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Knowledge on involvement during pregnancy among fathers in respective areas in Kuantan, Malaysia☆

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Abstract
Objective: This study aims to identify the knowledge on the involvement of father during pregnancy among fathers in the respective area in Kuantan.
Method: The study was conducted as a cross-sectional with a quantitative study. There were 103 participants recruited. The data of this study were analyzed by using Statistical Package for Social Science (SPSS) with one-way ANOVA and Pearson correlation test for significant analyses.
Result: The result showed that half of the fathers have high knowledge of pregnancy and knowledge on involvement regarding pregnancy. There is a significant difference between age factors with mean knowledge of father regarding pregnancy. Meanwhile, there is also a significant difference between age and knowledge on the involvement of father during pregnancy. In addition, a number of children and knowledge on the involvement of father during pregnancy also showed a significant association. The knowledge level of father regarding pregnancy and the knowledge on involvement during pregnancy among fathers is directly, linearly and moderately correlated.
Conclusion: This study can be concluded that fathers in Kuantan are possessed average knowledge on involvement regarding pregnancy. This shows that man lag behind in their responsibilities in pregnancy. In which, they do not clearly know what their role is during pregnancy.

Introduction

Pregnancy is a state of carrying a developing embryo or fetus inside the womb of the female body. Under normal conditions, pregnancy lasts forty weeks, it starts from the first day of the menstrual cycle and is divided into three trimesters, each trimester approximately three months.[1] The support from the husband is required throughout the pregnancy in order to encounter stress and depression. Pregnancy is not the responsibilities of the mother alone.

Recent studies have found that healthcare providers and social workers generally direct their attention to the mothers as the primary parent and the caseworkers do not identify the absence of paternal involvement as an important issue.[2] In this context of the study, the involvement

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of fathers during the pregnancy might help in developing the attitudes of the children. It has been reported that the absence of fathers during pregnancy led to emotional failures between mother and relationship at the first few months of a baby's life.[3]

In Malaysia, the reason for this problem is due to lacking education on the benefits of paternal involvement during pregnancy. Moreover, there is one study supported that the healthcare provider does not emphasize on the importance of fathers' role during pregnancy.[4] In addition, there is also misinterpretation on the role of fathers in pregnancy in the community. This is because paternal involvement has been recognized to have an impact on pregnancy and infant outcome.[5] Another study had reported that when fathers get involved during pregnancy, maternal negative health behaviors diminish and risk of preterm, low birth weight and fetal growth restriction is significantly reduced.[6]

Previous researchers had proposed that the mechanism through which paternal involvement affects birth outcomes are primarily linked to the impact that fathers have on influencing maternal behaviors and reducing maternal stress through emotional, logistical and financial support.[6] Herein, this study aimed to identify the depth of the knowledge and perception of fathers regarding pregnancy and fatherhood inculcate with Islamic input. Hence, for this purpose, we developed a cross-sectional study to evaluate the level of knowledge on fathers involvement throughout pregnancy. We hypothesized that there is a correlation between the lacking of knowledge on pregnancy and father involvement.

Method

A cross-sectional with the quantitative study was selected to describe the knowledge on involvement during pregnancy among fathers in respective area in Kuantan. In this study, we used a set of questionnaires that had been distributed to fathers at respective area in Kuantan. The study was conducted specifically at Balok Baru of Kuantan district.

The respondents were recruited by using convenience sampling method. This sampling method is a type of non-probability methods which is the subjects were collected from people that were easy to approach. The sample size is $103 \pm 10\%$ of dropout. In this study, there are several criteria that need to meet in order to exclude and include as data of this project. Firstly, the individual must be married male who already have children at least one. Secondly, the father must live in the area of Balok Baru. Lastly, the fathers can communicate either in Malay or English language. Otherwise, the respondents that do not mentally fit and have a cognitive problem were excluded in this study.

Instruments, validity, and reliability

Data was collected through self-administer questionnaires. These questionnaires were adapted from.[5,7,8] The pre-test was done to ensure validity and reliability. The original set of questionnaires was an English version but was translated into the Malay language. The improvements of the questionnaires also had been done based on the reviews by the pre-test participants.

