Pertanika J. Soc. Sci. & Hum. 31 (1): 265 - 281 (2023)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

Factors Associated with Contraceptive Use in Malaysia and Pakistan

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ABSTRACT

Most developing countries launched the national family planning program in the 1960s/70s. However, some countries' contraceptive prevalence rate (CPR) remains low or stagnated. Despite having a similar religious belief, the level of contraceptive use differed between Malaysia and Pakistan. This study examines the factors associated with contraceptive use in Malaysia and Pakistan. This study used secondary data from the 2014 Malaysian Population and Family Survey and the 2017–2018 Pakistan Demographic and Health Survey. A total of 5,175 Malaysian and 14,502 Pakistani currently married women aged 15–49 were included in this study. The dependent variable is current contraceptive use. The independent variables include women's age, age at first marriage, place of residence, women's educational level, employment status, and the number of living children. Crosstabulations show that urban, better-educated, and working women in Pakistan reported higher modern CPR than their rural, lesser-educated, and non-working counterparts; however, the opposite was observed in Malaysia. Multinomial logistic regression analysis reveals that rural women were less likely to practice modern and traditional methods than non-use in Pakistan. In Pakistan, the odds of practising modern and traditional methods than non-use were higher among women who attained at least primary education, while working women were more likely to practice modern contraceptive methods than non-use and traditional methods. However, women's education and employment factors were insignificant in the multivariate context of the case of Malaysia. Enhancing women's socio-economic status and reaching out to rural, uneducated, and jobless women are essential to improving contraceptive use, especially in Pakistan.

Keywords: Contraceptive use, Malaysia, Pakistan, socio-economic factors, women

ARTICLE INFO

Article history:
Received: 15 March 2022
Accepted: 14 November 2022
Published: 17 March 2023

DOI: https://doi.org/10.47836/pjssh.31.1.14

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ISSN: 0128-7702
e-ISSN: 2231-8534

INTRODUCTION

Most developing countries launched the family planning program (FPP) in the 1960s/70s to control the rapid population growth and reduce the fertility rate. High fertility could bring adverse effects not only on maternal and child health but also on the economic growth of a country. According to Kantorová et al. (2020), among 1.11 billion women of reproductive age who needed family planning (FP), 270 million had an unmet need for modern contraception in 2019. These women wished to avoid pregnancy but refused to practice modern contraception due to the lack of access to contraceptives, poverty, social structure, and religious beliefs. Despite ongoing efforts to promote FPP, some developing countries' contraceptive prevalence rate (CPR) remains low or stagnated.

In Malaysia, the FP movement was initiated in 1938 by the government obstetrician (Tey, 2007a). The first Family Planning Association (FPA) was established in Kuala Lumpur in 1953. Before the launch of the national FP policy, FP services were provided by FPA in each of the states in Malaysia. Following the National Family Planning Program (NFPP) launch in 1966, the National Family Planning Board (NFPB) was set up to facilitate the implementation in phases. Since then, FP has been emphasised in the First Malaysia Plan and subsequent national development plans. Consequently, CPR in Malaysia increased drastically from 8.7% in 1967 to 33% in 1974 and to 51.4% in 1984 before reaching 52.2% in 2014 (World Bank, 2021). Nevertheless, CPR has stagnated at the 50% level for the past three decades, mainly due to the major shift in policy interest and expansion from FP to family development and reproductive health during the midterm review of the Fourth Malaysia Plan (1981-85) in 1984 (Tey, 2007a). Owing to the de-emphasis of FP in the new policy, a large proportion of contraceptive users (34% since 2004) opted for the less effective traditional methods.

