ORIGINAL ARTICLE

Barriers to implementing a national health screening program for men in Malaysia: An online survey of healthcare providers

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Abstract

Introduction: This study aimed to determine the views and practices of healthcare providers and barriers they encountered when implementing the national health screening program for men in a public primary care setting in Malaysia.
Methods: An online survey was conducted among healthcare providers across public health clinics in Malaysia. All family medicine specialists, medical officers, nurses and assistant medical officers involved in the screening program for adult men were invited to answer a 51-item questionnaire via email or WhatsApp. The questionnaire comprised five sections: participants' socio-demographic information, current screening practices, barriers and facilitators to using the screening tool, and views on the content and format of the screening tool.
Results: A total of 231 healthcare providers from 129 health clinics participated in this survey. Among them, 37.44% perceived the implementation of the screening program as a "top-down decision." Although 37.44% found the screening tool for adult men "useful," some felt that it was "time consuming" to fill out (38.2%) and "lengthy" (28.3%). In addition, 'adult men refuse to answer' (24.1%) was cited as the most common patient-related barrier.
Conclusions: This study provided useful insights into the challenges encountered by the public healthcare providers when implementing a national screening program for men. The screening tool for adult men should be revised to make it more user-friendly. Further studies should explore the reasons why men were reluctant to participate in health screenings, thus enhancing the implementation of screening programs in primary care.

Introduction

Men's health is an important but neglected issue. Regional and national men's health reports have consistently reported that the average life expectancy for men is shorter than that for women and that they suffer higher mortality and morbidity across various diseases. More men in the productive age group (15-45 years) die compared to women in the same age group. Similarly, in Malaysia, a multi-ethnic developing country where men live 5 years less than women,[1] men have poorer health[2] and a higher mortality rate compared to women.[3] Cardiovascular disease (CVD) is the most common male-predominant cause of death[4] and can be prevented with early interventions. Health screenings are one of the effective strategies for identifying those individuals in need of intervention. For example, a health screening program for CVD has been found to be useful in detecting CVD-related health conditions and can effectively reduce the CVD mortality rate.[5] Similarly, colorectal cancer screening, done through a fecal occult blood test, sigmoidoscopy and colonoscopy, has been shown to decrease mortality due to colorectal cancer.[6]

However, unlike the case for women and children, there are only limited healthcare services that cater specifically to the health needs of men.[7] Men are managed under general health services, where healthcare providers tend to prioritize disease-based management over gender-related health issues. In addition, health services are generally less male-friendly, and healthcare providers have less exposure to specific training for men's health compared to women and children's health.[4,8] Furthermore, studies have shown that men are less likely to undergo health screening than women[9,10] due to poor health-seeking behavior, lack of health knowledge and masculine attitudes.[11] Globally, there is

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a lack of men's health policies. To date, only Ireland[12], Australia[13] and Brazil[14] have established men's health policies. In Malaysia, despite the increasing awareness of the importance of men's health, there is inadequate attention given to policy development for providing holistic, culturally appropriate and gender-sensitive care for men.[4] Without a health policy for men, the implementation of men's health services and programs will be fragmented and suboptimal. The current system, healthcare providers and male-related barriers create significant challenges for improving men's health in Malaysia.

In 2008, the Ministry of Health introduced the Integrated Health Service to provide comprehensive health services coverage to the public in order to improve the health of population and reduce the burden of disease in Malaysia,[3] The Health Status Screening Form (Borang Saringan Status Kesihatan, BSSK) was one of the screening tools implemented across all public health clinics to improve the health of different target groups based on their age and gender, including youths, adult women, adult men and the elderly. It is filled out annually or based on individual risk profiles. The screening target is set at 5% of the total population covered by each health clinic. Screening for adult men using the BSSK for adult men is one of the strategies being used to improve men's health in Malaysia. However, there have been significant changes in the recommended screening for men since the BSSK for adult men was developed. For example, the latest edition of the BSSK for adult men (2014) includes screening for symptoms of prostate and testicular cancers, while the Malaysian Consensus Guide to Adult Health Screening for General Population Attending Primary Care Clinics, published in 2015, recommends against prostate cancer screening and does not recommend testicular examinations for testicular cancer screening. Currently, the BSSK for adult men includes 10 sections: biodata, medical/surgical history, current signs and symptoms, dietary habits, physical activity, drug and substance use, abuse (physical, emotional and sexual), mental health, a biometric assessment and a physical examination. The form is 8 pages long. It is debatable whether some assessments, such as conducting a complete physical examination, should be performed. Apart from these issues, the lack of continuity of care and lack of time in the health clinics make the implementation of screening for men even more challenging.[15] Such shortcomings may affect the uptake of the BSSK for an adult men's health screening program on the part of both healthcare providers and men.

