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Knowledge and Perception of Abortion among Klang Valley Population.

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Abstract

Background: Abortion remains a significant public health issue, posing substantial risks to the health and lives of women. Public awareness and understanding of abortion laws in Malaysia are often limited. This study aimed to assess the level of knowledge and perception toward abortion among the population in the Klang Valley. **Methods**: A cross-sectional study was conducted using a non-probability voluntary sampling technique, involving 391 respondents from Klang Valley. The structured questionnaire included three sections: demographic information, knowledge of abortion, and perception toward abortion. **Results**: Most of the respondents were aged 20–29 years (5.99%), female (63.17%) and belonged to the B40 income group (monthly household income <RM4,850) (70.09%). Analysis indicated that majority possessed poor knowledge of abortion (64.96%), and 58.06% held poor perceptions. Perception was significantly associated with age, ethnicity, religion, and marital status ($p < 0.05$), whereas knowledge showed no such sociodemographic correlations. A significant positive association was observed between knowledge level and perception (OR = 3.13, 95% CI: 2.03–4.81, $p < 0.001$). **Conclusion**: The study concludes that deficient knowledge and generally negative perceptions of abortion prevail in the Klang Valley. The demonstrated association between knowledge and perception necessitates evidence-based educational interventions to improve public understanding and foster supportive attitudes toward reproductive health.

Keywords: *Abortion, klang valley population, knowledge, perception.*

Introduction

Abortion is a sensitive and complex issue, deeply influenced by cultural, social, and religious norms. It has been a topic of global debate for decades, often regarded as taboo or highly controversial. Abortion is the process of ending a pregnancy either through medication or surgical intervention. If this process occurs naturally without medical or human interference, it is classified as a spontaneous abortion, commonly known as a miscarriage [1].

Between 2010 and 2014, data from the World Health Organization (WHO) showed that nearly half (45%) of all induced abortions were considered unsafe. An unsafe abortion occurs when the procedure is carried out by someone unqualified or in settings that fail to meet basic medical hygiene and safety standards [2]. These practices may involve poor sanitation, dangerous techniques, or improper use of medication. Even if a medically trained provider is involved, the absence of emergency care or life-saving equipment can still classify the abortion as unsafe [3].

According to the World Health Organization (WHO, 2021), an estimated 73 million abortions occur worldwide each year, making abortion one of the most common medical procedures globally. The vast majority 97% of unsafe abortions occur in low- and middle-income countries, particularly in South and Central Asia [4]. In settings where abortion is legally restricted or access is limited, safe procedures are often available only to those who are financially privileged. For women with fewer resources, unsafe, self-managed, or unregulated abortions may be their only option [2].

It is estimated that between 4.7% and 13.2% of maternal deaths globally are linked to unsafe abortion practices [5]. In countries with more restrictive abortion laws, over 30% of women who undergo abortions may experience moderate to severe complications. The fatality rate associated with unsafe abortion worldwide is approximately 0.4%. Africa has the highest rate at 0.7%, followed by Asia at 0.4%, while Latin America, the Caribbean, and Europe report lower rates [6]. In addition to mortality, unsafe abortion can cause long-term health issues such as pelvic pain, infertility, ectopic pregnancies, and repeat pregnancy losses—especially in developing countries. However, current national data on the incidence of unsafe abortion in Malaysia remain scarce.

Historically, abortion in Malaya was criminalized under British colonial rule through the 1871 Indian Penal Code, which also banned the promotion of abortion services or products. After independence, Malaysia's abortion laws came under Sections 312–318 of the Penal Code. Amendments to Section 312 in 1971 and 1989 permitted abortion if continuing the pregnancy endangered the woman's life or her physical or mental health [7]. For Muslim women, Malaysia's dual legal system includes Sharia law, which permits abortion before 120 days of gestation under similar conditions, as endorsed by the National Fatwa Council. However, abortion remains prohibited in cases of rape, incest, or fatal foetal abnormalities under both legal systems.

Despite these legal amendments, public awareness of abortion laws in Malaysia remains low. Most people obtain information informally—from peers or social circles—rather than through official public health channels or Ministry of Health programs. Religious and cultural stigmas further discourage women from seeking abortion care when faced with unintended pregnancies [8]. Interestingly, Malaysia's total fertility rate dropped from 3.0 in 2000 to 2.3 in 2008, while contraceptive use remained steady. This suggests that abortions may be occurring unofficially and without documentation [9].

