ORIGINAL ARTICLE

Knowledge, Attitude and Practice of Pap Smear Screening among Women in Gombak District, Selangor

Ng Pei Ting[1], Nurul Azira Ismail[1], Noor Izzah Abd Rahman[2], Yasohdha Anne Sundraraj[1]

[1] Department of Diagnostic and Health Sciences, Faculty of Health and Life Science, Management and Science University, 40100 Shah Alam, Selangor, Malaysia.
[2] Centre of Preclinical Science Studies, Faculty of Dentistry, University Teknologi MARA Sungai Buloh Campus, 40700, Selangor, Malaysia

ABSTRACT

Introduction: Cervical cancer is the third most common cancer among women in Malaysia with an estimation of 1,682 new cases and 944 deaths as reported in the year 2018, and these statistics are expected to increase by the year 2025. Early detection of cervical cancer through Pap smear screening may prevent an increase in incidence. Hence, this study was aimed to determine the knowledge, attitude and practice (KAP) towards Pap smear screening in the urban community. **Methods:** Cross-sectional study was conducted to determine the prevalence of Pap smear screening and association with KAP among 246 randomly selected women. Primary data was collected by using a self-administered online questionnaire and analysed using SPSS version 23. **Results:** Prevalence of Pap smear screening was recorded at 46.6%. Mean score for knowledge was 0.858±0.247, the attitude was 0.847±0.156 and practice was 0.423±0.426. There is a significant difference in KAP towards Pap smear screening ($p<0.001$) whereby practice was lower compared to knowledge and attitude. Although women have good knowledge and attitude towards the topic of Pap smear screening, it does not associate in promoting good practice ($V=0.732$). **Conclusion:** KAP analysis revealed that practice is highly correlated with prevalence. Socio-culture factors and fatalistic attitude may play a role in the low results of practice. Conducting more Pap smear awareness campaign with relation to socio-culture may help improve the practice of Pap smear.

Keywords: Pap smear, Knowledge, Attitude, Practice

Corresponding Author:
Yasohdha Anne Sundraraj, MSc
Email: yasohdha_anne@msu.edu.my
Tel: +6017-6049627

INTRODUCTION

Cervical cancer is the fourth most common women's cancer worldwide, with an estimation of 569,847 new cases and 311,365 deaths as in 2018 (1). This disease is considered as a developing world disease because around 85% of the new cases were occurring in the developing countries. In contrast, only 15% of new cases were occurring in developed countries and it is in the top ten common cancers among women (2). Cervical cancer was ranked third most common cancer among women in Malaysia, with an estimation of 1,682 new cases and 944 deaths as of 2018. These statistics are expected to double by the year 2025 (1). The statistics about cervical cancer came as a shocking surprise because the disease is preventable and potentially curable.

Pap smear screening is one of the most commonly used preventive measures for cervical cancer. It is a simple, safe, and relatively cheap screening test for early detection of cervical cancer. With early detection, precancerous cells in the cervix endothelium can be treated and cured before progressed into cancerous cells (3). However, Pap smear screening program has been not able to reach its full potential due to several reasons. Studies documented factors such as education, socio-economic status, culture and lifestyle play an important role in this (4,9). Malaysia is a country with a developed health care system providing good quality of services. It was rated as the third-best health care system among the 24 countries in 2014 Global Retirement Index by an American publication known as International Living. The publication also speaks highly of the health care expertise in Malaysia that were equal to or better than most of those from Western countries (4). The Malaysian government has arranged numerous campaigns for cervical cancer and awareness of Pap smear screening since the beginning of 1960's and now actively; all government hospitals and clinics are offering free screening to women who are self- willing to participate in this practise (5,6,32) Several studies have shown that most Malaysian women have adequate knowledge to understand the importance of Pap smear screening (9, 23) however this is not reflected towards the percentage of screening done in Malaysia which is at 12.8 % only

in the year of 2018. Malaysia's achievement towards the goal set by the World Health Organization (WHO) at 70% and above is far below target (28). The Ministry of Health (MOH) Malaysia is paying close attention to this matter and has been pushing for alternative methods such as self-screening Pap smear test to pursue women to partake in the screening practises (30).

