ORIGINAL ARTICLE

Family Planning Practice Among Married Orang Asli Women in Sepang District and Its Associated Factors

Hasneezah Hassan, Rosliza Abdul Manaf, Suriani Ismail

Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

ABSTRACT

Introduction: Family planning allows couples to have their desired number of children and optimum birth spacing. While the contraceptive prevalence rate (CPR) in Malaysia was reported as 52.2% in 2014, little is known regarding the practice of family planning among marginalised groups such as the Orang Asli women. This study aims to determine family planning practice among married Orang Asli women in Sepang district and its associated factors. **Methods:** A cross sectional study using a pretested questionnaire was conducted in five Orang Asli settlements in Sepang using cluster sampling. Chi-square test and simple logistic regression were used in bivariate analysis, whereas binary logistic regression was used to determine the predictors of family planning practice. **Results:** 212 (58.4%) participants were current users of family planning, with 68.3% of the users reported using oral contraceptive pills. In the logistic regression models, family planning practice was significantly more common among women who had children (AOR= 43.659, 95% CI: 5.788, 329.323), being housewives (AOR=1.973, 95% CI: 1.205, 3.230) and had higher attitude score (AOR=1.113, 95% CI: 1.006, 1.232). **Conclusion:** The CPR of current study was about the same as the national CPR in 2014. The predictors of family planning practice among Orang Asli women were having children, being a housewife and having a better attitude towards family planning. Future intervention to increase the CPR should focus on improving women's attitude regarding family planning.

Keywords: Family planning, Practice, Contraceptive prevalence rate, Orang Asli women, Sepang

Corresponding Author:
Rosliza Abdul Manaf, PhD
Email: rosliza_abmanaf@upm.edu.my
Tel: +603-97692404

INTRODUCTION

Family planning allows couples to have their desired number of children and optimum birth spacing (1). Through family planning practice, the family's quality of life can be improved, leading to them enjoying a more comfortable life as well as reducing the morbidity and mortality of mothers and children (2). Globally, the percentage of couples using contraception had increased slightly from 54.0% to 57.4% between 1990 to 2014 (1). In Malaysia, according to the Malaysian Population and Family Survey, the contraceptive prevalence rate (CPR) had increased from 5.3% in 1966 to 26.3% in 1974, and subsequently to 52.2% in 1984. However, the CPR level has plateaued and the latest national CPR in 2014 remained as 52.2%. In comparing the CPR with other countries of the Asian region, Malaysia reported lower CPR compared to countries like Vietnam (75.7%) and Thailand (73.7%) based on the Population Change and Family Planning Survey 2005 in each country (3). However, these figures represent the family planning practice of the country with no specific rate for Orang Asli women. The only reported CPR of Orang Asli women in Malaysia were back in 1994 among Orang Asli women in Hulu Langat district was about 51.6% (4).

In Malaysia, the unmet need for modern contraception among all ethnicities and states registered had increased from 25.0% in 1998 to 36.0% in 2004 for the purpose of limiting birth (5). While, Indian ethnicity had the highest (44.7%) unmet need for modern contraception methods compared to the Malay and Chinese, no specific data reflecting the unmet need among Orang Asli was ever reported in Malaysia (6). In another perspective, lower socio-economic status, which is commonly experienced by the majority of Orang Asli population in Malaysia has been linked to high unmet need for modern contraceptive method (7). The unmet need for modern contraception may reveal the reproductive women to the risk of unintended pregnancies, which may lead to unsafe abortions and maternal deaths (8). In 2008, an estimated 21.6 million unsafe abortion took place worldwide (9) and approximately 68,000 women died of unsafe abortion annually (10). While, there has been a significant decline in the maternal mortality in

Malaysia from 540 per 100,000 live births in 1950 to 28 per 100,000 live births in 2010 (11), the percentage of maternal deaths among women who did not practice family planning had increased from 53.5% in 2006 to 62.6% in 2008 (12). Maternal Mortality Ratio (MMR) among Orang Asli population in Peninsular Malaysia in 2006 and 2007 were about 2 to 3 times higher compare to national level (12).

Several factors have been suggested to influence family planning practice such as socio-demography, socio-economic, level of knowledge, socio-cultural, religion oppositions, fear of side effect and health services factor (2, 13-15). For instance, the lack of knowledge on modern family planning methods is one of the major factors for women not using family planning in rural area in Bangladesh (16). A study done in Pakistan showed that man approval and decision making were also among the factors influencing the women's ability the practice family planning (13).

