



UNIVERSITI PUTRA MALAYSIA

***KNOWLEDGE, ATTITUDE, PRACTICE OF PAP SMEAR AND THEIR
ASSOCIATED FACTORS AMONG FEMALE STAFF OF UNIVERSITI
SAINS ISLAM MALAYSIA, NILAI***

NUURAIN AMIRAH BINTI MOHD RAZI

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By

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**Dissertation Submitted to the Department of Community Health, Faculty
of Medicine and Health Sciences, Universiti Putra Malaysia, in Fulfilment
of the Requirements for the Degree of Master of Public Health**

August 2017

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Abstract of dissertation presented to the Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, in fulfilment of the requirement for the Degree of Master of Public Health

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August 2017

Chairman : Dr Rosliza Bt Abdul Manaf
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Introduction: The poor practice of Pap smear especially in the developing countries has been a longstanding issue and causes high number of cervical cancer cases detected at late stages with poor prognosis. Global Cancer Statistics 2012 estimated a number of 527,600 cervical cancer cases and 265,700 deaths worldwide in 2012; majority were in the developing countries. Inadequate knowledge, awareness, and poor attitude towards Pap smear lead to the low uptake. In Malaysia, the National Health and Morbidity Survey IV reported that Pap smear uptake in Malaysia was only 12.8% in 2011.

Objectives: The aim of this study is to determine the level of knowledge, attitude and practice of Pap smear among Universiti Sains Islam Malaysia (USIM) female staff and their associated factors, which include socio-demographic, socio-economic, lifestyle practice, health, and family factors.

Methodology: A cross sectional study was conducted among married or ever married female staff from seven faculties and the main library of USIM, in Nilai. All eligible staff aged 20 – 65 years old was included in this study. A total of 232 self-administered questionnaires were distributed. Chi-square Test, Fischer Exact Test, and Simple Logistic Regression were used to identify the factors associated with knowledge, attitude and practice of Pap smear among the participants. Binary Logistic Regression was used to determine the predictors of knowledge, attitude and Pap smear practice. All hypothesis tests were two-sided and level of significance was set at 0.05.

Results: The total number of respondents included was 187 and the response rate was 80.95%. The median age of the participants was 36.0 ± IQR 8.0. Half (50.8%) of the

participants were academicians while another half was management staff. The lowest educational background was SPM level, while the highest was PhD. Adequate knowledge on cervical cancer and Pap smear was identified among 48.1% of the study participants. A total of 51.9% participants had positive attitude towards Pap smear, and 65.2% have done Pap smear at least once, of which, 65.6% participants had it done within the past three years. Factors associated with the level of knowledge were some of the variables in lifestyle practices and family factors. Factors associated with level of attitude and practice of Pap smear includes variables in socio-demographic, socio-economic, lifestyle practice, health, and family factors. The predictors of having adequate knowledge were Diploma/Degree educational level (AOR=4.51, 95%CI=1.09-18.62), use of contraceptive method (AOR=4.75, 95%CI=1.60-14.10), and positive attitude towards Pap smear (AOR=2.02, 95%CI=1.02-4.00). Predictors of positive attitude towards the test includes receiving husband's support (AOR=2.36, 95%CI=1.09-5.08), having adequate level of knowledge (AOR=2.29, 95%CI=1.12-4.67), and have done Pap smear (AOR=4.34, 95%CI=1.95-9.67). Lastly, the predictors of Pap smear practice were higher number of children (AOR=5.83, 95%CI=1.73-19.61), attending annual medical check-up (AOR=3.07, 95%CI=1.33-7.09), receiving husband support (AOR=2.51, 95%CI=1.14-5.53), and having positive attitude (AOR=4.89, 95%CI=2.22-10.79).

Conclusion: Higher percentage of respondents who have ever did Pap smear were found as compared to many other studies in Malaysia, however the level of knowledge and attitude were still not satisfying. There was still low level of knowledge with misconception on cervical cancer and perceived barrier on Pap smear. Therefore, effective health education, and new recruitment strategies on Pap smear among women should be planned and implemented to promote early detection of cervical cancer and better prognosis.