The objective of this study is to access women's knowledge, attitude and practice (KAP) in Gombak district. Gombak district was chosen because it is an urbanized area in Selangor and it has been included as part of the Greater Kuala Lumpur according to the Economic Planning Unit (EPU). Under and around this district, there are multiple health care centres available to the community. Thus, women have access to these health care centres for screening purposes (23, 29). By accessing the KAP of these women who have access to health care facilities, possible reasons can be determined for the low percentage of Pap Smear screening in Gombak.

MATERIALS AND METHODS

Study Design
A cross-sectional study was conducted to determine the prevalence of Pap smear screening and association with KAP among women in Gombak District, Selangor.

Sample Selection Criteria
Study subjects were randomly selected from July 2018 to September 2018 after applied of inclusion criteria, which are women aged between 20 to 70 years old, resident in Gombak District, able to read and understand in either English or Bahasa Malaysia and must be participating on a voluntary basis.

Sample Size Determination
The sample size of this study was determined by using an online software which designed specifically for population surveys to calculate the desired sample size, known as Raosoft Sample Size Calculator. Information such as error margin, confidence level, population size, and response distribution was entered to determine the sample size. With the total population of 801,000 residents in Gombak District (7), 95% confidence level, 5% error margin, and 80% response distribution, Raosoft recommended sample size of 246 respondents.

Sampling Method
Non-list-based random sampling method was used to select samples for this study. The questionnaire was shared in a social media in a group of participants from the district Gombak and the samples were randomly selected.

Ethical Considerations
Ethical approval was obtained from the Research Ethics Committee of the Management and Science University before data collection. Respondent confidentiality was maintained, and the respondent data would not be disclosed to any third party. The consent form also included in front of the questionnaire in order to ensure the respondents have understood the study and participate on a voluntary basis.

Research Instrument
Data were collected using a self-administered online questionnaire. In this study, the questions in the questionnaire were adapted from Shrestha & Dhakal (8). The questionnaire was divided into four sections, in which the first section composed of sociodemographic characteristics of respondents, the second section composed of knowledge, the third section composed of attitudes, and fourth section composed of practice towards Pap smear screening. A pilot study was conducted using Cronbach's alpha. The KAP questionnaire were $\alpha = 0.70$, $\alpha = 0.823$ and $\alpha = 0.868$ respectively.

Statistical Analysis
The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) version 23. Normality test was done to determine whether the data were normally distributed. Multivariate analysis of variance (MANOVA) was used to assess the KAP towards Pap smear screening. Chi-square test was done to correlate the relationship and followed by Cramer's V test to determine the relationship strength between the prevalence of Pap smear screening and the level of KAP among women in Gombak District, Selangor.

RESULTS

Sociodemographic characteristics of respondents
Table I shows the sociodemographic characteristics of the respondents. Two hundred and forty-six female residents in Gombak District were enrolled in this study. Majority of them were aged between 20 to 30 years old (57.3%), Malay (77.6%), married (66.3%), employed (54.9%), with family monthly income less than RM 2000 (32.5%), with secondary education (39.8%), no family history of cancer (68.3%), and aware of women wellness program (86.6%). Fig 1 shows the prevalence, in which the majority of the women in Gombak District did not participate in any Pap smear screening test (52.0%).

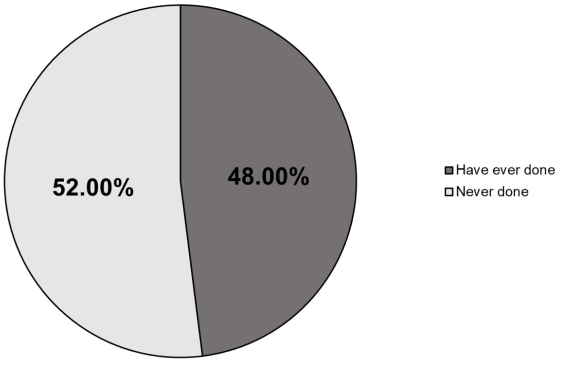

Figure 1: Prevalence of Pap Smear Screening among Women in Gombak District, Selangor

Table I: Frequency distribution of sociodemographic characteristics of all respondents (n=246)

