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ORIGINAL ARTICLE

Maternal Satisfaction Towards Intrapartum Care of Designated Healthcare Facilities and Its Associated Factors Among Postnatal Women Attending Klinik Kesihatan Salak

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ABSTRACT

Introduction: The World Health Organization recommends evaluation of maternal satisfaction to improve quality of health care during childbirth. Dissatisfaction may lead to undesired outcomes such as unassisted homebirth and delay in seeking treatment. Determining the maternal satisfaction level and its associated factors may help to improve health care services and prevent negative implications to both mothers and infants. This study aimed to determine the maternal satisfaction towards intrapartum care of designated healthcare facilities and its associated factors among postnatal women. **Methods:** This was a cross-sectional study of postnatal women attended Klinik Kesihatan Salak from December 2017 to February 2018. Systematic random sampling with the ratio of 1:3 was applied to the eligible respondents. A self-administered questionnaire that include respondent's socio-demographic characteristics and a validated 14-items Maternal Satisfaction with Hospital-based Intrapartum Care Scale was used. Data was analyzed using SPSS 23. **Results:** 274 respondents were recruited in this study. Overall, only 21.2% of respondents were satisfied with the intrapartum care given. The level of satisfaction was highest in interpersonal care domain (36.1%), followed by physical birth environment (34.3%) and the least satisfied was information and decision making domain (27.7%). Binary logistic regression showed that maternal satisfaction was significantly associated with place of birth (AOR (95% CI): 0.046 (0.183, 0.984)) and labour complications (AOR (95% CI): 3.387 (1.345, 8.528)). **Conclusion:** The overall maternal satisfaction towards intrapartum care was low and the information and decision-making domain appeared to be the least satisfied. Maternal satisfaction was associated with place of birth and labour complications. Therefore, health care providers should emphasize and improve the quality of services especially for this domain and to consider factor that contribute to dissatisfaction towards the intrapartum care.

Keywords: Intrapartum care, Maternal satisfaction, Healthcare facilities, Childbirth

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INTRODUCTION

Millennium Development Goals (MDGs) is a worldwide effort in combating poverty, disease, illiteracy, environmental degradation and discrimination against women. There were eight international development goals which have been agreed by all 191 United Nation member states that aimed to achieve by the year 2015 (1). Reduction in under-5 mortality rate (U5MR) by two thirds between 1990 and 2015 (MDG 4A) and reduction in maternal mortality ratio (MMR) by three fourths, between 1990 and 2015 (MDG 5A) were among the important indicators for MDG 4 and 5. Based on the 2015 World Health Organization (WHO) report, the global maternal mortality rate (MMR) and under-5 mortality rate (U5MR) have declined tremendously, 45% and 52% respectively, between 1990 and 2015, but these two indicators did not meet the MDGs targets (1). This is similar to Malaysia, where it was reported that the MMR 2015 declined by only half from 1990 (2). It is estimated that about 830 women die each day due to complications in pregnancy and childbirth (3). The leading cause of maternal deaths is hemorrhage, where two third of this were postpartum hemorrhage, followed by hypertension, sepsis and embolism (4). Most of these occur during intrapartum and early postpartum period and they are preventable if presented and intervened early.

Patient satisfaction has been studied worldwide as it has been shown to be the key element to a successful outcome (5). Maternal satisfaction with intrapartum care is specifically about giving birth in the manner that suits the need of the mother (6). Determinants of maternal satisfaction includes all dimensions of care which are

the structure (such as physical environment), process (interpersonal care, communication and supports) and outcome (health status of mother and newborn) (7).

Maternal satisfaction level towards intrapartum care varies with countries. It ranged from as lowe as 17.8% (6) to as high as up to 90% (8). WHO emphasizes on patient satisfaction as a mean of secondary prevention of maternal mortality by preventing and reducing the impact of childbirth process. It is believed that satisfied women may be more likely to adhere to health care providers' recommendation (9,10) and tend to return for additional care. Previous studies have shown that maternal dissatisfaction towards intrapartum care might lead to multiple undesired outcomes such as resistant and delayed in seeking treatment (11), increases risk of psychiatry illnesses (12), fear of subsequent birth (13) and maternal and infant attachment problem post delivery (14).