In Pakistan, the Family Planning Association of Pakistan (FPAP) set off the FP movement in 1953 (Rukanuddin & Hardee-Cleaveland, 1992). Following this, FP services were introduced in the First Five-Year Plan (1955–1959) through the FPAP and other voluntary associations. High fertility and rapid population growth issues began to attract the attention of policymakers in formulating the Second Five-Year Plan (1960–1964). The Pakistani government has allocated adequate funds for FPP and, at the same time, received technical assistance from international organisations - Ford Foundation and the Population Council (Robinson, 2007). However, compared to other South Asian countries, the CPR increase in Pakistan was modest, from 5.5% in 1969 to 9.1% in 1985, and hovered at around 20% in the 1990s and 2000s before reaching 34% in 2019 (World Bank, 2021). The relatively low CPR in Pakistan can be attributed to the strong anti-FP sentiment among the conservative Islamic population. Besides, inappropriate medium to promote FP, failure to evaluate the program regularly, and exclusion from the participation of the non-governmental organisation in the program led to a slow

increase in CPR (Robinson, 2007). In addition, a sizeable proportion of Pakistani women were illiterate - 14.8% (World Bank, 2021), and the program has failed to deliver FP information to these women through suitable channels, causing a gradual increase in the prevalence of traditional contraceptive use. Hence, despite Pakistan being one of the first Asian nations to adopt FP policies in the 1950s, the endeavours to change attitudes towards contraception, raise contraceptive prevalence, and ultimately lower the fertility level are hardly noticeable.

Islam is the official religion in Malaysia and Pakistan. Despite the same religious belief, Malaysia and Pakistan are diverse nations in terms of ethnicity and development. Malaysia is a multi-ethnic country comprising three main ethnic groups: Malay, Chinese, and Indian (Department of Statistics Malaysia, 2020). On the other hand, Pakistan's population diversity is largely constrained by the boundaries of its four provinces: Punjabi, Balochistan, Sindh, and Khyber Pakhtunkhwa. The three main ethnic groups in Pakistan are Punjabi, Pashtun, and Sindhi, with numerous minority groups (Pakistan Bureau of Statistics, 2017). Malaysia is more developed than Pakistan despite gaining independence a decade later, as Malaysia did not experience the same political challenges as Pakistan.

Past studies on the determinants of contraceptive use were mainly regional-specific or country-specific. This study presents a comparative analysis by examining the factors associated with contraceptive use in Malaysia and Pakistan—the two developing countries sharing a similar religious belief and yet entirely different levels of contraceptive use. In line with Sustainable Development Goal 3 (SDG3), to achieve good health and well-being by 2030, it is hoped that this study could shed some light on the characteristics of women who experienced barriers to the utilisation of FP services, which will be useful in designing effective programs to enhance the uptake of FP.

LITERATURE REVIEW

Past studies revealed that contraceptive use was positively associated with women's social status, particularly their educational attainment (Ajmal et al., 2018; Islam et al., 2016; Majumder & Ram, 2015; Mandiwa et al., 2018; Osmani et al., 2015; Palamuleni, 2013; Rasooly et al., 2015; N. Singh & Shukla, 2017) and employment status (Hossain et al., 2018; Majumder & Ram, 2015; Mandiwa et al., 2018; Palamuleni, 2013; L. M. Singh et al., 2020). Education provides a platform for women to interact, exchanging the latest information on FP matters, resulting in higher contraceptive use among the better-educated (Nyauchi & Omedi, 2014). Braghi et al. (2013) and Almeen and Al-Ayoubi (2016) found that education could enhance women's knowledge and skills in contraceptive use and, at the same time, empower them to be the main contraceptive use decision-maker. Education also equips women with the latest knowledge and skills to meet the labour market requirements. Women with higher educational levels tend to

have higher employment rates and better career prospects (M. S. Ali & Jalal, 2018; Faridi et al., 2010; Yabiku & Schlabach, 2009). Also, working women are more empowered in contraceptive use decision-making and have greater control over financial resources to avail themselves of contraception (Casterline et al., 1997). Hence, it may be noted that working women are generally better educated, exposed to contraceptive information, and comprehended the importance of practising contraception. In Pakistan, Fikree et al. (2001) and Mahmood and Ringheim (1996) proposed that increasing women's education and greater economic status and opportunities promote contraceptive use.

Better-educated women are also more likely to delay marriage in developing countries (Amoo, 2017; Gangadharan & Maitra, 2003; Shahzad, 2017; Tey, 2007b). Educated women are more likely to prioritise their careers over marriage due to the higher opportunity cost of marriage and have a greater awareness of early marriage consequences, which in turn postpones their marriage. Islam (2018) discovered a positive association between the age at first marriage and the use of modern contraception. Specifically, the likelihood of using modern contraception increased with age at first marriage among young women under age 25.