Parameters		Frequency	Percentage (%)
Age	20-30	141	57.3
	31-40	65	26.4
	41-50	18	7.3
	51-60	16	6.5
	61-70	6	2.4
Race	Malay	191	77.6
	Chinese	39	15.9
	Indian	11	4.5
	Others	5	2.0
Marital status	Single	73	29.7
	Married	163	66.3
	Divorced	10	4.1
Employment status	Employed	135	54.9
	Unemployed	79	32.1
	Retired	6	2.4
	Student	26	10.6
Family monthly income	<RM2000	80	32.5
	<RM3000	67	27.2
	<RM4000	22	8.9
	>RM4000	77	31.3
Educational status	Primary school	6	2.4
	Secondary school	98	39.8
	Foundation	2	0.8
	Diploma	59	24.0
	Undergraduate	68	27.6
	Others	13	5.3
Family history of cancer	Yes	65	26.4
	No	168	68.3
	Don't know	13	5.3
Awareness on women wellness program	Yes	213	86.6
	No	33	13.4
Experience Pap smear screening test before	Yes	118	48.0
	No	128	52.0

Assessment of KAP towards Pap smear screening

There was a statistically significant difference in KAP on the prevalence of Pap smear screening, F (3, 242) = 99.151, p≤0.001; Wilk's Λ = 0.449, partial η = 0.551. Fig 2 shows the means and standard deviations for each dependent variable, in which the knowledge was 0.858±0.247, the attitude was 0.847±0.156, and the practice was 0.423±0.426. The mean score for knowledge was the highest, followed by attitude and practice.

Correlation between the KAP and the prevalence of Pap smear screening

Knowledge has a statistically significant association with prevalence of Pap smear screening, Pearson χ^2 = (11, N= 246) = 46.631, p≤0.001, Cramer's V = 0.435. Attitude has a statistically significant association with prevalence of Pap smear screening, Pearson χ^2 = (9, N= 246) = 62.661, p≤0.001, Cramer's V = 0.505. Practice has a statistically significant association with prevalence of Pap smear screening, Pearson χ^2 = (2, N= 246) = 131.839, p≤0.001, Cramer's V= 0.732. Table II shows

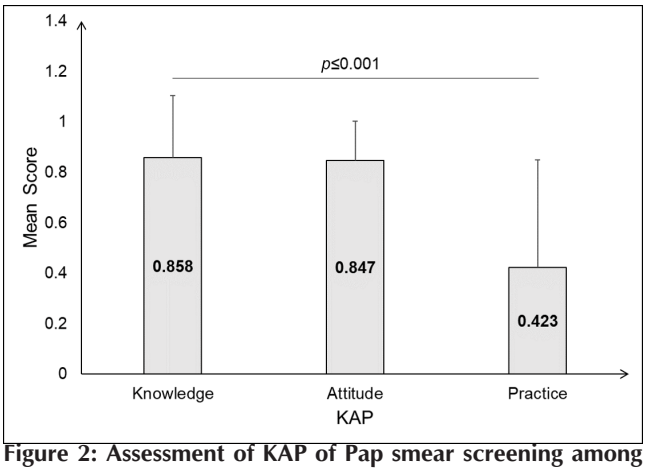

Figure 2: Assessment of KAP of Pap smear screening among women in Gombak District, Selangor

Table II: Correlation between the KAP and the prevalence of Pap smear screening

Parameters	Cramer's V	p
Knowledge	0.435	≤0.001
Attitude	0.505	≤0.001
Practice	0.732	≤0.001

the Cramer's V which measure the relationship strength for each dependent variable, in which the knowledge was V=0.435, the attitude was V=0.505, and the practice was V=0.732. The prevalence of Pap smear screening is highly correlated with practice, followed attitude and knowledge.