Maternal dissatisfaction with childbirth experience at healthcare facilities is also known to be an additional barrier to choosing birth place for subsequent deliveries (15). Birthing at designated healthcare facilities enable the childbirth process to be managed accordingly and if any complication is to happen, immediate action can be taken. WHO promotes that every birth must be attended by skilled birth attendant (SBA). This is one of the initiatives toward reducing the maternal mortality (9) and one of the MDG indicators towards safe motherhood. Absent of SBA is considered as unsafe delivery and may lead to unwanted complications, which will contribute to maternal and neonatal morbidity and mortality (9).

Unfortunately, this current practice may be contradict to some expectant mothers nowadays, who are more educated and earning well which make them better informed of the nature of childbirth, more aware of their rights during the labour process and more used to expressing their views (16). This group of mothers is more likely to be more demanding for their rights during the process of childbirth in health care facilities. The demands sometimes cannot be met which lead them to dissatisfaction towards the intrapartum care provided. This dissatisfaction will be the key factor that cause them to seek other options that allow them to have a delivery process according to their needs and demands such as homebirth. They perceived bad attitude and communication of the health care provider. Particularly in Malaysia, there is growing number of unassisted but intended homebirths that were reported in the local newspapers and newsletters (17–19).

The quality of maternity health care can be improved by monitoring and evaluating maternal satisfaction towards the services provided. The findings can be used to guide the health care providers in delivering services that are acceptable and demanded by mothers (9). Determining the maternal satisfaction level and its associated factors may help to improve health care services and prevent negative implications to both mothers and infants.

Mother's socio-demographic factors such as age, race, parity, education level, household income and employment status together with their recent childbirth experience need to be explored among the local population as they were proven to be the risk factors for maternal satisfaction in previous studies done abroad (20–24). Different cultural background may affect the study outcome. Therefore, this study aimed to determine the level of maternal satisfaction towards intrapartum care of designated health care facilities and its associated factors among postnatal women attending Klinik Kesihatan Salak. In this study context, designated health care facilities were hospitals or any centers that provide delivery services, where trained and licensed personnel are present. These facilities must be recognized by Ministry of Health and it can either be private or government health care facilities.

MATERIALS AND METHODS

Study design and study setting

A descriptive cross sectional study design was used. The study was conducted at Klinik Kesihatan Salak from December 2017 until February 2018. This clinic is located in sub-urban area and it is the main public health clinic in Sepang district. It provides outpatient and maternal and child health (MCH) services. This clinic practices Family Doctor Concept (FDC), where their coverage of populations are divided into three teams and each team is responsible for the care of their respected population including home visit, antenatal and postnatal care. There are four hospitals nearby (ranging 5-30km far from the clinic) that provides delivery services.

Study population

Postnatal women who attended the clinic either for maternal and/or child follow up during the data collection period and fulfill the eligibility were included in the study. On average, the amount of postnatal women attending the clinic is between 270 to 290 women per month. The inclusion criteria include women who were four (4) to twelve (12) weeks postpartum, given birth to a live baby (full term or preterm), able to read and understand Malay or English Language and delivered at any designated birth centers. However, women who had homebirth, born before arrival (BBA) cases, birth at any undesignated birth center or mother with underlying mentally challenged conditions including those with underlying psychiatric illness (e.g. depression, schizophrenia) were excluded from the study.

Sample size and sampling procedure

Sample size was obtained using two-proportion formula using the power of 80% and significance level α at 0.05 with 95% confidence interval. The calculated minimum sample size needed considering 30% of non-

response rate was 274. The estimated total attendance of postnatal mothers at the clinic (based on the clinic census) for three months was 810 women. Using the formula: Sampling fraction = n / N = 274 / 810 = 1 / 3.3, hence, systematic sampling with the ratio of 1:3 was used to select samples for this study.

Study variables

The dependent variable was maternal satisfaction towards intrapartum care and the independent variables were the socio-demographic characteristics (age, ethnicity, education level, parity, total household income and employment) and the mother's experience during recent childbirth (place of birth, effectiveness of pain relief, birth attendant, mode of delivery, episiotomy, obstetric complication(s), length of stay in hospital and gestational age upon delivery).