Urbanisation brought higher contraceptive use in developing countries (Ajmal et al., 2018; Hossain et al., 2018; Islam, 2018; Islam et al., 2016; Mandiwa et al., 2018; Osmani et al., 2015; Palamuleni, 2013; Rasooly et al., 2015). The availability and accessibility of FP services were given greater emphasis in urban areas. Women in rural areas typically have limited financial resources and access to contraceptive methods (Nyauchi & Omedi, 2014), explaining lower contraceptive use. However, Tey (2021) observed that urban-rural residence had little or no effect on contraceptive use in Malaysia, suggesting that family planning services in rural areas are as accessible as in urban areas.

Past studies showed that socio-demographic variables are positively associated with contraceptive use. These variables include age (Debebe et al., 2017; Mahato et al., 2020; Mandiwa et al., 2018; Osmani et al., 2015; L. M. Singh et al., 2020) and the number of living children (Ajmal et al., 2018; Islam, 2018; Islam et al., 2016; Lwelamira et al., 2012; Osmani et al., 2015; Rasooly et al., 2015). Women tend to achieve the desired number of children as age increases and are more likely to use contraception. Similarly, women with large family sizes will limit births through contraceptive use as they have attained the desired number of children (Metwally et al., 2015; Nyauchi & Omedi, 2014). A case study on Malaysia by Aznie et al. (2013) revealed that the practice of FP increased with the number of living children, especially after the first birth.

There has long been a contentious debate over FP and Islam in Muslim-majority countries. Muslim-majority countries have a relatively low contraceptive prevalence compared to the rest of the world. The Muslims presumed that FP services were used to suppress their population (Najimudeen,

2020). Moreover, the deference to God's will and the ensuing lack of intention to use contraceptives are often cited as Islamic ideologies to prevent contraceptive use (Agha, 2010). The perspectives of religious leaders may also play a role in the variation in contraceptive prevalence in Muslim-majority societies. According to prior research, most Pakistanis believe their religious leaders oppose contraception (M. Ali & Ushijima, 2005). Given the significance of religious leaders' opinions in Pakistani society, this is likely to impact people's attitudes towards FP policies and the use of FP (Nasir & Hinde, 2011).

The 2014 Malaysian Population and Family Survey showed that the CPR of Malays (all of whom are Muslims) was slightly lower than the Chinese and other indigenous groups - 50.6% versus 62.0% and 55.2% (Tey, 2020). There is a continuing faith among some rural Malays that FP is prohibited entirely in Islam (International Planned Parenthood Federation [IPPF], as cited by Center for Reproductive Rights & Asian-Pacific Resource and Research Centre for Women, 2005). However, considering that the urbanisation level in Malaysia has reached over 70% since 2010, the influence of religion on contraceptive use in Malaysia may not be as strong as in Pakistan.

DATA AND METHODOLOGY

Data Source

This study used secondary data from the 2014 Malaysian Population and Family Survey (MPFS) and the 2017–2018 Pakistan Demographic and Health Survey (PDHS). The Fifth MPFS (MPFS-5) was conducted by the National Population and Family Development Board (NPFDB) in 2014 (Mahmud et al., 2016). The 2017–2018 PDHS was conducted between November 2017 and April 2018 by the National Institute of Population Studies under the Ministry of National Health Services, Regulations and Coordination (National Institute of Population Studies [Pakistan] & ICF, 2019). Both surveys covered a nationally representative sample and aimed to provide reliable national estimates for demographic and reproductive health statistics. A total of 5,175 Malaysian and 14,502 Pakistani currently married women aged 15–49 years were included in this study.

Study Variables

The dependent variable for this study is current contraceptive use. This categorical variable was measured at three levels: modern method, traditional method, and non-use. The CPR referred to the proportion of married women of reproductive ages who are currently using (or whose partners are using) a contraceptive method. The independent variables include women's age, age at first marriage, place of residence, women's educational level, current employment status, and the number of living children.

