

**KNOWLEDGE AND ATTITUDE TOWARD INDUCED ABORTION
AMONG WOMEN OF REPRODUCTIVE AGE
IN NAKHON RATCHASIMA PROVINCE**



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Thesis
Entitled

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Arunothai Intarakumhaeng

KNOWLEDGE AND ATTITUDE TOWARD INDUCED ABORTION AMONG
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ABSTRACT

This cross-sectional survey research is aimed to assess knowledge and attitude toward induced abortion among Thai women of reproductive age in the provinces. This study included 265 women between the ages of 15-49 years, who lived in Muang district, Nakhon Ratchasima Province. Data were collected using self-administered questionnaires during 15 December 2003 and 31 January, 2004. Statistical analysis employed percentage, mean, standard deviation. Chi-square test and Pearson's correlation were used for hypothesis test of association.

The results showed that most women of reproductive age in this study were in the group of 20-29 years of age (45.3 %), 21.5 % were employee and 28.7 % were still students. More than half of these women had income less than 5,000 Bath/month. Forty one percent had a bachelor degree and 48.3 % were single. Fifty four percent of them had moderate knowledge of induced abortion, only 14.7 % had low level of knowledge and their attitude toward induced abortion was mostly in the agree category. 12.8 % of them had an induced abortion for at least once. As for the association between general characteristics and knowledge of induced abortion, the statistically significant factors included age, occupation, education, income, marital status and number of living children. Regarding attitude toward induced abortion, the factors of age, education and abortion experience were statistically significant at $P\text{-value} < 0.05$. 31.7 % of the sample opted for induced abortion if they had unplanned pregnancy

This study showed that women of reproductive age in Amphur Muang, Nakhon Ratchasima Province had a moderate knowledge of and a good attitude toward induced abortion. Rather a small percentage of women of reproductive age had undergone induced abortion. Most of them decided to continue pregnancy in spite of problems, which may possibly be explained by belief, attitude and lack of good knowledge about induced abortion. In conclusion, induced abortion should be a means to attack unwanted pregnancy and in order to make appropriate decisions, good knowledge and attitude should be promoted.

KEY WORDS : WOMAN OF REPRODUCTIVE AGE / KNOWLEDGE
AND ATTITUDE / INDUCED ABORTION

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ความรู้และทัศนคติของหญิงวัยเจริญพันธุ์ในจังหวัดนครราชสีมาต่อการทำแท้ง

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บทคัดย่อ

การศึกษาครั้งนี้เป็นการวิจัยเชิงสำรวจภาคตัดขวาง มีวัตถุประสงค์เพื่อศึกษาความรู้
และทัศนคติของหญิงวัยเจริญพันธุ์ในต่างจังหวัด กลุ่มตัวอย่างคือ ผู้หญิงวัยเจริญพันธุ์ ที่อาศัยอยู่ใน ต.
ในเมือง อ.เมือง จ.นครราชสีมา จำนวน 265 คน เก็บข้อมูลโดยให้กลุ่มตัวอย่างตอบแบบสอบถามด้วย
ตนเอง ระหว่างวันที่ 15 ธันวาคม 2546 ถึง 31 มกราคม 2547วิเคราะห์ข้อมูลโดยใช้ความถี่ ร้อยละ ค่า
เฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และวิเคราะห์ความสัมพันธ์โดยใช้ Chi-square และ Pearson's
correlation

ผลการศึกษาพบว่า กลุ่มตัวอย่างมีอายุระหว่าง 20-29 ปี มีอาชีพรับจ้างร้อยละ 21.5 ยัง
เป็นนักศึกษาอยู่ร้อยละ 28.7 มากกว่าครึ่งของหญิงวัยเจริญพันธุ์ที่เป็นกลุ่มตัวอย่างมีรายได้น้อยกว่า
5,000 บาทต่อเดือน มีระดับการศึกษาระดับปริญญาตรี(ร้อยละ 41.1) และยังเป็นโสด (ร้อยละ 48.3)
สำหรับความรู้เรื่องการทำแท้งร้อยละ 45.7 มีความรู้ระดับสูง มีเพียงร้อยละ 14.7 เท่านั้นที่มีความรู้ระดับ
ต่ำ ส่วนทัศนคติต่อการทำแท้งพบว่า ส่วนใหญ่มีทัศนคติที่ดีต่อการทำแท้ง หญิงวัยเจริญพันธุ์ร้อยละ
12.8 เคยทำแท้งมาแล้วอย่างน้อยหนึ่งครั้ง เมื่อหาความสัมพันธ์ระหว่างปัจจัยส่วนบุคคลกับความรู้เรื่อง
การทำแท้งพบว่า อายุ อาชีพ การศึกษา รายได้ สถานภาพสมรส และจำนวนบุตรที่มีชีวิตอยู่ มีความ
สัมพันธ์อย่างมีนัยสำคัญทางสถิติกับความรู้เกี่ยวกับการทำแท้ง ส่วนทัศนคติต่อการทำแท้งพบว่า อายุ
จำนวนบุตรที่มีชีวิตอยู่ และประสบการณ์การทำแท้งที่มีความสัมพันธ์อย่างมีนัยสำคัญทางสถิติกับทัศน
คติต่อการทำแท้ง ผู้หญิงร้อยละ 31.7 ตัดสินใจทำแท้ง เมื่อตนเองตั้งครรภ์ในขณะที่ยังไม่พร้อม

จากผลการศึกษาครั้งนี้ พบว่า หญิงวัยเจริญพันธุ์ใน อ.เมือง จ.นครราชสีมามีความรู้ใน
ระดับปานกลางและมีทัศนคติที่ดีต่อการทำแท้ง และเคยมีประสบการณ์การทำแท้งไม่มากนัก ส่วนใหญ่
ยังคงตัดสินใจตั้งครรภ์ต่อทั้งๆที่มีปัญหาหรือข้อบ่งชี้ทางกฎหมายให้ทำแท้งได้ อาจเป็นความเชื่อ ทัศนค
ติและความไม่รู้เรื่องการทำแท้งที่ดีพอ จึงควรมีการเผยแพร่ความรู้ และทัศนคติที่ถูกต้องให้สังคมได้
พิจารณาให้มากขึ้น เพื่อให้สังคมได้ยอมรับและวางแผนพัฒนาเพื่อแก้ไขปัญหาการตั้งครรภ์ไม่ปรารถนา

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CHAPTER 1

INTRODUCTION

Significant problems

Being a developing country, Thailand is experiencing both rapid economic and social growth. However economic gain is not without any destructive loss. Rapid cultural change is the direct affect causing endless social problems in our society.

Induced abortion. is a one of the critical social problem and is attracting interests both national and international levels since this striking problem of unwanted pregnancy is intensifying. Induced abortion is related to several factors such as materialistic, knowledge, attitude, sex education, birth control, acceptance and exposure to educational and vocational opportunity for woman. More importantly, there is an urgent need for social reform by both public and private sectors in changing law of abortion.

Induced abortion is one of the answer to unwanted pregnancy. This is the fact of life which is true in the past, at present and into the future. There is no country where abortion do not occur. WHO study showed that there were approximately 210 millions pregnant women annually and 22 percent of those ended up with abortion, indicating that there were approximately 46 millions abortion worldwide. In every 1,000 pregnancies, 35 cases are women with induced abortion. The alarmingly truth is that out of those numbers approximately 20 million cases received induced abortion from untrained persons or substandard conditions or both (1).

Recent estimates for developing world regions provide an overall figure of around 30 million induced abortions annually, broken down as follows: 3.4 million in Africa (high range estimate); 11.9 million in East Asia; between 5.2 and 12.5 million in South and South- East Asia; and between 4.4 and 6.2 million in Latin America(2).

As for Asian countries, number of abortion is quite alarming as well. In 1997, Philippines has approximately 400,000 abortion cases where as Bangladesh has as high as 30,000 cases in one year. (3).

In the United States, there are six millions pregnancy annually. Half of those cases belongs to unwanted pregnancy which leads to 1.6 millions induced abortion a year(4).

As for other countries like Norway, Russia And India where law against abortion exists, unwanted pregnancy rate continues to rise (4) since family planning is inadequate and inefficient. According to the study of unwanted pregnancy in women of reproductive age by Wannarat Suwan in 1987 (5), 26.2 percent of pregnancy were unplanned of which the highest rate was found in the northeastern part where 40 percent of all unplanned pregnancy cases were reported.

Report from Siriraj Hospital, in 1989 studied 314 cases of unwanted pregnancy. Out of those cases, 83.7 percent were teenager mother(6). Napaporn Chayowan and John Nodel in 1992(7) also reported the same finding. Report from abortion clinic in Rajvithi Hospital in 1992(8), revealed that there was, in one year, a total of 1,120 cases of unwanted pregnancy which induced abortion was requested. A follow up study reported only 69 cases gave birth in that hospital, only 16 cases received therapeutic abortion whereas the rest never returned to the clinic and therefore remained unaccountable for.

In Thailand, a study showed a high rate of induced abortion between 200,000-300,000 cases annually (9) which translated into 107 cases per every 1,000 women in reproductive age(6). From a study in Lampang, Katepradith found that there were a lot of women with unwanted pregnancy , especially in women under the age of 20 years old(10). , Induced abortion rate is very high which is 13.1 cases in every 1,000 WRA (women of reproductive age). In Thailand, there is a law against induced abortion since 1956. However induced abortion becomes legal for 2 conditions. The first is that if induced abortion is done for the health of pregnant woman. The second one is that in case of rape victim.(11). The law has not been modified or improved since then, to reflect today society nor advanced medical technology.

This research is aimed to study knowledge of and attitude toward women of reproductive age in a province of Thailand. The women are in the rural areas of Thailand and are less educated and less exposed to abortion law and technology. Whether they agree and have any experience about induced abortion is worth to explore.

Objective of the study

1. To study the general characteristics, the levels of knowledge and attitude toward induced abortion among women of reproductive age (WRA) in Muang district Amphur Muang, Nakhon Rachasima Province.
2. To study the association between general characteristics and knowledge of induced abortion among women of reproductive age (WRA) in Muang district, Amphur Muang, Nakhon Rachasima Province.
3. To study the association between general characteristics and attitude toward induced abortion among women of reproductive age(WRA) in Muang district, Amphur Muang, Nakhon Rachasima Province.
4. To study the association between knowledge of and attitude toward induced abortion among women of reproductive age (WRA) in Muang district, Amphur Muang, Nakhon Rachasima Province and decision on induced abortion in different scenario.

Hypothesis

1. There were statistically significant associations between general characteristic of WRA which included age, occupation, education, income, marital status, number of living children and abortion experience, and knowledge of induced abortion.
2. There were statistically significant associations between general characteristic of WRA which included age, occupation, education, income, marital status, number of living children and abortion experience, and attitude toward induced abortion.

3. There were statistically significant association between level of knowledge of and attitude toward induced abortion of WRA and their decision to have induced abortion in different scenario.

Scope of study

The sample were 15-49 years women of reproductive age who lived in Muang district, Amphur Muang, Nakhon Rachasima Province more than 1 years.

Definitions of terms used in the study.

Women of reproductive age (WRA) means woman age between 15-49 years old who lived in Muang district, Amphur Muang, Nakhon Rachasima Province.

Age means complete years since birth date of women of reproductive age (WRA) to the date of interview.

Education means the highest years of formal education of women of reproductive age.

Income means the money that the women of reproductive age earn per month.

Occupation means the regular work of women of reproductive age to earn their living.

Marital status means type of relationship of women of reproductive age (WRA) with sexual partners which included

- Single : living alone
- Concensual union : living with partner but did not registration
- Married : living with partner and register
- Divorce, Separate, Widowed : Ever had living with partner but did

not now

Number of living children means the number of living children of women of reproductive age.

Abortion experience means women of reproductive age knew the place or person ever used induced abortion services.