Ethical consideration

Ethical consideration was approved by the International Islamic University of Malaysia Research Ethics Committee (IREC). The purpose of the study was explained to the participants and consent form has been signed before they answer the questionnaire. The personal information of the participants was remained confidential.

Data collection

Participants were given around 10–15 min to fill up the set of questionnaires. It consists of 3 parts of questions which are sociodemographic data, knowledge of father regarding pregnancy and knowledge on involvement father during pregnancy.

Data analysis

The collected data were analyzed by using Statistical Package for Social Science (SPSS). The data such as percentage, frequency, mean, and standard deviation were described by using the descriptive statistics. Meanwhile, the inferential statistics such as one way ANOVA test and Pearson correlation also had been used for analyzing the data.

One way ANOVA test was used to test the associations of sociodemographic data (level of education, age and income status and a number of children) and knowledge level of father regarding of pregnancy and significant difference between sociodemographic data and knowledge on involvement during pregnancy among fathers. In addition, Pearson correlation was applied to correlate between the knowledge level of father regarding pregnancy and knowledge on involvement during pregnancy among fathers.

Results

There was 103 samples of participants in the respective area had contributed to answering the questionnaires of this study. Mean score and standard deviation were obtained for knowledge level of father regarding pregnancy (KFRP) and knowledge level on the involvement of father during pregnancy (KIFP). Relationships between studied variables were identified through one way ANOVA and Pearson correlation techniques.

Demographic characteristics of participants

Table 1 shows the demographic data of the respondents. Majority of the participants are within age 31–45 years old. Among the participants, about 39 of the participants possessed only a child. Then, based on educational level, more than half of the participants had pursued their education until tertiary level which is about 60 participants. Meanwhile, 28 of the participants have a monthly income of RM3001–RM4000.

Table 1 Sociodemographic data.

Factors	Group of factors	Frequency (*n*)	Percentage (%)
Age	18–30	32	31.1
	31–45	53	51.5
	46–75	18	17.4
No. of children	1	39	37.9
	2	24	23.3
	3	17	16.5
	4 or more	23	22.3
Monthly income	Below RM1000	14	13.6
	RM1001–RM2000	23	22.3
	RM2001–RM3000	26	25.2
	RM3001–RM4000	28	27.2
	Above RM4000	12	11.7
Level of education	Primary	10	9.7
	Secondary	33	32.0
	Tertiary	60	58.3

Table 2 Table of mean and standard deviation.

Variables	Mean	Standard deviation
Knowledge of father regarding pregnancy	17.39	3.6
Knowledge on involvement of father during pregnancy	13.11	2.56

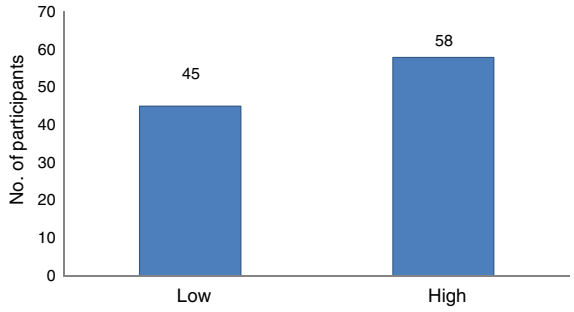

Figure 1 Knowledge level of fathers regarding pregnancy.

Mean of KFRP and KIFP

Table 2 demonstrates the mean ± standard deviation of KFRP is 17.39 ± 3.6. In general, Fig. 1 illustrates that those who have lower total score than mean were considered to have low knowledge (45 participants) and those who have higher total score than mean were considered to have high knowledge (58 participants). Fig. 2 manifests the level of knowledge according to age group. Participant at age 46–75 has a higher level of knowledge compared to other age groups. Next, Fig. 3 displays that fathers who have two children are more knowledgeable than others. In addition, based on Fig. 4 the fathers which their income is less than RM1000, have higher knowledge level, 78.6% compared to higher income. Meanwhile, among the fathers, those who