Data Analysis

All analyses were carried out using IBM SPSS Statistics version 25. Descriptive analyses were performed to show the distributions of contraceptive methods

and selected socio-economic variables. Crosstabulations and Chi-square tests were used to examine the relationship between contraceptive use and each of the independent variables. Multinomial logistic regression was performed to determine each country's net effect of selected independent variables on contraceptive use.

RESULTS

Table 1 shows the frequency and percentage distributions of married women aged 15–49 years by socio-economic characteristics in Malaysia and Pakistan. Most married women in Malaysia are aged 30 years or over, and the proportion is evenly distributed across the five-year age groups of 30 and

Table 1
Frequency and percentage distributions of married women aged 15–49 years by socio-economic characteristics

	Malaysia		Pakistan	
Socio-economic characteristics	n	%	n	%
Overall	5,175	100.0	14,502	100.0
Age (years)				
<25	367	7.1	2,912	20.1
25–29	740	14.3	3,077	21.2
30–34	997	19.3	2,774	19.1
35–39	968	18.7	2,614	18.0
40–44	1,021	19.7	1,696	11.7
45–49	1,082	20.9	1,429	9.9
Age at first marriage (years)				
<15	52	1.0	1,390	9.6
15–17	428	8.3	4,030	27.8
18–20	1,067	20.6	4,297	29.6
21–23	1,465	28.3	2,550	17.6
>=24	2,161	41.8	2,235	15.4
Place of residence				
Urban	3,263	63.1	6,972	48.1
Rural	1,912	36.9	7,530	51.9
Educational level				
No education	101	2.0	7,313	50.4
Primary	536	10.4	2,022	13.9
Secondary	3,232	62.5	3,023	20.8
Higher	1,306	25.2	2,144	14.8
Current employment status				
Not working	2,825	54.6	12,396	85.5
Working	2,350	45.4	2,106	14.5
Number of living children				
0	449	8.7	1,968	13.6
1–2	1,892	36.6	4,444	30.6
3–4	2,002	38.7	4,460	30.8
>=5	832	16.1	3,630	25.0

Note. Missing values are excluded from the calculations.

above. Meanwhile, the age structure of married women in Pakistan is relatively young, with over 60% younger than 35. Child marriage is prevalent in Pakistan, where 9.6% of the women married before the age of 15, and 27.8% married between 15 and 17. Meanwhile, delayed marriage is common in Malaysia, as nearly half (41.8%) of the women married after 23 years. More than half (63.1%) of the women are from urban areas in Malaysia, compared to only 48.1% in Pakistan. Almost all (98%) Malaysian women received an education, with 62.5% and 25.2% attaining secondary and tertiary education, respectively.

In contrast, half (50.4%) of Pakistani women never attended school. In addition, Pakistan has a higher percentage of unemployed women than Malaysia (85.5% versus 54.6%). As compared to Pakistan, Malaysia reported a higher percentage of married women with one to four children and a lower percentage with no children or with a large family size of at least five children at the time of the survey.

Table 2 presents the levels of CPR by contraceptive method type in Malaysia and Pakistan. Overall, the CPR in Malaysia is much higher than that in Pakistan. For example, Malaysia recorded a CPR of 52.9% for any method (sum of modern and traditional methods), 35.7% for modern method, and 17.2% for the traditional method, while the corresponding figures in Pakistan are 32.5%, 23.6%, and 8.9%, respectively.

Among the modern contraceptive methods, the pill is the most popular method in Malaysia (14.9%, or 28.2% of the contraceptive users), while condoms and sterilisation are widely utilised in Pakistan (9.1% and 6.7%, respectively). Withdrawal is the most commonly used traditional method in Malaysia (9.6%) and Pakistan (7.7%).

