MANUSCRIPT FOR PUBLICATION
IN MALAYSIAN JOURNAL OF PUBLIC HEALTH MEDICINE

PATIENT SATISFACTION TOWARD MEDICAL WARD SERVICES IN A TEACHING HOSPITAL (TH) AND A GENERAL HOSPITAL (GH)

Mohd Zamri Md Ali[1], Than Winn[1], Mohd Ayub Sadiq[2], Mazlan Abdullah[1], Aziz Baba[3], Rosemi Salleh4

[1] Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan
[2] School of Dental Sciences, Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan
[3] Head Department, Department of Internal Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan
4 Head Department, Department of Internal Medicine, Kota Bharu Hospital, Kelantan

ABSTRACT

A contrived cross-sectional study was conducted among medical inpatients admitted to the medical wards of a Teaching Hospital (TH) and a General Hospital (GH) in the Kota Bharu district to study patient satisfaction toward medical ward services in both hospitals. A validated, self-administered patient satisfaction toward medical ward service (PSMWS) questionnaires were given to 376 eligible medical inpatients. This study showed that demographic characteristics of two groups were similar except median family income higher among TH group (RM925 vs. RM775, $p<0.05$), median Patient's Out-of-Pocket Expenditure (POE) was higher among TH group (RM35 vs. RM28, $p<0.001$), mean Length of Stay (LOS) was longer among TH respondents(5.8 vs. 3.3 days, $p<0.05$). Level of patient satisfaction toward medical ward services in HKB was 54 percent while TH was 42 percent ($p=0.018$). GH medical inpatients were more satisfied with the services of nurses, doctors, other ward staff and financial aspect of medical ward services while TH medical inpatients were more satisfied with the clean and comfort (include medical ward facilities and infrastructure) aspect of medical ward services. Type of hospital (teaching hospital versus general hospital) and food expenses (more than RM5) were significantly associated with satisfaction score of combined seven medical ward services domains ($p=0.001$ and $p=0.001$ respectively). It is recommended that hospital administration use satisfaction data to identify and improve specific medical ward service areas in order to gain higher patient satisfaction and better utilization of their medical ward services.

Key words: Patient satisfaction, teaching hospital, general hospital, medical ward services.

INTRODUCTION

Several definitions of patient satisfaction were given by different authors. Pascoe defined patient satisfaction into two-parts, firstly; the 'contrast ' model which stated that whenever the service experience is greater than the patient's expectations, he or she is satisfied. The 'assimilation' model stated that when the patient does not fully understand the service experience (due to inadequacy of clinical knowledge), he or she may adjust their expectations downward if the service experience falls

below expectations (Pascoe, 1983). Linder-Pelz defined patient satisfaction as positive evaluations of distinct dimensions of health care based on patient expectations and provider performance. Patient satisfaction must be understood within a context that contained multiple construct (elements) likely to satisfy the patient (Linder-Pelz S, 1982b). The importance of patient satisfaction to the healthcare managers include (i) a measure of the process of care and evaluation of health care services from the patient's point of view which allow health manager identify healthcare services weakness and improve their services to the patients (Sitzia and Wood,1997), (Strasser and Davis, 1991) (ii) increased return of patients to the hospital (Steiber and Krowinski, 1990) (iii) more compliance to their healthcare and maintainance of consistent relationship with their healthcare provider (Wartman,1983). This study was undertaken to study patient satisfaction toward medical ward services in a Teaching Hospital (TH) and a General Hospital (GH) in the Kota Bharu district of Kelantan state. The satisfaction data gathered from this study could be utilized by the local hospital managers to improve their medical ward services to the local medical inpatients.

MATERIALS AND METHODS

This is a contrived cross-sectional study conducted among medical inpatients admitted to the medical wards of a Teaching Hospital (TH) and a General Hospital (GH) in the Kota Bharu district of Kelantan state from April 2003 to September 2003. The inclusion criteria were medical inpatients who spent at least two nights of hospitalization and more than 15 years of age.The data was obtained from the validated, self-administered patient satisfaction toward medical ward service (PSMWS) questionnaires. PSMWS forms were given to 376 eligible medical inpatients. The cut-points used to categorize the categorical characteristics of the respondents were as follows: (i) age group (young aged was 15 to 35 years old, middle aged was 36 to 45 years old, old aged was 46 years old and above); (ii) education level (low education was primary school education, middle education was secondary school education, high education was university or diploma education); (iii) income group (low income was RM0-500, middle income was RM501-1000, high income RM1001 and above); (iv) residence (urban was Kota Bharu, rural was Bachok, Pasir Mas, Tumpat); (v) occupation (employed include government and private, otherwise include unemployed); (vi) outside food expenses (low expenses was RM0-2, medium expenses was RM3-7, high expenses was RM7 and above); (vii) admission diagnosis [infectious diseases e.g. dengue and malaria, respiratory/ chest diseases e.g. Chronic Obstructive Airway Disease(COAD) or pulmonary tuberculosis(PTB), cardiovascular diseases(angina), renal diseases e.g. end stage renal failure(ESRF) and Nephrotic syndrome, metabolic diseases e.g. diabetes mellitus and thyroid disease, other diseases]; (viii) hospital bill expenses by patient (low expenses was RM0-10, medium expenses was RM11-20, high expenses was RM21 and above); (ix) length of stay (2-3days, 4-5days, more 5 days).

