

ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF RESEARCH IN
PHARMACEUTICAL SCIENCES

Published by JK Welfare & Pharmascope Foundation

Journal Home Page: www.pharmascope.org/ijrps

Knowledge, Attitude and Practice on Postpartum Haemorrhage among Women in Kuantan, Pahang, Malaysia

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Article History:

Received on: 17.03.2019

Revised on: 12.06.2019

Accepted on: 16.06.2019

Keywords:

Maternal mortality,
Postpartum
haemorrhage,
Kuantan

ABSTRACT

Postpartum haemorrhage (PPH) is defined as excessive bleeding of 500 ml or more within 24 hours after birth. It is known as one of the leading cause of maternal mortality worldwide. In Malaysia, from the year 2009 to 2014, PPH remained as one of the top contributors to maternal deaths; this suggests that the knowledge, attitude and practice on PPH among mothers in Malaysia still need to be improved. This cross-sectional study is aimed to determine the level of knowledge, attitude and practice on PPH, in addition to examining the association of socio-demographic factors with knowledge, attitude and practice of women in Kuantan, Pahang, Malaysia. This study involved 105 women who have experienced pregnancy and delivered at least once and is living in Kuantan. Self-administered questionnaires were distributed from February until March 2018. Data were analysed using the Statistical Package Software for Social Sciences (SPSS). From the findings, the level of knowledge on PPH among women in Kuantan was average (n=73, 69.5%), whereas the level of attitude and practice of most respondents was found in a good level, 101 (96.2%) and 98 (93.3%) respectively. The factors that have significant associations with knowledge on PPH in this study were age group (p=0.016) and background of education (p<0.001). In conclusion, this study showed that most of the participants in Kuantan have a moderate level of knowledge on PPH yet possess a good attitude and practice on the management of PPH.



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ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v10i3.1474>

Production and Hosted by

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INTRODUCTION

Postpartum is a crucial period, where additional care is needed for the mothers. The process of delivery and post-delivery of a child may sporadically threaten mothers' health and well being. This may occur due to a shortage of maternity and postpartum care among fellow mothers. Insufficient motherhood care may eventually increase the rate of maternal morbidity and mortality. Currently, various morbidities have been identified and reported among mothers after the delivery period. One of the leading causes of maternal death is postpartum haemorrhage (PPH). According to the World Health Organization (WHO), PPH is identified as

one of the main contributors to maternal mortality worldwide, followed by hypertension disorder and sepsis (Tunçalp *et al.*, 2013). Based on a previous study, PPH has been listed as the major reason to cause the death of mothers in non-developing countries such as Africa (Khan *et al.*, 2006). Despite many breakthroughs achieved to reduce PPH in developed and developing countries, it still remains as one of the main cause of death among mothers. It was recorded that approximately 140,000 women die of PPH worldwide. This number is alarming and warrants further investigations. WHO reported that PPH can lead to serious complications such as adult respiratory distress syndrome, coagulopathy, shock, loss of fertility and pituitary necrosis. Essentially, PPH is divided into two types, primary and secondary PPH. Primary PPH can be defined as vaginal bleeding of 500 ml or more within 24 hours after childbirth, whereas excessive bleeding that occurs later, between 24 hours and 6 to 12 weeks after childbirth is known as secondary PPH (Tunçalp *et al.*, 2013).

In Malaysia, from 2009 to 2014, PPH remained as one of the top contributors to maternal deaths, suggesting that the knowledge and attitude on PPH among mothers in Malaysia is still uncertain. The comprehension of PPH knowledge and attitude among mothers is crucial for further investigation as it could help to manage PPH and reduce Maternal Mortality Rate (MMR).

Hence, this research focused on the assessment of knowledge, attitude and practice of PPH among Malay mothers in Kuantan, Pahang and its association with socio-demographic characteristics. The awareness about potential risks of PPH may help the mothers to take early preventive actions during pregnancy. This study is expected to disclose mothers on the knowledge, attitude and practices about the management of PPH that can be done prior to delivery, thus helping mothers to improve their health.

MATERIALS AND METHODS

Study Ethics

Ethical approval was obtained from the Kulliyyah of Allied Health Sciences, International Islamic University Malaysia (IIUM) and IIUM Research Ethical Committee (IREC).

Subject Recruitment and Study Population

Prior to subject recruitment, several inclusion and exclusion criteria had been set. Inclusion criteria of respondents in this study are women who have experienced child delivery at least once, women who have experienced miscarriage, and residents of

Kuantan. Women who does not fulfil one or more of these criteria will be excluded from this study. Informed consent was obtained from participants who were included and agreed to participate in the study.

Study Tool

A self-administered questionnaire which was revised, modified and validated from previous studies (Teng *et al.*, 2015; Pembe *et al.*, 2009) was used. The questionnaire was divided into four sections; Section A (socio-demographic data), Section B (knowledge on PPH), Section C (attitude of PPH management) and Section D (the practice of PPH management).

