ORIGINAL ARTICLE

BARRIERS, STRENGTH AND WEAKNESS OF PRE-PREGNANCY CLINIC SERVICES IN SARAWAK: A QUALITATIVE ANALYSIS FROM PROVIDER PERSPECTIVES

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ABSTRACT

Pre-pregnancy Clinic (PPC) services is one the plausible efforts towards achieving the Millennium Development Goals. However, various issues still need to be addressed for improvement of the services. Considering this view, an attempt was made to explore the barriers, strength and weakness of current practice of pre-pregnancy clinic services in Sarawak, since the programme has been implemented in this state from the year 2011. This cross-sectional study was conducted at nine selected health care facilities throughout Sarawak. A multistage sampling procedure was adapted to select the health care facilities. An unstructured open-ended questionnaire was administered to get the in-depth perceived views and current practice of pre-pregnancy clinic services. A total of 322 health care providers from nine selected health care facilities gave their feedback. In the present paper, a qualitative analysis was done for the open-ended questions to get in-depth views of barriers, strength and weakness of pre-pregnancy clinic services. The results of the study were narrated in textual form and a thematic analysis was done manually. The identified themes for perceived barriers to the provision of pre-pregnancy care were perception, attitude and acceptance of PPC services, socio-economic issues, services and client factors. The perceived weaknesses of the services are listed under two main themes: working environment and service factors, while, the strength of services produced three thematic areas which are preparation for pregnancy, prevention of mortality and morbidity and comprehensive services. Though pre-pregnancy services are beneficial for society wellbeing, various issues still need to be considered for the improvement of the quality of services. Lack of awareness, no ministerial guidelines or Standard Operating Procedures (SOP) and knowledge pertaining to the services were few of the main areas which need to be pondered upon. Promotional activities and campaigns should be geared up ensuring availability the services to the general population.

***Keywords**: Barriers, Perception, Pre-pregnancy Care, Sarawak*

INTRODUCTION

Pre-conception care can be defined as "*interventions that optimize women's health before pregnancy with the intent to improve maternal and new born health outcomes" or "a set of interventions that aim to identify and modify biomedical, behavioural, and social risks to a woman's health or pregnancy outcome through prevention and management*"[1]. Hence, it is aimed at identifying and modifying biomedical, behavioural, and social risks through preventive and management interventions[2]. The main purpose of implementing the pre-pregnancy clinic is to prevent pregnancies which are unplanned, too early or too close[3].

In Malaysia, pre-pregnancy care services were first introduced in the year 2002. It was then expanded to Sarawak in the year 2011, whereby primary health care is the main providers of the service. Provision of pregnancy care services in Malaysia is based on the Perinatal Care Manual, which was published by the Division of Family Health Development under Ministry of Health, Malaysia in 2013 [4]. The target groups for the services were, a) prospective couples intending to get married, b) women who are married, planning a pregnancy, c) women in reproductive age group (15–44 years of age) and more specifically, it was designed to serve the a) women above 35 years old without medical illness, planning a pregnancy, b) clients with obesity, c) clients with medical illnesses) clients with previous miscarriages/stillbirths/early neonatal death, e) clients with inherited abnormalities, f) clients with babies who have inherited abnormalities, g) clients with congenital structural abnormalities, h) clients with babies with congenital structural abnormalities, and i) clients with family history of genetic disorders. The whole service to be given both in outpatient department and in hospital level especially through specialty clinic.

The major activities during pre-pregnancy visits are: a) screening for risk factors (history taking, physical examination and clinical laboratory tests), b) Identification of pre-pregnancy risk factors, c) right management according to identified risk factors and d) referral to pre-pregnancy care clinic[4] However, the rate of utilisation and knowledge pertaining to pre-pregnancy care among women in Malaysia remains

unclear [5]. Nonetheless, most of the women who were not utilising the service were having at least one chronic medical illness; which could complicate their pregnancies and deliveries[5]. Hence, various barriers to the provision of pre-pregnancy services need to be explored. The flow chart for pre-pregnancy care services at primary care level is illustrated in figure 1.