Malaysia is a multi-racial society that comprises of many ethnic groups. According to the recent national census, the Malays constitute 54.3% of the population, followed by 25.0% of Chinese, 11.9% of other Bumiputera (Indigenous), 7.5% of Indian and 1.3% of other minority ethnicities. In Peninsular Malaysia, the other Bumiputera is also known as the Orang Asli who represents 0.6% of the Malaysian population (17). The Orang Asli is classified into 3 main ethnic groups, i.e the Proto-Malay, Senoi and Negrito (18). Orang Asli population in Sepang area are mainly from Temuan and Mah Meri tribes from Proto- Malay and Senoi ethnic group.

The United Nation concluded that there were different in term of health between indigenous peoples and the general population of the developed and developing countries (19). In relation to this, the Orang Asli communities are often described as marginalized society in Malaysia due to their low socioeconomic status, remote geographical locality, poor infrastructure development and commonly suffer persistently poorer health outcome (20), resulted from poor access to adequate health care and contraceptive supplies (14).

Understanding the reproductive health status or family planning will inform future intervention. One of the important interventions towards achieving this target is the promotion of family planning (21). Enhancing the access to family planning through continuous promotion is one of most cost effective way of reducing maternal and child mortality (22).

While various studies have been done previously to examine the practice of family planning and its associated factors, these findings may change over time and mostly representing a specific population. Very limited work has been published regarding the reproductive health of Orang Asli women in Malaysia. Therefore this study was conducted to determine the family planning practice among Orang Asli women in Sepang district and its associated factors, which will inform the development of future health promotion programs and other intervention programs in that specific ethnic group.

MATERIALS AND METHODS

Sample

The study was conducted from September 2015 until July 2016 among married Orang Asli women who lived in selected Orang Asli settlements in the Sepang district of Selangor, Malaysia. There were fifteen (15) Orang Asli settlements in Sepang with a total of 3142 residing the area and half of the residents (1558) were women (23). Two settlements were excluded due to small number of population. The respondents were selected through cluster sampling. Five (5) settlements were selected out of the thirteen (13) Orang Asli settlements in Sepang District which were: Bukit Bangkong, Bukit Dugang, Sungai Melut, Sungai Buah and Kolam Air Bangkong Orang Asli Settlement. The inclusion criteria for participation include being married, age between 15 to 49 years and Malaysian citizen. The exclusion criteria include women who were menopause, have had hysterectomy, or pregnant. The sample size for this study was calculated using the two proportions formula for hypothesis testing (24), which the proportion (P) was selected from the study conducted by Jamsiah et al. (2009) with P1 = 0.51 and P2 = 0.30, P1 and P2 refers to the proportion of family planning practice among high and low level of education. Minimum sample required for this study was 374 respondents.

Dependent and independent variables

Currently practicing family planning is the dependent variable. All current users of any family planning methods were considered as "contraceptive users (6).

The independent variables were age, level of educational, employment status, having children, level of knowledge on family planning, attitude towards family planning practice and decision making power in family planning.

Study questionnaire

Study questionnaires were used for data collection adapted from Abdul Manaf et al. (2012) where permission had been obtained. The questionnaire was developed in Bahasa Melayu. The questionnaire consisted of five sections, first section regarding personal/socio demographic information, second section regarding knowledge on methods family planning and source of information and supply of family planning, third section regarding attitude towards family planning and forth section regarding family planning practice and last section regarding decision making power.

Knowledge on family planning was assessed by 10 questions. Each question had three options. "Yes",

"No" and "I don't know". Respondents who answered correctly were given 1 mark and those who answered incorrectly or "I don't know" were given 0 marks. Higher knowledge score indicates better knowledge on family planning. The highest score were expected to be 10 and the lowest score to be 0.

Attitude towards contraception was assessed with 10 items, each rated on 5-point Likert Scale agreement ranging from 'strongly agree' to 'strongly disagree'. The total attitude score was 10-50 with higher attitude score indicates better attitude towards contraception. Cronbach's Alpha value was 0.746. Since data collection was performed through interviewed questionnaire by two different enumerators, inter-rater reliability test was conducted to determine whether the enumerators were consistent in their observations. Kappa agreement value was 0.603 indicating moderate level of agreement.