Table 2
Percentage distribution of married women aged 15–49 years by contraceptive method type

	Malaysia	**Pakistan**
n	5,175	14,502
Modern method	**35.7**	**23.6**
Pill	14.9	2.0
IUD	2.4	2.2
Injection	5.5	3.0
Condom	5.1	9.1
Sterilisation	6.9	6.7
Others	0.9	0.6
Traditional method	**17.2**	**8.9**
Periodic abstinence	4.6	1.1
Withdrawal	9.6	7.7
Others	3.0	0.1
Not using	**47.1**	**67.5**

Table 3 shows the difference in contraceptive use by selected socio-economic variables in Malaysia and Pakistan. The bivariate analysis reveals that each selected socio-economic variable is significantly associated with contraceptive use. Across the age groups, married women aged 30–44 reported higher levels of modern contraceptive use in both countries, while Malaysian women aged 45–49 and Pakistani women aged below 25 have the lowest modern CPR. The traditional CPR is relatively lower among younger

Table 3
Percentage distributions of contraceptive use by socio-economic variables

	Malaysia (n = 5,175)				Pakistan (n = 14,502)			
Socio-economic Characteristics	Non-use	Modern	Traditional	Chi-square test statistic	Non-use	Modern	Traditional	Chi-square test statistic
	%	%	%		%	%	%	
Overall	47.1	35.7	17.2		67.5	23.6	8.9	
Age (years)				118.3***				691.5***
<25	57.2	32.4	10.4		84.3	11.2	4.4	
25–29	53.5	32.4	14.1		72.8	20.1	7.1	
30–34	46.1	36.4	17.5		60.9	28.0	11.1	
35–39	40.1	40.6	19.3		58.0	30.9	11.1	
40–44	38.4	42.6	19.0		55.7	32.3	12.1	
45–49	54.9	27.4	17.7		65.9	24.4	9.7	
Age at first marriage (years)				45.0***				23.4**
<15	42.3	50.0	7.7		67.5	25.1	7.4	
15–17	43.7	43.9	12.4		67.5	24.4	8.1	
18–20	46.4	38.5	15.1		66.8	24.1	9.1	
21–23	44.8	36.6	18.6		66.8	23.1	10.1	
>=24	49.9	31.7	18.4		69.5	20.9	9.6	
Place of residence				22.2***				221.5***
Urban	48.1	33.5	18.4		61.9	26.4	11.6	
Rural	45.5	39.5	15.0		72.6	21.0	6.3	
Educational level				33.9***				271.7***
No education	41.6	43.6	14.9		73.6	19.7	6.7	
Primary	45.5	40.5	14.0		63.4	26.8	9.8	
Secondary	46.3	37.1	16.7		61.5	27.4	11.1	
Higher	50.5	29.7	19.8		58.9	28.8	12.3	
Current employment status				24.4***				22.8***
Not working	45.0	38.7	16.4		68.2	22.9	8.9	
Working	49.8	32.1	18.1		63.4	27.6	8.9	
Number of living children				514.8***				1,597.9***
0	92.0	3.8	4.2		99.0	0.6	0.4	
1–2	51.5	31.8	16.7		75.8	16.8	7.4	
3–4	36.9	41.7	21.4		55.5	32.3	12.2	
>=5	37.6	47.4	15.0		54.9	33.8	11.3	

Note. Chi-square test significance: *** p < .001, ** p < .01

Malaysian and Pakistani women under 30 years. The modern contraceptive prevalence decreased with age at first marriage in both countries. However, the use of traditional methods increased with age at first marriage, especially in Malaysia. Rural women in Malaysia reported a higher level of modern contraceptive use than those residing in urban areas, but the reverse is observed in Pakistan. Meanwhile, urban women have a higher use rate of a traditional method than rural women, and the difference is more pronounced in Pakistan.

Surprisingly, modern contraceptive use is negatively associated with women's educational level in Malaysia, but the opposite is true in Pakistan. Traditional contraceptive use is positively associated with women's education in both countries. Modern CPR for working women is relatively higher than for non-working women in Pakistan, but the opposite is observed in Malaysia. On the contrary, the prevalence rate of the traditional method is higher among Malaysian working women than their non-working counterparts. Modern contraceptive use is positively associated with the number of living children, and the relationship is more notable in Pakistan. Across the number of living children's groups, the use of the traditional method is the highest among women who had three to four children in both countries.