Study instruments

It was a self-administered questionnaire that consists of 2 sections. The first section was divided into two categories, the socio-demographic characteristics and the mother's experience during recent childbirth, whereas the second section was a 14-items of Maternal Satisfaction with Hospital-based Intrapartum Care Scale that was sub-scaled into three domains, measuring maternal satisfaction towards intrapartum care. This scale was developed and validated from Jordan study and had been used previously in several studies (6,25,26). It has high Cronbach's alpha coefficient of 0.88 and the reliability coefficients for each domain ranged from 0.76 to 0.90. It was a five points Likert scale questionnaire from one, which was strongly disagree to five, which was strongly agree. The first domain measured women's satisfaction with five items related to interpersonal care (IPC) by the health care providers with possible score between 5 to 25. The second domain was related to information and decision making (IDM) process (four items) with possible score between 4 to 20. However, there were three items in IDM domain that were reverse scored. The third domain was related to physical birth environment (PBE) (five items) with possible score between 5 to 25. The possible total maternal satisfaction score ranges from 14 to 70.

The original questionnaire was in English. In view of more than 90% of the study population were Malays and read well in Malay language, the questionnaire was translated into Malay and back translated to English by four bi-lingual local scholars, who lived in Malaysia but completed undergraduate degrees in English-speaking countries. This was then followed by experts review to assess the two versions of it to ensure the content validity. The experts were an Obstetrician and a Matron Nurse. A pretest study was then conducted on 30 postnatal women (10% of the sample size calculated) from the target population. The pretest was done before the data collection period of the main study and was done at the same clinic. This was to assess the feasibility of the study design and to assess the face validity of the study instrument based on the clarity, simplicity and readability to complete the instrument. The respondents for pretest study were labelled to ensure that they would not be included in the main study. The Cronbach's alpha value for total maternal satisfaction was 0.793 and the reliability coefficients for each subscale were 0.795 (IPC), 0.674 (IDM) and 0.774 (PBE). From the pretest study, it showed that the instrument was generally easy to administer and understand. Respondents required on average of 10 minutes completing it.

Data Collection

All postnatal women who registered for themselves or their children were identified at the registration counter. Once identified, the researcher approached the respondents individually and screened for eligibility to ensure the respondents fulfill the inclusion and exclusion criteria. A list of eligible respondents was then created and from this eligible list, every third respondents in the list were included in the study. The list was continued everyday until enough respondents were recruited. Those who agreed to participate were asked to sign the written informed consent form and the self-administered questionnaire was given. However, those who did not consent would be regarded as non-response due to refusal and the next third respondent in the eligible list will be included. The process was conducted in an area with adequate confidentiality and privacy to ensure the absence of the healthcare providers as to minimize bias.

Data Analysis

Data were analyzed using SPSS version 23. Descriptive statistics were computed for all variables. The cut off point for maternal satisfaction was calculated based on the formula adopted from previous study (6), which was total mean score plus one standard deviation. Therefore, the cut off point for total maternal satisfaction in this study was 65 (total mean score 58.91 + standard deviation 6.821). Scores of 65 and above were considered as satisfied and scores less than 65 were considered dissatisfied. Similar formula was applied to calculate the cut off point for satisfaction for each of the three domains. For IPC domain, the cut off point calculated was 25 (mean subscale score 22.17 ± SD 3.11), for IDM domain was 18 (mean subscale 15.21 ± SD 3.31) and for PBE domain was 24 (mean subscale 21.53 ± SD 3.01). If the score reach the cut off point or above it, it would be considered as satisfied. To identify factors associated with maternal satisfaction towards intrapartum care, simple binary logistic regression model was fitted. Variables with p-value less than or equal to 0.25 were then selected into multiple binary logistic regression (27). From here, variables with p-value less than 0.05 were considered as significant factors.

Ethical Approval

Ethical approval was obtained from Ministry of Health Medical Research Ethics Committee (MREC) and

Medical Research and Ethic Committee for Research Involving Human Subject Universiti Putra Malaysia (JKEUPM-2017-257). Verbal and written information about the study were explained and written consent was obtained from each respondent. The participation was on voluntary basis and that they could withdraw from the study at any time. The elements conducted in this study were non-invasive. Confidentiality was emphasized during recruitment.