Statistical analysis

All data were analysed using IBM SPSS version 22, which involved descriptive statistics regarding family planning practice and its characteristics, and according to demographic factor, socio economic, level of knowledge and attitude factors on family planning. Chi-square test was used to measure the associations between two categorical variables and simple logistic regression was used to measure association between family planning practice and continuous independent variables. Following on, binary logistic regression analysis was used to measure the predictors of family planning practice among the respondents. All hypotheses tests were two-sided and the level of significance α was set at 0.05.

RESULTS

In this study, there were 373 married women at reproductive age in the five selected villages. However, only 368 women were eligible who have met all the inclusion and exclusion criteria. All of them were invited to participate in this study and agreed to do so. After screening for the missing data and multiple responses, five samples were excluded resulting in 363 samples being analysed. Thus, giving the overall response rate of 98.6%.

A total of 363 women were included in final analysed and their demographic are presented in Table I. Most of them did not finish secondary education (56.2%). Majority of them were housewives (72.2%) and have children (92.3%).

Family planning practices

A total of 212 (58.4%) respondent reported currently practicing any methods of family planning. The types of contraceptive used, reason for using and not using family planning methods are presented in Table II. Oral contraceptive pills was the most popular method of family planning (68.3%), this was followed by the injectable contraceptives (23.6%), implants (2.4%), condoms (1.9%) and intrauterine device (1.4%). The most common reason for using contraceptive methods are spacing the children (62.3%). Among those who did not use contraceptives, 55.7% gave the reason as wanting to be pregnant, 19.5% had fear of side effects, whereas 12.4% stated that their husband did not allow them to use contraception.

Table I: Characteristics of reproductive Orang Asli women ages 15-49 year (n=363)

Characteristics	Mean ± SD	n	%
Currently practice Family planning			
Yes		212	58.4
No		151	41.6
Socio-demographic variables			
Age (mean)	31.87 ± 8.24		
Education level (Finished secondary school)			
Yes		159	43.8
No		204	56.2
Employment status			
Working		101	27.8
Housewife		262	72.2
Reproductive history (Have Children)			
Yes		335	92.3
No		28	7.7
Number of living Children			
0		28	7.7
1-2		198	54.5
3-4		98	27.1
≥ 5		39	10.7

Factors associated with the family planning practices

Factor associated with family planning practice among Orang Asli women are shown in Table III, women who

Table II: Type of family planning methods, reason for using and not using family planning methods

Characteristics	n	%
Types of family planning methods use currently, n=212		
Oral contraceptive pills	145	68.3
Injectable contraceptive	50	23.6
Implants	5	2.4
Intrauterine device	3	1.4
Condoms	4	1.9
Withdrawal	5	2.4
Reason for using family planning methods for current user, n=212		
Spacing the children	132	62.3
Limiting the number of children	35	16.5
Economic liability	28	13.2
Own health	13	6.1
Others	4	1.9
Reasons for not using family planning methods, n=113		
Want to get pregnant	63	55.7
Fear of side effect	22	19.5
Advised by the doctor	1	0.9
Husband not allowed	14	12.4
Not having sex	2	1.8
Others	11	9.7

have children (P=<0.001), being housewives (P=0.004), attitude score (P=0.018) and decision making power of family planning practice (P=0.015) are factors associated with the family planning practice.

Table III: Factor associated with family planning practice among Orang Asli women who use contraception

Factors	Currently practicing FP (n=212), n (%)	*P* value	Crude OR (95% CI)	*P*# value	Adjusted OR[a] (95% CI)
Socio-demographic variables					
Age (mean)		0.480^	1.009 (0.984,1.035)		
Education level (Finished secondary school)					
Yes	91 (57.2%)	0.690*			
No	121 (59.3%)				
Employment status					
Working	47 (46.5%)	0.004*	1	0.007	1
Housewife	165 (63.0%)		1.954 (1.228, 3.110)		1.973 (1.205, 3.230)
Have children					
No	1 (3.6%)	<0.001*	1	<0.001	1
Yes	211 (63.0%)		45.94 (6.16, 342.28)		43.659 (5.788, 329.323
Attitude score		0.018^	1.118 1.019, 1.225)	0.038	1.113 (1.006, 1.232)
Knowledge score		0.284^	1.060 (0.953,1.178)		
Respondent contributes in deciding her family planning					
No	25 (43.9%)	0.015*	1	0.228	1
Yes	187 (61.1%)		2.011 (1.136, 3.562)		1.475 (0.785, 2.774)

