

## FACTORS INFLUENCING ANTENATAL MOTHERS CHOICE OF HOSPITAL FOR DELIVERY AT HOSPITAL UNIVERSITI SAINS MALAYSIA (HUSM) AND HOSPITAL KOTA BHARU (HKB)

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### ABSTRACT

The objective of this paper is to determine the factors that influence antenatal mothers choice of hospitals for delivery at Hospital Universiti Sains Malaysia (HUSM) and Hospital Kota Bharu (HKB). A cross sectional study was conducted on 344 Malays, multiparity antenatal mothers who attended selected Women and Child Health Clinics in Kota Bharu district, from November 2003 to February 2004. Subjects were selected using systematic random sampling. Data were obtained using an interviewer guided, validated and piloted questionnaire. In order to ensure higher inter rater reliability, only one dedicated interviewer was involved. The questionnaire consists of a few domains namely socio-economic, accessibility, convenience, previous delivery experience, and interpersonal relationship with doctors and nurses, comfort of the patients and their relatives. The data were analyzed using logistic regression. The prevalence for choosing HUSM for delivery center was 38.0% and HKB 62.0% respectively. Based on the univariate logistic regression, nine predictors variables were significantly associated with the outcomes, namely health center, previous delivery hospital, distance to hospital, accessibility to hospital, good nursing care, short waiting hours, clean wards, and children friendly. Among these only three factors remained significantly influenced when analyzed through multivariate logistic regression. The final model was tested and it was found fit. The factors derived from the final model were previous delivery hospital, accessibility and children-friendly hospital. Based on the multivariate logistic analysis, this study concludes previous delivery hospital, accessibility and children friendly hospital significantly influence the choice of hospital for delivery among antenatal mothers in Kota Bharu district.

### INTRODUCTION

The selection of a hospital for obstetrical care does not become an issue for women until they become pregnant. Obstetrics patients tend to develop various expectation and preferences for intrapartum care as the result of their own experience(s) or experience(s) of others (Hundley and Ryan, 2004). This is because word of mouth plays a significant role in the decision-making process (Morgan *et al.*, 1999). Many studies showed that previous delivery experiences are among the most influencing factors in choosing a delivery center. Women who are satisfied with the service provided and are comfortable with the hospitality are likely to utilize the services. Satisfaction is achieved when the perception of quality of care and services they received in health care setting has been positive, satisfying, and meets their expectations

(Yellen *et al.*, 2002). A study in Sweden showed women who are more educated tend to choose birthing center that provide continuity of care (Waldenstrom and Nilsson, 1993) The distance to the maternity hospital has been reported to be more important in maternity care than other general health services. Long travel time is a considerable barrier to access to delivery facilities. They do not indicate that quality improvements at existing facilities would overcome the barrier of distance and travel time (Hodgkin, 1996). Reviewed articles by Marshall *et al.*, (1995) found that patients were more concerned about the interpersonal relationship, especially quality of communication. Single room occupancy and husband friendly were then considered important. Obstetrics service provider in Kota Bharu can be divided into public and private sectors. There are only 2 public birthing centers in Kota Bharu district, a general hospital, HKB and a teaching hospital, HUSM. These two centers cater approximately 90.0 % of all obstetrics cases in Kota Bharu (Seman, 2004, pers comm, 2 March). The table below summarized the resources and workload at HUSM and HKB Obstetrics Department (Seman, 2004, pers comm, 2 March).

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**Table 1: Obstetrics Resources and Workload At HUSM and HKB For 2003/2004**

<b>Obstetrics Resources and Workload</b>		<b>HUSM</b>	<b>HKB</b>
<b>RESOURCES</b>	No of Specialist/Consultant	12	8
	No of Medical Officer	26	7
	No of House Officer	8	6
	No of patient per staff nurse at labor room	1.5	3
	No of supporting staff at labor room	5	4
	No of beds in labor room	10	15
	No of beds in antenatal and postnatal wards	98	144
<b>WORKLOAD</b>	Average no of total delivery per month	500-700	1100-1300
	Bed occupancy rate (BOR) in labor room (%)	60-70	110- 120
	Bed occupancy rate (BOR) in wards (%)	50 - 60	110 - 120

**OBJECTIVE**

The objective of this study was to determine the factors influence antenatal mothers' choice of hospital for delivery at HUSM and HKB.