In Section A, socio-demographic information of participants was asked, which include age, ethnicity, level of education, marital status, working status and monthly household income. Questions regarding pregnancy characteristics of the women were also asked in this section. These include the experience of delivery mode and the number of child. In Section B, participants were asked on the knowledge regarding PPH. This section consists of six categories which are definition and epidemiology, symptoms, causes, risk factors, impact and treatment of PPH. Each question, each participant were given three options; 'Yes', 'No', and 'Not sure'. For Section C, questions asked were on the attitude of the management of PPH among participants. Likert-scale was utilized in which answers ranged from 'Agree', 'Neutral' and 'Disagree' and were scored 1 to 3 for each statement. For Section D, participants were asked on the practice on PPH management with 'Yes', 'No', and 'Not sure' options.

Validation processes began with content validity in which the relevancy of the elements within the questionnaire was assessed by a Family Medicine Specialist, who is an expert in this field, and secondly by face validity in which the questionnaire was given out to a number of people before modifications were made. A pilot study was also conducted before the actual study to test the validity of the research methods and the questionnaire itself.

Data Analysis

The collected data were analysed using Statistical Package Software for Social Sciences (SPSS) version 12.0 software. Descriptive frequency table was used to describe the level of knowledge, attitude and practice of PPH among the respondents in this study, while independent t-test and one-way analysis of variance (ANOVA) were used to investigate the relationship between the socio-demographic data and the scores of knowledge, attitude and practice. For the categories where the normality assumptions

were not met, non-parametric Mann-Whitney u-test and Kruskal-Wallis tests were used instead. To study the relationships between the knowledge, attitude and practice scores, Spearman correlation test was used. P values of less than 0.05 are considered statistically significant.

RESULTS AND DISCUSSION

Knowledge, Attitude and Practice on PPH

Table 1 illustrated the scores of knowledge, attitude and practice on PPH among women community in Kuantan, Pahang. In terms of knowledge, majority of the respondents recorded moderate level of knowledge on PPH with 73 respondents (69.5%), followed by low level, 18 (17.1%) and high level, 14 (13.3%). On the other hand, for attitude and practice scores, the majority of the respondents showed a good level of attitude and practice, 101 (96.2%) and 98 respondents (93.3%), respectively.

Table 1: Knowledge, attitude and practice scores on PPH among respondents (n=105)

Category	Frequency	Percentage (%)
Knowledge scores		
low	18	17.1
moderate	73	69.5
high	14	13.3
Attitude scores		
poor	4	3.8
good	101	96.2
Practice scores		
poor	7	6.7
good	98	93.3

Association of Socio-demographic Factors with Knowledge on PPH

ANOVA test was used to assess the relationships between age group, current education level and monthly household income with knowledge regarding PPH, while independent sample T-test was used to determine the relationship between education background with knowledge on PPH. As displayed in Table 2, two socio-demographic factors were significantly associated with knowledge on PPH; age group and education background, with p-values of 0.016 and <0.001 respectively. However, for current education level and monthly household income data, results showed that there was no significant association between these variables and knowledge on PPH with p-values of 0.379 and 0.774 respectively.

Table 2: Association between socio-demographic characteristics with knowledge scores among respondents (n=105).

Variable	Mean	Median	p-value
Age group			
24-29	15.28	13.00	0.016
30-34	14.51	15.00	
35-39	13.47	14.00	
40-53	11.35	14.00	
Education level			
SPM	11.75	12.00	0.379
Diploma	12.65	13.50	
Degree	14.12	14.00	
Post-grad	14.93	15.00	
Others	13.80	15.00	
Background of education			
Science	15.15	15.00	<0.001
Non-science	11.77	12.00	
Monthly household income			
< RM 2000	12.92	13.00	0.774
RM 2000 - RM 4000	13.87	15.00	
> RM 4000	13.89	14.00	

Table 3: Correlation between knowledge and practice on PPH among respondents (n=105).

Item	Correlation coefficient, r	-value
Knowledge Scores - Practice Scores	0.333	0.001

Association of Socio-demographic Factors with Attitude on PPH Management

Kruskal-Wallis test was used to assess the relationship between age group, current education level and monthly household income with attitude on PPH management. To determine the relationship between education background with attitude on PPH management, Mann-Whitney U test was employed. As the p-values are all more than 0.05 no significant association were observed between all socio-demographic variables with attitude on the management of PPH.

Association of Socio-demographic Factors with Practice of PPH Management

Kruskal-Wallis and Mann-Whitney U test was also employed to determine the relationship of socio-demographic data with the practice of PPH. Similar to attitude, no significant association were found between socio-demographic characteristics with the practice of PPH management, with p -values of more than 0.05 for all variables.

Relationship between Knowledge, Attitude and Practice regarding PPH

Firstly, the relationship between knowledge and attitude scores regarding PPH was examined using the Spearman correlation coefficient. Preliminary analysis was performed and the results showed that the assumptions of normality and linearity were not met, thus non-parametric test was used.

Correlation between Knowledge Scores and Attitude Scores on PPH

In this analysis, the small number of the correlation coefficient, r value (0.194) suggests that there is very little correlation between this association. However, the positive r -value indicates that the correlation is positive, and the p -value is 0.048 which shows the significance of this result.