Each patient satisfaction item was scored in Likert scales from 1 = very unsatisfactory or strongly disagree to 5 = very satisfactory or strongly agree. The respondents were asked to give their satisfaction rating towards seven domains of medical ward services namely doctor service, nursing service, other staff service, loyalty, finance aspect, cleanliness and comfortness and miscellaneous aspect of medical ward services. Before launching the statistical analysis, item variables were summed for the corresponding domain and transformed into percents of the total maximum score weight. One summary measure of patient satisfaction (the composite satisfaction score) was computed by summing

all domain variable scores. A series of simple and multiple linear regressions were performed for each domain to identify the social, demographic and patient characteristics associated with the patient satisfaction. The domain scores were then dichotomized at a cut point of below 80 as unsatisfied and equal to or above 80 as satisfied; the dichotomized domain scores were then analyzed using binary logistic regression. Multiple logistic regression models were fitted between each domain and several independent variables. Stepwise variable selection methods were applied on each domain versus nine independent variables, namely residence, admission diagnosis, education, phone, age group, income, occupation, expense on food, and hospital where the patient was admitted. The cut points of the p-values for entry and removal of the variables from the model were 0.05 and 0.1 respectively. The variables in the prototype final models were checked for interactions and tested whether they were independent risk factors or confounders.

Data entry was done by using the EpiInfo 6 software while data analysis by using SPSS version 11.0 software. In this study, the operational definition of patient satisfaction was subjective perception of the patient who received health services based on patient expectations and health provider performance.

RESULTS

Table 1A and 1B show that the demographic characteristics of the Teaching Hospital (TH) and General Hospital (GH) were similar except median family income higher among TH group (RM925 vs. RM775, $p<0.05$), median Patient's Out-of-Pocket Expenditure (POE) was higher among TH group (RM35 vs. RM28, $p<0.001$), mean Length of Stay (LOS) was longer among TH respondents(5.8 vs. 3.3 days, $p<0.05$).

Table 1A: Distribution of the socio-demographic and current admission characteristics of the respondents (categorical variables).

Variables	TH (n =188)		GH (n=188)		p-value	Total (n=376)	
	Number	%	Number	%		Number	%
Gender							
Male	93	49.47	92	48.94	0.918	185	49.2
Female	95	50.53	96	51.06		191	50.8
Age group							
Young	64	34.04	67	35.64	0.336	131	34.8
Middle	26	13.83	35	18.62		61	16.2
Old	98	52.13	86	45.74		184	49.0
Education							
Low (primary)	80	42.6	72	38.3	0.131	152	40.4
Middle (Form1to5)	76	40.4	68	36.2		144	38.3
High (University)	32	17.0	48	25.5		80	21.3
Marital status							
Married	144	76.60	154	79.26	0.203	298	79.3
Single	44	23.40	34	20.74		78	20.7
Occupation							

Employed	90	47.87	78	41.49	0.213	168	44.7
Otherwise	98	52.13	110	58.51		208	54.3
Residence *							
Urban	116	61.70	98	52.13	0.061	214	56.9
Rural	72	38.30	90	47.87		162	43.1
Income (RM)							
Low (0-500)	53	28.19	66	35.11		119	31.7
Middle (501-1000)	61	32.45	82	43.62		143	38.0
High (>1000)	74	39.36	40	21.28	0.001	114	30.3
Telephone *							
Yes	86	36.70	58	30.9	0.003	164	38.3
No	102	63.30	130	69.1		232	61.7
Admission diagnosis *							
Infectious	55	29.26	42	22.34		97	25.8
Respiratory	27	14.36	39	20.74		66	17.6
Cardiovascular	50	26.60	31	16.49	0.024	81	21.5
Renal	14	7.45	24	12.77		38	10.1
Metabolic	10	5.32	17	9.04		27	7.2
Other	32	17.02	35	18.62		67	17.8
Food expenses (RM)							
Low (0-2)	29	15.43	66	35.11		95	25.3
Medium (3-7)	105	55.85	82	43.62	0.001	187	49.7
High (>7)	54	28.72	40	21.28		94	25.0
Hospital bill (RM)							
Low (0-10)	111	59.04	163	86.7	0.001	274	72.9
Medium (11-20)	15	7.98	6	3.19		21	5.6
High (>20)	62	32.98	19	5.05		81	21.5
Length of Stay (day)							
2-3 days	53	28.19	108	57.45		161	42.7
4-5 days	59	31.38	64	34.04	0.001	123	32.7
>5 days	76	40.43	16	8.51		90	24.0
Zero income (RM)	0	0.00	9	100%		9	100%

* Significantly different at $p<0.05$ (t-test or Mann-Whitney U test)
GH: General Hospital
TH:Teaching hospital RM: Ringgit Malaysia

Table 1B: Distribution of the socio-demographic and current admission characteristics (Continuous variables) of the respondents.