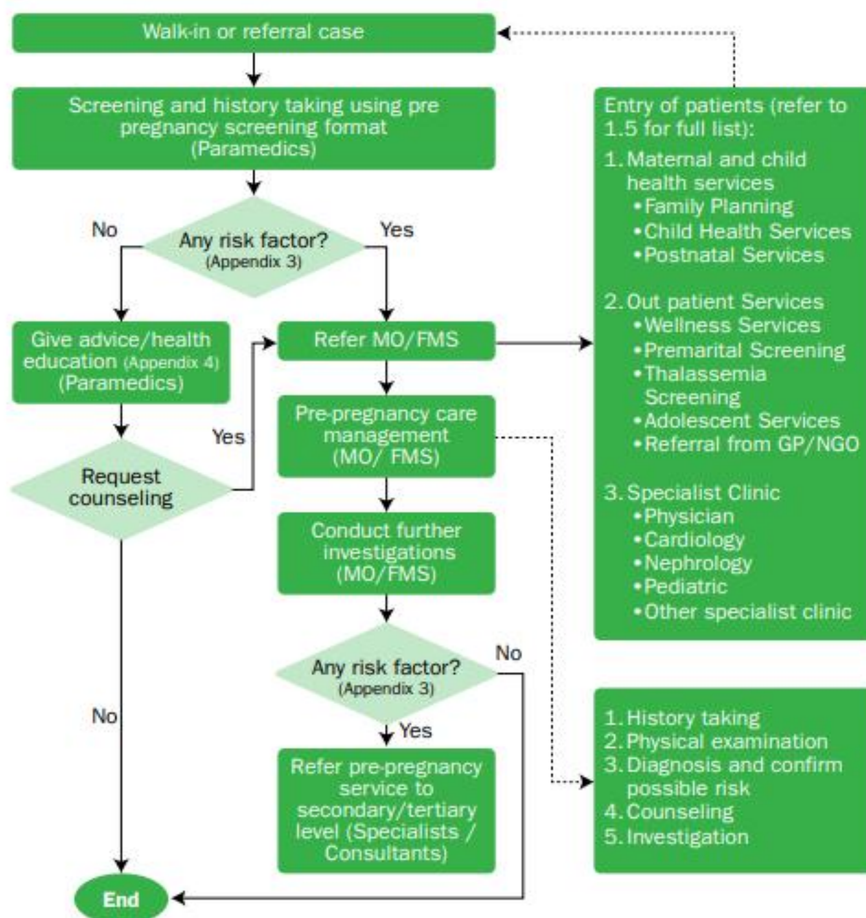

Figure 1 Flow chart of pre-pregnancy care at primary care level (Perinatal Care Manual 3rd Edition, 2013)

Though standard operating procedures for this health services are available, key performance indexes which need to be achieved are yet to be developed and set up. Nonetheless, all high-risk women within the reproductive age group should be enrolled in this service. Despite of various available measures and channels which can be utilised for addressing and giving pre-pregnancy care services, the existence of the service and its issues were not adequately addressed by health care providers. Further exploration on the perceived roles, responsibilities and views on pre-pregnancy care among providers of pre-pregnancy care may reveal the reasons of poor uptake among women. Moreover, there was no consensus on the role of this service as a part of preventive strategies for improving maternal and child mortality and morbidity the package of services that should be provided by preconception clinics and the feasibility to deliver these services[3]. Considering this view, this study was aimed to explore the barriers and weakness of providing the pre-pregnancy clinic services in primary health care setting especially in Sarawak.

MATERIALS AND METHODS

Study design and sample selection

This was a cross-sectional study conducted at selected health care facilities throughout Sarawak. The study was intended to cover both client and providers views on barriers, weakness and strength of pre-pregnancy care service. However, in the present study, the data from providers were analysed. The methodology of selection of both clients and providers were described in previous study [6]. All the health care providers were invited to participate the study. However, a total of 322 health care providers of different categories were interviewed with a response rate of 87.7%.

Data collection and analysis

A self-administered questionnaire was used to collect the relevant information of the respondents and pre-pregnancy care as well. As

part of a qualitative analysis, three unstructured open-ended questions were administered to get the in-depth perceived views and current practices of pre-pregnancy clinic services. The questions are a) what are the barriers that you face, while providing pre-pregnancy care services? b) what do you think are the weaknesses of pre-pregnancy care services? c) what do you think are the strengths of pre-pregnancy care services? A few questions had to be asked to the respondents to further confirm their written answers and to ensure that their answers did not deviate from the aims of the questions. The results of the study were narrated in textual form and a thematic analysis was done manually.