Induced abortion means to any miscarriage or premature birth to terminate pregnancy by whatever deed of not wanting the child or by any reasons to end the pregnancy before 28 weeks since last menstrual period (LMP) or calculating by the weight of the child of less than 1,000 grams.(12)

Knowledge of induced abortion means the level of understanding about pregnancy, spontaneous abortion, induced abortion, time, place and method of induced abortion, complications of induced abortion and law abortion.

Attitude toward induced abortion means the level of feeling and opinion of agreement among woman of reproductive age about induced abortion and the law abortion.

Expected outcome or benefit

The result of this research may be useful by following :

1. To assess knowledge of and attitude toward induced abortion among women of reproductive age in Muang district, Amphur Muang , Nakhon Rachasima Province.
2. To guideline for participants understand induced abortion situation in Nakhon Rachasima Province.
3. To be data base for further induced abortion study.

CHAPTER 2

LITERATURE REVIEW

In this chapter, concepts and theories on the induced abortion which will determine the WRA's knowledge of and attitude toward induced abortion were presented. The presentation will be organized into different topics as follow:

1. Abortion and types of abortion
2. Preception and concepts of abortion
3. Abortion laws in Thailand
4. Related researches of the induced abortion.

1.Abortion and types of Abortion

Induced is to cause or initiate by artificial means(13)

Abortion is the termination of a pregnancy after, accompanied by, resulting in, or closely followed by the death of the embryo or fetus(13)

World Health Organization (WHO) defines abortion as ending pregnancy prior to 28 weeks and fetus weight 1,000 grams or less(12).

Induced abortion defines ending pregnancy unlimited of weeks' gestation, fetus weight is not more than 500 grams, fetus length is not more than 25 centimeter and live birth or not (14)

Abortion in terms of medical sciences is referred to the termination of pregnancy before the stage of Viability. The definition of the Stage of Viability is differed from each institution(weight of 400-1,000 grams or pregnancy of 20-28 weeks). In the United States, The American College of Obstetrician and Gynecologists (ACOG) defines the abortion that when the child is not more than 500 grams or pregnancy of less than 20 weeks(15).

Abortion is divided into 2 major types(15,16,17),i.e. spontaneous abortion and voluntary induced abortion.

1.1 Spontaneous abortion is a natural miscarriage that occurred without using medicine, tools, or any methods.

1.2 Induced abortion is the miscarriage that happened by the intent of an individual either directly or indirectly in terminating the pregnancy by eliminating the unborn child in the womb. It may be sometimes called therapeutic abortion.

It take place in the case that had pregnancy been further allowed, it might critically affect life, health and mental health of the mother as well as the unborn child after being delivered might suffer both physically and

Effect of induced abortion

Effect of induced abortion mostly occur from illegal abortion which can be identified in factors as follow:

1.Physical Factors These may occur from abnormal uterus, abnormal bleeding, infection, inflammation, septicemia, uterus rupture etc. If no effective medical attention is received timely, the pregnant woman may be in life danger. In same cases, these may result in the inability to become pregnant.

2.Psychological Factors There are effects of feeling of individuals such as confusion, fear, stress ,depress ,degradation and instability. In cases of women who have no other choices but abortion, despite wanting to keep the babies, induced abortion has moral deterioration effect upon those women(18).

From the study, unmarried woman who had induced abortion feel uneasiness in the first 2-3 months. However after one year follow up, it was found that they feel much better. On the other hand, most women cannot easily cope with the lost which may have effects on their ways of life and emotion to the point of having mild mentally disturb experiences.

3. Economic Factors Most illegal abortions result in complication which requires Futher hospitalization that become costly to both patience and the government.

2. Preception and Concepts of Abortion

Rationale in rejection and acceptance of abortion.

Even every country has abortion laws, however, people in society perceive the abortion differently. Arguments in the western countries can be differentiated into 3 major groups as follows (19).

The Conservatives

This group both rejects and objects abortion, perceiving that abortion is immoral in all cases. This group is religious-based, particularly the Christians and attaches to the value of life principles counting that the fetus in the womb is already being human on the seconds of conception. All humans own rights to equally live regardless who they are, either adults, or the aged, or children or the unborn young in the womb, or the limps, or the incurable sick. The abortion is therefore immoral because it kills person regardless of cases. This group adheres to the Strong Pro-life Positive believing that the unborn child is a human or a person in general. The group, which rejects the abortion, is called the Pro-life Group.

The Liberal

This group contradicts the Conservative. Most Liberal is non religious-based and likely influenced by the Utilitarianism thinking that what one should do is for the best benefits of the society. Therefore, to decide whether abortion is right or wrong depends on the permission of viability of abortion to society, and not by religious beliefs. The Liberal perceives that freedom of abortion is advantageous to society rather than impediments, and it is not against morality by using the Principles of individual freedom to be applied with right of the pregnant woman over the body and the inborn. Therefore, the pregnant woman own the rights of choice. It is also emphasized that the actual state of being human is valueless or owns the full rights till being born. It means that the unborn young in the womb rely on the values and rights of the mother without owning values and rights of its own till delivery. The Liberal

counts that abortion is the individual activity and it affects non-others rather than one who takes pregnancy termination. Besides, abortion does not harm anybody. The group that accepts the Liberal abortion is called the Prochoice. It is clear that both groups are contradictory in the acceptance and the rejection of abortion. However, there is another group, that perceive the middle way i.e. neither accepting nor rejection in all cases, which is the intermediate(20).

The Intermediary

This group neither accepts nor rejects abortion in all cases alike the Conservative or the Liberal. However, this group accepts abortion in some cases, which depends upon conditions and reasons referring the viability of abortion. The acceptance of abortion is based on necessity or with the Hard Reasons, which is the medical reason and humane i.e. abortion based on the impact of pregnancy against the health of the mother, the pregnancy by felonies and the limp unborn young . The group rejects abortion on conditions and reasons of the Soft Reasons, i.e. abortion because too many children, and unmarried. However, either to accept or to reject is based on the individual different conditions.

3. Abortion Laws in Thailand

Definition of “abortion” legally is referred to the delivery of a dead child from the womb under the verdict of the court 677/BE2510(21).

Criminal abortion in Thailand, there is still prohibition in liberal abortion. Abortion by other indication rather than therapeutic abortion is therefore subject to criminal penalization, and most rationales are based on economic and social reasons(22). Illegal abortion is critical issues on the basis of affecting female health, abortion in Thailand is legally permitted on only two.

The existing Criminal Codes(BE 2499)

After enforcing the laws of Criminal Character RE 127 (BE 2451) for 48 years till the end of BE 2499, the Thai government saw the significance in the amendments of the Laws of Criminal Character RE 127 (BE 2451) corresponding to the social changes. The Thai government appointed the committee to amend the laws and being enforced since January 1. BE 2500 including offense of abortion. Also, it specified the pregnant women and the provider of service for pregnancy termination with 10 sections. Beginning from the 3rd. Section of Article 301 to 305 are 5 Articles as follows(21,23)

Article 301 codes that

“Any female commits self abortion or consent to must be subject to imprisonment of not more than three years or fines of six thousand Baht or both”

Article 302 codes that

Any person commits pregnancy termination under the consent of the pregnant must be subject to imprisonment of not more than five years or fines of ten thousand Baht or both.

If the offense also critically hurt the pregnant, the offender must be subject to imprisonment of not more than seven years or fines of fourteen thousand Baht or both”

If the offense causes the pregnant death, the offender must be subject to imprisonment of not more than ten years or fines of twenty thousand Baht or both.”

Article 303 codes that

Any person commits pregnancy termination under the discontent of the pregnant must be subject to imprisonment of not more than seven years or fines of fourteen thousand Baht or both.

If the offense also critically hurt the pregnant, the offender must be subject to imprisonment of one years to ten years or fines two thousand to twenty thousand Baht or both.”

If the offense causes the pregnant death, the offender must be subject to imprisonment of five to twenty years or fines of ten thousand to forty thousand Baht.”

Article 304 codes that

Any person attempts to commits offense of Article 301 or 302 of the first statement is not subject to any penalization.”

Article 305 codes that

“If offense is committed against Article 301 or 302, which is the offense of the physician and

1. It is critical to the health of the pregnant
2. The pregnant victimized by the criminal offense of Article 276, 277, 282, 283 and 284. The offender is free from any allegation”

In the case of rape, the therapeutic abortion , must be under at least 2 certified physicians with professional medical certified to take medical checks and unanimously confirm the abortion and submit to the Director of the hospital or the Acting Director where the physicians are allowed. The abortion of item 2.1.3 requires evidence from the interrogation officer or authority to be submitted to the physician of operation.

4. Related researches

Knowledge of induced abortion

Induced abortion is a social problem which has impact on moral and general cultural belief according to studies by Ieke irdjiati syahbuddin in 1989-1990 (24) who also found that knowledge on induced abortion among vocational students in Bangkok and Korat were at good level and K.Auchariyayat(25) who studied knowledge of induced abortion among student vocational school in Nontaburi province. It found that the students had moderate level knowledge and moderate level

of problem solving expectation

Attitude toward induced abortion

V. Prajuebbhor (26), studied attitude of women toward induced abortion : at Amphur Photaram, Ratchaburi Province in 1965 and found that acceptability of induced abortion among housewife was only 5 percent. They considered induced abortion as immoral and guilt.

D. Cowgill et.al. (27), in 1969 studied attitude toward acceptability of induced abortion among housewife in Bangkok. He found that the acceptability of induced abortion was 62 percent.

B.Leoprapai and R.G.Burnigh(28), in 1975 who studied attitude of rural Thai women toward induced abortion found that rural woman had higher acceptability rate of other indications of induced abortion than urban women. They also found that good attitude toward induced abortion was associated with educational level and income and acceptability of induced abortion was 56 percent.

O. Ruayajin(29) who studied attitude toward induced abortion among executives officer and general people in Bangkok found that there was no association between economic status and attitudes toward induced abortion.

M. Chaumpluk(30) studied knowledge and attitudes concerning abortion practice in urban and rural areas of Thailand and found that urban women who were younger and higher educational level would have better attitude toward induced abortion than older and lower education level.

V. Kasirarat (31) studies the concepts and attitude toward abortion law among 60 medical social workers in government hospitals located in Bangkok. He found that a lot of women admitted due to complications of illegal pregnancy termination. He suggested that the government should amend the Criminal Laws Articles 305 on account of its high limitations resulting in the viability of the pregnant women, who are in necessity to access legal abortion services by physicians.

S. Siriboon (32), who studied Impacts of study attitude toward induced abortion among women in both urban and rural areas of Thailand found that the younger generation had more liberal attitudes than the older generation.

M. Sappayavanich (33) studies the attitudes of the staff in the criminal justice toward Abortion Laws among 239 staff interviewed most staff agreed with the amendment of the abortion law. Illegal abortion should be reduced by sex education, moral improvement providing welfare to the poor family to raise children when being pregnant, providing knowledge for juveniles to understand the nature of human and to prevent the social problem of illegal abortion. In relative to the Abortion Laws - the staff agree that there should be the laws to penalize the attempt of illegal abortion. The abortion should be allowed if the child will be born with physical and psychological disorder. Laws should be amended to penalize the males causing the pregnant women to have illegal abortion. The amendments should fit to the present situation contemplating the sensation and the integrity of the people by clearly considering the limitation and conditions of the practices as well as the economic and social reasons.

I. I. syahbuddin in 1989-1990 (24), studied comparative knowledge attitude and practice about induced abortion among adolescents in vocation school at Bangkok and Korat province found that they had positive induced abortion attitude.

R. Khamprabha (34) studied perspectives of 737 Thai youth in Bangkok toward the resolution of the unwanted pregnancy and the abortion laws and found that they had opinion that survival of the mother is more important than the baby 's right to live (81.1 percent) and strongly disagree with Free right of woman to induced abortion (80 percent) but agreed with some conditions of woman's to induced abortion (86.5 percent).

K. Phopunchana (35) studied acceptance of induced abortion among 438 adolescents who were vocational students in Bangkok. Most of the student accepted induced abortion at moderate level and strongly agreed with some condition i.e. pregnancy with HIV infection.