Keywords: Pap smear, Cervical cancer screening, Cervical cancer, University staff

Abstrak disertasi yang dikemukakan kepada Jabatan Kesihatan Komuniti, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia, sebagai memenuhi keperluan untuk Ijazah Sarjana Kesihatan Awam

PENGETAHUAN, SIKAP, AMALAN PAP SMEAR DAN FAKTOR-FAKTOR YANG BERKAITAN DI KALANGAN STAF WANITA UNIVERSITI SAINS ISLAM MALAYSIA, NILAI

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Pengenalan: Pengamalan Pap smear yang rendah terutamanya di negara-negara yang sedang membangun merupakan isu yang telah lama wujud dan menyebabkan pengesanan kes kanser pangkal rahim di tahap yang lambat dan prognosis yang kurang baik. Global Cancer Statistics 2012 menganggarkan sebanyak 527,600 kes kanser pangkal rahim dan 265,700 kematian secara global pada tahun 2012; majoriti di negara-negara yang sedang membangun. Kurangnya amalan Pap smear ini adalah disebabkan kurangnya pengetahuan, kesedaran, dan sikap terhadap Pap smear. Di Malaysia, menurut kajian selidik Kesihatan dan Penyakit Kebangsaan 2011, pengambilan Pap smear pada tahun 2011 hanyalah 12.8%.

Objektif: Kajian ini bertujuan untuk menentukan tahap pengetahuan, sikap dan amalan Pap smear di kalangan staf wanita Universiti Sains Islam Malaysia (USIM) dan faktor-faktor yang berkaitan dengannya, termasuk faktor sosio-demografi, sosio-ekonomi, gaya hidup, faktor kesihatan, dan faktor keluarga.

Metodologi: Satu kajian keratan rentas telah dijalankan di kalangan staf wanita yang berkahwin atau pernah berkahwin dari tujuh fakulti serta perpustakaan di USIM, Nilai. Kesemua staf wanita yang layak, berumur 20 - 65 tahun dipilih untuk menyertai kajian ini. Sebanyak 232 borang kaji selidik telah diedarkan. Ujian Chi-Square, Ujian Fischer's Exact dan Simple Logistik Regresi telah dijalankan untuk mengenalpasti faktor-faktor yang berhubungkait dengan pengetahuan, sikap dan amalan Pap smear. Binary Logistik Regresi telah digunakan untuk menentukan faktor peramalan tahap pengetahuan, sikap dan amalan Pap smear. Semua ujian hipotesis adalah dua belah bahagian dan tahap signifikan ditetapkan pada 0.05.

Keputusan: Jumlah bilangan responden adalah 187 dan kadar respon adalah 80.95%. Median umur peserta kajian adalah $36.00 \pm \text{IQR } 8.00$. Separuh (50.8%) daripada peserta merupakan ahli akademik manakala separuh lagi merupakan staf pengurusan. Tahap pengetahuan yang mencukupi dikenalpasti di kalangan 48.1% peserta kajian. Sebanyak 51.9% responden mempunyai sikap yang positif terhadap Pap smear, dan sebanyak 65.2% pernah menjalani ujian Pap smear, di mana 65.6% daripada peserta menjalani ujian tersebut dalam masa tiga tahun yang lepas. Faktor-faktor yang berkaitan dengan tahap pengetahuan merupakan beberapa pembolehubah daripada faktor gaya hidup dan faktor keluarga. Faktor-faktor yang berkaitan dengan sikap dan amalan Pap smear termasuklah beberapa pembolehubah daripada faktor sosio-demografi, sosio-ekonomi, gaya hidup, faktor kesihatan, dan faktor keluarga. Faktor peramalan untuk mempunyai tahap pengetahuan yang mencukupi merupakan mereka yang mempunyai Ijazah Diploma/ Sarjana Muda (AOR=4.51, 95%CI=1.09-18.62), menggunakan kaedah perancang keluarga (AOR=4.75, 95%CI=1.60-14.10), dan mereka yang mempunyai sikap yang positif terhadap Pap smear (AOR=2.02, 95%CI=1.02-4.00). Faktor peramalan untuk sikap yang positif terhadap Pap smear adalah mereka yang mendapat sokongan daripada suami (AOR=2.36, 95%CI=1.09–5.08), mempunyai tahap pengetahuan yang mencukupi (AOR=2.29, 95%CI=1.12–4.67), dan pernah melakukan ujian Pap smear (AOR=4.34, 95%CI=1.95–9.67). Yang terakhir, faktor peramalan bagi amalan Pap smear adalah jumlah anak yang lebih tinggi (AOR=5.83, 95%CI=1.73-19.61), menjalani saringan kesihatan secara tahunan (AOR=3.07, 95%CI=1.33-7.09), mendapat sokongan daripada suami (AOR=2.51, 95%CI=1.14-5.53), serta mempunyai sikap yang positif terhadap Pap smear (AOR=4.89, 95%CI=2.21-10.79).