*comparisons were made using chi-square test
^comparisons were made using simple logistic regression
#*P* value for multiple logistic regressions
[a]Adjusted for employment status, having children, attitude score and decision making power in family planning

Binary logistic regression was used as the analysis for predicting the practice of family planning. The analyses were adjusted for employment status, having children, attitude score and women contribution in deciding on family planning choices. These four variables were included in the preliminary model to check for the assumptions which were significantly associated with the practice of family planning (P<0.05). There was no collinearity. The analysis shows that 19.4% of the variances regarding practice was explained by the model (Nagelkerke R square = 0.194). The p-value of Hosemer-Lameshow chi-square test was 0.163 indicating that the model fit the data adequately.

The predictors for family planning practice are shown in Table III. Adjusted analysis showed that women who have children were 43 times more common to practice family planning as compared to women who do not have children (AOR=43.659, 95% CI: 5.788, 329.323). Family planning practice was also more common among housewives compared to working women (AOR =1.973, 95% CI: 1.205, 3.230). Adjusted analysis also showed that for every one unit increase of attitude score, the odds of practicing family planning increases by 1.1 times (AOR=1.113, 95% CI: 1.006, 1.232). However, contraceptive use was not significantly associated with the women's age, educational level, decision making power and knowledge score.

DISCUSSION

The study shows that 58.4% Orang Asli women between the ages of 15 to 49 year who live in Sepang district were current users of contraceptive at the time of the interview. This result is slightly higher compared to the national CPR derived from the Malaysian Family and Population Survey (2014) which was 52.2% (25). The population involved in these two studies were about the same from 15-49 years old. This result reflects that family planning practices among Orang Asli women were quite similar with the general Malaysian population. This could be due to the location of the Orang Asli settlement in Sepang area which is near to town and government clinics, offering them good access to health service. Different findings may be observed if a similar study is to be done in another Orang Asli settlement located in remote areas for example in Pahang or Perak. Current study also reported a slightly higher proportion of women practicing family planning as compared to CPR among Orang Asli women in Hulu Langat district (4). The percentage of family planning users in this study is still high compared to the CPR reported among indigenous communities in other developing countries such as Bangladesh (25.1%) (26) and India (45.0%) (27).

Based on the family planning methods identified in this study, 97.6% of women reported currently practicing modern methods of family planning and only 2.4% of respondents practiced traditional methods of family planning. For the modern methods, the most popular used family planning method was the oral contraceptive pills (68.3%). This may be due to the belief that oral contraceptive pills are safe, effective and its availability even at community health clinic which is located nearby to their settlement. This finding is consistent with the Malaysia Family and Population Survey in 2014 which reported oral contraceptive pills as the most popular methods of family planning and similar among study in rural community in Terengganu (28).

Other methods such as the intrauterine device, implants and condoms were not popular among the respondents. This is due to the implants being considerably expensive especially for low socio-economic group; implants insertions are not available for free in the government hospitals and it is costly in private sector. None of the respondents reported that they have had tubal ligation previously.

Regarding the reason for practicing family planning, about three quarters (62.3%) of family planning users

used it for spacing their children. A similar finding was also reported by a study done in rural community in Besut, Terengganu whereby most of the respondents used family planning to form a family size of their choice by controlling the number of children in the family and child spacing (28). This is could be due to the age group of the majority of family planning users in this study being between 15 to 30 year who are young and still desire for children.

This study also revealed that more than half (55.7%) of non-users wanting to have children as a reason for not using the contraceptive methods. This could be explained by the fact that about 96.4% of those who did not use family planning in this study had no children. This finding corroborates with the Malaysian Family and Population Survey in 2004 which revealed that 39.3% of respondents did not using any contraceptive methods because they want to have more children.

Another reason given by those who did not use family planning includes fear of side effects (19.5%) and was not allowed by their husband (12.4%). Concerns regarding side effects and health risks were also among the common reasons for non-use in countries with high levels of unmet need for family planning (29). This finding is also similar with the Malaysian Family and Population Survey in 2004 which revealed that, 26.8% of women did not use family planning due to their fear of side effects. These could be due to inadequate counselling or lack of knowledge of family planning in general. Thus, providing information and counselling to users about all types of methods that are available and how to use them are important. In addition, educating women regarding anticipated side effect of family planning is pertinent to improve the uptake of family planning.