B. Jaiswang (36) studied acceptance of social welfare staff toward induced abortion and found that they accepted induced abortion in high level

S. Praditphong (37) studies the rights over the body and the decision of taking abortion. It is found out that cognizance and concepts regarding right over the body of the female group in the investigation have been divided into 3 groups, i.e. the abortion group, the antirights of abortion group, and the conditional supportive

group. The factors of cognizance toward rights of the abortion group, e.g. economic status, education, status and social role are lower than the 2 groups, which have the supportive factors of the cognizance toward rights. However, rights will differ according the life experience. The anti group is females in the religious group and the female obstetricians. Whereas, the conditional supportive group is females in the criminal justice and social workers conditioning that rights is used under restriction with the period of pregnancy, providing instructions and information to the females in association with amendments of laws to help the unwanted pregnancy.

There are many factors influencing attitude toward induced abortion. Similarly, there are many reasons given when people express their opinion for opposing or supporting abortion. The major content of debates on abortion include for example, the cause and prevention of unwanted pregnancy, the fetus, woman's right, etc.

Sherwin (38) analyzed the ethics of abortion by comparing between feminist and non-feminist arguments about abortion. She found that non-feminist arguments focus exclusively on the morality and/or legality of performing abortions, whereas feminists insist that other questions including ones about accessibility of delivery of abortion services must also be addressed. Non-feminist theorists, whether they support or oppose a woman's right to choose abortion, focus almost all their attention on the moral status of the developing embryo or the fetus. Most feminists believe that a pregnant woman is in the best position to judge whether abortion is the appropriate response to her circumstances. and he also gathered sets of the reasons of those who oppose or support abortion. For the opposition, abortion should not be promoted as woman can avoid unwanted pregnancy by avoiding sexual intercourse and the fetus is value as human and therefore entitled not to be killed. In contrast, feminist supporting abortion argue that young woman are always discouraged from preparing for sexual activity that might never happen and are offered instead romantic models of spontaneous passion. For the feminists, fetuses are morally significant, but their status is relation rather than absolute. The relationship existing between a woman and the fetus is clearly asymmetrical. She is the only party in the relationship who is capable of making a decision about whether the interaction should continue and the fetus is wholly dependent on the woman who sustains it while she is quite capable of

surviving without it.

Often, the legal status of abortion has become the heart of the debate in many countries. Currently, 25 percent of the world's woman live in parts of the world where abortion is permitted only to save a woman's life or is prohibited altogether. According to the Alan Guttmacher Institute (39), of 1.38 billion of woman in 1999, ten percent reside in countries where abortion is allowed when it is necessary to protect a woman's physical health or her life, and another 4 percent where it is permitted for these reasons or to protect a woman's mental health. Fortunately, the more liberal law is provided for 61 percent of woman in the world . Among them, 20 percent live in countries that permit abortion for economic reasons, as well as for the narrower grounds described above, and 41 percent in countries where woman may obtain the procedure without being required to give a specific reason.

In Thailand, as noted above, there are only two exceptions permitted by the law for obtaining a legal abortion. Along with advocacy for expanding grounds for legal abortion in Thailand, studies on attitude towards induced abortion have been conducted among either the general population or people in some particular career. Most of the studies have found wide support for abortion under the conditions permitted by the law. Some studies have also focused on some other dimensions of abortion, for example abortion as a woman's choice, morally of abortion, advantage of abortion in reducing some social problem.

Determinants of abortion attitude

In Thailand, according to the review by S. Ratchukul (40) of 40 years of studies on attitudes toward induced abortion, there has been a change from negative to positive attitudes toward induced abortion among people in almost every sector of society. Many studies were undertaken to identify variables influencing variation of abortion attitudes, and had been done either among the general population or specific groups.

Age of respondents is employed as an independent variable in almost every study on abortion attitudes. It was found in many studies age is one of the

important factors affecting attitudes toward induced abortion. Miller, studied the abortion attitudes among married men and women, found that the acceptability of abortion increase with age. Similarly, some studies in Thailand found that older generation are more favorable in their attitudes toward abortion than the younger generation(29). However, some studies also presented opposite results that the younger generation had more liberal attitudes than the older generation (32,41). Considering the timing of each study, we could argue that abortion attitudes have improved to be more positive among the younger generation. Or it may be that, rather than age, abortion attitudes are affected by other factors, for example, education, type of occupation, which are themselves related to age.

In Thailand, some studies have found that people with higher education have more favorable attitudes towards induced abortion than those who have lower education (32,33,41). However the effect of education on abortion attitudes is not direct effect. It was evident in the study of S.Siriboon(32) that education influenced abortion attitudes through ideal family size and number of children ever born, as it led to a desire to have a small family and favorable attitude towards fertility control. Woman with low fertility and who desire a small number of children viewed abortion as a supplementary means of family limitation. Similarly, Chulalongkorn (42) concluded that the attitude also depend on the background and experiences of people.

Similarly, a study on trends in abortion attitudes in U.S. during the period of 1972-78, found that education was the most important socioeconomic variable in explaining the variability of attitudes toward abortion (43). Again, in a study of the trend of abortion attitudes of black woman in the U.S. during 1972-1991, the higher the education of the black woman the more their support for legal abortion. The positive relationship was found significant during the year 1982-1991 (39)

An effect of occupation on abortion attitudes has been found in many studies. Those who work in government organization expressed a more positive attitudes toward induced abortion than those who were employees or laborers, farmers, housewives and businessmen and/or trader (42) . Woman working in civil service and professional career also had attitudes supporting abortion (29).

Taking income level as an indicator for the economic status,

O.Ruayajin (29) found that there was no association between economic status and attitudes toward induced abortion. On the other hand, the study by S.Bhiromkaew (41) found those with high incomes favored abortion more than those with low incomes. She explained that those with higher incomes probably had benefited from a good education and were able to enter a high-pay job. These people believed abortion was respectable and not wrong or repulsive.

It has been hypothesized that people living in rural area might be more conservative than those living in urban area, so they should be less supportive of abortion also. However, it was found by B.Leoprapai and R.G.Burnihgt (28) that woman in rural areas, regardless of their other characteristics. In contrast, the study done by O.Ruayajin (29), found no association between residence and abortion attitudes.

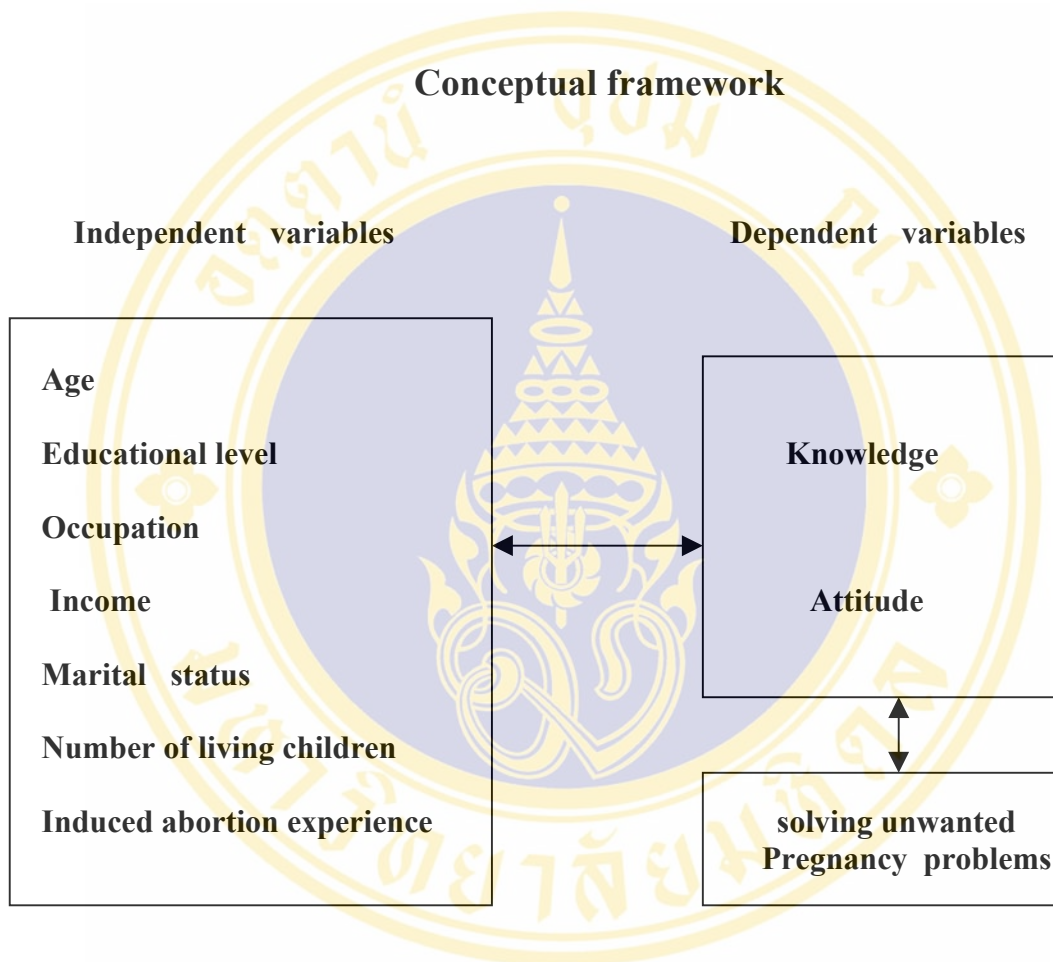
Other than the characteristics of the respondents, outside factors such as the social situation also play an important role in forming attitudes toward induced abortion. Cook studied the generational differences in attitudes toward abortion between 1972 and 1991 among whites in the U.S. Her findings suggested that the government policy on abortion had an association with the citizen's abortion attitudes. Whites who came of age during the reagan/Bush era are significantly less supportive of legal abortion than those who reached adulthood during the previous two decades. This cohort was exposed to organized antiabortion activity of the government.

Abortion experience: A relationship between the experience of abortion and the attitude toward induced abortion has been found in studied of O.Ruayajin(29) that couples who had at least one miscarriage and particularly an induced abortion had more positive attitude towards induced abortion.

4. Conceptual framework

According to the literature reviewed, the conceptual framework is constructed as shown in Figure.1 below.

Figure.1 Conceptual framework of knowledge of and attitude toward induced abortion.



CHAPTER 3 RESEARCH METHODOLOGY

Research design

This study research is a cross-sectional survey research in which data are collected simultaneously by a method of self administered questionnaire.

Population target and sample

The population of this study were WRA who lived in Nakhon Ratchasima Province for more than 1 years in 2004.

The sample size

The sample in this study were WRA in Muang district, Amphur Muang, Nakhon Rachasima province . The required sample size was calculated using the following formula (44,45):

$$n = \frac{Z^2_{\alpha/2} P(1-P)}{d^2}$$

n = estimated sample size.

Z = Standard statistical value, under normal distribution curve, with significant level at $\alpha = 0.05$

P = anticipated proportion of individual in population processing a characteristic of interested .

d = error allowance (0.05)

$$n = \frac{(1.96)^2 (0.2) (0.8)}{(0.05)^2}$$

$$n = 246$$

sometimes the questionnaires was not completed and therefore were not used for the analysis, so that the researcher determined the sample size increased 10 percent , thus there were 270 sample that show the chart to explained as follows.

Sampling method

The sample was selected by Stratified.Random Sampling the house In each community.

Collected data form 15th December 2003 to 31th January 2004.

