RESEARCH COMMUNICATION

Enhancement of the Cervical Cancer Screening Program in Malaysia: A Qualitative Study

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Abstract

Introduction: Cervical cancer has long been known as a preventable disease. Yet it still is a prime women's health issue globally. In Malaysia, the current cervical cancer screening program, introduced in the 1960s, has been found to be unsuccessful in terms of Pap smear coverage. The aim of this study is to determine providers perceptives on the program and the feasibility of practicing an organized cervical screening program in Malaysia. Methods: 11 key informant interviews were conducted with policy makers and health care providers from the Ministry of Health in Malaysia from October 2009 to May 2010. Interviewees' perceptions were explored on current and organized cervical screening program based on their expertise and experience. Results: The results highlighted that the existing cervical screening program in Malaysia faced flaws at all levels that failed to reduce cervical cancer morbidity and mortality. The identified weaknesses were poor acceptance by women, lack of commitment by health care providers, nature of the program, an improper follow-up system, limited resources and other competing needs. Complementarily, all interviewees perceived an organized cervical screening program as an alternative approach both feasible and acceptable by women and government to practice in Malaysia. Conclusion: Better screening coverage depends on an effective screening program that incorporates a behaviour-based strategy. A new program should be focused in the policy-making context to improve screening coverage and to effectively combat cervical cancer.

Keywords: Cervical cancer screening - opportunistic screening - call-recall system - Malaysia - qualitative study

Asian Pacific J Cancer Prev, **11**, 1359-1366

Introduction

Cervical cancer is a major global public health problem, ranking as the third commonest cancer in developed countries and as the second in developing countries (Parkin et al., 2002; Boyle and Levin, 2008).

In Malaysia, cervical cancer remained as one of the top five commonest cancers among women. It is still considered the second commonest cancer in women aged 15-49 years old that categorized as risk group (Lim et al., 2002; Chye and Yahaya, 2003; Omar et al., 2006; Chye et al., 2008). The incidence rate of 12.2 per 100,000 in 2006 was higher compared to other developed countries such as Australia, New South Wales and USA (Omar et al., 2006). Nearly 80% of cervical cancer patients still presented advanced disease (Ministry of Health Malaysia, 2003; Othman et al., 2009).

Pap smear test is regarded as the primary screening tool for early detection of cervical cancer since 1940s (Papanicolaou, 1948; Bergstrom and Adami, 1999). Its effectiveness and wide acceptance has led to significant reduction in cervical cancer incidence and mortality (Jirojwong et al., 2001; Watkins et al., 2002; Garces, 2006; Boyle and Levin, 2008; Domingoa et al., 2008). However, Pap smear screening test achievement depends on women's acceptance and service quality (Amarin et al., 2008). In that, Pap smear coverage discrepancies noted within countries where developing countries has lower coverage (19%) than developed countries (63%) (Gakidou et al., 2008).

In many developed countries, the implementation of organized screening program in several years ago had experienced a better Pap smear coverage with reduced cervical cancer mortality. Organized screening program is a systematic population-based screening program which incorporates a call-recall system, established as one of the best ways to ensure success in increasing Pap smear screening test coverage as noted in the United Kingdom, Australia, Italy, Sweden and others (Ridsdale, 1987; Bergstrom and Adami, 1999; Quinn et al., 1999; Eaker, 2003; Eaker et al., 2004; WHO, 2004; Sepu´lveda and Prado, 2005; Ronco et al., 2005). Studies have found organized screening program is more effective and have greater coverage than opportunistic screening program (Nygard et al., 2002).

Malaysia has been using opportunistic screening program since 1960s. Women are mainly captured during their visit to maternal and child health care or

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reproductive health care (Othman, 2003; Chye et al., 2008). Opportunistic screening program is found has not satisfactorily improved Pap smear coverage and incidence of cervical cancer. This program appeared unsuccessful in achieving target population and follow up practice (Othman, 2003; Othman et al., 2009). Over the last 10 years, Pap smear coverage within three years declined from 74.5% in 1996 to 59.7% in 2006 (Institute for Public Health (IPH), 1999, Institute for Public Health (IPH), 2008). Further cervical cancer mortality rate increased from 0.29% in 1996 to 0.41% in 2000 (Department of Statistics Malaysia, 2005b). Among diagnosed cases of cervical cancer from 2000-2006 in eight major hospitals, 48% accounted never had Pap test at all and 95% never had test within three years (Othman et al., 2009).

