PUBLIC AND PRIVATE PROVISION OF ORAL CONTRACEPTIVES AND USER SATISFACTIONS: EVIDENCE FROM THE KANCHANABURI DEMOGRAPHIC SURVEILLANCE SYSTEM, THAILAND

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PUBLIC AND PRIVATE PROVISION OF ORAL CONTRACEPTIVES AND USER SATISFACTIONS: EVIDENCE FROM THE KANCHANABURI DEMOGRAPHIC SURVEILLANCE SYSTEM, THAILAND

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ABSTRACT

This study aimed to identify the factors that affect women who use public and private oral contraceptive services. It also explored pill users' satisfaction with the services, particularly in the case of the Universal Coverage Scheme in the public sector, in the Kanchanaburi Demographic Surveillance System (DSS). Quantitative secondary data, from the Kanchanaburi DSS in 2004 (round 5) were used. The target population was married women of reproductive age who obtained oral contraceptives during their last utilization of family planning services. Logistic regression analyses were employed in order to examine factors affecting their choice of an oral contraceptive provider.

Findings from 1,234 married women revealed that more than half of them used private family planning services. Thai women who were working in the business sector and who had less than a secondary school level of education, who also belonged to a higher wealth index, were more likely to obtain oral contraceptives from private providers as compared to their counterparts. The price of the pills was the factor that had the strongest relationship with obtaining oral contraception from private providers, followed by the numbers of drugstores in the community. Almost all of the pill users were satisfied with the services provided by both public and private providers. However, a very small proportion of women were not satisfied with the services, mainly due to poor service and long waiting times. Almost the same proportion was dissatisfied with the services due to the low quality of medicine and poor treatment. Of the 121 pill users who were covered by the 30-baht card under the Universal Coverage Scheme in public sector, most were satisfied with the services they received from health providers and also the quality of medicine.

Policies should be concerned with public-private partnerships in order to provide more accessibility and availability, especially to those who are in the greatest need of subsidized family services from the government. In addition, the government should focus on the quality of care and the quality of medicine provided by both the public and private sectors.

KEY WORDS: ORAL CONTRACEPTIVES / PUBLIC AND PRIVATE PROVISION / CHOICE OF PILL SERVICE PROVIDER/ USER SATISFACTION/ FAMILY PLANNING/ SOURCE/ KANCHANABURI

50 pp.

การเลือกใช้บริการยาเม็ดคุมกำเนิด และความพึงพอใจของผู้รับบริการทั้งภาครัฐและเอกชน : การศึกษาสตรีวัยเจริญพันธุ์ในพื้นที่เฝ้าระวังทางประชากรจังหวัดกาญจนบุรี ประเทศไทย
(PUBLIC AND PRIVATE PROVISION OF ORAL CONTRACEPTIVES AND USER SATISFACTIONS: EVIDENTCE FROM THE KANCHANABURI DEMOGRAPHIC SURVEILLANCE SYSTEM, THAILAND)

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บทคัดย่อ

การศึกษานี้ มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่ผู้หญิงมีความแตกต่างในการเลือกรับยาเม็ดคุมกำเนิดเพื่อการวางแผนครอบครัวในภาครัฐและเอกชน รวมทั้งประเมินความพึงพอใจของผู้ใช้ยาเม็ดคุมกำเนิด นอกจากนี้ยังได้ศึกษาระดับความพึงพอใจของผู้ใช้บริการสุขภาพถ้วนหน้าในภาครัฐ จากการศึกษากลุ่มตัวอย่าง ผู้ใช้ยาเม็ดคุมกำเนิดในกลุ่มหญิงแต่งงานแล้ววัยเจริญพันธุ์ (15-49 ปี) จำนวน 1,234 คน ในพื้นที่เฝ้าระวังทางประชากรจังหวัดกาญจนบุรี พ.ศ. 2547 ได้ใช้ การวิเคราะห์ความถดถอยโลจิสติคเพื่อหาปัจจัยที่มีผลต่อการเลือกใช้บริการวางแผนครอบครัวในกรณียาเม็ดคุมกำเนิด ผลการศึกษาพบว่า มากกว่าครึ่งของผู้ใช้ยาเม็ดคุมกำเนิดเลือกรับบริการวางแผนครอบครัวที่ภาคเอกชน ซึ่งหญิงไทยเหล่านี้ ส่วนใหญ่มีฐานะทางเศรษฐกิจดี, อายุน้อย, ประกอบอาชีพภาคธุรกิจ, มีการศึกษาอย่างมากระดับมัธยมศึกษา และ มีที่อยู่ในเขตเมือง ปัจจัยสำคัญที่สุดในการเลือกใช้บริการวางแผนครอบครัวกรณียาเม็ดคุมกำเนิดคือค่าบริการยาเม็ดคุมกำเนิด และจำนวนร้านขายยาในชุมชน เป็นปัจจัยที่อธิบายการเลือกใช้บริการในภาครัฐและเอกชนของผู้ใช้ยาเม็ดคุมกำเนิด จากการรับบริการวางแผนครอบครัวครั้งสุดท้ายไม่ว่าจากภาครัฐหรือเอกชน พบว่า เกือบทั้งหมดของผู้ตอบแบบสอบถามให้ข้อมูลถึงความพึงพอใจต่อการเข้ารับบริการเพื่อได้ยาเม็ดคุมกำเนิดมาใช้ ในกรณีผู้รับบริการวางแผนครอบครัวซึ่งใช้สิทธิบัตรประกันสุขภาพถ้วนหน้าภาครัฐ ซึ่งเป็น ผู้ใช้ยาเม็ดคุมกำเนิดจำนวน 121 คน ส่วนใหญ่พึงพอใจในบริการของบุคลากรทางการแพทย์ และ คุณภาพยา ข้อเสนอแนะจากการศึกษาครั้งนี้ คือ การเพิ่มประสิทธิภาพและประสิทธิผลของการวางแผนครอบครัวในภาพรวม โดยการสร้างความร่วมมือกับภาคเอกชน เพื่อให้ภาครัฐสามารถลดงบประมาณในการให้บริการคุมกำเนิดแก่ผู้ที่มีความต้องการและเข้าไม่ถึงยาเม็ดคุมกำเนิด เพื่อขยายกลุ่มเป้าหมายโดยเฉพาะการขยายโอกาสไปยังกลุ่มวัยรุ่นที่ยังไม่ได้แต่งงานให้มากขึ้น และเพื่อให้เกิดประสิทธิผลสูงสุดในการเลือกใช้บริการวางแผนครอบครัวตามความต้องการของหญิงไทย

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CHAPTER I
INTRODUCTION

1.1 Justification and Background

Since 1970, when the government declared its population policy, a family planning program has been implemented in Thailand with the aim to reduce the population growth rate. According to the Evaluation of Health Promotion in the 8th NESDP, contraceptive prevalence rate (CPR) was as high as 79 percent in 2001, population growth rate was less than 1 in 2003, and Total Fertility Rate (TFR) was less than replacement level (1.7 in 2003). This indicates Thailand has met with considerable success in family planning. Consequently, a substantial decline has been noted in all demographic indicators including the TFR from 6.3 in 1967 to 1.5 in 2008, population growth rate from 3.3 percent in 1970 to 0.8 percent in 2003 (IPSR, 2008; MoPH, 2003; WHO, 2004). Moreover, CPR increased from 14 percent in 1970 to 81 percent in 2005 (MoPH, 2005).

The Thai government has provided oral contraceptives free of charge and coordinated its efforts with five NGOs, namely the Planned Parenthood Association of Thailand (PPAT), the Princess Mother Population Council, the International Planned Parenthood Federation (IPPF), the Program for Appropriate Technology in Health (PATH), and the Population and Community Development Association (PDA) (Kiatying-Angsulee et al. 2003). Additionally, the private sector has facilitated the government in providing contraceptives to eligible couples at lower cost and at greater accessibility. In its strategic objectives, the government has involved a range of health service providers from doctors to midwives for implementing its program activities. This could help to enhance its coverage of services to include the district and community levels (WHO, 2004). The Kanchanaburi DSS (2004) data also show that the pill was the second most preferred choice among women. The Kanchanaburi DSS (2004) report shows that female sterilization was 28 percent followed by oral and injectable contraceptives which were 24 percent and 19 percent, respectively.

The pill has been familiar to Thai women since 1975 (Knodel and Debavalya, 1978). One decade after implementing the family planning program, in area of Suphanburi province show that the most popular contraceptive method for family planning was the pill (46.8 %), In 2000, modern contraceptive methods were available throughout the country. The pill was the most popular method because it is effective, reversible, convenient, inexpensive, easy to use, and easily obtained from drugstores (WHO, 2004). The Kanchanaburi DSS (2004) data show that the pill was the second most preferred choice among women. The Kanchanaburi DSS 2004 report shows that female sterilization was 28 percent, followed by oral and injectable contraceptives which were 24 percent and 19 percent, respectively.

The oral contraceptive method was not only available at government facilities such as public hospitals, primary healthcare centers, and mobile clinics, but also available at many private facilities, such as drugstores, private hospitals/clinics, grocery stores, and convenience stores (IPSR, 2007). The providers in the private sector also provided family planning services to meet the needs of clients to prevent pregnancy and maintain birth spacing or birth limiting for women of reproductive age. Women tended to choose the pill because they considered it the best and most convenient method to use when compared to other temporary contraceptive methods.

Studies revealed that more than 30% of those who had ever used family planning service bought the pill from drugstores, although the main contributor that subsidized from Thailand government was primary health care (46.9%) (Day and Leoprapai, 1977). Panyadelok and Chunin (2005) found that family planning users chose drugstores and private clinics because of their convenience, nearness to their homes, and easy availability. In addition, some kinds of oral contraceptive are not available at PHC providers, such as minipill and emergency pills and women have some concerns about side effects related to the oral contraceptives that are available at primary health care providers.

The Food and Drug Administration (FDA) of Thailand allowed different brands of oral contraceptives to be available in the private sector. Oral contraceptive products include standard tablet in each cycle of the pill, labeling, packaging and price launched from drug companies to provide at public and private provision. The partnership with the public sector is an important part of ensuring success within the

market. The private sector is the best positioned to serve consumers who are willing and able to pay for these products. Private provision involvement will not only increase the availability for oral contraceptives, but “it can also free up scarce donor and government resources to serve those who have the greatest need for public subsidies” (Sharma and Dayaratna, 2005).