Variable	TH (n = 180)			GH (n = 180)			Total (n=376)		
	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD
Age (year)	47	44.84	17.72	43	43.93	16.67	44.00	44.38	17.19

Income (RM)*	925	1150.46	824.4	775	905.19	871.05	800.0	1027	855.8
Length of stay (day)*	5	5.77	3.74	3	3.35	1.62	4.00	4.56	3.1
Hospital bill (RM)*	10	21.21	35.64	3	6.66	20.05		13.94	29.8
Food expenses (RM)*	5	6.06	4.37	3	4.46	4.28	5.00	5.26	4.4
Other Expenses (RM)	10	9.06	6.47	9	8.31	6.82	10.0	8.69	6.6
Transport expense (RM)	10	9.03	7.61	5	8.46	9.69	10.0	8.74	8.71
Total Patient-Out-of-Pocket Expenditure (RM)*	35	45.36	39.45	20	27.89	25.08	25.50	36.63	34.1

GH: General Hospital
TH:Teaching hospital RM: Ringgit Malaysia
* Significantly different at P<0.05 (t-test or Mann-Whitney U test)

Univariate Analysis

Table 2 below shows that four domains of patient satisfaction score toward medical ward services namely doctors, nurses, staff and finance domain were found to be significantly in favour of the GH group.

Table 2: Univariate analysis of item and domain scores of PSMWS questionnaire.

Domains and Items Satisfaction Scores	TH		GH		Hospital given higher scores by patients	p-value*
	Median	Mean	Median	Mean		
Loyalty	12.00	79.25	12.00	78.86	TH	0.70
-Overall quality	4.00	3.91	4.00	3.95	GH	0.90
-Will come back	4.00	3.96	4.00	3.94	TH	0.50
-Will recommend	4.00	4.01	4.00	3.93	TH	0.10
Nurse	16.00	78.62	16.00	80.37	**GH**	**0.05**
-speak politely	4.00	3.86	4.00	3.98	GH	0.013
-satisfied service	4.00	3.92	4.00	4.04	GH	0.036

-skill & knowledge	4.00	3.89	4.00	3.94	GH	0.70
-use easy language	4.00	4.03	4.00	4.09	GH	0.30
Doctor	48.00	74.30	50.00	76.48	GH	**0.01**
-speak politely	4.00	4.11	4.00	4.09	TH	0.50
- introduce themselves	3.00	3.18	3.00	3.26	GH	0.40
-greet patient	3.00	3.15	3.00	3.27	GH	0.20
-listen to patient problems	4.00	3.91	4.00	3.96	GH	0.30
-explain procedure	4.00	3.74	4.00	3.89	GH	0.020
-explain treatment	4.00	3.80	4.00	3.93	GH	0.023
-use easy language	4.00	3.87	4.00	4.04	GH	0.038
-explain discharge plan	4.00	3.84	4.00	3.82	TH	0.90
-told side effect	4.00	3.48	4.00	3.63	GH	0.10
-told appointment	4.00	3.70	4.00	3.91	GH	0.003
-told compliance	4.00	3.72	4.00	3.86	GH	0.005
-satisfied with service	4.00	3.88	4.00	3.92	GH	0.50
-skill & knowledge	4.00	4.00	4.00	4.07		0.50
Staff	16.00	78.19	16.00	80.05	GH	0.055
-dress appropriately	4.00	4.11	4.00	4.16	GH	0.40
-satisfied attendant service	4.00	3.83	4.00	3.98	GH	0.032
-satisfied attendant skills	4.00	3.78	4.00	3.87	GH	0.60
-other staff skill	4.00	3.89	4.00	3.98	GH	0.30
Clean & comfort	34.00	73.27	33.00	71.60	TH	0.039
-furniture is adequate	4.00	3.82	4.00	3.65	TH	0.014
-lighting is functioning	4.00	4.01	4.00	3.92	TH	0.039
-ventilation is satisfactory	4.00	3.93	4.00	3.74	TH	0.053
-bed spacing adequate	4.00	3.99	4.00	3.57	TH	0.001
-linen satisfactory	4.00	3.50	4.00	3.66	GH	0.033
-number of fans adequate	4.00	3.73	4.00	3.62	TH	0.255
-TV adequate	3.00	3.09	3.00	2.96	TH	0.043
-toilet cleanliness	3.00	3.23	4.00	3.36	GH	0.10
-ward cleanliness	4.00	3.63	4.00	3.69	GH	0.50
Miscellaneous	34.50	69.31	35.00	69.33	GH	0.90
-food satisfactory	4.00	3.57	4.00	3.61	GH	0.60
-understand ward materials	3.00	3.05	3.00	3.23	GH	0.10