Correlation between Knowledge Scores and Practice Scores on PPH

The correlation coefficient, r -value of 0.333 Table 3 shows that there is an average correlation between this association. The positive r value also indicates that the correlation is positive and the association is significantly based on the p -value of 0.001.

Knowledge on PPH

Table 1 illustrated that 69.5% of the respondents in this study had moderate knowledge about PPH, which in turn lead to good levels of attitude towards the management of PPH. Similar findings had also been reported by a previous study conducted in Nigeria (Hailu and Berhe, 2014). However, an Iranian study reported that the participants had moderate knowledge, but fail to have good performances regarding postpartum care (Abedzadeh-Kalahroudi, 2015). The reason behind this result was the lack of awareness on danger signs of PPH, thus leads to the delay in decision making to seek medical care (Pembe et al., 2009).

In terms of knowledge on PPH, 85.7% of the women in this study responded correctly on the definition of PPH and 79.0% agreed that PPH is still the leading cause of maternal death in Malaysia (Family Health Division, Ministry of Health Malaysia, 2014) and also worldwide. For the assessment of knowledge on symptoms of PPH, 83.8% and 75.2% of the respondents respectively, agreed that dizziness and rapid

heart rate is among the symptoms of PPH. However, most of the respondents wrongly answered whether abdominal pain (77.1%) and increased blood pressure (60.0%) are among the symptoms of PPH. When asked regarding the causes of PPH, more than 50% of the respondents were able to identify each of the causes of PPH. Respondents were also asked regarding the risk factors of PPH, which are considered as one of the main knowledge areas that can assist the respondents to seek help from healthcare providers, hence lead to prevention of PPH.

Attitude and Practice on PPH

Despite having average knowledge of PPH, results in Table 1 illustrated that the scores of attitude and practice of women in Kuantan towards PPH were significantly good and positive. Almost all participants (99.0%) agreed that it is important for all future mothers to have knowledge of the signs and impact of PPH after delivery. Despite these positive attitudes on the statements given, more than half of the respondents (77.1%) agreed and/or are neutral in seeking help from traditional healer when there are signs and symptoms of PPH in women. This is in contrast with the recommendation from WHO, which suggested that women who experienced vaginal blood loss, convulsions, severe headache and many other symptoms of PPH or pregnancy danger signs should immediately go to an established healthcare facilities (WHO, 2006).

In terms of the practice of PPH management among women in Kuantan, the results as recorded in Table 1 showed that most of the respondents (93.3%) possess a positive practice of PPH management similar to the results for attitude on PPH management. The results showed that majority of respondents (90.5%) consistently visited Antenatal Care (ANC) during the pregnancy period, received sufficient information on their health during pregnancy period and on pregnancy danger signs, practiced family planning for pregnancy spacing after child delivery, practiced healthy eating habits, and also gained support from family members.

Association of Socio-demographic Factors with Knowledge on PPH

Table 2 showed the association of socio-demographic factors with knowledge on PPH among women in Kuantan, Pahang. The results suggested that age was significantly associated with women's level of knowledge on PPH, with $p=0.016$. Association of knowledge with age had also been reported in studies from Tanzania (Pembe et al., 2009), and Ethiopia (Hailu and Berhe, 2014). Increased knowledge of PPH in pregnancy among younger mothers may be related to the ease of

accessibility and understanding of the information. This finding is in line with (Lima-Pereira *et al.*, 2012) which suggested that a mass media platform is one of the main sources of information that play an important role in providing information regarding PPH.

Education background of respondents is also a contributing factor towards their knowledge on PPH ($p < 0.01$). Respondents with a science background had higher knowledge scores compared to those of non-science background. The reason behind this finding could be explained by the fact that women with science-based education may have less difficulty processing and understanding the information received during ANC visits, especially on PPH (Kabakyenga *et al.*, 2011).

Association of Knowledge, Attitude and Practice on PPH

Findings in Table 3 showed that there are significant correlations between knowledge of PPH with attitude and practice scores towards the management of PPH with a p -value of less than 0.05. Although the correlation is low and average for association with attitude and practice scores respectively, this proved that one's knowledge is associated with attitude and practice. Another study also showed an almost similar trend where most woman will have positive attitudes when they have better knowledge pertaining to this matter (Tan *et al.*, 2010). A study also suggested that giving better education on maternal health and care to mothers can enhance their awareness and attitude, especially through regular antenatal and postnatal care visits (Purani *et al.*, 2015). (Chala *et al.*, 2018) mentioned that mothers with low education level may not be aware of the impacts of potential risk factors on certain morbidities. Thus, the promotion of health knowledge should be regularly conducted among women with lower education level.

CONCLUSIONS

The current study showed that most of the participants have a moderate level of knowledge but showed good attitude towards PPH. Two of the socio-demographic characteristics analysed were concluded to contribute towards the women's knowledge of PPH, which are age and education background. Our findings also demonstrated that there is a low correlation between the level of knowledge with the practice towards PPH among the participants.

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