Therefore, this study aims to determine the views of, and current practices in, screening for men, specifically the use of the BSSK for adult men among healthcare providers in public health clinics, with the intention of improving screening for men in the primary care setting in Malaysia.

Methods

This cross-sectional study used the online survey method to determine the views of, and practices in, implementing the BSSK for adult men's health screening among healthcare providers in public health clinics across Malaysia. This study used the mixed-method design, in which a five-level Likert scale and free text response were employed. The inclusion criteria for the study participants were healthcare providers working in a Ministry of Health (MOH) public health clinics that have implemented a screening program using the BSSK for adult men. These included family medicine specialists (FMSs), medical officers, nurses and assistant medical officers who had experience using the BSSK for adult men. The list of FMSs and their contact details were obtained from the Family Health Development Division, Ministry of Health. The universal sampling method was used, i.e., all FMSs were invited to participate in the study. The link to the online survey (Google Form) was sent to the FMSs, who then circulated the link via emails and WhatsApp to the other healthcare providers working in the health clinics under their supervision. There was no sampling frame for the other healthcare providers (medical officers, nurses and assistant medical officers) who were invited to participate by the FMSs. The survey was conducted from June to July 2017. Two reminders were sent to all participants, spaced two weeks apart.

This study was approved by the Medical Research & Ethics Committee, Ministry of Health Malaysia (NMRR-17-711-35265). No personal, identifiable information was collected through the survey. Prior to answering the questionnaire, the participants were instructed to read the information sheet and provide informed consent by ticking the checkbox provided for this purpose. All answers to the questionnaires were anonymized to protect the confidentiality of the participants. The data were stored and analyzed in a designated password-protected

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laptop which could only be accessed by the principal investigator and the research assistant. The questionnaire was developed by the research team based on group discussions and a literature review. It contained five sections: participant's sociodemographic information, current screening practices, barriers and facilitators to using the BSSK for adult men, views on its content and format as well as recommendations to improve its use in health clinics. A five-level Likert scale ('totally agree,' 'agree,' 'neither agree nor disagree,' 'disagree' and 'totally disagree') was used to assess the views on the content and format of the BSSK for adult men; these options were later re-categorized into "agree" and "disagree" (**Table 5**). Two open-ended questions were also asked in the barrier and facilitator section to explore the respondents' barriers and facilitators to using the BSSK in their health clinics. The questionnaire underwent content and face validation with 12 respondents, i.e., FMSs (n=5), medical officers (n=2), nurses (n=3) and assistant medical officers (n=2). The validation phase resulted in the inclusion of additional items, which were the names and types of the health clinics where the respondents worked.

Descriptive analyses were performed for all study variables. Categorical data were described with proportions, and normally distributed continuous data were described with their means (and standard deviations). The screening practice was treated as the dependent variable, while the health clinic and participant information served as the independent variables. Free-text responses to the questions "What is your reason for using the BSSK to screen adult men?" and "What is your reason for not using the BSSK to screen adult men?" were analyzed by four researchers independently using a thematic approach then categorized via content analysis (**Table 4**). For variables with incomplete responses, the number of responses available for the analyses are reported in the parentheses.

Results:

Response rates

A total of 231 healthcare providers participated in this study, of whom 83 were FMSs and 148 were other healthcare providers (medical officers, nurses, assistant medical officers) (**Table 1**). The response rate of the FMSs was 39.9% (83/208). A total of 129 health clinics were represented in this survey (**Table 2**).

Participant and health clinic profiles

The majority of the respondents were male (58.4%). The respondents had a mean age of 37.9 (+8.79) years, 35.9% of them were FMSs and had spent a mean of 7.55 (+6.59) years working in a health clinic. Most of the health clinics were located in the states of Selangor (16.3%), Sarawak (14.0%) and Pahang (12.4%), while 64.3% of the clinics were urban and and 27.1% were type 3 health clinics with 301 to 500 patient attendances per day.