This study aims to assess the level of knowledge and perceptions toward abortion among the Klang Valley population. The findings revealed significant associations between respondents' knowledge and their perceptions of abortion. Furthermore, the study explored both positive and negative public perceptions, providing insight into prevailing attitudes.

The outcomes of this research contribute to a better understanding of abortion, particularly the distinction between safe and unsafe procedures. If positive perceptions toward abortion are found to be significantly associated with greater knowledge, it may help reduce the social, religious, and cultural stigma surrounding abortion. Ultimately, this could empower women in Klang Valley to make informed decisions regarding their reproductive health and maternal well-being.

Abortion evokes a wide range of emotions, heavily influenced by personal beliefs and societal expectations. Women who have sought or are seeking abortion services often face stigma and shame within their communities. Understanding public perceptions is crucial for developing interventions that address these barriers and expand access to safe, legal abortion services.

In Malaysia, abortion laws are moderately liberal. The revision of Section 312 under Act 727 of the Penal Code in 1989 allows abortion if a licensed medical practitioner deems that continuing the pregnancy poses a greater risk to the woman's life or her physical or mental health [7]. However, awareness of this provision remains low, even among some healthcare workers [10].

Medical professionals face multiple barriers to providing abortion services. Misconceptions persist that all abortions are illegal in Malaysia. Due to limited and uneven access to legal abortion services, some women turn to unregulated or unsafe providers, increasing the risk of complications. Many end up seeking emergency care in public hospitals after severe complications exceed what private clinics can handle [11].

Yet, stigma surrounding abortion persists in both liberal and restrictive legal environments. In more conservative settings, the stigma is often stronger [12]. Women who undergo abortions may face social rejection, damaged reputations, and community exclusion [13]. These consequences can lead to secrecy, unsafe procedures, and delays in seeking post-abortion care. Although empirical data are limited, research increasingly points to stigma as a major factor negatively impacting maternal health [14].

Surveys of Malaysian healthcare providers highlight both knowledge gaps and personal reservations. Many were unaware of legal abortion criteria, and a considerable percentage believed that abortion was morally wrong regardless of the circumstance. For instance, 59.2% equated abortion to taking a life, 43.4% disagreed with its availability on demand, and 26% opposed it under any circumstances [15].

Addressing societal and professional stigma around abortion is critical. Research has shown that stigma can lead to significant psychological distress before and after the procedure [16]. Women who experience greater stigma are more likely to feel isolated and less likely to seek help if complications arise. Ultimately, shifting attitudes through better education and awareness is necessary for improving both mental and physical health outcomes [17].

Methods

This cross-sectional study was conducted among residents of Klang Valley using a self-administered online questionnaire adapted from prior validated studies. Responses were anonymized and coded to ensure confidentiality. The study was conducted over six weeks. Ethical approval was obtained from the UniKL RCMP Medical Research and Ethics Committee. Data collection took place between 15 May and 9 June 2023, following proposal approval between 27 February and 10 March 2023.

The study population consisted of Klang Valley residents aged 18 years and above. A non-probability voluntary sampling approach was used, whereby individuals opted into the survey due to interest in the topic. Based on a Klang Valley population of 9 million, the required sample size was calculated using OpenEpi, resulting in a minimum of 385 respondents at a 95% confidence level and 5% margin of error.

Inclusion criteria were residents aged 18 and above, regardless of gender. Exclusion criteria

were non-residents, individuals under 18, or unwilling participants. The Google Form questionnaire was disseminated online. No personal identifiers were collected. The participant list was destroyed after data cleaning to ensure anonymity.

Data were collected through a standardized questionnaire adapted from previous studies in Malaysia and other countries [4,13].

Results

Table 1 showed the demographic distribution of Klang Valley residents (n = 391) who participated in the study. Respondents consisted predominantly of females (63.17%), with males representing 36.32%. The majority of respondents were Malay (85.17%) and Muslim (85.93%), with smaller proportions identifying as Chinese (8.44%), Indian (6.39%), Buddhist (4.86%), Hindu (4.09%), Christian (3.84%), and other religions (1.28%). The majority were aged 20–29 years (54.99%, n = 215), and had tertiary education (90.03%, n = 352). Nearly half were employed (47.83%), most belonged to the B40 income group (70.09%, n = 274), and single (61.64%, n = 241). All respondents reported having heard about abortion.

Table 2 shows the response rate to knowledge questions on abortion. Approximately half of the respondents (57.3%) thought that abortion was generally not legalised. Table 3 shows that 65% of respondents had poor knowledge of abortion. Table 4 depicts the association between the sociodemographic characteristics of respondents and knowledge of abortion. There was no significant association between knowledge of abortion and any of the sociodemographic factors studied, including age, gender, marital status, education level, religion, ethnicity, or income.

