FACTORS ASSOCIATED WITH IUD SERVICE PRODUCTIVITY OF SUN QUALITY HEALTH DOCTORS IN MYANMAR

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A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in Public Health
College of Public Health Sciences
Chulalongkorn University
Academic Year 2013

ปัจจัยที่มีความสัมพันธ์กับผลการให้บริการห่วงอนามัยของแพทย์ในกลุ่ม ซัน ควอลิตี้ เฮลท์ ประเทศเมียนมาร์

นายตู อ่อง โชว์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต
สาขาวิชาสาธารณสุขศาสตร์
วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2556

Thesis Title	Factors Associated with IUD Service Productivity of Sun Quality Health Doctors in Myanmar
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Field of Study	Public Health
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ตู อ่อง โชว์: ปัจจัยที่มีความสัมพันธ์กับผลการให้บริการห่วงอนามัยของแพทย์ในกลุ่มซัน ควอลิตี้ เฮลท์ ประเทศเมียนมาร์. (FACTORS ASSOCIATED WITH IUD SERVICE PRODUCTIVITY OF SUN QUALITY HEALTH DOCTORS IN MYANMAR) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผศ.ดร.เขมิกา ยามะรัต, 86 หน้า.

การศึกษานี้เป็นการศึกษาภาคตัดขวางเชิงพรรณา ซึ่งเก็บข้อมูลจาก 12 รัฐในประเทศเมียนมาร์ โดยใช้แบบสอบถามประกอบการสัมภาษณ์ และการสัมภาษณ์เชิงลึก เป็นการศึกษาทั้งเชิงปริมาณและคุณภาพ การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีความสัมพันธ์กับการให้บริการใส่ห่วงอนามัยของแพทย์ในกลุ่ม Sun Quality Health จำนวน 175 คน โดยการสัมภาษณ์ และในจำนวนนี้ได้ถูกเชิญให้สัมภาษณ์เชิงลึกจำนวน 9 คน การวิเคราะห์ข้อมูลใช้โปรแกรมสำเร็จรูป SPSS โดยใช้สถิติ Chi-square ทดสอบความสัมพันธ์ และการวิเคราะห์ข้อมูลเชิงคุณภาพด้วยวิธี Thematic analysis

ผู้ตอบส่วนใหญ่คือ 37.7 % มีอายุระหว่าง 46-55 ปี 43.4 % เป็นแพทย์ชาย และ 56.6 % เป็นแพทย์หญิง แพทย์ 85.1 % จากจำนวนทั้งหมดที่ศึกษาเป็นผู้ที่เรียนจบแพทย์ศาสตร์บัณฑิต โดยยังไม่ได้เรียนเฉพาะทางคลินิกส่วนใหญ่คือ 77.7 % ตั้งอยู่ในเขตเมือง และ 54.3 % เปิดบริการ 4-8 ชั่วโมงต่อวัน คลินิก 61.7 % มีห้องเฉพาะสำหรับการให้บริการใส่ห่วงอนามัย 64.6 % เคยได้รับส่งต่อคนไข้ใส่ห่วงอนามัย 72.6 % มีผู้ช่วยในการบริการใส่ห่วงอนามัย สำหรับการทดสอบความรู้เรื่องห่วงอนามัยนั้น พบว่า 65.1% มีระดับความรู้ปานกลาง

ผลการศึกษาเชิงคุณภาพและปริมาณ พบว่าการมีห้องเฉพาะสำหรับใส่ห่วงอนามัย และการให้บริการวางแผนครอบครัวมีความสัมพันธ์กับปริมาณการให้บริการใส่ห่วงอนามัย ระดับความมั่นใจในทักษะการใส่ห่วงอนามัย ระยะเวลาที่เปิดบริการ การมีเครือข่ายเพื่อการส่งต่อคนไข้ การมีผู้ช่วยในคลินิก รวมทั้งการจัดให้มีกิจกรรมพิเศษหรือเทศกาลพิเศษในการให้บริการห่วงอนามัย และการเข้าร่วมอบรมเพิ่มเติมมีความสัมพันธ์กับผลการให้บริการห่วงอนามัย

สาขาวิชา สาธารณสุขศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2556 ลายมือชื่ออ.ที่ปรึกษาหลัก .....

5478821653: MAJOR (PUBLIC HEALTH)
KEYWORDS: IUD/ SERVICE/ PRODUCTIVITY/ SUN QUALITY HEALTH DOCTORS/ MYANMAR

HTOO AUNG CHO: FACTORS ASSOCIATED WITH IUD SERVICE PRODUCTIVITY OF SUN QUALITY HEALTH DOCTORS IN MYANMAR. ADVISOR: ASSIS. PROF. KHEMIKA YAMARAT, Ph.D., 86 pp.

This study is cross sectional descriptive analytical study and data was collected in 12 States and Divisional Regions (5 states and 7 Divisional Regions) of Myanmar. This study was done with questionnaire interview and in depth interview and therefore it included both quantitative and qualitative study. The objective of the study is to find out the factors association with IUD service productivity of Sun Quality Health Network. 175 Sun Quality Health doctors were interviewed by structured interview and from those 175 doctors, 9 doctors were selected based on their IUD service productivity and in depth interviews were done. The results were analyzed by SPSS software and relationships were founded by Chi-square test. Thematic analysis was used to discover the key factors and relationships from qualitative study.

Majority of the respondents (37.7%) were from the age group between 46 to 55 years and 43.43% were male doctors and 56.57% were female doctors. Out of 175 doctors, 85.1% graduated as M.B.,B.S. only without other specialization. Majority of the clinics (77.7%) were located in urban area and 54.3% of the clinics opened from 4 to 8 hours per day. 61.7% of the clinics had separate examination room for IUD service. 64.6% of providers had IUD client referral network to their clinics. Majority (72.6%) had clinic assistants for IUD service at their clinics. Regarding to knowledge of IUD service by answering quiz, 65.1% of the providers had medium level of knowledge.

According to the results of quantitative and qualitative study, presence of separate examination room for IUD service and daily birth spacing client load were related with IUD service productivity. Relating to IUD service, confidence level of providers on IUD service skill, time taken for IUD service, presence of birth spacing client referral network, presence of clinic assistant for IUD service and presence of special event day for IUD service were associated with their IUD service productivity. Attending IUD refresher training was also one of the associated factors for IUD service productivity.

Field of Study: Public Health ..... Student's Signature: .....

Academic Year: 2013 ..... Advisor's Signature: .....

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my Thesis Advisor, Assistant Professor Khemika Yamarat for her valuable guidance and suggestions. I would also appreciate her patience and understanding on me throughout the academic year despite her busy schedules. I would also like to express my gratitude to my Thesis Committee members, Associate Professor Ratana Somrongthong, Chair person and Dr. Nanta Auamkul, External Examiner for providing kind suggestions and utmost care for my progress and development.

For the data collection, medical doctors from Health Services Department from PSI/Myanmar helped and interviewed with Sun Quality Health doctors during their field visits and therefore, I would like to thank them all.

I would also like to thank all my lecturers, my colleagues and administration staffs from College of Public Health Sciences, Chulalongkong University for their kind help and support for my study, especially would like to thank Dr. Aung Hein, Dr. Ye Win Aung and Ms. Anchoen Chailoratn for their supports. Without them, this thesis will not be finished.

Lastly, I would like to show my gratitude to my parents and my wife who encouraged and supported me throughout the whole course of Master of Public Health from College of Public Health Sciences, Chulalongkorn University.

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LIST OF ABBREVIATIONS

AIDS	= Acquired Immune Deficiency Syndrome
BHS	= Basic Health Staff
BS	= Birth Spacing
CME	= Continuous Medical Education
COC	= Combined Oral Contraceptive
CPR	= Contraceptive Prevalence Rate
FRHS	= Fertility and Reproductive Health Survey
GP	= General Practitioner
HIV	= Human Immuno Deficiency virus
IDI	= In Depth Interview
IPC	= Interpersonal Communicator
IUD	= Intrauterine Contraceptive Device
M.B.,B.S.	= Medicine Bachelor, Bachelor of Surgery
MIS	= Management Information System
MMR	= Maternal Mortality Ratio
MoH	= Ministry of Health
ObGyn	= Obstetrics and Gynecologist
PSI	= Population Services International
QA	= Quality Assurance
RH	= Reproductive Health
SQH	= Sun Quality Health
SPH	= Sun Primary Health
TB	= Tuberculosis
STI	= Sexually Transmitted Infection
SSV	= Supportive supervision Visit
UNFPA	= United Nation Fund for Population Activities

CHAPTER I

INTRODUCTION

1.1 Background

1.1.1 IUD situation in Myanmar

Myanmar is one of the poorest countries in Asia and it also classified as one of the least developing countries according to United Nation.

According to Country Report on Fertility and Reproductive Health Survey (FRHS) 2007, maternal mortality rate (MMR) in 2007 is 316/100,000 live births. The contraceptive prevalence rate (CPR), in the other words, percentage of currently married women who are currently using a contraceptive method is 41% (38% modern methods and 3% traditional methods). CPR for each common method is 19% for 3 month injections, 10% for daily pills, 4% for female sterilization, 2% for IUD 1% for male sterilization and safe period. Unmet need for contraception leads to unintended pregnancies and one of its harmful consequences is unsafe abortion. In 2007, unmet need for contraception is 17.7%.

Most women in Myanmar seek contraceptives through the private sectors where the majority of the products are expensive and low quality. Affordable long term method including IUD is not typical in private sector.

1.1.2 Population Services International (PSI) / Myanmar

PSI/Myanmar is a non-profit, non-political and non religious organization that uses Social Marketing to empower low-income and vulnerable people to lead healthier lives by making markets work for the poor. PSI/Myanmar is both international and local Myanmar organization established in 1995, and an affiliate of Population Services International, an international social marketing organization. PSI/Myanmar has operated under a Memorandum of Understanding (MoU) with the Government of Union of Myanmar Ministry of Health since 1999.

Through social marketing, PSI/Myanmar carries out behavior change communications and promotion of products and services related to HIV and AIDS, Reproductive Health, Malaria, Tuberculosis and Child Survival.

Through Social Franchising, PSI/Myanmar engages existing private sector clinics, general practitioners, medical drug retailers and community-based health care workers to deliver quality health product and services related to the above health areas. (PSI/Myanmar Corporate Broacher 2012)

1.1.3 Sun Quality Health Network (SQH)

SQH is a franchised network of private doctors committed to improving health care for low income populations. Within this channel of Sun Network, there are nearly 1471 active doctors providing care through their own clinics in 217 townships of Myanmar. (PSI/Myanmar's in house MIS data, 2012) Skilled doctors with pre-existing, private clinics are invited to join the network by participating in intensive, disease specific training. PSI/Myanmar Health Services department monitors Sun doctors monthly to address the challenges, collect data and restock subsidized products. Sun doctors are supplied with subsidized pharmaceutical products and education materials.

Currently, SQH network cooperates with PSI/Myanmar and implements in 7 health areas such as Reproductive Health (short term and long term birth spacing services), TB, Malaria, STI, under5 pneumonia & diarrhea and HIV (TB-HIV and Provider initiated testing & counseling). Each provider (GP doctor) can join the health programs as they like. The first batch of the training started since 2001 and it was started with RH program (short term birth spacing services). Those SQH doctors provided health services related to PSI/Myanmar programs to the community with agreed prices which are lower than the market price and affordable for low income people. PSI/Myanmar also develops promotional materials and conducts promotional activities for its health products and services.

1.1.4 Reproductive Health in SQH network

There are currently 1285 RH providers in Sun network and most of them provide short term birth spacing services such as COC pills, 3 month injection, oral emergency contraceptives, male and female condoms. Only one forth of the providers (320) gives both short term and long term (IUD) services. (PSI/Myanmar's in house MIS data, 2012) PSI/Myanmar's IUD program was started as part of Reproductive Health program since 2003 within Sun Quality Health Network and started with 73 providers within the network as IUD providers until 2008. In 2008, PSI/Myanmar revitalized the long term birth spacing method program with the support of Woman Health Project. From 2003-2011 October, there are totally 354 trained IUD providers but only 320 providers are in active providers list (MIS data up to March 2012).

IUD skill building training including theory and practical sessions are given for three days (two days for theory and practice with Zoe' model and one day practical with clients) to newly joined IUD providers and then PSI/Myanmar technical team gives Supportive supervision visit (SSV) to each newly trained provider at least three visits to improve their efficacy and confidence on IUD insertion. For IUD services provider has to charge only 500 Myanmar Kyats from the client and PSI/Myanmar reimbursed 5,500 Kyats for each service.

During the SSV, providers insert IUD to their clients under the supervision of PSI team. After 3 SSV and certified by PSI technical team, the providers are accessed for quality assurance from PSI/Myanmar Quality Assurance (QA) team. QA team access the informed choice counseling skill, the IUD technical skill (both insertion and removal) and follow up skill (side effect and complication management) by using skill level checklist. Those providers who passed QA assessments can give IUD service independently. Then, PSI/Myanmar Health Services Officer visits monthly to the respective IUD providers to support technical and product. QA team also linked with Obstetric and Gynecologists network for referral if there is any adverse events and complication. E.g. failure cases, missed string … etc.

From 2003, the start of IUD program, number of trained IUD Sun doctors increased from 20 providers to 354 in 2011. Their IUD service productivity also

increased from 281 IUD insertions to 27,773 IUD insertions in 2011. From 2003 to end of 2011, Sun IUD doctors provided IUD services to total 94,503 women by informed choice.

In 2012, April, Ministry of Health (MoH) of Myanmar announced that IUD insertion should only be done in registered clinic for delivery room facility in both public and private sector. Most of the Sun Quality Health clinics are only registered for general practice clinic and not as delivery clinics and most of them have limited space to renovate as delivery room facilities. Therefore PSI/Myanmar asked its' cooperated Sun network IUD providers to stop giving IUD services. Only those who have delivery room registered clinics continue giving IUD insertion and some clinics renovated into delivery room facilities and submitted for registration.