Ethical Consideration

The study proposal was approved by the Technical Review Committee of the Department of Community Medicine and Public Health, Faculty of Medicine and Health Science (FMHS), Universiti Malaysia of Sarawak (UNIMAS) and the Medical Research and Ethics Committee (MREC). Before data collection, all the participants have been informed about the study objectives and outcome. All were assured that no part of their name, address and identification number will be disclosed publicly. Data analysis was done anonymously. Informed written consent was obtained from the respondents before data collection.

RESULTS

Sociodemographic characteristics of the respondents

Majority of them are females (80.4%), working as a nurse (65.8%) and working at the outpatient department (59.9%). Though majority of them had never attended any trainings or courses related to pre-pregnancy care (77.0%), but 89.1% of the respondents were aware of the existence of the services in their health care settings (Table 1).

Table 1 Sociodemographic characteristics of the respondents (n=322)

Characteristics	n	%
Gender		
Female	259	80.4
Male	63	19.6
Designation		
Nurse	212	65.8
Medical Officer	81	25.2
Assistant Medical Officer	24	7.5
Specialist from other specialty	3	0.9
O+G Specialist	2	0.6
Attended PPC Course		
Yes	74	23.0
No	248	77.0
Working at which facility		
Outpatient Department	193	59.9
Maternal and Child Health Clinic	81	25.2
Obstetrics and Gynaecology Clinic	48	14.9
Awareness on existence of PPC		
Yes	287	89.1
No	35	10.9

Barriers of pre-pregnancy services

The result of the thematic analysis is illustrated Table 2. To identify the barriers to pre-pregnancy services, four main themes were generated viz. client's factors, perception, attitude and acceptance towards PPC services, socio-economic and services factors.

Clients' Factors

Unawareness or lack of knowledge on pre-pregnancy issues among women, unplanned pregnancies and late health seeking behaviour among women were among the barriers to pre-pregnancy care. Moreover, health care providers had the lack of opportunity to provide the services; as women may be at the health care facilities for various other reason. In addition, most women never sought or had any discussion on pre-pregnancy care services with their health care providers. Nonetheless, despite their awareness of the services; few women refused to utilise the service.

"……most women do not plan their pregnancies. Usually, they are already pregnant before they come to the clinic; even a lot of them are late bookers. Some of them were even hesitating, when they were asked whether they want another child or not; or how many children do they want to have. So…difficult know what their future plan is.

(Community nurse, 42)

Table 2 Summary of the main theme and subtheme of barriers of pre-pregnancy clinic services

Main Themes	Subthemes	n	%
Client's factors	Unplanned pregnancy	284	88.2
	Patient's limited knowledge	284	88.2
	Patient seek for health care after being pregnant	271	84.2
	Patient attending clinic not for PPC	269	83.5
	Patient did not discuss on PPC	262	81.4
	Patient aware, but refuse to service	95	29.5
Perception, Attitude and Acceptance towards PPC	Husband's acceptance	163	50.6
	Perception of women	19	5.9
Socioeconomic and cultural factors	Patient's socioeconomic status	262	81.4
	Language	150	46.6
	Distance of home from clinic	13	4.7
Service factor	Time constraint	241	74.8
	Lack of training	234	72.7
	Lack of knowledge/skills	221	68.6
	Lack of resources	211	65.5
	Working environment	52	16.1
	Lack of promotion	43	13.4
	Longer stay in the clinic for clients	4	1.2

Perceptions, attitudes and acceptance towards PPC services

Women's perception and acceptance of pre-pregnancy care do affect the utilisation of its services. Few of the clients regarded the service as unimportant and as a waste of time; as they get minimal services from the services apart from not getting counselling from medical officers[7]. Others had the perception that counselling on pre-pregnancy issues can be given during routine follow ups without the need of an additional services or program[8] and the services should only be utilized by those who are infertile or planning to have a child [8-11]. Those with medical problems were unwilling to get pregnant and would rather practice some form of contraception. Nonetheless, healthy women were unwilling to plan their pregnancies as they do not think that they are at high risk or prefer it to come naturally [8-10].

