FACTORS AFFECTING INTENTION TO TAKE PAP SMEAR SCREENING AMONG MARRIED WOMEN IN MANDALAY, MYANMAR

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ปัจจัยที่มีผลต่อความตั้งใจในการตรวจคัดกรองมะเร็งปากมดลูกของสตรีที่สมรส
แล้วในเขตเมืองมัณฑะเลย์ ประเทศพม่า

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ชีท เพ เพ ฮาน : ปัจจัยที่มีผลต่อความตั้งใจในการตรวจคัดกรองมะเร็งปากมดลูกของสตรีที่สมรสแล้ว ในเขตเมืองมัณฑะเลย์ ประเทศพม่า (FACTORS AFFECTING INTENTION TO TAKE PAP SMEAR SCREENING AMONG MARRIED WOMEN IN MANDALAY, MYANMAR) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผ.ศ.ดร.เขมิกา ยามะรัต,77.หน้า

วัตถุประสงค์ในการศึกษาเชิงพรรณนาภาคตัดขวางนี้ เพื่อศึกษาอัตราของสตรีที่สมรสแล้ว) อายุ25-65 ปี(ในเขตเมืองมัณฑะเลย์ ประเทศพม่าที่มีความตั้งใจจะตรวจมะเร็งปากมดลูกและศึกษาปัจจัยที่เกี่ยวข้องกับความตั้งใจในการตรวจมะเร็งปากมดลูก การศึกษานี้ใช้แบบแผนความเชื่อเรื่องสุขภาพ หรือHealth Belief Model เป็นแนวทางในการศึกษา เก็บข้อมูลจากจากสตรีจำนวน 230 คนโดยแบบสอบถามประกอบการสัมภาษณ์ วิเคราะห์ข้อมูลโดยใช้ค่าความถี่ ร้อยละ ไคร์สแควร์ และการวิเคราะห์การถดถอยโลจิสติก

ผลการศึกษาพบว่าสตรีที่เป็นตัวอย่าง 78.3 % มีความตั้งใจที่จะไปตรวจมะเร็งปากมดลูกอายุเป็นปัจจัยด้านลักษณะทางประชากรตัวเดียวที่มีความสัมพันธ์กับความตั้งใจที่จะไปตรวจมะเร็งปากมดลูกอย่างมีนัยสำคัญทางสถิติ) $p \leq 0.001$ (Health Belief Model สามารถอธิบายความตั้งใจที่จะไปตรวจมะเร็งปากมดลูกได้ เพราะมีปัจจัยหลายประการที่เกี่ยวข้องสัมพันธ์กับความตั้งใจที่จะไปตรวจมะเร็งปากมดลูก เช่น ความรู้) $p=0.006$ (การรับรู้โดยรวม $(p = 0.004)$ การรับรู้ด้านความรุนแรงของโรคมะเร็งปากมดลูก $(p = 0.027)$ การรับรู้ด้านประโยชน์ที่จะได้รับจากการตรวจมะเร็งปากมดลูก $(p = 0.019)$ การรับรู้ด้านปัญหาและอุปสรรค์ต่อการตรวจมะเร็งปากมดลูก$(p <0.001)$ และความคิดที่จะไปตรวจมะเร็ง ซึ่งรวมทั้งการที่ได้เคยพูดคุยปรึกษากับสามี หรือครอบครัวของตน$(p <0.001)$และการที่เคยได้ยินเกี่ยวกับโรคและการตรวจคัดกรองมะเร็งปากมดลูกทางวิทยุ โทรทัศน์ $(p = 0.031)$ เมื่อควบคุมตัวแปรต่าง ๆ แล้วพบว่า อายุมีความสัมพันธ์อย่างยิ่งกับความตั้งใจที่จะไปตรวจมะเร็งปากมดลูก (OR: 10.452, 95% CI: 3.08-35.44)

ผลการศึกษาสามารถสรุปได้ว่าสัดส่วนผู้ที่จะไปตรวจมะเร็งปากมดลูกนั้นสูงมาก แต่ผู้ที่จะไปส่วนใหญ่ไม่สามารถระบุเวลาได้แน่ชัดว่าจะไปตรวจเมื่อใด ปัจจัยทางลักษณะประชากรและสังคมนั้นไม่มีผลต่อความตั้งใจจะไปตรวจมะเร็งปากมดลูก อย่างไรก็ตามการสนับสนุนของสามีและครอบครัวเป็นปัจจัยสำคัญต่อความตั้งใจที่จะไปตรวจมะเร็งของสตรี

สาขาวิชา สาธารณสุขศาสตร์ .... ลายมือชื่อนิสิต ....

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CHIT PYAE PYAE HAN: FACTORS AFFECTING INTENTION TO TAKE PAP SMEAR SCREENING AMONG MARRIED WOEMN IN MANDALAY, MYANMAR. ADVISOR: ASST. PROF. KHEMIKA YAMARAT, Ph.D., 77 pp.

The cross-sectional descriptive study was conducted to identify the percentage of married women (age 25-65 years) in Mandalay, Myanmar who have intention to take Pap smear screening and factors affecting their intention to take Pap smear test. The study used Health Belief Model (HBM) and 230 respondents participated in this research. Data were collected by using constructed questionnaire and analyzed by frequency, percentage, Chi-square test and logistic regression.

The results showed that 78.3% of respondents had intention to take Pap smear. Age was only significant associated socio demographic factor with intention to take Pap smear screening (p≤0.001). HBM could predicted the intention to take Pap smear screening because so many facilitating factors associated with intention to take Pap smear screening such as knowledge factor (p=0.006), overall perception (p=0.004), perceived severity (p=0.027), perceived benefit (p=0.019), perceived barriers(p<0.001),and cues to action which included ever have discussion with husband or family members (p<0.001) and ever heard about disease and screening information from TV/radio (p=0.031).After controlling other factors, age was strongly positive association with intention to take Pap smear (OR:10.452, 95%CI: 3.08-35.44).

Overall findings concluded that the percentage for intention rate was so high but majority of respondents didn't answer the exact time. Most of the socio-demographic factors were not influenced their intention and husband and family encouragement was an important factor for women's intend to take Pap test.

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

Academic Year: 2011   Advisor's Signature: ....

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LIST OF ABBREVIATIONS

ACOG	American College of Obstetricians and Gynecologists
AIDS	Acquired Immunodeficiency Syndrome
ASC-US	Atypical Squamous Cells of Undermined Significance
ASC-H	Atypical Squamous Cells, cannot exclude a High-grade squamous epithelial lesion
CDC	The Centers for Disease Control and Prevention's
CIN	Cervical Intraepithelial Neoplasia
HPV	Human Papilloma Virus
HSIL	High-grade Squamous Intraepithelial Lesion
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
IARC	International Agency for Research on Cancer
LEEP	Loop Electrosurgical Excision Procedure
LSIL	Low-grade Squamous Intraepithelial Lesion
NCI	National Cancer Institute
Pap	Papanicolaou
UN	United Nations
VIA	Visual Inspection with Acetic acid
VILI	Visual Inspection with Lugol's iodine
WHO	World Health Organization

CHAPTER I

INTRODUCTION

1.1 Rationale and Background of the study

Cancer becomes a leading cause of death around the worldwide, and approximately 10 million people are diagnosed cancer and more than 6 million people are death from cancer every year. In 2000, the people living cancer was 22.4 million and the rates were increased since 1990 with around 19 percent incidence rate and 18 percent mortality rate (Park, 2005). One out of eight deaths worldwide from cancer and cancer becomes more deaths than tuberculosis, malaria, HIV/AIDS combination. It was estimated that there would be more than 12 million people new cancer cases in 2007 in worldwide and among them 6.7 million from developing countries and 5.4 million occurred in developed countries. Taking account of the population growth and aging of the world, in 2050, the global burden can be expect to grow 27 million new cancer cases and 17.5 million cancer deaths due to the growth and aging of world population (American cancer Society, 2007).

And also cancer distribution around the world is unequally between developed and developing countries. In western countries, most of the malignant diseases are associated with smoking, life styles and behavior changes. But in our developing countries, cancer and tumors are related from chronic infectious diseases like that hepatitis B (carcinoma liver), human papilloma viruses (cervical cancer) and helicobacter pylori (carcinoma stomach) (Park , 2005).

Most popular and common types of cancers that affected women are carcinoma breast, lung, cervical, colorectal and liver. Among them, the breast and cervical cancer are leading the causes of death every year. Nearly 460,000 women die from carcinoma of breast each year and it is the first leading cause for death (IARC, 2008). Cancer of the cervix uteri is the second most common cancer for women worldwide, an estimated about 529,409 new cases and 274,883 deaths in 2008 (IARC, 2008). More than 80 % of cases from developing countries such as Latin America and South East Asia but lower rates in European and American countries (Park, 2005). The incidence rates and mortality of cervical cancer are declined in developed countries during these years due to effective therapies, risk factors decreasing and

mainly screening programs for early detection cervical cancer. Most developed countries have been using Pap test and pelvic examination as screening for early detection about abnormalities that can cause cervical cancer.

Regular screening with Papanicolaou (Pap) test may reduce the mortality rate of cervical cancer as much as 98% (McAvoy, 1999). From US National Cancer Institute data, new cases for cervical (uterine cervix) cancer are 12,710 and deaths are 4,290 in 2011. Rates are improved years by years after 1950 to until now because of the screening program with Pap test (NCI, 2007). The WHO surveys from 57 countries conducted in 2002 showed about that only 19 percent of women in developing regions have been screened but at that time 63 percent in developed countries. In Bangladesh, Ethiopia and Myanmar, less than one percent of women who took Pap smear test in their past and more than 90 percent women in Bangladesh, Ethiopia and Malawi had never had a pelvic examination (inspection of the female organs) in their lives (Gakidou, 2008).

Myanmar is one of the South-East Asia countries and located on Western edge of Indo-China peninsular. China, Thailand, Laos PDR, Bangladesh and India are bordered countries with Myanmar. The total population is more than 55 millions in which female population is more than male population. And then population of 17.92 million women ages 15 years and older who are at risk of developing cervical cancer (WHO, 2010). The current estimation from WHO showed that annual number of cervical cancer cases is 6,434 and 3,536 die with cervical cancer every year. It is the second most frequent cancer among Myanmar women and it can be projected 9,582 for new cases and 5,658 deaths from cervical cancer in 2025 (WHO, 2010).

The following tables show the indicators for incidence rate, age-standardized incidence rate and annual number of new cases for cervical cancer in Myanmar compared to world's rate and overall South-East Asia's rate.

Table 1 Incidence of cervical cancer in Myanmar, South-Eastern Asia and the World

Indicator	Myanmar	South-Eastern Asia	World
Crude incidence rate[1]	25.4	15.4	15.8
Age-standardized incidence rate[1]	26.4	15.8	15.3
Annual number of new cancer cases	6,434	44,404	529,828

Source: WHO Fact sheet, 2010 ([1] Rates per 100,000 women per year)

Available information shows that among Myanmar women, the most common cancer are Ca breast (31.2%), Ca cervix (25.4%) and Ca lung (11.9%). Age-specific cervical cancer incidence among women age between 15-44 years was 17.1. Annual number of new cases for cervical cancer by age group was most common in 15-44 years and also 45-54 years approximately high but over 65 years were less common. The estimated number of new cases for cervical cancer will become more than 41% and age of +65 years may become high risk group projected in 2025. The highest crude mortality rate in Myanmar is cervical cancer (14%) in every year and most mortality age group is over 65 years (WHO, 2010).

Cancer rate statistics from Myanmar in 2000 show that out of 3,000 patients surveyed, under 16 per cent has cervical cancer (Phyu, 2009). The study done among primary care physicians in Myanmar, 8.96% of them revealed that they have seen cervical cancer patient in daily practice (Mon, 2008). The main reason for this increase number is the lack of general health knowledge in people and, more importantly, poor screening programs services for early detection and also lower awareness about cervical cancer in Myanmar.

There is no previous community based study for cervical cancer screening in Myanmar. There was only one research about coverage of cervical cancer screening for 57 countries from WHO in 2002 (Gakidou, 2008). From available United Nations data, Myanmar had only one percent for effective cervical cancer screening and around 45 percent for crude coverage rate (pelvic examination) but more than 50 percent never had even pelvic examination (UN data, 2009). The study will assess about related and affecting factors for intention to take cervical cancer screening

among married women who residing in Mandalay. The main purpose for this study is expected to improve the knowledge, perception and awareness on cervical cancer and benefits of Pap test among married women so that there will be increased numbers of cervical cancer screening usage in the future. Also the study may provide base line information to health authorities about married women who have intention to take Pap smear test for promoting education, knowledge and cervical cancer screening programs in Myanmar women.

1.2 Objective

1.2.1 General objective

To identify the percentage of married women (25-65 years) in Mandalay who have intention to take Pap smear screening and factors affecting their intention to take Pap smear screening.

1.2.2 Specific objectives

1. To assess the percentage of intention to take Pap smear screening among married women (25-65 years) in Mandalay, Myanmar
2. To identify the association between socio-demographic characteristics and intention to take Pap smear screening
3. To determine the association between number of pregnancy and intention to take Pap smear screening
4. To determine the association between husband and family encouragement and intention to take Pap smear screening
5. To determine the association between past Pap smear practice and intention to take Pap smear screening in the future
6. To determine the association between past pelvic examination and intention to take Pap smear screening
7. To determine the association between knowledge on carcinoma cervix, Pap smear screening and intention to take Pap smear screening
8. To determine the association between perception on carcinoma cervix, Pap smear screening and intention to take Pap smear screening

9. To determine the association between cue to action and intention to take Pap smear screening

1.3 Research question

What are the factors affecting intention to take Pap smear screening among married women in Mandalay, Myanmar?