-public transport is adequate	4.00	3.45	3.50	3.44	TH	0.90
-ambulance is satisfactory	4.00	3.61	4.00	3.63	GH	0.50
-ward sign adequate	4.00	3.50	4.00	3.64	GH	0.10
-car parking is adequate	3.00	3.10	3.00	2.86	TH	0.01
-child-visitors law allowed	4.00	3.56	4.00	3.53	TH	0.80
-outside food law allowed	4.00	3.80	4.00	3.77	TH	0.80
- valuables thing law allowed	3.00	2.83	3.00	2.82	TH	0.80
- caretaker allowed	4.00	4.12	4.00	4.09	TH	0.50
Finance	6.00	64.49	7.00	68.78	GH	0.001
-afford hosp bill	3.00	3.15	3.00	3.38	GH	0.001
-bills reasonable	3.00	3.29	4.00	3.49	GH	0.002
All combined	74.37	73.79	75.32	75.07	**GH**	**0.018**

* Nonparametric test p-values
PSMWS: Patient Satisfaction Medical Ward Service
GH: General hospital TH= Teaching hospital

Level of Patient Satisfaction

Table 3 below shows that the level of patient satisfaction toward medical ward services in GH was 54 percent while TH was 42 percent (p=0.018) by using cut-off domain satisfaction scores of 80.

Table 3 Proportion of Satisfied Respondents Using Domain Satisfaction Scores of 80

	Proportion of satisfied patient at cut-off point of domain score 80
By hospital	
TH respondents (n=188)	42.0%
GH respondents (n=188)	54.3%
Combined HUSM and HKB (n=376)	48.1%

TH= Teaching hospital GH= General hospital

Multivariate Analysis

Table 4a and 4b below show the results of eight different multiple logistic regression models fitted separately between each domain and a set of independent variables. The loyalty domain had seven significant predictors; the younger patients admitted with non-infectious disease, owning a phone, high income group, and high education level living in a rural district and admitted to the Teaching hospital(TH) were more likely to be loyal to the hospital than those who were older, admitted with

chronic diseases, not owning a phone, low income, low education level, living in an urban area, and admitted to the General Hospital(HKB). Belonging to the GH group, younger age and phone-ownership were about two times more satisfied with the nursing services compared to the respective referent groups. The respondents were satisfied with the doctor services more if they were highly educated, residents of a rural district, having a phone, spending more on food, , and belonged to the GH group. The staff domain had a wider spectrum of predictors, namely hospital group, place of residence, age, education, phone ownership and food cost. The GH patients, younger age, middle education level, owning a phone, those coming from the rural area, and could afford to pay for food, were satisfied with the staff services. Clean-and-comfort domain was satisfied by those who were not employed, could afford to pay for food, more educated, owner of phone, and with chronic diseases. Those who were admitted with chronic diseases, paid high food cost, and had phones were satisfied with miscellaneous services. The older patients who had phones, and who could effort on food expanses and belonging to the GH group were financially satisfied.

When it comes to the overall composite scores of patient satisfaction, the GH group was twice as satisfied as the TH group along with low income group and those who could effort to pay for food. A simple computation based on the r-squared values after a series of simple linear regressions of the composite scores on each domain revealed relative contribution of each domain to the variation in the composite scores. The nurse (20%), the staff (19%) and the doctor (17%), made up over fifty percent of the variation in the composite scores and these domains were scored high among the patients in the HKB group. This finding is consistent with the results of the multivariate analysis after controlling for other independent variables as can be seen in the tables 4a and 4b.

Detailed inspection of the tables 4a and 4b would clearly high-light the fact that the hospital where the respondent was admitted is the most important variable showing significant association with five domains after adjusting with the other variables such as demographics and cost and diagnosis related to the index admission to the medical wards. In particular the HKB group was satisfied with five domains, namely, the doctors, nurses, other staff, finance, and composite scores. The HUSM patients, however, were about two times more likely to come back to the hospital. The clean-and-comfort and the miscellaneous domains were not associated with any patient groups. Other independent variables which were retained in the stepwise multiple regression models as independent risk factors, in a descending order of statistical significance, were phone, food expense, age, education, admission-diagnosis, area of residence, income, and occupation.

Table 4a: Multiple logistic regression analysis showing association between independent variables and the loyalty, nurse, doctor, and staff domains of the patient satisfaction scores

Socio-demographic variables	Adjusted odds ratios and 95% CI of OR for patient satisfaction score domains			
	Loyalty	Nurse	Doctor	Staff
Residence Urban Rural	1 2.32(1.05-5.13)		1 2.63(1.27-5.44)	1 2.34(1.20-4.54)
Admission diagnosis Infectious	1			