RESULTS

Socio-demographic characteristics of respondents and their recent childbirth experience

A total of 290 postnatal women were approached but one did not fulfill the eligibility in view of history of birth before arrival (BBA). Among the 289 postnatal women, eight did not consent to participate and seven were excluded because of incomplete questionnaires or duplication of respondents. That gave a response rate of 95% and the final amount of respondents included in the study was 274. The study respondents had a mean age of 30.74 years with a standard deviation of ± 5.37 years and majority of them had their recent childbirth at government hospital or birth center. The socio-demographic characteristics and their recent childbirth experience were summarized in Table I.

Maternal satisfaction towards intrapartum care

According to this study, only 21.2% (n=58) were satisfied with the overall intrapartum care given at designated health care facilities. From this study, only 36.1% (n=99) of respondents were satisfied with the interpersonal care domain. Similarly, for information and decision-making domain, only 27.7% (n=76) of respondents scored 18 and above, whereby, for physical birth environment domain, only 34.3% (n=94) were satisfied with care given. Means and SD of total satisfaction and the three domains were summarized in Table II. The highest scored item was seen to be the 'Nurses/midwives were helpful during labour' (mean (SD) 4.52 (0.67)) whereas the lowest scored item was 'During labour, decisions made without taking my wishes into account' (mean (SD) 3.22 (1.38)).

Factors associated with maternal satisfaction towards intrapartum care

In view of the outcome of this study was a dichotomous variable, binary logistic regression model was used to identify factors associated with maternal satisfaction towards intrapartum care. Table III showed the simple binary logistic regression model where each of the independent variables were analyzed. From this model, four variables were found to have p value of less than 0.25. Those were education level, place of birth, labour complication(s) and gestational age upon delivery. These variables were then further analyzed in the multiple binary logistic regression (Table IV). The p value was set larger in order to allow for more variables to be included

Table I: Socio-demographic characteristics and recent childbirth experience of respondents

Variables	N= 274		Mean ± SD
	n	%	
Age			30.6 ± 5.4
≤25	48	17.5	
26-35	174	63.5	
≥36	52	19.0	
Ethnicity			
Malay	251	91.6	
Non malay	23	8.4	
i. Chinese	2	0.7	
ii. Indian	5	1.8	
iii. Bumiputera (Sabah, Sarawak, Orang Asli)	11	4.0	
iv. Foreigners	5	1.8	
Level of education			
Primary	9	3.3	
Secondary	91	33.2	
Tertiary	174	63.5	
Parity			
Primiparous	80	29.2	
Multiparous	194	70.8	
Household income*			
≤RM4,359	182	66.4	
RM4,360-RM9,619	75	27.4	
≥RM9,620	17	6.2	
Employment			
Yes	170	62.0	
No	104	38.0	
Medical Problem			
No	231	84.3	
Yes	43	15.7	
If yes, i. Chronic hypertension	7	16.3	
ii. Thyroid disease	4	9.3	
iii. Bronchiol asthma	6	14.0	
iv. Pregnancy complicated disease	24	55.8	
v. Others	2	4.7	
Place of birth			
Government hospital or birth center	245	89.4	
Private hospital	29	10.6	
Effectiveness of pain relief			
Yes	183	66.8	
No	91	33.2	
Birth attendant			
Doctor	25	9.1	
Midwife/ Nurse	42	15.3	
Both	207	75.5	
Mode of delivery			
Spontaneous vaginal	182	66.4	
Assisted	13	4.7	
Elective caesarean section	25	9.1	
Emergency caesarean section	54	19.7	
Episiotomy			
Done	106	38.7	
Not done	168	61.3	
Labour complications			
Yes	23	8.4	
No	251	91.6	
If yes,			
Postpartum haemorrhage	13	56.5	
Secondary arrest	4	17.4	
Fever	2	8.7	
Hypotension/ hypertension	4	17.4	
Length of hospital stay			
≤1 night	146	53.3	
≥2 nights	128	46.7	
Gestational age upon delivery			
<37w	30	10.9	
37-40w	209	76.3	
>40w	35	12.8	

* Income categorized according to Household Income and Basic Amenities Survey Report 2016 Malaysia (Department of Statistics, Malaysia; 2017)