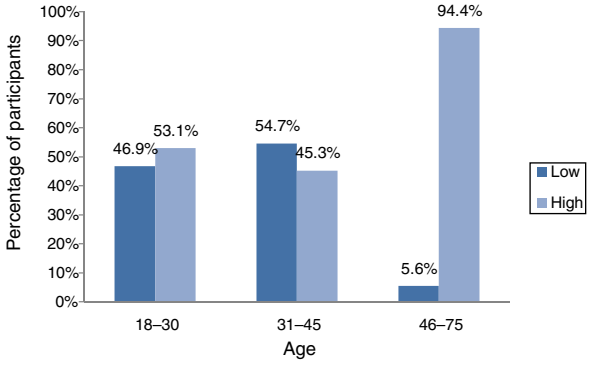

Figure 2 Knowledge level of participants according to age group.

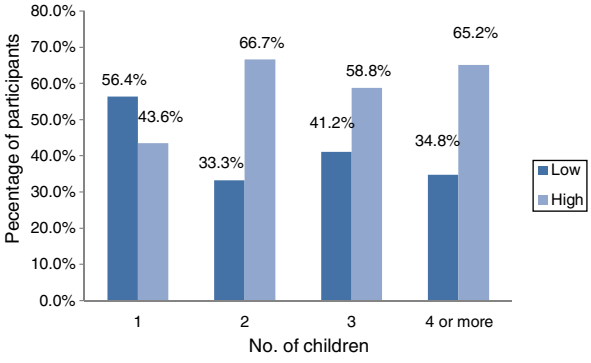

Figure 3 Knowledge level of participants according to number of children.

end their study in primary school have a high level of knowledge which is approximately 80% (Fig. 5).

In addition, based on Table 2 the mean ± standard deviation of KIFP is 13.11 ± 2.56. Based on Fig. 6 those who have a lower total score than the mean were considered to have low KIFP and vice versa. Fig. 7

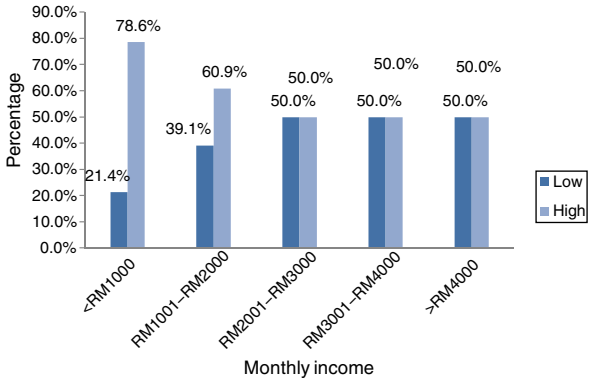

Figure 4 Knowledge level of participants according to monthly income.

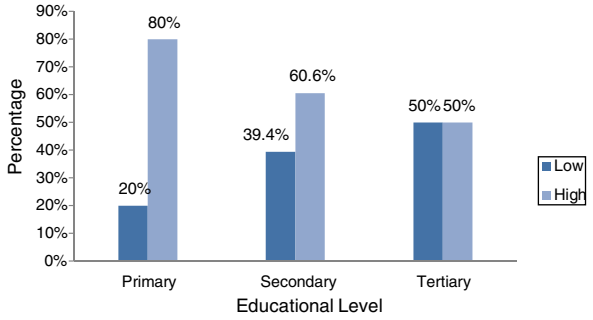

Figure 5 Knowledge level of participants according to education level.

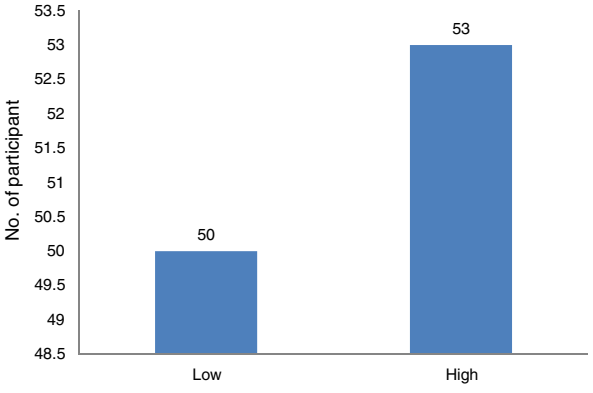

Figure 6 Level of knowledge on involvement of father during pregnancy.