Research instrument

Structured questionnaires were used data collection. The questionnaires consisted of 4 parts as follow:

Part 1. The general characteristics of woman of reproductive age included

1. Age : ratio scale
2. Occupation : nominal scale
3. Education : nominal scale
4. Income : ratio scale
5. Marital status : nominal scale
6. Number of living children: ratio scale
7. Experience abortion : nominal scale

Part 2. The knowledge of induced abortion: internal scale

The knowledge scale consisted of 12 question that focus mainly on meaning of fertilization, meaning of spontaneous abortion, meaning of induced abortion, timing of safety for induced abortion, safest induced abortion method, complication of induced abortion and law abortion. For question of correct content,

correct answer received 1 score, incorrect answer received 0 score. The scoring of the level of knowledge toward induced abortion was classified in 3 levels :

Low level score if the score was less than 50% or 5 scores

Moderate level score if the score was 50-70 % or 6-8 scores

High level score if the score was more than 70% or 9 scores

Part 3. The attitude toward induced abortion

The level of attitude was into 4 levels according to Likert's scale, i.e. strongly agree, agree, disagree and strongly disagree(46). Positive question received 4,3,2,1 scores respectively. Negative received 1,2,3,4 scores respectively. All item was positive question except item 1,6,7 was negative questions. Attitude measurement can be done by summing up score on each question and dividing scores into 3 level ; this is calculated by using :

Agree : if the scores was 1.75 - 2.50 scores

Disagree : if the scores was 2.51 – 3.25. scores

Part 4. Abortion experience :

The questionnaire consisted of 4 items : each item was 4 scenario for WRA make decision to solve unwanted pregnancy. By different scenario as follow:

Scenario I : Self unplanned pregnancy

Scenario II :Unmarried daughter with unplanned

Scenario III : Daughter's unplanned pregnancy during studying

Scenario VI: Daughter's unplanned pregnancy from raped

Validity and Reliability Test

1. Content validity

Corrections and revisions of the questionnaire were made according to

suggestions and recommendations from three experts who participated in the validation of the self-administered questionnaire.

2. Reliability

The revised questionnaire were used as the pre-tested among 30 reproductive age woman in Jor-Hor district, Amphur Muang, Nakhon Ratchasima Province. How much knowledge which had the same characteristics in the selection population. The reliability of the questionnaires was calculated by using Cronbach Alpha Coefficient and Kuder-Richardson in the knowledge of induced abortion as follows: (44,45)

The knowledge of induced abortion = 0.74

The attitude toward induced abortion = 0.88

The abortion experience and decision on unwanted pregnancy = 0.73

Data collection

Data were collected by self-administrated questionnaires in Thai language. The steps of data collection were as follows :

1. Submitting the letter of request from the Dean of Faculty of Graduate Studies for permission for data collection and describe the propose of this study.
2. Collecting data from WRA in Muang district, Amphur Muang, Nakhon Ratchasima Province of self-administrated questionnaire.
3. Editing and verifying the questionnaires for data analysis

Method of data analysis

The self administered questionnaires were coded by using computer. The statistics used for data analysis are as follows :

- 1.Descriptive statistic : percentage, mean, standard deviation were calculated to describe individual characteristics and other background information of the respondents.
2. Analytic statistic : Chi-Square and Perason's correlation were used to test the association between independent and dependent variable.

CHAPTER 4

RESULTS

The purpose of this study was to determine of the knowledge and attitude among the women of reproductive age (WRA) in Nakhon Ratchasima Province toward induced abortion. The results of the study will be divided into 5 parts as follow:

Part 1:The general characteristics of WRA which include personal characteristics and experience of induced abortion.

Part 2: Level of knowledge and attitude toward induced abortion of WRA.

Part 3 : Association between general characteristics with knowledge of and attitude toward induced abortion.

Part 4 : Different scenario of unplanned pregnancy and decision of WRA.

Part 5 : Association between knowledge of and attitude toward induced abortion and decision on induced abortion in different scenario.

Part 1. The general characteristics of WRA. (Table 1)

1. Personal characteristics

1.1. Age

Forty five percents of WRA are 20-24 years. The average age of WRA was 29.78 years old.

1.2 Occupation

Most of WRA are student (28.7 percents) and 12.1 percents are merchant.

1.3 Education

Most of WRA were undergraduate (41.1 percent) and 32.8 percent finished secondary school. Only 1.5 percent were postgraduate.

1.4 Income

Most of WRA had income <5,000 Baht/month (56.6 percent) and 5.7 percent had more than 15,000 Baht/month. The average income was 6612.4 Baht/month.

1.5 Marital status

Most of WRA (48.3 percent) are single. Thirty two percent are Married. Only 4.5 percent of WRA are divorced separated or widowed.

1.6 Number of living children.

Most of WRA had no child (53.6 percent). Only 6.8 percent had more than 3 children.

Table 1 Number and percentage of WRA classified by personal characteristics.

Personal characteristics	Number	Percentage
	n=265	100.0
Age (years old)		
15 -29	141	53.2
30 -39	77	29.1
40 -49	42	15.8
X ± SD 29.78 ± 8.55 Range 15- 49		
Occupation		
Student	76	28.7
Employee	57	21.5
Housewife	44	16.6
Government officer	52	19.6
Merchant	32	12.1

Table1 Number and percentage of WRA classified by personal characteristics.

(continue)

Personal characteristics	Number n=265	Percentage 100.0
Education		
Primary	32	12.1
Secondary	87	32.8
Vocational	31	11.7
Under Graduate	109	41.1
Post Graduate	4	1.5
Income (Baht / month)		
<5,000	150	56.6
5,001-10,000	60	26.0
10,001-15,000	31	11.7
> 15,000	15	5.7
Marital status		
Single	128	48.3
Consensual union	38	14.3
Married	85	32.1
Divorced /Separated/Widowed	12	4.5
Number of living children		
0	142	53.6
1	41	15.5
2	63	23.8
≥ 3	19	6.8

1.7 Experience involving induced abortion

WRA (50.9 percent) had either direct or indirect experience involving induced abortion. Only 49.1 percent had no experience at all.

Forty two percent of WRA know about the woman who ever had induced abortion, 20 percent known about place of induced abortion, 15.1 percent

had unplanned pregnancy and had induced abortion (12.8 percent) as shown table 2

Table 2 Abortion involving experience.

Abortion Experience	yes	
	n	%
experience involving induced abortion. (N = 265)	135	50.9
know about the woman who ever had induced abortion (N = 258)	113	42.6
know about place of induced abortion (N = 249)	53	20.0
ever had unplanned pregnancy (N = 255)	40	15.1
Ever had induced abortion (N = 258)	34	12.8

Part 2 : Level of knowledge and attitude toward induced abortion of WRA.

2.1 Knowledge of induced abortion

Most of WRA did not know about doctor could perform induced abortion for the health of mother, the meaning of spontaneous abortion and who is allowed by law to perform induced abortion. Most of WRA had moderate knowledge about meaning of fertilization, meaning of Induced abortion, timing of safety for induced abortion, complication of induced abortion and about doctor could perform induced abortion in case of pregnancy from rape. Most of them know that it is illegal if doctor perform induced abortion on indication of economic , contraceptive failure and reason of studying in school as shown table 3.

Table 3 Number and percentage of correct answers in the knowledge test.

Content of knowledge	Correct		Level
	n	%	
1. The meaning of fertilization	141	53.2	Moderate
2. The meaning of spontaneous abortion	50	18.9	Low
3. The meaning of Induced abortion	183	69.1	Moderate
4 The timing of safety for induced abortion	179	67.5	Moderate

Table 3 Number and percentage of correct answers in the knowledge test.
(continued)

Content of knowledge	Correct		Level
	n	%	
5. The safest induced abortion method	52	19.6	Low
6. The complication of induced abortion	150	56.6	Moderate
7. The doctor could perform induced abortion for the health of mother	33	12.5	Low
8. The doctor could perform induced abortion for economic problems of the practices	231	87.2	High
9. The doctor could perform induced abortion for the woman who is still in school	233	87.9	High
10. The doctor could perform induced abortion for the reason of contraceptive failure	223	84.2	High
11. The doctor could perform induced abortion in case of pregnancy from rape	164	61.9	Moderate
12. Who is allowed by law to perform induced abortion	102	38.5	Low

The scores of knowledge were categorized into 3 levels discovered that most of WRA had moderate knowledge (50-70% percent or 6-8 scores).(table 4)

Table 4 Number and percentage of WRA by level of induced abortion knowledge.

Level of knowledge	Number	Percentage
Total scores = 12	N = 265	100.0
- Low (<50%)	39	14.7
- Moderate (50-70%)	145	54.7
- High (>70%)	81	30.6

$X \pm S.D. = 7.392 \pm 1.952$ Range 2 - 12

2.2 Attitude toward induced abortion.

Considering the attitude toward induced abortion there were 12 items in the questionnaire about woman's right, indication for legal induced abortion, risks and benefits of induced abortion. Most of WRA had agree with induced abortion about some condition of woman's right and some indication i.e. induced abortion about woman who had physical problem and mental retardation which is obstacle to pregnancy to labor and delivery, woman deformity which is obstacle to pregnancy, physical to labor delivery, pregnancy from raped, HIV infection, Hereditary disease of woman i.e. DM, Epilepsy, Blood disease, woman is a prostitute and is unintentionally pregnant from service and abortion law i.e. abortion law enforcement will decrease complication from unsafe abortion, illegal induced abortion is an urgent problems of weakness of law enforcement ,Thai society would accept benefit of induced abortion for health of mother and fetus and amendment of criminal law (section 305) will decrease unsafe abortion. Majority of indication had disagree attitude about free right of woman and survival of mother is more important than the baby's right to live, woman is just divorced and knows later that she is pregnant, woman is a prostitute and is unintentionally pregnant from service, woman is just divorced and knows later that she is pregnant, failure of contraception, teenage pregnancy with no consent from own parents, teenage pregnancy which no consent from her partner's parents, unknown husband, unmarried woman and pregnancy will have untoward effect to her life, economic problem and induced abortion will help resolve child abandon problem. The average score of attitude is shown in table 5.

Table 5 Average score of attitude toward induced abortion.

Content of attitude	X	SD	Level
1 . Free right of woman	2.27	0.79	disagree
2. Some condition of woman's right	2.88	0.70	agree
3. Survival of mother is more important than the baby's right to live	1.95	0.76	disagree

Table 5 Average score of attitude toward induced abortion.(continued)

Content of attitude	X	SD	Level
4. Indication for induced abortion are written by law and the doctor should provide service if the indication is fulfilled - The indication should include :			
4.1 Physical problem and mental retardation which is obstacle to pregnancy to labor and delivery	3.37	0.69	Agree
4.2 The woman deformity which is obstacle to pregnancy and physical to labor delivery	3.20	0.73	Agree
4.3 Pregnancy from raped	3.13	0.84	Agree
4.4 HIV infection	3.15	0.86	Agree
4.5 Hereditary disease of woman i.e. DM, Epilepsy,Blood disease	2.76	0.82	Agree
4.6 The woman is a prostitute and is unintentionally pregnant from service	2.39	0.86	Disagree
4.7 The woman is just divorced and knows later that she is pregnant	2.03	0.76	Disagree
4.8 Failure of contraception	2.08	0.76	Disagree
4.9 Teenage pregnancy with no consent from own parents	2.03	0.66	Disagree
4.10 Teenage pregnancy which no consent from her partner's parents	2.02	0.68	Disagree
4.11 Unknown husband	2.18	0.75	Disagree
4.12 Unmarried woman and pregnancy will have untoward effect to her life	2.32	0.79	Disagree
4.13 Economic problem	2.37	0.75	Disagree
5. Induced abortion will help resolve child abandon problem	2.42	0.88	Disagree
6. Abortion Law enforcement will decrease complication from unsafe abortion	3.07	0.76	Agree

Table 5 Average score of attitude toward induced abortion.(continued)

Content of attitude	X	SD	Level
7. Illegal induced abortion is an urgent problems of weakness of law enforcement	3.09	0.72	Agree
8. Thai society would accept benefit of induced abortion for health of mother and fetus	2.74	0.87	Agree
9. Amendment of criminal law (section 305) will decrease unsafe abortion	3.07	0.74	Agree

When the scores of attitude toward induced abortion were categorized into 2 levels as disagree (1.75 - 2.50 scores) and agree (2.51 - 3.25 scores). Fouty three percent of WRA had disagree with induced abortion and 55.5 percent had agree with induced abortion as follow in table 6.