The factors that affect women’s choice of family planning services at primary healthcare centers are : closeness to their homes (44%), convenient transportation (29%), good service (26%), familiarity with such services, having used them before (25%), experienced providers (13%), inexpensiveness (4%) when compared to private providers who offer varying prices from 15-160 baht per one-cycle package, depending on the kind of drug and dosage (Kiatying-Angsulee et al., 2003).

Since the year 2002 The Ministry of Public Health has implemented 30-Baht ‘Gold- card ’ of the Universal Coverage Scheme (later 30- Baht card turned to become free for any service , by the successive military coup government in late 2006) for all citizen those who are not accessible to any kind of health service or uninsured, The budget for family planning supply which formerly procured and distributed through the Department of Health has been shifted to be operated under each individual provincial universal coverage budget network which procure and distribute all of the pill and related family planning supply to all service units. In spite of skill lacking and inexperience in logistic supply among those provincial teammate it caused insufficiency in providing necessary facilities and service to meet client demand. These cause their client to seek other choices or other difference providers. Beside public provider, the client of family planning service particularly oral contraceptive user can accessed and afford to acquire the pill from private provider, that is pharmacy store, medical clinic, grocery and convenient store. To find out what is key factors on how to choose between this two sector of providers, user satisfaction is the one of those concerned (Andersen,1995). Panyadelok, and Chunin., (2005) found that family planning client prefer public sector more than private counterpart. In focusing of Kanchanaburi DSS it is questionably whether there is any different on user satisfaction between those two sectors mentioned, and also what is the satisfactory level in public sector, which from last three decade has been the major provider of family planning

program service. The result on satisfaction level will reflected the impact of 30-Baht card of the Universal Coverage Scheme launched from 2004.

Therefore, this study has three objectives. Through use of the Kanchanaburi DSS data, it firstly aims to identify the factors that influence women's choice between public/private providers for obtaining contraceptives, secondly, to assess user satisfaction among pill users and thirdly, to assess pill user satisfaction levels, particularly among those who have the 30-Baht card of the Universal Coverage Scheme. Concerning the different usage of public and private services, it is assumed that enabling factors such as number of drugstores in the community and place of residence may also play an important role.

1.2 Research Questions

1.2.1. Are there any factors that affect women's use public and private oral contraceptive services?

1.2.2. What is user satisfaction among pill users in the Kanchanaburi DSS?

1.2.3. What is the level of user satisfaction among pill users, particularly those covered by the "30-Baht card of the Universal Coverage Scheme"?

1.3 Research Objectives

1.3.1. To identify the factors that affect women's use of public and private oral contraceptive services.

1.3.2. To assess user satisfaction among pill users.

1.3.3. To assess user satisfaction among pill users, particularly those who had the "30 Baht card of the Universal Coverage Scheme".

1.4 Expected Benefits

1.4.1. The results of this study will provide information on the behavior of the pill users' choose of private or public provision and the satisfaction of family planning in case of "30-Baht card of the University Coverage Scheme" from policy of Thai Government through the Ministry of Public Health.

1.4.2. Private-public partnerships should be concern more within area of studies and scale up to implement for country because they can increases availability and accessibility of contraceptives. They reduce subsidized budget from government and

keep contraceptive preference rate within area (contraceptive security). Then government should provide frees up donor resources to serve those in the greatest need and target population. These co-providers on the pill should play the important role in national family planning markets. According to the National Economic and Social Development Board (NESDB,. 1997), in order “to promote private sector involvement in social projects”, The family planning on oral contraceptive can be mixed into social markets to cover that the need to balance volume (coverage) and revenue (sustainability).

1.5 Limits of the study

1.5.1. This study excluded the provision of the pill for emergency attempt (morning after pill, postcoital) or the use of pills for objectives other than family planning.

1.5.2. Some variables had to be constructed through proxy variables such as wealth index and the number of drugstores in the community. Regarding to incomplete of the income variable that the study have to consider making wealth index proxy from household properties and number of drugstore (private provider) that also provider in village level in 2000 data but that is not the same year and very weak data when compare with Province Operation Center of Kanchanaburi.

1.5.3. There were many kinds of oral contraceptives which Kanchanaburi DSS data has no details about. So only the price of the family planning product was considered. However, sometimes there would also be service charges (as pill price) which would influence the selection of either public or private providers. Travel time and transportation costs as a part of opportunity cost and total cost should be taken into account but were not available in the Kanchanaburi DSS data.

1.5.4. The questions on users’ satisfaction asked only whether the user was satisfied or not satisfied rather than measuring different levels of satisfaction. However, levels of satisfaction were measured for users by 30-Baht card of the Universal Coverage Scheme.

CHAPTER II
LITERATURE REVIEW

The literature review in this chapter covers four areas as follows:

2.1. Family planning policy of the government of Thailand

Thailand established the Ministry of Public Health (MoPH) in 1942. Since then, it has increasingly provided health promotion and preventive services such as maternal and child healthcare. During the 1970s, the government started the family planning program which has been carried out successfully. The achievement in family planning could be attributed to the government population policy and the cooperation between the public health promotion and preventive services and private non-governmental organizations (Wibulpolprasert, 2005).

The MoPH was responsible for family planning program as first government priority in order to decrease population growth by providing family planning services from public health providers according to the 5-year National Economic and Social Development Plan (NESDP) from the third to seventh (1972 -1996). In eighth NESDP was not set up as before because the trend of population growth was diminishing and TFR has been below the replacement level since 1991. After Thailand joined the World Community's Resolution in response to the International Conference on Population and Development (ICPD) held in Cairo in 1994 which expanded the aspects of population including family planning (FP) and maternal and child health (MCH) as components of a broader reproductive health issue. In July 1997, Minister of Public Health (MoPH) had declared in the national reproductive health policy of Thailand that *"all Thai citizens at all ages, must have good reproductive health throughout their entire lives."* Family planning agencies began to focus on promoting the ideal family size while the government emphasized on human centered development. This 5-year NESDP (1997-2001, Plan eighth) had as a goal the "empowerment and enabling for the aims to develop skill in planning, managing and processing at the local setting, to be by the people, for the people and of the people develop the Thai people to have full potential by the year 2020" . After this, the ninth NESDP (2002-2006) set up a target for the year

2006 to maintaining fertility rates at no less than 1.8 but as of 2003 the TFR had declined trend to 1.7 at the national level (Ministry of Public Health, 2003).

After, considering all of these policies, it is also necessary to determine other indirect policies such as the 30-Baht scheme of Universal Coverage, the National Health Act, the National Health System Reform etc because these policies have effect on the selection of oral contraceptive use (Kiatying-Angsulee et al. 2003).

The development of Primary Health Care (PHC) in Thailand has followed the "health for all by the year 2000" initiative under Ottawa charter since 1986. The MoPH adopted this goal and began concentrating on health promotion services. Family planning involving maternal and child healthcare was developed as the basic of the first eight essential elements of primary health cares (Wibulpolprasert, 2005). The implementation of PHCs contributed to the changes in the healthcare system. "Primary health centers were promoted to be service delivery units close to home and more importantly, close to heart". The PHC provided services include the stimulation and promotion of people participation. The health personnel, both from government and private sectors, have been developed to be multivalent, holistic services.(MoPH, 2007)

The Thai government introduced the 30-Baht scheme in 2001 to cover visits to any public provider for any treatment to help people who were in need but who were unable to access health service due to high costs. The family planning and health promotion and disease prevention services offered by the Department of Health of MoPH or other sources of supply should be free of charge, but this depends on the policy of primary health care services providers. They may charge for their services. , In some case, if women do not have a 30-Baht card, they may have to pay for services themselves (Kiatying-Angsulee et al. 2003).

There are many reasons determining people's choice in utilizing health services. Steele (2003) argued that women's choice of source health provider is determined by demographic and socioeconomic characteristics, Furthermore service charge in primary health care are inexpensive (4percent) compared to private providers which gave the price of oral contraceptives varies from 15-160 baht per one-cycle package, depending on the kind of drug and dosage, women are more likely to choose primary health care rather than private services.(Kiatying-Angsulee et al. 2003). However, the choice between public and private could be due to the unobserved factors at the community

level, for instance, availability of high quality services in urban areas as compare to other areas, which affect women's choice.

2.2 Family planning in Kanchanaburi DSS area

The study area is in the third largest province of Thailand and has almost the same rate of contraceptive prevalence as the nation at large, namely, 79percent. However, the contraceptive prevalence rate is somewhat different among different geographical strata. Female sterilization (28.3percent), contrary to the national trends, remains the most common method for temporary contraception, followed by oral contraceptives and injectables (24percent and 19percent, respectively). These three methods represent 91 percent of current contraceptive usage. A considerable variation, however, exists in different geographical areas regarding choice of contraceptive method.

Public health facilities are still the key place to obtain contraceptives. Almost three-fourth current contraceptive users obtained their required contraceptive supply from this source. The rest of the users obtained contraceptives from private providers, which are more concentrated in urban/semi-urban areas. Drugstores account for more than one-fourth of contraceptives in the urban/semi-urban stratum, while private sources supply only one-tenth.

The decision to adopt contraception is also influenced by the cost of contraception. The low price of contraceptives has attracted many potential users who want to prevent pregnancy or to space or limit their family size. The data show that only two-fifths of users get their contraceptives for free, this proportion even diminishes in urban areas. Further classification of contraceptive methods reveals that oral contraceptives and condoms were the lowest choice among contraceptives obtained free of charge. However, almost all contraceptive users (99 percent) demonstrated that they were satisfied with the services they obtained from health providers (IPSR, 2007).