1.4 Research hypothesis

1. There is an association between socio demographic characteristics and intention to take Pap smear screening

    Socio-demographic characteristics are;

    - Age
    - Education
    - Occupation
    - Family income
    - Marriage age

2. There is an association between number of pregnancy and intention to take Pap smear screening

3. There is an association between husband and family encouragement towards intention to take Pap smear screening

4. There is an association between past Pap smear practice and intention to take Pap smear screening in the future

5. There is an association between past pelvic examination and intention to take Pap smear screening

6. There is an association between knowledge on carcinoma cervix, Pap smear screening and intention to take Pap smear screening

7. There is an association between perception on carcinoma cervix, Pap smear screening and intention to take Pap smear screening

8. There is an association between cues to action and intention to take Pap smear screening

1.5 Variables

1.5.1 Independent variables

- ➢ General characteristics
  - • Age
  - • Education
  - • Occupation
  - • Income
  - • Parity
  - • Marriage age
- ➢ Past Pap smear practice and past pelvic examination
- ➢ Husband and family encouragement
- ➢ Knowledge on cervical cancer and Pap smear screening
- ➢ Perception of susceptibility and severity on cervical cancer
- ➢ Perception if benefits and barriers on Pap smear screening
- ➢ Cues to action

1.5.2 Dependent variable

- ➢ Intention to take Pap smear screening

1.6 Operational definitions

"Intention to take Pap smear screening": Women perceived likelihood of performing Pap smear screening in the future.

"Myanmar married women in Mandalay": Myanmar married women who are residing in Mandalay and meet with inclusion criteria (age 25-65 yrs women who are mentally sound and willing to participate

"Age": The respondent's age in completed years.

"Education": The respondent's highest level of education at the time of interview. It is divided into 5 groups which are read and write, primary school level, middle school level, high school level and university school level

"Occupation": The respondent's job at the time of interview. Occupation is divided into 5 groups which are government service, own business, house wife/ dependent, health care personnel, and others

"Income": The total average money per month received by family of the respondents.

"Number of pregnancy": Total number of pregnancies they ever had.

"Marriage age": The respondent age at the time of getting married.

"Knowledge on cervical cancer and Pap smear screening": The respondent's ability to answer the natural history, causes, risk factors, signs and symptoms of cervical cancer and its prevalence rates; and the benefits of cervical screening and early detection.

"Perception on cervical cancer and Pap smear screening": The women's feeling of perceived susceptibility of cervical cancer, perceived severity if cervical cancer not early detected and treated; and perceived benefits and barriers of having cervical cancer screening test.

"Cue to action": The information from media, health personnel, family and friends may affect as external factors on her decision to take Pap smear screening.

1.7 Conceptual Framework

Figure 1 Conceptual Framework

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┌─────────────────────────────┐
│ Socio-demographic factors   │
│   ➢ Age                     │
│   ➢ Education               │
│   ➢ Occupation             │
│   ➢ Income                  │
│   ➢ Parity                  │
│   ➢ Marriage age            │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Husband and Family          │
│ encouragement               │
└─────────────────────────────┘                    ┌──────────────────┐
                                                    │   Intention to   │
┌─────────────────────────────┐                     │ take Pap smear   │
│ • Knowledge on cervical     │                     │   screening      │
│   cancer and Pap smear      │                     └──────────────────┘
│   screening                 │
│ • Perception on cervical    │
│   cancer and Pap smear      │
│   screening                 │
│   ➢ Susceptibility         │
│   ➢ Severity                │
│   ➢ Benefits                │
│   ➢ Barriers                │
│ •     Cues to action        │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Past Pap smear practice     │
│ Past pelvic examination     │
└─────────────────────────────┘
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1.8 Scope and limitation of the study

This study is cross-sectional descriptive study and conduct among married women age between 25-65 years who are residing two townships in Mandalay, Myanmar. So that the findings cannot be generalized to the whole Myanmar married women population. The study is limited resource and time; peoples willingly to participate are required.

1.9 Expected benefit

This study may provide health professionals for related factors affecting intention to take Pap smear screening among married women and health authorities for further promoting and intervention program for Pap smear screening.

CHAPTER II
LITERATURE REVIEW

The research is a study about factors affecting intention to take Pap smear screening among married women in Mandalay. This chapter includes about cervical cancer, screening for cervical cancer, Pap smear screening, HPV vaccination, cervical cancer and Pap smear screening in Myanmar, Health belief model and related Pap smear studies.

2.1 Cervical cancer

Cancer is a term used for the malignant, autonomous and uncontrolled growth of cells and tissues. Such growth forms tumors, which may invade surrounding and distant parts of the body, destroying normal tissues and competing for nutrients and oxygen. Metastases occur when small groups of cells become detached from the original tumors, are carried to distant sites via the blood and lymph vessels, and start new tumors similar to the original one (WHO, 2006).

When abnormal cells growth out of control in the cervix, it is called cervical cancer. Cervix is the lower part and the narrow end of the uterus and it connect upper part of the uterus (the womb) to the vagina in female genital tract (CDC, 2007). There are so many different types of cancer in the world. Cervical cancer is one of around 200 cancer types and that affect the women reproductive tract and abnormal cells growth in the cervix (the cone-shaped part of the uterus). Ninety percent of cervical cancer cases are squamous cell carcinomas which arise from metaplastic squamous epithelium of the transformation zone but the ten percent are adenocarcinomas types and they arise from columnar epithelium of the endocervix.

The primary cause of cervical cancer is persistent or chronic infection with some oncogenic type, human papilloma virus or other cofactors. Human papilloma viruses (HPVs) are group of more than 150 related virus and among them more than 40 types are transmitted by sexual intercourse. Types 16 and 18 are most common sexually transmitted HPVs and which are found in seventy percent of cervical cancers cases reported. There are also present other oncogenic types such as 31, 33, 45 and 58 but they are less common (WHO, 2006).

Most of the epidemiological studies have approved so many risk factors that contribute to the development of cervical squamous precancerous (dysplasia) and cervical cancer. Women who have many sexual partners, or whose sexual partners have others partners, sexual intercourse at an early age, multiparity, long-term oral contraceptive use, tobacco smoking, Chlamydia trachomatis infection, micronutrient deficiency and low socioeconomic status are risk factors for HPV infection (IARC, 2008). Nevertheless most HPV infections heal on their self without treatment and can't show any other abnormality. Sometime, persistent infection with high risk HPVs types affect women who develop abnormal cervical cells changes but they have the chances to get the cervical cancer are so small even they don't treat. So that only severe abnormal cells changes can lead to high risk of cancer.

The estimated times taken from HPV infection to develop for cervical cancer are vary with conditions. Sixty percent or more of mild dysplasia cases resolve spontaneously and only 10 percent progresses to moderate or severe form of dysplasia with time 2-4 years but in some cases moderate or severe dysplasia may occur without earlier detectable in mild dysplasia. Less than 50 percent of severe dysplasia cases progress to invasive carcinoma stage and it is common only older age than younger women. Usually the progression from mild stage to carcinoma is taken 10 to 20 years so that cervical cancer is easily preventable at early stage and provide with rationale screening (WHO, 2006).

Stages of carcinoma cervix are as follow:

Stage 0: carcinoma in situ, cervical intraepithelial neoplasia (CIN I, II, III)

Stage IA: microinvasive carcinoma, not clinically visible

Stage IB: microinvasive carcinoma, clinically visible

Stage IIA: spread to the upper two-third of the vagina, but not around the uterus

Stage IIB: parametrium invasion, but not as far as the pelvic wall or the lower third of the vagina

Stage IIIA: involvement of the lower third of vagina, but no extension to the pelvic wall

Stage IIIB: extension to the pelvic side wall or hydronephrosis or non-functioning kidney

Stage IVA: Spread to involve the mucosa of the bladder or rectum

Stage IVB: Spread to distant organs, such as extrapelvic lymph nodes, kidneys, lungs, liver, bones and brain

The following are some signs and symptoms characteristics of cervical lesions. But the diseases patterns are vary and most of the women complaint with one or more conditions. The common symptoms are abnormal bleeding per vagina, post-coital pain and bleeding at any age, urinary frequency, urgency, back pain, lower abdominal pain, foul-smelling discharges, and fistula. Most old women over 60 years of age come and complaint with post menopausal bleeding. The definitive diagnosis of cancer is confirmed by histo-pathological examination of a tissue specimen taken from the lesion and is mandatory before any therapy, or even extensive therapies are started.

The treatment of choice for cervical cancer depends on the staging. Current treatment options for carcinoma cervix are as follow: (WHO, 2006)

1. Cone biopsy, Diathermy, Cryotherapy, Loop Electrosurgical Procedure (LEEP), simple hysterectomy or laser therapy are used for the treatment of preinvasive stage or precancerous stage.
2. Surgical treatment in some cases of stage I and II.
3. Radio therapy that can be applied all stage of cervical cancer.
4. Chemotherapy used in advanced stage or recurrence conditions and when no other methods can be used.
5. In some advance situations, the treatment can be combined above methods such as surgery with radiotherapy, and later radiotherapy with chemotherapy. Radical hysterectomy and some combination are common treatment used in extensive invasive stage.

The prognosis in terms of 5 years survival rates for cervical cancer also depends on stage of disease. The Pap smear test can detect the early stage of preinvasive carcinoma and this stage can treat with effective therapy and at almost 99-100% survival after 5 years. The survival rates are more than 65 percent in stage IB and stage II but only 30 percent for stage III. Stage IVA have 10 percent but stage IVB can get only less than 5 percent for 5 years survival rate.

2.2 Screening for cervical cancer

The screening tests such as conventional cytology (Pap smear), liquid-based cytology, HPV DNA testing and visual screening (VIA and VILI) with acetic acid or Lugol's iodine are detection for early changes and abnormalities of cervix, specifically cervical intraepithelial neoplasia (CIN). Women with abnormal test results are further follow-up investigation for some cell changes, colposcopy (Magnified inspection of cervix and vagina with a binocular endoscope). Cells or tissues from the abnormal area can be taken with endocervical curettage if cytology finds any abnormal tissues, directed biopsies taken from abnormal areas (IARC, 2008).

2.3 Pap smear screening (Conventional cytology)

The Pap smear test (also called Papanicolaou test, Pap test, cervical smear test, or smear test) is the conventional cytological test for detection on early changes of cervix, especially CIN before invasive cancer develops. It is the cervical cytology to examine cells which collected from the cervix and it can also detect about non cancerous conditions example inflammation of cervix and cervical infection. The Pap test had been used in many countries since 1950. The incidence rate and mortality rate of cervical cancer had been declined due to widely used of Pap test in many developed regions of the world (IARC, 2008).

Most laboratories around the world use the Bethesda system to report the Pap test results. According to the Bethesda system, the cells samples with no abnormalities results are reported as "normal" or "negative". The system also reported benign (non-neoplastic) findings, some infection and inflammation. The system considers about cells abnormalities such as squamous cells abnormalities and glandular cells abnormalities. Squamous cells are found at the surface of the cervix and glandular cells are mucous producing cells in the endocervical canal. Squamous cells abnormalities are most common form and the following table shows class and range for squamous cells abnormalities results:

Table 2 Cytological classification

Cytological classification (Used for screening)	
Pap	Bethesda system
Class I	Normal
Class II	ASC-US ASC-H
Class III	LSIL
Class III	HSIL
Class IV	HSIL
Class V	Invasive carcinoma

Source: WHO, 2006

The process of the Pap smear test is taken sample cells from transformation zone of the cervix with an extended-tip wooden spatula or brush, no longer recommended for using cotton swab. The sample cells are smeared onto a glass slide and immediately fixed with solution to preserve the cells. The slides are sent to a laboratory where it is stained and examined for abnormal or normal cells by using the Bethesda system. The accuracy results of cytological testing depend on quality of the services, sampling practice, and preparation and interpretation of smear in the laboratories. The reports from developed countries showed that under the best conditions and research settings, the Pap test can detect up 84% of precancerous and invasive cancer. However, under unsatisfied conditions, the sensitivity can be lower 38%. The specificity of Pap test is usually over 90%.

According to the American College of Obstetricians and Gynecologists (NCI, 2010), women can screen their first Pap test in aged 21 and women aged between 21-30 years should be tested every 2 years. Women who have had aged over 30 years with 3 consecutive negative results (i.e., normal Pap test) may be screened every three years either or not with other screening test. Over 30 years women can also screened both Pap test and HPV test every 3 years. For over 65 years old women who already have had three normal screening results and no normal result in her last 10 years, she can be discussed with doctor to stop taking Pap smear test. Women who have

removed cervix and uterus as a treatment for precancerous or cancer (hysterectomy) don't need to screen Pap smear test (NCI, 2010).

In developed regions, incidence rates of cervical cancer became low and declined due to the above effective Pap smear screening programs in the past years. However, most of the developing regions have high numbers for cervical cancer mortality rate with no screening programs, mainly due to lack of resources. From WHO guideline for limited resources countries, every women age 40 years should be target group and screened once in her life time. When resources are more available, the target group for women age 40 years should be screened next every 10 year and every 5 years for women age between 35-55 years. For over 60 years age women and younger than 25 years age of women, the screening program can extend if resources are high. Every 3 years for women 35-60 years is very appreciated if high resources and high proportion of target groups are being screened every 5 years.

2.4 HPV vaccination

HPV is a common cause of virus for cervical cancer which is transmitted by close contact among men and women who perform penetrative or non-penetrative sexual intercourse. So many couples are infected with HPV at least once time when they become sexual active. The only way to prevent HPV infection is to abstinence and away from sexual intercourse and genital skin contamination. However, sexual behavior changes also can some helpful to prevent infection such as use condoms, delay first sex. But the ideal way to prevent HPV infection is vaccination. The HPV vaccination can prevent nearly 100 percent of the precancerous cervical cell changes that would have been caused mainly from HPV types 16 and 18. And also vaccines preferred to protect against all high-risks types HPV and is just as a effective at protecting against persisting HPV 16 and 18 infection in the anus. Although HPV vaccination can help future HVP infection but it cannot help and eliminate the persistent HPV infections. So that detection of cervical abnormal cells changes needs to continue even after HPV vaccination. Screening for cervical cancer should be performed after HPV vaccination complete (NCI, 2011)□.

2.5 Cervical cancer and Pap smear in Myanmar

In Myanmar, the Pap smears screening available at general hospital with low cost. Most of the private hospitals and some clinics also have done the Pap smear test with clinicians. In July 2008, the Department of Medical Research (Lower Myanmar) provided free Pap smear test services for cervical cancer screening at their clinic and more than 2,000 women have so far received free Pap test. Their clinic provides early detection and treatment for cervical cancer and they have 20 women visit to the clinic for everyday. But there are no other facilities and services which concern with cervical cancer and screening program in Myanmar. So that the incidence rate of cervical cancer among all women age became second place in Myanmar and mortality rate is the first place (Myat, 2010).

