A qualitative study to determine barriers for prostate cancer screening in rural African-American men. *Urologic Nursing, 37*(6), 285. <https://doi.org/10.7257/1053-816X.2017.37.6.285>
- K Dhillon, P., Grivas, P., Hobbs, B., S Carlson, D., & Abraksia, S. (2019). Education and informed decision making for prostate cancer screening in a high-risk African American community. *Integrative Clinical Medicine, 3*(2). <https://doi.org/10.15761/ICM.1000146>
- Makarov, D. V., Feuer, Z., Ciprut, S., Lopez, N. M., Fagerlin, A., Shedlin, M., Gold, H. T., Li, H., Lynch, G., Warren, R., Ubel, P., & Ravenell, J. E. (2021). Randomized trial of community health

worker-led decision coaching to promote shared decision-making for prostate cancer screening among Black male patients and their providers. *Trials*, 22(1), 128.

<https://doi.org/10.1186/s13063-021-05064-4>

Melnyk, B. M., & Fineout-Overholt, E. (2019). *Evidence-based practice in Nursing & Healthcare: A guide to best practice*. Wolters Kluwer.

National Cancer Institute. (2022). Prostate-Specific Antigen (PSA) test (NIH Publication). *US Department of Health and Human Services, National Institutes of Health*.

<https://www.cancer.gov/types/prostate/psa-fact-sheet>

Negoita, S., Feuer, E. J., Mariotto, A., Cronin, K. A., Petkov, V. I., Hussey, S. K., Benard, V., Henley, S. J., Anderson, R. N., Fedewa, S., Sherman, R. L., Kohler, B. A., Dearmon, B. J., Lake, A. J., Ma, J., Richardson, L. C., Jemal, A., & Penberthy, L. (2018). Annual report to the nation on the status of cancer, part II: Recent changes in prostate cancer trends and disease characteristics. *Cancer*, 124(13), 2801–2814. <https://doi.org/10.1002/cncr.31549>

Odedina, F. T., Walsh-Childers, K., Young, M. E., Kaninjing, E., Krieger, J., Pereira, D., Dagne, G., Askins, N., & Fathi, P. (2022). Development of a Minority Prostate Cancer Research Digest: Communication Strategy Statement for Black Men. *Journal of Cancer Education*, 37(2), 328–337. <https://doi.org/10.1007/s13187-020-01815-0>

Oliver, J. S., Allen, R. S., Eichorst, M. K., Mieskowski, L., Ewell, P. J., Payne-Foster, P., & Ragin, C. (2018). A pilot study of prostate cancer knowledge among African American men and their health care advocates: Implications for screening decisions. *Cancer Causes & Control*, 29(7), 699–706. <https://doi.org/10.1007/s10552-018-1041-0>

- Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... McKenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *BMJ (Clinical Research Ed.)*, 372, n160. <https://doi.org/10.1136/bmj.n160>
- Sherer, M. V., Qiao, E. M., Kotha, N. V., Qian, A. S., & Rose, B. S. (2022). Association Between Prostate-Specific Antigen Screening and Prostate Cancer Mortality Among Non-Hispanic Black and Non-Hispanic White US Veterans. *JAMA Oncology*, 8(10), 1471. <https://doi.org/10.1001/jamaoncol.2022.2970>
- Shungu, N., & Sterba, K. R. (2021). Barriers and facilitators to informed decision-making about prostate cancer screening among black men. *The Journal of the American Board of Family Medicine*, 34(5), 925–936. <https://doi.org/10.3122/jabfm.2021.05.210149>
- Siegel, R. L., Miller, K. D., Wagle, N. S., & Jemal, A. (2023). Cancer statistics, 2023. *CA: A Cancer Journal for Clinicians*, 73(1), 17–48. <https://doi.org/10.3322/caac.21763>
- Stetler C. B. (2001). Updating the Stetler Model of research utilization to facilitate evidence-based practice. *Nursing outlook*, 49(6), 272–279. <https://doi.org/10.1067/mno.2001.120517>
- Troy, C., Brunson, A., Goldsmith, A., Noblet, S., Steck, S. E., Hebert, J. R., Payne, J., McCormick, D., & Friedman, D. B. (2022). Implementing community-based prostate cancer education in rural South Carolina: A collaborative approach through a statewide cancer alliance. *Journal of Cancer Education*, 37(1), 163–168. <https://doi.org/10.1007/s13187-020-01800-7>

US Preventive Services Task Force, Grossman, D. C., Curry, S. J., Owens, D. K., Bibbins-Domingo, K., Caughey, A. B., Davidson, K. W., Doubeni, C. A., Ebell, M., Epling, J. W., Kemper, A. R., Krist, A. H., Kubik, M., Landefeld, C. S., Mangione, C. M., Silverstein, M., Simon, M. A., Siu, A. L., & Tseng, C.-W. (2018). Screening for Prostate Cancer: US Preventive Services Task Force Recommendation Statement. *JAMA*, *319*(18), 1901.