Earlier, several researches focused on community perception on Pap smear screening either by subjective or objective to determine underutilization. One of the main identified barrier factors that hindered women from being screened regularly was service factor such as unfriendly health care services, missed opportunity to capture women for screening or follow up, not individually invited to screening, long waiting time, lack of comfort and privacy in health centers, discourtesy on the part of health center staff, anxiety related to waiting for test results, and others (Agurto et al., 2004; WHO, 2004; Mutyaba et al., 2006; Amarin et al., 2008; DS and MK, 2008; Noor, 2008; Winkler et al., 2008; Othman and Rebolj, 2009). Studies have demanded the need to explore different screening approaches such as organized screening program to increase coverage (Hoffman et al., 2003; Liaoa et al., 2006; Noor, 2008; Othman and Rebolj, 2009).

Unfortunately, there is very limited research done on provider's perspectives on cervical cancer screening in general, particularly in organized screening program. In order to reduce the limited gap, this study was conducted. The purpose of this study is to identify the provider's perception of current Pap smear screening program and the feasibility of practicing organized cervical screening program in Malaysia.

Materials and Methods

This study is a cross-sectional study, using qualitative method. In order to understand the issues of cervical cancer screening and possible solution in depth and details, we decided qualitative inquiry as a method of choice. We conducted face-to-face interviews with key informants who are knowledgeable, expressive and can help the researchers to understand the situation. By conducting key informants interviews, this study can managed to get important and useful information during a short period of time and large number of sample sizes is regarded not necessary (Patton, 2001). Altogether 11 key informants were selected by using snowball technique in purposive sampling. They are policy makers at federal and state levels, and health care providers at federal, state and university levels who are involved in cervical cancer prevention and control in Malaysia. Their obligation on the issue of women's health particularly on cervical cancer prevention and control leads to the selection of participants. The duration of this study was from October 2009 to May 2010.

The first author carried out the interview sessions with all the respective candidates. These interviews were conducted in English and the duration of each interview was about 45 minutes. A semi-structured interview guideline was developed with questions related to the study objectives. The interview mainly covered two sections, each focusing on participant's perception and experience. The first section of the interview was on existing cervical cancer prevention program including opportunistic cervical screening program. Second section was on organized cervical screening program. Each theme is organized into sub-topics related to issues such as receiver, provider and program that are explored in depth. Upon receiving permission from the interviewees, the interviews were recorded with audio recorder and then fully transcribed verbatim. In addition, salient points were noted during interviews.

The analysis was conducted with the support of NVivo software (Version 8.0). Grounded theory approach was applied as a framework in data analysis. The coding procedures involved three steps. The first step was open coding where basic description of data was done. Next, axial coding that included conceptual ordering was carried out in the second step. Finally in the third step known as selective coding was done, in which a theorizing process was performed. The steps of coding are presented in Figure 1.

Ethics approval was obtained from University Malaya Medical Centre (UMMC) Ethics Committee and Ministry of Health of Malaysia. A written informed consent was taken from all the study participants.

Results

Participants consisted of five males and six females from various levels: four from federal level, another four from state level and three from university level. They are in the range age of 37-57 years. Generally, there was not much difference in the comments made by the policy makers as well as health care providers at all levels.

Opportunistic cervical screening program

A. Women as Receiver

i) Acceptability. All interviewees admitted poor women's acceptability to current cervical cancer screening program. This was explained by their lack of knowledge and awareness on cervical cancer prevention that hinder women from screening. The educated working women are considered the worst in practicing cervical cancer screening by three interviewees (1 policy maker and 2 health care providers at all levels), whereas other interviewees regarded the same for women generally.

ii) Accessibility and Affordability. Interviewees found screening test is not time accessible for certain women, especially working women due to workload and time constraint. However, one policy maker at federal level stated working women are more geographically accessible than non-working women because they have a lot of