Table II: Maternal satisfaction towards intrapartum care based on each domain

Domain	Mean score	Standard deviation (SD)	Cut off score	Satisfaction	Dissatisfaction
IPC	22.16	3.11	≥ 25	99 (36.1%)	175 (63.9%)
IDM	15.21	3.31	≥ 18	76 (27.7%)	198 (72.3%)
PBE	21.53	3.01	≥ 24	94 (34.3%)	180 (65.7%)
Total score	**58.91**	**6.87**	**≥ 65**	**58 (21.2%)**	**216 (78.8%)**

in the model since the value of 0.05 could potentially miss to detect variables known to be important (27,28). From this analysis, maternal satisfaction was significantly associated with two variables, which were place of birth and labour complication(s) at 5% level of significance. Those who delivered at government hospital or birth center were 0.424 times less likely to be satisfied with the intrapartum care given than those delivered at private hospital (AOR (95% CI): 0.046 (0.183, 0.984)). Whereby those who experienced complications during labour were 3.387 times more likely to be satisfied than those without complication (AOR (95% CI): 3.387 (1.345, 8.528)).

Table III: Simple logistic regression of factors associated with maternal satisfaction towards intrapartum care among postnatal women

Factors	Satisfaction n=58 (%)	Dissatisfaction n=216 (%)	Crude OR	95% CI		p-value
				Lower	Upper	
Age						0.473
≤25	9 (19)	39 (81)	0.751	0.220	2.565	
26-35	41 (22)	133 (78)	0.599	0.251	1.430	
≥36	8 (15)	44 (85)	1	-	-	
Ethnicity						0.990
Malay	54 (22)	197 (78)	1.008	0.310	3.273	
Non-malay	4 (17)	19 (83)	1	-	-	
Level of Education						**0.141***
School	15 (15)	85 (85)	1.758	0.830	3.724	
Tertiary	43 (25)	131 (75)	1	-	-	
Parity						0.408
Primiparous	20 (25)	60 (75)	0.734	0.353	1.526	
Multiparous	38 (20)	156 (80)	1	-	-	
Household income						0.395
≤RM4,360	36 (20)	146 (80)	2.182	0.683	6.969	
RM4,360-RM9,619	16 (19)	59 (79)	2.103	0.658	6.719	
≥RM9,620	6 (35)	11 (65)	1	-	-	
Employment						0.812
Employed	38 (22)	132 (78)	1.084	0.555	2.118	
Unemployed	20 (19)	84 (81)	1	-	-	
Medical Problem						0.330
Yes	7 (16)	36 (84)	1.561	0.638	3.818	
No	51 (22)	180 (78)	1	-	-	
Place of birth						**0.050***
Government hospital/ Birth center	47 (19)	198 (81)	0.418	0.175	0.999	
Private hospital	11 (38)	18 (62)	1	-	-	
Effectiveness of pain relief						0.789
Yes	41 (22)	142 (78)	1	-	-	
No	17 (19)	74 (81)	0.902	0.423	1.920	
Birth attendant						0.735
Doctor	7 (28)	18 (72)	1	-	-	
Midwife/ Nurse	6 (14)	36 (86)	1.741	0.435	6.966	
Both	45 (22)	162 (78)	1.352	0.470	3.886	
Mode of delivery						0.545
Vaginal	35 (19)	147 (81)	0.640	0.175	2.336	
Assisted	5 (38)	8 (62)	1.893	0.453	7.914	
Elective c-sec	3 (12)	22 (88)	0.722	0.269	1.940	
Emergency c-sec	15 (28)	39 (72)	1	-	-	
Episiotomy						0.618
Done	23 (22)	83 (78)	1	-	-	
Not done	35 (21)	133 (79)	0.618	1.224	0.553	
Labour complications						**0.058***
Yes	10 (43)	13 (57)	2.801	0.967	8.113	
No	48 (19)	203 (81)	1	-	-	
Length of hospital stay						0.916
≤ 1 night	30 (21)	116 (79)	0.963	0.477	1.943	
≥ 2 nights	28 (22)	100 (78)	1	-	-	
Gestational age upon delivery						**0.136***
<37w	2 (7)	28 (93)	0.229	0.051	1.034	
37-40w	47 (22)	162 (78)	0.195	0.037	1.025	
>40w	9 (22)	26 (74)	1	-	-	

*$p<0.25$ significant association; OR = Odds Ratio; CI = Confidence interval

Table IV Multiple logistic regression of factors associated with maternal satisfaction towards intrapartum care among postnatal women.