DISCUSSION

Majority of the respondents are young adults aged between 20 to 30 years old. This could be because the method used for data collection was a self-administered online questionnaire and most of the internet users are aged between 20 to 34, as reported in the Internet Users Survey 2017 (10). Hence, determining the frequency and the association with KAP towards Pap smear screening among respondents in this study would most likely help to explain the increasing pattern of incidence and mortality rate of cervical cancer in Malaysia that is currently increasing with the age range of 25 and above in women (2). In this study, most of the respondents are married, employed, and educated, however, the prevalence of Pap smear screening is not high. Malaysia was reported to have a fast-paced increase of women in the workforce with an increase of 4.5 % at an annual rate compared to men and an average working time of 8 hours per day (11) which leads to the lack of time to commit to attend to health care matters thus most women are also reported to have the fatalistic behaviour due to lack of understanding of the knowledge in cervical cancer (12,13). With these factors, women do not make Pap smear screening as a health priority unless suggested or reminded by healthcare providers (13). Other than that,

respondents who do not have a family history of cancer are less likely to conduct the preventive measure for cervical cancer because of the mindset that perceived themselves as not at risk of developing cervical cancer (14).

The respondents in this study have a higher level of knowledge and attitude compared to practice because the MOH Malaysia has been emphasizing the importance of early screening and constantly organizing Pap smear awareness campaigns either by MOH Malaysia or in collaboration with private sectors in healthcare (15, 32). The high five years survival rate of cervical cancer in Malaysia have further improved the attitude toward Pap smear screening among Malaysian women. With Pap smear screening, the five years survival rate of cervical cancer in Malaysia (71.1%) was on par with other developed countries such as France (70%), Australia (73.3%) and United States (73.6%) (15). However, Pap smear screening, as previously mentioned is not prioritise is often forgotten especially among women who do not go for a medical check-up regularly (16). When a woman has lesser contact or interaction with healthcare providers, the woman has a lesser opportunity to gain awareness and to receive suggestions to do Pap smear screening when necessary. Therefore, many women fail to perform the Pap smear screening because of the Pap smear screening program in Malaysia was self- willing based (4).

Moreover, the Pap smear screening among respondents in this study was highly correlated with practice, instead of knowledge and attitude towards the topic of Pap smear screening which scored higher. This could be because Asian women are influenced by cultural beliefs and some prefer traditional health practice over Pap smear screening due to the exposure that the women will face during the procedure of Pap smear screening (17). There were reports reported in Malaysia stating that women felt embarrassed and have anxiety towards the procedure of Pap smear screening because they need to expose their private part to the healthcare provider, which is a stranger to them, and the feeling is more intense when a healthcare provider is a man (18,19). Similar findings were seen in research from the United Kingdom, in which the external appearance of the genital look can also affect the willingness of the women to take Pap smear screening. The survey conducted by Jo's Cervical Cancer Trust (20) highlighted the main barrier that prevents more than 1.2 million women in the United Kingdom to take up Pap smear screening is the feeling of embarrassment towards the appearance of the vulva (34%) genital smell (38%), and body shape (35%). Other than that, the long waiting time in government hospitals and clinics, make women hinder themselves from Pap smear screening even though the screening is free (21). In contrast, the waiting time and turnover time of Pap smear screening in private hospitals or clinics are relatively short but women are required to pay for the screening. The financial issue may contribute to lower frequency of Pap smear screening among the respondents especially when 33.5% of the respondents in this study have a monthly family income lower than RM2000, which is considered as low-income households that are lacking financial ability to acquire sufficient basic needs of life in Malaysia (22).

Statistically, the prevalence of Pap smear screening is at 48%, which is similar to another study reported by Diah, Wahidasaad & Sohelamustari (23) in the same location, Gombak District in Selangor. This indicates the prevalence of Pap smear screening remains the same even after several years although the knowledge remains high and attitude towards Pap smear screening has been improved. The possible reason for this is women in that location are still highly influenced by social issue towards sexual activity. The procedure of Pap smear screening is theoretically can take away the hymen, which acts as a proof for virginity for a woman. Hence, people may think the unmarried women have initiated sexual activity once they take the screening. This perception affects the dignity of the woman as premarital sex is still socially unacceptable in the Malaysia culture (18,24,25). The cultural belief may also influence how the women value own selves and can change the priority of the women. Women in Asian countries, including Malaysia; usually put their own healthcare after their family needs and social responsibilities. This perception suppressed the intention of women to take Pap smear screening (13). This outcome shows the prevalence of Pap smear screening in this study still lower than developed countries such as England and the United States, which reached 72% and 78.7% coverage respectively (26,27).