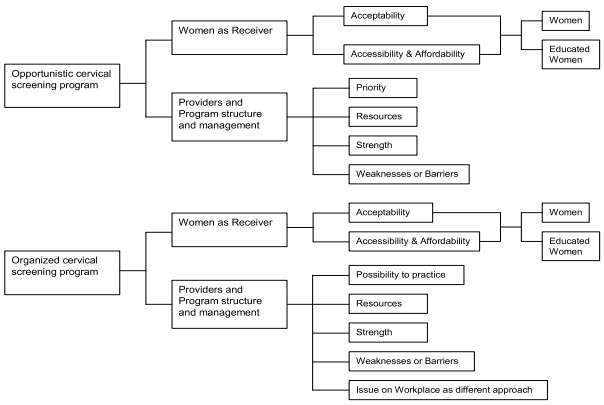

Figure 1. The Steps of Coding

opportunities for screening service and the workplace is usually located nearby to health care centres than living places. In term of affordability of screening test, women who did Pap smear at non-governmental health care centres need to pay the service cost by themselves because the subsidy given is not universal to all agents especially in teaching hospitals.

B. Providers and Program Structure and Management

i) Priority. Personally, majority of interviewees ranked cervical cancer prevention as a low level program which has less priority among Malaysian health services or programs due to competing priorities in terms of resources and other programs or diseases. The program is also considered an old program that has been overlooked by health care personnel. Indeed they expressed that it should be ranked among the high program priority due to its structure which well designed. The availability of screening test at all states is huge. Due to the reasons mentioned, cervical cancer has become the second killer among women, and in many cases cervical cancer is presented at advanced stage.

ii) Resources. Even though resources for cervical cancer prevention have been allocated within Malaysian health authority's budget but was found inadequate at current level of programming as commented by all interviewees. In addition, two policy makers at federal and state levels justified inadequacy should not be an issue because it depends on leadership, management and staffs commitment at all levels.

..... is a matter on how the person in-charged of the particular district in prioritizing their activity on what has to be important..... that cervical cancer is one of the top program especially when we are talking about women's health. ..... is everybody's responsibility ..... for me is something like integrated - part of the duty of everybody even nurse at rural clinic ..... for Pap smear I think with the current system, it can be done and we can do better than what we are achieving now but it is matter of attitude or the commitment by the people, maybe they have different priority. (Policy maker at federal level)

iii) Strength. The only strength noted by all interviewees is for Ministry of Health of Malaysia to have its own policy with sufficient guidelines which proves commitment by the government.

iv) Weaknesses or Barriers. Although tremendous efforts have been carried out, weaknesses were identified in terms of receiver, provider, resources and program that failed to achieve mass coverage as asserted by all interviewees. The common weakness recognized was implementation failure due to lack of commitment or coordination by receiver and/or provider at all levels. They explained this based on four factors: human being's attitude and behaviour; nature of disease at the earlier stage that has minimal or no symptoms; confidentiality issue due to private part of cervix; and intrusive screening test from social aspect. Further, this program is categorized as individual-based as it only tackled women who are willing to come forward to do the test and obtain the benefit without any invitation or reminder; and time consuming. The activities held considered kinetic, seasonal and inconsistent.

Sometime for example we gave them a target - when we start giving target then these people I mean our health care people what they do is they manipulate the data..... (Policy maker at federal level)

There are a lot of opportunities but we never capitalized it. That's why we lost them - we lost the opportunity. Because people with cervical cancer, they have visited to clinic many times of course for different reasons but we failed to take that opportunity. (Policy maker at federal level)

The availability of follow up system which is characterized as passive system, due to its manual function and appointment-based was found ineffective by all interviewees. Two policy makers at federal and state levels reasoned the health care staff's attitude as less passion or less committed in providing a competent follow up service. Another two health care providers at university level added other disadvantages which are the tendency in missing to inform women with abnormal result especially pre-malignant type, and poor in tracking women who have undergone Pap smear test previously.