depicts the level of knowledge according to age group. Firstly, the participants at age 46–75 have a higher level of knowledge compared to other age groups. Then, about 66.7% of the fathers who possessed two children achieved a high level of KIFP compared to the others (Fig. 8). In addition, the fathers that earn between RM1001–RM2000 every month score the highest on KIFP, 65.2% (Fig. 9). Among the fathers who pursue study until the secondary educational level have more KIFP compared to the others which are about 60.6% (Fig. 10).

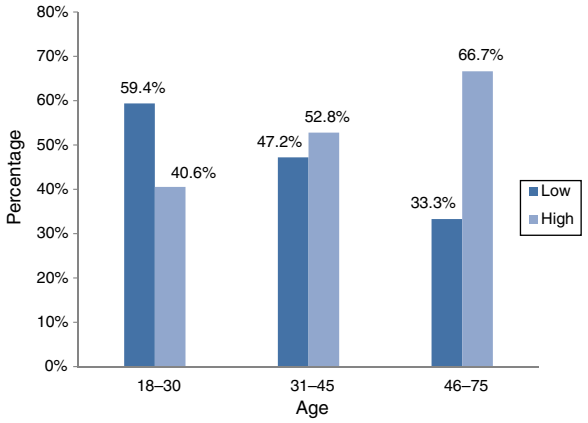

Figure 7 Level of KIFP according to age factor.

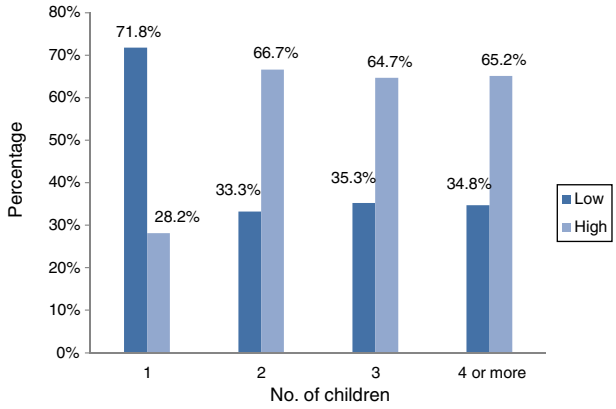

Figure 8 Level of KIFP according to number of children.

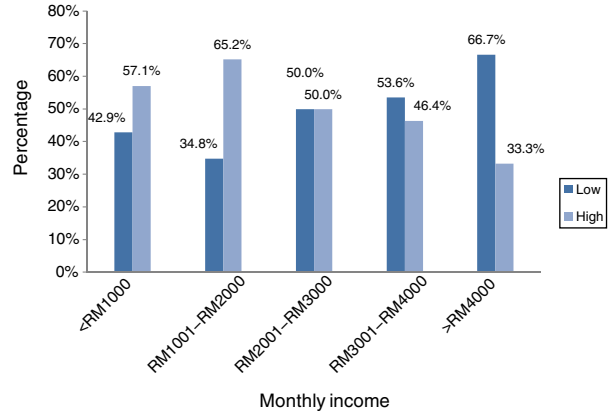

Figure 9 Level of KIFP according to monthly income.

Association between sociodemographic data and KFRP

The one way ANOVA statistical test was conducted to test the mean difference. The result of the association between the sociodemographic data and KFRP is tabulated in Table 3. Firstly, based on Table 3 the *p*-value of the association between age factor and KFRP is smaller than 0.05. Thus, it implies the significant difference between levels of knowledge compared to age variable. Based on posthoc test Bonferroni's test, mean KFRP between patients age

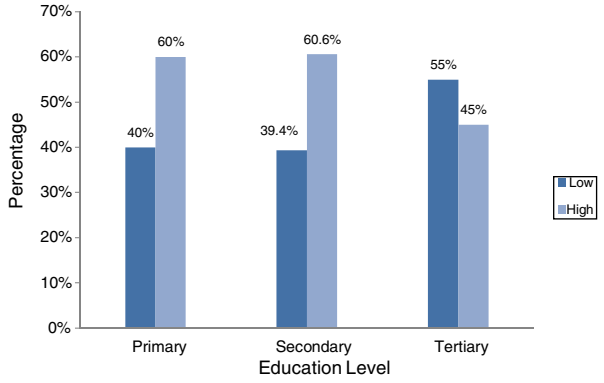

Figure 10 Level of KIFP according to education level.