Factors	Adjusted OR	95% CI		p-value
		Lower	Upper	
Level of Education				
School	0.687	0.350	1.349	0.276
Tertiary	1	-	-	
Place of birth				
Government hospital/ Birth center	0.424	0.183	0.984	**0.046***
Private hospital	1	-	-	
Labour complications				
Yes	3.387	1.345	8.528	**0.010***
No	1	-	-	
Gestational age upon delivery				
<37w	0.213	0.041	1.116	0.067
37-40w	0.803	0.345	1.870	
>40w	1	-	-	

*$p<0.05$ significant association; OR = Odds Ratio; CI = Confidence interval

DISCUSSION

In this study, the overall maternal satisfaction towards intrapartum care was found to be low with only 21%. This is consistent with the study conducted in Jordan with only 17.8% (6), Ethiopia, 19-31% (29,30) and Laos, 38.6% (22). The finding is much lower than those studied in Nepal, 90% satisfaction (8), Canada, 77% (31), and Thailand, 73.9% (23). The difference among these countries could be due to the difference in cultures and socioeconomic backgrounds that each country possessed and the difference in the quality of services that each facility provided, which gave different responses toward the different component of the intrapartum care domains. Another reason for inconsistency among those studies could be due to the variation in the type of study settings and the diversity of study population where the respondents were recruited.

Among all three domains, interpersonal care (IPC) appeared to be the most satisfied domain, followed by physical birth environment (PBE) and the information and decision-making (IDM) domain. This study showed that respondents claimed that the healthcare providers were encouraging, reassuring and helpful during the labour. Satisfaction involves a series of attention. Healthcare providers with good interpersonal skills would be the key to this satisfaction. Offering emotional and psychological supports is very much needed by mothers throughout the labour process. This finding was similar to those studies in other developing countries that reported mothers were satisfied with providers politeness, courtesy and respect (11,22,24). Physical birth environment satisfaction is a significant predictor of overall satisfaction in healthcare settings and this includes factors such as space, light, noise, air quality, views of nature, privacy and single rooms. This component of satisfaction is believed to have impact on effectiveness of care, patient health and safety and attitudes of the staffs (32).

IDM appeared to be the least satisfied intrapartum care domain in this study. Most of the respondents scored lowest for the item 'Decisions during the labour were made without taking into account the respondents wishes'. Lack of involvement in decision-making and inadequate information and education about the intrapartum care were previously showed to be associated with dissatisfaction (20). The issue of limited human resources available in the labour room may be one of the reasons for this. Healthcare providers time constraint may limits the discussion with the mothers and sometimes they may subsequently rush them in the decision-making process. This is against the principal of patient autonomy which in turns lead to patient dissatisfaction.

There was no significant association between mother's socio-demographic and satisfaction towards intrapartum care which was similar to some of the previous studies (6,25). However, previous studies did show that age (24,33), ethnicity (20–22) and level of education (23,33,34) were significantly associated with maternal satisfaction. The difference may be due to the different cultural background among different countries. Every country has different practices and beliefs in childbirth that could contribute to different outcome (35). With regards to the recent childbirth experience, place of birth and labour complication(s) showed significant association with maternal satisfaction.

This study showed that mothers who delivered at government facilities were significantly less satisfied with the intrapartum care given compared to those delivered at private facilities. This was in line with the African study (21) that showed higher dissatisfaction among women who had delivery at public hospitals. Private setting hospital provides a better environment and the ratio between health care personnel to patients was lower compared to government setting (36), allowing them to spend more time and show more concern to the laboring mothers. Thus, attention and monitoring can be given and done more frequently to fulfill the mothers' need and expectation.

Another finding was labour complication(s), where those who experienced obstetric complication(s) were significantly more satisfied with the intrapartum care given compared to those without complication. This is also consistent with the African study that showed women with complications were more satisfied with the delivery care and provider's empathy (21). Generally, mothers who had labour complications may experienced trauma and emotional distress (37), but they would definitely receive more attention and care from providers.