2.3 Concept of health care access and utilization

Family planning service is only one part of health prevention and promotion that is related with unmet need for contraceptives and fertility preferences (Prata, 2007), but another study did not reveal the same fact. Contraceptives and fertility preferences are not clearly affected Family Planning choice even need factors are include to many model of family planning services (Andersen, 1995)

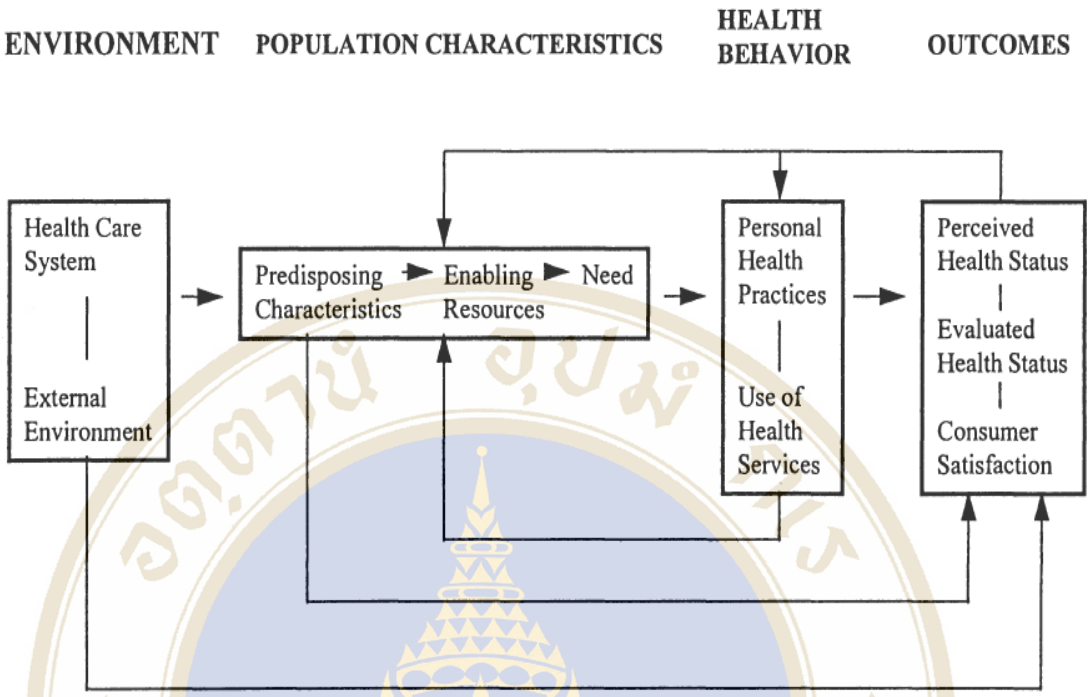


Figure 2.1: The behavior model and access to medical care

The model of health care service utilization and access to health care explain that the health care system and external environment were explicitly important to population characteristics. The predisposing characteristics have three components: demographic and social structure variables were giving low relationship while health beliefs have medium influence. Enabling resources are strongly associated with utilization to explain the charge. Utilization of health services, however, are also affected by consumers' satisfaction. Therefore consumer satisfaction play an important role to measure the program impact, (Andersen,.1995) even though a study in United State point out that the maximum potential of model components in equalizing the distribution of health services are demographic variables in predisposing variables (Andersen, and Newman, 2005).

The aspect of access defined as availability of financial and health system resources in the area. While two descriptive indexes are weighted sum of the appointment waiting time, travel time, waiting room time, and actual processing time for the clients in a given medical care provider and the weighted sum of the difference between the ideal and actual number of services, personnel, and equipment in given community. The main aspects of accessibility can explain at 2 points; socio-organizational and geographic access, the socio-organizational conclude all of those

characteristics of the resources while geographical explore the friction of space that is a function of the time and physical distance to go and get service. Furthermore, criteria of access such as cost, availability, internal economy; (interruptions and delays in receiving care , waiting time, etc), psychological variables or health knowledge along the process of service whether clients need to get or not. Then the definition and aspects of the concept of access to medical care are concluding to 5 component; Health policy, characteristics of health delivery system, characteristics of population at risk, utilization of health services and costumer satisfaction (convenience, costs, coordination, courtesy, information and quality). (Aday and Andersen 1974).

2.4. Concept of private and public Family planning provision of oral contraceptives

Initial oral contraceptive was started in Thailand at 1962. They were firstly available at private drugstores, and then next three year was used in public hospital. In 1969, international post partum care forum adopt oral contraceptives as temporary family planning method, to serve the need in limiting and spacing birth, National family planning program was declared in 1970 (Praditsil, 1999).

Table 1: Percent of private share on oral contraceptive, 1967-1987

Year	1967	1974	1978 (CPS1)	1981 (CPS2)	1984 (CPS3)	1987 (CPS)
Percent private share on pill	96.0	28.5	26.2	34.8	28.1	30.4
Percent public share on pill	4.0	71.5	73.8	65.2	71.9	69.6
	100.0	100.0	100.0	100.0	100.0	100.0

Sources: 1967 : Fawcett et al. (1969).

1974 : Developed from Chamratrithirong and liunanonchai (1974): 6

1978-1987 : Developed from Leoprapai et al (1991): 23

Traditionally, governments instituted family planning program to reduce fertility by providing services in public health facilities. Along with this private sector was initiated to give shoulder to government objectives and activities of providing family planning services to couples who wanted to reduce their family size, especially in outreach areas. In contrast, private sector provides services against profit.

Regarding Health provider that provides the pill in Kanchanaburi DSS area 2004, there are mainly 5 kinds of providers, which are government hospitals, public

primary health centers, private hospitals/clinics, drugstores and grocery stores (IPSR, 2007). A 2004 report shows that in Kanchanaburi province there were 2 provincial hospitals, 14 community hospitals, 2 primary care units and 143 primary health care centers. The private family planning service providers are normally divided into 4 kinds of providers (private hospital, medical clinic, drugstore and grocery store) however private hospitals were group with medical clinic also drugstores are group with grocery stores. The figure showed 5 private hospitals/medical clinics, and 101 drugstores/grocery stores (Province operation center of Kanchanaburi, 2008).

2.5. Variables

2.5.1 Dependent variable.

In this study, pills users' choice of family planning service provision (private or public facilities) is the dependent variable.

2.5.2 Independent variables.

These factors show relationship with Family planning service on oral contraceptives from public/private sources.

1) **Woman's age**: Age explains experience in family planning health care utilization. As a common, people who buy drug from private health provider mostly are in the working age group, such as 15-24 year-old about (24.4 %) and 25-34 years (31.2 %). Meanwhile, there is no significant difference in primary health care in public sector (Lelanidkhun, 1996).

2) **Nationality:** Owing Nationality, privately insured women were significantly more likely to white and married among women receiving health care in clinics (private sector) while black and Hispanic women, compared to white women, were more likely to use long-acting contraceptives compared to oral contraceptives (Boardman et al. 2004).

3) **Education:** Education also provides the chance for people to obtain higher social status and better life in terms of more opportunity to choose health service utilization (Choeichom, 2005). Higher education was found to be the variable with the strongest relationship with choosing private family planning service among pill users (Kanangsukkasem, 1991). It was found that the private sector has a significant role in the provision of contraceptives in different Indian states. Although the private sector provides 18 percent of modern contraceptive supply to women, oral pills are the most

common method (68 percent), obtained by the users from the private sector. Women with more education and urban residence tend to obtain their contraceptive supplies from private providers, and these factors show consistent effect on select of family planning services from the private sector (Nair, et al 1999).

4) **Area of residence**: Area of residence in Kanchanaburi DSS was divided to 5 group by characteristic of population to be the urban/semi-urban (industrialized) strata, the rice strata, the plantation strata, the uplands strata and the mixed economic strata partly depend on the characteristic of villages (IPSR, 2007). Area of residence or sectional variation is an important factor to see context of people, as we can see that in rural residence has a positive effect on public health care service utilization (Netithanakul, 2006).

Occupation: Occupation reflects socioeconomic status. Agricultural sector people get the lowest income whereas the government officers get more income and support from several security systems like income security, therefore their choice of health services was regular. But in the business sector people, their small businesses jobs make them suffer to pay more cost in health care utilization and cause them to go to use self-care at drugstores and grocery stores (private providers) are increase (Siriwongse na Ayudhya, 1991). But Chakreyavanich, (2002) find out factors for using basic health service utilization on rural area of Thailand that farmers and skilled workers preferred purchasing drugs for self-treatment.

5) **Wealth Index:** Wealth index is proxy variable obtained from household-level assets that can explain socio-economic status better than income. It concludes more than 23 variables and weighed to be 3 levels including poor, middle and rich group. Low income women highly to use in drugstore,(Silverman et al,1987)**.** Wealth index among elderly has been shown to have positive effect on health care services utilization (Netithanakul, 2006). Similarly, household wealth status is significantly associated with choosing health facilities deliveries (Celik and Hotchkiss, 2000).

6) **Number of drugstore in the community**: (Drugstores and grocery stores) regarding the number of private providers that provide family planning service, pill users are more likely to use the grocery store or drugstores nearby that provide oral contraceptive in order to save time. A study by Abdullah (1992) in Nakhon Ratchasima province showed that pills were the most common method

7) **Price of pills**: cost of pills are compared and related with the pregnancy costs and having child costs, therefore one of the two main factors for supply-side of family planning users are the price of contraceptive services. The increase in price of desired method is the main reason for reduced satisfaction (75.56 percent). From findings of multivariate analysis, higher prices in private facilities seem stimulate pill users to use public providers. Even price changing in private service during the economic crisis in Indonesia was not related with increased public provider use among pill users.(Frankenberg et al, 2003).

The cost of family planning services depend upon private or public provision. Capital city areas of Thailand show majority of clients in public health service had to pay at least 50 baht. Even policy from MoPH provides free of charge, but in practice, it's depending on PHC policy. These differences then make different standard in implementing family planning services among health providers in health facilities (Kiatying-Angsulee, et al 2003).