Figure 2 Cervical cancer mortality% compared to other cancers in women of all ages in Myanmar (Annual crude mortality death per 100,000)
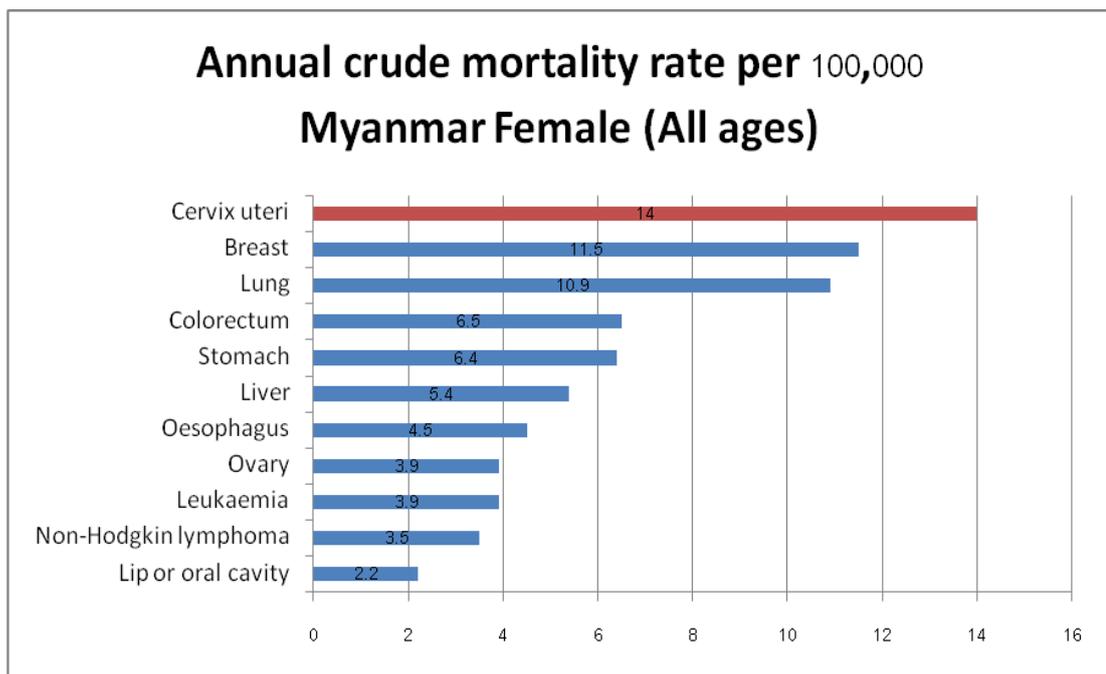
Source: WHO, 2010

According to WHO household surveys in 2002, estimated coverage of cervical cancer screening in Myanmar age 18-69 years is 0.9 percent. Among them age range between 18 to 29 have 0.8 percent, 30 to 39 years is 1.1 percent, 40 to 49 years is 1 percent and 60 to 69 years is 0.9 percent respectively. But the range between 50 to 59

years women is only 0.3 percent for Pap smear screening. The percent of pelvic examination age 18-69 years is 51% which is so high (Gakidou, 2008).

Table 3 WHO household survey in 2002, estimated coverage of cervical cancer screening in Myanmar age 18-69 years

Year	Population study	Rural or urban	N women	Age range	Coverage percent	Within the last years
2001-2002	General female population	All	3,005	18-69	0.9	3 yr
		Urban	905	18-69	1.9	3 yr
		Rural	2,100	18-69	0.4	3 yr

Source: Gakidou, 2008

Limitations of cytology screening in Myanmar are that test is difficult to comprehend with cultural. Women think about the test is invasive and embarrass for them. And also systems needed to ensure timely communication of test results and follow-up of women. It is necessary to recall women for further tests if the smear is inadequate or for evaluation if an abnormality is detected. There are no community-based screening programs, mainly due to lack of resources and low level of awareness in population.

2.6 Health Belief Model

The health belief model is a psychosocial model and developed by the researchers at the United States Public Health Services in 1950s. It was explained by Janz& Becker in 1984, Kirscht in 1988 and Rosenstock in 1974. The health belief model has been used to explain changes and maintenances of individual's health behaviors on diseases at their asymptomatic time. The HBM relates largely to the cognitive factors predisposing a person to a behavior.

The HBM mainly focused on individual characteristics that lead preventive health behaviors. In general, they believe that they will take action to ward off, to screen off, or to control an illness if they feel and regard themselves as susceptible a condition, if they believe that a course of action available

The key concepts of health belief model are Perceived threats; this is split out in term of four constructs which are;

Perceived susceptibility – an individual's opinion on their chances of getting disease that can make one's subjective perception of his or her risk of contracting a health condition. E.g: Women perceived that she can get and such a kind of person to get cervical cancer because she have knowledge about every woman who has risk factors can get more chance to develop cancer.

Perceived severity – An individual believe on seriousness or severity of disease. Eg: Women believe that cervical cancer is difficult to cure at the late stage and will suffer many side-effects at the treatment time.

Perceived benefit – There is one's opinion of the efficacy of the advised action to reduce risk or seriousness of impact. Eg: Women opinion about cervical cancer can be detected at early stage and can be cured completely. Regular Pap smear test is the best way to detect early cervical changes.

Perceived barriers – There is an individual's own evaluation of the obstacles. Perceived barrier is important construct for behavior changes. Eg: Women seeking Pap smear test due to they have knowledge about seriousness of cervical cancer and perceived benefit of the Pap smear test. But some women don't want to take because they think about the test is painful.

Cues to action – It includes event, people or something which factors can influence and change upon health behavior. It is also a kind of stimulants at the time of decision making. E.g: Women have a talk with doctors, nurses, and other health care personnel about cervical cancer and Pap smear test.

Moreover, diverse demographic, socio-psychological, and structural variables may affect an individual's perceptions and thus indirectly influence health-related behavior. Specifically, socio-demographic factors are believed to have an indirect effect on behavior by influencing the perceptions of susceptibility, severity, benefits, and barriers (Glanz, 1997).

The Health belief model can be used to study factors affecting intention to take Pap smear screening. This model explains perceived susceptibility, perceived severity, perceived benefits and perceived barriers and cues to action concerning Pap smear screening test.

Figure 3 Health Belief Model
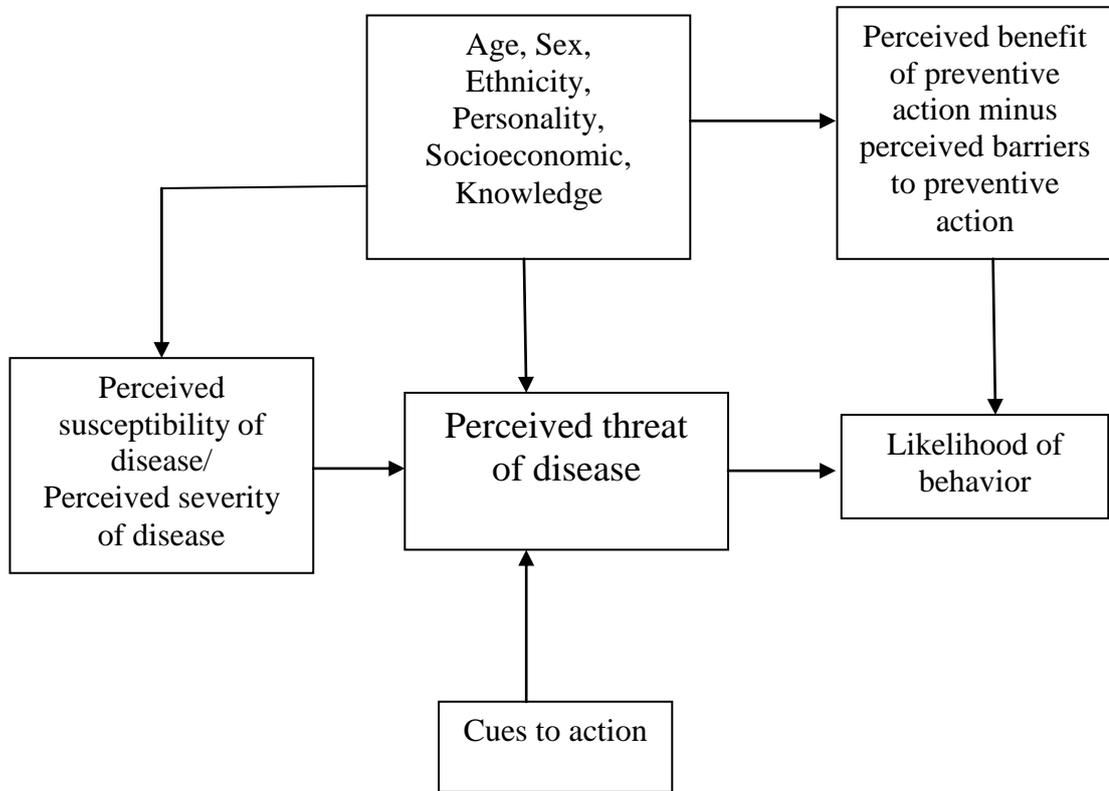
Source: Glanz, K et al. Health behavior and health education, Theory, Research and Practice. 2nd edition. 1997.

2.7 Related Pap smear studies

The study of coverage and use of cervical cancer screening among women in Maesot, Tak province, Thailand found age was an important factor for having cervical cancer screening and older age group were most affecting from disease illness. Women age at 35-45 years was the highest group to be screened and 25-34 years of age were the lowest group for coming to have screening. Over 45 years and younger age 25 years group had also lower in number to receive cervical cancer screening (Sawadvutthipong, 1998).

One study was carried out among clinical attendees in Trelawny, Jamaica to identify factors affecting uptake of cervical cancer screening found that positive association in age between 33-44 years, secondary school education, and recommendation from health providers and regular screening. But the study showed about inverse association between feelings of embarrassment or shame to uptake cervical cancer screening. 65.6% women believed that cervical cancer was severe and 60% answered that was sometime cured disease. For some qualitative analysis revealed that 54% of respondents believed that the Pap smear test is used for diagnosed but not for prevent cervical cancer. 41% never having the Pap test in their lives due to lack of diseases symptoms (Bessler, 2007).

Ok Kyung Ham was conducted about factors that influence on future taking Pap smear screening among Korean women. The study was cross sectional study and used combination of Health Belief Model and the Theory of Reasoned Action for intention of Korean women to take future Pap smear. Age of the women was significantly associated and it was important factor for future Pap smear taking in middle-aged women. Knowledge, perceived benefit and self efficacy were also significant factors to predict Pap smear (Ham, 2005).

A descriptive cross-sectional study among Thai women in Rajvithi Campus Mahidol University, Bangkok 2008 used Health Belief Model to determine factors influencing intention to have Pap smear screening found that 83% of respondents had to take Pap smear in the future and perception of the women was important factor. They had knowledge about cervical cancer and Pap smear test but not in depth and women who had past practice on Pap test more desired to have future screening. There was also significantly association the past Pap smear screening and intention to

have future Pap test in this study. Among women who with past Pap smear experience had intention rate 90.2% and as compared with other never had Pap smear women was 72.5%. Younger women had less intention to have screening and other socio-economic factors such as education, occupation, number of pregnancy were not significantly associated with intention to have Pap smear screening (Swe, 2008).

A study conducted in Nnewi, South Eastern Nigeira about knowledge, attitude, and practice of Pap smear among female nurses found that 5.7 percent only ever had Pap test and 37.1 percent had no screening without reasons. 25 percent felt they were not being susceptible persons for carcinoma cervix and 15 percent were afraid the possible test result, but awareness on screening services was high 87 percent. All participants had high knowledge but practiced rate was very poor (Udigwe, 2006).

A descriptive cross-sectional study among medical workers of Mulago hospital, Uganda conducted about knowledge, attitudes and practices on cervical cancer screening showed that more than 80% respondents knew about that cancer was curable if detected at early stage and the Pap smear screening could detect early cervical lesions. But they had low knowledge on risk factors and details of screening activities (Mutyaba, 2006).

Receiving the health education program exhibited a greater knowledge about cervical cancer prevention was found out from the randomized controlled trial done among Cherokee Indian women in North Carolina. Moreover, women who received the education program were 2.06 times more likely to report having obtained a Pap smear in the past year than women who did not receive the program. Moreover, the knowledge towards cervical cancer and screening test were 2.18 times greater in women who received health education program when compared to knowledge of women in control group (Dignan, 1996).

According to Myanmar socio-cultural, husband is dominant and bread winner for the whole family. In the extended family, the decision making role is always taking the head of the family; especially father, husband, and sometime mother and mother-in-law. And then every Myanmar women discuss closely and take some advice from her mother for their reproductive health problems. Family encouragement and support is one important thing for changing behavior in most of the Myanmar

families. There are no previous study about Pap smear screening is association or not with husband and family encouragement in Myanmar but some related studies mentioned about family support is associated with using contraceptive and family planning. A quantitative cross-sectional community based exploratory study on decision making role of husbands and wives regarding fertility regulation were done in Kyauk Tan Township, Yangon in 1998. In this study, male dependent contraceptive methods used are strongly associated with family planning (Thu, 1998).

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research design

The research design of this study was a cross sectional descriptive/analytical study.

3.2 Study area

The study was conducted in Mandalay, Myanmar. Mandalay is the second largest city of Myanmar and it has a population around 1 million. There are 7 townships in Mandalay. Among these 7 townships, the study carried out in Chan Aye Tha Zan and Amarapura townships. Both of the two townships are overcrowded regions. Chan Aye Tha Zan township is located at downtown area and Mandalay General Hospital is present in this area. Amarapura township is nearly located with Chan Aye Tha Zan township and township hospital is present. Both Mandalay General Hospital and Amarapura township hospital can do for Pap smear screening but with payment (Mandalay, 2010).

3.3 Study population

The population in this study was married women age between 25-65 years who were residing in Mandalay, Myanmar. According to WHO recommended target age group for cervical cancer screening, women should not include less than 25 years of age and screening is not necessary for women over 65 years of age (WHO, 2006).

Inclusion criteria

-Married women age between 25-65 years

-Married women who are mentally sound and willing to participate

Exclusion criteria

-Married women who have done total hysterectomy

3.4 Sample size

At the time of study, the author knew of only one study about Pap smear screening in Myanmar. The prevalence of Pap smear screening at Myanmar urban area (WHO data, 2001) was 2%. The prevalence rate is less than 10%. Therefore according to the regulations to calculate sample size, the study used critical value for

99% CI and error allowance for 0.025 to be expected around supposing 20% prevalence rate of Pap smear in 2011. The sample was calculated by the formula below (Daniel, 1999 and Lwanga,1991).