Factors associated with family planning practice in this study were employment status, having children, having good attitude towards family planning and having decision making power. Concerning the employment status of the respondents, it shows that the relationship between housewife and family planning practice was significant (χ^2=8.112; df =1; P=0.004) whereby family planning practice was higher among housewife (63.0%) compared to working women (46.5%). This is consistent with study conducted in Hulu Langat among married couple who also found significant association between employment status and family planning practice (P=0.022) (2). A reasonable explanation is employed women having less opportunity and time due to work commitments.

The current findings also show a strong association between having children and family planning practice (OR= 45.94, 95% CI: 6.16, 342.28). This result is similar to studies done in in India (27), Malaysia (30), Ethiopia (31) and Pakistan (32) which showed significant relationship between family planning practice and the experience of having children among the participants. Indeed, it is culturally acceptable for women in Malaysian society to desire for children once they are married. Thus, childless women may not want to use family planning in their effort to conceive. For those who already have children, family planning is more popular as they want to space and limit the number of their children. Based on the multivariate analysis, the most important predictor of practicing family planning was having children. The likelihood of practicing family planning increased forty three folds when respondents were having children (95% CI: 5.78, 329.32). This similar findings also found in study conducted in Bangladesh whereby the family planning practice is significantly associated with having children (P<0.001) (33).

Regarding the level of attitude on family planning, it was noted that the majority of the respondents had low attitude score. This result was consistent with previous study done in Kelantan and in the suburban area of Terengganu which reported that the majority of women had poor and unsatisfactory attitude towards family planning (34-35). Attitude score was also a significant predictor to family planning, with every one unit increase of attitude score, the odds of practicing family planning increases by 1.1 times (AOR=1.113, 95% CI: 1.006, 1.232). This reflects the importance of having a positive attitude towards contraceptives in order to increase the uptake of family planning among the respondents.

This study also examined the women contribution in deciding her family planning practice. The result shows that there is a significant relationship between women's contribution in decision making and her ability to practice family planning (P=0.015). The results is consistent with the study conducted in Ethiopia which also revealed that women contribution in deciding family planning practice was significantly associated with her family planning practice (36).

Being a housewife was predicted to increase the likelihood of practicing family planning. Adjusted analysis shows that being a housewife increases the likelihood of practicing family planning by 1.98 times as compared to working women (AOR =1.973, 95% CI: 1.205, 3.230). The findings is similar with study done among couple in Hulu Langat, Selangor also noted that those who practice family planning were more likely among non-working women (P=0.022) (2). This was different than other study done in Nepal where the likelihood of practicing family planning more common among educated women (P<0.05) (37).This is due to working women in Nepal living in urban and wealthier households and had better awareness and more exposed to family planning information on radio or television (37). This is supported by a demographic and health survey data of Ethiopia in 2011 reported that being employed and attending community conversation increased the likelihood of using modern family planning methods by

1.3 times higher (adjusted OR:=1.30 95% CI: 1.1, 1.6) (31).

This study is among the first describing family planning practice among Orang Asli women in Sepang area, thus providing initial reproductive health assessment among these groups of people. However, it has several limitations; a cross-sectional study is only measuring results at a specific point in time where the results may have been different if measured at a different period of time. It is therefore difficult to make causal inference and is only reflective of the certain population. Another limitation is regarding the location of the study. It was conducted in Orang Asli settlement at one district, where the majority of them were among the Temuan and Mah Meri tribes and thus, may not be representative of the entire Orang Asli population in Malaysia. The other limitation is that, respondents only involved women, so in the decision making power section, the answer may be different if husband involved.

CONCLUSION

This study revealed the percentage of family planning practice among married women at reproductive age in Sepang area was 58.4% which is comparable to the national prevalence in 2014. However, a few issues were identified such as the respondents' level of knowledge and attitude towards family planning being low, with inadequate knowledge on certain types of family planning methods and misconception about usage and adverse side effects of family planning. Among significant factors associated with family planning practice includes employment status, having children; level of attitude and women contribution in deciding family planning choice with predictors for family planning practice were having children, employment status and level of attitude. These findings will have positive implications for family planning promotion programmes and public health interventions especially among Orang Asli women.