"…. most of the clients think that the services are a waste of time. They only receive folic acid and was rarely seen by the medical officers as they are not in the PPC room for consultation. So, they are less convinced with the service, difficult to keep them with the service.
(Staff nurse, 30)

".... women see PPC as an unimportant service. Think that counselling should just be given during other follow-ups. No need to provide it as another service"
(Medical officer, 31)

A few women were not interested in utilizing the services due to various other reasons such as longer stay in the clinic, more appointments or visits to clinic, and need to catch transportation back home [12,13].

"…. patients had been in the clinic since early morning. They are rushing to get back home.
(Medical officer, 28)

"….the clinic was run once a week. Some of them feel lazy to come just for another appointment". (Staff nurse, 26)

Husband's acceptance and support towards client's decisions to utilise the service is an integral factor which will affect the success of the program. Nevertheless, gaining the husband's support towards the service proves to be a challenge as most of them were busy with their daily commitments. Furthermore, the scopes of the services are focusing more on women rather than for both genders[14,15].

"…..there are husbands who disagreed with their wife's decision to attend PPC. They think that the service is a waste of time and money, as in the end women will still get pregnant and deliver the child. Furthermore, the services are focusing more on women; their spouses or partners do not see the need of them to get involved with the service.
(Staff nurse, 30)

Socio-economic factors

Some of the respondents did mention that patients' socio-economic status and distance of the clinic from clients' house do provide barriers to provision of service[2,12,13,16-19].

"…..most of the patients here are not well of. They are unable to spend more

on getting PPC service. Just to spend to come to the clinic, they need to think twice; what more to refer them to Sarawak General Hospital."
(Medical officer, 28)

The influx of foreign workers into the healthcare industries also provide a barrier to the provision of services. Furthermore, lack of educational materials in local languages cause difficulties during health education or counselling sessions.

Weakness of PPC services
The two main themes which were generated for the weakness of PPC services, were unconducive working environments and service factors (Table 3).

Table 3 Summary of main themes and subthemes for weakness of pre-pregnancy care services

Main themes	Subthemes	n	%
Unconducive working environment	Unsuitable consultation room	52	16.1
	Lack of privacy	32	9.9
	Lack of signage	20	6.2
	No delegated room	17	5.3
Service Factors	Time constraint and workload	241	74.8
	Lack of training on PPC services among Health care providers	234	72.7
	Lack of resources	211	65.5
	Untrained staff	179	18.5
	Lack of screening at OPD	50	15.5
	Lack of promotion	43	13.4
	Unaware of service	77	8.0
	Referral system	42	4.3
	Lack of collaboration	14	1.4
	No delegated staffs	13	1.3
	No male health issues	13	1.3
	No census on women's health	11	1.1

Unconducive working environment
Few of the consultation rooms were not suitable and uncomfortable for counselling sessions. Furthermore, no proper signage was put up as guidance for clients; and few facilities even had no delegated room for PPC services.

" …. I had to share the room with the dietician. I cannot provide the service every day, clients will not have their privacy. But have to make do with space.
(Staff nurse, 26)

" ….. no proper signage to guide the clients to the room. Clients got lost, trying to locate the room. In the end, they just leave the clinic, without going to PPC room.
(Community nurse, 26)

Service factors
Time constraint is a major factor which hinders health care providers from providing consultation on PPC services. Workloads at the primary health care settings limited the opportunity to provide PPC services to the patients.

"….the clinic is too busy. Sometimes, I forget that I need to catch possible candidates. I am busy with providing treatments, referral of patients and other things.
(Medical officer, 33)

Though pre-pregnancy services are important, 10.9% of the respondents were unaware of the services. Lack of training, courses or workshops pertaining to pre-pregnancy services were also affecting the efficiency of PPC services[12,13,20,21].