Other components of recent childbirth experience did not show significant association with maternal satisfaction towards intrapartum care. Majority of the factors studied in this study were found negative, possibly due to the isolated study setting and most of

the respondents delivered at the same delivery centers that the result may only reflected the intrapartum care to that particular centers. Earlier studies such as done by Khammany et al. (22), Liabsuetrakul at al. (23) and Matejeic et al. (24), a few study settings were involved to recruit the respondents and this could also be the reason for the different findings.

As MDGs has come to the end of their term (2015), the new Sustainable Development Goals (SDGs) has been currently adopted. SDGs will address the unfinished agenda. The health goal is the SDG 3: "Ensure healthy lives and promote well-being for all at all ages". This goal is associated with 13 health targets, which include: - Target 3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births; and Target 3.2: By 2030, end preventable deaths of newborn and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-five mortality to at least as low as 25 per 1000 live births (38). Therefore, in conjunction with this, healthcare providers should continue to investigate and anticipate any possible barriers towards this achievement. Healthcare providers should take into account the women's perspective on the care they need and their respond towards the services they receive.

In view of the scarcity of available studies worldwide and limited local data available specifically on the satisfaction level towards intrapartum care, the author recommends that further research in different settings or broader study population to be done in order to get a set of result that represent the whole Malaysia population. In addition, future study from the healthcare providers' perspective should also be conducted to explore the barriers in providing the best quality of maternity care.

This study is the first local study that investigated the proportion of maternal satisfaction towards intrapartum care at designated healthcare facilities and its associated factors. Therefore, it could be used as baseline information on the satisfaction towards the intrapartum care provided in the local labour facilities. This study was conducted on mothers who were at least four weeks until twelve weeks after the birth. This time points of recruitment enabled to minimize the recall bias that may affect mothers' satisfaction ratings. Other strength to minimize bias were that this study was conducted in a primary healthcare clinic, which was the different setting from where the mothers had their recent delivery and the mothers were given privacy to complete the questionnaires without being influenced by any party.

One of the drawbacks of this study was the data collection period, which was too brief. The three months' duration could not generalize the responses of mothers who came at different time throughout the year. Secondly, this study was a uni-center based, therefore, the obtained findings of this study might limit the generalizability to the whole Malaysia population. Another limitation was that the location of the study consisted of mostly Malay ethnic group with wide different of socio-economic backgrounds such as level of education, household income and employment. Thus, there might be different responses and expectations among the respondents. In terms of data collection procedures, this study was a self-administered questionnaire. Even though the author and enumerators were always present at the study location, however very minimal amount of respondents enquired on clarification of the questionnaires. Thus the understanding of the questions was assumed understood if no clarification enquired.

CONCLUSION

In this study, the maternal satisfaction level towards intrapartum care of designated healthcare facilities among postnatal women attending Klinik Kesihatan Salak was low. Among the three domains of intrapartum care, IPC domain was scored highest level of satisfaction, followed by PBE domain and the least satisfied was IDM domain. Maternal satisfaction was seen to be significantly associated with place of birth and labour complication, in which those who delivered at government facilities were less likely to be satisfied (AOR (95% CI): 0.046 (0.183, 0.984)) and those who experienced complications during labour were more likely to be satisfied (AOR (95% CI): 3.387 (1.345, 8.528)) with the intrapartum care.

Based on the outcome of this study, it is recommended that the healthcare providers to focus on the information and decision-making domain that was shown to be lacking in the healthcare system. Healthcare personnel should be trained on the communication skills with mothers and how to provide continuous information and updates regarding their labour process. All mothers should be informed and allowed to involve in any decision-making process related to their health.

Maternal satisfaction is used as secondary prevention to maternal mortality and as recommended by WHO, evaluation on this should be done to meet the mother's expectation and satisfaction. Maternal satisfaction may be the key factor affecting the mothers' health seeking behavior and healthcare utilization. Therefore, healthcare providers and policy makers should emphasize on the factors associated with low satisfaction to improve the quality of the maternity care. Procedures and policies regarding childbirth practices should be reviewed and strategized in order to improve the satisfaction during the whole childbirth process.

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