Chest Cvd Renal Metabolic Other	5.13(1.99-13.24) 3.11(1.19-8.13) 4.90(1.68-14.28) 7.86(2.41-25.65) 3.08(1.23-7.74)			
Education High Medium Low	 1 - 0.29(0.13-0.68)		 1 - 0.54(0.27-1.09)*	 1 1.83(1.07-3.13) -
Phone No Yes	 1 2.50(1.31-4.80)	 1 1.76(0.92-3.34)*	 1 2.85(1.42-5.68)	 1 2.45(1.24-4.81)
Age Young Middle Old	 1 0.37(1.15-0.92) 0.39(0.20-0.75)	 1 0.39(0.18-0.86) 0.60(0.36-1.00)*		 1 0.41(0.18-0.93) -
Income Low Middle High	 1 - 2.51(1.31-4.81)			 1 - 1.68(0.96-2.94)*
Occupation Employed Otherwise				
Expense on food Low middle High			 1 1.36(0.94-1.97)* -	 1 2.75(1.35-5.62) 3.07(1.41-6.69)
Patient groups HUSM HKB	 1 0.56(0.29-1.07)*	 1 1.66(0.97-2.86)*	 1 1.83(1.00-3.37)*	 1 2.51(1.38-4.56)

* Significant at P<0.1 (all others are significant at P<0.05)

Table 4b: Multiple logistic regression analysis showing association between independent variables and the clean & comfort, miscellaneous, and finance domains and composite patient satisfaction scores

Socio-demographic variables	Adjusted odds ratios and 95% CI of OR for patient satisfaction score domains			
	Clean & Comfort	Miscellaneous	Finance	All combined
Residence Urban Rural				
Admission diagnosis Infectious Chest Cvd Renal	 1 4.29(1.46-12.59) 2.74(0.90-8.33)* 5.15(1.43-18.57)	 1 6.45(1.55-26.78) - -		

Metabolic	-	-		
Other	-	5.56(1.45-21.29)		
Education				
High	1			
Medium	4.24(1.56-11.62)			
Low	3.51(1.02-12.10)			
Phone				
No	1	1	1	1
Yes	2.62(1.11-6.17)	4.31(1.39-13.35)	2.14(1.18-3.90)	1.67(0.94-2.98)*
Age				
Young			1	
Middle			1.83(1.03-3.24)	
Old				
Income				
Low				1
Middle				0.58(0.37-0.90)
High				-
Occupation				
Employed	1			
Otherwise	3.76(1.40-10.15)			
Expense on food				
Low	1	1	1	1
middle	3.82(1.56-9.34)	-	1.85(1.06-3.22)	2.49(1.45-4.16)
High	-	2.57(0.83-7.91)*	-	2.18(1.18-4.03)
Patient groups				
HUSM			1	1
HKB			2.89(1.73-4.77)	2.56(1.58-4.64)

* Significant at P<0.1 (all others are significant at P<0.05)

DISCUSSION

Level of Patient Satisfaction

Our result found that by using domain satisfaction score of 75 as the cut point for level of satisfaction, the level of patient satisfaction (based on composite seven domain scores) was 47.9 percent compared to 15.7 percent by using satisfaction domain score cut point domain score of 80. The low prevalence of satisfaction level found in this study was consistent with previous local patient satisfaction study. For instance, in a satisfaction study which involved seven public hospital in Malaysia, Roslan found that only 19 percents of inpatients were satisfied toward the medical care they received (Roslan JMG,2000). However, Hall's meta-analysis of 221 patient satisfaction studies reported that the overall satisfaction toward health care services varied from study to study (Hall and Dornan,1988). A

satisfaction study done in Canterbury and Thanet health district of United Kingdom, in which William and Calnan reported that the overall satisfaction toward hospital care was 83 percents (William and Calnan,1991). Another patient satisfaction survey in three public general hospitals in Athen, Greece, (n=1295 patients) reported high prevalence of satisfaction (86 percents) toward medical and nursing services (Niakas et al,2004).

Patient satisfaction toward satisfaction domains of medical ward services of HUSM and HKB

Using the domain satisfaction scores of 80 as the cut point for satisfied status, the percentages of patient satisfaction toward medical ward services were 83.2% for the loyalty, 82.4% nurses, 80.3% other staff, 54.3% doctors, 49.5% clean-comfort, 49.2% overall composite score, 37.2% finance and 21.8% miscellaneous domains. Nine factors which were significant predictors of satisfaction for at least one of the domains in the multivariate models were stated above. In another satisfaction study of public hospitals in Bangladesh, greater patient satisfaction were associated with five dimension of hospital services namely greater responsiveness of the hospital staff to patient needs, greater level of assurance given by hospital staff, better quality of interpersonal communication, better level of perceived discipline among staff and lower perceived harassment (Andaleeb, 2001). Because the overall score is the weighted average of the seven domains which again are contributed by the corresponding item scores, we evaluated the satisfaction domains and items which are attributable to the overall patient satisfaction. As stated earlier, nurse, doctor and staff domains carried highest weight for the composite scores, we would look into the detailed aspects of these domains, their respective items and their underlying rationales.

Composite satisfaction score

We found that the major contributors to the overall satisfaction score were service and communication skills of nurses ($r=0.7$; $P<0.001$), doctors ($r=0.62$; $P<0.001$), and staff ($r=0.27$; $P<0.001$) (Table 4.4I). Our finding was consistent with one study which looked at the general and specific aspects of consumer satisfaction with general practitioner services, general dental care services and hospital in-patients care. Despite high general levels of consumer satisfaction (83-97%); detailed and specific questions revealed greater levels of expressed dissatisfaction; 38% felt that they could not discuss personal problems with their general practitioners, 51% felt their dentist was not easy to reach at weekends or holidays, whilst 35% felt hospital doctors did not give sufficient information. (Williams and Calnan 1991).