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

$$n = \frac{(2.58)^2 \times (0.02) \times (0.98)}{(0.025)^2}$$

$$n = 208.745$$

n = sample size

$Z^2\alpha/2$ = critical value for 99% confidence level = 2.58

d = error allowance = 0.025

p = prevalence of Pap smear screening at Myanmar urban area (WHO data, 2001) = 2% = 0.02

Total sample size = **230**. A total of interviews will be 230, add 10% for missing values and losing respondents.

3.5 Sampling Technique

Mandalay is located at upper and central Myanmar. Mandalay was purposively selected because there are 7 townships in Mandalay and all are urban area (Mandalay, 2010). Among seven townships, two townships (Chan Aye Tha Zan and Amarapura townships) were selected purposively. In the second step, 1 ward was randomly selected from each township and total 2 wards. Each ward was sub-divided into blocks. In the third step, the first blocks from each ward were selected and 115 married women age between 25-65 years who residing in this block were collected from their household numbers. The household numbers were provided from the lists of township profiles with the help of township administrative officers from each township. The researcher was selected only married women from selected households were asked to participate. If a block has enough 115 married women age 25-65 years

old, all these female were asked to participate. If a block had less than 115 married women, the missing number were compensated by selecting married women in the adjacent second block till the number of 115 married women 25-65 years old was reached. If a block had more than 115 married women age between 25-65 years old, the first women from first household number to be interviewed was chosen and subsequent females were selected by visiting house to the next house and so on. If more than one of married women who stay at selected households, researcher was selected only one woman among these by picking up the name. If the selected woman was not available at the time of visit or if she was included in exclusion criteria, the number adjacent to it was asked. A total 230 of married women age between 25-65 years were included in this study.

3.6 Data Collection

Data was collected by face to face, house to house visited interviews of the studied population. The questionnaires were in Myanmar language. 5 research assistants in Mandalay, who are medical doctors, were trained for one day before the data collection on study question, objectives, methodology, and questionnaires to reduce interviewer bias and for standardize the data collection. All the respondents were asked the same questionnaire. After completion of interview, the interviewer checked the error or the omission of interviewer and the questionnaire was checked by the researcher after interview.

3.7 Measurement Tools

The data was collected by using interviewer-administered questionnaires in Myanmar language. The questionnaires were adopted from previous related studies (Swe, 2008) (Bessler, 2007).

Part I: Socio-demographic factors

There were total 7 questions for age, marriage age, education, occupation, family income, total number of pregnancies

Part II: Past Pap smear practice and past pelvic examination

- There were total 6 questions.

Part III: Knowledge towards cervical cancer and Pap smear screening.

- Generally, information about knowledge on cervical cancer and Pap smear screening were total 12 questions. All knowledge questions are correct.
- In order to identify level of participants' knowledge on cervical cancer and Pap smear screening, score counting methods was for correct answer = 1 score, wrong and not sure/don't know answer = 0.
- Total knowledge score was 12.
- After that, The level of knowledge score were divided into 3 groups which are low level, moderate level and high level knowledge as following Bloom's cut off point (Bloom, 1956):

  Less than 60% refers to low level knowledge – 0-6 scores

  From 60-80% refers to moderate level knowledge – 7-9 scores

  More than 80% refers to good level knowledge – 10-12 scores.

Part IV: Perception towards cervical cancer and Pap smear screening.

- There are total 20 questions for perception on susceptibility, severity, benefit and barriers of carcinoma cervix and Pap smear.
- For perceived susceptibility on high risk cervical cancer questions,

  For item number 4.1.1:

  Agree answer= 3 score, disagree = 1 score and not sure/don't know = 2 score

  For item number 4.1.2:

  Agree answer= 1 score, disagree =3 score and not sure/don't know = 2 score

- For perceived severity and perceived benefits questions consisted of positive statement. The score was calculated by following:

  Agree answer = 3 score, disagree = 1 score and not sure = 2 score

- For perceived barriers questions, all items were negative statement. The score was calculated by following:

  Agree answer = 1 score, disagree = 3 scores and not sure = 1 score

- The level of overall perception score and perceived susceptibility on high risk cervical cancer were categorized by 3 groups:
- Poor perception, moderate perception and good perception. The rating scale was measured follows the cut-off point:

  ≥Mean ± standard deviation – good perception

Mean ± standard deviation – moderate perception

≤ Mean ± standard deviation – poor perception

- The level of perceived severity on cervical cancer and perceived benefit on Pap smear screening were categorized by 2 groups:

- Poor perception and good perception. The rating scale was measured follows the cut-off point:

≥Mean ± standard deviation – good perception

Mean ± SD and ≤ Mean ± SD – poor perception

Part V: Cues to action

➢ There are 4 questions with no scoring system.

Part VI: Husband and family encouragement

➢ There are 2 questions.

Part VII: Intention to take Pap smear test in the future

➢ There are total 4 questions

3.8 Data Analysis

Questionnaire was coded before entering the data to computer by the researcher. The sample database was checked by double entry. For data analysis, SPSS 17.0 version software was used. Descriptive statistic such as frequency, percentage, mean and standard deviation were used. In order to determine the association between the independent and dependent variables, Chi-square test and multiple logistic regression analysis were used.

3.9 Validity and Reliability

Before data collection, for validity of the questionnaire, it was done by reviewing previous literature and studies, by consulting and verified from three experts for the assessment of its content, clarification and appropriate wording. The reliability was maintained by pre-test. The pre-test was done at Yangon where the settings were similar to that in Mandalay and data collected around 23 married women. The internal consistency was tested by using Kuder-Richardson for knowledge and Cronbach's coefficient of alpha for perception. The Kuder-Richardson result for knowledge part was 0.84 and the Cronbach's alpha result for perception part was 0.775. The methodology based on the sound epidemiological principles and

worldwide theory of statistics. Data editing of the information carried out at the same day of data collection. The researcher involved in collecting data, entry, analysis and interpretation of the collected data.

3.10 Ethical Consideration

All participants' right to self-determination and autonomy was respected. The participation was strictly voluntary. The researcher was translated participant information sheet and informed consent form into Myanmar language. The interviewer explained the objectives of this study before starting the interview. The respondents were feel free to participate or withdrawal any time throughout the interview. The name of respondent would not record and data only code. All the data kept confidentially and used only for the thesis purpose to fulfill the partial requirement for the degree of Master of Public Health. None of the questionnaires could be traced back to the respondents.

CHAPTER IV
RESULTS

This study aimed to find the prevalence of intention to take Pap smear screening and factors affecting intention to take Pap smear screening among married women in Mandalay, Myanmar.

4.1 Descriptive analyses

The study results are collected 230 questionnaires that are analyzed by SPSS and summarized in tables. The first part of this chapter contained the descriptive portion of the variables such as socio-demographic factors, past pelvic examination, past Pap smear practice, knowledge and perception towards cervical cancer and Pap smear screening, cues to action, husband & family encouragement of participants and their intention to take Pap smear screening in the future.

4.1.1 General characteristics of the respondents

Table 4 describes the details of socio-demographic characteristics of participants.

Age

It shows that 34.8% of the respondents are 30-39 years of age, 27.4% are 40-49 years of age, 21.7% are ≤29 years of age and 16.1% are ≥ 50 years. The average age is 38, mean age is 38.83, SD is 9.53 and range is from 25 to 62 years of age.

Marriage age

Among the respondents, 36.1% are age between 20-24 years, 28.7% are age 25-29 years and 24.3 % are ≤ 19 years of age. 10.9 % are ≥ 30 years of age. The mean age is 23.14, SD is 4.6, average age is 22.5 and range is from 14-34.

Education

Among the respondents, majority of them have high school education level (36%) and the women 23.9 % who finished middle school education. 20 % of the respondents have attended university education and 17 % of the women who finished primary school education. The rest of the respondents 5.7 % had read and write.

Occupation

According to the results, more than half of the respondents 58.3 % are dependent/ house wife and 27 % of the respondents are own business. 9.5 % are

government service and only 5.2 % are other such as company staffs. A few of them are health care personnel (1.7%).

Income

Regarding income, mostly half of the respondents 51.3 % are middle income (100,001 Kyats-300,000 Kyats/month). 28.3% earned 50,001 Kyats-100,000 Kyats and 7.8 % earned between 300,001 Kyats-500,000 Kyats. But only 9.6 % have high income $\geq$ 500,001 Kyats. The rest of the respondents 3 % lived with income less than 50,001 Kyats. The minimum income was 45,000 Kyats and maximum income was 1,300,000 Kyats. The median income was 190,000 Kyats (1 US$=820 Kyats).

Table 4 Socio-demographic characteristics of participants (n=230)

Variable	Number	Percent
Age group		
≤ 29	50	21.7
30-39	80	34.8
40-49	63	27.4
≥50	37	16.1
Mean±SD: 38.83±9.53 range: 25-62		
Marriage age		
<19	56	24.3
20-24	83	36.1
25-29	66	28.7
>30	25	10.9
Mean±SD: 23.14±4.6 range: 14-34		
Education		
Read/write	13	5.7
Primary school(1-4 years of school)	39	17.0
Middle school(5-8 years of school)	55	23.9
High school(9-10 years of school)	77	33.5
University level	46	20.0
Occupation		
Dependent/housewife	134	58.3
Government service	22	9.5
Own business	62	27.0
Health care personnel	4	1.7
Other	12	5.2
Income		
≤ 50,000 Kyats	7	3.0
50,001-100,000 Kyats	65	28.3
100,001-300,000 Kyats	118	51.3
300,001-500,000 Kyats	18	7.8
≥ 500,001 Kyats	22	9.6
(1 US$ = 820 Kyats)		

4.1.2 Number of pregnancy

Regarding number of pregnancy, table 5 shows the distribution of participants' time of pregnancy. More than half of respondents (56.1%) have been pregnant 1 to 2 times and 31.3 % have been pregnant for 3-5 times. Only 5.2 % have more than 6 times of pregnancy and 7.4 % have never been pregnant.

Table 5 Number of pregnancy (n=230)

Variable	Number	Percent
Never	17	7.4
1-2 times	129	56.1
3-5 times	72	31.3
≥6 times	12	5.2
Mean±SD: 2.33±1.65　　　range: 0-9		

4.1.3 Past pelvic examination

Table 6 shows that, more than half (50.9%) of the respondents have the experience of past pelvic examination. 49.1% answered they never have been and examined pelvic examination in their live.

Table 6 Number and percent of participants who had past pelvic examination (n=230)

Variable	Number	Percent
Yes	117	50.9
No	113	49.1

According to table 7, most of the participants examined their last pelvic examination at private clinic (38.4%), and private hospital (29.4%). 27.7% took their last pelvic examination at general hospital and a few people did (4.2%) at other places such as mobile clinic or health center. 47% of respondents answered they have experience past pelvic examination due to pregnancy and pregnancy related cases such as post partum hemorrhage. 18.8% did for diagnosed and other 34.2% took pelvic examination for cervical cancer screening. Among total 40 women, 38 women have past Pap smear screening and other 2 women have VIA. And majority 62.2% didn't get health advice from health care person who performed their last pelvic examination about to do Pap smear.

Table 7 Number and percent of participants who got advice from health care person, when and where they had past pelvic examination (n=119)

Variable	Number	Percent
where they took their last pelvic examination		
General hospital	32	27.7
Private hospital	35	29.4
Private clinic	45	38.7
Other*	5	4.2
Why they took their last pelvic examination		
For pregnancy and pregnancy related cases	55	47.0
For diagnosed	22	18.8
For cervical cancer screening	40	34.2
Number of participants who got advice from health care person to do Pap smear		
when their last pelvic examination time		
Yes	44	37.8
No	73	62.2

*Myanmar medical research

4.1.4 Past Pap smear practice

Among the respondents, only 16.5% women have past Pap smear practiced and majority 83.5% of the respondents have never had Pap smear practiced in their live (table 8). And among 16.5 % women, 12.6% answered the exact time of their past Pap smear practice but other 3.9% forgot the time. And majority of the participants did Pap test at private hospital (48.7%) and 30.8% had Pap smear from private clinic. Only 15.4% examined form general hospital and a few respondents did at other places (table 9).

Table 8 Number and percent of past Pap smear practice (n=230)

Variable	Number	Percent
Yes	38	16.5
No	192	83.5

Table 9 Number and percent of participants when and where they had the Pap smear test (n=38)

Variable	Number	Percent
When they had the Pap smear screening		
Yes, within 1 year	27	11.7
Yes, within 3 years	2	0.9
Yes, but forgot when	9	3.9
Where they had the Pap smear screening		
General hospital	6	15.4
Private hospital	18	48.7
Private clinic	12	30.8
Other*	2	5.1

Myanmar medical research

4.1.5 Knowledge on cervical cancer and Pap smear screening

Table 10 shows that most of the respondents answered correctly knowledge questions. 88.3% of women answered correctly that cervical cancer is the most common causes of cancer among women and 78.7% answered that bleeding per vagina at the age of menopause is abnormal symptom. However only 30% women could answered that cervical cancer was caused by Human papilloma virus and 39.1% answered that generally multiparity women have more chances of developing cervical cancer.

Table 10 Knowledge on cervical cancer and Pap smear screening (n=230)

Variables	Correct N	Correct %
• Cervical cancer is the most common cause of cancer among women	203	88.3
• Bleeding per vagina at the age of menopause is abnormal symptom	181	78.7
• There is a high chance for married women who can be developing cervical cancer more than single women	178	77.4
• Cervical cancer can be cured at the early stage	176	76.5
• Human papilloma virus Vaccines can prevent cervical cancer	164	71.3
• Cervical cancer is a malignant cancer that can affect in the part of women uterus	160	69.6
• Cervical cancer is associated with multiple sex partners	146	63.5
• When Pap smear test result is normal, you don't need to worry cervical cancer	129	56.1
• Early stage of cervical cancer do not show the abnormal symptoms	96	41.7
• Taking long-term oral contraceptive pills (4-5yr) is associated risk factor for cervical cancer	94	40.9
• Multi parity women have more chances of developing cervical cancer	90	39.1
• Cervical cancer is caused by Human papilloma virus.	69	30.0

Regarding overall knowledge, around 40.9% of the respondents have middle level of knowledge on cervical cancer and Pap smear screening. 38.7% of the women have low level but only 20.4 % has been good level of knowledge on cervical cancer and Pap smear screening. The minimum score is 1 and maximum is 12 of the knowledge on cervical cancer and Pap smear screening with mean 7.33 and median is 8.