Table 1: Sociodemographic profile of the respondents

Variable	Frequency (%) (n=231)	Mean (SD) (min-max)
Gender		
Male	135 (58.4)	-
Female	96 (41.6)	-
Position		
Family medicine specialist	83 (35.9)	-
Medical officer	56 (24.2)	-
Assistant medical officer	59 (25.5)	-
Nurse	27 (11.7)	-
Community nurse	6 (2.6)	-
Age (years) (n=198)	-	37 (8.79) (23-59)
Years working in a health clinic (n=229)	-	5 (6.59) (0-37)

Table 2: Profile of health clinics

Variable	Frequency (%) (n=129)
Health clinic location by state	
Selangor	21 (16.3)
Sarawak	18 (14.0)
Pahang	16 (12.4)
Sabah	12 (9.3)
Perak	11 (8.5)
Penang	8 (6.2)
Negeri Sembilan	8 (6.2)
Kuala Lumpur	8 (6.2)
Johor	8 (6.2)
Terengganu	5 (3.9)
Kelantan	4 (3.1)
Perlis	3 (2.3)
Kedah	3 (2.3)
Malacca	3 (2.3)
Putrajaya	1 (0.8)
Labuan	0 (0.0)
Setting of health clinic	
Urban	83 (64.3)
Rural	46 (35.7)
Type of health clinic	
Type 1: More than 800 patient attendances per day	10 (7.8)
Type 2: 501-800 patient attendances per day	23 (17.8)
Type 3: 301 - 500 patient attendances per day	35 (27.1)
Type 4: 151- 300 patient attendances per day	31 (24.0)
Type 5: 51- 150 patient attendances per day	26 (20.2)
Type 6: 50 or less patient attendances per day	4 (3.1)

Practices in health screening for men

Table 3 shows the health screening practices for men in the public health clinics. On average, 32 adult men were screened with the BSSK for adult men per month. The most common selection criteria for screening men using the BSSK for adult men were: adult men coming in for screening (77.6%), followed by adult men seeing a doctor for an acute illness (60.1%) and adult male government workers 40 years old and above coming in for routine health screening (58.8%).

Table 3: Health screening practices used for men in health clinics

Variable	Frequency (%) (n=231)	Mean (SD)
Estimated average number of people screened using BSSK per month by population category:		
Adult men (n=225)	-	32 (45.76)
Adult woman (n=223)	-	32 (48.02)
Elderly (n=224)	-	19 (36.51)
Youth (n=223)	-	23 (35.77)
Selection of participants for BSSK screening (can choose multiple answers): (n=228)		
Adult men coming in for screening	177 (77.6)	-
Adult men seeing a doctor for an acute illness	137 (60.1)	-
Adult men (government servant 40 years old and above) coming in for routine screening	134 (58.8)	-
Adult men who accompany their family/friends to see a doctor	127 (55.7)	-
Adult men seeing a doctor for chronic disease follow- up	107 (46.9)	-
Time taken to complete BSSK for adult men per person (minutes): (n=228)	-	15.7 (9.02)

Table 3: Health screening practices used for men in health clinics

Variable	Frequency (%) (n=231)	Mean (SD)
Experience in using the BSSK (years): (n=219)	-	3.8 (2.59)
Have you undergone formal training for BSSK (adult men): (n=231)		
Yes	53 (22.9)	-
Do you perform screening for adult men without using BSSK: (n=231)		
Yes	121 (52.4)	-
How many person(s) is/are in charge of implementing BSSK in your health clinic: (n=120)		
1	10 (8.3)	-
2	29 (24.2)	-
3	16 (13.3)	-
4	14 (11.7)	-
5	4 (3.3)	-
More than 5	47 (39.2)	-

Barriers and facilitators to using BSSK for adult men

There were 219 respondents who provided comments about the reasons that they perform the BSSK for adult men in the free-text section. The most common reasons were: '*BSSK is a top- down decision*' (37.44%), '*BSSK helps to facilitate screening in adult men*' (37.44%) and '*BSSK is useful for improving the health status of adult men*' (25.11%)(**Table 4**). When considering the reasons for not using the BSSK for adult men, the barriers were divided into three domains (tool, manpower and patient factors) and the most common barriers listed by the 191 respondents were: 'it is time consuming' (38.2%), 'it is too lengthy' (28.3%) and 'adult men refuse to answer' (24.1%).