Nurse domain

We found that the HKB patients gave significantly high satisfaction scores toward items of 'nurses spoke politely' and most of them strongly agreed with the services provided by the nurses. These items were attributable to high nurse domain scores among this group. The patients were also satisfied with the nurses' use of understandable language and confident in the nurses' skills and knowledge. Some researchers warned the patient satisfaction planners that nurses play strong role in patient satisfaction. In their paper titled "Satisfaction climbs with smiles, other soft skills", the authors stated that patient satisfaction can be improved with more attention to interpersonal skills and catering to the concerns that most patients have about emergency care (Anonymous 2004).

Doctor domain

In our study, the significant satisfaction items in the doctor domain were doctors' use of easy language, doctors' explanation of medical procedure, doctors' explanation of treatment, doctor told patient about the importance of compliance to treatment and doctor told about the appointment dates. These items were given high satisfaction scores by the HKB group. Of the thirteen satisfaction items investigated under the doctor domain, eight items including doctor behaviors such as politeness in greeting and speaking to patients and doctors' explanation of patient's discharge plan were significantly below the acceptable level of satisfaction. This finding was consistent with Steiber statement that insufficient personal attention such as poor doctor-patient communication is the biggest problem for American patient (Steiber,1990). Other satisfaction study in a medical oncology ward in St George Hospital found that the cancer patients were more satisfied and less anxious if more information given by their doctor (Steptoe et al. 1991). However, our study did not address issues related to specific diseases such as cancers.

In our study, we found that medium income (RM501-RM1000) patients showed low level of satisfaction with the doctor's services. Another study reports a higher number of elements of care were thought necessary by patients who were nonwhite and had not completed college. Up to 38% of the patients reported not receiving elements of care they had considered necessary; specific agreement between physicians and patients about care not received ranged from 63% to 100%. Not receiving certain "necessary" elements of care was associated with lower visit satisfaction. Unless patients' expectations are carefully elicited and dealt with the physician-patient relationship may be adversely affected.(Kravitz 1994).

Staff domain

Hospital care is a holistic venture in which all parties play crucial roles to achieve goals and mission of the institution. Even so no studies highlight the role of the hospital staff other than doctors and nurses in patient satisfaction. We have found that staff service and communication skills played important role in patient satisfaction and hence patient loyalty to the hospital. Patient satisfaction can be improved with more attention to interpersonal skills and catering to the concerns that most patients have about their care.(Anonymous 2004). The impact of pharmacist interventions on the care and outcomes of patients with depression in a primary care setting was compared with the physician-led conventional care. The results showed similar rates of adherence to antidepressant regimens and improvements in the outcomes of depression at one year.(Capoccia, Boudreau et al. 2004).

Loyalty domain

Nearly 50% of our patients were satisfied with the loyalty domain. Patient loyalty was also correlated ($P<0.001$) with other domains and the composite scores (nurse $r=0.57$; staff $r= 0.55$ and composite $r=0.71$). In particular, loyalty was contributed mainly by the doctors' services and staff skills in communication and services. Although the customer loyalty is frequently cited as a benefit of patient satisfaction, there are not many studies to look at an empirical link between the two. One study evaluated the relationship between self-reported patient satisfaction measures and subsequent return to the provider for care at a large academic medical center. Return-to-provider was associated with only 11% of the satisfaction items. All items showing a significant relationship measured perceptions of how well physicians and nurses attended to, and provided information to, patients and their families. Although the size of these relationships was generally small, the estimated financial implications are substantial. (Garman, Garcia et al. 2004).

Clean and comfort domain

The items on furniture, lighting, ventilation, space, linen and audio-visual facilities were significant attributes of the clean-and-comfort domain and much favored by the HUSM group. However all items except lighting under this domain were well below the acceptable level satisfaction scores. This can be explained by the fact that HUSM building was built since last 21 years ago, their medical ward building and facilities (e.g. patient bed, lighting, ward toilet) are relatively newer compared to the HKB building which was built 74 years ago. This may explain why HUSM respondents more satisfied than HKB subjects in the clean and comfort domain of medical ward services. The environment of the waiting room and other areas also is important (Anonymous 2004).