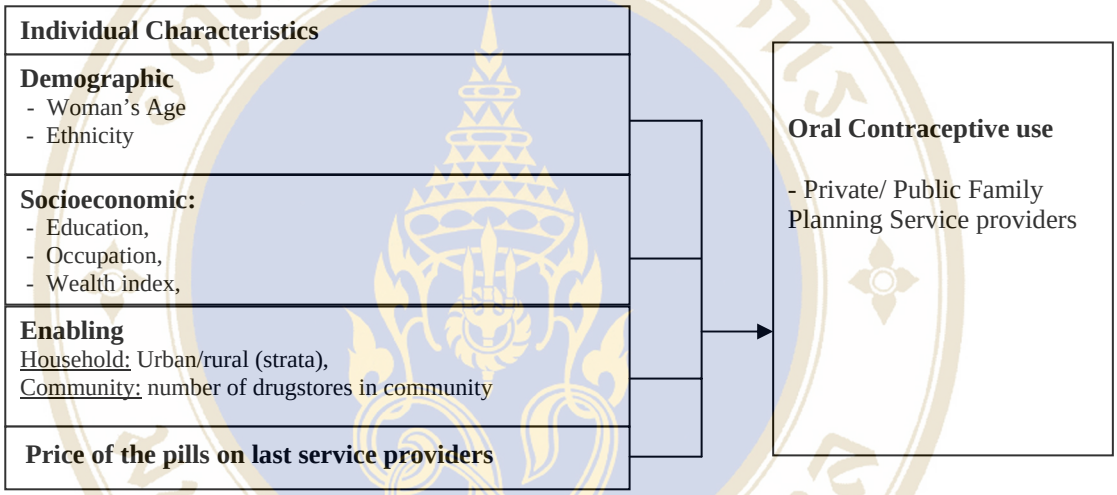
Nevertheless, another study in 24 provinces show that health provider from public sector mainly provide free of charge according to preventive care on 30-Baht scheme polic. At clinic and drugstores, clients have to pay more but this payment was a little higher depend on contraceptive method and more deeply consider on brand of oral contraceptives because price of oral contraceptive in range between 15 to 170 baht (Panyadelok and Chunin 2005). Some kind of oral contraceptives price is varies because of quality differences and product order from different sources (Ross and Isaacs, 1988).

2.6. The conceptual framework

Based on literature review, a conceptual framework has been formulated showing the factors that determine whether family planning pill users in Kanchanaburi DSS choose public or private family planning service facilities. The use of health services can explain in type of preventive care (family planning services), purpose for family planning, fertility preferences of woman. The outcome variable of this study was public and private family planning providers of oral contraceptives.

Public health care utilization was mainly influenced by universal coverage in rural area because private providers were not available at the same time. The majority facilities of private providers are drugstores that prescribed medicine as well as providing health

education and drug and disease information that create more trust and satisfaction among the customer, therefore user satisfaction should higher than in public sector even though the starting price of the pill charged 15-20 baht, in addition, the public providers limit their service only in official time. Therefore, women those with 30-Baht card holder are less likely to use public. The individual determinants affect the choice of different source of FP services between public and private pill providers by demographic factors such as age and ethnicity have strong effect to explain distribution of private health service, but other individual determinants have less effect. (Andersen and Newman, 2005).



2.7. Hypotheses

1. Social economic and demographic factors have significant influence on choice of public/private provider.
2. The areas of resident and number of drugstore in community have significant influence on choice of public/private provider.
3. Women who have to pay free of charge and 30 baht within scheme are more likely to use public provider.
4. Pill user satisfaction toward public provider service is higher than private provider service.

CHAPTER III
RESEARCH METHODOLOGY

This study is divided into two parts: the first part deals with quantitative aspect of utilization of a public or private family planning provider for oral contraceptive by women, and second part provides more information on pill users' satisfaction with services provided, focused on those who covered by the "30-Baht card of the Universal Coverage Scheme"

3.1 Research settings

The Kanchanaburi Demographic Surveillance System (DSS) is based on the principle of demographic surveillance which follows the changes of population in term of fertility, morbidity and mortality, and migration in the field sites. This study area conducted in selected area of Kanchanaburi province. This system was implemented by the Institute for Population and Social Research, Mahidol University, and grant from the Wellcome Trust, United Kingdom.

This study obtained secondary data from Kanchanaburi Demographic Surveillance System that was structured by face to face interviews. There were three part of questionnaire: the village questionnaire, the household questionnaire and the individual questionnaire, but this study chooses only household questionnaire which interview household heads and individual aged 15 and over. The process of interview, the interviewers have to provide background information about Kanchanaburi DSS, and asked them for their consentency. As the introduction, interviewer had to provide background information about the study before asking respondents to answer several questions. To ensure the quality of process, data was checked by supervisors after they edited the questionnaire. Then, supervisors submit the questionnaire to the field station to re-edited by researcher. Furthermore, data collectors have to input and entry the data whilst researchers checked them in order to ensure the data provided is valid.

3.2 Data Source

This study uses the Kanchanaburi DSS round 5 (2004) data. The data was collected using an individual level questionnaire on the demographic, socio-economic, and enabling factors, pill price of the last contraceptive service used, and whether the contraceptive was obtained from a public or private provider. The wealth index was formulated by using the household questionnaire as a proxy of economic status. Moreover, satisfaction of pill takers was explored in the Kanchanaburi DSS, and in the case of the 30-Baht card, satisfaction level was identified among those who used 30-Baht card of Universal Coverage Scheme on their last utilization of services. Two aspects of services were identified to learn about the users' satisfaction level i.e. health care providers and quality of medicine.

Data from Provincial Operation Center (POC, 2008) was used as proxy variable for number of drugstore in community to explain the selection of source of the pill supply in the Kanchanaburi DSS area.

3.3 Sample selection

The study villages and census blocks for Kanchanaburi DSS were selected using a stratified systematic sample design. The primary selection units for rural areas were villages and for urban areas census blocks, comprised of 100 villages/census blocks. During July 1st –August 15th, 2004, this study mainly uses the Kanchanaburi DSS data of round 5 (2004), choosing married women of reproductive age (15-49 years). As respondents, there were 1,234 married women involved.

3.4 Variables and Measurement

This quantitative part of study was selected from contraceptive subtitle of fertility part in individual questionnaire. The question ask that "what is your current method?", then selection only who choose the pills from this question to be pill users for this sample.

Dependent variables

The next question that ask and pick the sample (pill users), also ask respondent that "Where do you usually get contraceptives the last time?

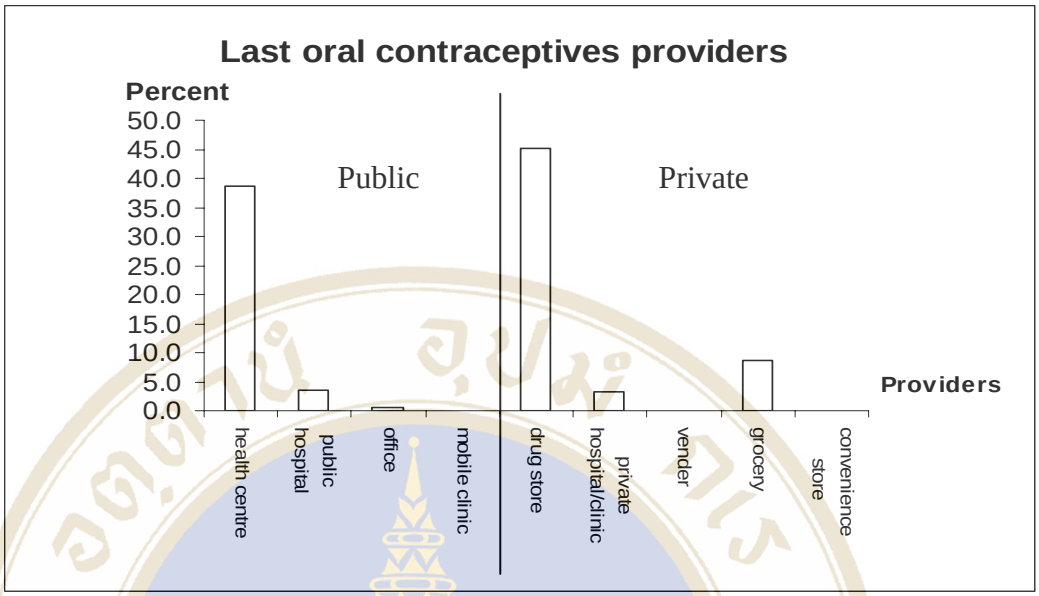


Figure 3.1: Percentage of last providers supplying oral contraceptives.

There are two categories of dependent variable, firstly public providers including: Public community hospital, primary health center, district health office, and mobile clinic. These group was under supervision of the Ministry of Public Health and implemented population plan according to Thailand's government policy. Lastly private providers including: drugstore, private hospital/private clinic, vender, grocery store and convenient store, which acquired the pill from commercial sector. The proportions are shown by figure 3.1.

The independent variables were grouped as demographic factors, socio-economic factors, enabling factors and price of the pills. Nationality, occupation, education, household wealth index, place of residence, number of drugstores in the community and price of the pills are categorical variables, while the woman's age was measured on an interval scale. Wealth index was classified into three categories with knots at the 20th and 80th percentile.

In terms of user satisfaction, the pill users were asked, “Are you satisfied with the last services you used?” and if the answer was “no”, they were asked to explain further. The question on 30-Baht card of the Universal Coverage Scheme case was, “From 1st July 2003 till now, have you ever used the 30-Baht scheme card (gold card)?”, and then only those who answered “yes” were selected. The next consideration was “What were the illness/symptoms when you had treatment using the

gold card last time?" From this question, those among the pill users who had obtained family planning services in part of their last treatment were selected. Finally, a question about level of satisfaction with services received from health providers and quality of drugs at most recent visit was administered.

3.5 Data analysis

Univariate analysis dealt with the number and percentage of pills used under each variable. It was included in the descriptive statistics used to explore the pill users' satisfaction, particularly among those who had the "30-Baht card (Gold card) of the Universal Coverage Scheme" and utilized the gold card for their most recent visit for family planning services. In addition to this, cases in which the samples were dissatisfied were studied in detail. Bivariate analysis used cross tabulation to depict the relationship between independent and dependent variables. Multivariate analyses using binary logistical regression models were used to determine the independent and non-linear effects of the predictor variables on the outcome variables in order to explain the preferences of current oral contraceptive in regards to the choice of private or public health providers.

