CHAPTER 4

FINDINGS AND DISCUSSION

This chapter consists of findings and discussion of this study. The findings are presented in four parts with tables and descriptions: (1) demographic data of nurses and patients (2) nurses expectation and patients expectation from nursing service quality (3) nurses perception of performance of nursing service quality and patients perception regarding nursing service quality performed by nurses and (4) comparison of nursing service quality as perceived by nurses and patients.

Findings

Part 1: Demographic Data of Nurses and Patients

Sample for this study consisted of 162 nurses and 383 patients. Demographic data of nurses are presented in Table 1 and the demographic data of patients are presented in Table 2.

Table 1
Frequency and percentage of the nurses categorized by demographic data (n = 162)

Characteristics of Nurse	Frequency	Percentage
Age (years) (Range 19 – 48, Mean 28.88, SD 4.83)		
Less than 21	5	3.09
21- 30	108	66.66
31- 40	46	28.40
More than 40	3	1.85
Gender		
Male	7	4.32
Female	155	95.68
Education level		
Advanced certificate level	20	12.35
Diploma	131	80.86
Bachelor degree	11	6.79
Clinical Area		
Medical ward	24	14.81
Surgical ward	21	12.96
ENT/EYE/orthopedic ward	25	15.43
Gynecological ward	18	11.11
Isolation ward	8	4.94
Labour induction unit	9	5.56
Private wards	57	35.19
Year(s) working in present clinical area (Range 1 -23, Mean 2.78, SD 2.65)		
< 6 months	15	9.26
7 months – 2 years	85	52.47
3 years – 5 years	46	28.40
6 years – 10 years	15	9.26
>11 years	1	0.62

Table 1 (continued)

Characteristics of Nurse	Frequency	Percentage
Year(s) working as a nurse (Range 1- 27, Mean 6.73, SD 4.66)		
< 6 months	4	2.47
7 months – 2 years	20	12.35
3 years – 5 years	53	32.72
6 years – 10 years	57	35.19
>11 years	28	17.28
Employment status		
Permanent nurse (local nurse)	46	28.40
Temporary nurse (expatriate nurse)	116	71.60
Professional position		
Enrolled Nurse	20	12.35
Registered Nurse	129	79.63
Senior Registered Nurse	10	6.17
Clinical Nurse	3	1.85
Number of times participated in training programs past year		
None	53	32.71
Once	41	25.31
Two to Three Times	47	29.01
Four to Five Times	5	3.09
More than Five Times	16	9.88

Data from Table 1 indicated that the majority of nurses participated in this study were between the age of 21 to 30 years (66.66%) and 95.68% of the nurses subjects were females. Majority of the nurses (80.86%) had diploma level education in nursing and approximately 64.81% of nurses worked in general wards. Most of the nurses (52.47%) had working experience of 7 months to 2 years in their present clinical areas, with the findings illustrating that among the subjects' only 17.28% nurses had been working as a nurse for more than 11 years. Majority of the subjects (71.60%) were temporary nurses. In regards to professional position, 129 nurses

(79.63%) held registered nurse position. Among the subjects 32.71% of nurses did not participate in any training programs in the past year.

Table 2

Frequency and percentage of the patients categorized by demographic data (n = 383)

Characteristics of patients	Frequency	Percentage
Age (years) (Range 19 – 79, Mean 36.02, SD 16.07)		
19 - 25	121	31.59
26 - 35	127	33.16
36 - 45	54	14.10
46 - 55	19	4.96
56 - 65	24	6.27
More than 65	38	9.92
Gender		
Male	117	30.55
Female	266	69.45
Admitted Ward		
Medical Ward	64	16.71
Surgical Ward	68	17.75
ENT/EYE/Orthopedic Ward	57	14.88
Gynecological Ward	80	20.89
Isolation Ward	5	1.31
Labour Induction Unit	11	2.87
Private Wards	98	25.59
Educational level		
Literate (informal education)	125	32.64
Primary School	36	9.40
Secondary School	148	38.64
Higher Secondary School	33	8.62
Diploma Level	26	6.79
Bachelor Degree	13	3.39
Master Degree	2	0.52

