

# THE PREVALENCE OF PAP SMEAR SCREENING AND ASSOCIATION WITH KNOWLEDGE, ATTITUDE AND PRACTICE IN KOTA KINABALU, SABAH, MALAYSIA

\*Yasohdha Anne Sundraraj<sup>1</sup>, Noor Shaqirah Abdul Murad<sup>1</sup>, Nurul Azira Ismail<sup>1</sup>,  
Noor Izzah Abdul Rahman<sup>2</sup>

<sup>1</sup>Department of Diagnostic and Health Sciences,  
Faculty Of Health & Life Science,  
Management & Science University,  
40100 Shah Alam, Selangor, Malaysia.

<sup>2</sup>Centre of Preclinical Science Studies,  
Faculty of Dentistry,  
University Teknologi MARA Sungai Buloh Campus,  
40700, Selangor, Malaysia.

*Submission date: 30 July 2018    Accepted date: 30 August 2018    Published date: 30 March 2019*

## Abstract

In Malaysia, cervical cancer is the second most common cancer among women. There is an expectancy for the rate of cervical cancer to increase yearly. However early detections can decrease the morbidity and mortality caused by cervical cancer. Papanicolaou (Pap) smear screening has been an important tool to combat cervical cancer. It has been known to be effective, efficient, low in cost and easy to perform in mass testing. Malaysia is composed of two regions which is Peninsular Malaysia and Borneo Malaysia (Sabah and Sarawak). There is a vast difference between the healthcare facilities, economy status and geography conditions mainly the rural areas. As Sabah was reported to have the second most reported case in cervical cancer in Malaysia, this study aims to determine the prevalence of Pap smear screening and its association with knowledge, attitude and practice in Kota Kinabalu, Sabah, Malaysia. A cross-sectional study was conducted which involve 246 women from Kota Kinabalu, Sabah and a subsequent statistical analysis was performed by SPSS version 23. Results indicated that a large number of woman did not perform the Pap smear test although having high level of knowledge ( $0.783 \pm 0.265$ ) and moderate level of attitude ( $0.633 \pm 0.151$ ) towards this matter. This brings the practice to a low level ( $0.296 \pm 0.415$ ) towards performing the Pap smear screening ( $p < 0.05$ ). In conclusion, it can be seen that that the low prevalence of pap smear screening among woman in Kota Kinabalu, Sabah is correlated with practice, although having good level of knowledge and attitude towards pap smear screening and the related health issue matters, many have opted not to perform the screening due to several social factors.

**Keywords: Prevalence, knowledge, Attitude, Practice, Pap smear, Kota Kinabalu**

## 1.0 INTRODUCTION

Cervical cancer has been reported as the fourth most frequent cancer among women with 570,000 new cases in 2018 representing 6.6% of all female cancers worldwide. High mortality rate from cervical cancer

globally can be seen among low and middle income countries (WHO, 2017; Sheikh, Haque, Ismail, Hussein, & Simbak, 2017). Through proper screening programs involving pelvic examination and Papanicolaou (Pap) smears, this rate can be controlled (WHO, 2017).

In Malaysia, cervical cancer is ranked as the second highest in regards to malignancy in women coming right after breast cancer (Kwang et al., 2014). Human Papillomavirus (HPV) is the primary underlying cause for cervical cancer. Worldwide around 70 percent of cervical cancer cases are caused by HPV type 16 and HPV type 18 (Sheikh, 2017). The national immunization program in Malaysia recommends the routine HPV vaccine should be made aware in public health preference, taking into account that the introduction of the HPV vaccine however it is still a challenge for Malaysia to adapt to this routine (Gebremariam, 2016). This screening method started in Malaysia since 1960s and with the government's initiative to improve woman's health, it has been accessible for free since the year 1995 (Shaffie, 2014). Pap smear screening has been encouraged among adult women aged between 20-65 years old who are sexually active (Oon et al., 2011) and it has been a crucial tool to decrease the morbidity of cervical cancer and mortality in developed countries including Malaysia (Saha, Chaudhury, Bhowmik, & Chatterjee, 2010; Khoo et al., 2011).

Malaysia is composed of two regions; Peninsular Malaysia (West) and Borneo Malaysia (East)(Leinbach, Lockard, Bee & Ahmad, 2018). There is a vast difference between the healthcare facilities, economy status and geography conditions that heavily influences the health care sector and the outreach healthcare programs between these two regions. Mainly involving the rural areas that is affected by logistics to healthcare sectors due to geographical conditions (Yusof, Neoh, Hashim, & Ibrahim, 2002). This study was conducted in Kota Kinabalu Sabah, as the Malaysian National Cancer Registry reported that Sabah has the second highest number of cervical cancer case (Azizah et al., 2016). As there is limited studies done on this matter, the objective of the study was to determine the prevalence of Pap smear screening and its association with knowledge, attitude and practice (KAP) in Kota Kinabalu, Sabah, Malaysia.