Miscellaneous domain

This domain necessarily covers a wide range of items which were not highly correlated with one another showing high values of uniqueness (0.5 to 0.8) in the factor analysis. Its contribution to the composite score was only 10%. Car-parking was the only item highly scored by the HUSM group. This can be explained by the fact that the car parking in HUSM is more spacious compared to those in HKB. All items including food services under this domain were well below the acceptable level of satisfaction. In a study to determine the complexity of patient satisfaction with foodservices, seven dimensions represented patients' perceptions of foodservice: food quality, service timeliness, service reliability, food temperature, attitude of the staff who deliver menus, attitude of the staff who serve meals, and customization. Food quality was the best predictor of patient satisfaction with meals and foodservice, followed by customization and attitude of the staff who deliver menus. The results emphasize the need for a comprehensive and differentiated approach in measuring and monitoring patient satisfaction with foodservices. (Dube, Trudeau et al. 1994)

Finance domain

The scope of this research did not cover the cost and quality aspect of the hospital care related to the patient satisfaction. The domain includes just two items about the hospital bills in regards to their affordability and reasonableness. Seventy-two percent of these patients paid nothing for hospital services and the maximum expenses for food and transport were less than RM 60. We merely tried to incorporate patient's out-of-pocket expenses incurred due to the current admission to the hospital. The amount of hospital bills paid was not associated with hospital days or with the type disease for which the patient was admitted. Nevertheless only 37% of the patients were satisfied with this domain even at the cutoff point of 75. The HKB group was about three times more satisfied financially because they spent less on hospital bills and other expenses.

Association between sociodemographic and admission related factors with patient satisfaction toward domains of medical ward services

This study found that HKB (service oriented hospital) was significantly associated with the satisfaction score of overall composite score, finance domain, staff domain, nurse domain, doctor domain and loyal domain (Table 4.4A-4.4G). This finding may be explained by the fact that HKB functioning as a public general hospital under the Ministry of Health management which is expected to prioritize in giving quality medical services to their inpatients. On the other hand, HUSM as a teaching hospital

under Ministry of Education management, which is expected to prioritize medical education and training to their undergraduate and postgraduate students more than medical service to the local patients. In literature, type of hospital has not been mentioned as one of predictors of patient satisfaction. Only one study by Carmel who reported that the type of ward (medical versus surgical) was identified as predictors of patient satisfaction with physician and nursing care (Carmel, 1985). We also found that the respondents' expenses to buy outside food were associated with satisfaction score of overall composite score, finance domain, clean and comfort domain, staff domain, doctor domain and miscellaneous domain(Table 4.4A-4.4G). In literature, outside food expenditure has not been mentioned as one of predictors of patient satisfaction. We could not give any explanation to this finding.

Compared to highly educated (university level) respondents, the middle educated (secondary school education) and low educated (primary school) respondents were more satisfied toward the overall composite score, finance domain, clean and comfort domain, staff domain, doctor domain and miscellaneous domain(Table 4.4A-4.4G). This finding was consistent with Hall's statement that greater satisfaction was associated with less education level (Hall and Dornan,1990). Compared to young age, middle aged respondents were more satisfied toward finance domain of medical ward services. This finding was similar with statement that greater age associated with greater satisfaction. Hall reported that the average magnitude of association between sociodemographic characteristics with satisfaction were very small, with age being the strongest correlate of satisfaction (mean r=0.13)(Hall and Dornan,1990).

CONCLUSIONS AND RECOMMENDATIONS

Despite low prevalence of patient satisfaction for both HKB and HUSM (54% versus 42%, p=0.018), HKB medical inpatients were more satisfied with the interpersonal communication and perceived services of medical ward staff and financial aspect of medical ward services while HUSM medical inpatients were more satisfied with the clean and comfort (include medical ward facilities and infrastructure) aspect of medical ward services. Type of hospital (teaching hospital versus general hospital) and outside food expenses (more than RM5) were significantly associated with satisfaction score of combined seven medical ward services domains. We recommend hospital managers to improve healthcare management policy on patient satisfaction activities in public and private hospitals at national (MOH) level, state level and hospital level, establish a patient satisfaction committee in the hospitals, initiate human resource training of patient satisfaction and enhance research and development on patient satisfaction survey instrument. Hospital managers can use satisfaction data by identification and improvement of specific medical ward services area in order to gain higher patient satisfaction and better utilization of their medical ward services.

ACKNOWLEDGEMENT

We would like to acknowledge Universiti Sains Malaysia, Health Campus (304/PPSP/6131257) for providing the grant for this study.We also would like to convey gratitude to all respondents who participated in this study.

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Semua laporan kemajuan dan laporan akhir yang dikemukakan kepada Bahagian Penyelidikan dan Pembangunan perlu terlebih dahulu disampaikan untuk penelitian dan perakuan Jawatankuasa Penyelidikan di Pusat Pengajian.

USM R&D/JP-04

LAPORAN AKHIR PROJEK PENYELIDIKAN R&D JANGKA PENDEK

A. MAKLUMAT AM

Tajuk Projek: Patient Satisfaction Toward Medical Ward Services In Hospital Universiti Sains Malaysia (HUSM) AND Hospital Kota Bharu (HKB)

Tajuk Program: seperti di atas

Tarikh Mula: 15th November 2003

Nama Penyelidik Utama: Dr Than Winn (205351)
(*berserta No. K/P*)

Nama Penyelidik Lain: 1.Profesor Dr Abdul Aziz Baba (550611-04-5395)
(*berserta No. K/P*) 2. Dr Lin Naing @ Mohd Ayub Sadiq (114524)
3. Dr Mazlan bin Abdullah (690103-03-6921)
4. Dr Hj Rosemi bin Hj Salleh (590930-03-5529)