3.6 The construction of wealth index

Wealth index that measure economic status of individual and these proxy variables are using to measure accessibility to the private or public provision. The way to construct this index from the household assets and select a set of weights for each asset from household questionnaire of KDSS. The reason to produce wealth index because incomplete data occur on individual income in individual questionnaire.

The household assets, this study consider 27 variables from

-House structure: housing structure is defined according to the materials from which the house wall is built. There are two categories, if wall made from concrete, brick or stone give coding as 1 while other kind of wall are coding as 0. And the materials of roof, Cepact (modern) materials (coded 1) and other materials (code 0)

-Household characteristics, there are three kind of interesting variables as drinking water: if those household buy drinking water are coding to 1 and other kind of them are coding to 0. Fuel use in household is categories to two groups, if kind

of fuel in daily use is electricity give coding as 1 during other variable are coding as 0. And type of toilets considering as 1 when it is flush toilets which hang legs, while other variables keep being 0.

-Household asset, there are 22 variables that all of them keep to be nominal scales such as electricity, Television, radio, refrigerator, tap water, proper sanitation etc. for example they are categories as when each household have this thing (television) give coding to 1 and no TV in home give coding to 0 and end up to all household assets.

Statistic is using for calculate for wealth index, we use Factor Analysis by the beginning of analysis. I have to use Pearson's product correlation coefficient, follow with factor extraction by using Principal Component method and then use Varimax Orthogonal Rotation. The Factor Analysis allows for asset-specific influences to explain the variances.

These variables can be used to create an index of assets that proxy for household “wealth” or economic status. During the process of analysis be kept in household level, for house structure, household characteristics and household assets. with own things in house, by weight number of each things.

I classified sample households of the KDSS 2004 into 3 levels by giving 20 highest percentile is rich, next higher 60 percentile is medium and the other 20 percentile is poor class of wealth index. The finally applied this index from household level merges into individual level.

3.7 The construction of number of drugstore in community

The number of drugstore in community enables private providers in the area of resident to give such health services. In Thailand, there are 4 kinds of drugstores, those are modern medicine drugstore, complete enclose package modern medicine drugstore, traditional herbal medicine drugstore and complete enclose package modern medicine for domestic animal drugstore. In this study, we include only first three kinds of drugstores. Those drugstore data were collect from Kanchanaburi provincial health office registration books. The data are also accessible to public through Provincial Operation Center’s website as described on table 3.1 below:

Table 3.1. The number of drugstore in the community categoried (according to ministerial definition; modern medicine drugstore, traditional herbal medicine drugstore and complete enclose package modern medicine drugstore). In addition, municipality and non-municipality are also classified.

District of Kanchanaburi province	Drugstore categories			Total drugstores
	Modern medicine drugstore	Traditional herbal medicine drugstore	complete enclose package modern medicine drugstore	
In municipality (place)				
Mueang Kanchanaburi	21	3	5	29
Sai Yok	0	0	4	4
Bo Phloi	1	0	6	7
Si Sawat	0	0	1	1
Tha Maka	10	4	11	25
Tha Muang	6	0	4	10
Thong Pha Phum	0	0	6	6
Sangkhla Buri	0	0	0	0
Phanom Thuan	2	0	5	7
Lao Khwan	2	0	2	4
Dan Makham Tia	0	0	3	3
Nong Prue	0	0	6	6
Huai Krachao	0	0	0	0
Total	**42**	**7**	**53**	**102**
Out of municipality (place)				
Mueang Kanchanaburi	3	0	2	5
Sai Yok	0	1	1	2
Bo Phloi	0	0	2	2
Si Sawat	0	0	0	0
Tha Maka	0	0	0	0
Tha Muang	0	0	0	0
Thong Pha Phum	0	0	3	3
Sangkhla Buri	0	0	2	2
Phanom Thuan	1	0	0	1
Lao Khwan	0	0	0	0
Dan Makham Tia	0	0	1	1
Nong Prue	0	0	1	1
Huai Krachao	0	0	0	0
Total	**4**	**1**	**12**	17

Source: Kanchanaburi Provincial Health Office, 2004 (Province Operation Center of Kanchanaburi, 2008).

Table 3.1 showed number of drugstore from each category in each area in 2004. Those total number of drugstore from each area were apply for proxy of pill users as independent variable to evaluate the enabling factor of each user.

3.8 Operational Definition

Private/public Family planning service providers: This variable refers to the service provider from where women obtained oral contraceptive. Although the questionnaire provides women with a number of categories on providers, for this dependent variable, the categories was collapsed into the most relevant according to my study objectives. In this study public provision of services has been considered as reference category.

Woman's Age: Age refers to women in reproductive period (15-49 years old) the age of the respondents is measured on interval scale.

Nationality: this is one of demographic variable that explain nationality of woman. Code 1 represent Thai and 0 represent non-Thai (reference group), this variable is nominal scale.

Education: Education of women is measured in terms of completion of highest level of formal education that is. years of schooling. It is divided into three categories as 0 = no education, 1 = lower than secondary school, 2 = higher than secondary education, (reference group). This variable was measured on ordinal scale.

Occupation: Occupation of women means the current working status and it is divided into four categories- 0 = business job, 1 = agricultural, 2 = factory worker 3 = another occupation, (reference group). This variable is measured on nominal scale.

Wealth index: Women having possession of household properties such as electricity, TV, radio, refrigerator, tap water, proper sanitation etc.

This is the composite index of different household assets. This is divided into quintiles. The coding scheme of this index is as 0 = poor class of wealth index (reference group), 1 = moderate class of wealth index, 2 = wealthy of wealth index. This variable is also measured on ordinal scale.

Geographical residence (strata): Coding scheme for this variable is as 1= Urban/ Semi Urban, 0 = rural area that includes mixed economy, plantation, rice field and uplands of strata (reference group), and is measured on nominal scale.

Number of drugstore in the community: This refers to the number of drugstores from Kanchanaburi Province health office, and is measured on ordinal scale.

Price of the pill: This variable refers to the amount which clients had to pay for last contraceptive service (exclude traveling cost and others). This is categorized

into four categories: 0 = free of charge (reference group), 1 = pay less than 30 baht, 2 = pay 30 baht, 3 = pay more than 30 baht. This variable was ordinal in measurement.

Exclusion criteria: This data exclude who not answer the question and missing data from data collection process.

CHAPTER IV
RESULTS

This chapter presents the empirical result of the study. It was divided to 3 sections. Section 1 describes the characharacteristics of the respondents including demographic, socioeconomic, enabling and price of pill. In this section analysis by univariate, bivariate and multivariate method were applied to study statistical relationship between those four factors mentioned and two difference providers (public and private providers). Section 2 compares user satisfaction between public and private providers. The section 3 reveals the satisfaction level among pill users in public provider those who were eligible to 30-Baht card of the Universal Coverage Scheme.

4.1. Respondents' Characteristics

4.1.1. Univariate Analysis

Of the sample of 1,234 married women of reproductive age, 58 percent (table 4.1) of them preferred to obtain oral contraceptives from private providers as compared to 42 percent of the public sector. About 60 percent were aged between 25-39 years; only one in five were aged less than 25 years or more than 40 years. A vast majority of the sample were Thai nationality.

Table 4.1 Percentage of married women of reproductive age who obtained oral contraceptives, classified by sources of providers, demographic, socio-economic, enabling factors and price of pill

Variables	Number	Percent
The currently use oral contraceptives	1234	100.0
Family planning providers		
- Public	523	42.4
- Private	711	57.6
Demographic factors		
Age group (years)	Mean = 32.2	SD = 7.8
- 15-19	62	5.0
- 20-24	161	13.0
- 25-29	256	20.7
- 30-34	267	21.6
- 35-39	234	19.0
- 40-44	185	15.0
- 45-49	69	5.6

Table 4.1 Continued.

Variables	Number	Percent
Nationality		
- Thai	1,146	92.9
- Non-Thai	88	7.1
Socioeconomic factors		
Education		
- No education	114	9.2
- Lower secondary	1,037	84.0
- Higher secondary	83	6.7
Occupation		
- Agricultural	705	57.1
- Business	189	15.3
- Factory worker	158	12.8
- Another Occupation	182	14.7
Wealth Index		
- Poor	246	19.9
- Moderate	741	60.0
- Wealthy	247	20.0
Enabling factors		
Area of resident		
- Urban	199	16.1
- Rural	1,035	83.9
Number of drugstores in community		
- No Drugstore	436	35.3
- 1 – 4 drugstores	501	40.6
- More than 4 drugstore	297	24.1
Price of the pills		
- Free of charge	304	24.6
- Pay less than 30 baht	617	50.0
- Pay 30 baht	119	9.6
- Pay more than 30 baht	194	15.7

The majority of respondents had lower secondary education (84 percent) and worked in agricultural sector (57 percent). The wealth index, assessed from household assets among pill users depicted higher proportion for moderate wealth index as 60 percent. For enabling factors, most of the respondents resided in rural area (84 percent) In the aspect of number of drugstore in the community, the highest categories was 1-4 drugstores categories (41 percent). Considering price of the pill, most of the respondents were charge less than 30 baht (50 percent)