## 2.0 LITERATURE STUDY

### 2.1 Knowledge, Attitude and Practice related to Pap Smear

There has been multiple research done for KAP regarding Pap smear with the relation to cervical cancer worldwide. Elamurugan (2016) reported that majority of woman in India have good knowledge and adequate attitude with poor practices while another research in India as well stated that even though woman have good knowledge and attitude; there was a lacking of depth in understanding the risk factors towards cervical cancer and the importance of screening thus leading towards low practices (Krishnaveni, Roy & Sambathkumar, 2017). A recent research done in Malaysia by Lee (2018) also mentioned women in Malaysia have less awareness on the risk factors of the disease while having moderate awareness about Pap smear as prevention to detect and prevent cervical cancer at early stage.

Factors such as education, age of a woman and social status plays an important role in prevalence of pap smear screening. However, in Asian countries, different factors was found. A research in Hong Kong shows that the KAP was influenced by social status and cultural issues where by the woman that participated in this research stated that they were concerned about their modesty and do not want to face embarrassment during the screening process (Holroyd, 2004). Similar reasons were found in a research conducted in Malaysia whereby it stated that one of the main reasons for not performing the screening was due to embarrassment and cultural issues (Diah et al, 2015; Wong, Wong, Low, Khoo, & Shuib, 2008). There are multiple factors from different country with different culture and background that can influence the prevalence of pap smear screening and more studies are needed on this.

### 3.0 METHODOLOGY

A cross sectional study was done for this research. Data was collected over a period of two months. A simple random sampling of participant was conducted in Kota Kinabalu, Sabah. A total of 246 women participated in this study. The data was analyzed by using SPSS version 23. The statistical tests used for this research are normality test, descriptive test, One-Way Anova and Pearson correlation. Normality test is used to determine whether sample data has been drawn from normally distributed population. In normality test, the skewness and kurtosis is between  $\pm 1.0$ . One-Way-Anova was used for analyzing relationship between two or more variables. Statistical correlation is measured by Pearson correlation test.

### 4.0 RESULT AND DISCUSSION

For this research, the study populations are 246 female respondents and all are permanent residences of Kota Kinabalu, Sabah. Table 1 shows the sociodemographic of the respondents. Based on the tabulation of the data, the highest races involved for this research were *others* at 103 (41.9%) followed by the three-general race in Malaysia which is Malay at 95 (34.6%), Chinese with 38 (15.4%) and Indian with 20 (8.1%). The *others* comprise of Irannun, Kadazan, Dusun, Bajau and bumiputera status. The Malaysia National Cancer Registry Report in 2007- 2011 only reported on the three general races however the information for *others* was not reported and as Malaysia being known as multiracial country, difference races with different habits and cultural practices will influence the outcome of this research (Azizah et al., 2016; Sasidharan et al., 2011). Statistically, the prevalence of women that performed pap smear screening is still low at 28.5% from the total respondents. Most respondent had high level of knowledge ( $0.783 \pm 0.265$ ) which tallies with the demographic results showing 41% of the respondent have obtained a tertiary education which can be seen from Table 1 & 2. However, the results for attitude came back as moderate level and for practice; the participants had low level ( $0.296 \pm 0.415$ ) on Pap smear screening. Surprisingly, the awareness on women wellness program in among these female respondents were at a good level of 67.9% indicating that there was tremendous effort by government to improve Pap smear screening (Sebastion et al., 2016).

Another interesting factor that may contribute to the low level of practice is the family income, whereby from the survey, it can be seen that 48% of the family income is in an average range of RM 2000 and below. This is tallies with the study in 2011 which stated that Sabah state has the highest poverty rate in Malaysia at 23% (Hassan, 2011). In comparison towards the healthcare facilities in East Malaysia and West Malaysia, Sabah still lacks healthcare facilities that is provided by the government particularly towards the management of cancer thus leading towards long waiting time to perform and reluctances of performing the test (Ministry of Health Malaysia, 2016). Perhaps this can explain why Sabah was recorded as the second highest cervical cancer incident in Malaysia (Azizah et al., 2016).