ACKNOWLEDGEMENTS

The manuscript was prepared as part of requirement of graduation in Master of Public Health degree in Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. This research was in financially supported by the Fundamental Research Grant Scheme (FRGS) (04-01-16-1802FR) from the Ministry of Higher Education. The author would like to thank the staff of Department of Orang Asli Development Sepang and the respondents for their cooperation during the data collection. We also would like to acknowledge the Department of Community Health, Faculty of Medicine & Health Sciences, Universiti Putra Malaysia and Ministry of Health for their institutional support.

REFERENCES

1. World Health Organization. Family planning/ contraception. WHO, Geneva, 2015. Available from http://www.who.int/mediacentre/factsheets/fs351/en/. (Accessed on 30 December 2015).
2. Jamsiah M, Rahimah MA, Faridah Sh Ezat WP & Shamsul AS. Family planning practice and its associated factors among women in Hulu Langat district, Selangor. Journal of Community Health. 2009; 15 (1).
3. United Nations, Department of Economic and Social Affairs, Population Division (2012). Update for the MDG database: contraceptive prevalence. (POP/DB/CP/A/MDG2012).
4. Jamsiah M. & Hanafiah MS. Family planning among orang asli women in district of hulu Langat, Selangor. Jurnal Kesihatan Masyarakat, 12(1) ISSN 1675-1663
5. Ahmad N, Peng TN, Kamarul P & Kamarul, F. Family planning in Asia and the Pacific addressing the challenges status of family planning in Malaysia, United Nations Population Fund, International Council on Management of Population Programmes - Regional Consultation. 2010; (December), 1–30.
6. National Population and Family Development Board. Fourth Malaysian Population and Family Surveys. 2004.
7. Johnson K & Bradley SE. Trends in economic differentials in population and health outcomes: Further analysis of the 2006 Nepal Demographic and Health Survey. Analysis. 2008. Available from http://pdf.usaid.gov/ pdf_docs/PNADM623.pdf. (Accessed on 10 October 2015).
8. Tsui, AO, McDonald-Mosley R, & Burke AE. Family planning and the burden of unintended pregnancies. Epidemiologic Reviews. 2010; 32 (1), 152–174. http://doi.org/10.1093/epirev/mxq012.
9. World Health Organization. Preventing unsafe abortion. WHO, Geneva. 2015 Available from http://www.who.int/reproductivehealth/topics/unsafe_abortion/magnitude/en/ (Accessed on 4 October 2015)
10. Haddad LB. & Nour NM. Unsafe abortion: unnecessary maternal mortality. Reviews in Obstetrics and Gynecology, 2009; 2 (2), 122–126.
11. Yadav H. A review of maternal mortality in Malaysia. International E-Journal of Science, Medicine & Education. 2012; 6 (126), 142–151.
12. Ministry of Health Malaysia. Reports on the confidential enquiries into maternal deaths in Malaysia, 2006-2008. Division of Family Health Development; Ministry of Health Malaysia.
13. Shah NA, Nisar N, & Qadri MH. Awareness and pattern of utilizing family planning services among women attending Urban Health Care Center Azizabad Sukkur. Pakistan Journal of Medical