... unless patient come back to follow up. These are the kind of one-oft activities..... which you loss track of the client. (Policy maker at state level)

... once they have gone to hospital for tertiary or curative care, probably that one we are losing tract of them. (Policy maker at federal level)

We don't know whether she had Pap smear 2 or 3 times per year. We just know the numbers of people we are taking it, that's all. (Health care provider at state level))

...is not effective because of staff's attitude..... for example if the person due for test but they never give the person reminders to come to the clinic. So it is just forgotten like that. (Policy maker at federal level)

Organized cervical screening program

A. Women as receiver

i) Acceptability. Since Malaysian women's attitude is open-minded, all interviewees perceived that they will accept this new program. Five interviewees at all levels thought educated working women will respond better and are easier to approach than other women in general. All interviewees felt uncertain about women's reception to this new program due to cultural acceptance to invitation and reminder system.

ii) Accessibility and Affordability. All interviewees felt the selection of recruitment strategy methods would affect some women's accessibility and affordability to obtain service. Two policy makers at federal level commented disadvantage of postal method in recruiting women in which it may cause inaccessibility of local women, particularly mobility aspect with incorrect address. Moreover one health care provider at university level commented selection of electronic mass media like email or 'SMS' as a recruitment strategy method may not be accessible or affordable for few women especially of old aged, low socioeconomic and aborigine group of women.

But, we really don't know because (1) our women some of them don't have the correct address..... Malaysian is very mobile..... (Policy maker at federal level)

.....the people so migratory that every times you give for example today the appointment, 3 years later they shift..... so we do not know. (Policy maker at federal level)

If you ask me Malaysian women in general, the answer is no. But if you ask me Malaysian women who deal with computers or that particular sector where they can be reminded using electronic system like email, the answer is yes..... or working institutions where they have accessibility to computers or mobile phones, the answer is yes. But if you consider older women who don't even know how to operate mobile phones or to open a 'SMS', we will be missing them for the service, especially who are at very high risk group. (Health care provider at university level)

B. Providers and Program Structure and Management

i) Possibility to practice. All interviewees perceived that this new program is feasible and acceptable by government to be practiced in Malaysia. Two policy makers at federal level explained this by comparing to current policy and guidelines of cervical screening program which they thought only the call-recall system part was lacking and required strengthening. However, all interviewees felt the introduction needs effective planning in managing resources and selecting the best recruitment strategy method that could fit Malaysian culture; and also sufficient commitment by health care providers.

ii) Resources. The additional resources required for implementing this new program includes champion person who is willing to address this issue; infrastructures like electronic, information and communication technology (ICT) staffs and place; technology; registry; and privilege like direct line to get resources as stated by all interviewees.

If we have specific line with specific staff to do calling, probably then it can be feasible to carry out this call-recall system. (Policy maker at state level)

Unfortunately, the current resources are rather limited. Therefore, the interviewees suggested alternative approach of incorporating other available services like integrated services, wellness clinic, One Malaysia Clinic or medical screening for government staffs aged 40 years and above; involving non-medical staffs or others like counseling panels, nurses, matron assistants or others; collaborate with private sectors, non-governmental organizations or other ministries; and linked to Malaysian identification card as available technology in detecting women.

iii) Strength. Majority of interviewees categorized this new program as an active system sort of forced voluntarily system in convincing and creating awareness among women to perform screening test. The strength recognized as ability to capture the right group and achieve the target. As a result, this program is believed to increase compliance of practicing cervical screening in women. One policy maker at state level added the service can be expanded to other services like breast screening.

iv) Weaknesses or Barriers. Majority of interviewees identified implementing barriers based on three factors: money, manpower and material (3M) resources; population or women acceptance; and program or system. However, two policy makers at federal and state levels asserted that it depends on leadership, management and commitment of health care providers. In addition, two interviewees (policy maker at federal level and health care provider at university level) commented on subsequent management service after performed screening test that needs to be equipped since the current service is not catered for whole population. Since it required women's contact information to recruit them, one policy maker at federal level highlighted on consent or security issue that might be faced in Malaysia in future.

Barrier is more of the system - detecting where they are..... The only problem is the process of calling them and asking them to come. (Health care provider at state level)

v) Issue on workplace as different approach. In order to explore different approaches for this new program besides the population-based, the interviewees were probed to describe on workplace as another approach. Six interviewees at all levels viewed workplace as another option based on few factors: ability in getting true coverage, alerting public as well, easier in detecting women even though they have transferred house or workplace, ability to cover wider population at risk since majority of working women aged less than 50 years, and been proved by minimal increased in target of Pap smear uptake since introduction of workplace as a strategy in plan of action 2009 at Kuala Lumpur Health Department.