''18–30 and 46–75'' was significantly different. In which, father at age 18–30 has lower KFRP compared to father at age 45–75.

Table 3 also denotes the *p*-value is greater than 0.05 for the association between KFRP and number of children factor. Hence, there is no significant difference between the two variables. It indicates that the number of children does not affect the knowledge level. Furthermore, in Table 3 also demonstrates the *p*-value is greater than 0.05 which indicates there is no significance different between monthly incomes with the KFRP. This result also implies that no matter how much monthly income those fathers have, the KFRP still at the same level.

Finally, the association between KFRP and level of education also had been tabulated in Table 3. The *p*-value is greater than 0.05. Thus it shows that there is no mean difference between the level of education and knowledge of father regarding pregnancy. Therefore, it indicates that the educational level of fathers does not affect the KFRP.

Association between sociodemographic data and KIFP

In this section, one way ANOVA statistical test also has been used to look at the association between the sociodemographic variables with the KIFP. Firstly, the association data between age and the KIFP is summarized in Table 4. The *p*-value is smaller than 0.05 which shows significant different between the two variables. Based on posthoc test Bonferroni's procedures mean KIFP between patients age ''18–30 and 46–75'' were significantly different. Fathers age 18–30 has lower KIFP compared to fathers age 45–75.

Then, based on Table 4 also shows that the *p*-value of the association test between KIFP and number of children is smaller than 0.05. It shows significantly difference between the variables. Bonferroni's test was conducted which is the mean of KIFP between patients age ''1 and 2'' and ''1 and 4 or more'' were significantly different. Fathers who have 1 and 2 children have lower KIFP compared to fathers who have 4 or more children.

In addition, in Table 4 denotes the association between monthly incomes and KIFP. The table shows that the *p*-value is greater than 0.05 which is it implies there is no mean difference between monthly income and KIFP.

Lastly, the association between KIFP and fathers' level of education had been tabulated in Table 4. It depicts that the *p*-value is greater than 0.05 which indicates that there is no significance difference between the level of education and KIFP.

Correlation between KFRP and KIFP

The test was conducted by using the Pearson correlation test. The result of the correlation test between these two variables is tabulated in Table 5. The table denotes that the *p*-value is smaller than 0.05. It shows that KFRP and KIFP directly, linearly and moderately correlated.

Table 3 Association between KFRP and sociodemographic factors.

Factors	Group of factors	*N* (%)	Mean (sd)	*F*-statistics[a] (df)	*p*-value
Age	18–30	32 (31.1)	17.13 (3.75)	5.355 (2;102)	0.006
	31–45	53 (51.5)	16.74 (3.7)		
	46–75	18 (17.4)	19.78 (1.59)		
No. of children	1	24 (37.9)	16.31 (4.1)	2.225 (3;102)	0.090
	2	29 (23.3)	17.83 (3.62)		
	3	17 (16.5)	17.65 (3.12)		
	4 or more	23 (22.3)	18.57 (2.5)		
Monthly incomes	Below RM1000	14 (13.6)	18.43 (2.44)	0.640 (4;102)	0.636
	RM1001–RM2000	23 (22.3)	17.74 (3.58)		
	RM2001–RM3000	26 (25.2)	17.19 (3.51)		
	RM3001–RM4000	28 (27.2)	16.68 (4.42)		
	Above RM4000	12 (11.7)	17.58 (2.83)		
Level of education	Primary	10 (9.7)	18.60 (1.65)	1.010 (2;102)	0.368
	Secondary	33 (32.0)	17.70 (3.24)		
	Tertiary	60 (58.3)	17.02 (3.98)		

[a] One way ANOVA test.

Table 4 Association between KIFP and sociodemographic factors.