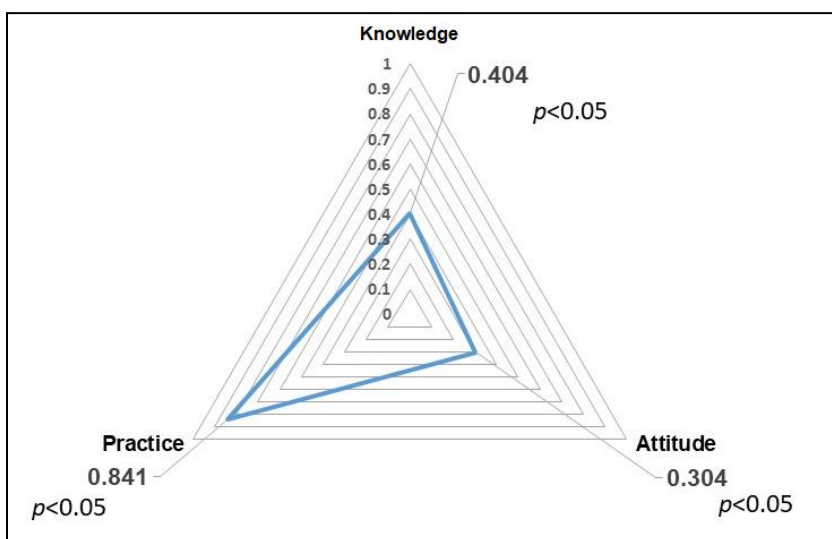
Women in Kota Kinabalu shows strong correlations towards the prevalence of pap smear screening and the practice (Figure 1). Many respondents for this research also had responded that social, cultural factors and fatalistic attitude plays a role in influencing their decision to perform the pap smear screening although they are aware on the importance of this procedure. Similar findings can be found by research conducted by Thapa et al., (2018), Diah (2016) and Wong et al., (2008). Therefore, the focus to improve the prevalence need to be more focus more in awareness of being a woman and the rights of getting treatment without feeling embarrassed over the this matter.

**Table 1** Frequency distribution of sociodemographic among respondents in Kota Kinabalu, Sabah, Malaysia (n =246)

Parameters		Frequency	Percentage
Race	Others	103	41.9
	Chinese	38	15.4
	Indian	20	8.1
	Malay	95	34.6
Marital Status	Divorce	35	14.2
	Married	159	64.6
	Single	52	21.1
Family Monthly income	<2000	118	48.0
	<3000	74	30.1
	<4000	42	17.1
	>4000	12	4.9
Educational Status	Undergraduate	42	17.1
	Diploma	100	40.7
	Others	44	17.9
	Primary	2	0.8
	Secondary	58	23.6
Permanent Residence	No	0	0
	Yes	246	100.0
Awareness On Women Wellness Program	No	79	32.1
	Yes	167	67.9
Have you gone for Pap smear screening (Prevalence)	No	176	71.5
	Yes	70	28.5

**Table 2** Mean value for KAP towards Pap smear screening among women in Kota Kinabalu Sabah

Parameters	Mean	Standard Deviation
Knowledge	0.783	0.265
Attitude	0.633	0.151
Practice	0.296	0.415



**Figure 2** Correlation between prevalence KAP on Pap smear screening

## 5.0 CONCLUSION AND FUTURE WORKS

The practice on Pap smear screening gives a strong correlation to prevalence. More studies should be conducted towards the social status and cultural differences in relation towards the objection for not performing pap smear screening although having adequate knowledge and attitude towards Pap smear screening. This study also has some limitation which the results could not be generalized to the entire population of Sabah due to different economic and geographical status in different parts of Sabah. Therefore, the future direction of the study will be continuing to accomplish the data from all Sabah district.

### Acknowledgement

Greatest appreciation goes to Suriana Wan Ismail from the Jabatan Hal Ehwal Agama Islam, Kota Kinabalu, Haji Nasir from the Ministry of Health Malaysia, Kota Kinabalu Branch and research team from Management and Science University.

### References

- Azizah, A. M., Nor Saleha, I. T., Noor Hashimah, A., Asmah, Z. A., & Mastulu, W. (2016). Malaysian National Cancer Registry Report 2007-2011, Malaysia Cancer Statistics, Data and Figure. National Cancer Institute, 16(51), 203.
- BorneoPost Online|Borneo , (2017). More male population in Sabah. Malaysia, Sarawak Daily News. retrieved on May 30, 2018, from <http://www.theborneopost.com/2017/10/30/more-male-population-in-sabah/>
- Diah, N. M. (2015). Understanding about pap smear among Malay women 1 (pp. 32–36). Bali Indonesia: Fifteenth The IIER International Conference.
- Elamurugan, S., Rajendran, P., & Thangamani, S. (2016). Cervical cancer screening: Awareness, attitude, and practice of Indian women. *Tropical Journal of Medical Research*, 19(1), 42.
- Gebremariam, T. (2016). Human papillomavirus related cervical cancer and anticipated vaccination challenges in Ethiopia. *International journal of health sciences*, 10(1), 137.
- Hassan, C. H. Bin. (2011). Poverty in a Malay State in Malaysia: A Socio-Demographic Study. *SSRN Electronic Journal*, 1(1), 24.
- Holroyd, E., Twinn, S., & Adab, P. (2004). Socio-cultural influences on Chinese women's attendance for cervical screening. *Journal of Advanced Nursing*, 46(1), 42-52.
- Khoo, C. L., Teoh, S., Rashid, A. K., Zakaria, U. U., Mansor, S., Salleh, F. N. M., & Nawi, M. N. M. (2011). Awareness of cervical cancer and HPV vaccination and its affordability among rural folks in Penang Malaysia. *Asian Pacific Journal of Cancer Prevention*, 12(6), 1429–1433.
- Krishnaveni K. , Roy, P. (2017). Knowledge, attitude and practice related to cervical cancer and screening among women: Community based cross-sectional study. *International Journal of ChemTech Research*, Vol.10 No.(6), 793–802,.
- Kwang, N. B., Yee, C. M., Shan, L. P., Teik, C. K., Chandraleaga, K. N., & Kadir, A. K. A. (2014). Knowledge, perception and attitude towards human papillomavirus among pre-university students in Malaysia. *Asian Pacific Journal of Cancer Prevention*, 15(21), 9117–9123.