Table 11 Number and percent of Overall level of knowledge (n=230)

	Number	Percent
Low level (0-6 score)	89	38.7
Middle level (7-9 score)	94	40.9
High level (10-12 score)	47	20.4
Mean±SD = 7.33±2.61 Median =8	Range = 1-12	

4.1.6 Perception

Table 12 Perception on cervical cancer and Pap smear screening (n=230)

	Agree		Disagree		Don't know	
	N	(%)	N	(%)	N	(%)
Perception of susceptibility on carcinoma cervix						
• You have high chance for getting cervical cancer	2	(0.9)	154	(67.0)	74	(32.2)
• You have low chance for getting cervical cancer	77	(33.5)	81	(35.2)	72	(31.3)
Perception of severity on carcinoma cervix						
• Cervical cancer is difficult to cure at the late stage	206	(89.6)	7	(3.0)	17	(7.4)
• Late stage treatment for cervical have a lot of side effects	166	(72.2)	8	(3.5)	56	(24.3)
• There are so many economic loss and burden on the family when having cervical cancer	208	(90.4)	10	(4.4)	12	(5.2)
Perception of benefits on Pap smear test						
• Cervical cancer can be detected at early stage and can be cured completely at early stage	208	(90.4)	7	(3.0)	15	(6.5)
• Having Pap smear test regularly is the best way for cervical cancer to be diagnosed early	202	(87.8)	6	(2.6)	22	(9.6)
• Regular Pap smear test will help to find out early cervical changes before they develop into cervical cancer	131	(57.0)	6	(2.6)	93	(40.4)

Table 13 Perceived barriers of Pap smear screening (n=230)

	Agree	Disagree	Don't know
	N (%)	N (%)	N (%)
Perception of barriers on Pap smear test			
• Pap smear screening procedure is painful	87 (37.8)	76 (33.0)	67 (29.1)
• I think Pap smear test is embarrassment	60 (26.1)	150 (65.2)	20 (8.7)
• I don't want to show my private part to male health care personnel at the time of Pap smear test	108 (47.0)	109 (47.4)	13 (5.7)
• I have no money to take Pap smear test	109 (47.4)	113 (49.1)	8 (3.5)
• I don't want to spend money for Pap smear services	96 (41.7)	127 (55.2)	7 (3.0)
• I am afraid to know the test result after taking Pap smear test	132 (57.4)	87 (37.8)	11 (4.8)
• I need more information about cancer cervix and Pap smear screening to take Pap smear	166 (72.2)	38 (16.5)	26 (11.3)
• I don't know where to go for a Pap smear test	112 (48.7)	93 (40.4)	25 (10.9)
• It is so far to go and take services for Pap smear	66 (28.7)	113 (49.1)	51 (22.2)
• I don't want to take Pap test because I don't like hospital services	96 (41.7)	108 (47.0)	26 (11.3)
• The room at hospital for Pap smear test is no privacy	84 (36.5)	92 (40.0)	54 (23.5)
• I don't want to take Pap smear because I am healthy	101 (43.9)	114 (49.6)	15 (6.5)

Table 14 shows number and percentage about overall perception level of respondents and table 15 shows perception levels for perceived susceptibility of high risk carcinoma cervix, perceived severity of cervical cancer, perceived benefits of Pap smear test and perceived barriers for screening. Majority of the respondents (63.5%) have overall moderate perception and 21.7 % have overall good perception on

cervical cancer and Pap smear screening. Their minimum score is 32 and maximum is 58. Mean of overall perception is 44.05 .

Regarding perception on susceptibility of high risk carcinoma cervix, 3 % have good perception, 58.3% have moderate perception and other have poor perception on susceptibility of high risk cancer cervix. Among respondents, their minimum score was 2 and maximum score was 6 with mean 3.36, SD 0.95 (table 15).

Regarding perception on severity of carcinoma cervix, 65.2 % had good perception and 34.8 % of women had poor perception on severity of cancer. The minimum score was 3, the maximum was 9, mean was 8.41 and SD was 1.03 (Table 15).

Regarding perception on benefits of Pap smear screening, among 230 respondents, more than half of women (56.5%) had good perception and 43.5 % had poor perception on benefit of Pap smear screening. The minimum score was 3 and maximum was 9. Mean for perception on benefit was 8.27 and SD was 1.15 (Table 15).

Regarding perception on barriers of Pap smear screening, 42.6% have good perception and other 57.8% of women have poor perception on barriers of Pap smear screening. Among 230 respondents, the minimum score is 12, maximum is 36, mean is 24.09 and SD is 6.13(Table15).

Table 14 Number and percent for overall perception level of respondents (n=230)

	Number	Percent
Overall perception		
Poor perception (20-38 score)	50	21.7
Moderate perception (39-50)	146	63.5
Good perception (51-60 score)	34	14.8
(mean±SD = 44.05±6.03, min-max = 32-58)		

Table 15 Number and percent for perception of respondents (n=230)

	Number	Percent
Perceive susceptibility on high risk cervical cancer		
Poor perception (2-3 score)	89	38.7
Moderate perception (4 score)	134	58.3
Good perception (5-6 score)	7	3.0
((mean±SD = 3.36±0.95, min-max =2-6)		
Perceive severity on cervical cancer		
Poor perception (3-8 score)	80	34.8
Good perception (9 score)	150	65.2
(mean±SD = 8.41±1.03, min-max =3-9)		
Perceive benefits on Pap smear screening		
Poor perception (3-8 score)	100	43.5
Good perception (9 score)	130	56.5
(mean±SD = 8.27±1.15, min-max =3-9)		
Perceive barrier on Pap smear screening		
Poor perception (12-24 score)	132	57.4
Good perception (25-36 score)	98	42.6
(mean±SD = 24.09±6.13, min-max = 12-36)		

Figure 4 Percentage of good perception on cervical cancer and Pap smear screening (n=230)
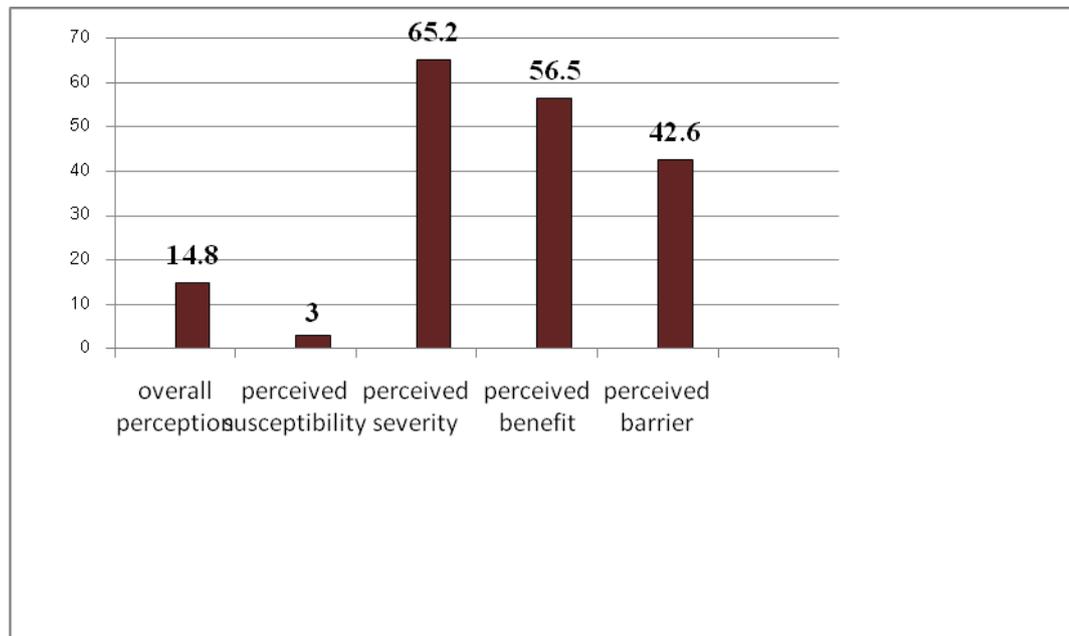
4.1.7 Cues to action

Table 16 revealed cues to action, 37.8 % of women ever have a talk with doctors, nurses and health care personnel about cervical cancer and Pap smear test. 26.1 % of women ever have a discussion with their husband or family members about cervical cancer and Pap smear test.

All respondents have knowledge and information about cervical cancer and Pap smear test and they answered about they ever heard of cervical cancer and Pap smear screening form especially radio and TV. Within 230 women, over 83 percent ever heard of cervical cancer and Pap smear test from TV and radio. 49.1% heard from magazine or newspaper, 33 % heard from health centers such as clinic or hospital, 31.7% got from their family members and friends and 19.1 % mentioned other parts such as journals.

Table 16 Number and percent for cues to action of respondents (n=230)

Variables	Number	Percent
• Ever have a talk with doctors, nurses and other health care persons about cervical cancer and Pap smear test	87	37.8
• Ever have a discussion with husband or family members about cervical cancer and Pap smear screening	60	26.1
• Ever heard of carcinoma cervix and Pap smear		
➢ From family members or friends	73	31.7
➢ From TV or radio	193	83.9
➢ From magazine or newspaper	113	49.1
➢ From health centers	76	33.0
➢ From other *	44	19.1

Journals, flyers, etc

4.1.8 Husband and family encouragement

Table 17 shows, among 230 respondents, 35.2 % of women got support from her family members or husband. More than half of women (59%) answered their husband and family members also have knowledge about cervical cancer and Pap smear screening

Table 17 Husband and family encouragement (n=230)

Husband and family encouragement	Number	Percent
• Family members or husband knowledge about cervical cancer and Pap smear	136	59.0
• Family members or husband giving support	81	35.2

4.1.9 Intention to take Pap smear screening among married women

In this study, majority of the respondents 78.3% have intention to take Pap smear screening. 17.4 % of the respondents have no intention and 4.3 % of the respondents answered not sure/ don't know. Among 78.3% of the respondents, only 21.7 % women answered the exact time about when they will be taking Pap smear. The other 56.5% answered that they have intention to take Pap smear but they did not know when they will have to test (Tables 18 and 19).

Table 18 Number and percentage of participants who intent to take Pap smear screening (n=230)

	Number	Percent
Yes	180	78.3
No	40	17.4
Not sure/ don't know	10	4.3

Table 19 Number and percent of participants about when they will have to Pap smear test (n=180)

	Number	Percent
Yes, within 6 months	18	10.0
Yes, within 1 year	21	11.7
Yes, within 3 years	11	6.1
Yes, don't know when	130	72.2

4.1.10 Reasons for no intention to take Pap smear screening

The main reason is that most of the women asked they are healthy so that they don't need to test (56%). The second reason is that they don't want to know the test result and they are afraid to know the test result (52%). In addition, 38% women refused to take Pap smear test for pain, 28% asked about that they feel shy to exposed their bodies and embarrassment to test, 18 % women said that they have no money to take Pap smear and 14% of respondents gave reasons that they have no intention to take Pap smear because they need more information about cervical cancer and Pap smear screening. And then, 32 % of participants said that other reasons (Figure 6).

Figure 5 Reasons for no intention to take Pap smear screening in the future(n=50)
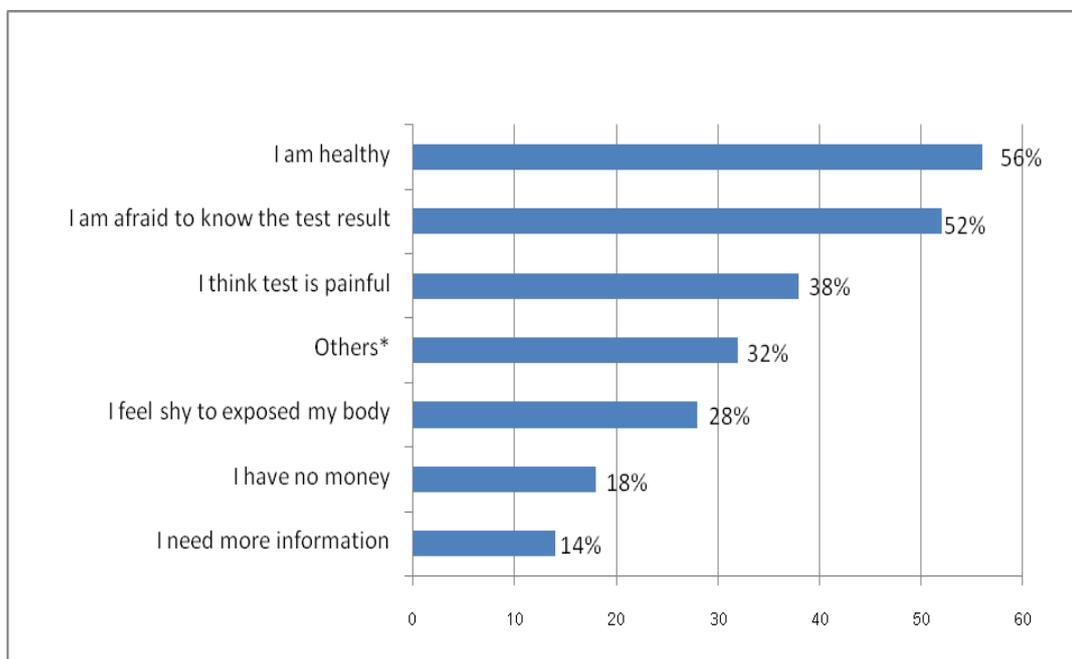
* I am old enough; I don't need to take Pap smear screening

4.2 Association between general characteristics with intention to take Pap smear screening

4.2.1 Age

In this study, age is significantly associated with intention to take Pap smear (P value≤0.001). The proportion of the women who have intention to take Pap smear screening among the age ≤29 years is 86%, 30-39 age group is 86.3%, 40-49 years of age is 76.2% and ≥50 is 54.1%. So thus age is a significant factor that related to the intention to take Pap smear screening.

