FERTILITY DYNAMICS IN MALAYSIA: COMPARISON OF MALAY, CHINESE AND INDIAN ETHNICS

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Abstract

For the past several decades, the annual growth rate of world population has been declining and is projected to continue to decline in the coming years. This phenomenon occurred partly due to a significant drop in fertility rates. Globally, the average total fertility rate (TFR) has dropped by half from about 5.0 births per woman in the early 1950s to 2.5 in 2010. Malaysia, like any other developing countries is also experiencing changes in fertility rates. Thus, the aim of this paper is to examine the pace of fertility change in Malaysia from 1970 to 2010 using time series data obtained from Department of Statistics Malaysia. Trend analysis has been applied in order to explain the fertility transition of Malaysia's population. In addition, this paper provides a comparative analysis of fertility trends among three major ethnic groups in Malaysia namely Malay, Chinese and Indian. The most important findings to emerge from this study are that between 1970 to 2010, Malaysia's TFR has dropped from 5.0 to 2.1 births per women and the fertility trends of the three major ethnic groups have steadily declined. By 1982, Malays experienced the highest fertility rate with 4.6 births per women while Chinese and Indian were 2.9 and 3.2 births per women respectively. This study concludes that the fertility differentials will lead to changes in ethnic composition and age structures. It is hoped that the findings of this study will assist policy makers and healthcare providers to shape the actions needed to improve the fertility rate in Malaysia.

Keywords: Fertility, Ethnics, Declined, Comparative analysis.

1. INTRODUCTION

Fertility trends vary between developed, developing and less developed countries and over time. There are many factors that influenced the trends such as postponement of marriage, increasing age of first birth,

increasing divorce rates, participation of women in the labor force, greater levels of education for women, a modernization society and government programs to encourage or discourage having children. Together with these factors, general mortality rates have declined and leading to improvements in life expectancy. Furthermore, advances in medical technologies are being realized including improvements in contraceptive methods and progress in the cure or successful treatment of many diseases. A combination of these factors has led to decrease in infant mortality, increase life expectancy and decline in fertility rates. These trends contribute to a change in age structure of the population as well as an ageing population.

During the past half-century, most of the countries in the world have experienced a fertility decline. Fertility has been declining in every part of the world, depicting a convergence between world regions except for several countries in Africa. A few countries in Asia such as Singapore, Hong Kong, Taiwan, and South Korea were latecomers but joined the low fertility group rather quickly. The fertility levels in these countries started to decline in the late 1950s or 1960s, but were rapidly declined less than two decades (Ram,2003).

The total population of Malaysia had reached 28.3 million in 2010 compared to 10.4 million in 1970 and projected to increase further 38.6 million in 2040 (Department of Statistics Malaysia,2003; 2012). The population growth rate is still high due to steady mortality decline and the fertility rate is still above the replacement level, although the population growth rate decreased to 1.8 percent in 2010 from 3.9 percent in 1970. Furthermore, the age structure had changed from wide to narrow base due to the declining of the fertility rate.

Malaysia is a country of diversity given its multi-racial, multi-cultural and multi-linguistic population. The 2010 Population and Housing Census of Malaysia which was conducted by Department of Statistics Malaysia (DOSM) reported that the distribution of ethnics comprised Malays accounting about 63.1 percent of the population, Chinese 24.6 percent, Indian 7.3 percent and other Bumiputera 4.3 per cent. While others, including non-citizens comprised 0.7 percent. Generally, the fertility pattern between the ethnics are different. The majority of the population are Muslims with the proportion of 61.3 percent, about 19.8 percent population embraced Buddhism, 9.2 percent Christian, 6.3 percent Hindus and the rest are other religious groups. According to Heaton (2011) and McQuillan (2004), religion plays an important role in determining the fertility level.

There are many factors that contributed to the fertility decline. One of the key determinants of when women begin to bear children is the age at first marriage. According to Tey (2007), the postponement of marriage has contributed to an increasing age at first birth. The trends of delaying marriage can be traced since 1980's whereby women were getting more opportunities in education, their participation in the labor market and the success of family planning program (Jemain & Ghani, 2003). Therefore, the objective of this paper is to study the fertility trend in Malaysia from 1970 to 2010. Besides that, it also discussed the fertility dynamics of three major ethics in Malaysia.