Table 2 (continued)

Characteristics of patients	Frequency	Percentage
Number of admission to this Hospital in Past (times) (Range 0 - 15, Mean 1.21, SD 1.91)		
Never admitted before	265	69.19
1- 2	60	15.67
3- 4	38	9.92
More than 4	20	5.22
Length of stay in hospital (days) (Range 2 – 25 , Mean 4.74, SD 3.28)		
2 – 5	289	75.46
6 – 10	75	19.58
More than 10	19	4.96

As shown in Table 2, majority of patients age (64.75%) ranged from 19 to 35 years, with mean age of 36.02 (SD 16.07). Among the subjects, majority of patients (69.45%) were female. Most of the patients (74.41%) were admitted in general wards and 38.64% patients had education level up to secondary school level. Majority of patients (69.19%) had never been admitted to the hospital in the past and average number of admissions to the hospital in the past was 1.21 (SD 1.91). Patients length of hospital stay ranged from 2 days to 25 days (Mean = 4.74, SD = 3.28) and maximum number of patients (75.46%) had hospital stay for two to five days.

Part II: Nurses expectation and patients expectation from nursing service quality

Nurses and patients expectation from nursing service quality was assessed by SERVQUAL scale. The summarized results of range, mean and standard deviation are presented in the following table.

Table 3

Range, mean and standard deviation of nursing service quality expectation by nurses (n = 162) and patients (n = 383)

Dimensions of SERVQUAL scale	Nurses expectation		Patients expectation	
	Range	Mean (SD)	Range	Mean (SD)
Total expectation score from nursing service quality	66 - 110	87.32 (8.54)	49 - 110	88.11 (9.14)
Tangibles	9 - 20	17.15 (1.96)	8 - 20	18.30 (2.20)
Reliability	15 - 25	22.18 (2.16)	10 - 25	23.25 (2.52)
Responsiveness	7 - 20	14.13 (3.09)	4 - 20	13.09 (3.86)
Assurance	12 - 20	17.85 (1.95)	8 - 20	18.81 (1.89)
Empathy	5 - 25	16.01 (3.84)	5 - 25	14.66 (4.91)

As shown in Table 3, the total score for nurses expectation from nursing service quality was Mean = 87.32, SD = 8.54. Nurses highest expected dimension from nursing service quality was reliability (Mean = 22.18, SD = 2.16) and the lowest expected dimension was responsiveness (Mean = 14.13, SD = 3.09). Total score for patients expectation from nursing service quality was Mean = 88.11, SD = 9.14. Patients highest expected dimension from nursing service quality was reliability (Mean = 23.25, SD = 2.52) and lowest expected dimension was responsiveness (Mean = 13.09, SD = 3.86).

Part III: Nurses perception of performance of nursing service quality and patients perception regarding nursing service quality performed by nurses

Nurses and patients perception of performance of nursing service quality was assessed by SERVQUAL scale. The summarized results of range, mean, standard deviation are presented in the following table.

Table 4

Range, mean and standard deviation of nursing service quality performance as perceived by nurses (n = 162) and patients (n = 383)

Dimensions of SERVQUAL scale	Nurses perception of performance		Patients perception of performance	
	Range	Mean (SD)	Range	Mean (SD)
Total performance score from nursing service quality	63 - 106	86.77 (8.31)	40 - 105	75.57 (12.14)
Tangibles	8 - 20	15.35 (2.68)	4 - 20	14.66 (2.99)
Reliability	15 - 25	21.38 (2.37)	5 - 25	19.16 (4.15)
Responsiveness	5 - 20	14.65 (3.16)	4 - 20	11.56 (3.37)
Assurance	11 - 20	16.96 (2.01)	4 - 20	15.26 (3.17)
Empathy	6 - 25	18.43 (3.34)	5 - 25	14.93 (4.27)