4.2.2 Marriage age

Regarding married age, marriage age and intention to take Pap smear is not associated statistically. (P value= 0.502). Married age is divided into 4 groups. The intention to take Pap smear screening among ≤ 19 years is 75 %, 20-24 age group is 75.9%, 25-29 is 86.4% and ≥ 30 years is 10.8 %. Majority of respondents age between 20-29 years answered they want to take Pap smear in the future (64.6%).

4.2.3 Education

The intention rate to take Pap smear test for women who attended high school and university level is 78.1%. But intention rate for women who have read/write, primary and secondary school level is 78.5%. There is no significant association between education and intention to take Pap smear screening with P value is 0.933.

4.2.4 Occupation

Regarding occupation, 80.6% of dependent/house wife group have intention to take Pap smear. 72.6% own business women have intention to test Pap smear. 79.4% women who are government servants, health care persons and other women have intention to take Pap smear. There is no association between occupation and intention to take Pap smear screening. (P value= 0.442)

4.2.5 Monthly Income

The association between income and intention to take Pap smear is not significant (P value=0.640). It was found that the intention to take Pap smear test in women who earned less than 100,001 Kyats per month is 75%, 100,001-300,000 kyats is 78.8% and more than 300,001 Kyats is 82.5%.

4.2.6 Number of pregnancy

The number of pregnancy is associated with intention to take Pap smear screening (P value= 0.018). Among the respondents, 70.6% of never pregnant women have intention to take Pap smear, 84.5% of respondents who have 1-2 pregnancy times have intention to take Pap smears and 73.6% women who have 3-5 time of pregnancy want to take Pap test in future. But women with ≥ 6 times of pregnancy have intention rate 50%.

4.2.7 Past pelvic examination

The past pelvic examination and intention to take Pap smear screening is significantly associated (P value<0.001). The women who have past pelvic examination are more likely to take Pap smear in the future compared with the women who never have the experience pelvic examination. The intention to take Pap test for women who have past pelvic examination is 88.9% and the intention rate for women who never have experience is 67.3%.

4.2.8 Past Pap smear practice

The past Pap smear practice and intention to take Pap smear in the future is also significantly associated (P value<0.001). Women who had practiced in Pap smear in the past are more likely to have the intention to take Pap smear compared with women who never had Pap smear practice. The intention rate is 74% for the women who never had Pap smear practice and 100% for women with past Pap smear experience.

Table 20 Relationship between socio-demographic information and intention to take Pap smear screening

	Intention		x^2	Pvalue
	Yes	**No**		
	N (%)	**N(%)**		
General characteristics				
Age				
≤29	43 (86.0)	7 (14.0)	17.66	0.001*
30-39	69 (86.3)	11 (13.7)		
40-49	48 (76.2)	15 (25.8)		
≥50	20 (54.1)	17 (45.9)		
Marriage age				
≤19	42 (75.0)	14 (25.0)	3.74	0.502
20-24	63 (75.9)	20 (24.1)		
25-29	57 (86.4)	9 (13.6)		
≥30	18 (72.0)	7 (28.0)		
Education				
≤ Secondary school level	84 (78.5)	23 (21.5)	0.01	0.933
≥ High school level	96 (78.1)	27 (21.9)		
Occupation				
Dependent/house wife	108 (80.6)	26 (19.4)	1.63	0.442
Own business	45 (72.6)	17 (27.4)		
Government service, health care personnel and other[1]	27 (79.4)	7 (20.6)		
Income				
≤100,000 Kyats	54 (75.0)	18 (25.0)	0.89	0.640
100,001-300,000 Kyats	93 (78.8)	25 (21.2)		
≥300,001 Kyats	33 (82.5)	7 (17.5)		
(1 US$= 820 Kyats)				

[1]*company staff*

Significant

Table 21 Relationship between number of pregnancy, past pelvic examination and past Pap smear practice with intention to take Pap smear screening (n=230)

| | Intention | | x^2 | P value |
| | Yes | No | | |
	N (%)	N (%)		
Number of pregnancy				
Never	12 (70.6)	5 (29.4)	10.08	0.018*
1-2 times	109 (84.5)	20 (15.5)		
3-5 times	53 (73.6)	19 (26.4)		
≥6 times	6 (50.0)	6 (50.0)		
Past pelvic examination				
Yes	104 (88.9)	13 (11.1)	15.81	<0.001*
No	76 (67.3)	37 (32.7)		
Past Pap smear practice				
Yes	38 (100)	0 (0)		<0.001*[1]
No	142 (74)	50 (260)		

significant
[1]Fisher exact test

4.3 Association between knowledge and Intention to take Pap smear screening

The knowledge on cervical cancer and Pap smear screening is significantly associated with intention to take Pap smear screening (P value=0.006). Knowledge part is divided into three groups such as low level (0-6 scores), middle level (7-9 scores) and high level (10-12 scores). Women who have high level knowledge have the intention to take Pap test are higher than women with middle and low knowledge levels. Among women with high level knowledge, 87.2% have intention to take Pap smear, 84% women with moderate level knowledge and 67.4% women with low level knowledge have intention to take Pap smear screening (table22).

Table 22 Relationship between knowledge on cervical cancer and Pap smear screening with intention to take Pap smear screening (n=230)

	Intention			
	Yes	No	X^2	P value
	N(%)	N(%)		
Low level (0-6)	60(67.4)	29(32.6)	10.22	0.006*
Middle level(7-9)	79(84.0)	15(16.0)		
High level(10-12)	41(87.2)	6(12.8)		

(Mean±SD= 7.33±2.609   Median=8   Range= 1-12) *significant*

4.4 Association between perception and Intention to take Pap smear screening

Table 23 shows relation between poor and good perception level with intention to take Pap smear screening

The overall perception on cervical cancer and Pap smear screening was significantly associated with intention to take Pap smear screening (P value=0.004). Women who have good perception level have more intention to take Pap smear than other groups. 94.1% women with good perception, 79.5% of women with moderate perception and 64% with poor perception have intention to take Pap smear test.

There is no significant association between perceived susceptibility on high risk cervical cancer and intention to take Pap smear. (P value= 0.841)

There is significant association between perceived severity on cervical cancer and intention to take Pap smear. (P value= 0.027)

There is significant association between perceived benefits of Pap smear screening and intention to take Pap smear screening. (P value= 0.019)

There is significant association between perceived barriers of Pap smear screening and intention to take Pap smear screening. (P value<0.001)

Table 23 Relationship between perception and intention to take Pap smear test

	Intention			
	Yes	No	X^2	P value*
	N (%)	N (%)		
Overall perception				
Poor perception(20-38 scores)	32 (64.0)	18 (36.0)	11.12	0.004*
Moderate perception(39-50 scores)	116(79.5)	30 (20.5)		
Good perception(51-60 scores)	32 (94.1)	2 (5.9)		
Perceived susceptibility				
Poor perception (2-3 scores)	71 (79.8)	18 (20.2)	0.35	0.841
Moderate perception (4 scores)	104(77.6)	30 (22.4)		
Good perception(5-6 scores)	5 (71.4)	2 (28.6)		
Perceived severity				
Poor perception(3-8 scores)	56 (70.0)	24 (30.0)	4.92	0.027*
Good perception(9 scores)	124 (82.7)	26 (17.3)		
Perceived benefits				
Poor perception(3-8 scores)	71 (71.0)	29 (29.0)	5.48	0.019*
Good perception(9 scores)	109 (83.9)	21 (16.1)		
Perceived barriers				
Poor perception(12-24scores)	92 (69.7)	40 (30.0)	13.35	<0.001*
Good perception(25-36 scores)	88 (89.8)	10 (11.2)		

significant

4.5 Association between cues to action and intention to take Pap smear screening

In this study, there is no association between intention to take Pap smear screening and women ever have a talk with doctors, nurses and health care persons (P value= 0.130). But there is significantly association between women intention to take Pap smear screening and ever have a discussion with husband or family members about cervical cancer and Pap smear screening (P value<0.001). There are many sources for women who ever heard of cervical cancer and Pap smear screening. But there is no association between mass media, family members/friends, health care centers except TV/radio. There is association between women who have heard of cervical cancer and Pap smear screening from TV/radio with intention to take Pap smear test (P value=0.031).

Table 24 Relationship between cues to action and intention to take Pap smear test

Variables	Intention		X^2	P value*
	Yes	No		
	N%	N%		
Ever had a talk with doctors, nurses and other health care persons about cervical cancer and Pap smear test				
➤ Yes	72(82.8)	15(17.2)	1.66	0.130
➤ No	108(75.5)	35(24.5)		
Ever have a discussion with husband or family members about cervical cancer and Pap smear screening				
➤ Yes	57(95.0)	3(5.0)		<0.001*
➤ No	123(72.4)	47(27.6)		
Ever heard of carcinoma cervix and Pap smear				
➤ From family members or friends				
• Yes	57(78.1)	16(21.9)	0.002	0.964
• No	123(78.3)	34(21.7)		
➤ From TV or radio				
• Yes	156(80.8)	37(19.2)	4.65	0.031*
• No	24(64.9)	13(35.1)		
➤ From magazine or newspaper				
• Yes	86(76.1)	27(23.9)	0.61	0.436
• No	94(80.3)	23(19.7)		
➤ From health centers				
• Yes	62(81.6)	14(18.4)	0.74	0.391
• No	118(76.6)	36(23.4)		
➤ From other sources				
• Yes	35(79.5)	9(20.5)	0.05	0.818
• No	145(78.0)	41(22.0)		

significant

4.6 Association between husband and family encouragement with intention to take Pap smear screening

Regarding husband and family encouragement, there is significantly association between husband and family members knowledge on cervical cancer and Pap smear screening with women intention to take Pap smear test (P value=0.004). And also there is association between husband and family member support to do Pap smear test and intention to take (P value<0.001).

Table 25 Association between husband and family encouragement with intention to take Pap smear screening

| Variable | Intention | | X^2 | P value* |
| | Yes | No | | |
	N(%)	N(%)		
Husband or family members also have knowledge about cervical cancer and Pap smear screening				
• Yes	116(85.3)	20(14.7)	11.22	0.004*
• No	64(68.1)	30(31.9)		
Husband or family members giving support or advice to do Pap smear				
• Yes	80(98.8)	1(1.2)		<0.001*
• No	100(67.1)	49(32.9)		[1]

[1]*Fisher exact test*
* *significant*

4.7 Multivariate Analysis

Logistic regression was performed to re-examine the variables which were statistically significant at Chi-square test in order to see the clear pictures of the association between variables.

This part uses multivariate analysis to examine all independent variables which had association with intention to take Pap smear in Chi-square test. These variables are age, number of pregnancy, past pelvic examination, knowledge on cervical cancer and Pap smear screening, overall perception, perceived severity, perceived benefits, perceived barriers, ever have a discussion with husband or family

members, ever heard of cervical cancer and Pap smear from TV/radio, husband and family knowledge on cancer cervix and Pap smear and husband and family giving support. All related variables have been put into logistic regression model after controlling other variables, which help to identify clearly significant factors.

After controlling other independent variables, age (P<0.001), husband and family giving support (P<0.001) and ever heard of cervical cancer and Pap smear from TV/radio (P=0.007 were found significant predictors for intention to take Pap smear screening. Married women's intention to take Pap smear screening was associated to age (OR: 10.45, 95%CI: 3.08-35.44), husband and family giving support (OR: 0.006, 95%CI: 0.000-0.087) and ever heard about cervical cancer and Pap smear screening from TV/radio (OR: 0.23, 95%CI: 0.08-0.67). It means that young age women are likely to take Pap smear 10.45 times more than old age women and women .But women who ever had a support or advice from her husband or family members have less intention 0.006 times than women who never had. And women who ever heard about cervical cancer and Pap smear screening also want to take Pap smear screening 0.230 times less than women who heard about from others sources.

Table 26 Logistic regression analysis of married women's intention to take Pap smear screening (n=230)

Variables	B	Odd ratio	95% C.I. for EXP (B) Lower	95% C.I. for EXP (B) Upper	P value
• Age[a]	2.35	10.45	3.08	35.44	<0.001**
• Number of pregnancy[b]	0.93	2.53	0.59	10.90	0.21
• Past pelvic examination[c]	-0.60	0.55	0.23	1.33	0.18
• Knowledge on cervical cancer and Pap smear screening[d]	0.86	2.36	0.99	5.66	0.05
• Overall perception[e]	0.40	1.49	0.55	4.02	0.43
• Perceive severity[f]	0.37	1.45	0.58	3.61	0.43
• Perceived benefit[g]	0.82	2.28	0.89	5.83	0.09
• Perceived barrier[h]	0.76	2.14	0.79	0.67	0.14
• Husband and family knowledge[i]	-0.35	0.70	0.27	1.83	0.47
• Husband and family giving support[j]	-5.05	0.006	0.00	0.09	<0.001**
• Ever have a discussion with husband or family member[k]	1.72	5.57	0.89	34.94	0.07
• Ever heard of cancer cervix and Pap smear from TV/radio[l]	-1.15	0.23	0.08	0.67	0.007*

*Significant at <0.05,**Significant at <0.001*

(a) Young age (≤49 years) compares to old age (≥50 years)

(b)≥6 times of pregnancy compares to ≤5 times of pregnancy

(c)Ever had past pelvic examination compare to never had past pelvic examination

(d)High and moderate knowledge on cervical cancer and Pap smear test to low knowledge on cervical cancer And Pap smear test

(e) High and moderate overall perception on cervical cancer and Pap smear test to low overall perception on cervical cancer and Pap smear test

(f) High and moderate perceived severity on cervical cancer to low perceived severity

(g)High and moderate perceived benefit on Pap smear test to low perceived benefit

(h)High and moderate perceived barrier on Pap smear test to perceived barrier on Pap smear

(i)Ever have husband and family knowledge on cervical cancer and Pap smear screening compares to never have

(j)Women who got husband and family givin support compares to women who never got

(k)Women who ever have a discussion with husband or family member compares to women who never have

(l)Received information from TV/radio compares to other sources

CHAPTER V

DISCUSSION, CONCLUSION & RECOMMENCATIONS

5.1 Discussion

This study aimed to assess the prevalence rate for intention to take Pap smear screening and to identify the factors which are affecting their intention to take Pap smear screening among married women in Mandalay, Myanmar. This chapter presents the interpretation and discussion of general characteristics of respondents, their past pelvic examination and past Pap smear practice, knowledge, perception and cues to action and research hypothesis. The outcome of this study was expected to able to used by health authorities for Pap smear screening program in the future.