Though, another three interviewees (one policy maker at federal level and two health care providers at university level) were suspended because did not follow primary health care concept, and it has been succeeded as population-based in the Western countries.

Discussion

The result stressed that type of screening program plays major role in combating cervical cancer by promoting and maintaining women to practice Pap smear screening test regularly. In order to produce an effective and efficient screening program, the selection should be acceptable, accessible, affordable and reliable by receiver and provider. Besides that it should follow women's current need and trend of practice. In Malaysia, well established opportunistic screening program since 1969 is found unsuccessful in practicing Pap smear test regularly (Sankaranarayanan et al., 2001; WHO, 2002; Miller et al., 2003; Othman, 2003; Noor, 2008; Wong et al., 2009). Hence it's time to consider current mode of screening program, namely organized cervical screening program which has been practiced in many developed countries since 1980s that shown a great reduction in cervical cancer morbidity and mortality (Quinn et al., 1999; WHO, 2004).

Our opportunistic cervical screening program is regarded rather poor because it failed to address the needs assessment of the program mainly from four aspects: receiver, provider, resources, and program characteristics or provided service that linked to Pap smear uptake. As a result, target population was not captured, expected target not achieved and impact on cervical cancer morbidity and mortality not seen since 1969. Other developing countries that practiced this program also faced with similar problems. The findings were consistent with many other studies either locally or internationally such as Sankaranarayaan et al., 2001; Wong et al., 2008; 2009; Noor, 2008; Othman et al., 2009 and others.

Basically negative attitude of women and health care provider, including unfriendliness provided service accounted as key influence towards unsuccessful program (Eaker et al., 2001; Jirojwong et al., 2001; Yabroff et al., 2003; Bakheit and Haroon, 2004; Behbakht et al., 2004; Byrd et al., 2004; Mutyaba et al., 2006; Wong et al., 2008; Othman et al., 2009). In this program, these issues were found difficult to address due to the involvement of human attitude factor. Malaysian women still experienced poor acquisition of knowledge and awareness on cervical cancer and screening test even though our economic is booming (Institute for Public Health (IPH), 2008; Mustafa et al., 2008; Wai et al., 2008; Wong et al., 2009). The similar attitude also found among educated women as they might inherit behaviour from their parents or grandparents (Institute for Public Health (IPH), 2008; Wai et al., 2008; Wong et al., 2009). Missed opportunity by health care providers in capturing women to be screened reflect poor quality in health management in terms of leadership, motivation, communication, time management and resources planning. Further the service become unfriendly because of privacy issue, screening test procedure, unsystematic approach of follow up and result notification to women, limited resources, and time consuming (Sherris et al., 1993; WHO, 2002; Sepulveda and Prado, 2005; DS and MK, 2008; Noor, 2008; Othman et al., 2009). In term of time, this service may not be economically benefiting few women who rush for time, especially working women even though the service is given free of charge at the public health care centres (Institute for Public Health (IPH), 2008).

The need for an effective cervical screening program which is proactive, consistent and systematic follow up emerges a strong theme from the results obtained. One of the approaches that fulfilled all these criteria is on organized cervical screening program. It has proven with evidence at many developed countries of increasing cervical screening coverage and reducing cervical cancer incidence after its introduction (Quinn et al., 1999; WHO, 2004; Ronco et al., 2005). In addition, studies have reported that opportunistic approach is less effective and efficient than organized approach (Sankaranarayanan et al., 2001; Nygard et al., 2002; IARC, 2005). Hence, it becomes a prominent focus to us in helping to increase our cervical screening coverage. Theoretically, it sounds possible to practice in Malaysia by reorienting the existing program to an organized approach with systematic call, recall, follow-up and surveillance systems. However, introduction barriers has been identified based on three factors namely women or population, provider, and program or service. Our findings were consistent with other studies (namely, Sankaranarayaan et al., 2001; Forbes et al., 2002; Noor 2008; Othman and Rebolj, 2009).

Since the difference between two programs in Malaysia noted at only one part known as call-recall system, the recruitment strategy method used for inviting and persuading women to practice Pap test is therefore become a new and an important element that need to anticipate in making the program successful. This concurs with studies that look at various recruitment strategies in determining the best way to be practiced (Forbes et al., 2002; Eaker et al., 2004). Malaysia is a well known country of multiethnic and multicultural with voluminous cultural norms and values. This may create obscurity on cultural acceptance towards mechanism of receiving recruitment strategy method, and security concern because of the confidentiality requirements of their contact information, as been experienced in Australia (Mullins, 2005).