Table 5 showed respondents' responses to perception-related questions about abortion, and Table 6 illustrated the level of perception toward abortion using the mean value. Table 7 showed the association between sociodemographic characteristics and perceptions of abortion. There were statistically significant associations between age, ethnicity, religion, and marital status and abortion perception.

Table 8 presents the sources of information about abortion among respondents. The majority (86.7%, n = 339) reported obtaining information from the internet, newspapers, magazines, books, or articles. This was followed by friends or society (43.7%) and doctors (41.7%). The least common source was family, with only 21.5% (n = 84) of respondents indicating they received abortion-related information from family members.

Table 9 presented that among respondents with good knowledge of abortion, 59.85% had a positive perception, while 40.15% had a poor perception. In contrast, among those with poor knowledge, only 32.28% had a good perception, and 67.72% had a poor perception. The odds of having a good perception were significantly higher among those with good knowledge (OR = 3.13, 95% CI: 2.03–4.81, $p < 0.001$), indicating a strong association between knowledge and perception toward abortion.

Discussion

Abortion knowledge and perception are shaped by various factors including culture, religion, education, and socioeconomic background. Cultural and religious beliefs significantly influence attitudes, particularly views on the sanctity of life, reproductive rights, and women's autonomy. Family values, educational exposure, and access to healthcare and information also play critical roles [4].

The study found no statistically significant association between knowledge of abortion and sociodemographic factors such as age, gender, marital status, education level, religion, ethnicity, and income ($p > 0.05$). However, respondents with tertiary education demonstrated better knowledge (36.08%) than those with secondary education (27.78%). Similarly, a cross-sectional study among women in Herat, Afghanistan, found

that 76.9% of participants with high school education had a good knowledge of abortion, compared to 46.7% of illiterate participants [18]. In contrast, perception toward abortion was significantly associated with age ($p < 0.001$), ethnicity ($p < 0.001$), religion ($p = 0.007$), education level ($p = 0.014$), and marital status ($p < 0.001$). Gender, employment status, and income showed no significant associations. These findings partially contradict prior research by Tey and Yew [16], which found no link between perception and ethnicity.

The study revealed that 64.96% of respondents had poor knowledge about abortion, while 35.04% demonstrated good knowledge. These results are consistent with findings from medical students at Melaka Manipal Medical College [7] and a similar study in Trinidad and Tobago [13], where 57% lacked accurate knowledge of abortion laws. While over 77% of respondents correctly answered questions about abortion procedures, awareness of complications related to unsafe abortion—such as the risk of HIV (39.9%) and infertility (28.9%)—was significantly lower. However, 93.86% recognized heavy bleeding as a major complication. These findings mirror results from Nigeria [6].

Perceptions toward abortion were also varied, with 58.06% of respondents holding poor perceptions, and only 41.94% demonstrating a more informed and accepting view. Most supported abortion when the mother's health is at risk, and a notable 62.91% agreed or were neutral on the need to legalize abortion, recognizing that legal reform should be based on public health considerations rather than personal or political beliefs.

However, respondents generally disagreed or remained neutral when abortion was considered for reasons such as poverty, contraception failure, or anticipated birth defects. Those with good perception (41.94%) tended to support a woman's right to information and healthcare services for managing unintended pregnancies, while 58.06% showed limited acceptance.

The primary sources of information were the internet, newspapers, magazines, and articles (86.7%), followed by friends and society (43.7%), healthcare professionals (41.7%), and family (21.5%). This contrasts with findings from low- and middle-income countries where parents and educators are primary sources of information [4].

A chi-square test confirmed a significant association between knowledge and perception toward abortion ($p < 0.001$). Respondents with good knowledge were more likely to have positive perceptions. However, only 20.97% had both good knowledge and perception, while 20.97% had good knowledge but poor perception. Additionally, 3.32% had poor knowledge but good perception, and 40.66% had both poor knowledge and poor perception.

These results highlight that knowledge alone may not directly determine perception. Perception is often shaped by deep-seated beliefs, emotions, and personal experiences. Nevertheless, comprehensive and accurate knowledge can promote more compassionate perception and support informed public discourse and policy-making that protect women's reproductive rights [15,17,19].