Kesimpulan: Peratusan responden yang pernah melakukan ujian Pap smear didapati lebih tinggi berbanding kebanyakan kajian-kajian lain di Malaysia, namun tahap pengetahuan dan sikap terhadap Pap smear masih tidak memuaskan. Tahap pengetahuan masih rendah dan terdapat salah tanggapan terhadap kanser pangkal rahim dan Pap smear, serta tanggapan halangan terhadap amalan Pap smear. Oleh yang demikian, program pendidikan kesihatan yang efektif dan strategi baru untuk menggalakkan wanita menjalani ujian Pap smear perlu dirancang dan dijalankan untuk menggalakkan pengesanan awal kanser pangkal rahim dan prognosis yang lebih baik.

Kata-kata Kunci: Pap smear, Saringan Kanser pangkal rahim, Kanser pangkal rahim, Staf Universiti

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I certify that a Thesis Examination Committee has met on 2nd August 2017 to conduct the final examination of Nuurain Amirah Binti Mohd Razi on her thesis entitled “Knowledge, Attitude, Practice of Pap Smear and Their Associated Factors Among Female Staff of Universiti Sains Islam Malaysia, Nilai” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Public Health.

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LIST OF ABBREVIATIONS

AOR	Adjusted Odds Ratio
ASR	Age-Standardized Incidence Rate
CI	Confidence Interval
df	Degree of Freedom
PhD	Doctor of Philosophy
HPV	Human Papillomavirus
IQR	Interquartile Range
IUD	Intrauterine Device
JKEUPM	Jawatankuasa Etika Universiti untuk Penyelidikan Melibatkan Manusia UPM
JKPFPSK	Jawatankuasa Penyelidikan Fakulti Perubatan dan Sains Kesihatan USIM
LBC	Liquid Based Cytology
MOH	Ministry of Health
NCR	National Cancer Registry
NHMS	National Health and Morbidity Survey
OR	Odds Ratio
SD	Standard Deviation
SPM	Sijil Pelajaran Malaysia
SPSS	Statistical Package for the Social Sciences
UPM	Universiti Putra Malaysia
USIM	Universiti Sains Islam Malaysia
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

This chapter describes the background of cervical cancer and Pap smear globally and locally. It will then be followed by problem statement, study justification and research questions. Research objectives and hypotheses are then being stated in the later section of this chapter.

1.1 Background

Cervical cancer is one of the serious health problems among women leading to a high morbidity worldwide. However, it is also one of the most preventable cancers as it can be detected at early stage or even before its cancerous stage. Decades of studies have confirmed its natural history of slow disease progression, enabling it to be detected early. Unfortunately, many of the affected women sought treatment at advanced stages because the symptoms commonly appear late, thus contributing to a high mortality rate.

Globally, there was an estimated of more than half a million new cervical cancer cases, which about half of these cases resulted to deaths in 2012. Cervical cancer was the second most commonly diagnosed cancer, and the third leading cause of cancer death among women in less developed countries, where about 90% of the death occurred (Torre et al., 2015).