Factors	Group of factors	*N* (%)	Mean (sd)	*F*-statistics[a] (df)	*p*-value
Age	18–30	32 (31.1)	12.25 (2.81)	4.553 (2;102)	0.013
	31–45	53 (51.5)	13.17 (2.45)		
	46–75	18 (17.4)	14.44 (1.65)		
No. of children	1	24 (37.9)	11.92 (2.61)	5.235 (3;102)	0.002
	2	29 (23.3)	13.75 (2.58)		
	3	17 (16.5)	13.53 (2.45)		
	4 or more	23 (22.3)	14.13 (1.79)		
Monthly incomes	Below RM1000	14 (13.6)	13.5 (2.28)	1.173 (4;102)	0.328
	RM1001–RM2000	23 (22.3)	13.78 (2.52)		
	RM2001–RM3000	26 (25.2)	12.81 (2.62)		
	RM3001–RM4000	28 (27.2)	12.43 (2.91)		
	Above RM4000	12 (11.7)	13.58 (1.68)		
Level of education	Primary	10 (9.7)	13.7 (2.71)	0.620 (2;102)	0.540
	Secondary	33 (32.0)	13.33 (2.33)		
	Tertiary	60 (58.3)	12.88 (2.68)		

[a] One way ANOVA test.

Table 5 The correlation between knowledge of father regarding pregnancy and knowledge on the involvement of father during pregnancy.

Variables	Knowledge on involvement of father during pregnancy ($N = 103$)
Knowledge of father regarding pregnancy	0.567[a] (0.001)[b]

[a] Pearson correlation.
[b] *p*-value.

Discussion

This study shows the mean ± standard deviation of KFRP was 17.39 ± 3.6 (Table 2). The mean of the total score of knowledge was to indicate the level of knowledge among fathers. The value that is higher than the mean was considered to have high knowledge whereas the value that is lower than the mean was considered to have a low level of knowledge regarding pregnancy. Total of 45 participants have low knowledge, and 58 participants have higher knowledge. From the descriptive data, it has been found that fathers of the age of 46–75, have a higher level of knowledge compared to other age groups, whereas other study reported that the fathers in the 25–34 age group had significantly higher scores, compared to younger and older fathers.[9] This might be happening due to different cultural background and education background. Thus, a different way of thinking might be the factor of varieties result.

The study conducted shows mean ± standard deviation of KIFP which is 13.11 ± 2.56. The mean of the total score of knowledge was to indicate the level of KIFP. The value that is higher than the mean was considered to have high knowledge and vice versa. Based on the result, about 50 participants have a low level of knowledge, and 53 participants have a high level of knowledge. In addition, the result shows that participant at the age of 46–75 has a higher level of knowledge compared to other age groups. The result shows that more than half of the participants have high knowledge on involvement but in the other study reported that 53.6% of the respondents had poor knowledge on involvement while 46.4% had a poor involvement.[8] This might be due to the educational status of people in the Nigerian community to be compared to Malaysia. Therefore, it shows poles apart result between the two types of research.

This study shows that at least one of the mean ages is different of KFRP which is age ''18–30 and 46–75'' was significantly different. Based on the result, for the age of 18–30, they have the tendency to look around the information in websites and books about pregnancy, yet to have great experiences. For age of 46–75, they might gain more knowledge from living experience. Then, the study shows that there is no mean difference between a number of children and KFRP. It might happen due to lack of awareness toward fathers on the importance of pregnancy knowledge. Moreover, there is no mean difference between monthly income and KFRP. It can be implied that monthly income factor does not affect their willingness to search for knowledge. Lack of exposure on the importance of pregnancy knowledge to fathers might also be the factor of contribution. Lastly, there is no mean difference between levels of education with KFRP. Based on the result, education level does not play roles in father knowledge on pregnancy. This might be due to the unwillingness of the father to look out for knowledge on pregnancy.