1.2 Rationale of the study

Although there are 1285 GP doctors joined in Reproductive Health program, providing short term birth spacing services within the Sun network, only one-forth (320 providers attended IUD skill building training and give services) provide IUD services. Out of 320 IUD providers, nearly half of the providers (around 150 providers) reported back to PSI/Myanmar regularly for their IUD service provision. Moreover, according to the SQH performance analyzing report 2010, 19% of the IUD providers contributed 79% of IUD services which means out of total 28,557 IUD insertions, 22,560 IUD services were provided by only 19% of SQH IUD doctors.

Therefore, it is important to assess and recruit the potential provider before offering to join the program and giving training. Factors relating to the provider who provide high volume of IUD services should be searched by systemic research. Even though current IUD providers' number is very few, the study can be done as retrospectively to find out the factors influencing the performance and productivity of IUD service providers.

Technical training interventions do not reduce providers' attitudinal barriers towards IUD provision and "Non-training" intervention should be designed to lower these barriers (Agha et al., 2011). It is also important to motivate and maintain the

provider's behavior concern of his service productivity and therefore effective interventions are needed to develop.

For more than 20 years, the family planning and Reproductive Health field has promoted the understanding of "the User's perspective" and rightly so, but what of providers? Although providers are obviously essential partners in service programs, their perspectives have received remarkably little attentions. This is a major gap (Shelton, J. D. 2001). Physicians are important gatekeepers of women's access to effective methods of contraception. An understanding of physician behavior in this domain is therefore important. (Russell, M. L. and Love, E. J. 1991).

This research study aims to identify the factors (characteristics) associating with the service provision of SQH IUD providers and with the specific aim of developing better screening for recruiting providers and food for thought for the PSI/Myanmar Provider Behavior Change campaign in the future.

1.3 Research questions

- What are the factors associating with Sun Quality Health IUD providers' IUD service productivity?
- What are the relationships between socio-economic factors, training related factors, clinic related factors and Sun Quality Health providers' IUD service productivity?
- What are the relationships between socio-economic factors, training related factors, clinic related factors and knowledge of providers on IUD?
- What are the relationships between knowledge of providers on IUD and Sun Quality Health providers' IUD service productivity?

1.4 Hypothesis of the study

- Socio-economic factors are associated with knowledge of providers on IUD and the Sun Quality Health providers' IUD service productivity.
- Reinforcing factors such as presence of client referral network, clinic assistant for IUD service and event day are associated with knowledge of providers on IUD and Sun Quality Health providers' IUD service productivity.

- Number of supportive supervision visit and number of insertion during supportive supervision visit are associated with knowledge of providers on IUD and Sun Quality Health providers' IUD service productivity.
- Knowledge of providers on IUD are associated with Sun Quality Health providers' IUD service productivity

1.5 Research objectives

- To identify the factors associating Sun Quality Health IUD providers' IUD service productivity
- To determine the relationships between socio-economic factors, training related factors, clinic related factors and knowledge of providers on IUD
- To determine the relationships between knowledge of providers on IUD and Sun Quality Health providers' IUD service productivity

1.6 Variables employed in the study

A. Independent variables

- Socio-demographic
    - Age
    - Gender
    - Specialization
    - Income
- Clinic related
    - Place of clinic
    - Operation hour
    - Privacy for IUD service
    - General client load (monthly)
    - Birth spacing client load (monthly)
- IUD service related
    - Confidence on IUD service skill
    - Time for IUD service for one client
    - Counseling to Birth spacing client

    - Referral network for birth spacing client
    - Clinic assistant for IUD service
    - Special IUD service event day
- Training & SSV related
    - Number of Refresher training
    - Number of SSV
    - Number of IUD insertion in each SSV
- Knowledge on IUD
    - Counseling
    - Mechanism of usage
    - Indications
    - Contraindications
    - Side effects
    - Infection Prevention

B. Dependent variables

IUD service provision by SQH IUD provider (Number of IUD insertion by SQH doctor from January 2012 to March 2012)

1.7 Conceptual Framework

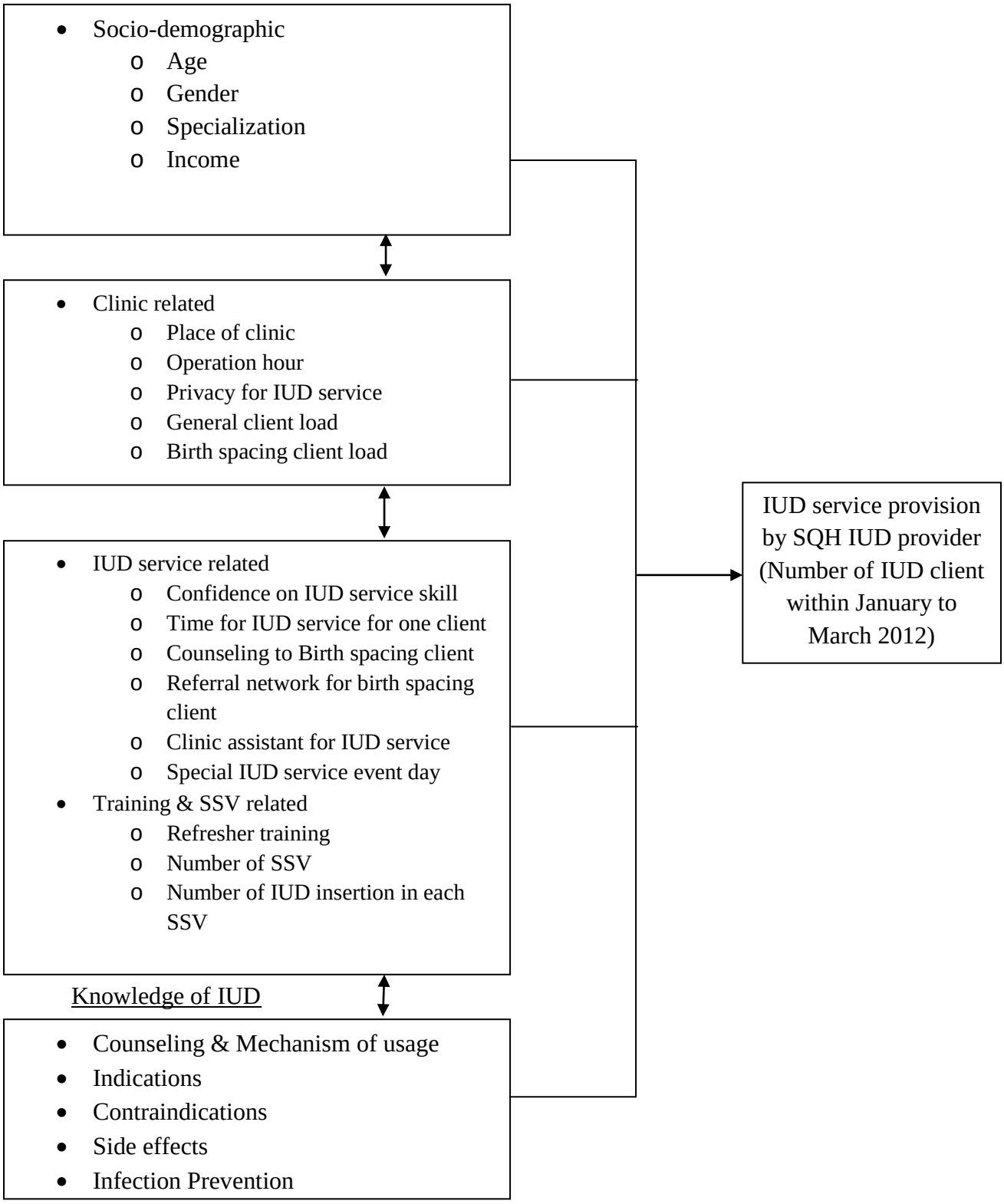

Figure 1: Conceptual Framework

IUD: refers Intra Uterine contraceptive Device and in this research it is represented Multiload 375 (Trade name) which has 5 years contraceptive effectiveness.

SQH IUD providers: GP doctors in PSI/Myanmar social franchised "Sun Quality Health Network" and joined IUD program and included in the list of PSI/Myanmar's MIS active IUD provider list.

IUD service provision: refer the number of IUD insertion by the provider within January to March 2012.

SQH IUD provider's productivity: refer to the number of IUD insertion by SQH IUD provider from January to March 2012. It is classified into Productive (Provider's insertion of 9 IUDs and above within 3 months) and Un-productive (Provider's insertion of less than 9 IUDs within 3 months) and it was defined according to PSI/Myanmar IUD program Standard Operation Protocol.

Age: refers the respondent's age at the time of interview.

Gender: refers male and female of the respondent

Specialization: refers the post graduate diploma or master degree of the respondent. It is classified into no specialized, Obstetrics and Gynecologist (ObGyn), and other.

Income: refers to the monthly income of the respondent in Myanmar Kyats. It is classified into less than or equal to 500,000/- Kyats, 500,001 to 1,000,000/- kyats and more than 1,000,001/- Kyats

Place of the clinic: refers the respondent's clinic situation and it is classified into urban, suburban and rural

Operation hour: refers to the respondent's clinic opening hour.

Privacy for IUD service: refers to the situation of the respondent's clinic in case whether there is a specific examination room for IUD service. It classified into yes and no.

General client load: refers to the daily general client load of the respondent's clinic and birth spacing clients are not included.

Birth spacing client load: refers to the daily birth spacing client load of the respondent's clinic and it is included both short term and long term contraceptive users.

Confidence on IUD service skill: refers to the confidence level of the SQH IUD doctor' IUD service providing clinical skill especially insertion skill. The confidence level can be scaled into totally not confident, little confident (with skilled supervisor), somewhat confident (with assistant), more confident, very confident

Time for IUD service for one client: refers to the total minutes taken for one client IUD insertion by the respondent at the clinic including counseling, instrument processing, physical examination and IUD insertion.

Counseling to Birth spacing client: refers to if SQH IUD doctor does the pre insertion counseling based on informed choice. It is classified as yes and no.

Side effect and complication experience: refers to if there is an experience of SQH IUD doctor who faces any side effect or complication complained by IUD client during follow up visit. It is classified as yes or no. If yes, is it side effect (bleeding, cramps) or complication (infection, perforation, failure).

Referral network for birth spacing client: refers to any referral network for birth spacing clients to the respondent's clinic. It is classified as yes and no. (PSI/Myanmar's Sun Primary Health network of village health workers is presented in some townships)

Clinic assistant for IUD service: refers any clinic assistant who helps the respondent in instrument processing, general birth spacing counseling and record keeping at the clinic. It is classified into yes and no. (PSI/Myanmar trained some SQH IUD providers' clinic assistants for instrument processing, general birth spacing counseling and record keeping to assist the providers)

Special IUD service event day: refers to any special occasion for IUD service by the respondent at the clinic. It is classified into yes and no.

Year of IUD training: refers the year the respondent attended the IUD training. It is classified into before 2008, 2008, 2009, 2010 and 2011.

Refresher training: refers IUD refresher training the respondent attending or not. It is classified into yes and no.

Number of SSV: refers the number of SSV the respondent had before passing the QA assessment.

Number of IUD insertion in each SSV: refers the number of IUD insertion by the respondent during each SSV.

Knowledge on IUD: refers the respondent's knowledge on IUD which relates to counseling, mechanism of usage, indications, contraindications, side effects and infection prevention. It will be asked by pre developed true or false quiz and assess the provider's knowledge. It is classified into high, medium and low.

CHAPTER II

LITERATURE REVIEW

2.1 Family Planning

Since 1960s, family planning services has progressed and expanded remarkably and the international communities recognize the accessibility of modern contraception as one of the basic human rights but there are still obstacles and challenges to be faced. (Jacobstein. 2007).

Maternal mortality is also reduced dramatically in the developed world related to the level of contraception use but it is much more common and still high in the developing world. For example, there are one or more maternal mortality for every 100 births in 17 out of 36 countries in the West, Middle and East African countries according to UNFPA data. Jacobstein (2007) stated in his article that "Recent scientific findings and new understanding about long-acting and permanent methods of contraception underscore their safety and effectiveness".

2.2 IUD, the solution?

Now-a-days, over 100 million women worldwide use IUD as method of choice for contraception and it makes the most popular reversible method of birth control (Nobiling. 2010). Modern intrauterine devices (IUDs) are safe, effective, and quickly reversible long-term contraceptives that require little attention after insertion. But there are some countries still back in IUD service due to the safety concern and programmatic obstacles and challenges. New assessments and research finding recently translated into guidance by the World Health Organization, should reassure and inform the providers that most women can use IUD in safe(Salem, R. M. 2007).
Townsenda and Jacobsteinb (2007) stated that "The IUD has the potential for enhancing women's health and the ability to both space and limit births at an affordable cost. Organizations involved in product research and development can join with service delivery partners to make new products more accessible to individuals in developing countries." According to the above literature, role of IUD in various

methods of contraception is highlighted and more researches and programmes are needed to implement.

2.3 Providers role in IUD service

Providers are important resource in health care system and they play a critical role in health care providing to the communities. Kristina at el. (2002) mentioned the reasons of why the providers are important. Providers are the main point of contact between the clients and health care system as they identify and meet clients' health care needs. Their responds to the clients' needs depend on their individual technical and interpersonal skills, the infrastructure of the health care system and clients' perceptions about quality care.

Like the other health care setting, providers are also key players in family planning services and it can be found in one of the articles from Canadian Journal of Public Health that "Physicians are important gatekeepers of women's access to effective methods of contraception. An understanding of physician behaviour in this domain is therefore important". (Russell, M. L and Love, E. J. 1991).

There are some findings from some studies how providers influence on the clients' contraceptive usage. Christine at el. 2011 mentioned that the advice and information about the contraceptive may vary according to the characteristics of their providers and more researches are needed to find out the reasons. Also found that there may be bias by the providers on IUD or making assumptions about its use based on the clients' socio-economic status, race and ethnicity. (Christine at el., 2010).