Since cervical cancer has been an alarming issue worldwide for many years back, various preventive strategies and treatment protocols were developed to combat the disease (Blumenthal & McIntosh, 2008; Hong Kong College of Obstetricians and Gynaecologists, 2016; Jeronimo et al., 2016; Ministry of Health Malaysia (MOH), 2003; Silvina Arrossi et al., 2017; World Health Organisation, 2014; World Health Organization, 2013b). Up till today, many strategies have been done at different stage of prevention level such as the Human Papillomavirus (HPV) vaccination for primary prevention strategies, and various methods of cervical cancer screening for the secondary preventive strategies as in the protocols and guidelines.

The HPV vaccine is aimed to reduce the incidence of cervical cancer as HPV infection are known to be strongly associated with cervical cancers. Many studies found that more than 90% of cervical cancers cases are related to persistent infection of HPV (Agorastos et al., 2014; Castle et al., 2011; Arbyn et al., 2012). The vaccines are targeted to the teenagers' population. World Health Organization (WHO) recommends routine vaccination of girls 9-13 years of age because they are less likely to have begun sexual activity, which may exposed them to the infection (WHO, 2013).

Meanwhile, the secondary prevention strategies are aimed to detect cervical cancer at its very early stage or even before the cancer developed. The most commonly used

screening method to detect the cancer since nearly a century ago is by Papanicolaou smear test, a cervical smear test named after its inventor (Mammas & Spandidos, 2012). Since 1920s, cervical cancer smear was studied by a Greek doctor, Dr George Papanicolaou who invented the test, also called as Pap smear test. It was then widely known and used since 1940s for cancer screening method later after he published his first book titled “Diagnosis of Uterine Cancer by the Vaginal Smear” in 1943 (Mammas & Spandidos, 2012). Apart from the Pap smear test, other methods such as liquid based cytology and HPV testing are now among the most advocated tests in certain countries (Duraismy, Jaganathan, & Bose, 2011).

These cervical cancer screening tests are not only able to detect early stages of cancer that enable women to get a highly effective treatment, but it can detect precancerous lesions, which may prevent it from progressing into cancerous stage. WHO has recommended for countries all over the world to ensure that women from 30 – 49 years to be screened at least once during this age, if not regularly as being recommended, as this age group may benefit most from the test (World Health Organization, 2013b).

Overtime, with the practice of Pap smear test, the incidence and mortality rate due to cervical cancer has then reduced worldwide. Nevertheless, it was found that the reduction was mainly in the developed country while the developing country has risen or remain the same (World Health Organization, 2014). The incidence rate of cervical cancer in developed country such as in United Kingdom has decreased by 44% since 1970s (Cancer Research UK, 2014). In the United States, the incidence rate of cervical cancer reduced by 50% between 1975 to 2012 with incidence rate of 14.8 per 100,000 and 6.7 per 100,000 respectively, primarily due to the uptake of screening test (American Cancer Society, 2016).

In Malaysia, Pap smear test is one of the cervical screening methods available. It has been introduced since the 1960s following the integration of family planning services into Maternal and Child Health Programme of Ministry of Health (MOH) Malaysia (Baharom & Ismail, 2008), and was made free of charge in the government’s primary care facilities since 1995 (Zaridah, 2014). The test is aimed for women between age 20 – 65 years, who are and have been sexually active. Women are recommended to attend the test yearly for the first two consecutive years and every three years if the initial results were normal (Ministry of Health, 2004).

The incidence rate of cervical cancer in Malaysia has also been observed to reduced to an incidence rate of 7.6 per 100,00 women over five years between 2007 to 2011 (Azizah, Saleha, Hashimah, Asmah, & Mastulu, 2016). However, high percentages (40%) of the cases were detected late. This could have been prevented if early screening has been practiced.