Table 4 presents the multivariate analysis for the determinants of contraceptive use among married women aged 15–49 years, using multinomial logistic regression. Women's age is negatively associated with the likelihood of using a modern method and traditional method rather than non-use and using a modern method rather than the traditional method in Malaysia. However, the likelihood of using a modern and traditional method over non-use increased with age at first marriage in Malaysia. In Pakistan, the likelihood of using a traditional method than non-use increased with age at first marriage, but a negative association is observed between age at first marriage and the likelihood of using a modern method than the traditional method. Concerning women living in urban areas, rural women in Pakistan are less likely to practise modern and traditional methods than non-use. Nevertheless, rural women are more likely to practise a modern method than a traditional one in both countries, and the effect is stronger in Pakistan.

In Pakistan, women who attained at least primary education have higher odds of using a modern and traditional method than non-use, especially those with higher education. Compared to non-working women, working women were more likely to practise a modern method than the non-use and traditional methods in Pakistan. It is worth noting that both women's education and employment factors are insignificant in the multivariate context of Malaysia. In both countries, the number of living children is positively associated with the likelihood of using a modern method and traditional method than non-use. Furthermore, a positive association is observed between the number of living children and the likelihood of using a modern method than the traditional method in Malaysia.

Table 4
Adjusted odds ratios (95% confidence intervals) from multinomial logistic regression analysis

	Malaysia (n = 5,175)			Pakistan (n = 14,502)		
Variables	**Modern vs non-use**	**Traditional vs non-use**	**Modern vs traditional**	**Modern vs non-use**	**Traditional vs non-use**	**Modern vs traditional**
Age	0.95*** (0.94,0.96)	0.98** (0.97,0.99)	0.97*** (0.96,0.98)	1.00 (0.99,1.01)	1.00 (0.99,1.01)	1.00 (0.99,1.01)
Age at first marriage	1.03** (1.01,1.05)	1.04*** (1.02,1.06)	0.99 (0.96,1.01)	0.99 (0.98,1.00)	1.02* (1.01,1.04)	0.97** (0.95,0.99)
Place of residence						
Urban (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Rural	1.08 (0.95,1.23)	0.85 (0.71,1.00)	1.28** (1.07,1.52)	0.76*** (0.70,0.83)	0.54*** (0.48,0.62)	1.41*** (1.22,1.61)
Educational level						
No education (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Primary	0.88 (0.54,1.43)	0.85 (0.44,1.65)	1.03 (0.54,1.96)	2.15*** (1.89,2.43)	2.11*** (1.75,2.54)	1.02 (0.83,1.24)
Secondary	0.90 (0.57,1.43)	1.04 (0.56,1.93)	0.87 (0.47,1.58)	2.72*** (2.43,3.06)	2.72*** (2.31,3.21)	1.00 (0.84,1.20)
Higher	0.78 (0.48,1.26)	1.18 (0.63,2.23)	0.66 (0.35,1.23)	3.45*** (3.01,3.97)	3.28*** (2.70,4.00)	1.05 (0.85,1.30)
Current employment status						
Not working (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Working	0.91 (0.79,1.04)	1.00 (0.85,1.18)	0.91 (0.76,1.08)	1.25*** (1.11,1.40)	1.04 (0.87,1.23)	1.20* (1.01,1.44)
Number of living children	1.52*** (1.45,1.60)	1.37*** (1.29,1.45)	1.11*** (1.05,1.18)	1.42*** (1.38,1.46)	1.40*** (1.35,1.46)	1.01 (0.97,1.05)

Note. Wald test significance: *** p < .001, ** p < .01, * p < .05

DISCUSSION

This study investigates the level of contraceptive use and its association with socio-economic factors among women of reproductive age in Malaysia and Pakistan. Evidence from this study reveals that contraceptive use was negatively associated with age in Malaysia. Older women may perceive themselves less likely to get pregnant and be involved in sexual activity, hence the lower contraceptive use. In addition, Malaysia's population policy focuses on family development, with less emphasis on modern contraceptive use. As a result, women are more inclined to adopt the cheaper and less effective traditional method, especially older women.