Therefore, it is important to develop and implement the program to change the providers' practice and behavior in positive ways to have quality health care service for the client. Tavrow (2010) recommended that in order to reduce the negative practices of the providers in health service providing facilities, governments and the organizations should more focus and give funding on:

- Continuous Medical Education (CME) programme for health care providers so that they are up-to-date on the latest information, treatments and counseling techniques

- ensuring adequate basic supplies for health services and manageable workloads of health care providers

Most of the women in Myanmar seek contraceptive care from both public and private sides. According to FRHS 2007, the private sector plays a main source for the majority (52%) of current modern contraceptive users and followed by public sector (42%). Source of contraceptives depends on the different kinds of methods. For IUD, the range is wider, private clinics (24%), government nurses and midwives (22%) and government hospitals (18%). So, assuming that as PSI/Myanmar IUD program revitalized within the SQH GP network after 2008, the percentages of private sector will be increased more than in 2007.

2.4 Factors associated with Providers' IUD service provision

This research study aims to find out the relationships between the socio demographic factors and the providers' IUD service provision. According to the literature review, there are previous findings of the relationships between the socio demographic factors and the providers' knowledge and attitude on IUD. According to Gupta, S. and Miller, J. E. (2000), Female GPs fitted more IUDs than male GPs and this correlated with positive knowledge and attitude. Young GPs (<40 years of age) and recent graduates (<10 years work experience) were the most knowledgeable, but this did not correlate with positive attitudes.

In 2009 PSI/Cambodia's qualitative study of "IUD provision in Cambodia: provider productivity study", source of income, operation time at the clinic and client load do not influence on low or high IUD insertion. But providers' previous experience, level of confidence, Medical equipment set up & number of helpers in the clinic and the counseling strategy are the determinants that correlate to high and low IUD clients.

Time factor and procedures for IUD insertion is also influence on the providers' behavior for IUD provision. In Morocco, many physicians prefer oral contraceptives over IUDs partly because providing the pills entails less work. (Hajii, N. and Laksisir, A. 1996). Also from the studies in El Salvador and Kenya, it have found that certain characteristics of IUD service delivery make it less attractive to

providers, including the time required for insertion, the variety of supplies and equipments needed for the procedure. (Stanback at el 1995 and Johnson at el 2000)

Providers' experience in terms of the number of IUDs inserted in their careers, appears to improve knowledge, self-confidence in the ability provide the IUD and to lower age-related attitudinal barriers towards IUD recommendation. It is found in the study by Agha at el.(2011). They also stated that "Clinical training does not have a consistent positive effect on lowering barriers to IUD recommendation." and concluded that "Technical training interventions do not reduce providers' attitudinal barriers towards IUD provision. Formative research is needed to better understand reasons for the high levels of provider barriers to IUD provision. "Non-training" interventions should be designed to lower these barriers." This study was done in Pakistan.

Also in the article "The Provider Perspectives: Human After All" from the International Family Planning Perspectives volume 27. No. 3 September 2001, the author, Shelton, J.D. (2001) said " In recent year, our field has come to realize that training, which often focuses only on skills and knowledge is often ineffective in improving provider performance, and thereby service delivery."

Privacy of the clinic is one of the important factors for the clinical service like IUD insertion. In Malawi, researcher noted that although 76% of the facilities were able to provide privacy but only 62% of mystery clients reported back that they received sufficient privacy. (Tavrow at el., 1995).

Comprehensive counseling based on informed choice seems to have a positive effect on the client use of contraceptive. It was found in the rural Bangladesh that family health workers who gave empathetic and quality counseling appeared to increase the contraceptive use by 21% and continuation rate by 72%. (Koenig at el., 1997).

2.5 Concepts and Theory

PSI's Behavior Change framework (PERForM)

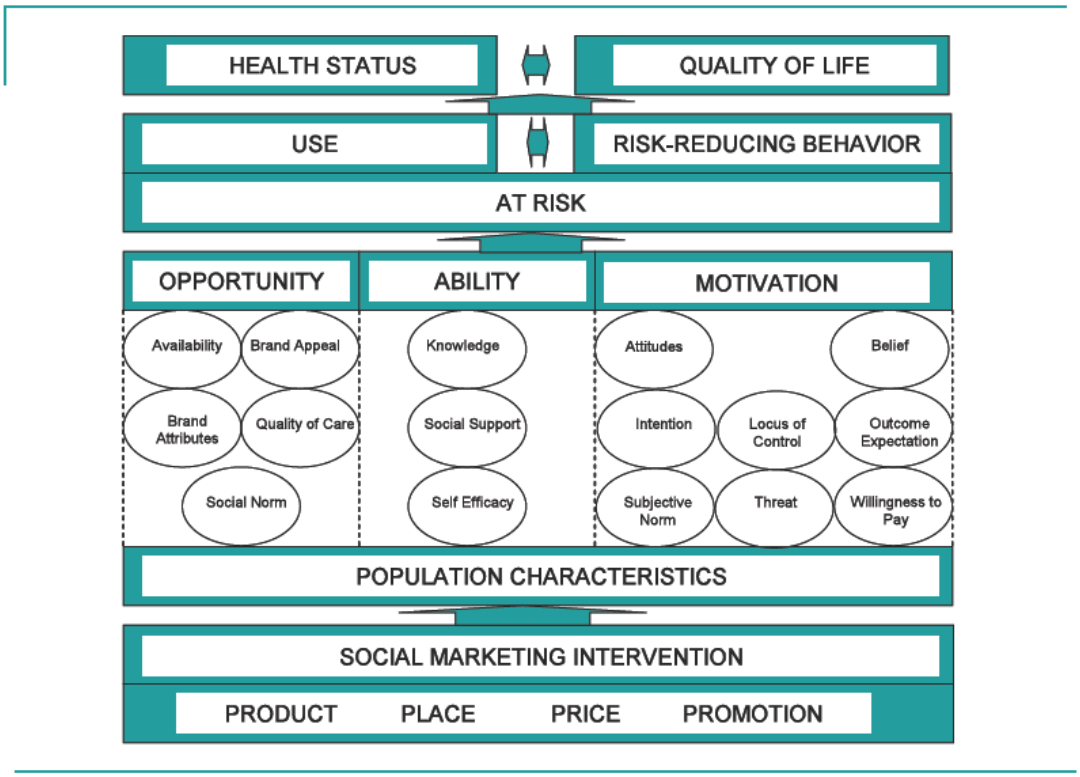

Figure 2: PSI's Behavior Change framework (PERForM)

PERForM has been developed through a review of the most important theories of behaviour change in existing literature, including the Andersen's model of utilization of health services (Andersen, 1995), the health belief model (Rosenstock, 1974), the theory of reasoned action (Fishbein and Ajzen, 1975), the social learning theory (Bandura, 1977), and the concept of locus of control (Rotter, 1966). PERForM analyzes the major determinants of health behaviours by categorizing them in terms of opportunity, ability and motivational factors. (The PERformance Framework for social Marketing, Chapman and Patel, 2004)

This behavior change logical frame work has four levels such as:

- Goal: refers to the ultimate goal of the health program or project like Health Impact or Health status of certain community. E.g. To reduce HIV prevalence in client of sex workers

- Purpose: refers to the desired behavior which has to be changed to get the health impact or goal. E.g. Correct and consistent use of condom by client of sex workers
- Output: Factors influencing the certain behavior. E.g. Knowledge of correct condom use, Availability of condom, Attitude and belief of advantages of using condom
- Activities: Social marketing interventions such as Product, Place, Price and Promotion. E.g. Health education, awareness campaign of condom, making condom available everywhere and making condom price affordable to target group

This is for consumer or community behavior change framework. For the providers, only three main factors will be considered as factors influencing health care providers' behavior which are Self-Efficacy ("*I have the confidence and competencies to enact this behavior"*), Social Norms ("People I respect like my teachers, mentors and peers are all doing this behavior"), and Attitude ("*There are benefits for me if I perform this behavior*").

For PSI/Myanmar, IUD program this behavior change framework is like below:

- Goal: To reduce maternal mortality rate in Myanmar
- Purpose: Increase contraception service including long term method (IUD) for those women who need and choose
- Output: Self efficacy (IUD providing skill including counseling and insertion skill), Norms (Good provider should provide method choice for their clients) and Attitude (IUD makes benefit for both of me and my clients)
- Activities: Skill building training and Supportive supervision visit for IUD provider to increase self efficacy, Evidence based information and conferences, incentives

Based on this behavior theory, PSI/Myanmar plans and implements activities to increase IUD service provision by SQH doctors to the women who need based on informed choice.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Site of the study

There are 14 States and Divisional Regions (7 States and 7 Divisional Regions) in Myanmar. Apart from 2 States, Chin and Kayah States, Sun Quality Health IUD providers opened their clinics in the rest 12 States and Divisional Regions (5 states and 7 Divisional Regions). Therefore, the study was done in all 12 States and Divisional Regions. Among those providers, according to the systemic stratified sampling technique, the sample providers will be asked for the research study.

3.2 Research Design

This study is a descriptive analytical study. Cross sectional study design was used to describe the factors associating with the IUD service provision by the SQH doctors and also determined the relationship between the independent and dependent variables. This study was done with questionnaire interview and in depth interview (IDI) and therefore it included both quantitative and qualitative study.

3.3 Study Population

The population in this study was 320 Sun Quality Health network doctors who were trained as IUD providers and who were in active providers list of PSI/Myanmar in January to March 2012.

3.4 Sample Size

Total number of Sun Quality Health IUD providers is 320. Sample size calculation for the study was calculated by the formula below and it indicated that the sample should not be less than 175 persons (Vanichbancha, 2006).

$$n = \frac{NZ^2/4}{NE^2 + (Z^2/4)}$$

$$= \frac{(320) \times (1.96)^2/4}{\{(320) \times (0.05)^2\} + \{(1.96)^2/4\}}$$

$= 174.57 \approx 175$

n = Sample size

N = Target population

E = Precision of difference = 0.05 or 5%

Z = The value from normal distribution associated with 95% Confidence Interval

3.5 Sampling technique

3.5.1 Questionnaire Interview

All the SQH IUD Providers was listed from the PSI/Myanmar Management and Information System (MIS) and the study sample was selected by systemic stratified sampling. Providers were providing services in different areas, 5 States and 7 Regions. Providers from all 12 States and Regions were selected to avoid geographical differences. Moreover, their IUD service productivities were different from each provider. According to PSI/Myanmar IUD program Standard Operation Protocol, providers were divided into three groups such as:

- High performers: those who provided more than or equal to ten IUD services to the clients within three continuous months
- Medium performers: those who provided five to nine IUD services to the clients within three continuous months
- Low performers: those who provided less than five IUD services to the clients within three continuous months

In order to get the information from all three different kinds of performer, providers from all three groups were selected to get the sample participants for the study. Their performance which was the number of IUD insertion from January 2012 to March 2012 was taken from the PSI/Myanmar MIS data.

Nevertheless, according to PSI/Myanmar IUD program Standard Operation Protocol, Providers who provided IUD services to 9 women and above within 3

months were defined as productive providers and those who provided less than 9 IUDs within 3 months were defined as unproductive providers.

3.5.1.1 Inclusion criteria

- Sun Quality Health doctors who attended PSI/Myanmar IUD skill building training.
- Sun Quality Health IUD providers who were included in PSI/Myanmar active providers list from January to March 2012.
- Sun Quality Health IUD providers who passed PSI/Myanmar Quality audit assessment.
- Sun Quality Health IUD doctors, who want to give not only verbal consent but also written consent and willing to participate in the study.

3.5.1.2 Exclusion criteria

- Sun Quality Health IUD providers who were on leave which mean not present at the clinic at the moment of interview.

3.5.2 In-depth Interview (IDI)

Sun Quality Health IUD providers were selected by purposive sampling technique. After finishing all questionnaire interviews, 9 SQH IUD providers were selected for in-depth interviews based on the IUD client load within past 3 months such as:

Category 1 - 3 providers who had no IUD client within January to March 2012

Category 2 - 3 providers who had 1 to 9 IUD clients within January to March 2012

Category 3 - 3 providers who had more than 9 IUD clients within January to March 2012

Therefore, According to PSI/Myanmar IUD program Standard Operation Protocol, providers of Category 1 and 2 were unproductive providers and Category 3 providers were productive providers. Moreover, both male and providers from different areas of urban, suburban and rural were selected for qualitative sample. Due

to the rainy season and weather condition, the providers were selected from the location according to the availability of the transportation.

3.6 Data collection tool

3.6.1 Structure questionnaire

The data was collected by structured questionnaires and the draft questionnaire was pre tested prior to the data collection. The questions were designed to collect the following information.

- Socio-demographic characteristics: Age, Gender, Specialization, Years of GP practice, Income, Source of income
- Clinic related factors: Place of clinic, Operation hour, General client load , Birth spacing client load
- IUD service related factors, Time for IUD service for one client, Counseling to Birth spacing client, Referral network for birth spacing client, Clinic assistant for IUD service, Special IUD service event day
- Training & SSV related factors: Year of IUD training, Refresher training, Number of SSV, Number of IUD insertion in each SSV
- Knowledge on IUD

In order to access the knowledge on IUD service, true or false quiz were used and that quiz was referenced from pre test, post test quiz from PSI/Myanmar IUD refresher training package for Sun doctors.

3.6.2 In-depth Interview

Open-ended questions and semi-structured interview were used to find intensive information about the topic of interest. Interview questions were developed by the researcher based on prior research and literature review.

3.7 Data collection

Questionnaire interviews and In-depth interviews were done by volunteer medical officers of PSI/Myanmar Health Services Department including who monthly

go to SQH doctors for monitoring and supportive visits. They were trained how to ask questionnaires and how to collect the data by the researcher prior to the study.