5.1.1 Intention to take Pap smear

Generally, 78.3% of respondents said that they intend to take Pap smear screening and 21.7% women (50 respondents) have no intention to take Pap smear. There is no similar research conducted in Myanmar but the finding in this study is consistent with previous research which conducted in Thailand. 83% of women who are working and studying in Mahidol University, Thailand had high intention rate to have Pap smear screening who were mostly married women (Swe, 2008).

The reasons for women have high intention to take Pap smear screening may be due to study area. The study area is an urban area and study population is almost at urban residence. They have awareness on cervical cancer and Pap smear screening from advertising and media so that their intention rate to take Pap smear screening was so high. The respondents also noticed about that the benefits of HPV vaccination and they also want to have vaccination after they finished Pap smear screening.

5.1.2 The association between socio demographic characteristics and intention to take Pap smear screening

The results from Chi square test revealed that there is significantly relationship between participants' age and number of pregnancy with intention to take Pap smear screening. But others socio demographic characteristics are no association with intention to take test.

The result of the study was found that age is significantly associated with intention to take Pap smear screening. The age of the women is an important factor

for their intention to take Pap smear screening. In the findings, all age group are not much differ from range and among them, more than half of women in all age group had intention to take Pap smear screening. The proportion of intention to take Pap smear screening among age group 30-39 years was higher than other age groups. The finding is consistent with other studies findings, the proportion of intention to take Pap smear screening among age group between 30-44 was the higher than other age group (Bessler, 2007) (Ham, 2005)(Sawadvutthipong, 1997). And Age factor is remained again significantly associated to intention to take Pap in the multivariate analysis after controlling other factors (P≤0.001). Young women have more 10.45 times likely intended to take Pap smear than old age women.

When getting mature, people are more likely to improve and care about their health situation. Most of the people change their perception and attitude when they become more than 30 or 40 years that is why 30-49 years women age group more wants to take Pap smear screening than other younger people (Ham, 2005).

Majority of respondents have 1-2 times of pregnancy (56.1%) and parity is significantly associated with intention to Pap smear in Chi square test. These results are not much similar with other study which conducted in Mahidol University, Thailand. It found out that majority of respondents have 1 to 3 times pregnancy (82.7%) but parity was not associated factor for intention to take Pap smear for women (Swe, 2008). But most of participants in this study had time of pregnancy from 1 to 5 times. Pregnant women would have more chance to get information from health centers and education about women disease from health personnel in their prenatal and antenatal times.

Married age is not also associated with intention to take Pap smear. This finding was not supported by other studies which have done among all both married and single women. About 64.8% of participants are married at age between 20-29 years. But their early or late marriage age couldn't change for their intention.

Education, occupation and monthly income of the respondents are no association with intention to take Pap smear screening. The results for education, occupation and total income per month rejected the hypothesis and finding was supported by related studies, they also concluded that higher education level and occupation status couldn't influence to take Pap smear screening in their future (Swe,

2002) and (Huong, 1995). It might be due to small study population and area. Most of the respondents had heard about cancer cervix and Pap smear test during these years from the media. They had awareness on disease and educated on benefits of screening. Majority of respondents (51.3%) earned middle income (1lakh to 3 lakhs) per month. And also most of the women knew about that Pap smear test can be done at Mandalay general hospital and Township hospital with low price. So thus income was not a big problem for them but they preferred free of charge for screening program and don't want to spent money for services.

5.1.3 The association between past pelvic examination, past Pap smear practice and intention to take Pap smear screening

In this study, there was a significant association between past pelvic practice and intention to take Pap smear screening (P value≤0.001). 50.9% women have experienced pelvic examination and among them 88.9% want to do Pap smear in the future. There were no previous similar studies for past pelvic examination but one survey from WHO conducted in Myanmar at 2002 for household survey with multi stage clustering sampling showed that 51% women age from 18-69 years had practiced of pelvic examination (UN, 2009). Now present study's results are no differing with the results from WHO after 10 years later. That is why possible due to difference methodology and small sample size of this study.

In this study, there was a significant association between past Pap smear practice and intention to take Pap smear screening (P value≤0.001). Only 16.5% of total respondents had past Pap smear practice but all those 16.5% women had intention to take next Pap smear in the future. And other 61.7% of women who never had past Pap smear practice also want to take Pap smear. It was noted that the practiced of past Pap smear screening among urban women in Myanmar was increased as compared to Myanmar in which the past Pap smear practiced rate among urban women had only 2% (UN, 2009). The finding is consistent with previous related studies which conducted among Thai women in Rajvithi campus at Mahidol University, 90.2% who had past Pap smear experience intended to take Pap smear test in the future (Swe, 2008).

5.1.4 The association between knowledge on cervical cancer and Pap smear screening and intention to take Pap smear screening

Regarding knowledge, the results found that knowledge of the respondents is a significant association with intention to take Pap smear in the future (P value= 0.006). Majority of respondents get moderate level knowledge 40.9% and 20.4% have high level knowledge on cervical cancer and Pap smear screening. In total 12 questions of knowledge, more than half of respondents could answer correctly 8 questions. But just few people could recognize cervical cancer is caused by human papilloma virus. The results is similar to some literature reviews which stated that respondents knowledge is an important influencing factor on future taking Pap smear screening (Ham, 2005). Other qualitative study also showed about that women who received the education program were 2.06 times more likely to be having obtained Pap smear screening in their past than women who didn't get health education (Dignan, 1996).

Respondents in this study seemed to know more about cervical cancer rather than Pap smear screening. During these years, there are a lot of mass media promotion with health education program about cervical cancer from TV and broadcasting from radio about severity of disease and benefits of HPV vaccination. Media only advertised about HPV vaccine to prevent cervical cancer but they didn't mentioned HPV. People didn't know about that Pap smear screening is required before they take vaccination if they have ever had sex.

In multivariate analysis, knowledge on cervical cancer and Pap smear screening is not associated with intention to take Pap smear screening (P= 0.05) after controlling other variables. On the contrary, knowledge of respondents appeared not to be a predictor for women's intention to take Pap smear in their future.

The findings also indicated that knowledge on cervical cancer and Pap smear screening should be improved among women to be aware of the benefit on Pap test and severity of disease.

5.1.5 The association between perception on susceptibility and severity of cervical cancer and intention to take Pap smear screening

The perception on cervical cancer and Pap smear screening of the respondents was strongly associated with intention to take Pap smear screening. In

the perception part, it included 4 major perceptions of respondents such as perceived susceptibility, perceived severity, perceived benefits and perceived barriers.

Regarding perceived susceptibility on high risk disease, it was no associated with intention to take Pap smear screening with P value 0.841. Most of the respondents had moderate perceived susceptibility on high risk chance cervical cancer. They felt their selves as un-susceptible persons for cervical cancer and most of them answered about they can get disease but low chance for getting cancer. Only 2 persons agreed about they have high chance for getting cervical cancer because their mothers passed away with cancer cervix and people around them had diagnosed with cervical cancer. The finding is consistent with Udigwe's study which conducted in South Easter Nigeria about KAP and practice of Pap smear among female nurses (Udigwe, 2006).

In this study, perceived severity of disease was significantly associated with intention to take Pap smear screening (P value=0.027). 65.2 % had good perception on severity of cervical cancer. They had good perception and accepted that cervical cancer difficult to cure at late stage and late stage treatments have many side effects. And they will suffer a lot of burden of disease at late stage treatment. These finding are similar with other related studies. 65.6% of clinic attendees in Trelawny, Jamaica women believed that cervical cancer was sever (Bessler, 2007). One similar study also found out that respondent's perception on severity of disease was important factor for their future intention to take Pap smear test (Swe, 2008).

But after controlling other variables in multivariate analysis, only perceived susceptibility still remained strong association with intention to take Pap smear screening. Most of the participants who never think about them as susceptible person with high chance but they have high intention rate than women who have good perception on susceptibility.

5.1.6 The association between perceived benefits and barriers on Pap smear screening and intention to take Pap smear screening

In this study, a perception on benefits of Pap smear screening was associated with intention to take Pap smear screening (P=0.019). This is similar with other studies (Swe, 2008) (Ham, 2005). 83.9% have good perception about benefits of Pap

test and most of the participants agree that Pap smear can detect early stage of cervical cancer and it is the best way to take regular Pap smear test.

In this study, perception on barriers of Pap smear screening was significantly associated with intention to take Pap smear (P<0.001). The result accepted the hypothesis. 42.6% of respondents have good perception and most of the women agree feeling of embarrassment to take Pap smear, afraid to know test result and don't want to spend money to take screening. This is due to Myanmar sensitive culture to expose women body and most of the women expected free services for screening program like other HBV and TB projects. The findings was supported by one study which carried out among clinical attendees in Trelawn, Jamaica, the study results showed inverse association between embarrassment and uptake cervical cancer screening (Bessler, 2007). There were no other correlated findings. In multivariate analysis, both perceived benefits and barriers didn't remain associated with intention to take Pap smear.

5.1.7 The association between cues to action and intention to take Pap smear screening

Regarding cues to action, all respondents had knowledge and ever heard about cervical cancer and Pap smear screening from media, family members, friends, health centers and journals. But their knowledge level on cancer and screening was not in deep but superficial. Ever heard of Ca cervix and Pap test from only TV/radio was associated with intention to take Pap smear test in their future (P value=0.031). Some respondents had a talk about cervical cancer and Pap test with health care personnel. They also got some advice from them but ever had a talk with doctors, nurses and other health care personnel about cervical cancer and Pap smear screening with their intention to take Pap smear test was not associated. (P value=0.130). But respondents ever had a discussion with husband and family members about cervical cancer and Pap smear test was significantly associated (P value=0.000). Possible reasons may be according to Myanmar cultural, husband is a bread winner in house and mostly Myanmar housewife is a follower in home. The finding is supported by other research which studied among Korean women. That study was used combination of Health Belief Model and Theory of Reasoned Action for intention to

take future Pap smear. The results were knowledge, perceived benefits, cues of action and self efficacy were predictors for future Pap smear screening (Ham, 2005).

5.1.8 The association between husband and family encouragement and intention to take Pap smear screening

Regarding husband and family encouragement, knowledge level and giving support of husband and family was a significant association with intention to take Pap smear screening for married women. The result also confirmed hypothesis and finding was similar with other study which was conducted among Myanmar married women for family support or encouragement in using contraceptive and family planning (Thu, 1998)..The husband and family knowledge on cervical cancer and Pap smear is associated with intention to take Pap smear test for married women.(P value= 0.004). 59.1% women answered their husband and family had knowledge about cervical cancer and Pap smear. Among them, 50.4% women want to do Pap smear in their future. Giving support or encourage of husband and family was also associated with their intention rate(P value<0.001). Only 35.2% of respondents got support or encourage from their husband and family but nearly all of them (34.8%) had intention to take Pap smear screening.

5.1.9 No intention to take Pap smear screening

Among total 230 respondents, 17.4% of women answered they have no intention to take Pap smear in their future and 4.3 % women asked they are not sure to test. In this study, we could found out some reasons and point of views from respondents about why they didn't want to take Pap smear. The main reason is that most of the women asked they are healthy so that they don't need to test (56%). The second reason is that they don't want to know the test result and they are afraid to know the test result (52%). In addition, 38% women refused to take Pap smear test for pain, 28% asked about that they feel shy to exposed their bodies and embarrassment to test, 18 % women said that they have no money to take Pap smear and 14% of respondents gave reasons that they have no intention to take Pap smear because they need more information about cervical cancer and Pap smear screening. And then, 32 % of participants said that other reasons such as

5.2 Conclusion

A descriptive cross-sectional study was conducted in Mandalay, Myanmar at 2012 to determine about factors influencing intention to take Pap smear screening among married in Mandalay. This study conducted among 230 married women who aged between 25-65 years according to WHO recommendation age group. General characteristics, number of total pregnancy, past pelvic examination, past Pap smear practice, knowledge about cancer cervix and Pap smear screening, perception of cancer cervix and Pap smear screening, cues to action, husband and family encouragement and intention to take Pap smear in their future.

In general, the results findings showed in previous chapters that majority of the respondents have intention to take Pap smear screening in the future. And their intention is affecting by so many facilitating factors such as age, knowledge, perception, cues to action and husband and family encouragement.

On the data analysis and discussion showed that, the percentage of intention to take Pap smear screening in the future is 78.3%. But majority of respondents don't answer exact time and time favors for taking Pap smear test so that mostly will not sure to take Pap smear test in their future. 30-39 year age group women have more intention to take Pap smear than other age group. More than half of women have 1-2 times of pregnancy and it was also significantly related to intention to take Pap smear screening. There was no significant association found between marriage age, education, occupation, monthly income and intention to take Pap smear.

The women who had past pelvic examination and past Pap smear practiced had more intention to take Pap smear test in the future.

Knowledge on cervical cancer and Pap smear screening was an important factor to take Pap smear in the future and it was closely related with married women's intention to take Pap smear test.

Perception of respondents such as perceived susceptibility, perceived severity, perceived benefits and perceived barriers were strongly associated with intention to take Pap smear screening.

In analyzing cues to action, women who ever had a discussion with her husband or family members have more intention to take Pap smear than women who never had a discussion. They received information about cancer cervix and Pap test

from many sources but women who ever heard about cervical cancer and Pap smear screening from TV/radio have more intention than any other women who heard from other sources such as family, friends, magazines, newspaper, health centers, and journals. But there was no relationship between intentions to take Pap smears and ever had a talk with health care personals.

Husband and family knowledge about cervical cancer and Pap smear screening, their given support to married women was significantly associated with women's intention to take Pap smear screening in the future.

In this study, health belief model can predict the intention to take Pap smear screening because knowledge, some perception part and cues to action were significantly associated with women intention rates.

After controlling some variables, the results of multivariate analysis showed that age, perceived susceptibility on cervical cancer, ever heard about disease and screening from TV/radio and husband and family giving support were directly associated with intention to take Pap smear screening.

5.3 Recommendations

Recommendation at policy level

The intention to take Pap smear screening among married women is 78.3 % which is so high. But comparing with neighbor countries, the percentage for Pap smear real practice rate among married women is so low (only 16.3%).