2. DATA AND METHODS

A time series data of total fertility and age specific fertility were used in this study was obtained from Department of Statistics Malaysia (DOSM). The report also revealed fertility data representing different ethnic groups. We use fertility rates for women aged 15 to 49 years old from 1970 to 2011 which covered for five census years. Data for ethnic, age specific fertility in Malaysia can be obtained starting from 1991. Prior to 1991, the data is not available for Sabah and Sarawak. The age specific fertility has reported according to the age distribution in five-year interval which are 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, and 45-49 per 1000 women.

Trend analysis has been applied in order to explain the fertility transition of population in Malaysia. Comparison of fertility rates to different age groups and ethnics also been analyzed. The total fertility rate (TFR) has calculated as average number of children that women would bear during her lifetime if she were to pass through her childbearing years (usually defined as 15-49 years).

3. RESULTS AND DISCUSSION

3.1. General fertility trends

The growth of population has been driven by fertility and mortality. However, high fertility is the main engine of population growth. Most of the countries in the world are already well advanced in their fertility transition. According to May (2012), the countries can be categorized into three major groups which are high fertility countries (fertility level above four children per 1000 women), intermediate fertility countries (fertility level between 2.1 and four per 1000 women) and low fertility countries (fertility level 2.1 or below per 1000 women).

As a developing country, Malaysia had experienced fertility declined over the years. Figure 1 shows the total fertility (TFR) in Malaysia from 1970 to 2010. Malaysia has recorded a TFR of 4.9 in 1970 and steadily declined to 4.0 in 1980. Afterwards, the TFR had reached 3.5 in 1991 and reduced to 3.0 in 2000. Furthermore, the TFR was at par with the replacement level in 2010 which is 2.1.
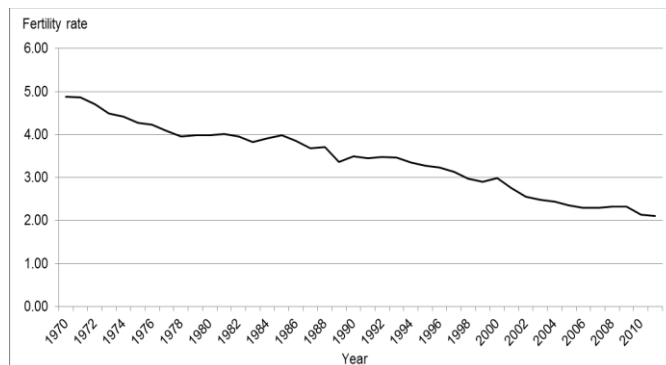

Fig. 1. Total fertility rate (TFR) of Malaysia, 1970-2011

The TFR of three major ethnics in Malaysia has shown in Figure 2. It is clearly seen that the total fertility of all ethnics had steadily declined. The TFR for Malay is higher compared to Chinese and Indian over the years. After 2001 the average number of children for Chinese has fallen rapidly to below the replacement level. Indian fertility also followed a similar transition. Hence, Malay's fertility was declined at a slow pace where the TFR is still above the replacement level. However, the Chinese TFR was slightly increased in 2000 where the value has reached 2.6 per 1000 women. According to a Chinese Lunar Calendar, year 2000 is a Dragon Year which related to good health, wealth and long lives. It is also considered a particular promising time to plan major events such as marriages and births (Goodkind, 2001).
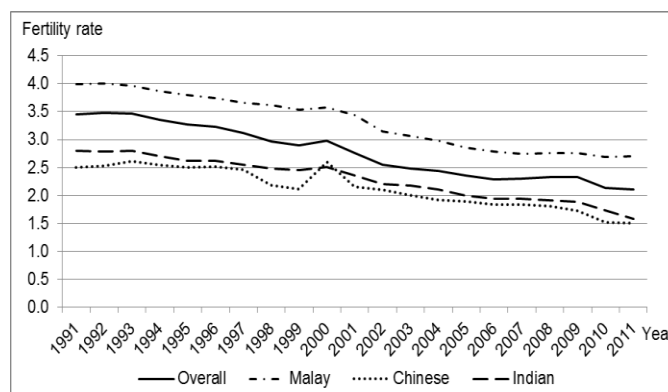