Women living in rural areas have lower odds of practising contraception than those living in urban areas in Pakistan, similar to Mahmood and Ringheim's (1996) finding. The lower level of contraceptive use is likely due to insufficient resources and a lack of access to FP services in rural areas (Nyauchi & Omedi, 2014; Zaidi & Hussain, 2015). However, this study reveals a higher likelihood of using a modern method than the traditional method in rural areas compared to urban areas in both countries after controlling for other variables. Urban women, especially those in Malaysia, might have better knowledge of the side effects of modern methods, such as contraceptive-induced menstrual bleeding, and hence, are more likely to opt for the natural birth control method. The higher usage of modern methods among rural Pakistani women could also be attributed to the vigorous participation of Lady Health Workers in providing modern contraceptives under the Lady Health Worker Program.

While almost all married women in both countries have heard of FP, modern CPR remains low, especially in Pakistan. Complete knowledge of contraceptives is essential in assisting women in making contraceptive decisions. Educational level is often used as a proxy for knowledge of FP (Zaidi & Hussain, 2015), which acts as a stimulus to contraceptive use. Highly educated women are less likely to face obstacles in accessing FP services than their lesser-educated counterparts in Pakistan, and this result confirms the previous finding by Fikree et al. (2001) and Mahmood and Ringheim (1996).

Education could expose women to the latest FP knowledge and information and provide them autonomy in obtaining FP services. However, in patriarchal societies such as Pakistan, women's mobility is restricted by purdah (the seclusion of women from public observation), which was found to be an obstacle to accessing contraception in Pakistan by Mumtaz and Salway (2005). Hence, it is not surprising to discover that half of the Pakistani married women were uneducated, which explains the low level of contraceptive use. Given the importance of women's education on contraceptive use, the Pakistani government must adopt policies that commit to universal education to improve modern CPR.

The findings of this study showed that working women are more likely to use a modern contraceptive method in Pakistan.

In addition, working women are generally more educated, aware of the importance of contraceptive use, and able to afford FP services. However, looking at the cultural background of Pakistan, the social norm suppresses women's participation in the workforce unless they receive support from their husbands or are required to maintain the household standard of living. This finding suggests that female employment could strengthen the autonomy of Pakistani women in the household and subsequently improve contraceptive use.

In Malaysia, bivariate analysis shows an interesting finding of lower modern contraceptive prevalence among better-educated and working women. Higher-educated women tend to delay marriage for career advancement, and given the higher age at marriage in Malaysia than in Pakistan, these women will continue to give birth to children and forgo contraception until their desired family size is achieved. Education and employment factors, however, become insignificant in the multivariate context, while the association between age at marriage and contraceptive use has become positive. It suggests that after controlling for other factors in the model, women who married later have greater autonomy and are more empowered to make contraceptive decisions. Besides, a separate logistic regression considering the ethnicity effect shows that concerning Chinese women, Malay and other Bumiputera, and Indian women are less likely to practise a modern contraceptive method than the non-use and traditional methods (Table 5). It suggests that ethnicity is more important in explaining contraceptive use in Malaysia than female education and employment. However, the ethnic variable is excluded from this cross-country study for standardisation purposes.

Religious belief is often reported as a hindrance to contraception, particularly in Muslim countries (Casterline et al., 2001; Mahmood & Ringheim, 1996; Mustafa et al., 2015). The misconception that birth control is forbidden in Islam should be corrected. The Holy Quran contains no texts that forbid FP. FP was never forbidden by Prophet Mohamed (Najimudeen, 2020). The Pakistani government should revitalise the Lady Health Worker Program — a 1994 programme that had succeeded in increasing modern contraceptive use among rural women. Lady Health Workers were deemed the most effective medium for dispelling religious beliefs and misconceptions about FP (Douthwaite & Ward, 2005). Under this program, primary health care services are supplied to the doorsteps of underserved households, particularly in rural areas. A wide range of maternal and child healthcare services was provided, including reproductive health education and FP. The program has increased CPR by more than twofold between 1990–1991 and 2000–2001 (Douthwaite & Ward, 2005). The government needs to continue expanding this program as the provision of doorstep services has proved to be the most cost-effective way of bringing FP services to Pakistani women who are restricted by social norms and religious beliefs.