As shown in Table 4, the total score for nurses perception of performance of nursing service quality was Mean = 86.77, SD = 8.31. The highest scored performance dimension from nursing service quality as perceived by nurses was reliability (Mean = 21.38, SD = 2.37) and the lowest scored dimension was responsiveness (Mean = 14.65, SD = 3.16). Total score for patients perception of performance of nursing service quality performed by nurses was Mean = 75.57, SD =

12.14. The highest scored performance dimension from nursing service quality as perceived by patients was reliability (Mean = 19.16, SD = 4.15) and the dimension with lowest score was responsiveness (Mean = 11.56, SD = 3.37).

Part IV: Comparison of nursing service quality as perceived by nurses and patients

To obtain result of nursing service quality as perceived by nurses and patients, nursing service quality score was computed as nursing service quality equal to performance score minus expectation score. In addition, Mann-Whitney U Test was utilized to compare nurses and patients perceived nursing service quality. The summarized results of comparison analysis are presented in Table 5.

Table 5

Comparison of nursing service quality perceived by nurses (n = 162) and patients (n = 383)

Perceived Nursing service quality (Performance score minus Expectation score)	n	Mean	SD	Z (2-tailed)
Nurses	162	-0.55	7.63	-9.37***
Patients	383	-12.54	15.48	

*** p < .001

Table 5 illustrated comparison of total mean score of nurses and patients perceived nursing service quality. There was statistically significant difference between nurses and patients perceived nursing service quality.

Discussion

In this section, findings were discussed based on research objectives of the study.

Research Objective 1: To study nurses and patients expectation regarding nursing service quality

Nurses expectation from nursing service quality

Total score of nurses expectation from nursing service quality was Mean = 87.32, SD = 8.54 (Range 66 - 110). Nurses highest expected dimension from nursing service quality was reliability (Mean = 22.18, SD = 2.16), with a score ranged from 15 to 25 (Table 3). Possible explanation for nurses rating reliability dimension as the highest expected dimension was that according to the IGMH nursing departments' orientation plan before new nurses begin to work independently, the new nurse should work under supervision of a preceptor for three to twelve months (IGMH Nursing Department, 2007). For this purpose assessment tool was developed for monitoring new nurses. The assessment tool has components for assessing nurses knowledge and competency in performing procedures, knowledge and competency in managing patients, organization and management of work and a component for assessing problem solving and decision making skills (IGMH Nursing Department, 2007). Therefore, during the preceptorship programs nurses are supported and supervised by a senior nurse, which allows them to perform their nursing services meticulously and to maintain consistency of performance. According to Parasuraman et al. (1988) essential components for maintaining service quality reliability are following through on commitment made to consumers and performing tasks consistently and accurately.

This finding was consistent with study finding of Lee and Yom (2007), in which nurses rated reliability as the highest expected dimension.

However, nurses gave the lowest rating to responsiveness dimension from nursing service quality expectation (Mean = 14.13, SD = 3.09) with score ranged from 7 to 20 (Table 3). This could be due the fact that patients demand for medical services rather than giving importance to nursing services as in Maldivian culture, doctors have superior social status than nurses and are well respected by people. Additionally, in the view of hospital managers nursing service includes administering injections, medications and performing basic nursing tasks (N. Adam, personal communication, May 23, 2010). A situation of such can lead for the nurses to expect that doctors are well in position to take responsibilities to solve patients' related issues and nurses themselves to consider that they can carry out doctors' orders and continue their routine tasks incorporated in the nursing services. However, according to Sergent and Frenkel (2003) customer contact employees are the critical resources for service organizations who take responsibility for delivering customized services. Therefore, nurses as frontline employees need to have high expectation for being responsive to their patients needs.