Fig. 2. Total fertility rate (TFR) of major ethnics in Malaysia, 1991-2011

3.2. Age specific fertility

Figure 3 shows the age specific fertility rate (ASFR) for the period of 1970 to 2010. The age patterns for the five census years have been highlighted. It revealed that the small differences are generally found in the youngest and the oldest age groups. The graph also proved that the total fertility rate also been decline according to age group. However, the pattern is not much different between the years where the most reproductive age is between 25 to 29 years old. The highest ASFR was recorded in 1970 where the ASFR was 260 per 1000 women or 0.26. The rate declined to 240 per 1000 women in 1980, 210 per 1000 women in 1991 and reduced to 190 per 1000 women in 2000. Additionally, the lowest ASFR was 130 per 1000 women in 2010. It was undoubtedly that the age at a first marriage is one of the key determinants of women childbearing and directly contributed to the overall fertility levels. The mean age at first marriage has increased over the years. In 1970, it was 25.6 years for men and 22.1 years for women. However, it was increased to 28.0 years for men and 25.1 years for women in 2010 (Cheng, 2011).
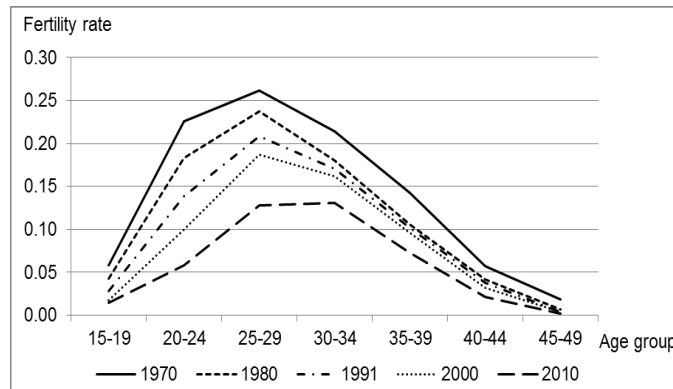
Fig. 3.   Age specific fertility rate (ASFR) of Malaysia, 1970-2010

In order to study the fertility changes at the micro level, the ASFR according to three major ethnics have also been developed (Figure 4, Figure 5 and Figure 6). Due to the data availability, comparison of ethnics ASFR only can be made started from 1982 to 2010. Based on these figures, it was clearly shown that women age 25-29 years old dominated the high fertility rates for all ethnics. Nevertheless, the peak age distribution for Chinese tended to shift to the age group of 30-34 years in recent period (Figure 5). This phenomenon was probably due to the increased of the age at first marriage and the practiced of family planning among them.
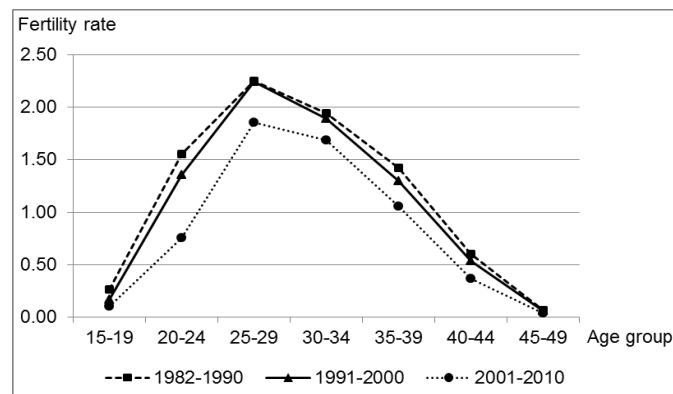
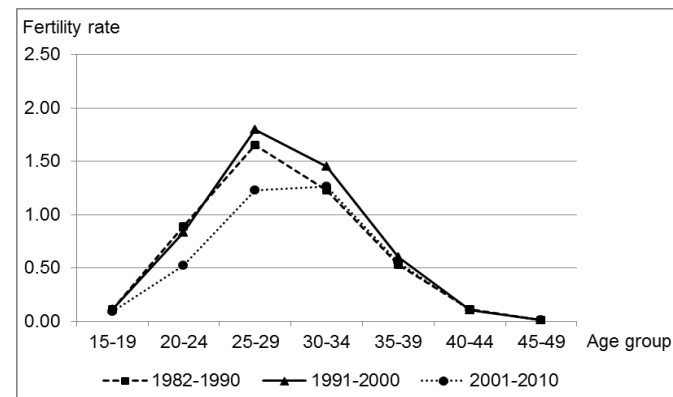Fig. 4. Malay age specific fertility rate (ASFR), 1982-2010