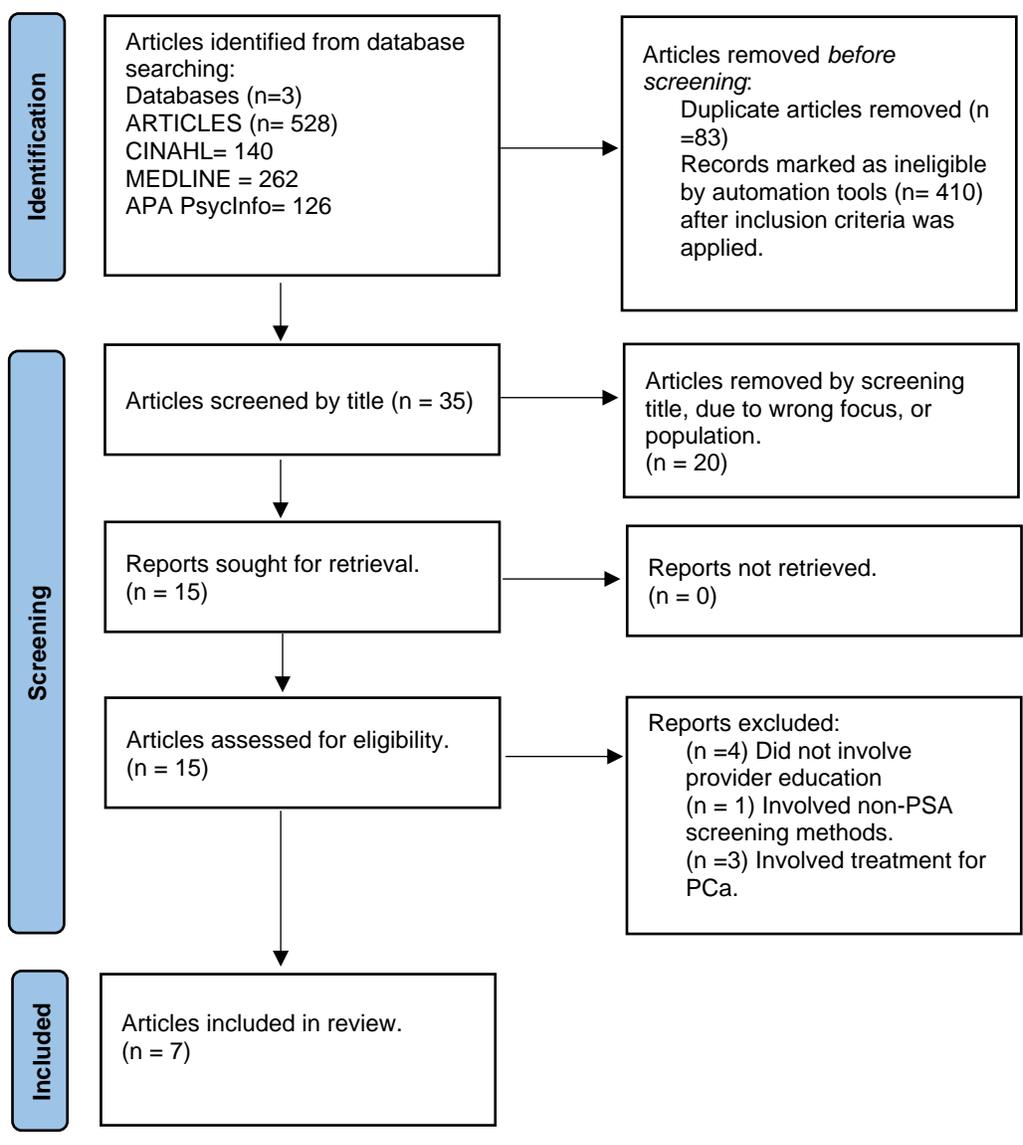
<https://doi.org/10.1001/jama.2018.3710>

Woods-Burnham, L., Stiel, L., Wilson, C., Montgomery, S., Durán, A. M., Ruckle, H. R., Thompson, R. A., De León, M., & Casiano, C. A. (2018). Physician Consultations, Prostate Cancer Knowledge, and PSA Screening of African American Men in the Era of Shared Decision-Making. *American Journal of Men's Health*, *12*(4), 751–759.