"…new medical officers are not even aware of the services. Once I asked them to refer cases, instead, I was asked back on why they need to refer the patients and what the indications for referral of cases. Cannot blame them, they had never gone for any courses or training. Not even briefings on PPC at the clinic."
(Sister, 31)

Furthermore, the services were provided by untrained staffs; due to lack of human resources. Proper consultation for clients was also hindered; as there was lack of delegation of medical officers for the service.

"….most of the staff are untrained in PPC services. But I still

need them to run PPC clinic, not enough staff.
(Matron, 47)

Lack of defined roles for staffs causes uncertainty among the providers on their roles in PPC services. The services were also not well promoted among the staffs and the public; creating unawareness among them. In addition, there was the lack of interdisciplinary collaborations; which lead to the lack of referrals of potential clients.

"…..roles of staff are unclear. Need to explain or brief them properly. They do not have any guide for them, especially regarding their roles in PPC.
(Sister, 42)

Lack of availability of guidelines, census on high-risk women, educational materials and standard operating procedures also hindered the efficiency of the services. Furthermore, there is lack of options on contraceptive methods; and the stocks of contraceptive pills or devices were limited.

"…Guidelines and Standard Operating Procedures should be available for the service. We have the lack of guidelines to refer to. So, have no idea how to the program should be implemented."
(Staff nurse, 28)

"… there are limited stocks of contraception and OCPs. Sometimes, I had to owe to the client, their OCP stocks.
(Staff nurse, 30)

Moreover, the system of the program was unclear and disorganize. There was lack of coordination and communication between the tertiary care centre and the primary health care centre; which may affect the program registry.

"…. I do not even know that the service existed at nearest clinic. If I know, then I would have asked the medical officers to discharge suitable clients to the nearest clinic."
(Community nurse, 40)

Strength of PPC services
The main thematic areas which were generated for strengths of pre-pregnancy care are as shown in Table 4.

Table 4 Summary of main themes and subthemes for strengths of pre-pregnancy care services

Main Themes	Subthemes	n	%
Preparation for pregnancy	Optimize health of women before pregnancy	225	69.9
	Mental preparation for pregnancy	160	49.7
	Early planning for antenatal care/delivery	150	46.6
	Help for infertile couple	122	37.9
Prevention of mortality and morbidity	Early detection of health risks/medical problems	89	27.6
	Monitoring health of women	81	25.2
	Contraception	50	15.5
Comprehensive services	Incorporation of other services	40	12.4
	Health educational/promotional tool	21	6.5
	Resources readily available	14	4.3
	Able to get health profile of the community	14	4.3

Preparation for Pregnancy
Pre-pregnancy care services are seen by the health care providers, as a tool to help future parents to prepare for future pregnancies. It is also perceived as an aid for optimising the health of the clients prior to pregnancy apart from ensuring that an individualised plan for antenatal care and delivery had been laid out for high-risk clients. Infertile couples also can make use of the service in their attempts to conceive[9,14]. Apart from physical preparation, mental preparation for pregnancy should also be emphasized on. Few of the health care providers did perceive that pre-pregnancy care will help women to be mentally prepared for pregnancy, delivery and child care.

"…..those with infertility problems can make use of the services. Can offer them screening and IVF if they are interested."
(Obstetrician and Gynaecologist, 44)

Prevention of mortality and morbidity
Providers agreed that early detection of health risks, medical problems or any hereditary medical condition can be detected via pre-pregnancy screening. Thus, mortality and morbidity among women and children can be prevented via early intervention and treatment. Moreover, pre-pregnancy care services may prevent close or unplanned pregnancies especially among high-risk women.

> *"…… can detect medical problems or health risks earlier, so that can intervene and treat these women promptly. This is to prevent further risks to both maternal and child health. Hence, it will help to prevent miscarriages, stillbirths, intrauterine deaths and congenital abnormalities.*
> *(Medical officer, 30)*

Comprehensive service

A complete and comprehensive health care services can be provided to the public by incorporating other health care services with pre-pregnancy care services or vice versa.

> *"…..I can provide PAPSMEAR and CBE for the clients apart for requesting medical officers to refer patients for mammogram screening.*
> *(Staff nurse, 36)*

Furthermore, the resources for establishing and conducting the clinic are readily available, in the primary health care setting namely health educational materials on various medical conditions or other related programs, registry book and samples for contraception methods.