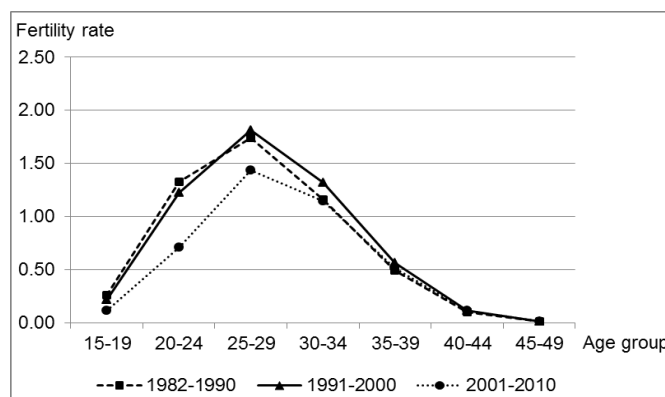Fig. 5. Chinese age specific fertility rate (ASFR), 1982-2010

Fig. 6. Indian age specific fertility rate (ASFR), 1982-2010

3.3. Period fertility between age group

The TFR graphs only explain the decreased trends for certain period. However, the changes of fertility trends between the women age group are not detected. In order to study its changes, the analysis of period fertility between age group for the three major ethnics in Malaysia has been conducted. Figure 7 shows the fertility rates for women age between 15 to 19 years old. The rate had continuously declined for twenty years and almost zero after the millennium year. This result indicated that marriage at a younger age is not a common practice in the Malaysian community due to their awareness towards the importance of education.
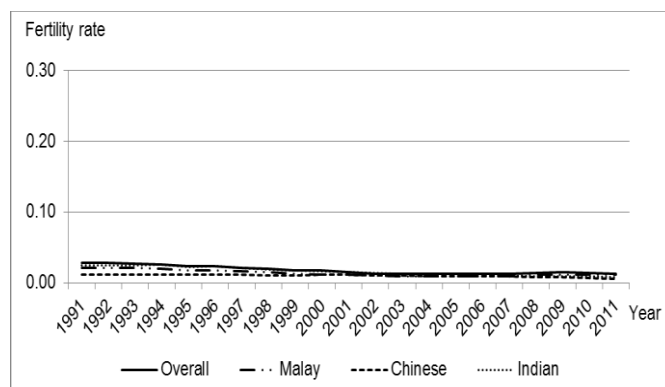

Fig. 7. Fertility rate for women age 15-19 years

The TFR for age 20 to 24 in Figure 8 also shows a declining pattern for all ethnics. However, Malay and Indian fertility rate were higher than Chinese. It means that not many women were getting married at this age because most of them still at university or other higher learning institutions pursuing their diploma or degree.
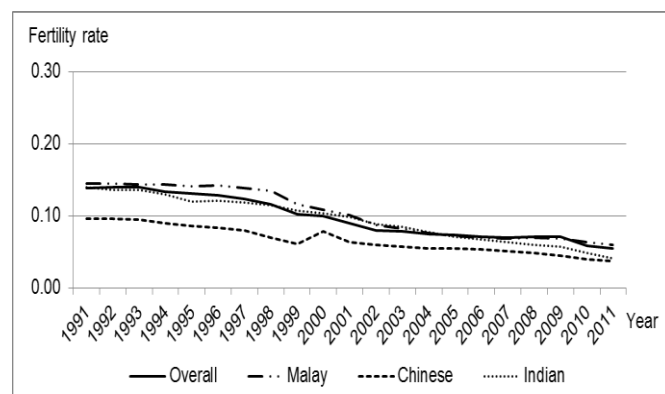

Fig. 8. Fertility rate for women age 20-24 years

The group of women age between 25 to 29 years old has the highest fertility rate compared to other age groups (Figure 9). It was clearly seen that Malay fertility was always above the rate of other ethnics.in any each group. The similar pattern also can be seen in Figure 10 and Figure 11 which presents the fertility rate for women age between 30 to 34 years old and 35 to 39 years old respectively. The rate was remained stable after year 2000 for the all ethnics group.
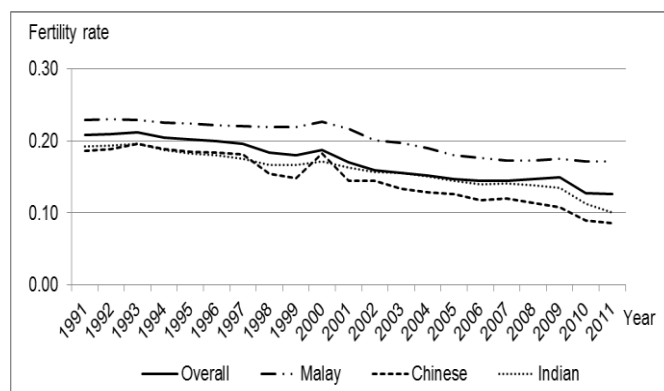