<https://doi.org/10.1177/1557988318763673>

Wray, R. J., Nicks, S. E., Adsul, P., Elliot, M., Enard, K., Jupka, K., Trainer, A. K., Hansen, N., Shahid, M., Wright-Jones, R., & Siddiqui, S. (2022). Promoting informed prostate cancer screening decision-making for African American men in a community-based setting. *Cancer Causes & Control*, *33*(4), 503–514. <https://doi.org/10.1007/s10552-021-01544-9>

Fig. 1: Study Selection Process



PRISMA 2020 flow diagram for search in databases and other sources. Adapted from Page et al. (2021)

Author	Purpose	Framework	Design	Sample/Setting	Methods	Findings	Quality Appraisal/Limitations	Conclusions/Application
Adams, 2020	To evaluate an EB PCa education intervention	N/A	Quantitative pre/post survey cohort case study.	11 AAM, 19 to 64 yrs., an annual conference meeting, southeastern US. Convenience sample recruited from a fraternal society via announcement of the study at an annual society board meeting, and via e-mail reminders.	Intervention consisted of 1-hr group session – pre/post survey, video & oral presentation, Q&A session. (Thomas Jefferson University Prostate screening survey tool).	Data was analyzed using IBM SPSS version pre-survey 27.3% (n=3) “sort of agreed” they could protect themselves from PCa. Post-survey 81.8% (n=9) participants “strongly agreed” they could protect themselves from PCa by doing PSA screening.	QA: 5/8; weak reliability & validity of the measurement tool. No randomization, age group does not meet criteria of PSA screening.	Education about PCa was beneficial for this group; it increased knowledge of PCa and demonstrates that education will improve awareness and decision in PSA screening.
Carlson, 2021	The study was conducted to determine what method of communication (SDM or IDM) is more effective when education AAM on PSA screening.	N/A	Randomized Control Trial	175 male patients. Which included 149 AAM. Over the age of 40 yrs. Took place at the Cleveland Clinic facilities during the Men's health events in Eastern Cuyahoga County in	Sample was randomized into the controlled group (IDM) and the investigational group (SDM) and given education about PCa and PSA screening. This was done in an annual one-day outreach event over the	Both groups IDM and SDM demonstrated knowledge improvement on all participants, with the SDM cohort having an 81% improvement vs the IDM 79% ($p=85$).	QA: 8/10; strong reliability and validity of the measurement tool. Limitations a small group size in both groups, is limited to a single area in Eastern Cuyahoga County in Ohio; there were participants who did not follow up or had missing data, and no pre survey results were given for comparison.	IDM and SDM education were beneficial for the AAM who participated in this study. AAM and other men participating in this study were able to decide about PSA screening after either session. Advance practitioners should educate patients and allow them to make the decision about PSA.

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				Ohio, US. Men were recruited through the advertising the program information at local community centers, churches, and church groups.	span of 3 years. (a multi-step comprehensive approach was used). Pre/posttest were used to assess knowledge			
Choi, 2018	To understand the current communication between PCPs and AAM regarding PCa prevention and screening, and to help increase knowledge of PCa in AAM.	n/a	Quantitative pretest/post cohort study	56 AAM between 34 and 80 years old. South Carolina were involved in the education program. Men were recruited through flyers distributed in prostate awareness meetings, medical facilities, community centers, churches, fitness centers, barber shops, thrift stores and local pharmacies.	An education program offered twice in one week. Each session lasted 90 min. 20 knowledge question pre/posttest.	overall 51 participants (91%) completed the prostate health knowledge pre/posttest. Pre-test percentage was 58.8% and posttest increased to 71.8%. 88.6% men indicated that they would get screened for PCa if offered.	QA: 7/8; strong reliability and validity of the measurement tool. This review is limited by a small sample; the group is limited to a single area in SC.	This study improved knowledge for the group that attended the education session, which indicates the education was beneficial to the group. The education also increased the chance of the group getting screened for PCa. It supports the need for PCa education among AAM.