**METHODOLOGY**

A cross sectional study was conducted on 344 Malays, multiparity antenatal mothers who attended selected Women and Child Health Clinics in Kota Bharu district, from November 2003 to February 2004. Only Malaysian and women with previous delivery experiences at public hospitals in Kota Bharu were selected using systematic random sampling. Data were obtained using an interviewer guided, validated and piloted questionnaire. In order to ensure higher inter rater reliability, only one dedicated interviewer was involved. The questionnaire consists of a few domains namely socio-economic, accessibility, convenience, previous

delivery experience, and interpersonal relationship with doctors and nurses, comfort of the patients and their relatives. All the data were entered into the SPSS (version 11.0; SPSS Inc, Chicago) software and transferred using the Stat Transfer (version 6; Circle Systems Inc, Seattle) into the Intercooled Stata (version 7.0, Stata Corp, Texas) software packages for analyses. Proportion of respondents choosing these two hospitals were determined. The data were analyzed using logistic regression to determine the factors influencing hospital choice for delivery.

**RESULTS**

Only 37.3 % of respondents choose to deliver at HUSM for their current pregnancy. However, majority of them (62.7%) choose to deliver at HKB. The respondents who choose HUSM and HKB were socio demographic as there was no significant association ( $p > 0.05$ ) between hospital choice and socio demographic characteristics as shown in Table 2 below.

**Table 2: Demographic Variables Of Antenatal Mothers Who Choose HUSM And HKB**

<b>Demographic Variables</b>	<b>HUSM</b>		<b>HKB</b>		<i>df</i>	<i>(Chi Square)</i> <b><sup>a</sup>p-value</b>
	<i>no</i>	<i>%</i>	<i>no</i>	<i>%</i>		
Education						
Primary	39	11.3	63	18.3		
Secondary	64	18.7	114	33.1	2	(0.79)
Tertiary	27	7.8	37	10.8		0.67*
Occupation						
Housewife	95	27.6	138	40.1	1	(2.8)
Working	35	10.2	78	22.1		0.09*
Household Income						
<RM 500	36	10.5	52	15.1	2	
RM 500 – 1300	53	15.4	91	26.5		(2.70)
> RM 1300	41	11.9	71	20.6		0.44*

\* $p > 0.05$

<sup>a</sup> Pearson's Chi-square test

**Table 3: Factors Influencing Antenatal Mothers Choice Of Hospital For Delivery**

Variables	Adjusted Odds Ratio	95 % CI		LR statistics (df)	*p-value
Previous delivery hospital					
HUSM	1.00			333.66	<0.001
HKB	19.85	5.9012	66.7924		
Easier to reach hospital					
HUSM	1.00			347.01	<0.001
HKB	10.33	3.1339	34.1032		
Convenience for relatives					
Children friendly	1.00			272.98	<0.001
Not children friendly	0.0058	0.00126	0.0268		

\*p-value for LR statistics

Based on the univariate logistic regression, nine predictors variables were significantly associated with the outcomes, namely health center, previous delivery hospital, distance to hospital, accessibility to hospital, good nursing care, short waiting hours, clean wards, and children friendly. Among these only three factors remained significantly influenced when analyzed through multivariate logistic regression as shown in Table 3 above. The final model was tested and it was found fit. The factors derived from the final model were previous delivery hospital, accessibility and children-friendly hospital.

## DISCUSSION

It is distinctly clear that HKB policy allowing children to visit their mothers in the wards is heavily influencing the hospital choice for delivery. This factor is very unique to the Kelantanese which no previous studies had interest on it. It is postulated this scenario is related to the Kelantan cultural and behavior practice. It is common to observe the scenario at hospitals in Kelantan, whereby the family members of patients hanging around the wards outside visiting hours and even sleep overnight at the corridor. HKB management team is very sensitive to the needs of their clients. Realizing how important this factor is, HKB make the regulation, which allows children visitors under the age of twelve. HUSM on the other hand hold to this idea. Their major concern is safety of the patients. Knowing children are difficult to controlled and with previous accidental events in the wards related to the children, HUSM still practice no children visitor policy. It is not surprising that easy accessibility to the hospital is important factors as mentioned by (Hodgkin, 1996). HKB compared to HUSM is easily

reached by public transport. Public transport is cheaper and easily accessible to Kota Bharu city center than to Kubang Kerian suburb. The respondents also found important to be familiar with the environment for delivery. Recognizing this factor make these women more prone to choose the center where they had deliveries experiences. Besides it is easy for them, more important it is easy for their family members who will accompany them while warded. It is a norm to the Kelatanese to bring along their family members as a way to show their emotional and moral support while they play the sick role (Clark, L. A., *et. al*, 1993). Factor related to satisfaction with the nursing care was excluded in the final model. In other words, factor on satisfaction with the nurses were not found to be an important determinant in choosing hospital for delivery. This finding was not in agreement with much previous research. Women who are satisfied with the service provider and are comfortable with the hospitality are likely to utilize the services as claimed by Yellen *et. al*, (2002). Besides that, they would also tend to promote the center to their friends and relatives (Marshall *et. al*, 1995).

## CONCLUSION

Based on the multivariate logistic analysis, this study concludes previous delivery hospital, accessibility and children friendly hospital significantly influence the choice of hospital for delivery among antenatal mothers in Kota Bharu district.

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