4.1.2. Bivariate Analysis

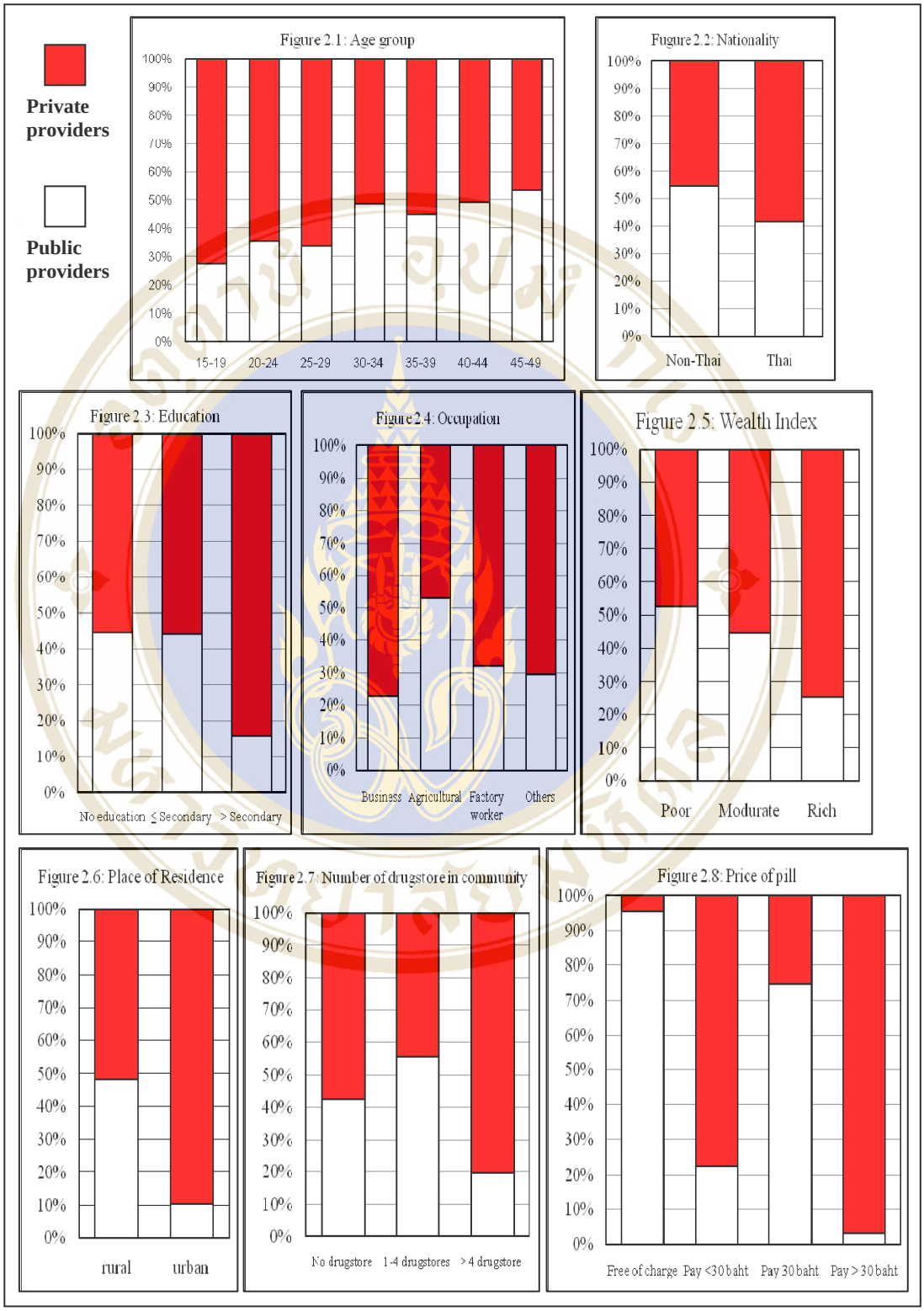


Figure 4.1: Percent of respondents by the selection of the providers, according to demographic, socioeconomic, enabling factors and price of pill

The findings show that the number of women of Thai nationality selecting private providers was higher than that of their non-Thai counterparts (46%). Women who had education higher than secondary school preferred to acquire services from private providers. Women in business shown the highest tendency to obtain the pill from the private sector (77%). In terms of economic status, it was obvious that the wealthier respondents received their pills more from private providers than public providers. Nine-tenths of rural residents selected private providers while only half of urban residents preferred to choose the private sector.

It is clear that with increases in age, the proportion of respondents utilizing services by public providers also increased. While the proportion of users of private providers' services gradually declined from 73 percent in youngest age group (15-19 years) to 46 percent in oldest age group (45-49 years). The majority Thai residents tended to selects private provider compared to non-Thai residents (46%). Women who had education higher than secondary school preferred to get services from private providers. This percentage was highest among those who had higher than secondary school education (84%). Only women who were working in agricultural sector (more than half of respondents) demonstrated that they preferred public providers. On the other hand, women in business showed the highest tendency to obtain the pill from the private sector (77%). In terms of wealth, it was obvious that the wealthier respondents got their pills more from private (75%, 55% and 48 % respectively) than public providers.

Four-fifths of pill users residing in communities with more than 4 drugstores had used private providers recently for procured oral contraceptives. Free service (no charge) was provided mainly in the public sector and three-fourths of pill takers were mandate to pay 30 baht in the public sector to get services. On the other hand, three-fourths of pill users who were getting service from private providers were paying less than 30 baht and almost all pill users who could afford to pay more than 30 baht selected private sources (97%).

The results indicated (Chi-square) that all of independent variables were significantly different between private and public providers. The strongest relationship between private and public family planning for pill users was price of the pill, followed by urban/rural residence, number of drugstores in community and occupation (chi-square: 624.90, 98.44, 96.92 and 82.21), respectively.

4.1.3. Multivariate Analysis

Logistic regression analysis was used to assess the net effect of background and enabling factors on selecting public or private providers by married women of reproductive age for obtaining oral contraceptives in the study area during 2004. This study entailed four major independent factors which were employed in binary logistic regression and analyzed through four additive models. Model 1 considered only demographic factors (Table 4.3), while model 2 included demographic and socioeconomic factors that explain individual characteristics. In model 3 enabling factors such as number of drugstores and urban/rural residence were added. The last model looked into price of the pill in addition to previous models and taking into account all other factors.

Table 4.2 The odds ratios of choosing public-private providers by background characteristics of the respondents, Kanchanaburi DSS 2004, Thailand

Variables	Model 1	Model 2	Model 3	Model 4
Demographic factors				
Woman age	0.963***	0.962***	0.965***	0.982
Nationality				
Thai	1.824**	2.273**	1.666	2.394*
Non-Thai ®	1.000	1.000	1.000	1.000
Socioeconomic factors				
Education				
No education ®				1.000
Less than secondary		0.442**	0.443**	0.432*
Higher than secondary		1.266	1.069	0.728
Occupation				
Business®		1.000	1.000	1.000
Agricultural		0.303***	0.349***	0.354***
Factory worker		0.570*	0.505**	0.495
Another Occupation		0.545*	0.481**	0.606
Wealth Index		--------	-------	
Low class ®		1.000	1.000	1.000
Middle class		1.219	1.195	1.728*
High class		2.400***	1.681*	2.081*
Enabling Factor				
Area of residence				
Rural ®			1.000	1.000
Urban			3.095***	3.182**
Number of drugstores in community				
No Drugstore ®				
1 – 4 drugstores			0.717*	1.265
More than 4 drugstores			1.858**	2.429**
Price of the pill				
Free of charge ®				1.000
Pay less than 30 baht				95.694***
Pay 30 baht				8.688***
Pay more than 30 baht				489.493***
-2 log likelihood	1650.65	1536.41	1463.66	865.08
R-square (Cox and Snell R Square)	0.025	0.111	0.162	0.484

At Significant level: * p> 0.05, ** p> 0.01 and *** p> 0.001

Model 1

In model 1, only age and nationality of the respondents as independent variables were introduced to determine the association with private or public utilization without controlling for any other factors. The results showed that increase in age reduced the odds of obtaining oral contraceptives at private facilities by 4%. Thai women were almost 2 times more likely to use private sources compared to non-Thais. The whole model could explain variation in outcome variable by only 3 % (Cox and Snell R-square = 0.03).

Model 2

In model 2, three more variables such as education, occupation and wealth index were added. Almost the same pattern was observed for age and nationality in their significance and magnitude after inclusion of new independent variables. Women with less than secondary education used private providers significantly more than non-educated women had who had significantly lower odds (0.44) of choosing private providers . Women in the agricultural sector, factory workers, and those working in other occupations showed significantly less likely of choosing private providers for oral contraception compared to those who worked in the business sector. Among women of the wealthy class, as expected, utilization of private sources for oral contraceptives was 2.4 times higher than for the poor. The explanatory power of the model increased with inclusion of new variables

Model 3

In model 3, new predictor variables, namely, area of residence, and number of drugstores in the community were included. The results (R^2 = 0.17) showed an improvement in the overall explanatory power of the model. Again, almost the same pattern as for previous models with minute variation could be observed after controlling for the newly added variables. However, significant associations for being of Thai nationality disappeared, while women with high wealth index showed nearly twice as much likelihood (1.6) of choosing a private provider.

Looking at the newly added variables, urban residents were 3 times more likely to use private providers for oral contraception than rural women. As expected, number of drug stores in the community was significantly associated with choosing private

services among women but there was a lower chance of using the pills when there were less than 4 sources of commercial supplies (0.7). However, the odds were twice as high for going to a private provider for receiving oral contraception if that community had more than 4 drugstores.

Model 4

When include additional independent variable, price of the pills, into model 4, it triggered the explanatory power of the model by three times ($R^2 = 0.48$) as compared to model 3. Thus model 4 presented independent effect of each explanatory variable on the outcome variable.

The odd ratio result from binary logistic regression described the strength of model. When considering demographic variables, after entering price of the pill into the model, age and occupational variables become insignificant while these variables have strong influence on dependent variables in previous model. Thai oral contraceptive users are two times more likely to choose private sector when compare with non-Thai nationality.

Meanwhile, education, occupation and wealth index variables were used to explain relationship with oral contraceptive utilization. These variables have negative relationship with choosing private provider that dispenses oral contraceptives. On the other hand, wealth index show that the wealthy were more likely to get oral contraceptives from private sector. The wealthy and moderate class are two times and 1.7 times more likely to choose private provider when compare with the poor.

Even though, the effects of enabling factors are important as individual characteristic variables, urban residents were more likely to use private 3 times higher than public sector. 2.4 times of more than 4 drugstores in the community could give chance to pick private providers if there were no drugstores in the community.

Interestingly, price of service for the pills revealed that elevated odds (9-489 times) compared to those who get free of charge in obtaining oral contraception from private providers. This was in line with expectations that women who could pay for the pills (1-30 baht and above) would have higher odds of utilizing private services over free of charge services.

4.2. Satisfaction and dissatisfaction of pill users between public and private providers

4.2.1. Satisfaction of pill users

Table 4.3 Number and percentage of user satisfaction and dissatisfaction with family planning services.