Conclusion

This study underscores the urgent need to address the widespread lack of knowledge regarding abortion in the Klang Valley population. Although sociodemographic factors were not significantly associated with abortion knowledge, a strong relationship was observed between knowledge level and perception, with individuals possessing better knowledge generally showing more positive perception. To address these gaps, public awareness campaigns should be launched to disseminate factual, rights-based information about abortion. Comprehensive sexual and reproductive health education must be introduced in both schools and community settings to ensure early and accurate understanding. Safe and non-judgmental platforms should also be created to

provide individuals with reliable information and support.

Healthcare providers should receive proper training to deliver unbiased, evidence-based counselling on abortion and related services. These combined efforts can empower individuals with accurate knowledge, dispel misconceptions, and foster a more informed and supportive environment surrounding abortion in the Klang Valley and beyond.

Conflict of interest

The authors verified that there were no financial or commercial ties that might be viewed as having a potential conflict of interest.

Declaration of competing interests

None

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Authors' contributions

The first seven authors designed, managed, and wrote the paper as the main contributors to this study. The eighth author provided intellectual and technical input to the manuscript for publication purposes.

Table1. Sociodemographic characteristics of respondents

Variable	***Frequency (n)***	***Percentage (%)***
Gender		
Male	144	36.8
Female	247	63.2
Age (years)		
Less than equal to 29	225	57.5
More than 29	166	42.5
Ethnicity		
Malay	333	85.2
Non-Malay	58	14.8
Religion		
Islam	336	85.9
Non-Muslim	55	14.1
Education Level		
No Formal Education	2	0.51%
Primary Education	1	0.26%
Secondary Education	36	9.21%
Tertiary Education	352	90.03%
Employment Status		
Employed	187	47.83%
Unemployed	17	4.35%
Student	149	38.11%
Retired	17	4.35%
Self-employed	21	5.37%
Monthly Income		
<RM2,500	194	49.62%
RM 2,500 – RM4,849	80	20.46%
RM 4,850 – RM10,959	81	20.72%
RM 10,960	36	9.21%
Marital Status		
Married/Divorced/Separated	150	38.4
Single	251	61.6

Table 2. Knowledge questions on Abortion and its response rate

No.	Questions	Option					
		Yes		Not sure		No	
		n	%	n	%	n	%
1.	Is abortion generally legal in Malaysia?	79	20.20	88	22.51	224	57.29
2.	In Malaysia, it is permissible by law to have an abortion to preserve mother's mental health.	193	49.36	115	29.41	83	21.23
3.	Abortion is a medically safe procedure when performed with proper equipment.	304	77.75	57	14.58	30	7.67
4.	Abortion is a medically safe procedure when performed with correct technique.	309	79.03	52	13.30	30	7.67
5.	Abortion is a medically safe procedure when performed with sanitary standards.	314	80.31	49	12.3	28	7.16
6.	Abortion may lead to infertility.	113	28.90	155	39.6	123	31.46
7.	Unsafe abortion can cause heavy bleeding.	367	93.86	22	5.63	2	0.51
8.	Unsafe abortion has high risk of developing HIV or AIDS.	156	39.90	155	39.64	80	20.46

Table 3. Level of Knowledge Towards Abortion among People in Klang Valley, by using mean score

Knowledge Category	***Mean***	***n***	***%***
Good	4.69	137	35.04%
Poor		254	64.96%

Table 4. Association between socio-demographic characteristic of the respondents and level of knowledge towards abortion

Variables	Level of Knowledge				
	High n(%)	Low n(%)	X^2	df	P value
Gender					
Male	56(38.9)	88(61.1)	1.485	1	0.223
Female	81(32.8)	166(67.2)			
Age (year)					
Less than equal to 29	76(33.8)	149(66.2)	0.370	1	0.543
More than 29	61(36.7)	105(63.3)			
Ethnicity					
Malay	114(34.2)	219(65.6)	0.638	1	0.425
Non-Malay	23(39.7)	35(60.3)			
Religion					
Islam	114(33.9)	222(66.1)	1.293	1	0.256
Non-Muslim	23(41.8)	32(58.2)			
Education Level					
No Formal Education	0(0)	2(100)	2.620	3	0.454
Primary Education	0(0)	1(100)			
Secondary Education	10(27.8)	26(72.2)			
Tertiary Education	127(36.1)	225(63.9)			
Employement Status					
Employed	62(33.2)	125(66.8)	2.676	4	0.613
Unemployed	4(23.5)	13(76.5)			
Student	55(36.9)	94(63.1)			
Retired	8(47.1)	9(52.9)			
Self-employed	8(38.1)	13(61.9)			
Monthly income					
<RM2,500	65(33.5)	129(66.5)	0.751	3	0.861
RM 2,500 – RM4,849	31(38.8)	49(61.3)			
RM 4,850 – RM10,959	29(35.8)	52(64.2)			
RM 10,960	12(33.3)	24(66.7)			
Marital status					
Married/Divorced/Separated	54(36.0)	96(64.0)	0.099	1	0.753
Single	83(34.4)	158(65.6)			