3.7.1 Questionnaire Interview

Face to face interviews with the selected samples SQH IUD providers were done at their clinics in appropriate time. All respondents were interviewed on the same set of questionnaire by trained interviewers. After the interview, the trained interviewers checked on the correctness and completeness of the questionnaires. They were again rechecked by the researcher.

3.7.2 In-depth Interview

After the questionnaire interviews, 3 SQH IUD providers from each categories (total 9 providers) were selected for the in-depth interview and separate discussion guides were provided to the trained interviewer.

Category 1 - 3 providers who had no IUD client within January to March 2012

Category 2 - 3 providers who had 1 to 10 IUD clients within January to March 2012

Category 3 - 3 providers who had more than 10 IUD clients within January to March 2012

Each in-depth interview was lasted for 30-45 minutes and all the interviews were recorded by the mp3 recorder and transcribed verbatim.

3.8 Data analysis

The resulting data of each part of the interview was analyzed as follow.

3.8.1 Results from questionnaires

The results of the questionnaire were coded in the database and analyzed by using the Statistical Package for Social Sciences (SPSS) window software. Data analysis was done by descriptive statistics to find frequencies, means, proportions and standard deviation. In order to find the relationship between the independent and dependent variables were calculated by Chi-square test.

3.8.2 Results from In-depth Interview

In-depth interview results were analyzed by content analysis using thematic analysis to discover key ideas patterns and relationships from the interview results.

3.9 Reliability & Validity

The questionnaires were consulted with experts (Thesis advisor and others) and adjusted to obtain validity. After that, those questionnaires were tested with 10 providers for pilot testing. Chonbach's alpha coefficient was used to measured the reliability of the collection tool and the result was 0.7.

3.10 Ethical consideration

The proposal was submitted to receive the approval from Ethical Committee of Chulalongkorn University prior to the interview. All the interviewees were explained about the research study including purposes and questionnaires. Then, not only the verbal consent, but also the written consent was taken from all respondents. Their names were not recorded for the confidentiality and the data was coded. Identification No. was used for recording of the questionnaires. The respondent could feel free to answer the questions and they had their rights to stay remain silent to the questions. Privacy was maintained throughout the interview.

3.11 Limitation of the study

- This research study was done among the Sun Quality Health network IUD doctors only and so that the findings will not be represented all IUD service providers from Public and Private (non network providers) sides in Myanmar.
- Another thing is that this study was the cross sectional study and so it will not include the changes among the researched population overtime.

3.12 Benefits of the study

The findings of this research study will provide the factors associating with IUD service provision by SQH IUD providers and so that the findings will be food for

thought for further provider recruitment process in PSI/Myanmar IUD program and can also be applied in Provider Behavior Change campaigns.

CHAPTER IV

RESULTS

This chapter includes the results of the study: Factors association with IUD service productivity of Sun Quality Health Doctors in Myanmar. As this study was done with questionnaire interview and in depth interview and therefore it included both quantitative and qualitative study.

1.1.The results of the quantitative study are divided into 7 parts.

- Socio-demographic characteristics of respondents
- Features of Sun Quality Health IUD clinics
- Features of Sun Quality Health IUD service
- Features of IUD training and supportive supervision visits
- Providers' knowledge on IUD
- Factors association with IUD service productivity of Sun doctors

First five parts provide the descriptive findings of the research study and the last one determines the relationship between the socio-economic factors, training related factors, clinic related factors and Sun Quality Health providers' IUD service productivity.

1.2.The results of the qualitative study are divided into 9 parts.

- Providers' experiences of IUD service before joining PSI/Myanmar IUD program
- How training supports on IUD service
- How supportive supervision visits support on IUD service
- Assessing process and procedures of IUD service
- Providers' perceptions on their IUD client load
- Medium and Low performers' comments and perceptions on High performers
- Difficulties and constraints of during IUD service provision
- Providers' perceptions on clients' choice of IUD
- Providers' perceptions on clients' reasons for IUD removal

4.1 Results of the quantitative study

4.1.1 Socio-demographic characteristics of respondents

Total numbers of participants in this study include 175 Sun Quality Health doctors who provided IUD services in 12 States and Divisional Regions (5 States and 7 Divisional Regions) of Union of People Republic of Myanmar. Table 1. shows the numbers and percentages of the respondents distributed in 12 States and Divisional Regions.

Table 1: Distribution of the respondents by the places of study (n=175)

Place of the study (States and Divisional Regions)	No. of respondents	Total No. of Existing providers	Percentages (%) out of 175 doctors
1. Ayarwaddy	20	20	11.4
2. Bago	33	34	18.9
3. Kachin	4	7	2.3
4. Kayin	4	4	2.3
5. Magway	12	21	6.8
6. Mandalay	7	81	4.0
7. Mon	15	15	8.6
8. Rakhine	1	1	0.5
9. Sagaing	8	28	4.6
10. Shan	2	21	1.1
11. Tanintharyi	6	6	3.4
12. Yangon	63	81	36.0
Total	175	320	100.0

Age

Providers are divided into four age groups; less than or equal to 35 years old, 36 to 45 years old, 46 to 55 years old and over 55 years of age. Average mean age of the respondents was 49.79 years with the standard deviation of 9.796. The youngest respondent was 27 years old and the oldest one was 67 years old. According to age group, younger than 35 years old was 14.3%, 36 to 45 years old group was also 14.3%, 46 to 55 years old group was 37.7% and the last one over 55 years old group was 33.7%.

Gender

Among 175 Sun Quality Health IUD providers, 76 doctors (43.4%) were male doctors and 99 doctors (56.6%) were female doctors.

Other specialization

All providers were graduated as M.B.,B.S. and practiced as general practitioners and some providers got post graduate degrees or diplomas. Out of 175 doctors, only 26 doctors (14.9%) had other specialization and 149 (85.1%) did not have. But, none of 26 doctors had post graduate degrees or diploma which was related to Obstetrics and Gynecology. Almost all of them had Diploma in Family Medicine.

Monthly Income

Out of 175 respondents, only 137 doctors responded their monthly income. Among those 137 doctors, 65.69% got less than and equal to 500,000 Kyats, 26.28% got 500,001 to 1,000,000 Kyats and the rest 8.03% got more than 1,000,000 Kyats as monthly income. Regarding to source of income 156 (89.1%) providers got their income from their general practice only and 19 (10.9%) got from their general practice and other business.

Table 2: Socio-Demographic characteristics of the respondents (n=175)

Variables	Number	Percentage (%)
Age		
<=35 years	25	14.3
36-45 years	25	14.3
46-55 years	66	37.7
>55 years	59	33.7
Mean ± S.D	49.79 ± 9.8	
Minimum (youngest)	27	
Maximum (oldest)	67	
Gender		
Male	76	43.4
Female	99	56.6
Education		
M.B.,B.S.	149	85.1
Post graduate diploma or degree	26	14.9
Monthly income (in Kyats)	(n=137)	
<=500,000/-	90	65.7
500,001-1,000,000/-	36	26.3
>1,000,001/-	11	8.0
Source of income		
GP only	156	89.1
GP + Other business	19	10.9

4.1.2. Features of Sun Quality Health IUD clinics

Location of the clinics

Studied Sun Quality Health clinics were situated in total 103 townships of 5 States and 7Divisional Regions. They were distributed in all places such as urban, sub-urban and rural areas. Out of 175 clinics, 136 (77.7%) clinics were located in urban area, 28 (16%) in sub-urban area and 11 (6.3%) were in rural area.

Clinic opening hours

More than half of the clinics 54.3% (95 clinics) opened more than 4 hours to 8 hours per day and 41.7% (73 clinics) opened more than 8 hours per day. The rest 4% (7 clinics) opened less than or equal to 4 hours per day. Most of the clinic opened morning shift and evening shift, and some clinics operated from the morning to early night, the whole day. Very few providers responded that they operated for 24 hours. Almost all clinics operated everyday without day off apart from some government holidays.

Privacy for IUD service

Privacy for the client is one of the most important things in health care setting especially for the clinical practice like IUD service. All Sun Quality Health IUD clinics provided the privacy of the examination rooms for IUD insertion. Some clinics had separate examination rooms for IUD service. Among the 175 SQH clinics, 108 (61.7%) clinics had separate examination room for IUD service and 67 (38.3%) clinics did not have separate examination room. They provided IUD service in the same examination room used for general practice at GP closing time. Interviewers found that privacy was present at all clinics by using at least partition or doors.

Daily client load

Daily client load was different from provider to provider. From 175 providers, minimum daily general client (not birth spacing client included) amount was 7 clients per day to maximum daily general client amount was 150 clients per day and average mean client load was 38.40 with the standard deviation of 22.824. For daily birth

spacing client amount, average mean of daily birth spacing client was 7.15 with the standard deviation of 4.982 and minimum was 1 client per day to maximum was 20 clients per day.

Table 3: Features of Sun Quality Health IUD clinics (n=175)

Variables	Number	Percentage (%)
Location of clinics		
Urban	136	77.7
Sub-urban	28	16.0
Rural	11	6.3
Clinic opening hours (per day)		
Up to 4 hours	7	4.0
4 to 8 hours	95	54.3
More than 8 hours	73	41.7
Presence of separate room for IUD service		
Yes	108	61.7
No	67	38.3

Table 4: Daily general clients and birth spacing clients load of the respondent (n=175)

Daily client load	Mean	±S.D	Minimum	Maximum
General client	38.4	22.8	7	150
Birth spacing client	7.2	4.9	1	20

4.1.3 Features of Sun Quality Health IUD services

Providers' confidence on IUD service providing skills

The confidence level of the SQH IUD doctors' IUD service clinical skill especially insertion skill was important in providing quality service. The confidence level was different from provider to provider. During the study, there is no provider mentioned that they were not confident to provide IUD to a client. 3 providers (1.7%) were little confident (with skilled supervisor) to provide IUD, 66 providers (37.7%) were somewhat confident (with assistant) and 59 providers (33.7%) were more confident and 47 providers (26.9%) were very confident to provide IUD service.

Table 5: Providers' confidence level on IUD service providing skills (n=175)

Confidence level	Number	Percentage (%)
Not confident	0	0
Little confident	3	1.7
Somewhat confident	66	37.7
More confident	59	33.7
Very confident	47	26.9

IUD providing time taken for one client

IUD providing service included counseling, instrument processing, examination and insertion. Time taken for IUD service for one client is not the same for all providers. From total 175 providers, an average mean minute taken for one client for IUD service was 36.8 minutes with the standard deviation of 10.723 and minimum time taken was 10 min and maximum was 60 min.

Counseling before IUD providing service

Counseling is also one of the most important parts for birth spacing service to be correctly and consistently usage of contraception. All 175 providers conducted birth spacing counseling before providing IUD service. Ideal and complete pre insertion IUD counseling included; various birth spacing methods, advantages and

disadvantages of each method, informed choice, effectiveness of IUD and side effects and complications of IUD. Although all providers counseled before IUD insertion, 152 doctors (86.9%) counseled all the above topics completely during the interview and 23 doctors (13.1%) counseled only some topics of the above. Most of them missed various birth spacing methods, advantages and disadvantages of each method and informed choice topics. This might be due to mis-interpretation of the interviewer question and providers thought the client was already chosen IUD.

Experiences on side effects and complications

Like the other contraceptives, there were side effects and complications of IUD and they are not the same. Side effects included irregular bleeding problems, cramps and pains. Complication or adverse events included missed string, failure, expulsion, infections and perforation. 60% (105 providers) of 175 IUD providers had experiences of side effects complaints from clients and 40% (70 providers) did not have such experiences. Most of the complaints of side effect were heavy bleeding. For complications, 36.6% (64 providers) had experiences of clients with complications and 63.4% (111 providers) did not have that experience. Most of the cases were missed string and failure.

Referral network for birth spacing client referral

There were some referral network for birth spacing clients referred to Sun clinic and out of 175 respondents, 64.6% (113 doctors) mentioned they had referred clients from local network like Sun Primary Health workers (volunteers trained by PSI/Myanmar), Basic Health Staffs and midwives. 35.4% (62 doctors) responded they did not have referral network. Sometimes, client to client referrals as peer's recommendation were also there.

Clinic assistant for IUD service

127 (72.6%) SQH IUD providers had clinic assistant for IUD service provision and 50.9% had 1 assistant and 21.7% had 2 clinic assistant. 48 providers (27.4%) did not have any assistant to help for IUD service. Those assistants supported

and helped the providers in instrument processing, room cleaning and disinfection, record keeping and assisting during IUD insertion.

Special event days for IUD service

Some providers 61 (34.9%) arranged and provided IUD services on special event day. They counseled and recruited potential IUD clients and appointed them on particular day for IUD insertion. Arranging days are different form provider to provider. Some appointed on every Sunday when they closed their GP and provided only IUD services. Most of the providers 114 (65.1%) did not arrange special day for IUD services. They provide the service on available time like afternoon time when there was no GP patients.

Table 6: Features of Sun Quality Health IUD services (n=175)

Variables	Number	Percentage (%)
Experience on complaint of side effects		
Yes	105	60.0
No	70	40.0
Experience on complaint of complications		
Yes	64	36.6
No	111	63.4
Presence of client referral network		
Yes	113	64.6
No	62	35.4
Presence of clinic assistant		
Yes	127	72.6
No	48	27.4
Special event day for IUD service		
Yes	61	34.9
No	114	65.1

4.1.4 Features of IUD training and supportive supervision visits

Year of attending IUD training

Table 7: Year of attending IUD training by SQH IUD Providers (n=175)

Year	Frequency	Percentage (%)
2003	6	3.4
2004	4	2.3
2005	13	7.4
2007	6	3.4
2008	10	5.7
2009	45	25.7
2010	60	34.3
2011	30	17.1
2012	1	0.6
Total	175	100.0

The above table shows the years of IUD training attending Sun Quality Health providers' numbers and percentages.

