CHAPTER III

RESEARCH METHODOLOGY

1. Introduction

Researches in the areas of health in Bhutan are few and far between as the research arm of health department and the ministry is still in an embryonic stage. A research on patient satisfaction like this had not been undertaken so far. It aimed, as one of its objectives, to verify whether there was dissatisfaction at all and if present to what extent. Further, this study was expected to stimulate and initiate some policy and administrative changes in the hospital under study. Though satisfaction is a composite outcome of perceptions of inpatient and outpatient services, this study would at least find out dissatisfaction level among inpatients and inpatient services in the NRH. The other areas of patient dissatisfaction including outpatients and potential patients in the community could be carried out later on to give a holistic picture of patient dissatisfaction status in the NRH.

1.2 Study Design

This was a cross-sectional descriptive and an inferential study.

1.3 Methods and instruments:

Following methods and instruments were used. Mainly quantitative, five in-depth interviews and a self-administered questionnaire survey of 16 physicians formed the qualitative aspect of research.

1.3.1 Structured interview survey of inpatients

Trained data collectors were used to survey all inpatients in different wards. Necessary administrative and ethical concerns regarding this survey were taken care of. They were strictly instructed to conform to essential research ethics. This interviewer administered structured questionnaire survey was carried out in medical, surgical, orthopedic, pediatric, gynecology and obstetrics, eye, ear, nose and throat (EENT). In the pediatric ward and pediatric age group, parents/attendants of sick children were used as interviewees. Survey instrument for collecting these data were mainly close-ended questions on satisfaction measured in Likert scales of 5 to 1 conforming to Very Satisfied, Satisfied, Uncertain, Dissatisfied and Very Dissatisfied respectively.

Questions were arranged in 4 different sections as follows:

Section I. This had 10 questions all pertaining to socio-demographic characteristics of inpatients.

Section II. This section had 33 questions on satisfaction levels pertaining to 13 service domains/variables under two broad aspects of Hospital Milieu and Provider Factors. There were seven domains of care under Hospital Milieu and six domains under Provider aspects.

Section III. This section had 1 close-ended and 1 open-ended question pertaining to overall experience of satisfaction or dissatisfaction and main factors that influenced it respectively.

Section IV. This section had three questions for seeking recommendations and suggestions in different domains from respondents for improving inpatient services and satisfaction in future.

1.3.2 Questionnaire survey of physicians of NRH

Self-administered questionnaire survey was carried out on 16 physicians involved with the care of inpatients at the NRH. By and large these were all specialists and few general doctors attached to some wards. These questionnaires mainly focused on their perceptions on the level of and factors for satisfaction/dissatisfaction of inpatients, their limitations in practicing "Service with Humane Face" and "Professionalism" and their recommendations for improving inpatient services and patient satisfaction in the future.

1.3.3 Interviews with key informants

Focused in-depth interviews of five key informants consisting of two Directors of Health Department, Medical Superintendent, Nursing Superintendent and Administrative Officer of NRH were undertaken. These mainly focused on their perceptions regarding factors for patient satisfaction/dissatisfaction, quality gaps in health services in the NRH, issues of sustainable free health care and future vision of health services in Bhutan. These were important in terms of challenges that health care in Bhutan would be facing taking into consideration peoples' expectations, increasing demands, rising health care cost and other competing priorities at national level.

2. Measurement Methods

This pertained to the quantitative aspect of the study. Following variables were measured and methods employed were as follows:

Dependent variable

Patient Satisfaction in terms of the following:

- Hospital Milieu - Accessibility, General cleanliness, Waiting time, Attitude of support staff, Patient comfort, Hospital diet, Social support.
- Provider Factors – Doctors' competence, Nurses' competence, Doctor-patient relationship, Care providers' (doctors and nurses) attitude, Comprehensive care, and Service with Human Face.

Level: Ordinal Scale

Values: 5 = Very Satisfied 4 = Satisfied 3 = Uncertain

2 = Dissatisfied 1 = Very Dissatisfied (Likert scale)

Independent Variables

Patient socio-demographic factors - Age, Gender, Occupation, Education, Income, Ethnicity, Referral status, Type of disease, Duration of admission, Admission type (first time or repeat)

Level: Nominal/ ordinal/ interval

3. Time Line for Data Collection:

This survey was carried out during the months of January/February 2004. Time for data collection was about three weeks from the 15th Jan. to 5th Feb.2004.