In this study at least one of the mean ages is different of KIFP which is between patients age ''18–30 and 46–75''. Another study also reported that similar result with this study which is there is a significant difference in age and involvement.[8] It shows that age does give effect on the level of knowledge on involvement. Based on the result for the age of 18–30 they have the tendency to search in websites and books about pregnancy but do not have enough involvement. For the age of 46–75, they might gain more knowledge from living experience. Next is the

number of children. This study shows that there is at least one of the mean numbers of children is different of KIFP which is between patients age ''1 and 2'' and ''1 and 4 or more''. Based on the result, for fathers that possessed 1 child to have lower of KIFP compared to fathers with 2 and 4 children, for fathers with 2, this might happen due to eagerness to know and by gaining more knowledge for the second pregnancy. Meanwhile, for fathers with 4 or more children, this could be due to experience having more children.

The third is the monthly income. Result shows that there is no mean difference between monthly income and KIFP. The previous study stated the same result that which is no significant difference in monthly income and involvement.[8] It shows that the monthly incomes variable does not affect the KIFP level. Finally, the result shows that there is no mean difference between the level of education and KIFP. It contradicts with a study conducted in Nigeria which reported that there is significantly different between education status and KIFP.[8] The different findings might be due to educational background and teaching method between Malaysia and Nigeria is different.

The result on correlation shows that KFRP and KIFP directly, linearly and moderately correlated. As far as researcher concern, there are a few researches concerning the correlation between KFRP and KIFP. In Malaysia, there is no such kind of research has been conducted. Thus based on the result, it can be implied that if the fathers know about pregnancy, they would have the potential to get involved during the pregnancy process.

In conclusion, the fathers in Balok Baru achieved an average score of the knowledge regarding pregnancy. The knowledge on the involvement of respondents toward pregnancy was average. This shows that man lag behind in their responsibilities in pregnancy. They do not clearly know what their role is during pregnancy. If they were given enough input and have awareness on the importance of their involvement to pregnancy, they would surely give their full attention concerning this matter.

Enlightenment programs should be carried out by government agencies, non-governmental organization to stress on the importance of involvement of men in pregnancy. This will then increase the quality of life of woman and child toward a healthy family and healthy nations.

Conflict of interests

The authors declare no conflict of interest.

Acknowledgement

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References

1. Pregnancy. c2018. Available from: http://medical-dictionary.thefreedictionary.com/pregnancy [Internet; cited 20.11.13].
2. Bunting L [Doctoral dissertation] Teenage parenting: professional and personal perspectives. Belfast: Queen's University of Belfast; 2003.
3. Henderson J. The many roles of fatherhood: psychological and developmental issues. Can Fam Physician. 1992;38:629.
4. Alio A, Lewis C, Scarborough K, Harris K, Fiscella K. A community perspective on the role of fathers during pregnancy: a qualitative study. BMC Pregnancy Childbirth. 2013;13, http://dx.doi.org/10.1186/1471-2393-13-60.
5. Alio A, Kornosky J, Mbah A, Marty P, Salihu H. The impact of paternal involvement on feto-infant morbidity among Whites, Blacks and Hispanics. Matern Child Health J. 2009;14:735–41, http://dx.doi.org/10.1007/s10995-009-0482-1.
6. Padilla Y, Reichman N. Low birthweight: do unwed fathers help? Child Youth Serv Rev. 2001;23:427–52, http://dx.doi.org/10.1016/S0190-7409(01)00136-0.
7. Lemay C, Cashman S, Elfenbein D, Felice M. A qualitative study of the meaning of fatherhood among young urban fathers. Public Health Nurs. 2010;27:221–31, http://dx.doi.org/10.1111/j.1525-1446.2010.00847.x.
8. Olugbenga-Bello AI, Asekun-Olarinmoye EO, Adewole AO, Adeomi AA, Olarewaju SO. Perception, attitude and involvement of men in maternal health care in a Nigerian community. J Public Health Epidemiol. 2013;5:262–70, http://dx.doi.org/10.5897/JPHE2013.0505.
9. Weekrakkody A, Weerasinghe G, Weerasinghe M, Weerasekara G, Agampodi S. Expectant fathers' knowledge of maternal morbidity: a Sri Lankan experience. F1000 Res. 2013;2:119, http://dx.doi.org/10.12688/f1000research.2-119.v1.