Table 5
Adjusted odds ratios (95% confidence intervals) from multinomial logistic regression analysis for Malaysia (with ethnicity as one of the independent variables)

	Malaysia (n = 5,175)		
Variables	**Modern vs non-use**	**Traditional vs non-use**	**Modern vs traditional**
Age (years)	0.95*** (0.94,0.96)	0.98** (0.97,0.99)	0.97*** (0.95,0.98)
Age at first marriage (years)	1.02* (1.01,1.04)	1.04*** (1.02,1.06)	0.98 (0.96,1.01)
Place of residence			
Urban (Ref)	1.00	1.00	1.00
Rural	1.14 (1.00,1.31)	0.89 (0.75,1.06)	1.29** (1.08,1.54)
Educational level			
No education (Ref)	1.00	1.00	1.00
Primary	0.85 (0.52,1.38)	0.83 (0.43,1.60)	1.02 (0.53,1.95)
Secondary	0.87 (0.55,1.38)	1.02 (0.55,1.89)	0.85 (0.46,1.56)
Higher	0.77 (0.47,1.25)	1.18 (0.62,2.23)	0.65 (0.35,1.23)
Current employment status			
Not working (Ref)	1.00	1.00	1.00
Working	0.92 (0.80,1.05)	1.01 (0.85,1.19)	0.91 (0.77,1.08)
Number of living children	1.55*** (1.48,1.63)	1.38*** (1.30,1.47)	1.12*** (1.06,1.19)
Ethnicity			
Chinese (Ref)	1.00	1.00	1.00
Malay and other Bumiputera	0.45*** (0.36,0.56)	0.73* (0.55,0.96)	0.61*** (0.47,0.81)
Indian	0.35*** (0.25,0.49)	0.96 (0.66,1.38)	0.37*** (0.25,0.55)
Others	0.61 (0.26,1.43)	0.35 (0.08,1.63)	1.71 (0.37,7.90)

Note. Wald test significance: *** p < .001, ** p < .01, * p < .05

The stagnation of CPR since the 1980s in Malaysia suggests the need to revitalise the national FPP by strengthening the role and functions of NPFDB in promoting modern contraceptive use. A more effective strategy could be developed through collaboration with the Ministry of Health. FP information and services can be promoted and provided at the maternal community health clinics to reach out to those in need. It could also be emulated in the Pakistani context.

This study has several limitations that should be noted. First, while religion and ethnicity may be essential in explaining the differences in contraceptive use, these two variables are not available in the PDHS. Moreover, economic factors such as household income or wealth index may be prominent in explaining the contraceptive choice but were excluded from the analysis due to the different measures used in both surveys. The lack of data prevents an analysis of the net effect of these variables on contraceptive use. Despite these drawbacks, this study uncovered crucial aspects of contraceptive use. Given that nationally representative data were used in this study, the findings may fairly represent the reproductive behaviour of married women in the respective nations.

CONCLUSION

Socio-economic disparities explain much of the difference in contraceptive prevalence between Malaysia and Pakistan. Low levels of education and social stigma deter women from entering the workforce. Thus, enhancing women's socio-economic status and reaching out to rural, uneducated, and jobless women are essential towards improving contraceptive use, especially in Pakistan. The relevant authorities should strive to increase the availability and accessibility of FP services in low-resource settings to cater to the FP needs of these vulnerable groups. Legislators, religious authorities, non-governmental organisations, and local leaders should go hand in hand to break social and cultural barriers. The low literacy level among Pakistani women should be addressed through the government's commitment to universal education, which will improve contraceptive use. There is a need to relook into Malaysia's population policy to improve women's reproductive health and well-being.

ACKNOWLEDGEMENT

The authors are grateful to the National Population and Family Development Board (NPFDB) and Demographic and Health Surveys (DHS) Program for providing the data for this paper. The original paper was presented at the National Population Conference 2021 (PERKKS 21), organised by the NPFDB, Universiti Malaya, United Nations Population Fund (UNFPA) Malaysia, and WMIT Group Sdn Bhd.

Funding

This publication is funded by the UNFPA Malaysia and the Faculty of Business and Economics, Universiti Malaya Special Publication Fund.

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