Refresher training for IUD service

49.1% (86 providers) attended refresher training and 50.9% (89 providers) had not attended any refresher training.

Providers' experiences of SSV

Supportive supervision visits (SSV) were routine visits followed the providers after the training to build up skill competency and confidence for IUD service. Apart from 7 providers (4%) all other 168 providers were supported by SSV visit at least one time to five times. Most of the providers, 69.7% had 3 SSV visit.

Table 8: Providers' experiences of refresher training and SSV visits (n=175)

Variables	Number	Percentage (%)
Attend refresher training		
Yes	86	49.1
No	89	50.9
Number of SSV visit		
0	7	4.0
1	5	2.9
2	29	16.6
3	122	69.7
4	11	6.3
5	1	0.6

4.1.5 Providers' knowledge on IUD service

The respondent’s knowledge on IUD which relates to mechanism of action, indications, contraindications, side effects and infection prevention was assessed by knowledge quiz. Out of true or false quiz, average mean score was 12.42 with the standard deviation of 1.448 and minimum score was 9 and maximum score was 15.

Table 9: Result of IUD quiz by providers and level of IUD knowledge (n=175)

Score	Frequency	Percentage (%)	Level	Number	Percentage (%)
9	1	0.6	Low	15	8.6
10	14	8.0			
11	38	21.7			
12	39	22.3	Medium	114	65.1
13	38	21.7			
14	30	17.1	High	46	26.3
15	15	8.6			
Total	175	100.0			

Most of the respondents can answer most of all the quiz correctly and therefore scores are quite high from 9 to 15 out of 15 which showed they had correct and consistent knowledge on IUD service which related to counseling, mechanism of usage, indications, contraindications, side effects and infection prevention. But the results were divided into 3 groups low scored (9-10), medium scored (11-13) and high scored (14-15). Therefore, 15 respondents (8.6%) were in low scored group, 46 respondents (26.3%) were in high scored and 114 respondents (65.1%) were in high scored group.

Table 10 shows that the number and percentage of SQH IUD doctors who answered correctly to each question. Respondents had to respond True or False in the given box next to 15 statements on quiz paper. Quiz no. 1,2,3 and 4 related to counseling, quiz no. 8,11,12 and 13 related to mechanism of usage, quiz no. 9 and 10 related to infection prevention, quiz no. 5,6,7 and 15 related to indication and contraindication and quiz no. 14 related to side effects. Quiz no. 12 and 13 were responded correctly by all providers. Quiz no. 2 and 9 were the least correct responses by the respondent, 50.3% and 44.6%.

Table 10: Correct responses of quiz about knowledge on IUD service by SQH IUD Providers (n=175)

	Quiz statement	Correct responses	
		n	%
1.	For a woman in good health, a contraceptive method is best selected by the woman's husband.	149	85.1
2.	The most important part of counseling is providing brochures about contraceptive methods to the woman for review with her partner.	88	50.3
3.	Method specific counseling should inform the woman of common side effects of IUD use such as increased menstrual bleeding and cramping for first few months, possible spotting/light bleeding between periods, cramping/spotting for first few days.	167	95.4
4.	After IUD insertion, a woman must be advised to return to the clinic for her first routine follow up after 5 months.	170	97.1
5.	IUD is a preferred method for a woman who is high risk for sexually transmitted infections.	168	96.0
6.	IUD can be inserted without any restriction if a woman is on breast feeding.	137	78.3
7.	Hypertension is a condition requiring further evaluation before inserting IUD.	143	81.7
8.	Screening a potential IUD client should include pregnancy assessment by using pregnancy checklist questionnaires.	161	92.0

Table 10: (continued) Correct responses of quiz about knowledge on IUD service by SQH IUD Providers (n=175)

Quiz statement		Correct responses	
		n	%
9.	Other than sterilization, the **only** acceptable alternative method for processing instruments used for IUD insertion and removal is high-level disinfection by boiling or soaking for 20 minutes in povidone iodine solution (e.g., Betadine).	78	44.6
10.	Povidone iodine can be safely used for cervical or vaginal preparation.	169	96.6
11.	IUD can be safely inserted any time during the menstrual cycle, provided the woman is not pregnant.	146	83.4
12.	One of the reasons for removing the IUD includes if the woman wants to get pregnant.	175	100.0
13.	The Multiload Copper 375 should be removed/replaced in 5 years.	175	100.0
14.	A woman who has used IUD for 2 months has had irregular bleeding during this time. She asks you what to do. The best advice for you to give her is to have the IUD removed to stop the bleeding.	162	92.6
15.	The IUD may never be used in women who are HIV-infected.	128	73.1

4.1.6. Factors associated with IUD service productivity of Sun doctors

In order to find out the associated factors with IUD service productivity of Sun doctors, the relationship between socio demographic factors, clinic related factors, IUD service related factors, training and SSV related factors and providers' productivity on IUD service was determined by Chi-square test. The level of significant for relationship between these variables was set at p-value=0.05.

According to PSI/Myanmar operational definition, among the 175 providers, 73 providers who inserted more than 9 IUDs from January 2012 to March 2013 were productive and 102 providers who inserted less than 9 IUDs within those 3 months were unproductive. Number of IUD services was recalled by each respondent during the questionnaire interviews and rechecked and corrected with MIS data.

Socio-demographic characteristics

The comparison between the ages of the IUD service productive providers and unproductive provider was no significant difference between ages and Providers' IUD service productivity (p-value=0.162). 35.9% of age group of less than or equal to 50 years was productive while 46.4% of age group of over 50 years was also productive.

Provider's productivity was not significantly difference between the gender difference of the providers (p-value=0.308). 46.1% of male providers was productive while 38.4% of female providers also.

Regarding to the monthly income of providers, there was significantly difference between the monthly income and the providers' productivity (p-value=0.001). Providers' productivity (32.2%) was lowest at the providers who received monthly income less than or equal to 500,000/- kyats and increased to 58.3% productive at 500,001-1,000,000/- kyats and highest (81.8%) at more than 1,000,000/- kyats monthly income.

Source of income is also one of the associated factors with providers' IUD service productivity. There was significantly difference between the source of income and provider's productivity (p-value=0.003) where 73.7% of providers who received

income from GP + other business was productive while 37.8% of providers whose income was from GP only.

Table 11: Relationship between socio-demographic factors and providers' productivity

Socio-demographic	Providers' Productivity			p-value
	Productive n (%)	Unproductive n (%)	Total n (%)	
Age Group			(n=175)	.062
<=35 years	5 (20.0)	20 (80.0)	25 (100.0)	
36-45 years	9 (36.0)	16 (64.0)	25 (100.0)	
46-55 years	29 (43.9)	37 (56.1)	66 (100.0)	
>55 years	30 (50.8)	29 (49.2)	59 (100.0)	
Gender			(n=175)	.308
Male	35 (46.1)	41 (53.9)	76 (100.0)	
Female	38 (38.4)	61 (61.6)	99 (100.0)	
Monthly income (Kyats)			(n=137)	.001
<=500,000/-	29 (32.2)	61 (67.8)	90 (100.0)	
500,001-1,000,000/-	21 (58.3)	15 (41.7)	36 (100.0)	
>1,000,001/-	9 (81.8)	2 (18.2)	11 (100.0)	
Source of income			(n=175)	.003
GP only	59 (37.8)	97 (62.2)	156 (100.0)	
GP + Other Business	14 (73.7)	5 (26.3)	19 (100.0)	

Clinic related factors

There was no significant difference between locations of the clinics whether urban, suburban or rural areas and the providers' IUD service productivity (p-value=0.559). 41.9% of providers from urban, 35.7% of providers from suburban and 54.5% of providers from rural areas were productive.

Regarding to the clinic opening hours (duration), there was significantly difference between the clinic opening hours and the providers' productivity (p-value≤0.001). Providers' productivity was lowest at clinic opening hour for up to 4 hours (28.6%), then 29.5% of providers who operated for 4 to 8 hours were productive and the highest 58.9% of providers who operated more than 8 hours daily were productive.

Present of separate examination room for IUD service was also associated with provider's IUD service productivity (p-value≤0.001). 60.2% of providers who provided IUD service in separate examination room were productive while 11.9% of providers who did not have separate examination room were productive.

Although daily general client load was not associated and significantly difference with providers' IUD service productivity (p-value=0.085), daily birth spacing client load was associated with providers' productivity (p-value≤0.001). 27.1% of providers who had less than 5 daily Birth Spacing clients load were productive while 40% of providers who had 5 to 10 BS client per day and 74.1% of providers who had more than 10 BS clients per day were productive.

Table 12: Relationship between Clinic related factors and Providers' productivity

Clinic related factors	Providers' Productivity			p-value
	Productive n (%)	Unproductive n (%)	Total n (%)	
Location of clinics			n=(175)	.559
Urban	57 (41.9)	79 (58.1)	136 (100.0)	
Sub-urban	10 (35.7)	18 (64.3)	28 (100.0)	
Rural	6 (54.5)	5 (45.5)	11 (100.0)	
Clinic opening hours (per day)			n=(175)	<0.001
Up to 4 hours	2 (28.6)	5 (71.4)	7 (100.0)	
4-8 hours	28 (29.5)	67 (70.5)	95 (100.0)	
More than 8 hours	43 (58.9)	30 (41.1)	73 (100.0)	
Presence of separate room for IUD service			n=(175)	<0.001
Yes	65 (60.2)	43 (39.8)	108 (100.0)	
No	8 (11.9)	59 (88.1)	67 (100.0)	
Daily birth spacing client load			n=(175)	<0.001
Less than 5 BS clients	13 (27.1)	35 (72.9)	48 (100.0)	
5-10 BS clients	40 (40.0)	60 (60.0)	100 (100.0)	
More than 10 BS clients	20 (74.1)	7 (25.9)	27 (100.0)	

IUD service related factors

Confident level of providers on IUD service providing skill is also one of the associating factors with providers' service productivity (p-value≤0.001). It showed that the higher the confidence level was, the more productivity in IUD service there

was. 15.2% of providers who were somewhat confident were productive while 42.4% of providers who were more confident and 80.9% of providers who were very confident with their skill were productive.

Table 13: Relationship between Providers' confident level on IUD service and Providers' productivity

Providers' confident level on IUD service	Providers' Productivity			p-value
	Productive n (%)	Unproductive n (%)	Total n (%)	
Confident level			n=(175)	<0.001
Little confident	0 (0.0)	3 (100.0)	3 (100.0)	
Somewhat confident	10 (15.2)	56 (84.8)	66 (100.0)	
More confident	25 (42.4)	34 (57.6)	59 (100.0)	
Very confident	38 (80.9)	9 (19.1)	47 (100.0)	

Regarding to time taken for one client for IUD service, there was significant different between time taken for one client for IUD service and providers' IUD service productivity (p-value≤0.001). 55.4% of providers who took up to 30 minutes for one client for IUD service were productive and 26.5% of providers who took more than 30 minutes were productive.

There was significant different between the presence of referral network for birth spacing client referral and providers' productivity (p-value≤0.001). 59.3% of providers who had client referral network were productive while only 9.7% of providers who did not have referral network were productive.

There was also significant difference between the presence of clinic assistant for IUD service and providers' service productivity (p-value≤0.001). 55.9% of providers who had clinic assistant for IUD service provision were productive while only 4.2% of those providers who did not have any clinic assistant were productive.

Regarding to the presence of special event day for IUD service, it was significantly associated with providers' service productivity (p-value=0.006). 55.7%

of providers who arranged event day and provided IUD services were productive and 34.2% of providers who did not arrange special IUD event day were productive.

Table 14: Relationship between IUD service related factors and Providers' productivity

IUD service related factors	Providers' Productivity			p-value
	Productive n (%)	Unproductive n (%)	Total n (%)	
Time taken for one IUD client			n=(175)	<0.001
Up to 30 minutes	51 (55.4)	41 (44.6)	92 (100.0)	
More than 30 minutes	22 (26.5)	61 (73.5)	83 (100.0)	
Presence of BS client referral network			n=(175)	<0.001
Yes	67 (59.3)	46 (40.7)	113 (100.0)	
No	6 (9.7)	56 (90.3)	62 (100.0)	
Presence of clinic assistant for IUD service			n=(175)	<0.001
Yes	71 (55.9)	56 (44.1)	127 (100.0)	
No	2 (4.2)	46 (95.8)	48 (100.0)	
Presence of special event day for IUD service			n=(175)	<0.001
Yes	34 (55.7)	27 (44.3)	61 (100.0)	
No	39 (34.2)	75 (65.8)	114 (100.0)	

Training and SSV related factors

Year of attending training was not significant with p-value=0.710 and 44.8% of before 2008 trained and 44.1% of 2008 and after trained providers were productive.

There was significant difference between Refresher training attending or not and the providers' IUD service productivity (p-value≤0.001). 55.8% of the providers who had attended IUD refresher training were productive while only 28.1% of providers who did not attend any refresher training were productive.

Table 15: Relationship between IUD training related factors and Providers' productivity

IUD training related factors	Providers' Productivity			p-value
	Productive n (%)	Unproductive n (%)	Total n (%)	
Training batch			n=(175)	.710
Before 2008	13 (44.8)	16 (55.2)	29 (100.0)	
2008 and after	60 (44.1)	86 (58.9)	146 (100.0)	
Attending IUD refresher training			n=(175)	<0.001
Yes	48 (55.8)	38 (44.2)	86 (100.0)	
No	25 (28.1)	64 (71.9)	89 (100.0)	

Knowledge on IUD

There was no association of knowledge level of providers on IUD service and providers' productivity (p-value=0.056). 13.3% of providers who scored low, 43.0% of providers who scored medium and 47.8% of providers who scored high were productive.