B. PENCAPAIAN PROJEK:

(*Sila tandakan [/] pada kotak yang bersesuaian dan terangkan secara ringkas di dalam ruang di bawah ini. Sekiranya perlu, sila gunakan kertas yang berasingan*)

☐ Peningkatan pengetahuan (Increase body of knowledge)

Despite low prevalence of patient satisfaction for both HKB and HUSM (54% versus 42%, p=0.018), HKB medical inpatients were more satisfied with the interpersonal communication and perceived services of medical ward staff and financial aspect of medical ward services while HUSM medical inpatients were more satisfied with the clean and comfort (include medical ward facilities and infrastructure) aspect of medical ward services. Type of hospital (teaching hospital versus general hospital) and outside food expenses (more than RM5) were significantly associated with satisfaction score of combined seven domains of medical ward services. It is recommended that hospital administration use satisfaction data to identify and improve specific medical ward service areas in order to gain higher patient satisfaction and better utilization of their medical ward services.

☐ **Rekaan atau perkembangan produk baru,**
(*Sila beri penjelasan/makluman agar mudah dikomputerkan*)

(1) Tiada

(2)

(3)

☐ **Mengembangkan proses atau teknik baru,**
(*Sila beri penjelasan/makluman agar mudah dikomputerkan*)

(1) Tiada

(2)

(3)

☐ **Memperbaiki/meningkatkan produk/proses/teknik yang <u>sedia ada</u>**
(*Sila beri penjelasan/makluman agar mudah dikomputerkan*)

(1) Tiada

(2)

(3)

C. PEMINDAHAN TEKNOLOGI

☐ Berjaya memindahkan teknologi.

Nama Klien:
(*Nyatakan nama penerima pemindahan teknologi ini dan sama ada daripada pihak swasta ataupun sektor awam*)

(1) Tidak berkaitan

(2) _____

(3) _____

☐ Berpotensi untuk pemindahan teknologi.
(*Nyatakan jenis klien yang mungkin berminat*)

_____

Tidak berkaitan

_____

_____

_____

D. KOMERSIALISASI

☐ Berjaya dikomersialkan.

Nama Klien: (1) Tidak berkaitan

(2) _____

(3) _____

☐ Berpotensi untuk dikomersialkan.
(*Nyatakan jenis klien yang mungkin berminat*)

Tidak berkaitan

_____

_____

E. PERKHIDMATAN PERUNDINGAN BERBANGKIT DARIPADA PROJEK
(*Klien dan jenis perundingan*)

(1) Tiada

(2) _____

(3) _____

(4) _____

F. PATEN/SIJIL INOVASI UTILITI

(*Nyatakan nombor dan tarikh pendaftaran paten. Sekiranya paten/sijil inovasi utiliti telah dipohon tetapi masih belum didaftarkan, sila berikan nombor dan tarikh fail paten*).

(1) Tiada

(2) _____

(3) _____

G. PENERBITAN HASIL DARIPADA PROJEK

(i) LAPORAN/KERTAS PERSIDANGAN ATAU SEMINAR

(1) Paper presentation at the 11th Community Health National Colloqium at Summit Hotel, Subang Jaya, Selangor from 21st-22nd September 2004.

(2) _____

_____

(3) _____

_____

(4) _____

(ii) PENERBITAN SAINTIFIK

(1) Dalam perancangan untuk menghantar kertas saintifik kepada jurnal 'Malaysian Medical Journal of Science' dan 'Malaysian Journal of Public Health Medicine.'

(2) _____

_____

(3) _____

_____

(4) _____

_____

(5) _____

_____

(6) _____

_____

H. HUBUNGAN DENGAN PENYELIDIK LAIN
(*sama ada dengan institusi tempatan ataupun di luar negara*)

(1) Ketua Jabatan Perubatan, Hospital Kota Bharu (Dr Hj Rosemi Salleh) sebagai penyelidik bersama

(2) _____

_____

(3) _____

_____

(4) _____

I. SUMBANGAN KEWANGAN DARI PIHAK LUAR

(Nyatakan nama agensi dan nilai atau peralatan yang telah diberi)

(1) Tiada

(2) _____

(3) _____

J. PELAJAR IJAZAH LANJUTAN

(Nyatakan jumlah yang telah dilatih di dalam bidang berkaitan dan sama ada diperingkat sarjana atau Ph.D).

	Nama Pelajar
Sarjana	Dr Mohd Zamri Md Ali Matric No. P1081/00-02
Ph.D	

K. MAKLUMAT LAIN YANG BERKAITAN

Tiada

_____

_____

_____

_____

2/11/15

Tarikh

Professor Zabidi Azhar Mohd. Hussin
Chairman of Research & Ethics Committee
School of Medical Sciences
Health Campus
Universiti Sains Malaysia
16150 Kubang Kerian,
KELANTAN, MALAYSIA.

TANDATANGAN PENGERUSI JAWATANKUASA PENYELIDIKAN PUSAT PENGAJIAN

Pn. My doc geran ji/pendek