Table 4: Barriers and facilitators to using BSSK for adult men in health clinics

Variable	Frequency (%)
Reason for using the BSSK (n=219)	
BSSK is a top-down decision	82 (37.44)
BSSK helps to facilitate screening	82 (37.44)
BSSK is useful for improving the health status of men	55 (25.11)
Reasons for NOT using the BSSK (n=191)	
Time consuming (Tool)	73 (38.2)
Too lengthy (Tool)	54 (28.3)
Men refuse to answer (Patient)	46 (24.1)
Time constraints (Manpower)	17 (8.9)
Lack of manpower (Manpower)	15 (7.9)
Tedious for healthcare providers (Tool)	13 (6.8)
The BSSK form is complicated (Tool)	13 (6.8)
Heavy workload (Manpower)	10 (5.2)
Patient has low education (Patient)	5 (2.6)
Answers provided by men are not truthful (Patient)	5 (2.6)
Questions are not relevant (Tool)	4 (2.1)
Insufficient BSSK forms available at time of screening (Tool)	4 (2.1)

Views on BSSK with regards to men's health screening

The majority of the healthcare providers felt that 'it takes too long' for them to complete the BSSK for adult men (87.4%) and that 'men often do not want to be screened' (81.8%). In addition, three-quarters of the participants suggested translating the BSSK for adult men into more languages, such as English and Tamil (74.5%). Although the majority considered the BSSK for adult men to be useful (65.8%), they felt that it covered too many topics (59.7%). When comparing doctors and non-doctors, there were differences in their views, including on the statements: "Men often do not want to be screened" (77.0% vs 89.1%, p=0.019), "The BSSK should be translated into more languages" (73.5% vs 28.6%, p=0.012), "There are inadequate efforts to promote health screening programs for men at my health clinic" (64.5% vs 44.6%, p=0.003), "BSSK for adult men is based on scientific evidence" (35.3% vs 54.3%, p=0.004) and "BSSK for adult men is easy to use" (37.4% vs 51.1%, p=0.040).

Table 5: Views on using the BSSK to screen adult men (agree and totally agree)

Variables	Frequency (%)			P values
	Total (n=231)	Doctors (n=139)	Non-doctors (n=92)	
It takes too long for me to complete the BSSK for adult men	202 (87.4)	123 (88.5)	79 (85.9)	0.556
Men often do not want to be screened	189 (81.8)	107 (77.0)	82 (89.1)	0.019
The BSSK should be translated into more languages	172 (74.5)	105 (75.5)	67 (72.8)	0.643
There is insufficient space in my health clinic to perform health screening for adult men	133 (57.6)	78 (56.1)	55 (59.8)	0.581
There are inadequate efforts to promote health screening programs for men at my health clinic	130 (56.3)	89 (64.5)	41 (44.6)	0.003
I am too busy to perform health screening for adult men	96 (41.6)	59 (42.4)	37 (40.2)	0.737
There are insufficient BSSK forms for adult men at my health clinic	65 (28.1)	40 (28.8)	25 (27.2)	0.791
I am not confident in using the BSSK to perform health screening	60 (26.0)	34 (24.5)	26 (28.3)	0.519
What do you think about the topics covered in the BSSK for men?				
The number of topics covered in the BSSK for men is				
Too great	138 (59.7)	84 (60.4)	54 (58.7)	0.645
Adequate	88 (38.1)	53 (38.1)	35 (38.0)	
Too small	5 (2.2)	2 (1.4)	3 (3.3)	
The BSSK for adult men is based on scientific evidence	99 (42.9)	49 (35.3)	50 (54.3)	0.004
The BSSK for adult men is easy to use	99 (42.9)	52 (37.4)	47 (51.1)	0.040
The BSSK for adult men is useful	152 (65.8)	86 (61.9)	66 (71.7)	0.122

Discussion

This study is the first to review the national screening program for men in Malaysia since it was implemented in the public health clinics in 2008. Despite recognizing the importance of screening in men, the healthcare providers in the health clinics faced challenges in implementing the screening program. This study found that the length and complexity of the screening instrument were the major barriers to conducting health screening for men in the health clinics. The BSSK for adult men form is an 8-page booklet with 13 sections, including sections on a self-administered symptom list for the men as well as healthcare provider-administered history taking, physical examinations and investigations, making the tool lengthy and complicated to use. One way of making the screening tool more user-friendly is to use a simplified screening form or information and communication technology such as mobile apps or the web. A study by Teo

et al.[16] found that men wanted a mobile app that contain personalized and credible information to guide them in making decision about health screening due to the convenience and privacy of such an app. In the context of the busy public primary care setting, utilizing a screening tool via a mobile app before seeing the healthcare provider is a feasible and possibly cost-effective option.