Providers	Number	Satisfied	Dissatisfied
Public	523	98.9%	1.1%
Private	711	99.7%	0.3%
Total	1,234	99.4%	0.6%

The statistics indicate that almost all respondents were satisfied with the services but this satisfaction was higher for private providers (99.7%) than public providers (98.9%). Though the differences between both providers were not remarkable, the percentage of unsatisfied clients was four times higher for public providers (1.1 percent) than for private providers (0.3 %).

4.2.2. Dissatisfaction of pill users

Table 4.4 Dissatisfied cases in currently pill users

Case Number	The reason of dissatisfied	Providers	Occupation	Pill Price
1	Poor service and long waiting time	PHC	Agriculture	10
2	Poor service and long waiting time	PHC	Agriculture	15
3	Poor service and long waiting time	Community hospital	Agriculture	30
4	Poor service and long waiting time	Community hospital	Agriculture	30
5	low quality of medicine, poor treatment	Community Hospital	House cleaner	20
6	low quality of medicine, poor treatment	PHC	Agriculture	30
7	low quality of medicine, poor treatment	Drugstore	Agriculture	15
8	low quality of medicine, poor treatment	Drugstore	Business	40

Note: PHC: Primary Health Care center in sub-district level.

Only eight persons, in the study sample (1,234), were un-satisfied with oral contraceptives services and there are four in six who used public services for oral contraceptives stated that long waiting time and poor services were the major reasons for their un-satisfaction in public sector (half in primary healthcare center and the other half in community hospital). On the other hand no such complaint for this topic was reported for private services. Quality of drug and treatment caused un-satisfaction for four pill users in both sectors. Among those who got free of charge services, all of them were satisfied with the services.

On the part of public family planning services, the community hospital at district level was the highest source of dissatisfaction among pill users (6.7 percent). No other providers which less than one percent complained about the number of respondents.

There are two main reasons that made pill users dissatisfied with the services of public provider. These include poor service and long waiting time. Others (half in private and half in public providers) complained about low quality of medicine and poor treatment.

Two pill users who get services from private family planning services in drugstores and grocery stores were not satisfied with the quality of drug and treatment services. One business woman had to pay 40 baht and another one agricultural woman had to pay 20 baht at last family planning services that supply oral contraceptives.

In public community hospital, two pill users were not satisfied with the public providers because of poor service and long waiting services. They have to pay 20-30 baht to obtain oral contraceptives. Another one was not satisfied with quality of drugs and treatment.

In Primary Health Care center, two of the pill users were not satisfied because of poor service and long waiting services and they had to pay 15 and 40 baht to obtain oral contraceptives. The last two women who get service from drugstores were unsatisfied because of the quality of medicine and poor services. They have to pay 30 baht and used family planning service at drugstores.

4.3. Level of satisfaction in 30-Baht card of the Universal Coverage Scheme

The 121 pill users who use 30-Baht card of the Universal Coverage Scheme, receive service from 2 kinds of public family planning providers. 88.4 percents of the

receive service from primary health care unit and the rest received from community hospital.

Table 4.5: Percentage user satisfaction to health providers and quality of drugs of oral contraceptives under 30-Baht card of the Universal Coverage Scheme

Service provider	Number	Most satisfied	Moderate satisfied	Less satisfied
Health providers	115	53.9%	44.4%	1.7%
Quality of drugs	119	55.5%	43.7%	0.8%
Total	119	54.7%	44.0%	1.3%

Note: This table did not consider non-reception and dissatisfaction with the services.

User's satisfaction of 30-Baht card of the Universal Coverage Scheme was categorized into most satisfied, moderately satisfied, and least satisfied with the services. The majority of the respondents seemed satisfied with the services from health providers base on their last use of the public services. Almost none of the respondents reported the lowest level of satisfaction with the services. Among those who were under the 30-Baht card in the Universal coverage scheme, only four respondents (3.3%) complained about the quality of services received from health providers and the quality of medicine.

4.3.1. Dissatisfaction of pill users in 30-Baht card of the Universal Coverage Scheme

There were four in 121 cases that complained about quality of service especially on dissatisfaction of health providers and quality of medicines. The reason for dissatisfaction was on quality of oral contraceptive among those who used 30-Baht card

In case studies number one, a woman was not satisfied with family planning services. She gave comment on poor services. She got services from community hospital. After looking at her last visit to family planning services, she commented that she unsatisfied with poor services and long waiting time at community hospital. She also had to pay 30 baht for this kind of services.

In another case, a woman was not satisfied with poor service of another provider. She could not get service from medical health providers. She also had moderate satisfaction on quality of drug that provide from health providers in public primary

health center even although she already had experience in obtaining the pills from primary health care unit and community public hospital. She also unsatisfied with her last visit for getting oral contraceptive services because the quality of drugs and curing service from primary health care in sub-district level are poor. She also had to pay 10 baht for her last service.

The other case was a woman customer eligible to 30-Baht of the Universal Coverage Scheme who acquired oral contraceptive from both primary health center and community hospital in to different episode. She responded dissatisfaction upon oral contraceptive received from primary health center due to poor quality of drug and moreover she had to pay 30 baht for getting services near her home for the product. In the other episode at community hospital, when responded to question related to 30-Baht card of the Universal Coverage Scheme service. She once again complained about dissatisfaction on service and also poor quality of medicine (the pill). She also revealed that she received the service from a personal who was neither medical doctor nor health providers.

CHAPTER V
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

The study on provision of the pill to customers by public-private provider is discussed in this chapter. This chapter is divided into three parts: the first part on selection on private or public family planning services. Second part on discuss pill users' satisfaction with each service provider and the last part explores the case of 30-Baht of Universal Coverage Scheme users' satisfaction level.

5.1 Discussions

It was found from this study that previously in the mid 1960's, the private sector had the major share of oral contraceptives distribution (96 percent).More recently in the late 1980's, only 30 percent of the share was to the private sector, which means the public sector had become more involved in distribution as a result of population and family planning policy (plan 3-7th NESDB). Most recently in 2004, Kanchanaburi DSS data revealed private providers with 58 percent of share considered to be the majority. This result is probably dues to declining governmental motivation and financing as well as less publicity on family planning programs, since successful achievement of fertility decline, and intensive campaigns on family planning (NSEDP 8th). There is no statistic figure of the Universal Coverage Scheme (30-Baht) card holder for all those who is eligible or low incomes. Kiatying-Angsulee et al (2003) revealed that with the 30-Baht charge per one health care visit, The statistic mode of charge was the 30 baht of paid group. With the reform of the Universal Coverage Scheme policy in 2002, oral contraceptives were distributed to the population free of charge under government subsidization. Kiatying-Angsulee, et al (2003) and Panyadelok and Chunin (2005) showed that price was affected by product and policy. However, there has been no study that shows a relation between selection and product and between selection and policy.

Hanson et al. (2001) mentioned that the private service was more accessible to the rich, but poorer people were increasingly using the private sector. This trend was confirmed in this study with the significantly high prevalence rate of 48% of the poor

using the private to obtain oral contraceptives. So, understanding the reason for this trend of a shift to the private sector requires further study.

Public-private partnership is important for people in order to improve the availability of oral contraceptive services. Given the limitation of time in the public sector(8 am to 4 pm. of office hours) for provision of services are observed, the private sector can make up for this deficiency by providing service outside of office hours. The private sector can also reduce the responsibility of the public sector and thus help to decrease the government budget. In addition, those who have purchasing power can have more choices to access oral contraceptive services in the private sector, and, at the same time, others who have no purchasing power can access oral contraceptive pills in public sector without any charges (USAID, 2006).

Considering the price of pills, when other independent variables have been controlled for, the price of pills was significantly related to the selection of private or public providers. Price influenced the choice of private or public providers with other factors such as occupation or age having less significance.

Those who had to pay for services preferred to choose the private sector. The low price of medicine leads clients to a perception that oral contraceptives received free of charge from public providers is of poor quality. (Integrated Regional Information Networks, 2007 and Suebwonglee, 2004). It is supported that limit price in public sector is relevant with low quality of service than wide gap price in the commercial oral contraceptives by significant (Bulatao, 2002).

In this study on user satisfaction between public and private providers, the results revealed that there is no significant difference between both sectors, in contrast to the study of Punyadirok and Chunin 2005 that reviewed clients in all contraceptive methods and showed more satisfaction with the public sector than the private sector. This disparity might have been caused by bias among the clients when using the public site (Sub-district primary health centers) and samples to access the public services. Also the satisfaction involved more than just oral contraceptives (including implantation, female sterilization, injectable, IUD) so all of those variables might act as confounding factors.

5.2 Conclusions and Recommendations

This study aims to identify the factors that affect women who used public and private oral contraceptive services and also to assess users' satisfaction, particularly those who were covered by the 30-Baht of the Universal Coverage Scheme. The findings suggest that the private sector emerged as the major service provider for oral contraception in the Kanchanaburi DSS area during 2004. Bivariate results indicated that younger women, those with higher education, and those conducting their own business preferred to choose private providers. Women in wealthy of the wealth index tended to use private services. Interestingly, the proportion of rural women who utilized private services was greater than the proportion of urban women. The presence of drugstores was also associated with choosing private providers, whereas free-of-charge services for oral contraception were associated with choosing public providers.

The independent effect of predictor variables, after controlling for other factors, suggests that there is no difference in choice of public or private provider when considering women's ages. Women with no education but who had a business were more likely to get their contraceptives from private providers. As expected, women in the higher wealth index and living in urban areas were significantly associated with choosing private providers. The public sector attracted a large proportion of pill users for free of charge service, while users who could afford to pay were significantly associated with utilization of private services.

Finally, keeping in view the background characteristics of the respondents and other factors, it can be concluded that women were more likely to choose private sector providers as compared to public sector ones, though the satisfaction level among the pill users was not much different on the part of between public and private service utilization.

Policy makers should consider a public-private partnership to increase accessibility and availability to pill users. The joint venture of both sectors should focus on providing other kinds of family planning methods as well.

This finding can be extended to adolescent girls and unmarried women in the community who also use oral contraceptives for prevention of pregnancy, and

government should promote knowledge that increases the awareness of public and private provision of services.