> *"….. all of the staff to set up PPC clinic are available in the clinic. Can just use them for the setting of the clinic. Human resources, like the medical officers, nurses and specialists are also available.*
> *(Staff nurse, 41)*

Pre-pregnancy care may act as a health educational or promotional tool for the public on various health issues such as family planning, healthy lifestyle and high-risk behaviour among adolescents [8,22]..

> *"…..the service can provide knowledge to women on various health issues; even on the healthy lifestyle. Can advise them on the importance of exercise, healthy diet and avoidance of high-risk behaviours; especially among teenagers. A lot of teenage pregnancies, smoking and drug abuse among them, nowadays.*
> *(Medical officer, 33)*

DISCUSSION

Pre-pregnancy care service was regarded as a tool to optimise women's and child's health status which subsequently reduce both maternal and child's mortality and morbidity rates[8,9]. The main perceived strengths were its roles in preparing future mothers mentally for their pregnancies apart from enabling the providers to plan for future antenatal, delivery and postnatal care of patients.

Pre-pregnancy care services were also regarded as a health educational and promotional tool, which eventually aid in creating awareness among the public on various health issues. Additionally, its comprehensive contents which covers all age groups and both genders will ultimately help to improve the overall health of the public. The perception that the services were not meant to cover all age group should be corrected, as adolescents should be included as a targeted group, and should not be neglected in provision of pre-conception care. This would subsequently lead to lack of involvement among adolescent girls as what was perceived in a study in Iran[23]. Bayrami *et al.*[23] argued that adolescents' involvements in pre-pregnancy care services are seen to be an integral measure towards reducing the rate of teenage pregnancies.

Integration of pre-pregnancy care services with other healthcare services was regarded as convenient for both parties as provision and reception of relevant healthcare services can be done simultaneously on a single visit to the healthcare facility. Furthermore, the service can be regarded as a mode of monitoring the health of women apart from ensuring that early identification of medical problems or health risks were identified, and prompt interventions were offered to high risk women. This study further revealed that pre-pregnancy care was regarded as a channel for prevention of unplanned or close pregnancies among women via provision of other family planning methods to those who were not keen for uptake of the service.

The providers were perceived that the resources which were needed for setting up a pre-conception care services were readily available for use. Health education materials on various health issues, contraceptive devices and human resources were easily available at the existing healthcare facilities which just need to be distributed accordingly for pre-pregnancy care services. Furthermore, health profiling of the community can also be done via the service which may become the reference or database for future research.

Common healthcare barriers such as socio-economic status, poor infrastructures, lack of facilities or resources, cultural barriers and lack of awareness or knowledge on health issues were all proved in this study. Additionally, various organisational barriers were also revealed. However, the level of awareness among health care providers can be considered as acceptable (89.1%), though the services were relatively new in Sarawak.

Few limitations were present during the conduction of this study. Recall bias might be

present in this study, as the respondents need to recall few of the required information. The use of open-ended questions in a section of the questionnaires had its own disadvantages. The respondents may refuse or did not complete the above stated section which may lead to incomplete collection of data. Hence, it should be briefed to the attending personnel to ensure that it was completed before the questionnaires were returned to the researchers. The findings of this study would not be able to be applied to the whole healthcare providers in Sarawak. The selection of the healthcare personnel was also based on 'convenience sampling' method causing disproportionate involvement of the healthcare providers. Furthermore, not all of them were available on the day of field visit. Lastly, the involved healthcare facilities were of mainly Type I and Type II clinics in Sarawak with easy accessibility and well equipped. Hence, common barriers of healthcare services were less likely to be perceived by providers. More remote healthcare facilities should also be included in this study, which may provide a different perspective on the barriers of healthcare.

CONCLUSION

Pre-pregnancy care services is a relatively new healthcare services in Sarawak, though its concept was implemented in Malaysia more than a decade ago. Though pre-pregnancy services are beneficial for societal wellbeing, various issues still need to be considered for the improvement of the quality of services. Various healthcare and organisational barriers need to be addressed ensuring that the services can be accepted and being utilised by the population of Sarawak. Collaborative efforts from various parties are essential towards improvement of pre-pregnancy care services due to its multidisciplinary approach in management of clients.

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