Fig. 9. Fertility rate for women age 25-29 years
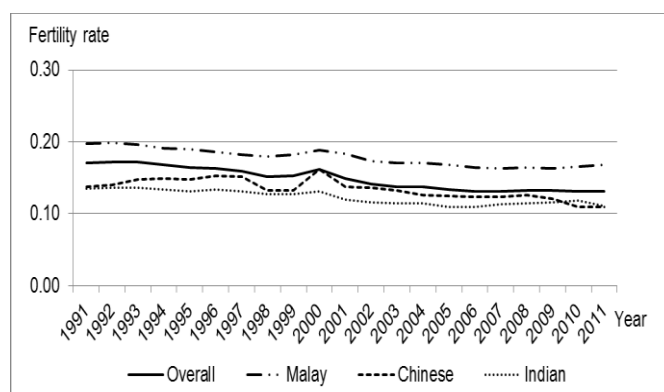

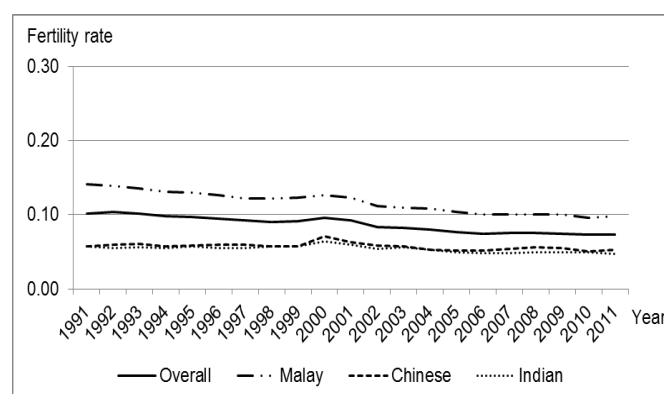Fig. 10. Fertility rate for women age 30-34 years

Fig. 11. Fertility rate for women age 35-39 years

Nevertheless, the fertility rate for Chinese and Indian were nearly reached zero for the women age between 40 to 45 years old (Figure 12). Usually, women age 35 and above have a much lower fertility rate probably due to birth control especially among Chinese and Indian. The lowest fertility rate can be seen at the age of 45 to 49 years old (Figure 13) because of the natural change to the end of their childbearing.
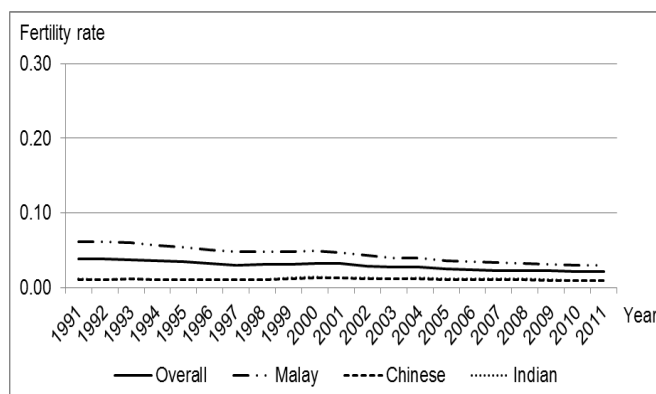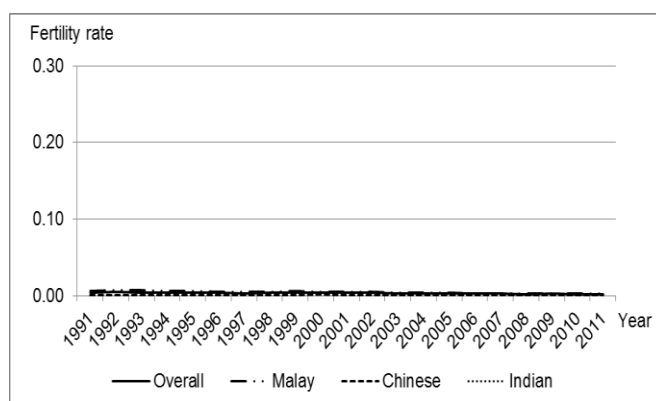
Fig. 12. Fertility rate for women age 40-44 years