- Leinbach, T. R., Lockard, C. A., Bee, O. J., & Ahmad, Z. B. (2018, September 20). Malaysia. Retrieved from <https://www.britannica.com/place/Malaysia>
- Ministry of Health Malaysia. (2016). *National strategic plan for cancer control programme 2016-2020*.
- Sasidharan, S., Thy Lachumy, S. J., Ravichandran, M., Latha, L. Y., Rao, S., & Gegu, S. (2011). Epidemiology of *Helicobacter pylori* among multiracial community in Northern Peninsular, Malaysia: effect of age across race and gender. *Asian Pacific Journal of Tropical Medicine*, 4(201), 72–75.
- Sebastian, A., Alzain, M. A., Asweto, C. O., Mahara, G., Guo, X., Song, M., ... Wang, W. (2016). The Malaysian health care system: Ecology, plans, and reforms. *Family Medicine and Community Health*, 4(3), 19–29.
- Oon, S. W., Shuib, R., Ali, S. H., Hazlina, N., Hussain, N., Shaaban, J., & Yusoff, H. M. (2011). Factors Affecting Health Seeking Behaviour Among Kelantanese Women on Pap Smear Screening. *IPEDR Vol. 20* (2011), 20(January 2011), 1–6. <https://doi.org/10.13140/2.1.2171.8729>
- Saha, A., Chaudhury, A. N., Bhowmik, P., & Chatterjee, R. (2010). Awareness of cervical cancer among female students of premier colleges in Kolkata, India. *Asian Pac J Cancer Prev*, 11(4), 1085-90.
- Sasidharan, S., Thy Lachumy, S. J., Ravichandran, M., Latha, L. Y., Rao, S., & Gegu, S. (2011). Epidemiology of *Helicobacter pylori* among multiracial community in Northern Peninsular, Malaysia: effect of age across race and gender. *Asian Pacific Journal of Tropical Medicine*, 4(201), 72–75. [https://doi.org/10.1016/S1995-7645\(11\)60037-0](https://doi.org/10.1016/S1995-7645(11)60037-0)
- Lee S. M., Rosman, A. N., Khan, A., Haris, N. M., Mustapha, N. A. S., Husaini, N. S. M., & Zahari, N. F. (2018). Awareness of cervical cancer among women in Malaysia. *International journal of health sciences*, 12(4), 42.
- Shaffie, Z. (2014). A Review of Cervical Cancer Research in Malaysia. A Review of Cervical Cancer Research in Malaysia, 69(35), 33–41. Retrieved from <https://pdfs.semanticscholar.org/ace4/2d96752e3012ae45ff03127acee8e830dff0.pdf>
- Sheikh, S. A., Haque, M., Ismail, S., Hussein, U. Y., & Simbak, N. Bin. (2017). Knowledge and attitudes toward HPV vaccination among healthcare givers: First multicentre survey in Malaysia. *Australasian Medical Journal*, 10(4), 361–372.
- Thapa, N., Maharjan, M., Petrini, M. A., Shah, R., Shah, S., Maharjan, N & Cai, H. (2018). Knowledge, attitude, practice and barriers of cervical cancer screening among women living in mid-western rural, Nepal. *Journal of gynecologic oncology*, 29(4).
- WHO Cervical cancer. (2017). Retrieved May 30, 2018, from <http://www.who.int/cancer/prevention/diagnosis-screening/cervical-cancer/en/>
- Wong, L. P., Wong, Y. L., Low, W. Y., Khoo, E. M., & Shuib, R. (2008). Cervical cancer screening attitudes and beliefs of Malaysian women who have never had a pap smear: a qualitative study. *International journal of behavioral medicine*, 15(4), 289-292.
- Yusof, K., Neoh, K. H. B., bin Hashim, M. A., & Ibrahim, I. (2002). Role of teleconsultation in moving the healthcare system forward. *Asia Pacific Journal of Public Health*, 14(1), 29-34.