Table 16: Relationship between Providers' knowledge on IUD and Providers' productivity

Providers' knowledge on IUD service	Providers' Productivity			p-value
	Productive n(%)	Unproductive n (%)	Total n (%)	
Level of Knowledge quiz score			n=(175)	.056
Low	2 (13.3)	13 (86.7)	15 (100.0)	
Medium	49 (43.0)	65 (57.0)	114 (100.0)	
High	22 (47.8)	24 (52.2)	46 (100.0)	

4.2 Results of the qualitative study

This cross sectional study was done with the objective to explore the factors association with IUD service productivity of SQH doctors in Myanmar and also to support the findings of quantitative research. In depth interviews with total, 9 SQH IUD providers were done.

The respondents were between the age of 27 to 57, 3 were male providers and the rest were female doctors. The locations of their clinics were from the different areas, 6 were from the urban areas, 2 were from suburban and one was from rural. All three categories such as high, medium and low performers were included for 3 each.

4.2.1 Providers' experiences of IUD service before joining PSI/Myanmar IUD program

Among 9 providers, only two High Performers had experiences of providing IUD service at their GP practice before joining PSI/Myanmar's IUD program. The rest seven providers did not have any experience of IUD insertion at their clinics before joining the program. During the interviews, the respondents addressed they were not competent and also confident to provide IUD to their clients and they also mentioned there was no client also interested in and asked for IUD as contraception. Therefore, they were also not interested in providing IUD service at their own clinics. The quote below illustrates respondent's reason on not providing IUD service at GP practice.

"Frankly, I haven't got any IUD training or practice during my medical school days. Not even providing IUD by me, I haven't seen such kind of insertion at that time."

-IDI with SQH IUD low performer (male, 54 years old doctor) from urban area

Those two providers who had experiences of providing IUD insertion mentioned that they used Copper T IUD at that time and both said not much clients they had at that time.

4.2.2 Reasons for joining IUD program and attending IUD training

All respondents said they attended the training because they would like to learn new clinical skills and update knowledge. They also mention they would like to expand available contraceptives at their clinics for their clients to have choices and also alternative for those clients who were not suitable with hormonal methods. Some providers from peri-urban and rural areas mention that as IUD is long term birth spacing method, it is economically suitable for those poor clients around their clinic. One of the providers said:

"I don't know how to insert IUD and so I want to be skillful and some women came and asked for IUD and so I attended the training for my clients."

-IDI with SQH IUD Medium Performer (female, 31 years old doctor) from suburban area

Apart from the reasons of want to be skillful and for their clients, some providers mentioned that they would like to participate in PSI/Myanmar programs as usual.

4.2.3 How training supports on IUD service

All providers accepted that their clinical skill for IUD insertion was increased after the training and they also could provide IUD service confidently and systematically. Providing products (Multiload 375 IUD) instruments and commodities supported them to provide IUD service at their clinics. They also addressed that infection prevention measures, one of the topic of IUD training was really useful not only for the IUD service but also for their daily practices. The quote below shows how the training supported for the provider to provide IUD service.

"We learned a lot during the training and also many practical practices with Zoe' Model and also with real client on the last day. So, I have confident to do IUD insertions. Instruments were also given and so I can give IUD service to my clients at my own clinic and I don't have to refer them to elsewhere."

-IDI with SQH IUD High Performer (female, 57 years old doctor) from suburban area

4.2.4 How SSV supports on IUD service

Supportive Supervision Visit (SSV) was a regular follow up activity for SQH IUD providers. During the visit, PSI/Myanmar Medical Officers helped and supervised IUD providers for the IUD service according to PSI/Myanmar IUD protocol. They supervised not only for the insertion procedures but also for other areas such as counseling, instrument processing, room preparation and record keeping. The providers had to recruited potential IUD clients on that day.

During the interview, all providers addressed that SSV is really effective for their IUD practice because under the coaching and guidance of SSV team, their skills were built up and improved, confidence level was also increased and they were also motivated. One of the providers mentioned that:

"After the training, I thought I was confident but later my confidence was reduced but with the support of the team, it came back. I also got many experiences with the team. Now I am fully confident with my skill. I can insert IUD now"

-IDI with SQH IUD Low Performer (male, 54 years old doctor) from urban area

Another provider also mentioned his experience with SSV team.

"It's my luck. During every SSV visit, my clients were difficult cases. So, we are sweating out to provide successfully. Whatever, I got a lot of good experiences and also some tips and so now I can insert IUD all cases."

-IDI with SQH IUD Low Performer (male, 57 years old doctor) from suburban area

"SSV visits were really support me. As there was a visit from team, I have to recruit and appoint the women for IUD insertion. So, I can build up my skill and confident with the guidance of the team. Without them, I cannot insert that much."

-IDI with SQH IUD High Performer (female, 57 years old doctor) from suburban area

4.2.5 Step by step process and procedures of IUD service

Researcher asked the interviewees to tell the process and procedure of IUD service step by step to access their memory and knowledge about the service. All of them had been stopped providing IUD service at their clinics since April 2012. Their responses were checked with PSI/Myanmar's Skill level checklist for IUD service for Provider whether there was any mistake or missing step of IUD service. The main topic of the process consists of

- Pre insertion counseling
- Pre insertion assessment
- Infection prevention measures
- IUD insertion procedures
- Post insertion counseling

All interviewees especially High Performers addressed the step by step process and procedures of IUD service correctly and also mentioned name of the disinfectants and instrument using during the procedure. Almost all providers especially High Performers recalled all the process and procedures in right sequence and step by step fluently. Two Low Performers and one Medium Performer could recall and tell the procedures and all steps but in some steps they told not in the right sequence and missed some steps. They recalled the missed steps later by themselves and also stopped and thought back the steps during the interview to continue. Moreover, they reconfirmed with the interviewer asked back to the interviewer like: *"Am I right? … Then, what? … What is the name of that instrument? ..., etc."*

4.2.6 Providers' perception on their client load or IUD service productivity

Providers were asked how many clients they provided IUD from January 2012 to March 2012 and explored why they provided such number of cases within these three months. The responses were different from group by group. Some responses of Low performers and Medium performers were similar. They mentioned there was no client and also it was because there was misconception in the community about IUD like it may cause ulcer, cancer and it will perforate out and even more women in the

community had no much knowledge about IUD. They also mentioned that this number of client load was as usual and it was OK with them. Some providers from urban areas complained the geographical difference of urban and rural as the reason of little client load. Although they mentioned this geographical difference as a factor, it is controversial because one of the High Performers was from urban area and one of the Medium Performers was from rural.

"Frankly, I am not so eager in this service. It is also difficult to search IUD clients nearby. I think the fact is my place is town and it is different from rural area, you know, you can get more clients in rural areas."

-IDI with SQH IUD Low Performer (male, 57 years old doctor) from suburban area

Two low performers openly addressed that they themselves were not so much interested in providing IUD service because they didn't have separate room for IUD insertion and they had to prepare their GP clinic examination room for IUD insertion if there was potential IUD client. They also tired of instrument processing as they don't have any assistant for that process. They also mentioned they were annoyed that some clients did not come as appointed for IUD insertion as the providers prepared all instrument and waited.

"There was no client and so no insertion. That's the point. If there was a client, I won't deny providing the service. I will do it. Sometimes, we prepare everything like instruments, we clean the room but they are not coming"

-IDI with SQH IUD Low Performer (male, 54 years old doctor) from urban area

"I don't have separate room for IUD insertion. I used my GP examination room as IUD room but it isn't OK. Moreover, I have to do all instrument processing by myself. It is tired."

-IDI with SQH IUD Low Performer (female, 56 years old doctor) from urban area

Above were responses from Low and Medium Performers. High Performers' perceptions on their high IUD productivity were that they had strong referral network like Sun Primary Health (SPH) workers (volunteer trained by PSI/Myanmar),

Interpersonal communicators (IPC) and other local Basic Health staffs (BHS). SPH workers were from the rural areas and they conducted health talk and demand generation awareness activities in their community and referred birth spacing clients to SQH IUD providers. IPC also conducted awareness campaign and referred clients from peri urban and urban areas to SQH clinics. Some high performers also went into the community to give Reproductive Health health talks. They also addressed peer's recommendations and peer's referral were also one of the reasons of high client load. The quotes below are from the High Performers. These quotes are from the providers.

"If one woman is OK with her IUD, the other women near her interested and come for IUD insertion. It's like words of mouth. I also go into the community and give health talk and then they are interested and they come to my clinic"

-IDI with SQH IUD High Performer (female, 57 years old doctor) from suburban area

"Most of my clients are referred from the nearby villages by SPH. Clients from the town are referred by their friends who had IUD. It's like peer's pressure."

-IDI with SQH IUD High Performer (female, 57 years old doctor) from urban area

4.2.7 Medium and Low Performers' comments and perceptions on High Performers

The researcher also explored the Medium and Low Performers how they perceived on High Performers' performance on IUD service. Their responses were categorized into three groups such as Provider, Client and Facility. For Provider, High Performers were highly motivated and interested in IUD services and they had good communication and counseling skills so they can get many potential IUD clients by informed choice counseling. For Clients side, Most of the IUD clients of High Performers were from rural areas, they listened to their doctors and also trusted on their doctors. For Facility side, High Performers had high birth spacing client load already and they had separate room for IUD insertion. They also had many referral clients from away areas like villages. All respondents denied gender of provider is an

issue. The quotes below illustrated the comments of Medium Performer and Low Performers on High Performers.

"As I say before, those high performer like Dr. ……has separate examination room for IUD insertion. He has good counseling skills and his clients also listen to his words. Those High Performers are more eager and energetic than me in IUD service provision."

-IDI with SQH IUD Low Performer (male, 57 years old doctor) from suburban area

"For my personal opinion, there is no gender difference of health care provider for clients. It is the trust issue. If they trusted their doctor, they will do whatever the doctor suggested for their health and they don't even care the cost."

-IDI with SQH IUD Medium Performer (female, 31 years old doctor) from suburban area

4.2.8 Difficulties and constraints during providing IUD service

Providers mentioned that they didn't have many difficulties and constraints during providing IUD services. Some providers memorized and recalled some cases were difficult to insert IUD like nulliparous women. Two Low Performers providers mentioned the facts that they didn't have separate room for IUD insertion and clinic assistant for instrument processing. One provider mentioned that some clients wanted to be inserted at their first visit time. But, provider could not provide the service during her GP clinic hour and also she had to do room preparation and instrument processing which took about an hour. There were some clients drop out for second time appointment and that made the provider annoyed. One provider addressed that she was a little bit upset when the clients did not change their misconception and misbelieves about IUD. Apart from this discussion points, there was no difficulties and constraints for IUD service provision by the providers. One of the providers explained the difficulty that:

"There is no difficult for me with technical and also with the program. I usually provide IUD insertion after 12 noon because I am busy with my other patients and

clients in the morning. So, I appointed the IUD client to come back in the afternoon and I prepare all the instruments and clean the room but sometimes, they are not coming back as appointed. Apart from that everything is OK."

-IDI with SQH IUD Medium Performer (female, 31 years old doctor) from suburban area

4.2.9 Providers' perception on clients' choice of IUD

During the interview, the researcher also investigated the providers' perceptions on the reasons of choice on IUD by their clients. Most of the clients choose IUD because it was long term contraceptive efficacy which lasted for 5 years. It is one of the non hormonal methods and so women who were afraid of hormonal side effects of other hormonal contraceptives such as weight gain, irregular bleeding pattern especially no regular bleeding chose IUD. Cost effectiveness is also one of the main reasons client chose IUD compare to other methods. Some women chose because they didn't have to come to the clinics regularly like for 3 month injection. Complete desired family size and no more children in near future for years are also the reasons for choosing IUD by the clients. Some providers also mentioned that some clients used IUD because of peer's recommendation. These are the words of providers' perceptions on why clients choose IUD.

"Most women can use it for 5 years without any concern. They don't have to come back to my clinic regularly like 3 month Depo. Another thing is most of my clients have many children. Some have 5 to 6 children and so they don't want any more. They are not affordable for sterilization, too. So, they choose IUD."

-IDI with SQH IUD Medium Performer (male, 27 years old doctor) from rural area

"They used IUD because it is effective for 5 years and also is very costly. Later they found out there is no side effect like weight gain, headache, and skin color change. So, they told their friends about that and other women come to my clinic for IUD."

-IDI with SQH IUD Medium Performer (female, 31 years old doctor) from suburban area

4.2.10 Providers' perceptions on clients' reasons for IUD removal

After exploring the reasons for choosing IUD by the clients, reasons for IUD removal by the clients were explored from the providers. According to the respondents, the reasons for IUD removal of their clients were to replace with new one after 5 years and to remove and to have a baby; these are from the clients who had no problem with IUD inserted. Some clients remove IUD because of intolerance on the side effects and heavy bleeding is the most complaint providers received and reason for removal. In that cases, providers assess the client whether the bleeding was interfere with client's health and daily living because most of the irregular bleeding subsided itself. Some women wanted to remove IUD because of afraid of the misconceptions like it can cause cancer and it will perforate into the womb and protrude out from the mouth. In some rare adverse event or complicated cases, client got IUD failure and got pregnancy. In that case, provider had to assess with ultrasound and remove IUD with ultrasound guidance. One of the reasons is refused by the husband but this kind of issue was few. The quotes below from one of the SQH IUD providers addressed the reasons of removal by the clients.

"Most of them removed because they wanted to have a baby. Some were because of the side effect; heavy bleeding – they could not tolerate it although I counseled them it will be OK later. Some also removed after 5 years and they were inserted new ones."

-IDI with SQH IUD High Performer (female, 54 years old doctor) from urban area

After the in depth interviews with nine SQH IUD providers of different productivity, it was concluded that SQH doctors joined IUD program to have new clinical skills and to provide one of the long term birth spacing methods for their clients. Both initial skill building IUD trainings, follow up SSV and refresher trainings were effective for them as they could improved not only the competency but also the confidence for IUD services. Most of the providers could recall and explain about step by step process and procedures of IUD service including counseling and infection prevention procedures correctly and completely although they had been stopped giving IUD service for nearly one year.

