

End-user evaluation of a PSA home testing kit: survey results from UK men in the community

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Abstract

Prostate-specific antigen (PSA) home testing provides an opportunity for men to have a PSA test. The Graham Fulford Charitable Trust (GFCT) commenced this service during the time of COVID-19, when face to face appointments in the NHS were limited. This paper summarises men's views on this home testing service and their views on incorporating a genetic test for prostate health. An email with a link to an online questionnaire providing 10 questions was sent to men who had registered with the Charitable Trust and who had used a PSA home testing kit.

Introduction

Prostate cancer (PCa) is the most common cancer among men and the second leading cause of cancer mortality worldwide [1]. Although the prostate-specific antigen (PSA) test is not a cancer-specific marker [2], it is the most widely used biomarker for the detection of PCa [3]. In 2007 data collected from 87 randomly chosen general practices showed that PSA testing remains low in the UK at a rate of 6% [4].

The GFCT Home Testing Kit service was developed to make it possible to conduct large-scale detection of possible prostate cancer in the comfort of their own homes without the cost or the need of having patients come to a clinic or general practitioners' surgery. In addition, during and beyond the COVID-19 pandemic, the home testing service offered an alternative and convenient way for testing men for prostate cancer in the community.

In this project, we explored end-users' satisfaction of using the PSA home testing kit which could be used in the future as a potential screening approach for men in the UK. Furthermore, as genetic testing to identify men at higher risk of PCa is on the horizon, we also asked if men would be willing to undertake a genetic test if it was included in future home testing.

Methodology

Men who used the PSA home testing service were asked to complete the 10-question survey. The survey was hosted online within the GFCT Ltd website (<https://www.mypsatests.org.uk>). The survey commenced on the 12th and ended on the 31st of May 2021. Data was exported from source in the XML format and processed further for data quality control check. For quantitative data, the analyses were performed using STATA statistical program version 15. Distribution of the responses and their percentages are presented. For open-ended questions, the analysis was carried out using IBM SPSS Text Analytics for Survey4. The study protocol was approved by the Graham Fulford Charitable Trust (GFCT) Ltd. review board. All participants provided informed consent to the GFCT. All methods were carried out in accordance

with relevant guidelines and regulations. The datasets generated and analysed during the current study are available in the GFCT repository (<https://gfct.mypsatests.org.uk/>).

Results

Completing the PSA home test

1,902 men participated in the survey of whom, almost 89% (n=1691) completed the PSA home test successfully whereas only 11% (n=211) could not complete the test. Out of the 211 men who did not complete the test, 200 men provided a reason. The main reason was being unable to provide sufficient blood for a test (81.5%).

Rating the service

The average service rating score was 4.6 out of 5 with 5 representing "Excellent" service. 89% of respondents rated the service as either "Excellent" or "Above average". Only 6% assessed the service rating as "Low" or "Below average" as shown in Table 1 and Table 2.

Men's views on PSA home testing

Around 93% of the men were happy with the result being returned to them in an acceptable time and reported the results were easy to understand. Also, 90% of them will use the home kit PSA test again and almost 92% will recommend this service to others.

Men's view on genetic testing

The vast majority of men (80%) are willing to take a genetic risk assessment. Within the men who reported "yes" to the test, 47% would

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Received: July 03, 2022; Accepted: July 16, 2022; Published: July 28, 2022

Table 1. Overall rating of the service

Rating of Home Testing Kit service	Number	Percentage
Excellent	1278	67.2
Above average	413	21.7
Average	92	4.8
Below average	45	2.4
Low	74	3.9
Total	1902	100.0

Table 2. Reasons for not completing the PSA home test

Main reasons for not completing the test	Number	Percentage
Insufficient Blood	163	81.5
Instructions (not clear)	1	0.5
Sight of the lancet	4	2.0
Other reasons	32	16.0
Total	200	100.0

take the test if there was no cost implication for them. Moreover, about 72% of respondents agreed that the test could be broadened to other prostate health issues, and 87% reported that they will consider taking a test for other medical conditions via a postal system.

Discussion

This study aimed to assess end-user satisfaction of using PSA home testing kit and men's view on the genetic test. There is very limited published evidence at the current time on this specific topic for prostate cancer. Although the prostate-specific antigen (PSA) test is not cancer-specific marker [2], it remains the most widely used approach for detecting possible PCa [3]. Great efforts have been made to enhance the performance of the test by the incorporation of additional biomarkers age, and family history but to date such combined testing approaches have not been widely used in the community. Despite the high incidence and mortality, there is currently no screening programme for PCa in the UK [5]. A 2007 data collected from random 87 general practices shows that PSA testing was low in the UK at 6%. It also showed a significant difference by age, and geographical location among individuals who were tested [4]. Furthermore, in a previous study exploring the attitudes of men towards testing for PSA who had been diagnosed or suspected to have PCa, men believed that a nationwide screening programme should be offered. Others believed that access to PSA testing is limited due to a lack of government support and resources [6]. In a US study examining men's responses to the US Preventive Services Task Force recommendation in 2012, men still favour PSA testing despite the recommendation against testing, [7].

Advantages of PSA home testing

The home PSA self-testing kit makes it possible to conduct large-scale community-based testing for PCa in the comfort of the man's home without the cost or need of having men come to a clinic. In addition, with the backlog the NHS faces after the pandemic, it is less likely men will come forward to have a PSA test in Primary Care.

The results of this survey demonstrate that home PSA testing is a valid and popular way of facilitating men to undertake PSA testing. Self-testing approaches based on sending test kits by mail have also been used for other types of cancer detection programs, such as colorectal cancer [8], cervical cancer [9] and bladder cancer [10]. Such methods have increased the screening rate significantly for each of these types of cancer. Furthermore,

our survey demonstrated that men would also be willing to undertake genetic testing using such a home based approach.

Conclusion

Overall, men were very happy with a PSA home testing service and three quarters of men were also willing to undertake a genetic test either if it was free or with an additional cost. Almost 90% of respondents rated the service as excellent or good resulting in an average score of 4.6 out of 5. PSA home testing also offers an alternative way to enable men who are unable to take the test in person. This may be particularly useful for harder to reach groups in the community who traditionally do not come forward.

In summary, the PSA home testing service works very well and could potentially be expanded further.

Acknowledgements

We would like to thank all participants for their time and effort to participate in our survey. Our thanks also go to GenesisCare, Windsor for sponsoring this survey.

Author contributions

G.F, J.Y, S.H, A.L and K.R.M were involved in study conception, idea and design. G.F, J.Y, S.H and M.B were involved in data acquisition. M.A and A.L carried out data quality check and data analysis. M.A, A.L, G.F and K.R.M carried out result interpretation. All authors involved in drafting and approved the final version of the manuscript. K.R.M is the study guarantor.

Conflict of interest

There are no competing interests.

Data availability

The datasets generated and/or analysed during the current study are available in the GFCT repository (<https://gfct.mypsatests.org.uk/>). All data are anonymised by removing any personal information.

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