There is no proper system to trace people for screening test in Malaysia. Hence, postal method may not be appropriate as a recruitment strategy method due to incorrect address and migratory issues. As a result of globalization and urbanization, migratory trend was noted among our people in different states and districts as the Malaysian Population and Housing Census in 2000 reported an increment of the total number of lifetime inter-state migrants from 18% in 1991 to 20% in 2000. Among the 14 states in Malaysia, the state of Selangor was identified the highest percentage of inter-state in-migration with 6% in 2000, whereas the state of Kuala Lumpur as out-migration with -7.2% in 2000 (Department of Statistics Malaysia, 2005a, Rostam, 2006).

Minority groups like old-aged, low socioeconomic and aborigine may face difficulty in accessing and affording

the sophisticated technology that used in recruiting them for screening test. However, they represent a small percentage of the national population like old people aged more than 65 years accounted for 4.7% of the population and aborigine people accounted for 0.7% of the national population (Department of Statistics Malaysia, 2010). Moreover a local study in 1977 reported rarity of cervical cancer among Malaysian aboriginal people where only three cases were diagnosed as cervical cancer over 13 years period (1962-1974) (Sumithran, 1977). In spite of being titled as minority group, older aged women more than 60 years of age noted to have higher cervical cancer incidence than younger age group (Chye et al., 2008).

Even though resources act as main barrier in implementing this new program, other studies have reported that it used fewer resources than unorganized programs and can be implemented even at low-resource settings (Sankaranarayanan et al., 2001; Mandelblatt et al., 2002). As the approach is strategic and organized, this program will be able to motivate health care personnel to be committed in providing a better screening service as explained by McGregor's Theory X and Theory Y.

Since this program need to detect women and no registry found at low resource settings like Malaysia, workplace then can become an alternative approach to provide reliable contact information and it's easier to capture women even if they have moved. In fact the population of Malaysian working women has increased. In 2005, 60% of women were participating in labour force and less than 4% were unemployed (The Malaysia Governments' Official Portal, 2008). In order to address inequality issue of delivering service to all, this approach can be expanded by involving staff's wives and their mothers in receiving screening test since 80-85% of their husbands or sons participate in labour force (The Malaysia Governments' Official Portal, 2008). This will create an opportunity for men in contributing to women's health especially in fighting against cervical cancer.

Despite all these facts, there is some limitation to this study. As innate in qualitative study design, the data represents perspective of participants from two states instead of 15 states, and as indicative only. So it cannot be generalized to all states in Malaysia. Though, the study method employed is regarded as in-depth evaluation of the cervical cancer screening program at present and in future in Malaysia. Our findings could be supplemented by two on-going pilot projects on organized cervical screening program as population and workplace based with different recruitment strategy method in Malaysia.

In conclusion, this study disclosed the flaw of existing cervical screening program in Malaysia, particularly in combating cervical cancer. The study also indicates the necessity for organized program like carried out in developed countries that have benefited from a successful screening program many years ago. The findings augmented that the poor screening coverage among Malaysian women is due to opportunistic approach (Mandelblatt et al., 2002). As this issue was not tackled as a long term strategy, the initiatives taken are not able to overcome the problems yet. A great effort is highly essential in changing the approach that requires very important consideration from those policy makers and ministries in order to obtain promising positive impact on cervical cancer morbidity and mortality. Cervical screening program will remain a crucial strategy of preventing cervical cancer even with the introduction of HPV vaccination. In summary, an effective and efficient screening program that incorporates behaviour-based strategy should be given priority to increase screening coverage and to reduce cervical cancer burden in Malaysia.

Acknowledgments

This study was financially supported by a postgraduate research grant of University of Malaya, Malaysia. The authors would like to thank the staff of the Ministry of Health of Malaysia and University of Malaya Medical Centre for their valuable support during the data collection phase. The authors would also like to thank Dr Sajaratulnisah Othman for her guidance in qualitative data management using NVivo software, and Dr Syahida Abdullah for her valuable comments.

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