Table 6 Number and percentage of WRA classified by level of attitude toward abortion.

Level of attitude toward abortion	Number	Percentage
	265	100.0
Disagree (1.75 - 2.50)	116	43.8
Agree (2.51 - 3.25)	147	55.5

Part 3 : Association between general characteristics with knowledge of and attitude toward induced abortion.

As seen from table 7, age, occupation, education, income, marital status and number of children had statistically significant association with knowledge of induced abortion. Only abortion experience about induced abortion had no significant association with knowledge of induced abortion..

Table 7. Association general characteristics and knowledge of induced abortion

General characteristics	Chi square	df	r	P-Value
Age	-	6	0.159	0.002*
Occupation	18.889	8	-	0.015*
Education	18.369	8	-	0.019*
Income	-	6	0.235	0.007*
Marital status	16.029	6	-	0.014*
Number of living children	-	6	0.008	0.025*
Abortion experience	0.557	2	-	0.057

*P<0.05

The factor of general characteristics, which had statistically significant association with attitude toward induced abortion included age, number of living children and abortion experience. Occupation, education, income and marital status had not statistically significant association with attitude toward induced abortion as follow in table 8.

Table 8. Association general characteristics and attitude toward induced abortion

general characteristics	Chi square	df	r	P-Value
Age	-	3	0.163	0.039*
Occupation	2.323	4	-	0.677
Education	12.126	4	-	0.016
Income	-	3	0.091	0.317
Marital status	7.472	3	-	0.058
Number of living children	-	3	0.127	0.040*
Abortion experience	11.788	1	-	0.001**

*P<0.05, **P≤0.001

Part 4 : Different scenario of unplanned pregnancy and decision of WRA.

In this study, different scenario about unwanted pregnancy were asked for the decision of WRA. Table 9 shown number and percentage of decision of WRA to solve unwanted pregnancy in these scenario.

In case of self unplanned pregnancy , most of WRA (68.3 percent) decided to continue pregnancy. Only 31.7 percent decided to have induced abortion. The low percentage of decision of induced abortion was also in case of unplanned pregnancy in unmarried daughter. The decision of induced abortion increased if the daughter was still in school or was raped (40.75 and 70.94 percent) respectively.

Table 9 Decision different scenario

scenario	Induced abortion		Continue Pregnancy	
	n	%	n	%
Scenario I : Self unplanned pregnancy	84	31.70	181	68.30
Scenario II : Unmarried daughter with unplanned pregnancy.	73	27.55	192	72.45
Scenario III : Daughter's unplanned pregnancy during studying	108	40.75	156	59.25
Scenario VI: Daughter's unplanned pregnancy from raped	188	70.94	77	29.06

Part 5 : Association between knowledge and attitude toward induced abortion with decision on induced abortion in different scenario.

5.1 Association between knowledge and attitude toward induced abortion with decision to solve problem in scenario I : Self unplanned pregnancy

Knowledge level had statistically significant association with decision of induced abortion. Higher education level seems to decide to have induced abortion.

For the attitude level it also had statistically significant association with

decision induced abortion. Better attitude toward induced abortion seemed to decide to solve this problem by induced abortion. (table 10)

Table 10 Number and percentage of WRA classified by level of knowledge and Attitude toward induced abortion with decision to solve problem in scenario I : Self unplanned pregnancy.

Level of knowledge	Induced abortion		Continue pregnancy		Total %	χ^2	df	P-valve
	n	%	n	%				
low	8	(20.5)	31	(79.5)	39			
moderate	40	(27.6)	105	(72.4)	145			
high	36	(44.4)	45	(55.6)	81			
						9.464	2	0.009*
Level of attitude								
Disagree	18	(15.5)	98	(84.5)	116			
Agree	66	(44.9)	81	(55.1)	147			
						25.747	1	≤ 0.001**

*P<0.05, **P≤0.001

5.2 Association between knowledge and attitude toward induced abortion with decision to solve problem in scenario II : Unmarried daughter with unplanned pregnancy.

Knowledge level had statistically significant association with decision of induced abortion. High knowledge level seems to decide to have induced abortion. Low and moderate knowledge level seems to decide to solve this problem by continue pregnancy.

For the attitude level it also had statistically significant association with decision induced abortion. Better attitude toward induced abortion seem decided to solve this problem by induced abortion.(table 11)

Table 11 Number and percentage of WRA classified by level of knowledge and attitude toward induced abortion with decision problem in scenario II : Unmarried daughter with unplanned pregnancy.

Level of knowledge	Induced abortion	Continue pregnancy	Total %	χ^2	df	P-value
	n %	n %				
low	14 (35.9)	25 (64.1)	39 (100)	20.102	2	$\leq 0.001^{**}$
moderate	24 (16.6)	121 (83.4)	145 (100)			
high	35 (43.2)	46 (56.8)	81 (100)			
Level of attitude						
Disagree	17 (14.7)	99 (85.3)	116 (100)	16.893	1	$\leq 0.001^{**}$
Agree	55 (37.4)	92 (62.6)	147 (100)			

*P<0.05, **P≤0.001

5.3 Association between knowledge and attitude towards induced abortion with decision to solve problem in scenario III : Daughter's unplanned pregnancy during studying

Knowledge level had statistically significant association with decision of induced abortion. High knowledge level seems to decide to have induced abortion. Low and moderate knowledge level seems to decide to solve this problem by continue pregnancy.

For the attitude level it also had statistically significant association with decision induced abortion. Better attitude toward induced abortion seemed to decide to solve this problem by induced abortion.(table 12)

Table 12 Number and percentage of WRA classified by level of knowledge and attitude toward induced abortion with decision to solve problem in scenario III : Daughter's unplanned pregnancy during studying.

Level of knowledge	Induced abortion n %	Continue pregnancy n %	Total %	χ^2	df	P-value
low	14 (35.9)	25 (64.1)	39 (100)			
moderate	49 (33.8)	96 (66.2)	145 (100)			
high	45 (56.3)	35 (43.8)	81 (100)			
				11.231	2	0.004*
Level of attitude						
Disagree	27 (23.5)	88 (76.5)	115 (100)			
Agree	80 (54.4)	67 (45.6)	147 (100)			
				25.571	1	$\leq 0.001^{**}$

*P<0.05, **P≤0.001

5.4 Association between knowledge and attitude toward induced abortion with decision to solve problem in scenario VI: Daughter's unplanned pregnancy being raped

Knowledge level had statistically significant association with decision of induced abortion. Higher education level seems to decide to have induced abortion.

For the attitude level it also had statistically significant association with decision induced abortion. Better attitude toward induced abortion seemed to decide to solve this problem by induced abortion. (table 13)

Table 13 Number and percentage of WRA classified by level of knowledge and attitude toward induced abortion with decision to solve problem in scenario VI: Daughter's unplanned pregnancy being raped.

Level of knowledge	Induced abortion		Continue pregnancy		Total %	χ^2	df	P-value
	n	%	n	%				
low	23	(59.0)	16	(41.0)	39			
moderate	91	(63.2)	53	(36.8)	144			
high	73	(90.1)	8	(9.9)	81			
						21.311	2	$\leq 0.001^{**}$
Level of attitude								
Disagree	69	(60.0)	46	(40.0)	115			
Agree	117	(79.6)	30	(20.4)	147			
						12.027	1	$\leq 0.001^{**}$

*P<0.05, **P≤0.001

CHAPTER 5 DISCUSSION

Main purpose of this study is in order to learn about women of reproductive age (WRA)'s knowledge of and attitude toward induced abortion and decision in scenario and in order to consider the solving decision of WRA that may predict the possible way of determination. Based on the study result, the result can be discussed according to the study purpose and hypotheses as follows :

1. Research methodology
2. Research result

1. Research methodology.

1.1 Research design.

This study was a cross-sectional survey research which collected data from self administered questionnaire. The sampling groups were the woman of reproductive age in Maung district, Amphur Muang, Nakhon Ratchasima Province. The research design is appropriate according to the objectives of the study.

1.2 The study sample and sample size..

The study samples were the group of woman who were living in Maung district, Amphur Muang, Nakhon Ratchasima. The number of woman in this study was 265, which is adequate according to the sample size calculation in which the Danial formula was applied . From the calculation the number of 245 was needed.

1.3 Research Instrument.

Self administered questionnaires were applied to collect data which contained of the content covering the study's objectives. The contents of questionnaires were for its accuracy by three experts. Reliability of questionnaires

was determined by pilot study of 30 women of reproductive age in Jor-hor district, Amphur Muang, Nakhon Ratchasima province that was the co-ed in Maung district Amphur Muang, Nakhon Ratchasima province. Reliability of the questionnaires was rather good

1.4 Data collecting.

Self administered questionnaires was used for data collection and WRA had time to answer the question personally and they were told that the data of their answer would be kept secret. This would encourage to answer the question more correctly as induced abortion was a sensitive issue in the society.

1.5 Data Analysis.

Descriptive statistics including percentage, mean and standard deviation were used. In addition, inferential statistics including Chi-square Test and Preason's correlation were employed. They were considered to be suitable for the research hypotheses and objectives.

2. Research Result

The general characteristics of WRA.

Most of WRA are 15-29 years old and are studying. The income of these woman was rather low but with good level of education. This may represent WRA in a urban area in the province of Thailand.

Half of WRA had experience involving induced abortion (50.95 %), 42.6 percent know women who ever had induced abortion and 20 percent know place of induced abortion, 12.8 percent ever had induced abortion themselves. These percentages were higher than expectation due to the fact normally induced abortion is a sensitive issue and few people would talk about it and most people in Thailand considered induced abortion illegal. But social problems of unwanted pregnancy were rather common, the services of induced abortion although illegal, were established in various forms of clinics and health care center.

2.1 Knowledge, attitude toward induced abortion women of reproductive age.

In this study these group women have fair level knowledge of induced abortion and agree with induced abortion because they have high educational level.

2.1.1 Knowledge of induced abortion

Knowledge of induced abortion among WRA was rather fair. When considered each question, most of WRA know general information and did not know the technical term and law abortion. This result was accordance with the study by I.I syahbuddin (24), who also found that knowledge on induced abortion among vocational students was at good level and K. Auchariyayat who studied knowledge of induced abortion among student vocational school in Nontaburi province and also found that knowledge on induced abortion among these students was fair(25).

WRA have fair knowledge on induced abortion. This may be due to the fact that people can learn from various sources especially through the mass media i.e. radio, television and magazines. So the result is graded satisfying. This helps them understand and behave well and appropriately to maintain in good health.

2.1.2 Attitude toward induced abortion

Most of WRA had agree with induced abortion . This may be result from places of study took place, although, Muang district, Amphur Muang is considered as urban, people tend to be intermediary which is contrast with the study of Visit (26), who also studied attitude among women toward induced abortion : at Amphur Photaram, Ratchaburi Province in 1965 and found that acceptabilty of induced abortion among housewife was only 5 percent, they considered induced abortion as immoral and guilt.D.Cowgill et.al. (27), in 1965 studied attitude toward induced abortion among people in Bangkok toward induced abortion acceptabilty of induced abortion among housewife increase to 62 percent and 8 years later, study of Institute for population and social research, Mahidol university(28) studied behavior and attitude among rural women in reproductive health found that acceptabilty of induced abortion was 56 percent.

In the assessment of attitude toward induced abortion WRA disagree with the fact that survival of mother is more important than the baby 's right to live. It's conservative.

2.1.3 The association between age, occupation, income, marital status, number of living child ,educational level, experience of induced abortion and knowledge of induced abortion

Factors which were statistical significance associated with knowledge of induced abortion include age, occupation, education, income, marital status and number of living children. It was so probably because women who had experience of life get more information, more knowledge in life time.

Explanation of abortion experience which was not statistically significantly associated with knowledge toward induced abortion is that women who had induced abortion themselves would not learn anything from that even as if is consider to be

2.2 The association between age, occupation, educational level, income, marital status, number of living children ,educational, level, experience of induced abortion and attitude toward induced abortion.