Moreover, analysis of nursing service quality expectation by permanent nurses and temporary nurses had shown that both groups perceived responsiveness as the lowest expected dimension (Appendix K1). However, temporary nurses had a lower mean score (Mean = 13.97, SD = 2.90) for the dimension than permanent nurses (Mean = 14.52, SD = 3.53). Possible reason for the finding is that the temporary nurses are from other countries and the nurses comes to IGMH job as a transit point, which makes them easy for accessing to nursing jobs in developed

countries. Usually the temporary nurses resign after staying in IGMH nursing service for average of 2 to 3 years (H. Mohamed, personal communication, May 16, 2010). When temporary nurses feels that they would remain in their position for longer duration, they will be self motivated to have positive attitude toward their work and working performance (Dyne & Ang as cited in Wu & Lee, 2006).

Patients' expectation from nursing service quality

Total score for patients expectation from nursing service quality was Mean = 88.11, SD = 9.14 (Range 49 – 110). Patients highest expected dimension from nursing service quality was reliability (Mean = 23. 25, SD = 2.52), with a score ranged from 10 to 25 (Table 3). Patients rated reliability as the highest expectation could be due to patients got hospitalized when they were sick; it was a critical time for which they needed assistance from nurses for their recovery and wellbeing. According to Parasuraman et al. (1988), reliability involves service providers' ability to provide the promised service dependably and accurately. Additionally, it means service is accomplished on time every time, in the same manner without error and providing reassurance and sympathy when customers encounters problem during service delivering process. The result indicated that in order to receive quality nursing services patients expected not only to receive competent technical skills from nurses but also nurses to offer them psychological wellbeing in the form of being concerned about their problems, being supportive and encouraging. In studies conducted by Damapong (2007) and Duggirala, Rajendran and Anantharaman (2008) nurses competence in their practice and their professional quality were found to be important to patients. The finding of reliability as patients' highest expected dimension was

similar with the study conducted by Lee and Yom (2007), in which patients rated reliability as the highest expected dimension.

On the other hand, patients gave the lowest rating to responsiveness dimension from nursing service quality expectation (Mean = 13.09, SD = 3.86) with score ranged from 4 to 20 (Table 3). This finding could be because during hospital stay patients pay more attention to medical services and obtain doctors advice whenever they needed to clear their worries about disease condition, queries about treatment plan and home care (N. Adam, personal communication, May 23, 2010). Another reason for the finding is that IGMH permits two family members to stay with the patients throughout the hospitalization period. This facilitates family members to assist the patients in performing activities of daily living such as bathing, feeding and to take care of patients personal needs.

In addition, to the above mentioned reasons demographic data of patients had showed that 69.19% of patients were never admitted to the hospital before. Hence, this time was first admission to the hospital and as they did not have past experience of the service, the patients had lowest expectation regarding nurses' responsiveness. The expectation concept which was incorporated in service quality literature by Parasuraman et al. (1988) was referred as desire or wants of consumers of what they feel should be offered to them by service providers. Since patients desired to rely mostly on their family members, medical services and lack of past experience of nursing service had resulted patients to rate responsiveness dimension as the least expected dimension from nursing service quality expectation. This finding was different with the study finding by Kim and Lee (2004), in which responsiveness dimension was identified as the patients' highest expected dimension.

Research Objective 2: To study nurses perception of performance of nursing service quality and patients perception regarding nursing service quality performed by nurses

Nurses perception of performance of nursing service quality

Total score for nurses perception of performance of nursing service quality was Mean = 86.77, SD = 8.31 (Range 63 - 106). Nurses perceived reliability as the highest performance dimension from nursing service quality (Mean = 21.38, SD = 2.37), with a score ranged from 15 to 25 (Table 4). Possible reason for the finding could be that nurses were able to maintain consistency of their performance with the application of standards in nursing procedure manuals as "Fundamental Nursing Procedures", "Clinical Nursing Procedures", "Infection Control Practice" and "Standards for Nursing Practice" which were developed in 2007 by IGMH Nursing Department and nursing staff of IGMH (Firag, 2007). Nurses' adherences to the procedures are monitored at the ward levels by Nurse Managers and by Clinical Nurses. In addition, supervision of staff compliance to established hospital policies, nurses work environment and the staff performances are monitored by Senior Nurse Managers who conducts supervision duties. Moreover, in all the wards/units, for each shift, shift in-charge nurses are assigned to monitor overall nursing services.