For this study, the questionnaire was shared online in a group at a social media platform whereby the members of the group are from the district Gombak. The use of an online questionnaire was to enable to ease data collection, increase the response rate, diversify the participations around in the district and to save cost and time. According to Wright et al (31), the internet is a rich domain for conducting survey research whereby a mass group of people are online continuously engaging with discussion in various matters; making it a favourable area for net users to be themselves and express their thoughts freely without any barrier.There was some limitation to this study using the online questionnaires. The method of data collection for this study cannot prevent information bias because all the information is self-reported by the respondent and cannot prevent the same respondents from participating in this study repeatedly.

CONCLUSION

In a nutshell, the prevalence of Pap smear screening has a significant relationship with KAP, and the analysis of KAP revealed that the prevalence of Pap smear screening is highly correlated with practice. Socio-cultural factors

and fatalistic attitude may be the reasons that contributed to the low results of practice among women of Gombak District. Subsequently, the low results of practice could be the reason for no improvement in the frequency of Pap smear screening in Gombak District over years, even though women's knowledge remains high and attitude have improved. Interventions and awareness campaigns should focus more towards the importance of self-initiative of health seeking to undergo Pap Smear screening for women.

ACKNOWLEDGEMENTS

Special thanks to all the respondents in this study for participating voluntarily.

REFERENCES

1. Bray F, Ferlay J, Soerjomataram I, Siegel R, Torre L, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: A Cancer Journal For Clinicians. 2018; 68(6): 394-424.
2. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. International Journal of Cancer. 2014; 136(5): E359-E386.
3. Al-Naggar R. Practice and barriers towards pap smear test from a public hospital in Malaysia. J Community Med Health Edu. 2012; 2(132): 2.
4. Sebastian A, Alzain M, Asweto C, Mahara G, Guo X, Song M, et al. The Malaysian health care system: Ecology, plans, and reforms. Family Medicine And Community Health. 2016; 4(3): 19-29.
5. Zaridah S. A review of cervical cancer research in Malaysia. Med J Malaysia. 2014; 69: 33-41.
6. Abdullah F, O'Rorke M, Murray L, Su TT. Evaluation of a Worksite Cervical Screening Initiative to Increase Pap Smear Uptake in Malaysia: A Cluster Randomized Controlled Trial. BioMed Research International, 2013; 572126.
7. Department of Statistics Malaysia. Population Statistics [Internet]. 2018 [cited 2018 September 5]. Available from https://www.dosm.gov.my/v1/index.php? r=column/cthree&menu_id=aWVXaXhrSmpXeFRRN3pMeklXSjhIQT09
8. Shrestha S, Dhakal P. Knowledge, Attitude and Practice Regarding Cervical Cancer Screening Among Women Attending a Teaching Hospital, Bharatpur, Chitwan. Journal of family & reproductive health. 2017; 11(1): 18-23.
9. Sundraraj YA, Murad NSA, Ismail NA, Rahman NIA. The Prevalence Of Pap Smear Screening And Association With Knowledge , Attitude And Practice In Kota Kinabalu , Sabah , Malaysia. e – Acad Spec Issue GraCe. 2019;153–8.
10. Malaysia Communications and Multimedia Commission. Online Users Survey 2017. Malaysia: Malaysia Communications and Multimedia Commission; 2017.
11. Department of Statistics Malaysia., & Organisation for Economic Co-operation and Development. World Economic Forum, the Global Gender Gap Report. Malaysia: CEIC Data Co. Ltd; 2016.
12. Chang H, Myong J, Byun S, Lee S, Lee Y, Lee H, et al. Factors associated with participation in cervical cancer screening among young Koreans: a nationwide cross-sectional study. BMJ Open. 2017; 7(4): e013868.
13. Seng LM, Rosman AN, Khan A, Haris NM, Mustapha N, Husaini N, et al. Awareness of cervical cancer among women in Malaysia. International journal of health sciences. 2018; 12(4): 42-48.
14. Bellinger JD, Brandt HM, Hardin JW, Bynum SA., Sharpe PA, Jackson D. The role of family history of cancer on cervical cancer screening behavior in a population-based survey of women in the Southeastern United States. Women's health issues: official publication of the Jacobs Institute of Women's Health. 2013; 23(4): e197-204.
15. Muhamad NS, Kamaluddin MA, Adon MY, Noh MA, Bakhtiar MF, Tamim NSI. Survival Rates of Cervical Cancer Patients in Malaysia. Asian Pac J Cancer Prev. 2015; 16 (7), 3067-3072.
16. Razi NA, Manaf R, Ismail S. Prevalence and Predictors of Pap Smear Practice among Staff of a Public University in Nilai, Negeri Sembilan. Mal J Med Health Sci. 2017; 13(3): 33-42.
17. Mwaka AD, Okello ES, Orach, CG. Barriers to biomedical care and use of traditional medicines for treatment of cervical cancer: an exploratory qualitative study in northern Uganda. European Journal Of Cancer Care. 2014; 24(4): 503-513.
18. Baskaran P, Subramanian P, Rahman RA, Ping WL, Taib NA, Rosli R. Perceived susceptibility, and cervical cancer screening benefits and barriers in Malaysian women visiting outpatient clinics. Asian Pac J Cancer Prev. 2013; 14(12): 7693-99.
19. Fauziah A, Norlaili AA, Su TT. Factors related to poor practice of Pap smear screening among secondary school teachers in Malaysia. Asian Pac J Cancer Prev. 2011; 12(5): 1347–52.
20. Jo's Cervical Cancer Trust. Cervical screening in the spotlight. England: Jo's Cervical Cancer Trust; 2017.
21. Yunus NA, Yusoff MH, Draman N. Non-Adherence to recommended Pap smear screening guidelines and its associated factors among women attending health clinic in Malaysia. Malaysian family physician: the official journal of the Academy of Family Physicians of Malaysia. 2018; 13(1): 10-17.
22. Mamun A, Ibrahim M, Muniady R, Ismail M, Nawi N, Nasir N. Development programs, household income and economic vulnerability. World Journal Of Entrepreneurship, Management And Sustainable Development. 2018; 14(4): 353-366.