Fig. 13. Fertility rate for women age 45-49 years

4. CONCLUSSION

Fertility trends vary between developed, developing and less developed countries and over time. There are many factors that influence the trends such as postponement of marriage, increasing age of first birth, increasing divorce rates, participation of women in the labour force, greater levels of education for women, a modernization society and government programmes to encourage or discourage having children. The trend analysis of TFR, ASFR and period fertility between age groups showed that Malay fertility was higher than other ethnics In Malaysia, Malay population is professed to be Muslims. According to Morgan et al. (2002), Muslims are generally to have more children and more likely to want another child compared to other religious groups. While Roudi-Fahimi et al. (2013) added that the fertility rate of the most Muslim-majority countries was 2.4 and still above the world average. It shows that religion also plays an important role in determining the number of births per women.

As more women participated in labour force, they will tend to delay childbearing and the rates of fertility can also decrease. The average age at first birth of working women rises, but the intervals between births are dropping. Furthermore, women in professional positions are likely to wait for long periods between marriage and their first birth (Ermisch, 1983). According to Bakar and Abdullah (2007), the postponement of age of marriage among women leads to the postponement in giving birth to the first child. Women's education is the most important determinant of fertility postponement in Malaysia. As more women are pursuing higher education, family size can also be expected to drop further. In addition, the highest female labour force participation is women of the age between 20 to 24, coinciding with the end of schooling age and before the age of marriage. As more women are participating in labour force, they will tend to delay childbearing and the rates of fertility can also decrease.

Contraceptive used is another factor that related to fertility declined. Since 1960, there has been an obvious increased trend in the percentage of married couples using contraception especially in developing countries

such as Latin America and Asia. The methods of contraception have improved and more effective include pills, the intrauterine device (IUD) and sterilization (Norville et al.).

Declining of fertility and mortality rate together with a steady increase of life expectancy of Malaysia's population will produce fundamental changes in the age structure. As a result, the elderly population will continue to increase over the years.

5. ACKNOWLEDGEMENT

REFERENCE LIST

Bakar, A & Abdullah, N. (2007). Labor force participation of women in Malaysia. *In International Economic Conference on Trade & Industry, Penang, Malaysia, 3-5 December 2007.*

Cheng, M. L. S. (2011). Addressing the unmet need for family planning among the young people in Malaysia". *Asian Journal of Tropical Medicine and Public Health,* vol 42.

Department of Statistics Malaysia. (2001).*Vital statistics time series Malaysia 1968-1998*. Putrajaya.

Department of Statistics Malaysia. (2012). *Population projection, Malaysia, 2010-2040*. Putrajaya.

Ermisch, J. (1983). The Political Economy of Demographic Change. Imago Publishing Ltd.

Goodkind, D. M. (1991). Creating new traditions in modern Chinese populations: aiming for birth in the year of the dragon. *Population and Development Review,* vol 17, pp. 663-689.

Heaton, T. B. (2011). Does religion influence fertility in developing countries. *Population Research and Policy Review*, vol. *30*, pp. 449-465.

Jemain, A. A. and Ghani, P. A. (2003). Menjejaki umur fertiliti dan umur perkahwinan di Semenanjung Malaysia. *Jurnal Teknolog,.* vol 39, pp. 75–89.

May, J. F. (2012). World Population Policies: Their Origin, Evolution, and Impact. New York, NY: Springer.

McQuillan, K.(2004). When does religion influence fertility?. *Population and Development Review*, vol. *30*, pp. 25-56.

Morgan, S. P., Stash, S., Smith, H. L., & Mason, K. O. (2002). Muslim and non-Muslim differences in female autonomy and fertility: evidence from four Asian countries. *Population and Development Review*, *28*(3), 515-537.

Norville, C., Gomez, R. and Brown, R. L. (2003). Some causes of fertility rates movements. In *University of Waterloo, Institute.*

Ram B. (2003). Fertility decline and social change: new trends and challenges. *Canadian Studies in Population*, vol. *30*, pp 297-326.

Roudi-Fahimi, F., May, J.F., and Lynch, A.C. (2013). Demographic trends in Muslim countries. Washington, D.C.: Population Reference Bureau.

Tey, N. P. (2007). Trends in delayed and non-marriage in Peninsular Malaysia. *Asian Population Studies,* vol. 3, pp. 243-261.