Chi-square test was performed, df = degree of freedom

Table 5. Respondent's Response towards Perception Question Regarding Abortion

No.	Question	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
		n	%	n	%	n	%	n	%	n	%
1.	Abortion should be legalised.	50	12.79	95	24.30	108	27.62	82	20.97	56	14.32
2.	Abortion should be easily accessible.	60	15.35	122	31.20	75	19.18	79	20.20	55	14.07
3.	Abortion services should be easily affordable.	55	14.07	75	19.18	102	26.09	108	27.62	51	13.04
4.	Abortion services should be made available to the public.	66	16.88	118	30.18	86	21.99	74	18.93	47	12.02
5.	Women should be given the right to decide whether to carry on with their pregnancy.	56	14.32	65	16.62	76	19.44	90	23.02	104	26.60
6.	Abortion should be carried out if the mother's physical health is risk.	8	2.05	4	1.02	27	6.91	143	36.57	209	53.45
7.	Abortion should be carried out if the mother's mental health is risk.	13	3.32	20	5.12	58	14.83	151	38.62	149	38.11
8.	Abortion should be carried out if pregnancy will result in the birth of a child with physical/mental defects.	19	4.86	84	21.48	106	27.11	83	21.23	99	25.32
9	Abortion should be carried out if a couple did not want a family.	84	21.48	133	34.02	85	21.74	41	10.49	48	12.28

Table 6. Level of Perception Towards Abortion among People in Klang Valley, by using mean score

Knowledge Category	***Mean***	***n***	***%***
Good	29.43	164	41.94%
Poor		227	58.06%

Table 7. Association between socio-demographic profile of the respondents and perception towards abortion

Variables	**Level of Perception**							
	Good n(%)	**Poor n(%)**	**X^2**	**df**	**POR**	**95% Confidence Interval**		**P value**
						Lower	**Upper**	
Gender								
Male	60(41.7)	84(58.3)	0.007		-	-	-	0.932
Female	104(42.1)	143(57.9)						
Age (year)								
More than 29	55(33.1)	111(66.9)	9.197	1	1.896	1.251	2.874	**0.002***
Less than equal to 29	109(48.1)	116(51.6)						
Ethnicity								
Non-Malay	40(69.0)	18(31.0)	20.421	1	3.746	2.058	6.818	**<0.001***
Malay	124(37.2)	209(62.8)						
Religion								
Non-Muslim	38(69.1)	17(30.9)	19.370	1	3.725	2.018	6.878	**<0.001***
Islam	126(37.5)	210(62.5)						
Education Level								
No Formal Education	0(0)	2(100)	10.673	3	-	-	-	**0.014***
Primary Education	0(0)	1(100)						
Secondary Education	7(19.4)	29(80.6)						
Tertiary Education	157(44.6)	195(55.4)						
Employment Status								
Employed	79(42.2)	108(57.8)	6.019	4	-	-	-	0.198
Unemployed	4(23.5)	13(76.5)						
Student	66(44.3)	83(55.7)						
Retired	4(23.5)	13(76.5)						
Self-employed	11(52.4)	10(47.6)						
Monthly income								
<RM2,500	82(42.3)	112(57.7)	2.330	3	-	-	-	0.507
RM 2,500 – RM4,849	35(43.8)	45(56.3)						
RM 4,850 – RM10,959	29(35.8)	52(64.2)						
RM 10,960	18(50)	18(50)						
Marital status								
Single	121(50.2)	120(49.8)	17.617	1	2.509	1.624	3.875	**0.001***
Married/Divorced/Separated	43(28.7)	107(71.3)						

Chi-square test was performed, level of significant at p<0.05; POR =Prevalence Odds Ratio, df = degree of freedom*

Table 8. Source of Information about abortion

Source of information	n	%
Doctor	163	41.7
Family	84	21.5
Friends/Society	171	43.7
Internet/Newspaper/Magazine/Book/Article	339	86.7

Table 9. Association between knowledge and perception towards abortion

Level		Perception		P-value	Odd ratio (95% CI)
		Good	Poor		
		n (%)	n (%)		
Knowledge	**Good n (%)**	82 (59.85)	55 (40.15)	**<0.001**	3.127 (2.03 – 4.81)
	Poor n (%)	82 (32.28)	172 (67.72)		

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