Nevertheless, early screening would not be successful without the awareness from the public, especially the women. Since awareness is being influenced by knowledge (Littlejohn, 2015), the important role of ensuring women to be aware of cervical cancer and Pap smear through knowledge laid in. While the extent of knowledge further

influences the attitude of women towards Pap smear (Bahri, Jajvandian, Bolandhemmat, & Najmabadi, 2015), it is also important to embrace positive attitude towards the test, as it might help in achieving high utilisation of Pap smear among women since attitude and practice were found to be importantly related (Rezaie-Chamani, Mohammad-Alizadeh, & Kamalifard, 2012). Hence, the issues on knowledge, attitude, and practice towards Pap smear should be addressed and highlighted among the communities at the local level as well as the national level in improving cervical cancer screening and detection to reduce the country's morbidity and mortality rate.

1.2 Problem Statement

According to the Global Cancer Statistic (Globocan) 2012, cervical cancer has become no more in the list of top ten commonest cancer occurring among women in developed country, and is far below as the ninth cause of death, with an estimated of 35,500 deaths. Whereas in less developed country, it is the second most frequently diagnosed cancer, and the third cause of cancer death among female, with an estimated 444,500 cases and 230,200 deaths (Torre et al., 2015). As Pap smear has been widely utilized in the developed country, the precancerous and early stage of cancer is able to be treated earlier, thus preventing the cancer occurrence and death.

In Malaysia, based on Malaysia National Cancer Registry (NCR) 2007 report, cancer of cervix is the fifth most common cancer among Malaysian population and is the third most commonly cancer occurring in female. Despite the readily accessible Pap smear test in Malaysia health care facilities, nearly half of the cases were detected at an advanced stage; 25.6% at stage 3 and 18.7% at stage 4 (Omar & Tamin, 2007). Meanwhile, the subsequent NCR report published disclosed only a slight decrease of late detection; 22% at stage 3 and 18% at stage 4 (Azizah et al., 2016). Among the reasons of late detection would probably be due to the late presentation of Malaysian women to healthcare facilities and also poor uptake of Pap smear.

On the issue of uptake among Malaysian women, previously National Health and Morbidity Survey (NHMS) III reported an increased of about 20% on the prevalence of Pap smear uptake among women aged 20 years and above, that was from 26% in 1996 to 45.7% in 2006. The achievement was most probably attributed to the launching of Healthy Lifestyle Campaign with the theme of 'Cancer' in 1995 (Institute for Public Health, 2008). Nevertheless, later in year 2011, NHMS IV reported a drastic reduction of Pap smear uptake prevalence, of only 12.8% among women aged 18 years and above, as compared to 43.7% in year 2006 (Institute for Public Health, 2008; Institute of Public Health, 2011). One of the plausible reasons to the downtrend prevalence after year 2006 could be due to the declining sustainability of the campaign.

From many local studies among Malaysian women, the overall uptake of Pap smear was also found not satisfying (Asmani & Aziah, 2007; Al-naggar & Chen, 2012; Abdullah, Al-Kubaisy, & Mokhtar, 2013; Gan & Dahlui, 2013). Among the problems leading to poor uptake identified were lacking of knowledge and awareness on cervical cancer, its risk factors, as well as knowledge on Pap smear test (Al-naggar & Chen,

2012; Al-Naggar, Low, & Isa, 2010; Gan & Dahlui, 2013). Apart from knowledge, the unfavourable attitude towards cervical cancer and Pap smear was also reported, which may contribute to the non-uptake or the non-compliance to the screening interval (Abdullah et al., 2013; Baskaran et al., 2013; Farooqui et al., 2011; Wong, Wong, Low, Khoo, & Shuib, 2009).

1.3 Study Justification

Cervical cancer is known as a preventable disease where majority of cases are due to chronic infection of high-risk type HPV. The natural history of HPV infection caused a very slow progression of disease in women, from normal condition to any of the precancerous stages; Cervical intraepithelial neoplasia (CIN) 1, CIN2, or CIN3, and to invasive cancer. Considering the lengthy time which can take about several years for transformation process to occur from precancerous to cancer in an individual, it offers an ample time to detect the disease early, thus preventing its progression to cancer.