- Government services and Non-Government Organizations should focus on encouraging and promoting program for Pap smear screening.
- The health policy for screening program should be promoting with free or partial finance to reduce the out-pocket cost of women and to include and encourage for every married women.
- Provision and giving health education about severity of disease, effect and benefit of the Pap smear screening should be given to increase the prevalence rate of Pap smear screening

Recommendation for ongoing program implementation level

In Myanmar, there is a little place can be given Pap smear screening such as General hospitals, townships hospitals and some private hospitals. There is only one place

with free for Pap test in Yangon and screening Pap smear & vaccination HPV with low cost at Myanmar Medical Council.

- Providing accessible and affordable many places which can be done Pap smear screening especially in hospital.
- Promotion of Pap test and vaccination of HPV programs should be developed by Minister of Health to encourage all married women in Myanmar to detect cervical cancer and prevent HPV infection.

Recommendation for future research

- This study only assessed women who were living urban area, hence it can't be generalized for all Myanmar married women. Future research should be conducted in both urban and rural areas to look at the whole population intention rate for Pap smear screening.
- Most of the research about cervical cancer and Pap smear screening was conducted in client side. For future research should be carried out also provider side.
- This study showed about Health Belief Model can predict intention of subjects. But we can expect more great value from future research that conduct in both using HBM and Theory of reasoned action research model.
- In the section of knowledge part, questions about Pap smear screening should be added to get more information from participants.
- Since this study had limited by time constraint and used by administrated questionnaire, the quantitative variables that can affect the married women and the results may be affected by participants' bias or dishonesty. However, in order to know more in-depth about the cultural beliefs and social norms among married Myanmar women, qualitative research should be carried out.

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APPENDICES

APPENDIX A

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

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COA No. 026/2012

Certificate of Approval

Study Title No.191.1/54   :   FACTORS AFFECTING INTENTION TO TAKE PAP SMEAR SCREENING AMONG MARRIED WOMEN IN MANDALAY, MYANMAR

Principal Investigator   :   MS.CHIT PYAE PYAE HAN

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

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

Signature: ....   Signature: ....
(Associate Professor Prida Tasanapradit, M.D.)   (Assistant Professor Dr. Nuntaree Chaichanawongsaroj)
Chairman   Secretary

Date of Approval   : 24 February 2012   Approval Expire date : 23 February 2013

The approval documents including

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

Protocol No. 191.1/54
Date of Approval ..... 2 4 FEB 2012
Approval Expire Date .... 2 3 FEB 2013

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

APPENDIX B

Informed Consent Form

Informed Consent Form

Instruction: Please modify this form accordingly

Address ………………………………..

Date…………………………………….

Code number of participant ……………………………………………………

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

Title "Factors affecting intention to take Pap smear screening among married women in Mandalay, Myanmar

Principle researcher's name …… Ms. Chit Pyae Pyae Han

Contact address….. No.(2), U Soe Nyunt Street, Myo Haung Middle Quarter, Bo Kone, Thanlyin township, Yangon, Myanmar.

Telephone ………+95 92028598

  I have been informed about rationale and objectives of the project, what I will be engaged with in details and benefit of this project. The researcher has explained to me and I clearly understand with satisfaction.

  I willingly agree to participate in this research and response to questionnaires asked focusing on socio-demographic characteristics, husband and family encouragement, past Pap smear and past pelvic examination practice, knowledge on cervical cancer and Pap smear screening, perception on cervical cancer and Pap smear screening, cues to action and intention to take Pap smear in the future which will take about 30 minutes to complete.

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

  Researcher has guaranteed that procedure acted upon me would be exactly the same as indicated in the information. Any of my personal information will be kept confidential. Results of the study will be reported as total picture. Any of personal information which could be able to identify me will not appear in the report.

  If I am not treated as indicated in the information sheet, I can report to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand, Tel: 066-2218-8147 Fax: 066-2218-8147 E-mail: eccu@chula.ac.th,

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

Sign …………………………..

(…………………………….)

Researcher

Sign ………………………….

(………………………………)

Participant

Sign ………………………….

(………………………………)

Witness

Protocol No. ....191. 1 /54

Date of Approval ....2 4 FEB 2012

Approval Expire Date ...2 3 FEB 2013

APPENDIX C

RELIABILITY TEST

Knowledge

$$KR20 = \frac{k}{k-1}\left(\frac{SD^2 - \Sigma pq}{SD^2}\right)$$

$$KR20 = \frac{12}{12-1}\left(\frac{4.9^2 - 2.12}{4.9^2}\right)$$

$$KR20 = \frac{12}{11}\left(\frac{21.89}{24.01}\right)$$

$$KR20 = .84$$

k = the number of items on the test

SD^2 = the variance of score

p = the proportion of the group that response correctly

q = 1 − p

Perception

Reliability Statistics

Cronbach's Alpha	N of Items
.769	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q4.1.1	31.0000	28.737	.536	.761
Q4.1.2	31.1500	28.976	.137	.785
Q4.2.1	32.0500	27.208	.765	.747
Q4.2.2	32.0500	27.208	.765	.747
Q4.2.3	32.1500	30.976	.000	.777
Q4.3.1	32.0500	27.208	.765	.747
Q4.3.2	31.8500	28.450	.255	.773
Q4.3.3	31.8500	28.450	.255	.773
Q4.4.1	31.2500	26.092	.530	.751
Q4.4.2	31.3000	28.116	.505	.758
Q4.4.3	31.4000	26.779	.497	.754
Q4.4.4	31.4000	31.832	-.210	.791
Q4.4.5	31.4500	25.629	.580	.746
Q4.4.6	31.6000	31.726	-.164	.796
Q4.4.7	31.6000	29.200	.275	.770
Q4.4.8	31.8000	30.063	.126	.777
Q4.4.9	31.5000	27.632	.410	.761
Q4.4.10	31.4500	27.418	.347	.766
Q4.4.11	31.7000	30.011	.126	.777
Q4.4.12	31.3000	26.642	.438	.758

APPENDIX D

Questionnaires
Factors affecting intention to take Pap smear screening among married women in Mandalay, Myanmar

Identity No: □□□   Interviewer: ----------------------------
Instruction: Please fill with pencil in □ and fill in as appropriate.

Part I: Socio-demographic factors
1.1 How old are you now? _____ Years
1.2 How old are you at the time of getting married? _____ Years
1.3 What is your education status?
    1) [ ] Read and write
    2) [ ] Primary school level (1-4 school years)
    3) [ ] Middle school level (5-8 school years)
    4) [ ] High school level (9-10 school years)
    5) [ ] University school level

1.4 What is your present occupation?
    1) [ ] House wife/ Dependent
    2) [ ] Government service
    3) [ ] Own business
    4) [ ] Health care personnel
    5) [ ] Others (please specify) _____

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Approval Expire Date 2 3 FEB 2013

1.5 Total average family income per month _____Kyat/month
1.6 Have you ever been pregnancy before? If No, go to Q: 2.1
    1) [ ] Yes
    2) [ ] No

1.7 How many times have you got pregnancy until now? _____ Times

Part II: Past Pap smear practice and past pelvic examination
2.1 Have you ever had pelvic examination? If No, please go to Part III
    1) [ ] Yes
    2) [ ] No

2.2 If Yes, Where did you take the last pelvic examination?
    1) [ ] Hospital
    2) [ ] Private hospital
    3) [ ] Private clinic
    4) [ ] Others _____

2.3 Why did you take pelvic examination at the last time?
    1) [ ] For pregnancy and pregnancy related cases
    2) [ ] For diagnosed

Questionnaires on "Factors affecting intention to take Pap smear screening among married women in Mandalay, Myanmar"

Identity No: ☐☐☐   Interviewer: ---------------------------
Instruction: Please fill with pencil in ☐ and fill in as appropriate.
Part I: Socio-demographic factors
1.1 How old are you now?   _____
Years
1.2 How old are you at the time of getting married?   _____
Years
1.3 What is your education status?
   1) [ ] Read and write
   2) [ ] Primary school level (1-4 school years)
   3) [ ] Middle school level (5-8 school years)
   4) [ ] High school level (9-10 school years)
   5) [ ] University school level

1.4 What is your present occupation?
   1) [ ] House wife/ Dependent
   2) [ ] Government service
   3) [ ] Own business
   4) [ ] Health care personnel
   5) [ ] Others (please specify) _____

1.5 Total average family income per month
         _____Kyat/month
1.6 Have you ever been pregnancy before? If No, go to Q: 2.1
   1) [ ] Yes
   2) [ ] No

1.7 How many times have you got pregnancy until now?   _____
Times
Part II: Past Pap smear practice and past pelvic examination
2.1 Have you ever had pelvic examination? If No, please go to Part II.
        1) [ ] Yes
        2) [ ] No

2.2 If Yes, Where did you take your last pelvic examination?
        1) [ ] Hospital
        2) [ ] Private hospital
        3) [ ] Private clinic
        4) [ ] Others _____

2.3 Why did you take your last pelvic examination?
        1) [ ] For pregnancy and pregnancy related cases
        2) [ ] For diagnosed

3) [ ] For cervical cancer screening
4) [ ] Others _____

2.4 At the time of pelvic examination, the health care personnel who performed pelvic examination did advice you to take Pap smear with pelvic examination?
    1) [ ] Yes
    2) [ ] No

2.5 Have you ever had Pap smear? If No, please go to Part III
    1) [ ] Yes, within 1 year
    2) [ ] Yes, within 3 year
    3) [ ] Yes, but forgot when
    4) [ ] No

2.6 If Yes, Where did you take Pap test?
    1) [ ] Hospital
    2) [ ] Private hospital
    3) [ ] Private clinic
    4) [ ] Others _____

Part III: Knowledge towards cervical cancer and Pap smear test

Knowledge	Yes	No	Not sure
3.1 Cervical cancer is the most common cause of cancer among women			
3.2 Cervical cancer is a malignant cancer that can affect in the part of women uterus			
3.3 Early stage of cervical cancer do not show the abnormal symptoms			
3.4 Cervical cancer can be cured at the early stage			
3.5 Cervical cancer is caused by Human papillomavirus.			
3.6 Human papilloma virus Vaccines can prevente cervical cancer			
3.7 Bleeding per vagina at the age of menopause is abnormal symptom			
3.8 There is a high chance for married women who can be developing cervical cancer more than single women			
3.9 Multi parity women have more chances of developing cervical cancer			
3.10 Taking long-term oral contraceptive pills (4-5yr) is associated risk factor for cervical cancer			
3.11 Cervical cancer is associated with multiple sex partners			
3.12 When Pap smear test result is normal, you don't need to worry cervical cancer			

Part IV: Perception towards cervical cancer and pap smear test

4.1 Perception of susceptibility on cervical cancer

Perception of susceptibility on cervical cancer	Agree	Disagree	Not sure
4.1.1 You have high chance for getting cervical cancer			
4.1.2 You have low chance for getting cervical cancer			

4.2 Perception of severity on cervical cancer

Perception of severity on cervical cancer	Agree	Disagree	Not sure
4.2.1 Cervical cancer is difficult to cure at the late stage			
4.2.2 Late stage treatment for cervical have a lot of side effects			
4.2.3 There are so many economic loss and burden on the family when having cervical cancer			

4.3 Perception of benefits on Pap smear test

Perception of benefits on Pap smear test	Agree	Disagree	Not sure
4.3.1 Cervical cancer can be detected at early stage and can be cured completely at early stage			
4.3.2 Having Pap smear test regularly is the best way for cervical cancer to be diagnosed early			
4.3.3 Regular Pap smear test will help to find out early cervical changes before they develop into cervical cancer			

4.4 Perception of barriers on Pap smear test

Perception of barriers on Pap smear test	Agree	Disagree	Not sure
4.4.1 Pap smear screening procedure is painful			
4.4.2 I think the Pap smear test is embarrassment			
4.4.3 I don't want to show my private part to male health care personnel at the time of Pap smear test			
4.4.4 I have no money to take Pap smear test			
4.4.5 I don't want to spend money for Pap smear service			
4.4.6 I am afraid to know the test result after taking Pap smear test			
4.4.7 I need more information to take Pap smear			

4.4.8 I don't know where to go for a Pap smear test			
4.4.9 It is so far to go and take services for Pap smear			
4.4.10 I don't want to take Pap test because I don't like hospital services			
4.4.11 The room at hospital for Pap smear test is no privacy			
4.4.12 I don't want to take Pap smear because I am healthy			

Part V: Cues to action

5.1 Have you ever heard about cervical cancer and Pap smear screening?

      1) [ ] Yes

      2) [ ] No

5.2 Do you have a talk with doctors, nurses, other health care persons about cervical cancer and Pap smear test?

      1) [ ] Yes

      2) [ ] No

5.3 Do you have a discussion with your husband or family members about cervical cancer and Pap smear screening?

      1) [ ] Yes

      2) [ ] No

5.4 Where do you get the information about cervical cancer and Pap smear screening? [You can choose more than one answer]

      1) [ ] Family members/ friends

      2) [ ] TV/ Radio

      3) [ ] Magazine/ newspaper

      4) [ ] Health centers

      5) [ ] Others _____

Part VI: Husband and family encouragement

6.1 Your family members or your husband also have knowledge about cervical cancer and Pap smear test?

      1) [ ] Yes

      2) [ ] No

      3) [ ] Not sure

6.2 Your family members or your husband give you support or advice to do Pap smear screening?

      1) [ ] Yes

      2) [ ] No

Part VII: Intention to take Pap smear screening

7.1 Do you want to take Pap smear screening in the future? If No and Not sure, Please go to number 7.4
    1) [ ] Yes,
    2) [ ] No
    3) [ ] Not sure

7.2 If Yes, when do you want to take Pap smear screening?
    1) [ ] Within 6 months
    2) [ ] Within 1 years
    3) [ ] Within 3 years
    4) [ ] Don't know when

7.3 Where do you want to take Pap smear screening?
    1) [ ] Hospital
    2) [ ] Private hospital
    3) [ ] Private clinic
    4) [ ] Other   _____

7.4 Why don't you want to take Pap smear in the future?
[You can choose more than one answer]

    1) [ ] I think the Pap smear test is painful
    2) [ ] I feel shy to expose my body at the time of Pap smear test
    3) [ ] I am afraid to know the test result after taking Pap smear test
    4) [ ] I have no money to take Pap smear
    5) [ ] I need more information about cancer cervix and Pap smear to take Pap test
    6) [ ] I am healthy so that I don't want to take Pap smear test
    7) [ ] Others _____

Thank you very much for your kind co-operation.

VITAE

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