Presence of separate examination room for IUD services, presence of clinic assistant to help the providers during IUD services and presence of referral network to the providers for birth spacing clients were the main reasons of having IUD clients for SQH IUD clinics. Misconceptions and misbelieves about IUD in the community was also the barrier for the clients to use IUD. Providers responded that gender was not an issue for choosing IUD provider and trust on the provider was the main point for the client to have IUD service.

CHAPTER V

DISCUSSION, CONCLUSION and RECOMMENDATION

5.1 Discussion

The main objective of the study was to identify the factors (characteristics) associating with the service provision of SQH IUD providers and with the specific aim of developing better screening for recruiting providers and food for thought for the PSI/Myanmar Provider Behavior Change campaign in the future. The study was done in two parts; quantitative study with sample size of 175 providers was done with questionnaire interviews and qualitative study with was done by in-depth interviews with 9 SQH IUD providers who were 3 High Performers, 3 Medium Performers and 3 Low Performers.

After analysis of both parts of the study, there are findings which can point out the factors association with the IUD service provision of SQH IUD doctors. The discussion chapter was divided into five parts.

5.1.1 Socio-demographic characteristics

According to the study, providers' age and gender difference were not associated with providers' IUD services productivity. This findings was not consistent with the findings of Gupta, S. and Miller, J. E. (2000), Females GPs fitted more for IUD service than male GPs and young GPs (<40 years of age) and recent graduates (<10 years of work experience) were the most knowledgeable. Average mean age of the providers in this study was 49.79 years with the standard deviation of 9.796 and more than 70% of the respondents in this study were over 45 years of age. Their IUD service productivity were also not significant with their ages.

For gender issue, 46.43% of the respondents were female doctors and 56.57% were male doctors. Gender difference was not also associated with providers' productivity of IUD service provision. During the in-depth interview, some providers also mentioned that gender will be influence on the providers' productivity or their client load. Also one provider mentioned gender of provider was not the factor associated with client load. Moreover, out of the total number of 68 High Performers,

32 High Performers (47.05%) were male doctors and the rest 36 (52.95%) were female doctors. This may be due to clients' belief and trust were based on the providers whether the provider was same gender or not and all providers were medical doctors.

Monthly income of the provider and source of income were associated with providers' service productivity. Questions related to income were sensitive to discuss with the providers. Therefore not all providers responded to this question and only 137 doctors responded. The association may be due to the spillover effects of the providers' performance. The findings showed the higher the income, the more productivity of IUD service. Productive providers will provide more IUD services and he or she would also had high client loads in other health area, general practice. This was also not consistent with PSI/Cambodia's 2009 qualitative study of "IUD provision in Cambodia: provider productivity study" in which mentioned source of income was not influence on low or high IUD insertion.

5.1.2 Clinic related factors

The location of the clinics whether it was located in urban or suburban or rural was not associated with the providers' productivity on IUD service. During the in-depth interview, some respondents mentioned they did not have much client because their clinic was situated in urban areas and they thought there would be more IUD clients in rural areas. But according to the quantitative findings, location of the clinic was not associated with client load and providers' productivity. Also one of the High Performer from urban area and one of the Medium Performers was from rural areas during the in-depth interview.

Clinic opening hours were significant with providers' service productivity which showed that the longer the clinic operated, the more clients would come and the more IUD services would be provided. Providers' productivity was lowest at clinic opening hour for up to 4 hours (28.6%), then 29.5% of providers who operated for 4 to 8 hours were productive and the highest 58.9% of providers who operated more than 8 hours daily were productive.

Present of separate examination room was not only important for the clients for the privacy during IUD service but also associated with providers' service productivity. 60.2% of the providers who had separate room for IUD service were productive while 11.9% of providers who did not have separate room were productive. Two Low Performers also mentioned in the in-depth interview that without separate rooms was one of the factor they were not interested in IUD service because they had to prepare their general examination room for IUD clients before insertion. Some of the clients did not come as appointed and so the providers were upset.

Although general client load was not significantly associated with the providers' service productivity, birth spacing client load was associated with IUD service productivity. It was also found during the qualitative study, some providers mentioned that they have many birth spacing clients and therefore they joined IUD service for their clients. 27.1% of providers who had less than 5 daily BS clients load were productive while 40% of providers who had 5 to 10 BS client per day and 74.1% of providers who had more than 10 BS clients per day were productive.

5.1.3 IUD service related factors

Confident level of providers on IUD service providing skill was associated with providers' service productivity. Also in one of the international studies, Level of confident was one of the determinants that correlate to high or low IUD clients (IUD provision in Cambodia: provider productivity study by PSI/Cambodia). Therefore the study findings were consistent with this study finding. Also in the qualitative study, one of the High performer mentioned she was fully confident with her clinical skill on IUD service provision. 15.2% of providers who were somewhat confident were productive while 42.4% of providers who were more confident and 80.9% of providers who were very confident with their skill were productive.

Time taken for IUD service for one client was also one of the associated factors with providers' productivity. 55.4% of providers who took up to 30 minutes for one client for IUD service were productive and 26.5% of providers who took more than 30 minutes were productive. This finding also correlate with Hajii, N. and

Laksisir, A. 1996's finding of "Time factor and procedures for IUD insertion is also influence on the provider's behavior". They also mentioned that time required for IUD insertion made it less attractive to providers.

Another important finding was that the presence of Birth spacing client referral network was associated with providers' service productivity. 59.3% of providers who had client referral network were productive while only 9.7% of providers who did not have referral network were productive. All High Performers in in-depth interview mentioned that they got such high numbers of IUD client load because there were referral networks which referred many potential IUD clients to them.

Another important finding was the presence of clinic assistant for IUD service at the clinic. It was significantly associated with providers' productivity on IUD service. 55.9% of providers who had clinic assistant for IUD service provision were productive while only 4.2% of those providers who did not have any clinic assistant were productive. Number of helpers in the clinic was one of the determinants that correlate to high and low IUD clients. The finding was also consistent with qualitative findings. Two Low Performers mentioned in the in-depth interview that absent of clinic assistant for IUD service made them less interested in this service. They had to prepare the instrument and prepare the examination room for infection prevention by themselves. Those clinic assistants helped and supported the providers during instrument processing, examination room preparation, record keeping and even assisting the providers during IUD insertion.

Arranging special event day and providing IUD service for IUD was also one of the factors influenced on providers' service productivity. 55.7% of providers who arranged event day and provided IUD services were productive and 34.2% of providers who did not arrange special IUD event day were productive. Some providers set and arranged specific day like Sunday for IUD insertion and they first appointed the potential clients and they prepared the instrument and examination room for ready. By that way, they could provide IUD service to many women during a single day and also not related with routine GP practice.

5.1.4 Training and SSV visit relate factors

Training batch or year was significant in the findings that providers trained in year 2007, 2008 and 2009 were more productive in IUD service than other year trained providers. Attending refresher training also associated with providers' service productivity. 55.8% of the providers who had attended IUD refresher training were productive while only 28.1% of providers who did not attend any refresher training were productive. During the qualitative in-depth interview, one of the providers mentioned that he was trained before 2008 and he was not much productive and after attending refresher training, he was confident enough to provide IUD service again.

According to the study by Agha at el. (2011), clinical training was not have a consistent positive effect on lowering barriers to IUD recommendation and non training interventions should be designed to lower these barriers. Supportive supervision visit is one of the interventions to build up providers' competence and confidence on IUD service providing skill. Providers during in-depth interviews mentioned how SSV visits support on their IUD service. They mention that SSV is really effective for their IUD practice because under the coaching and guidance of SSV team, their skills were built up and improved, confidence level was also increased and they were also motivated.

5.1.5 Providers' knowledge on IUD

As most of the IUD providers had be stopped their IUD service according to the new policy, their knowledge on IUD had been assessed by true false quiz which related to IUD service including counseling, mechanism of usage, indications, contraindications, side effects and infection prevention. Although there is no association of knowledge level and providers' productivity, it can be assumed that SQH IUD service providers were in touch with the knowledge of IUD service. 14.3% of providers who scores 10 points, 34.2% of providers who score 11 points, 38.5% of providers who score 12 points, 57.9% of providers who score 13 points, 46.7% of providers who scored 14 points and 46.7% of providers who scored 15 points were productive.

Their knowledge on IUD service was detailed assessed during the in-depth interview and all respondents addressed the step by step process and procedures of IUD service including counseling, instrument processing, examination, insertion and post insertion counseling. Only two Low Performer providers missed some steps and name of the some instruments but later they recalled the missing points during the in-depth interview.

5.2 Conclusion

This study was done with Sun Quality Health doctors who are private general practitioners in Myanmar. The objective of the research study was to find out the factors association with IUD service productivity of Sun Quality Health Doctors in Myanmar. The study was cross sectional descriptive analytical study which used both quantitative and qualitative method approaches. There were limited studies on provider side and many studies mainly focus on client side.

This study was to find out the factors influencing or association with the health care providers' service providing behaviors. Findings of this study included that socio demographic factors of providers such as source of income was associated with providers' service productivity and age, gender and having other specialties apart from M.B.,B,S. were not significant with providers' IUD productivity or client load. There were not much difference number of High performers in both male and female doctors. Monthly income of provider and source of income were associated with the productivity.

Clinic location whether the clinic was located in urban or suburban or rural areas was not also related with the productivity of IUD providers. Moreover, general client load was also not significant for providers' IUD client load high or low. The significant associated factors related to providers' productivity were clinic opening hour (more than 8 hours per day) and presence of separate examination room for IUD service provision. Absent of separate examination room for IUD service made the provider overwork and later making less motivated the provider on IUD service.

Also time taken for one client to provide IUD service was related to IUD client load high or low. To support this factor clinic assistant which was also another important association factor was needed. These both factors were correlated with providers' service productivity. Those providers who did not have clinic assistant had to do all the process for IUD service including infection prevention measures such as instrument processing, examination room preparation. This process and procedures made the provider overwork and providers became less interested in IUD service.

Another important relating factor for providers' productivity or IUD client load high or low is the presence of referral network for birth spacing client including potential IUD clients. This factor was not only statically significant but also found out important by qualitative study. Almost all providers mentioned that referral network is one of the main reasons of increase IUD client load. They also mentioned clients are more relied and listened to their peer's recommendation. Special event day for IUD service provision was also associated with providers' service productivity and also a good one for both providers and clients.

Training, refresher trainings were also significantly associated with providers' productivity. They could build up the skill competency and confidence of health care provider especially for the clinical practice like IUD insertion. Confidence level of providers was also associated with the productivity of the providers and it was important to increase the level. Supportive supervision visit was needed and effective for improving the providers' skills and confidents. Moreover, according to this qualitative part of this study, clients still have misconception and misbelieve on IUD and those needed to be corrected.

There were many constraints during the data collection process. Bad weather condition made barrier for the researcher to reach to the clinics in the planned time frame. Good relation between the interviewers and interviewees had both advantages and disadvantages. Advantage was that interviewees already had rapport on the interviewer and so they could be asked and answered openly. Disadvantage was that there were possibilities of responding only good points during the interviews because

of the presence of good relationship. In that case, quantitative questionnaire interview question were not included only the facts and not about the opinions on the program.

5.3 Recommendation

There are two parts in the recommendation section. One is recommendation to apply the findings of this study and another part is to do further study to find out more on health care providers' behavior.

Findings of the study can be applied in recruiting new IUD providers or other health care providers in future. According to the study, age, gender, other specialization of the provider is not significant. Also location of the clinic, urban, suburban or rural was not also associated.

Clinic opened more than more than 8 hours per day, with separate examination room for clinical service and provider with high birth spacing client load are association factors and need to be considered for the new recruitment for IUD service provider. As a part of the future program plan, clinic renovation for separate examination for IUD service at Sun clinic should be supported according to the budget availability.

Client referral network should also be established to increase community awareness on IUD and this can increase IUD usage and decrease unmet need for contraception. Volunteers should be trained to conduct health talk about birth spacing and refer those women who are interested in long term method to SQH IUD clinic. Those volunteer can not only conduct demand creation activity but also correct the misconception about IUD in the community. Some client should also be trained as volunteer because peer's words and recommendation are effective in health education.

Refresher training should be conducted more for more providers who were not attended and supportive supervision visits should be continued not only to the new comers but also to the Low Performers to be motivated and rebuild up their competence and confidence.

Moreover, communication campaign to correct the misconceptions and misbelieves on IUD by the community and awareness increasing campaigns for availability of IUD services should be done through mass medias.

For further study and research, it is recommended to do more research and study on providers' behavior. The study should be done to find out other factors influence on providers' behavior on certain clinical practice and productivity. This study cannot be done to find out the factors influence on providers' incentive and benefit on providing such clinical process and procedure which require time and resources. Therefore, in future, study should be done to find out what kind of incentive and benefits are attractive for the providers to perform such kind of clinical practices.

From this study, the researcher find out only the providers' perception on client choice on IUD and their reasons for removal. This was not enough to fully understand on the clients' reasons of choice and using IUD as birth spacing method. Therefore it is recommended to do the study on clients' side of view on using IUD because there are many misconception and limitation in the community on this effective, reversible long term birth spacing method. Studies such as factors preventing the clients to choose IUD as birth spacing method, factors influencing the clients' choice of IUD as birth spacing and client's satisfaction survey of IUD service or other clinical services should be done in future.

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APPENDICES

Appendix A

Questionnaire

Topic: **Factors association with IUD service productivity of Sun Quality Health Doctors in Myanmar**

Identification No. _____ Interviewer_____

Instruction: Please check Â (right mark) in the box as appropriate or fill the answer in the blanks.

Socio-demographic factors

1. How old are you now?

_____ years

2. Gender

Male ☐ Female ☐

3. Do you have any specialization?

Yes ☐ No ☐

If yes please specify,_____

4. Monthly Income

_____ kyats

5. Source of income

From GP only ☐ Other ☐

Clinic related factors

6. Where is your clinic situated?

Urban ☐ Suburban ☐ Rural ☐

7. What is your clinic opening hour?

From _____ to _____

From _____ to _____

8. Does your clinic have specific examination room for IUD services?

Yes ☐ No ☐

The interviewer has to check whether the examination room has certain level of privacy. (At least there is a curtain and so no one can see inside the room from outside). Please note down the situation below.