According to Hui et al. (2007) in service organizations, effective supervision is vital as effective supervisors can influence and encourage service behaviors of employees by serving as role models so that employees will inspire and understand how to deliver best service for their consumers. Therefore, in this study both permanent (Mean = 21.22, SD = 2.48) and temporary nurses (Mean = 21.44, SD = 2.34) perceived reliability as their highest performed dimension from nursing

service quality (Appendix K2). Similarly, in the study by Lee and Yom (2007), nurses' highest perceived performance dimension was reliability dimension.

The lowest performance as perceived by nurses in nursing service quality performance was responsiveness (Mean = 14.65, SD = 3.16) with score ranged from 5 to 20 (Table 4). This could be due to the fact that nurses were having increased workload from high level of nurse to patient ratio and due to providing nursing service to patients with medical/gynecological/surgical condition in one ward setting due to shortage of beds in the inpatient wards. Since, IGMH occupies only one intensive care unit (ICU) and in some circumstances nurses have to provide nursing service to critically ill patients in general ward settings due to unavailability of beds in the ICU (N. Adam, personal communication, May 23, 2010). These conditions can lead for nurses' inability to manage their work systematically and to cause delay in response to their patients needs.

Additionally, the demographic data of nurses had showed that 66% of nurses were between 21 to 30 years, 52.47% nurses had been working in their clinical area for 7 months to 2 years and only 17.28% of the nurses had been working as a nurse for more than eleven years. According to a study conducted by Kuo and Ho (2010) length of employment had significantly positive effect on service quality and employees experience had shown significantly positive effect on service quality. Therefore, nurses' length of employment and experience are important factors which can enhance the delivery of quality nursing service.

Furthermore, analysis of nursing service quality performance as perceived by permanent nurses and temporary nurses had showed that the lowest performance dimension perceived by permanent nurses was tangibles (Mean = 13.71, SD = 3.16)

(Appendix K2). In contrast, the temporary nurses' lowest performance dimension was responsiveness (Mean = 14.33, SD = 3.23). The permanent nurses rated tangible as lowest performance dimension because in IGMH nurses in the inpatient departments have been encountering challenges due to shortage of beds in the wards and from the inadequacy of daily consumables and medical equipments. Therefore, lack of such resources could hinder delivery of quality services.

Patients' perception of performance of nursing service quality by nurses

Total score for patients perception of performance of nursing service quality was Mean = 75.57, SD = 12.14 (Range 40 - 105). Patients highest perceived performance dimension from nursing service quality was reliability (Mean = 19.16, SD = 4.15), with a score ranged from 5 to 25 (Table 4). This finding could be explained by the fact that at IGMH, nursing services are provided in accordance with holistic nursing care model. Team nursing is utilized so that small group of nurses will be responsible for a group of patients, thus making the interpersonal contacts more manageable and the line of responsibility clearer. In this way senior nurses and junior nurses work together in each team and senior nurses can guide junior nurses in their work. Another reason for the finding could be that patients' demographic data had shown 75.46% patients had length of stay in the hospital for 2 to 5 days and 19.58% patients had length of stay for 6 - 10 days (Table 2). This indicated that most patients got sufficient time to experience and evaluate nursing service they received and to perceive reliability as the highest performed dimension by nurses. Consumer perception of performance is their evaluation regarding a service which was performed by service provider (Parasuraman et al., 1988). This finding is accordance

with study by Lee and Yom (2007) in which patients perceived that nurses highest performed dimension as the reliability dimension.

However, patients perceived responsiveness dimension as the lowest nursing service quality performance (Mean = 11.56, SD = 3.37, Range = 4 - 20) which was performed by the nurses (Table 4). This finding can be due to the reason that in the IGMH nursing workforce most nurses are temporary nurses from other countries and the demographic data of nurses had showed that 71.6% were temporary nurses. Having nurses from other countries can encounter cultural as well as language problems which can lead for patients perceiving nurses being unresponsive to their needs. According to Ministry of Health and Family (2009) most of the expatriate staff working in health sector of the Maldives experiences cultural and language problems which leads to barrier in communication between patients and healthcare professionals.