Factors which had statistically significant association with attitude toward induced abortion include age, number of living children and abortion experience. It was explained that WRA acceptability of abortion increased with age according to Miller, who studied the abortion attitudes among married men and women in U.S.A., found that the acceptability of abortion increase with age. Contrast , studies in Thailand by B.Leoprapai and R.G.Burnigh(28), who studied attitude of rural Thai women toward induced abortion found that rural woman had acceptability rate of other indications of induced abortion higher than urban women. They also found that good attitude toward induced abortion was associated with education level and income. In accordance with O.Ruayajin(29), who studied attitude toward induced abortion among executives officer and general people found that there was no association between economic status and attitudes toward induced abortion and M.Chaumpluk(30) studied knowledge and attitudes concerning abortion practice in

urban and rural areas of Thailand and found that urban women who were younger and higher education would have good attitude toward induced abortion than older and low education. S.Siriboon, who studied Impacts of study attitude toward induced abortion among women in both urban and rural areas of Thailand found that the younger generation had more liberal attitudes than the older generation (32). WRA who work in government organization expressed a more positive attitudes towards induced abortion than those who were employees or laborers, farmers, housewives and businessmen and/or trader (29). Woman working in civil service and professional career also had attitudes supporting abortion (32).

2.3 Decision of WRA in different scenario and the association with knowledge of and attitude toward induced abortion.

Level knowledge of ,attitude toward induced abortion were statistical significance associated with decision solving unwanted pregnancy problem by all scenario. This is not unexpected the unplanned pregnancy. We proposed 4 different scenario of unwanted on unplanned pregnancy and ask the WRA to decide whether to continue pregnancy or have induced abortion . WRA will seek induced abortion more when the unplanned pregnancy occurred to herself that to her daughter. It is assumed she will take care of their daughter pregnancy and child although their daughter were study. These decision reflected the conservativeness of the population. It also my due to lack of knowledge about safety and legal situation of induced abortion. Especially, when the scenario of rape, only 70.94 percent would seek induced abortion

WRA who had good knowledge of induced abortion tend to have induced abortion rather to continue pregnancy. This must be because they know more about induced abortion, safe time to have an induced abortion, safe place to do it, so they feel relieved and ensured that there no effects on their health.

The attitude level had a great impact on the decision. WRA who had a good attitude toward induced abortion will choose to solve problems from scenario by having an induced abortion rather than continue pregnancy. The attitude is a part of one's thoughts and felling.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

This cross-sectional survey research is aimed to assess knowledge of and attitude toward induced abortion among Thai women of reproductive age in a province. This study included 265 women (15-49 years), who lived in Muang district, Amphur Muang in Nakhon Ratchasima Province in the northeastern region of Thailand. Data were collected by using self-administered questionnaires during 15 December 2003 and 31 January 2004. Statistics analysis was done by using percentage, mean, standard deviation. Chi-square test and Pearson's Correlation were used for hypothesis test of association.

Most of WRA in this study were in the group of 15 - 29 years old (53.2 %), 21.5 % were employee and 28.7 % still study in school, More than half of WRA had income less than 5,000 Baht/month. Forty one percent had bachelor degree and 48.3 % were single. Forty five percent of WRA had moderate knowledge of induced abortion. Only 14.7 % had low level of knowledge. Most of WRA had agree category toward induced abortion, 12.8 % of WRA ever had induced abortion for at least once. As for the association between general characteristics and knowledge of induced abortion the statistically significant factors included age, occupation, education, income, marital status and number of living children . For attitude toward induced abortion, the factors of age, education and abortion experience were statistically significant. When different scenario of unplanned pregnancy was set and ask for WRA decision on pregnancy, 31.7 % decided to have induced abortion if they had unplanned pregnancy. If their unmarried daughter got pregnancy with uncountable husband, only 27.55 % would seek for induced abortion service for their daughter. If their daughter got pregnant during school year 40.75 % would seek for induced abortion service. If their daughter got pregnant from being raped only 70.94 % of WRA would seek for induced abortion. Both knowledge and attitude toward induced abortion were significantly associated with decisions indifferent scenario.

This study showed that WRA in Amphur Muang, Nakhon Ratchasima Province had fair knowledge and agree category attitude toward induced abortion. Rather small percent of WRA had ever been induced abortion. Most of WRA decided continue pregnancy in spite of problems or indication for legal abortion. It may possibly explained by belief, attitude and lack of good knowledge of induced abortion. Induced abortion should be a mean to attack unwanted pregnancy, in order to make appropriate decision good knowledge and attitude should be decimated throughout society and the society would accept and develop the better strategy to cope with the problem of unwanted pregnancy.

Recommendation for application

1. Public education to promote awareness of child abandon and maternal death problem from induced abortion establish association of woman and social worker woman who worked diligently to serf.
2. Registration of induced abortion place for the government could be control but they may be some illegal effect when induced abortion places is wildly known.

Recommendation for further research

1. To study comparative knowledge of and attitude among rural women and Bangkok.
2. To study knowledge and attitude among man in rural.
3. Research about real situation to decision on induced abortion.

REFERENCES

1. World Health Organization. Abortion : A tabulation of available data on the frequency and mortality of unsafe abortion. 2nd Edition. Geneva, Switzerland :World Health Organization.(WHO/FHE/MSM/93.13), 1994.
2. Cynthia Indriso and Axel I. Mundigo. Abortion in the Developing World.Health Organization. 2nd books.London.New York,1999.
3. Susheela Singh,.et. Estimating the level of Abortion in the Philippines and Bangladesh.International Family Planning Perspectives.1997.
4. Lynch,D.”Uniting to Prevent Unwanted Pregnancies,;Baltimore Sun. 18:184 ; February,1994.
5. วรณรัตน์ สุวรรณ. ผลการตั้งครรภ์และการคุมกำเนิดของสตรีวัยเจริญพันธุ์ที่ตั้งครรภ์ไม่พึงปรารถนาในประเทศไทย วิทยานิพนธ์วิทยาศาสตรมหาบัณฑิต (การเจริญพันธุ์และวางแผนประชากร) มหาวิทยาลัยมหิดล, 2530.
6. กรมอนามัย, กระทรวงสาธารณสุข. รายงานการวิเคราะห์ข้อมูลสตรีกับสุขภาพ.กรุงเทพฯ : โรงพิมพ์องค์การสงเคราะห์ทหารผ่านศึก,2533.
7. นภาพร ชโยวรรณ และจอห์น โนเดล. เพศสัมพันธ์ของสตรีไทยที่สมรส : หลักฐานจากการสำรวจประชากรและการอนามัย ปี พ.ศ 2530. สถาบันประชากรศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2535.
8. ทศพร เรืองกฤษณ์ และคนอื่นๆ. ผลลัพธ์ของการตั้งครรภ์ไม่พึงประสงค์. เอกสารรายงานผลดำเนินการครบ 1 ปี ของคลินิกดาวพระศุกร์ โรงพยาบาลราชวิถี, 2538.

9. นภาพรณั ्हะวานนท. “การตั้งครรภไม่พียงประสงค้ : ประเด็นทำทายการให้บริการทางด้าน
สาธาณสุขของรัฐ” เอกสารประกอบการประชุมระดับชาติเรื่องการจัดตั้งครรภไม่พียง
ประสงค้ : ประเด็นทำทายการให้บริการทางด้านสาธาณสุขของรัฐ. กรุงเทพฯ :
โรงแรมปรีนซ์พาเลส, วันที่ 7 ธันวาคม 2538.
10. ชลิดา เกษประดิษฐ์. การวิเคราะห์สถานการณ์และคาดประมาณการทำแ่งในจังหวัดลำปาง.
การประชุมวิชาการประชากรศาสตร์แห่งชาติ.กรุงเทพฯ,วันที่ 21-22 พฤศจิกายน
2545 มหาวิทยาลัยศรีนครินทรวิโรฒ, 2541.
11. กิตติพงษ์ กิตยารักษ์. “ปุจฉา-วิสัชนา : มาตรการทางกฎหมายกับปัญหาการทำแ่ง” รายงานการ
เสวนาทางวิชาการมาตรการทางกฎหมายกับปัญหาการทำแ่งทางออกอยู่ที่ไหน.
สำนักพิมพ์นิติธรรม : กรุงเทพฯ, 2540.
12. องค์การอนามัยโลก. การประชุมสุดยอดระดับโลกเพื่อสุขภาพอนามัยของสตรี. กรุงเทพฯ.
สำนักงานฝ่ายสารนิเทศ, 2533
13. The Merriam-Webster’s Medical Desk Dictionary. Merriam-Webster
incorporated Publishers. Springfield, Massachusetts, U.S.A, 1996 :
380,3.
14. World Health Organization. International Statistical Classification of Diseases and
Related Health Problems. Tenth Revision. Geneva,1992.
15. William, J.R. and E.R. Carrington. Obstetrics and Gynaecology. 6 th. Edition.
St.Louis : The C.V.Mosly Co, 1979.
16. Cunningham, F.G. and others. Williams Obstetrics. 19 th edition. United States of
America : Prentice-Hall International Inc, 1993.
17. Derek, J.L. Fundamental of Obstetrics and Gynaecology. . 6 th. Edition. London.:
Mosly Co, 1994.

18. ชนูดรา อธิษัทรรมวินิจ และมาลี เลิศมาลีวงศ์. ทัศนนะของสตรีหลังทำแท้ง สูติแพทย์ และบุคคลากรการแพทย์ต่อการทำแท้ง, 2538.
19. Singer, Peter. Practical Ethics. Cambridge: Cambridge University Press, 1985.
20. จรรยา เศรษฐบุตร. ความสัมพันธ์ระหว่างครอบครัว. มหาวิทยาลัยศรีนครินทรวิโรฒ ประสานมิตร, 2536
21. คณิต ฌ.นคร. กฎหมายอาญาภาคความผิด. กรุงเทพมหานคร : สำนักพิมพ์มหาวิทยาลัยธรรมศาสตร์, 2532.
22. สุพร เกิดสว่าง. ข้อเท็จจริงเกี่ยวกับการทำแท้งในประเทศไทย. กรุงเทพมหานคร :ธีระการพิมพ์, 2523.
23. หยุต แสงอุทัย. กฎหมายอาญาภาค 2. กรุงเทพฯ. โรงพิมพ์มหาวิทยาลัยธรรมศาสตร์, 2520.
24. Ieke irdjiati syahbuddin .Comparative KAP Study about Induced Abortion among Adolescents in Vocational School at Bangkok and Korat Provinces. Thailand., 1989-1990.
25. โกวิท อัจฉริยญาติ. ความรู้ ความเข้าใจในเรื่องการทำแท้งของนักเรียนประกาศนียบัตรวิชาชีพชั้นสูง(ปวส.) วิทยานิพนธ์ศิลปศาสตรมหาบัณฑิต(รัฐศาสตร์). มหาวิทยาลัยเกษตรศาสตร์, 2543.
26. วิศิษฐ์ ประจวบเหมาะ. ทัศนคติของสตรีชนบทต่อการทำแท้ง : กรณีศึกษา อำเภอโพธาราม จังหวัดราชบุรี. กรุงเทพฯ. โรงพิมพ์จุฬาลงกรณ์มหาวิทยาลัย, 2508.
27. Donald, Cowgill and other. Family Planning in Bangkok, Bangkok, Thailand. Center of Population Research. Mahidol University, 1969.
28. Leoprapai, Boonlert and Robert G Burnight. Attitude of rural Thai woman toward induced abortion. Working Paper No. 7 February, 1975 Institute for Population and Social Research. Mahidol University. Bangkok, 1975.