……
……
……
…….

9. What is your daily general client load (Birth spacing client not included)?

_____

10. What is your daily birth spacing client load?

_____

IUD service related factors

11. If you have to do IUD insertion now, how much confident do you have to perform?

(a) Totally not confident ☐

(b) Little confident (with skilled supervisor) ☐

(c) Somewhat confident (with assistant) ☐

(d) More confident ☐

(e) Very confident ☐

12. How long does it take to give IUD service for one client (including counseling, instrument processing, examination and insertion)?

_____ minutes

Please note the specific answer below.

……
……
……
……
…….

13. Have you or your assistant ever do counseling to all client before giving IUD service?

Yes ☐ No ☐

14. If yes, please do a regular counseling. The interviewer has to check whether below topics are included or not.

- Various birth spacing methods ☐
- Advantages and disadvantages of each method ☐
- Informed choice ☐
- Effectiveness of IUD ☐
- Side effect of IUD ☐

15. Have you ever found any side effect cases among your client?

Yes ☐ No ☐

If yes, Please specify what cases? (Bleeding, Cramps)

……
……
……

16. Have you ever found any complication or adverse events among your client?

Yes ☐ No ☐

If yes, Please specify what cases? (Failure, missed string, perforation)

……
……
……1

17. Is there any referral network for birth spacing client to your clinic?

Yes ☐ No ☐

If yes, please specify:

……
……
……

18. Do you have any clinic assistant to help you for IUD service?

Yes ☐ No ☐

If yes, how many? _____

If more than one assistant, what are their individual assignment? Please note the answer below.

……
……
……
……

19. Is there any special time for IUD service (e.g. IUD special event day)?

Yes ☐ No ☐

If yes, please specify the event. Please note the answer below.

Training and Supportive supervision visit related factors

20. When did you attend the IUD skill building training from PSI/Myanmar?

Year 20_____

21. Have you ever attend any IUD refresher training from PSI/Myanmar?

Yes ☐ No ☐

If yes, how many times? _____ times

22. How many Supportive supervision visit (SSV) did you have before passing the QA assessment?

_____ vists

23. How many number of IUD insertion in each SSV?

1. _____ clients
2. _____ clients
3. _____ clients
4. _____ clients
5. _____ clients

24. Give the quiz sheet to the interviewee to answer those quizes at the presence of the interviewer. After that check with the quiz key later and record the score below.

Score for MCQs _____

25. How many number of IUD client did you have from January 2012 to March 2012?

_____ clients

Appendix B

In-depth interview questionnaire

Topic: **Factors association with IUD service productivity of Sun Quality Health Doctors in Myanmar**

Identification No. _____ Interviewer _____

Instruction: Record the interview with MP3 player or recorder.

1. Do you have any previous experience with IUD service before joining PSI/Myanmar IUD program? If you have any, please tell me more about it?

2. What are the reasons for providing IUD services as a SQH doctors?

3. Please tell me how did the training support you for your IUD service?

4. Please tell me how did SSV support you for your IUD service?

5. Could you tell me the complete steps of IUD service for one woman?

6. How many IUD insertions do you provide in previous three months? If there is no IUD client within past 3 months, go to Question No.

7. How did you get such a number of clients within past 3 months?

8. What is your opinion why the women chose IUD as a method of choice?

9. What difficulties do you have during providing IUD service and how do you solve them?

10. What recommendation would you like to give for IUD program?

11. Would you like to add more for the interview?

12. (From Question No. 6) what is your opinion for not having any IUD client within past 3 months?

13. Did you have any difficulties or problems for providing IUD services? If you have any please explain me.

14. What kind of supports would you like to have for IUD services from PSI/Myanmar?

15. What recommendation would you like to give for IUD program?

16. Would you like to add more for the interview?

Appendix C

IUD Quiz for Knowledge of IUD

Identification No. _____ Interviewer _____

Instructions: Tick ✔ in ☐ to response True or False to each question.

1. For a woman in good health, a contraceptive method is best selected by the woman's husband.

   True ☐ False ☐

2. The most important part of counseling is providing brochures about contraceptive methods to the woman for review with her partner

   True ☐ False ☐

3. Method specific counseling should inform the woman of common side effects of IUD use such as increased menstrual bleeding and cramping for first few months, possible spotting/light bleeding between periods, cramping/spotting for first few days.

   True ☐ False ☐

4. After IUD insertion, a woman must be advised to return to the clinic for her first routine follow up after 5 months.

   True ☐ False ☐

5. IUD is a preferred method for a woman who is high risk for sexually transmitted infections.

   True ☐ False ☐

6. IUD can be inserted without any restriction if a woman is on breast feeding.

   True ☐ False ☐

7. Hypertension is a condition requiring further evaluation before inserting IUD.

   True ☐ False ☐

8. Screening a potential IUD client should include pregnancy assessment by using pregnancy checklist questionnaires.

   True ☐ False ☐

9. Other than sterilization, the **only** acceptable alternative method for processing instruments used for IUD insertion and removal is high-level disinfection by boiling or soaking for 20 minutes in povidone iodine solution (e.g., Betadine).

   True ☐ False ☐

10. Povidone iodine can be safely used for cervical or vaginal preparation.

    True ☐ False ☐

11. IUD can be safely inserted any time during the menstrual cycle, provided the woman is not pregnant.

    True ☐ False ☐

12. One of the reasons for removing the IUD includes if the woman wants to get pregnant.

    True ☐ False ☐

13. The Multiload copper 375 should be removed /replaced in 5 years.

    True ☐ False ☐

14. A woman who has used IUD for 2 months has had irregular bleeding during this time. She asks you what to do. The best advice for you to give her is to have the IUD removed to stop the bleeding.

    True ☐ False ☐

15. The IUD may never be used in women who are HIV-infected.

True ☐ False ☐

APPENDIX D

Ethical Approval

AF 02-12

The Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University
Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand,
Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th

COA No. 075/2013

Certificate of Approval

Study Title No.013.1/56 : **FACTORS ASSOCIATION WITH IUD SERVICE PRODUCTIVITY OF SUN QUALITY HEALTH DOCTORS IN MYANMAR**

Principal Investigator : DR.HTOO AUNG CHO

Place of Proposed Study/Institution : College of Public Health Sciences, Chulalongkorn University

The Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University, Thailand, has approved constituted in accordance with the International Conference on Harmonization – Good Clinical Practice (ICH-GCP) and/or Code of Conduct in Animal Use of NRCT version 2000.

Signature: Prida Tasanapradit Signature: Nuntaree Chaichanawongsaroj

(Associate Professor Prida Tasanapradit, M.D.) Chairman

(Assistant Professor Dr. Nuntaree Chaichanawongsaroj) Secretary

Date of Approval : 18 April 2013 Approval Expire date : 17 April 2014

The approval documents including

1) Research proposal
2) Patient/Participant Information Sheet and Informed Consent Form
3) Researcher
4) Questionnaires

Protocol No. 013.1/56
Date of Approval 18 APR 2013
Approval Expire Date 17 APR 2014

The approved investigator must comply with the following conditions:

1. *The research/project activities must end on the approval expired date of the Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University (ECCU). In case the research/project is unable to complete within that date, the project extension can be applied one month prior to the ECCU approval expired date.*
2. *Strictly conduct the research/project activities as written in the proposal.*
3. *Using only the documents that bearing the ECCU's seal of approval with the subjects/volunteers (including subject information sheet, consent form, invitation letter for project/research participation (if available).*
4. *Report to the ECCU for any serious adverse events within 5 working days*
5. *Report to the ECCU for any change of the research/project activities prior to conduct the activities.*
6. *Final report (AF 03-12) and abstract is required for a one year (or less) research/project and report within 30 days after the completion of the research/project. For thesis, abstract is required and report within 30 days after the completion of the research/project.*
7. *Annual progress report is needed for a two- year (or more) research/project and submit the progress report before the expire date of certificate. After the completion of the research/project processes as No. 6.*

APPENDIX E

Participant Information Sheet

AF 04-07 (Eng)

Form of
Patient/ Participant Information Sheet

Title of research project - *Factors association with IUD service productivity of Sun Quality Health Doctors in Myanmar*

Principle researcher's name - Dr. Htoo Aung Cho **Position** - Master of Public Health student

Office address - College of Public Health Sciences, Chulalongkorn University

Home address – G-15, Aye Tharyar Street, F.M.I City, Hlaing Tharyar township, Yangon, Myanmar

Telephone (office) ..... **Telephone (home)** .....

Cell phone – 00 959 5165251 **E-mail:** htooaungcho@gmail.com

1. You are being invited to take part in a research project. Before you decide to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and do not hesitate to ask if anything is unclear or if you would like more information.
2. This research project involves finding of "Factors association with IUD service productivity of Sun Quality Health doctors in Myanmar"
3. Objective (s) of the project.

- The objective is to find out the factors association with IUD service productivity of Sun Quality Health doctors from Myanmar.

4. Details of participant.
   - Sun Quality Health network doctors who were trained as IUD providers and who were in active providers list of PSI/Myanmar in January to March 2012. They are the doctors who want to give not only verbal consent but also written consent and willing to participate in the study and those who are on leave which means not present at the clinic at the moment of interview will be excluded.
   - Number of participants needed should not be less than 175 participants.
   - The participants will be selected by systemic stratified sampling. There are three categories of provider based on their performance such as high performer, medium performer and low performer (PSI/Myanmar operation protocol). Participants will be selected from each category and face to face interviewed using questionnaires will be done by trained interviewer (medical doctors) at their own clinics.
   - From those participants nine doctors (3 high, 3 medium and 3 low performers) will be selected for in depth interview using criterion based sampling and done one to one in depth interview for qualitative study.
5. You will be informed and explain the aim and objectives of the study and also the nature of the questionnaire using during the interview. *The interview will be done at your own clinic or house at appropriate time (e.g. clinic closing hour).* You have the right to remain silent on the question. Your answers will be noted down in the questionnaire and also be recorded with mp3 recorder. Your name will not be recorded and those information and data will be kept confidentially. All the records including questionnaires and mp3 files will be destroyed and deleted after the study.
6. Process of providing information

Protocol No. 013.1 /56
Date of Approval 18 APR 2013
Approval Expire Date 17 APR 2014

* Italic is the explanation, do not state in the document.

Revised on 23 May 2011

6.1 The interviewer will explain you detail about the study and also the process of interview. You can ask any question you would like to know or to clarify anything about the study.

6.2 If you decide to participate in the study and accept to answer the interview, you have to sign on consent form. You also have to read the consent form thoroughly before signing and you can ask to interviewer to clarify anything about the consent form.

6.3 If you decide to participate in the study, you have to answer the question and discuss with the interviewer. The interview with questionnaire will take about 15 minutes and the in-depth interview will take about 45 minutes.

7. *You will not be harm by participation in this study apart from giving your personal time for the interview*. Participation in this study is voluntary and you have the right to refuse or withdraw from it at anytime.
8. You can stop or refuse to response the question or skip the question at any time throughout the interview if you feel uncomfortable or inconvenient for this interview.
9. There is no incentive or gift for participation in this research study.
10. This research study will be submitted to College of Public Health Sciences, Chulalongkorn University for Master degree of Public Health. Result of the study will be reported as a total picture. Findings and results will be applied in future PSI/Myanmar's Provider Behavior Change activities.
11. In case you have any inquiry for the research study or further information, please contact the researcher at any time. The researcher's mobile phone number and email address will be provided through the interviewer for further contact.
12. If you find out that the interviewer does not perform upon participants as indicated in the information, the participants can report the incident to the Ethics Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4th Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand. Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th.

Protocol No. 013.1 / 56

Date of Approval 18 APR 2013

Approval Expire Date 17 APR 2014

APPENDIX F

Informed Consent Form

AF 05-07 (Eng)

Form of
Informed Consent Form

Address .....
Date .....

Code number of participant .....

I who have signed here below agree to participate in this research project

Title "Factors association with IUD service productivity of Sun Quality Health doctors in Myanmar"

Principle researcher's name – Dr. Htoo Aung Cho

Contact address – G-15, Aye Tharyar Street, F.M.I City, Hlaing Tharyar township, Yangon

Mobile phone – 09 5165251

I have **(read or been informed)** about rationale and objective(s) of the project, what I will be engaged with in details of this project. The researcher has explained to me and I **clearly understand with satisfaction.**

I willingly **agree** to participate in this project and consent the researcher to response the questions using the questionnaire during the interview and in-depth interview.

I have **the right** to withdraw from this research project at any time as I wish with no need to **give any reason**. This withdrawal **will not have any negative impact upon me.**

Researcher has guaranteed that procedure(s) acted upon me would be exactly the same as indicated in the information. Any of my personal information will be **kept confidential.** Results of the study will be reported as total picture.

If I am not treated as indicated in the information sheet, I can report to the Ethics Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th,

I also have received a copy of information sheet and informed consent form

Sign .....
(.....)
Researcher

Sign .....
(.....)
Participant

Sign .....
(.....)
Witness

Protocol No. 013.1/56
Date of Approval 18 APR 2013
Approval Expire Date 17 APR 2014

* Italic is the explanation, do not state in the document.

Revised on 23 May 2011

VITAE

Name:	Mr. HTOO AUNG CHO
Date of Birth:	18th May 1981
Place of Birth:	Yangon, Myanmar
Educational Achievement:	M.B.,B.S. (2006) University of Medicine (1), Yangon
Work Experience:	Franchising Officer, PSI/Myanmar Senior Health Services Officer, PSI/Myanmar Provider Behavior Change Manager, PSI/Myanmar
Current Position and office:	Senior Health Services Manager, PSI/Myanmar