4. A Brief Description of the National Referral Hospital (NRH) the Site of Research

This 200-bed hospital is located in the capital and is the national referral hospital for the country. It is the most modern health facility in Bhutan with a daily outpatient load of about 1000 patients. It has 412 staff including 45 doctors, 127 nurses and technicians. It has about 15 specialties. It caters to about 50,000 people of Thimphu town and the district along with referred cases from all over the country.

Patient satisfaction is an outcome of a number of factors involving interactions at multiple points. Understanding of this complex relationship (as reflected in Fig. 7) is important to conceptualize in the context of NRH as to what factors may be at interplay for satisfaction/dissatisfaction of patients. Steven F. Isenberg (2000) said that an experience of dissatisfaction at one point may spill over to others resulting in an overall impression of dissatisfaction though there may be satisfactory encounters along the process. This was also important to understand the procedures of admission.

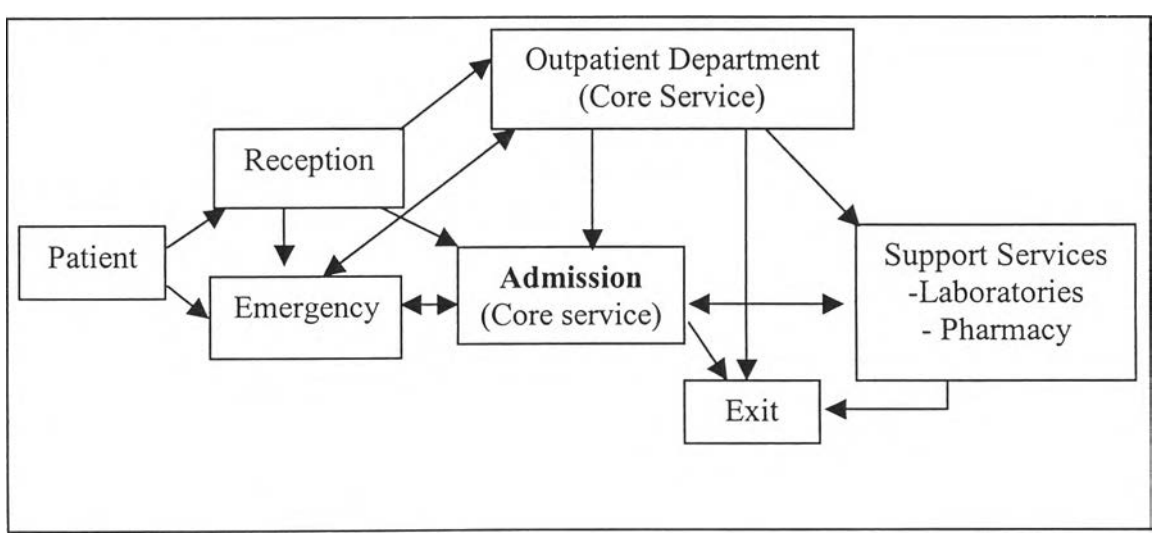

Figure 7: Patient flow in the National Referral Hospital (NRH)

5. Target Population

All inpatients in the National Referral Hospital were the target population. This hospital is a 200-bed center with medical, surgical, orthopedic, gynecology & obstetric, pediatric, otolaryngology, ophthalmology specialties with few cabins/special rooms where patients are admitted on first come, first served basis with minimal lodging charges.

6. Sampling Technique

Cross-sectional saturated sample was used and included all in-patients. No sub-sampling was used.

7. Inclusion Criteria

The following inclusion criteria were used to enroll sample population:

- Those above 15 years of age (as direct interviewees)
- For pediatric patients, parents/patient attendants were enrolled as interviewees
- Ambulatory patients.
- Inpatients admitted at least for 3 days.
- Those who consented to participate.

8. Exclusion Criteria

The following exclusion criteria were used to screen the sample population:

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- Moribund/ critically sick patients (about 10% at any time in the NRH). This was done in consultation with treating physicians and ward in-charges of different wards.
- Those who did not consent to participate.

9. Study / Sample Population

The sample population was 180 patients. This number was derived by excluding 20 (10% of 200 in-patients at any time) moribund/critically sick inpatients normally present at different wards in NRH.

10. Validity Testing of Questionnaires

For content and construct validities, questionnaires were distributed to three experts. Possible flaws and ambiguity of this main research tool were discussed with these experts and thesis advisor and necessary changes incorporated. Questions modified and selected for the final survey were thus made simple, unambiguous and comprehensive. This process was repeated with senior physicians and hospital administrators at the NRH before collecting data.