29. อรทัย รวยอาจิณ. Induced Abortion : Facts and Prospects in Thailand. คณะสังคมศาสตร์และมนุษยศาสตร์. มหาวิทยาลัยมหิดล, 2522.
30. มาลีณี ชุ่มพฤกษ์. ความรู้ ทศนคติเกี่ยวกับการปฏิบัติในด้านการทำแท้งในเขตเมืองและเขตชนบทของประเทศไทย. สถาบันประชากรศาสตร์. จุฬาลงกรณ์มหาวิทยาลัย, 2524.
31. วราภรณ์ เกียรติรัตน์. แนวคิดและทัศนคติของนักสังคมสงเคราะห์ : กรณีศึกษาในโรงพยาบาลของรัฐบาลในกรุงเทพมหานครต่อกฎหมายทำแท้ง. วิทยานิพนธ์ปริญญาสังคมศาสตร์มหาบัณฑิต. มหาวิทยาลัยธรรมศาสตร์, 2525
32. ศิริวรรณ ศิริบุญ. ผลกระทบของการศึกษาทัศนคติต่อการทำแท้งของผู้หญิงในเขตเมืองและเขตชนบท. สถาบันประชากรศาสตร์. จุฬาลงกรณ์มหาวิทยาลัย, 2530.
33. มณีฉัตร ทรัพย์วณิช. ทัศนคติของเจ้าหน้าที่ในกระบวนการยุติธรรมต่อกฎหมายการทำแท้ง. วิทยานิพนธ์ปริญญาสังคมศาสตร์มหาบัณฑิต สาขาอาชญวิทยาและงานยุติธรรม. บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล, 2533.
34. เรวดี คำประภา. ทรรศนะของเยาวชนไทยในกรุงเทพมหานครที่มีต่อการแก้ปัญหาค่าการตั้งครรภ์ไม่พึงประสงค์กับกฎหมายทำแท้งที่ใช้บังคับอยู่ในปัจจุบัน ปริญญาวิทยาศาสตรมหาบัณฑิต (สาธารณสุขศาสตร์)เอกบริหารกฎหมายการแพทย์และสาธารณสุข มหาวิทยาลัยมหิดล, 2538
35. คณิดา โพธิ์พันชนะ. การยอมรับของวัยรุ่นต่อการทำแท้ง : ศึกษากรณีนักเรียนระดับประกาศนียบัตรวิชาชีพ ประเภทพาณิชยกรรม. วิทยานิพนธ์สังคมวิทยาและมนุษยวิทยามหาบัณฑิต(สังคมวิทยา)มหาวิทยาลัยธรรมศาสตร์, 2539.

36. บุญยา ใจสว่าง. การยอมรับของนักสังคมสงเคราะห์ที่มีต่อหญิงทำแท้ง. วิทยานิพนธ์ศิลปศาสตรมหาบัณฑิต(สังคมวิทยาประยุกต์) มหาวิทยาลัยเกษตรศาสตร์,2539.
37. ศศิธร ประดิษฐ์พงษ์. สิทธิของตนเอง และการตัดสินใจทำแท้ง. วิทยานิพนธ์สังคมศาสตร์มหาบัณฑิต. มหาวิทยาลัยธรรมศาสตร์, 2543.
38. Sherwin, Susan Abortion Though a Feminist Ethics Lens. Woman and Values. Edited by Marilyn Pearson.London, 1999. P 344 - 354
39. Alan Guttmacher Institute.Sharing Responsibility : Woman, Society and Abortion Worldwide. New York, Alan Guttmacher Institute.,1999.
40. สุชาดา รัชกุล. การตั้งครรภ์ไม่พึงปรารถนาและการตัดสินใจทำแท้ง.วิทยานิพนธ์ดุสิตบัณฑิตมหาวิทยาลัยศรีนครินทรวิโรฒ ประสานมิตร, 2541
41. สุกา ภิรมย์แก้ว. ทักษะคติของประชาชนในกรุงเทพมหานครต่อการทำแท้ง. วิทยานิพนธ์สังคมศาสตร์มหาบัณฑิต. มหาวิทยาลัยเกษตรศาสตร์, 2525.
42. สถาบันประชากรศาสตร์. ความรู้ ทักษะคติ และการปฏิบัติต่อการทำแท้งในเขตเมืองและเขตชนบทของประเทศไทย. จุฬาลงกรณ์มหาวิทยาลัย, 2525.
43. Lynxwiler, John. And David Gay. The Abortion Attitudes of black Woman : 1972-1991. Journal of Black Studies, Vol 27 No.2, November 1996.: 260 - 277
44. บุญธรรม กิจปรีดาบริสุทธ์. เทคนิคการสร้างเครื่องมือรวบรวมข้อมูลสำหรับงานวิจัย. กรุงเทพฯ. โรงพิมพ์ศรีอนันต์, 2531 : 221
45. ประคอง วรรณสูตร. สถิติเพื่อการวิจัยทางพฤติกรรมศาสตร์. สำนักพิมพ์จุฬาลงกรณ์มหาวิทยาลัย, 2524.
46. ประภาเพ็ญ สุวรรณ. ทักษะคติ การวัด การเปลี่ยนแปลงและพฤติกรรมอนามัย. พิมพ์ครั้งที่ 2. กรุงเทพฯ. พีระพัทธนา, 2526 : 89 -178



APPENDIX 1.

Number of interview.....

Date...../...../.....

Interview questionnaire

Title : Knowledge of and attitude toward induced abortion among WRA in Muang District, Amphur Muang, Nakhon Ratchasima.

Direction

This interview questionnaire is a part of thesis for master of science program Human Reproduction and Population planning) Department of obstetrics and gynaecology, Faculty of Medicine, Ramathibodi Hospital, Mahidol University. The objective for this study is study of knowledge and attitude toward induced abortion among WRA. The researcher hope you to cooperate by answer this interview questionnaire. Please answer truly follow by your opinion. These data are secret and don't be negative influence to you.

This interview questionnaire has 5 parts as follow:

Part 1. There are the general characteristics.

Part 2. There are 12 items of knowledge on induced abortion.

Part 3. There are 21 items of attitude toward induced abortion.

Part 4. There are 4 items of induced abortion experience and scenario

This study can not succeed if you don't cooperate so the researcher want to say **“thank you very much”**

Arunothai Intarakumhaeng
Student of master degree in
Human Reproduction and Population Planning
Faculty of Graduate, Mahidol University.

I am glad to cooperate in this study
.....
(.....)

Part 1. Personal characteristics

1. You areyears old.(complete year)
2. Occupation.....
3. Marital status
 - 3.1 Single 3.2 consensual union
 - 3.3 married 3.4 Separated
 - 3.5 Divorce
4. Number of living children.....
5. Highest educational level.....
6. Incomebath /month
- 7.The experience of induced abortion
 - 7.1 Ever Never

Part 2. Knowledge of Induced abortion

1. Do you know when the woman was pregnancy
 - [1] beginning sexual intercourse [2] beginning sperm fertilize to egg of woman
 - [3] beginning lost of menstrual [4] beginning the fetus had complete organs
 - [5] beginning qicktening
2. What is the meaning of spontaneous abortion
 - [1] the end of pregnant before 7 months
 - [2] the end of pregnant before 8 months
 - [3] the end of pregnant before 9 months
 - [4] No 1 and No 2 correct
 - [5] all correct
3. What is the meaning of induced abortion
 - [1] made the death fetus in utero
 - [2] made the delivery fetus to death
 - [3] made the pregnant woman to contraction
 - [4] made the fetus to abnormally during pregnant
 - [5] all correct

Part 3 Attitude toward induced abortion**“Do you agree with induced abortion in condition”**

Statement	Strongly agree	Agree	Dis agree	Strongly disagree
1 . Free right of woman				
2. Some condition of right's woman				
3. Survival of mother is more important than the baby 's right to live				
4. Indication for induced abortion are written by law and the doctor should provide service if the indication is fulfilled - The indication should include :				
4.1 Physical problem and mental retardation which is obstacle to pregnancy to labor and delivery				
4.2 The woman deformity which is obstacle to pregnancy and physical to labor delivery				
4.3 Pregnancy from raped				
4.4 HIV infection				
4.5 Hereditary disease of woman i.e. DM, Epilepsy,Blood disease				
4.6 The woman is a prostitute and is unintentionally pregnant from service				
4.7 The woman is just divorced and knows later that she is pregnant				
4.8 Failure of contraception				
4.9 Teenage pregnancy which no consent from own parents				
4.10 Teenage pregnancy which no consent from her partner's parents				

Statement	Strongly agree	Agree	Dis agree	Strongly disagree
4.11 Unknown husband				
4.12 Unmarried woman and pregnancy will have untoward effect to her life				
4.13 Economic problem				
5. Induced abortion will help resolve child abandon problem				
6. Abortion Law enforcement will decrease complication from unsafe abortion				
7. Illegal induced abortion is an urgent problems of weakness of law enforcement				
8. Thai social would accept benefit of induced abortion for health of mother and fetus				
9. Amendment of criminal law (section 305) will decrease unsafe abortion				

Part 4 Induced abortion experience and scenario

1. Do you know about the woman who ever had induced abortion

yes no

2. Do you know about place of induced abortion

yes no

3. Do you ever had unplanned pregnancy

yes no

4. Do you ever had induced abortion

yes no

Scenario

5. Scenario I : Self unplanned pregnancy

induced abortion continue pregnancy

6.Scenario II : Unmarried daughter with unplanned pregnancy.

induced abortion continue pregnancy

7.Scenario III : Daughter's unplanned pregnancy during studying

induced abortion continue pregnancy

8. Scenario VI: Daughter's unplanned pregnancy from raped

induced abortion continue pregnancy

Thank you



แบบสอบถาม

No.....

ความรู้ ทักษะของหญิงวัยเจริญพันธุ์ต่อการทำแท้ง

คำชี้แจง

แบบสอบถามนี้ เป็นส่วนหนึ่งของการศึกษาวิจัยของนักศึกษาปริญญาโท สาขาการเจริญพันธุ์และวางแผนประชากร ภาควิชาสูติศาสตร์-นรีเวชวิทยา คณะแพทยศาสตร์ โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล โดยมีวัตถุประสงค์เพื่อศึกษาความรู้ ทักษะของหญิงวัยเจริญพันธุ์ ในเขตเมือง จ.นครราชสีมา ซึ่งผลการวิจัยจะเป็นประโยชน์อย่างยิ่ง ในการพิจารณาทางเลือกในการแก้ปัญหาการตั้งครรภ์ไม่พึงประสงค์และการทำแท้งอันเป็นปัญหาของสังคมไทยต่อไป ดังนั้นผู้วิจัยจึงใคร่ของความกรุณาจากท่านช่วยตอบแบบสอบถามนี้ และแสดงความคิดเห็นทุกๆข้อคำถามตามความรู้และความคิดเห็นที่แท้จริง ผู้วิจัยขอรับรองว่า ข้อมูลที่ท่านตอบทั้งหมดเป็น ความลับ ไม่มีผลเสียใดๆ ต่อตัวท่าน และจะนำเสนอผลการวิจัยในภาพรวมเท่านั้น

แบบสอบถามชุดนี้มี 4 ตอน ประกอบด้วย

ตอนที่ 1 ข้อมูลพื้นฐานทั่วไป

ตอนที่ 2 ความรู้เกี่ยวกับการตั้งครรภ์ การทำแท้ง การทำแท้งและกฎหมายการทำแท้ง

ตอนที่ 3 ทักษะเกี่ยวกับการทำแท้งและการปรับปรุงกฎหมายการทำแท้ง

ตอนที่ 4 ประสิทธิภาพและแบบสมมติสถานการณ์

การวิจัยในครั้งนี้ จะมีอาจสำเร็จได้ หากขาดความร่วมมือในการตอบแบบสอบถามจากท่าน ผู้วิจัยขอขอบคุณในความอนุเคราะห์ของท่านล่วงหน้ามา ณ.ที่นี้ด้วย

อรุ โฉมทัย อินทรกำแหง

นักศึกษาปริญญาโท สาขาการเจริญพันธุ์และวางแผนประชากร
บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล

แบบสอบถาม

คำชี้แจง โปรดทำเครื่องหมาย X ลงใน () หรือ เติมข้อความลงใน

ตอนที่ 1 ข้อมูลพื้นฐานทั่วไป

1. ขณะนี้ท่านอายุ.....ปี
2. อาชีพ
3. สถานภาพสมรส
 - (1) โสด
 - (2) อยู่ด้วยกัน
 - (3) สมรส
4. แยกกันอยู่
 - (4) แยกกันอยู่
 - (5) หม้าย
4. จำนวนบุตรที่มีชีวิต.....คน
5. ระดับการศึกษาสูงสุด
 - (1) ประถมศึกษา
 - (2) มัธยมศึกษา
 - (3) ประกาศนียบัตร
 - (4) ปริญญาตรี
 - (5) สูงกว่าปริญญาตรี
6. รายได้ที่ได้รับต่อเดือน.....บาทต่อเดือน
7. ประสบการณ์ในการทำแท้ง
 - (1) เคย
 - () ไม่เคย

ตอนที่ 2 ความรู้ในเรื่องการตั้งครรภ์ การแท้งและการทำแท้ง

1. ท่านทราบหรือไม่ว่า การที่หญิงตั้งครรภ์นั้น เริ่มตั้งแต่เมื่อใด
 - (1) ตั้งแต่มีพฤติกรรมการร่วมเพศ
 - (2) ตั้งแต่สุจิของชายผสมกับไข่ของหญิง
 - (3) ตั้งแต่ทารกคืบ
 - (4) ตั้งแต่ทารกมีอวัยวะครบถ้วน
 - (5) ตั้งแต่ประจำเดือนไม่มา
2. การแท้งบุตร หมายถึงอะไร
 - (1) การสิ้นสุดการตั้งครรภ์ก่อนอายุครรภ์ 7 เดือน
 - (2) (2) การสิ้นสุดการตั้งครรภ์ก่อนอายุครรภ์ 8 เดือน
 - (3) การสิ้นสุดการตั้งครรภ์ก่อนอายุครรภ์ 9 เดือน
 - (4) ข้อ (1) และ ข้อ (2)
 - (5) ถูกทุกข้อ

3. การทำแท้ง หมายถึงอะไร
 - (1) การทำให้ลูกตายขณะอยู่ในครรภ์
 - (2) การทำให้ลูกที่คลอดออกมาแล้วถึงแก่ความตาย
 - (3) การทำให้หญิงตั้งครรภ์เกิดอาการปวดท้องอย่างรุนแรง
 - (4) การทำให้เด็กเกิดความผิดปกติในระหว่างตั้งครรภ์
 - (5) ถูกทุกข้อ
4. การทำแท้งที่ปลอดภัยควรทำเมื่อท้องไม่เกินกี่เดือน
 - (1) 2 เดือน
 - (2) 2 เดือนครึ่ง
 - (3) 3 เดือน
 - (4) 3 เดือนครึ่ง
 - (5) 4 เดือน
5. วิธีการทำแท้งที่ได้ผลดีและปลอดภัยคือวิธีใด
 - (1) การรับประทานยาเพื่อขับเลือด
 - (2) การขูดมดลูก
 - (3) การบีบหน้าท้อง
 - (4) การได้รับการกระทบกระเทือนมากๆ เช่น การทำให้ตกบันได
 - (5) ไม่มีวิธีที่ปลอดภัย
6. แพทย์สามารถทำแท้งได้โดยไม่ผิดกฎหมายในกรณีสุขภาพความปลอดภัยของหญิงนั้นใช่หรือไม่
 - (1) ใช่
 - (2) ไม่ใช่
7. แพทย์สามารถทำแท้งได้โดยไม่ผิดกฎหมายในกรณีหญิงตั้งครรภ์ฐานะยากจนไม่สามารถเลี้ยงดูบุตรได้ใช่หรือไม่
 - (1) ใช่
 - (2) ไม่ใช่
8. แพทย์สามารถทำแท้งได้โดยไม่ผิดกฎหมายในกรณีหญิงนั้นกำลังศึกษาอยู่ใช่หรือไม่
 - (1) ใช่
 - (2) ไม่ใช่
9. แพทย์สามารถทำแท้งได้โดยไม่ผิดกฎหมายในกรณีหญิงนั้นคุมกำเนิดล้มเหลวใช่หรือไม่
 - (1) ใช่
 - (2) ไม่ใช่
10. แพทย์สามารถทำแท้งได้โดยไม่ผิดกฎหมายในกรณีหญิงถูกข่มขืนใช่หรือไม่
 - (1) ใช่
 - (2) ไม่ใช่
11. ผู้ใดที่สามารถทำแท้งได้โดยไม่ผิดกฎหมาย(ในกรณีที่ระบุไว้ในกฎหมาย)
 - (1) แพทย์ประจำตำบล หรือหมอด้าน
 - (2) แพทย์
 - (3) พยาบาลผดุงครรภ์
 - (4) หมอเสนาณรงค์
 - (5) ไม่มีผู้ใดทำได้ถูกกฎหมาย

12. ท่านทราบหรือไม่ว่าภาวะแทรกซ้อนของการทำแท้งคืออะไร

- (1) มดลูกทะลุ , ตกเลือด
- (2) ปวดศีรษะ, ปวดท้องน้อย
- (3) ติดเชื้อ, ซัก
- (4) ปวดท้องน้อยเรื้อรัง
- (5) ปวดประจำเดือนมากทุกเดือน

ตอนที่ 3 ทศนคติในเรื่องการทำแท้ง

ข้อความต่อไปนี้เป็นเรื่องของความคิดเห็น ไม่มีคำตอบใดถูกหรือผิดขอให้ตอบตรงกับความคิดเห็น ของท่าน โดยขีดเครื่องหมาย ✓ ลงในช่องที่ตรงกับความเห็นของท่านมากที่สุด

“ ท่านเห็นด้วยหรือไม่กับการทำแท้งในกรณีต่อไปนี้ ”

	เห็นด้วย อย่างยิ่ง	เห็นด้วย	ไม่เห็น ด้วย	ไม่เห็น ด้วยอย่าง ยิ่ง
1. ผู้หญิงควรมีสิทธิในการตัดสินใจทำแท้งได้ ในทุกกรณี				
2. ผู้หญิงควรมีสิทธิในการทำแท้งได้ แต่ต้องมี เงื่อนไข				
3. สิทธิของผู้หญิงในการทำแท้งเหนือกว่าสิทธิ การมีชีวิตของทารกในครรภ์				
ผู้หญิงควรมีสิทธิในการทำแท้ง โดยไม่คิด กฎหมายและแพทย์ต้องทำให้หญิงนั้นตามสิทธิ ในกรณีต่อไปนี้	/			
4.1 หญิงที่วิกลจริต/ปัญญาอ่อน/มีปัญหาทาง สุขภาพจิต เป็นอุปสรรคต่อการตั้งครรภ์ การ คลอด และการเลี้ยงบุตร				
4.2 หญิงที่มีร่างกายพิการ และเป็นอุปสรรค ต่อการตั้งครรภ์ การคลอด และการเลี้ยงดูบุตร				
4.3 หญิงตั้งครรภ์เพราะถูกข่มขืน				
4.4 หญิงที่ได้รับเชื้อเอชไอวีแล้วตั้งครรภ์				

	เห็นด้วย อย่างยิ่ง	เห็นด้วย	ไม่เห็น ด้วย	ไม่เห็น ด้วย อย่างยิ่ง
4.5 หญิงที่ตั้งครรภ์โดยมีปัญหาทางพันธุกรรม เช่น เบาหวาน ลมชัก โรคเลือดบางชนิด ฯลฯ				
4.6 หญิงผู้ประกอบอาชีพค้าประเวณีเกิดตั้ง ครรภ์ขึ้น				
4.7 หญิงที่เพิ่งหย่าขาด หรือแยกกันอยู่กับสามี และทราบภายหลังว่าเกิดการตั้งครรภ์ขึ้นกับ สามีคนเดิม				
4.8 หญิงตั้งครรภ์ที่สมรสแล้วและ กำลังใช้วิธี คุมกำเนิดอยู่ แต่เกิดความผิดพลาด				
4.9 หญิงตั้งครรภ์ขึ้นแล้วบิดามารดาของตน เองไม่ยอมรับ				
4.10 หญิงตั้งครรภ์ขึ้นแล้วบิดามารดาของสามี ไม่ยอมรับ				
4.11 หญิงตั้งครรภ์ขึ้นโดยไม่มีใครยอมรับ เป็นบิดาหรือไม่ทราบแน่ชัดว่าใครเป็นบิดาเด็ก				
4.12 หญิงที่ยังไม่ได้สมรส แต่เกิดตั้งครรภ์ขึ้น และอาจเป็นอุปสรรคต่อการศึกษา/การ ประกอบอาชีพ				
4.13 หญิงหรือครอบครัวมีปัญหาทาง เศรษฐกิจ/ฐานะยากจน				
5. การทำแท้งจะช่วยแก้ปัญหาเด็กถูกทอดทิ้งได้				
6. การใช้กฎหมายปราบปรามการทำแท้ง จะ ช่วยลดการทำแท้งที่ไม่ปลอดภัยลงได้				
8. ปัญหาการลักลอบทำแท้งเป็นปัญหาสังคม เร่งด่วนที่ต้องแก้ไขเนื่องจากทำให้กฎหมาย ไม่ศักดิ์สิทธิ์				

	เห็นด้วย อย่างยิ่ง	เห็นด้วย	ไม่เห็น ด้วย	ไม่เห็น ด้วย อย่างยิ่ง
8. สังคมไทยควรยอมรับการทำแท้งว่าสามารถช่วยชีวิตผู้หญิงและเด็กได้จึงควรทำให้ถูกกฎหมาย				
10. ท่านเห็นว่าการแก้ไขกฎหมายอาญามาตรา 305 จะช่วยลดการทำแท้งที่ไม่ปลอดภัยลงได้				

มาตรา 305 สามารถทำแท้งได้ เพียง 2 กรณีถ้าการทำแท้งเป็นการกระทำของแพทย์และ 1) จำเป็นต้องกระทำเพื่อสุขภาพของหญิงนั้นหรือ 2) หญิงมีครรภ์เนื่องจากการถูกข่มขืน

ตอนที่ 4 การปฏิบัติและสมมติสถานการณ์เรื่องการทำแท้ง

“การตอบคำถามในส่วนนี้ไม่มีผลใดๆต่อตัวท่าน และเป็นความลับที่สุด”

1) ท่านรู้จักเพื่อนหรือญาติที่เคยทำแท้งใช่หรือไม่

() ใช่ () ไม่ใช่

ถ้าใช่ทำแท้งที่.....ราคา.....บาท.

2) ท่านรู้จักสถานที่ทำแท้งหรือไม่

() รู้จัก (ระบุ).....

() ไม่รู้จัก

3) ท่านเคยตั้งครรภ์ขณะที่ไม่พร้อมหรือไม่

() เคย () ไม่เคย

4) ท่านเคยทำแท้งหรือไม่

() เคย () ไม่เคย

ถ้าเคย ท่านทำด้วยวิธีใด.....

5) ถ้าท่านตั้งครรภ์ในขณะที่ไม่พร้อม เช่น กำลังศึกษา ฐานะยังไม่มั่นคง หรือยังไม่ได้แต่งงาน ท่านจะทำอย่างไร

() ตั้งครรภ์ต่อ () ทำแท้ง

6) ถ้าลูกสาวของท่านตั้งครรภ์ และถูกสามีทิ้ง ท่านจะเลือกปฏิบัติอย่างไร

() ตั้งครรภ์ต่อ () ทำแท้ง

- 7) ถ้าลูกสาวของท่านตั้งครรภ์ ในขณะที่กำลังศึกษาอยู่ ท่านจะเลือกปฏิบัติอย่างไร
() ตั้งครรภ์ต่อ () ทำแท้ง
- 8) ถ้าลูกสาวของท่านตั้งครรภ์ เพราะถูกข่มขืน ท่านจะเลือกปฏิบัติอย่างไร
() ตั้งครรภ์ต่อ () ทำแท้ง

ขอบพระคุณในความร่วมมือนี้อย่างดียิ่ง



BIOGRAPHY

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