While the standard of quality of care varies between the public and private sectors, the difference is not much. However, more focus should be given to the quality of care. Both providers should inform pill users with due diligence about the side effects, the proper methods to use the pill, contraindication, and other necessary information.

In fact, not only have a number of government primary healthcare centers already implemented family planning program including oral contraceptives service in every sub-district level of Thailand, but also a number of drugstores (increase private provider) are looking for choice and availability that make oral contraceptives more available in order to meet women's needs. Then Thai government ought to upgrade the quality of family planning services so that they are suitable and set standard criteria for every public and private health provider.

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APPENDIX

Table A.1 Peason's correlation between independent variables.

	age	Nationality	Education	Occupation	Wealth index	place of resident	number of drugstores	Price of pill
Age	1.00	0.05	-0.11**	-0.12**	0.02*	-0.10**	0.01	-0.11**
Nationality	0.05	1.00	0.39**	0.00	0.27**	0.10**	0.01	0.06
Education	-0.11**	0.39**	1.00	0.19**	0.28**	0.22**	0.09**	0.20**
Occupation	-0.12**	0.00	0.19**	1.00	0.07*	0.12**	0.14**	0.04
Wealth index	0.02	0.27**	0.28**	0.07*	1.00	0.31**	0.14**	0.17**
Place of resident	-0.10**	0.10**	0.22**	0.12**	0.31**	1.00	0.35**	0.28**
Number of drugstores	0.01	0.01	0.09**	0.14**	0.14**	0.35**	1.00	0.11**
Price of pill	-0.11**	0.06	0.20**	0.04	0.17**	0.28**	0.11**	1.00

**. Correlation is significant at the 0.01 level (2-tailed).*. Correlation is significant at the 0.05 level (2-tailed).

Table A.2 Oral contraceptives providers by price of pill

	Charge of pill service				Total
Oral contraceptive providers	Free of charge	Charge Less than 30 baht	Charge 30 baht	Charge more than 30 baht	
Public hospital	25	5	14	1	45
Private hospital/clinic	4	22	2	11	39
Primary health centre	265	132	75	5	477
Drug store	1	357	24	174	556
Vender	0	1	0	0	1
Grocery	3	98	4	3	108
Office	6	0	0	0	6
Mobile clinic	0	1	0	0	1
Convenience store	0	1	0	0	1
	304	617	119	194	1,234

Table A.3 : Characteristics of married women of reproductive age, classified by sources of oral contraceptives.

Variables	Total (Number)	Public Providers	Private providers	χ^2
Demographic factors				
Age group (years)				
- 15-19	62	27.4	72.6	29.02***
- 20-24	161	35.4	64.6	
- 25-29	256	33.6	66.4	
- 30-34	267	48.7	51.3	
- 35-39	234	44.9	55.1	
- 40-44	185	49.2	50.8	
- 45-49	69	53.6	46.4	
Nationality				
- Thai	1,146	41.4	58.6	5.741*
- Non-Thai	88	54.5	45.5	
Education				
- No education	114	44.7	55.3	26.03***
- Less than secondary	1,037	44.3	55.7	
- Higher than secondary	83	15.7	84.3	
Socio-economic factors				
Occupation				
- Agricultural	705	53.2	46.8	82.21***
- Factory worker	158	32.3	67.7	
- Another Occupation	182	29.7	70.3	
- Business	189	22.8	77.2	
Wealth index				
- Low class	246	52.4	47.6	40.58***
- Middle class	741	44.7	55.3	
- High class	247	25.5	74.5	
Enabling factors				
Area of resident				
- Urban	1,035	48.5	51.5	98.44***
- Rural	199	10.6	89.4	
Number of drugstore in community				
- No Drugstore	436	42.7	57.3	96.92***
- 1 – 4 drugstores	501	44.5	55.5	
- More than 4 drugstores	297	19.9	80.1	
Price of the pill				
- Free of charge	304	95.4	4.6	
	624.90***			
- Pay less than 30 baht	617	22.4	77.6	
- Pay 30 baht	119	74.8	25.2	
- Pay more than 30 baht	194	3.1	96.9	
Total	1,234	42.0	58.0	

At significant level: * p> 0.05, ** p> 0.01 and *** p> 0.001

Kanchanaburi Project

Round 5 (Year 2004)

Institute for Population and social Research, Mahidol University

Individual Questionnaire

For Respondents aged 15 and over

Household ID

District .....
Sub-district .....
Village .....
Household No. .....
Individual No. .....

Name of respondent…….

Name of head of household…….

In case respondent can not provide all information ask from person close to them, and then……...

1. Identify his/ her relationship with the eligible respondent……
2. Reason that the respondents cannot provide all information……

House No……..Village's No……Village name……

Sub-district……District……Kanchanaburi Province

Area 1. Urban 2. Rural

Attempt interviewing no 1 2 3 4 5 6 7 8 9 10

Date of final interview…..……month……..Start……...End..... Total time……..minutes

Result of interview 1.Complete 2.Incomplete 3. Can not interview

Specify the reason for the incompletion……

Name of Interviewer …….

Name of Field Supervisor .....D/M/Y……...

Name of Editor..... D/M/Y……...

Name of Coder..... D/M/Y……...

Part 1: Personal Data

1.1 What is your birthday?

Day…….Month……..….Year……..

1.2 How old you are?

Age in years……Years

1.3 Weight…….Kg.

1.4 Height……..….cm.

1.5 Sex of respondent

1. Male 2. Female

1.6 What is your nationality?

1. Thai	4.Karen	7.Cambodian	10. Other(Specify).....
2. Burmese	5.Chan	8.Vietnamese	
3. Mon	6.Lao	9. Chinese	

1.7 What is your religion?

1. Buddhist	3.Islam	5.Other (Specify).....
2. Christian	4.Hindu	6. No religion

1.8 What is your marital status?

1. Single
2. Married → 1.8.1 First marriage (specify) M/Y ..... or age..... years
   1.8.2 In last marriage, did you register?
   1. Yes 2. No
3. Divorced
4. Separated
5. Widowed

Ask only person aged 15-49

1.8.3 Do you plan to marry?

1. Yes, at age……..Years
2. No……..
3. Not sure…….
4. Not comfortable to answer

1.9 Are you studying?

1. Yes,……

No, I completed level……..in years……...or at age……

Interviewer: Check, them the above table, and make sure that all cells has been filled. Then check whether is there any use of contraceptive methods or anv pregnancy. If

3.9 If respondent used contraceptive method or was pregnant in January 2003, please ask the question that

What contraceptive method that you continually used……/

OR when did you get pregnant? Record the month…….year .....

3.10 Check from the above table about the contraceptive method usage and ask the respondent

"what is your current method?" (Specify)…….

3.11 If respondent currently use a non-scientific contraceptive method, ask these questions.

3.1 1.1 Where do you usually get contraceptives? (can specify more than 1 item)

a. Public hospital in Bangkok
b. Public hospital
c. Private hospital
d. Health care center
e. Drug store
f. Retailer
g. Herb specialist
h. Convenience store with drug-provided corner
i. Other (Specify)……

3.11.2 Where did you get contraceptives the last time?

a. Public hospital in Bangkok
b. Public hospital
c. Private hospital
d. Health care center
e. Drug store
f. Retailer
g. Herb specialist
h. Convenience store with drug-provided corner
i. Other (Specify)……

3.11.3 How much did you pay for the last contraceptive service (exclude traveling cost and other)?

…….. baht.

3.11.4 Are you satisfied with the latest service?

1. Yes 2. No Because ……

3.12 If respondent ever used a contraceptive method, but have stopping using it, please ask the

3.12.1 What is your last contraceptive method used? (Specify) ……
(interviewer: the answer should consistent with answer in the above table)

3.12.2 last time, where did you get this contraceptive?

a. Public hospital in Bangkok
b. Public hospital
c. Private hospital
d. Health care center
e. Drug store
f. Retailer
g. Herb specialist
h. Convenience store with drug-provided corner
i. Other (Specify)……

3.12.3 How much did you pay for the last contraceptive service(exclude traveling cost and others)?

…… baht.

3.12.4 Were you satisfied with the service?

1. Yes 2. No Because……

4.9 From 1st July 2003 till now, have you ever used the 30 baht scheme card (gold card)?

1. Yes (skip to 4.10-4.15
2. No (Answer only one reason) (Skip to part 5)
3. Have no gold card

1. Never get sick
2. Not convenient
3. Have a familiar health center/clinic
4. Not sure about the quality of drug and service
5. Concern on time consuming
6. Do not have enough money for traveling or for other fees
7. Move away from the service provision area
8. Can use gold card in specific service area
9. Emergency accident (have to use nearest hospital/health center)
10. Use other card (specify) ……
11. Other (specify) ……..

4.10 How many times you used the gold card (Specify) …… Times

4.11 Where did you use the gold card last time?

1. Health care center
2. District hospital
4. Private hospital
5. Other (Specify)……..

4.12 What were the illness/ symptoms when you take treatment with the gold card, last time?

1. ……
2. ……
3. ……

4.13 Were you satisfied with the service, last time?

0. Did not receive any services
1. High satisfaction
2. Medium Satisfaction
3. Low satisfaction
4. Not satisfaction because …….

4.14 Were you satisfied with the service of other health officers, last time?

0. Did not receive any services
1. High satisfaction
2. Medium Satisfaction
3. Low satisfaction
4. Not satisfaction because …….

4.15 Were you satisfied with the quality of the drugs, last time (include injection)?

0. Did not receive any services
1. High satisfaction
2. Medium Satisfaction
3. Low satisfaction
4. Not satisfaction because …….

BIOGRAPHY

NAME	Tiwarat Tor.jarern
DATE OF BIRTH	6 April, 1979
PLACE OF BIRTH	Yasothorn Province, Thailand
INSTITUTE ATTENDED	Chiang Mai University, 2002 Bachelor degree in Pharmacy, Faculty of Pharmacy Chiang Mai Province, Thailand. Chiang Mai University, 2005 Master of Art in Economy, Faculty of Economy Chiang Mai Province, Thailand. Mahidol University, 2008 Master of Art in Population and Reproductive Health Research, Institute for Population and Social Research Salaya, Nakhon Pathom,Thailand,
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