Diagnosing cervical cancer at the very early stage provide longer survival rates when treated. In the earliest stage of IA, the 5-years survival rate is up to 95% while stage IB1 has approximately 90% of 5-years survival rates (Straughn & Yashar, 2016). Malaysia generally has relatively good overall 5-year survival rate among patients with cervical cancer as compared to developed nations (Muhamad et al., 2015). Thus, it is very essential to detect the disease early in our community by doing regular Pap smear as recommended by MOH to prevent the complication and mortality from the disease.

In ensuring regular practice, it requires awareness along with good knowledge and attitude towards Pap smear. However, the inadequate knowledge and attitude found among Malaysian women as described earlier shows consistency with their poor practice. Considering the lack of awareness on the disease and its screening test despite the readily available cancer prevention program in Malaysia, it is very important to explore the knowledge, attitude, and practice of Pap smear especially among the working women, as many Malaysian women are working nowadays, evidenced by the rising Malaysia's Female Labour Force Participation Rate (LFPR) each year (Department of Statistics Malaysia, 2016).

When looked into the prevalence of Pap smear uptake across major ethnic groups in Malaysia, Malays are the less likely (11.4%) to go for Pap smear test as compared to Chinese (16.3%) and Indians (12.9%), according to the NHMS IV Report (Institute of Public Health, 2011). Taking these factors into consideration, this study is selected to be done among working women in a public university, namely Universiti Sains Islam Malaysia (USIM), which majority of them are of Malay ethnicity. This is to assess their level of knowledge, attitude and practice towards the test.

It is hoped that awareness on Pap smear is created among the community involved, and the study might be important and beneficial for future intervention in USIM community towards improving their knowledge as well as cultivating good attitude and practice on Pap smear test, which could help if not at all, any increment of the overall

Pap smear uptake prevalence in the country. Perhaps it would also be useful in the future by providing some information to the health service providers, policy makers and other health-related organization to embark new strategies in educating the working society to increase their awareness, hence the practice.

1.4 Research Questions

- i. What is the level of knowledge on Pap smear test among USIM female staff?
- ii. What is the level of attitude on Pap smear test among USIM female staff?
- iii. What is the practice of Pap smear test among USIM female staff?
- iv. Is there any association between the socio-demographic, socio-economic factors, lifestyle practice, family, and health factors of USIM female staff with the knowledge, attitude and practice of Pap smear test?
- v. Is there any association between knowledge, attitude and practice of Pap smear among USIM female staff?
- vi. What are the predictors of adequate knowledge, positive attitude and practice of Pap smear among USIM female staff?

1.5 Research Objectives

1.5.1 General Objectives

To determine the level of knowledge, attitude and practice of Pap smear test among USIM female staff and their associated factors.

1.5.2 Specific Objectives

- i. To describe the socio-demographic and socio-economic factors, lifestyle practice, family, and health factors among the respondents.
- ii. To determine the level of knowledge on cervical cancer and Pap smear among respondents and its association with socio-demographic and socio-economic factors, lifestyle practice, family and health factors.
- iii. To determine the level of attitude towards Pap smear among respondents and its association with socio-demographic and socio-economic factors, lifestyle practice, family and health factors, and knowledge on cervical cancer and Pap smear.

- iv. To determine the practice of Pap smear among respondents and its association with socio-demographic and socio-economic factors, lifestyle practice, family and health factors, knowledge, and attitude towards Pap smear.
- v. To determine the predictors of adequate knowledge, positive attitude and practice of Pap smear among USIM female staff.

1.6 Research Hypothesis

- i. There is a significant association between socio-demographic and socio-economic factors, lifestyle practice, family and health factors with level of knowledge on cervical cancer and Pap smear.
- ii. There is a significant association between socio-demographic and socio-economic factors, lifestyle practice, family and health factors, and knowledge with level of attitude towards Pap smear.
- iii. There is a significant association between socio-demographic and socio-economic factors, lifestyle practice, family and health factors, knowledge, and attitude with practice of Pap smear.

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