11. Reliability Testing of Questionnaires

20 inpatients were purposively selected at NRH for reliability testing. The main idea of this exercise was to react with respondents and familiarize interviewers with questionnaires. Reliability was calculated by using Cronbach's Alpha coefficient. The results of the test was analyzed as follows-

For Satisfaction; reliability coefficients (alpha) for all items was worked out and standardized. The alpha coefficient tested for patient satisfaction with 20 patients was assessed for significance and consistency. For the above, alpha coefficient was 0.75 which was accepted as adequate. However, the most important lesson out of this exercise was generation of knowledge and experience for encouraging and tactfully managing inpatients to be more responsive and participatory in the real survey.

12. Training of Data Collectors/Survey Interviewers

Trainees from the local Institute of Health Sciences in Thimphu were enrolled as interviewers for the study. Those selected were well-versed with different regional dialects of Bhutan. To avoid interviewer bias only fresh/1st year students were enrolled. Thorough training regarding data collection, data entry procedures and conforming to survey ethics were prerequisites. They were also not told research questions and purpose to avoid interviewer biases. Training was also essential to familiarize them with questionnaires and to use and interpret them consistently. All interviewers were trained to use same language and terminologies consistently while interviewing patients.

13. Ethical and Administrative Clearances

Clearance to conduct this research in Bhutan at the NRH was formally accorded by the health department. Relevant clearances from all others concerned at different levels were obtained to conduct this study at the NRH. Request was made to all inpatients meeting inclusion criteria to participate. A consent form was developed and only those who were willing to participate were enrolled after getting necessary signatures or

thumb impressions. The researcher safeguarded all information related to the participants. Their privacy, identity and confidentiality were maintained by assigning them code numbers instead of names (anonymity). The completed questionnaires were filed safely and were accessible only to the researcher and thesis advisor.

14. Data Collections and Analysis

The data collected were analyzed for the following.

14.1 Interviewer administered structured questionnaires were used to collect data from inpatients.

14.2 A scoring system in Likert scale from 5 to 1 was used to measure levels of inpatient satisfaction in relation to various services under the broad domains of Hospital milieu and Provider factors. All domains had more than one question as sub-questions. In the final analysis, Likert scale scores for all sub questions were summed up and divided by number of sub-questions under each domain to give a mean (average) satisfaction level. These were further interpreted as follows: Mean score between 5 and 3.5 were considered as High satisfaction and below 3.4 was considered as Low satisfaction.

14.3 Descriptive statistics were used for analyzing socio-demographic features. Mean, median, standard deviation, frequencies and percentages were applied as standard tools to describe patient findings and satisfaction levels of various service domains.

14.4 In-patient satisfaction levels in respect to different service domains in all wards were characterized.

14.5 Chi-square and other relevant tests were applied to analyze associations between independent or patient socio-demographic variables and satisfaction levels in respect to all service domains as dependent variables.

14.6 Perceptions of physicians, administrators, policy makers on patient satisfaction, quality gaps in health care services in the NRH and issues of sustainability obtained through in-depth interviews and physicians' survey were synthesized and analyzed.

14.7 Various recommendations as advised by physicians and inpatients for satisfaction were compiled and presented.

Analyses were done by entering and running the data through standard SPSS soft ware.

15. Analysis of the Research

The main analysis of research was to characterize level of satisfaction or dissatisfaction in respect to various domains among inpatients of NRH. And if there was, to find out which factors had significant association with outcome of satisfaction in respect to various services in the Bhutanese context. Qualitative data synthesized out of questionnaire survey of physicians and interviews were analyzed mainly in terms of differences or similarities between patients, physicians, administrators and policy makers on their perceptions of satisfaction and other related issues.

16. Limitation of the Study

Only inpatients were surveyed. Dissatisfaction among outpatients and potential patients in the general population were not undertaken because of time and other constraints.

This study, by all means, was considered as a pilot for carrying out other aspects of satisfaction studies in future. Also the results could not be generalized to all in-patients in Bhutan.

17. Benefits of the Study

Following were envisaged to be the benefits of the study:

- This study would establish a baseline level of patient satisfaction or dissatisfaction to various service domains in NRH in respect of inpatients.
- The study results could be used as evidence to initiate policy and administrative decisions relevant for improving patient satisfaction in the NRH.
- The study, hopefully, was expected to initiate other extended researches in future focusing on other aspects of patient satisfaction. Some focused areas of hospital services like emergency OPD and maternal and child (MCH) health services could be studied in future as an extension of this study.
- Recommendations sought from in-patients as part of this study could guide physicians, nurses and hospital administrators/policy makers for improving quality of services and patient satisfaction in the NRH.