23. Diah NM, Nurulwahidasaad, Sohelamustari. Understanding about Pap smear among Malay women. Proceedings of Fifteenth TheIIER International Conference. 2015; 32-6.
24. Rubini G, Fatini AMN, Khadijah SMM, Laxmee HR., Noorhasriyantie H, RiniAzmeera K, et al. Barriers and Belief towards Pap Smear Screening in Sepang, Selangor, Malaysia. Gender Perspective. International Journal of Education and Research. 2018; 6(6): 269-278.
25. Wong YL, Chinna K, Mariapun J, Shuib R. Correlates between risk perceptions of cervical cancer and screening practice. Prev Med. 2013; 57: S24-6.
26. Health and Social Care Information Centre. Cervical Screening Programme England, 2016-17. England: NHS digital; 2017.
27. National Center for Health Statistics. National Health Interview Survey, 1987–2015. United States: Centers for Disease Control and Prevention; 2015.
28. Tang A. Wan Azizah encourages women to go for cervical cancer screening https://www.thestar.com.my/news/nation/2019/01/14/wan-azizah-encourages-women-to-go-for-cervical-cancer-screening/#aUyBtFqv24t8xKV7.99. The STAR [Internet]. 2019 [cited 20 July 2019]; Available from: https://www.thestar.com.my/news/nation/2019/01/14/wan-azizah-encourages-women-to-go-for-cervical-cancer-screening/
29. Ng A, Mohamed Firouz AM, Khalidi JR, Muhtar MA, Tumin SA, Tan KM, et al. The State Of Households 2018; Different Realities. Khazanah Research Institute; 2018.
30. Annuar A. Health Ministry budgets RM2m for cervical screening using HPV in KL, Kedah, Kelantan. Malaymail [Internet]. 2019 [cited 20 July 2019]; https://www.malaymail.com/news/malaysia/2019/07/08/health-ministry-budgets-rm2m-for-cervical-screening-using-hpv-in-kl-kedah-k/1769359
31. Kevin B. Wright, Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services, Journal of Computer-Mediated Communication, Volume 10, Issue 3, 1 April 2005, JCMC1034, https://doi.org/10.1111/j.1083-6101.2005.tb00259.x
32. Ministry of Health Malaysia. National Strategic Plan For Cancer Control Programme 2016-2020. 2016.