Another possible reason for the patients to perceive responsiveness as the lowest nurses' performance dimension can be from nurses having lack of training to deal with patients' related issues efficiently. Nurses' demographic data had showed that the majority of nurses (80.86%) had education level of diploma in nursing and none of the nurses had master degree or doctoral level education (Table 1). Additionally, 32.71% nurses did not attend any training programs in the past year and only 25.1% participated in training programs once in the past year. According to a study conducted by Tsai and Tang (2008) training programs had strong association with service quality.

Moreover, findings had indicated that although general ward and private ward patients perceived responsiveness as the lowest nurses' performance dimension,

the general ward patients mean score for responsiveness dimension (Mean = 11.33, SD = 3.33) was lower than private ward patients (Mean = 12.21, SD = 3.41) (Appendix L2). The result might be due to IGMH nurse to patient ratio standard, in which in the general ward nurse to patient ratio is one nurse to six patients and in the private wards nurse to patient ratio is one nurse to three patients. The ratio of nurse to patient increases in the general wards during shortage of nurses.

Research Objective 3: To compare nursing service quality as perceived by nurses and patients

The comparison of nursing service quality as perceived by nurses and patients had shown statistically significant difference between nurses and patients perception of nursing service quality ($Z = -9.37$, $p < .001$) (Table 5). It indicated that nurses' perception of nursing service quality differed with those of patients. Individuals experience the world around them differently and their perceptions can vary (Wallace, Robertson, Millar, & Frisch, 1999). Nurses' perception of adequate nursing service can be perceived as inadequate nursing service by vulnerable and sick patients. Thus, nurses and patients may have different views on nursing service quality. This finding is consistent with the study conducted in Korean small-medium sized general hospitals (Kim & Lee, 2004).

Moreover, nursing service quality expectation by nurses and patients had shown that total patients expectation score (Mean = 88.11, SD = 9.14) was higher than nurses total expectation score (Mean = 87.32, SD = 8.54) (Table 3). In addition, the total score for nursing service quality performance as perceived by nurses was higher (Mean = 86.77, SD = 8.31) than total score of patients perception of nursing service quality performed by nurses (Mean = 75.57, SD = 12.14) (Table 4). Along

with existence of the gaps in expectation score and performance score between the groups, findings had indicated expectation and performance gaps within both nurses and patients. As such, nurses' perception of performance score (Mean = 86.77, SD = 8.31) was lower than expectation score (Mean = 87.32, SD = 8.54) resulting perceived service quality gap. Similarly, patients' perception of nurses' performance score (Mean = 75.57, SD = 12.14) was lower than their expectation score (Mean = 88.11, SD = 9.14) resulting perceived service quality gap. Hence, these gaps in expectation and perception of performance score between nurses and patients had resulted in statistically significant difference between nurses and patients perceived nursing service quality.

The perceived service quality gap means that perceived or experienced service is not consistent with the expected service (Parasuraman et al., 1988). The gap occurs due to quality problems in the service settings (Gronroos, 2000). The gap analysis is an appropriate method to identify inconsistencies between service providers and consumers perceptions of service performance and it can facilitate for the management in finding out where the quality problem exist and to discover appropriate ways to close the gap (Gronroos, 2000).

In the nursing services delivery immense emphasis is laid on providing patients centered care and on patients and nurses relationship. Thus, it is essential to facilitate nursing service delivery process in such a way to meet patients' expectations. Nurses need to understand the expectations patients have for their nursing service and subsequently provide service consistent with those expectations (Lynn & McMillen, 1999). This can result for patients to perceive positively about nursing service quality. Patients' positive perception can influence their future attitude

towards the hospital services as well as their compliance with home care regimen (Lynn & McMillen, 1999).