Another common barrier shown in this study is men's refusal to use the screening tool. While refusals could be due to the tedious process of using a long questionnaire such as the BSSK for adult men, men have been found to be reluctant to engage in preventive health.[8] A systematic review by Teo et al.[9] identified 'masculinity' as one of the important factors which impedes screening in men, i.e., they are more likely to take risks and perceive of themselves as invincible, especially when they are young. In addition, while men tend to be fearful of getting a disease and suffering from its consequences, they also have a lower risk perception compared to women they and often refuse screening because they do not experience symptoms and hence consider themselves to be healthy.[17] This barrier could be overcome by increasing the knowledge and awareness of men.[18]

Like most interventions, the BSSK for adult men faces system barriers such as time constraints, lack of manpower, and heavy clinical workloads.[19] In Malaysia, an audit was conducted in a primary healthcare clinic in Gombak District, Selangor. The result showed that the average primary care consultation time in a health centre is 18.21 minutes and 41.8% of patients saw the doctor for 10–20 minutes.[20] It would be challenging for the Malaysian primary care workers to stretch consultations by 15 minutes to administer a screening questionnaire. The same result was found for the UK National Health Service (NHS) Health Checks program, i.e., time constraints and workload were cited as the main barriers in implementation, despite it being much shorter (focuses on cardiovascular disease risks and events only) than the BSSK.[21,22] One way of 'expediting' the delivery of a screening tool is to provide adequate support in terms of training and resources.[19] Only one-quarter of our study respondents had undergone formal training for BSSK administration. The healthcare providers need to be trained how to use the tool with their patients effectively and efficiently. Another way to improve the delivery of health screening is to incorporate technology into the process. For instance, men can use a risk assessment tool to identify their health risks before seeing the healthcare provider, who will then suggest the list of screening tests to be done based on this latest evidence. Such a process could be enhanced further by incorporating an algorithm into a screening platform to generate a summary of the risks and screening tests needed based on the risk assessment. For example, the NHS has developed the Heart Age Test and encourages the public to use it before seeing their doctor.[23] Such tests may save time and reduce variations in the screening process, thus enhancing the shared decision- making process.

One of the strengths of this study is that it obtained responses from the whole of Malaysia, with fair representation from different geographical regions. In addition, it identified process and structural barriers to men's health screening in public primary care settings. Furthermore, all healthcare providers involved in implementing this screening program, including doctors, assistant medical officers and nurses, were included in this study. The challenges identified in this study will help policy makers to revise and improve the screening program and its implementation.

There are several limitations to this study due to the difficulty in obtaining an accurate sampling frame for this study. We realized that there was no comprehensive way to recruit participants because there was no complete database of the staff working in the health clinics across the country. The most reliable database was the FMS email list which we obtained from the Ministry of Health. Even within this list, a number of email addresses had not been updated. In addition, some FMSs might consider this survey irrelevant to them, as the screening is usually done by nurses and assistant medical officers. This issue may have resulted in a low response rate from the FMSs and other healthcare providers (despite two reminders via email). Furthermore, one FMS could be in charge of more than one health clinic, resulting in difficulty in calculating the number of the health clinics that participated in this study. The nature of an online survey does not allow for in-depth exploration of the barriers and facilitators; a qualitative study has been planned in the next phase of this study to seek explanation of the findings from this survey. Another limitation was that this study only targeted screening for adult men. However, the national screening program also includes children, women and the elderly, and these specific programs will be assessed in the next phase of the study.

This study identified screening tools, patients and system factors as the major barriers for the implementation of the national health screening program for adult men in Malaysia. It highlighted the importance of having a simpler, user-friendly and evidence-based screening tool with a structured and efficient delivery pathway when implementing a screening program for men in the primary care setting. The findings from this study provide evidence for revising and improving the existing screening programs in order to ensure their successful implementation.

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Competing interests

None declared.

Ethical approval

This study was approved by the Medical Research and Ethics Committee, Ministry of Health Malaysia (NMRR-17-711-35265).

How does this paper make a difference to general practice?

- Determines the barriers faced by general practitioners as they utilize a national health screening program.
- Provides evidence for policy makers to revise and improve screening programs in Malaysia.
- Serves as a platform for a phase two qualitative study to explore the barriers and proposed solutions in depth.
- Identifies opportunities to explore possible solutions and overcome the barriers for any national screening program in Malaysia.

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