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Henderson, 2022	To determine if a prostate cancer education program guide by an advance practitioner would be beneficial among AAM in a small rural community.	Stetler's evidence-based practice.	A Mixed-methods, instrumental case study design.	10 AAM between 42 and 72 years old. A rural community in middle Georgia, US. There is no mentioned how sample was recruited for the study.	A 33-item Prostate Cancer Knowledge, Self-Efficacy, and Experiences Scale Survey Instrument was administered to 10 participants. It was also used for pre and posttest.	In the mean pre and posttest knowledge and self-efficacy scores were significantly different from zero. Mean pretest scores ($X = 55.5$, $SD = 19.64$) which were lower than posttest scores ($X=87$, $SD=13.17$), which indicates increase in knowledge.	AQ: 5/8: Reliability and validity are limited due to the limitations of the study. Sample size was only 10 participants, it was in a small rural area in Georgia. There is no mentioned of the method of recruitment of the study.	This is a small, limited study by an advance provider; education about prostate cancer improved within the group targeted.
K Dhillon, 2019	To determine if IDM guidelines will be helpful in increasing knowledge on PCa and prostate screening decisions in a high-risk group.	N/A	Quantitative pre/posttest cohort study.	139 male patients over 18 years of age. 127/129 were AAM. Cleveland Clinic facilities in Cleveland Ohio, US. This study was incorporated to a Men's Health community outreach program.	Education about prostate cancer which consisted of pre/posttest after IDM education was given (20-minute presentation). Screening option was given after education.	There was an improvement of knowledge about prostate cancer and screening after the education section. The median range of correct answers from pretest to post test was +3, and men demonstrated significant improvement in knowledge of PCa. 97% of men considered	QA: 5/8; weak reliability and validity of the measurement tool. The study was limited to only 2 events in 2015 and 2016; education, study is limited to one geographical area, and limits the group's health literacy.	The study highlights the specific challenges of the high risk AAM group; it concludes that with the use of the right tools educating the group had positive impact in knowledge of PCa and the participants were able to make their own decisions. Although it is a small study, it is a study that could be duplicated within the geographical area, and it may have similar results.

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						the program helpful.		
Shungu, 2021	To identify the factors that impact IDM among AAM regarding PCa and PSA screening.	Theory-Based framework with direct application of Prochaska's concepts of decisional balance.	A qualitative study.	21 AAM ages 55-69 yrs. Were recruited face to face by 2 investigators during office visits to an academic primary care clinic. Between Aug to Nov. 2019. The groups were divided into 5 focus groups. Specific location is not mentioned in article.	The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist guided the methods of this study. Participants were interviewed at a private conference room at a clinic. Questions focused on knowledge, about PCa, and a presentation was shown after interview.	Among the 13 findings of factors affecting PSA screening among AAM the lack of knowledge was identified.	19/26: reliability and validity are limited. It has a limited sample; and it only takes place in one clinic of unknown location. It is based on personal experiences of the specific group.	Among the factors that were identified in this study; lack of knowledge about PCa continues to be a pattern.
Troy, 2022	To evaluate the impact of the implementation of prostate health education programs in rural communities.	n/a	A quantitative pre/post survey cohort case study.	41 participants with 92.3 AAM were recruited for a PCa education program via flyers, radio and newspaper advertisements, and word of mouth. These	Education given to groups. The education session is presented by members and then a Q&A session follows. Participants	There was an improvement in the post test in 12 out of 19 items. The overall resulted in improvement in education and awareness of PCa.	5/8: reliability and validity are weak due to the number of participants. Study was on a rural area, it is based on a community-based program, not a provider.	The results of this study support community-based education for PCa prevention, and screening.

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				participants were part of one of three education sessions offered in three counties of the state of South Carolina (Barnwell, Darlington, and Florence). US. From 2018-2019.	complete a pre and post knowledge test to determine success of intervention.			
Abbreviations: AAM -African American Men, EB – Evidence-based, HCP – Healthcare provider, IDM – Informed decision making, PCa – prostate cancer, PSA- Prostate-specific Antigen, Q&A -questions and answer, SDM – Shared-decision making, United States - US								