Sciences, 2008; 24 (4), 550–555.
14. Mills S, Bos E & Suzuki. E. Unmet need for contraception. Human Development Network, Work Bank1, 2010; 25–31.
15. Eliason S, Awoonor-Williams JK, Eliason C, Novignon J, Nonvignon J, & Aikins M. Determinants of modern family planning use among women of reproductive age in the Nkwanta district of Ghana: a case-control study. Reproductive Health, 2014; 11(1), 65. http://doi:10.1186/1742-4755-11-65.
16. Khan MA, Trottier DA & Islam MA. Inconsistent use of oral contraceptives in rural Bangladesh. Contraception. 2002; 65, 429-433.
17. Department of Statistics, Malaysia. Population distribution and basic demographic characteristics 2010. Available from http://www.statistics.gov.my /portal/download_Population/files/census2010/ Taburan_Penduduk_dan_Ciri-ciri_Asas_ Demografi.pdf. (Accessed on 30 December 2015).
18. Department of Aboriginal Development. Number of Orang Asli villages and population by State, 2012. Available from http://www.rurallink.gov.my/c/ document_library /get_file?uuid=42c6544e-c38d-45bdabda-2b6501570ab6&groupId=977333. (Accessed on 30 December 2015).
19. United Nations. State of the world's indigenous peoples (No. ST/ESA/328). New York: Economic and Social Affairs. 2009. Available from http:// www.un.org /esa/socdev/unpfii/documents/ SOWIP_web.pdf. (Accessed on 10 October 2015).
20. Nicholas C & Baer A. Health care for the Orang Asli: Consequences of paternalism and colonialism. Center of Orang Asli Concern (COAC). 2007. Available from http://books.google.com.my/ books/about/Health_Care_in_Malaysia.html?id=3jBaeMhWnj4C&redir_esc=y. (Accessed on 4 October 2015)
21. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A & Innis J. Family planning: the unfinished agenda. Lancet, 2006; 368 (9549), 1810–1827. http://doi:10.1016/S0140-6736(06)69480-4
22. Darroch JE, Sedgh G & Ball H. Contraceptive Technologies : Responding to women's needs. Guttmacher Institute, 2011 (April), 1–51.
23. Department of Aboriginal Development. Orang Asli population statistics in Sepang district 2014, Orang Asli Development office, Sepang. Unpublished data.
24. Lemeshow S, Hosmer DW, Klar J, Lwanga SK. Adequacy of sample size in health study. 1990: 247. Doi:10.1186/1472-6963-14-335.
25. National Population and Family Development Board. Fifth Malaysian Population and Family Surveys. 2014.
26. Islam MR & Thorvaldsen G. Family planning knowledge and current use of contraception among the mru indigenous women in Bangladesh; a multivariate analysis. Journal of Contraception. 2012; 3: 9-16.
27. Ranjan KP. Use of contraceptives and unmet need for family planning among tribal women in India and selected hilly states. Journal of Health, Population and Nutrition. 2014; 32(2): 342-355.
28. RosnizaAznie CR, Er AC, Abdul Rahim MN, Lyndon N, Usman Y, Suriati G, Mohd Fuad MJ & Hussain MY. Family planning practices in rural community. Asian Social Science, 2013; 9 (14), 42–49. http:// doi:10.5539/ass.v9n14p42.
29. United Nations, Department of Economic and Social Affairs, Population Division World contraceptive use 2015 (POP/DB/CP/Rev2015). Available from http://www.un.org/en/development/desa/ population/publications/dataset/contraception/ wcu2015.shtml (Accessed on 2 February 2016).
30. Abdul Manaf R, Ismail IZ & Latiff LA. Contraceptive use among women with chronic medical conditions and factors associated with its non-use in Malaysia. Global Journal of Health Science, 2012; 4 (5), 91–9. http://doi.org/10.5539/gjhs.v4n5p91.
31. Lakew Y, Reda AA, Tamene H, Benedict S, & Deribe K. Geographical variation and factors influencing modern contraceptive use among married women in Ethiopia: evidence from a national population based survey. Reproductive Health, .2013; 10 (1), 52. http://doi:10.1186/1742-4755-10-52.
32. Saleem S & Bobak M. Women's autonomy, education and contraception use in Pakistan: a national study. Reproductive Health. 2005; 2 (8). http://doi:10.1186/1742-4755-2-8.
33. Shahidul Islam, Muhammad Shafiul Alam & Md. Mahedi Hasan. Inter-spousal communication on family planning and its effect on contraceptive use and method choice in Bangladesh. Asian Social Science. 2013; Vol. 10, No. 2; http://doi:10.5539/ ass.v10n2p189
34. Alina T, Norbanee T, Hashim M & Zaki, N. Knowledge on family planning among Malay women delivered at Hospital Universiti Sains Malaysia (HUSM), Kelantan and their husbands. Malaysian Journal of Public Health. 2006; 6 (2):68-71.
35. Shafei MN, Shah MS, Tengku Ismail TA. Knowledge and attitude towards family planning practice and prevalence of short birth spacing among residents of suburban area in Terengganu, Malaysia. Journal of Community Medicine & Health Education, 2012; 2:180. http://doi:10.4172/2161-0711.1000180.
36. Mohammed A, Woldeyohannes D, Feleke A & Megabiaw B. Determinants of modern contraceptive utilization among married women of reproductive age group in North Shoa Zone, Amhara Region, Ethiopia. Reproductive Health. 2014; 11: 13.
37. Sharma SK, Ghimire DR, & Pratap N. Ethnic differentials of the impact of family planning program on contraceptive use in Nepal. Demographic Research, 2011; 25, 837–868. http:// doi:10.4054/DemRes.2011.25.27.