CHAPTER 4 : DATA EXERCISES

4.1. Introduction

Data exercises were conducted in Bhutan so as to help the execution of proposed action research study based at the work situation. Focus group discussion with five nurses, using Nominal Group Technique was undertaken in MRRH on 5 March, 1997. The injury data was also collected from the hospital record section and inpatient admission registers.

However, the gathering of information about EMS problems from concerned doctors, district bureaucrats and police officers was done by mailing the questions. Questionnaires were mailed to 10 officials in Bhutan in December 1996. Only three responded by mail. From 2 respondents, the write-up papers were obtained in person on 14 March, 1997.

4.2. Goal

To gather information on EMS from various stakeholders in order to develop a proposal for establishing EMS system in MRRH.

4.3. Objectives

A. For Nominal Group Technique

(i) To test the Nominal Group Technique for focus group discussion with the nursing staff of MRRH so as to find out the problem perceptions regarding emergency medical care provided from IPD.

(ii) To find out from the nursing staff about the problem perceptions regarding emergency medical care provided from the IPD after OPD hours.

(iii) To provide recommendations to the proposal.

B. For in-depth Interviews

(i) To find out EMS problem perceptions from doctors, district bureaucrats and police officers.

(ii) To provide recommendations to the proposal.

C. For Secondary Data Collection

(i) To identify deficiencies in present injury recording and reporting system.

(ii) To provide recommendations to the proposal.

4.4. Nominal Group Technique

(i) Introduction: The Nominal Group Technique (NGT) which is a qualitative research methodology, was used as the main data gathering instruments for the data exercise. According to Carney, Mcintosh, and Worth (1996), NGT is one of the most commonly used "specific group-based techniques" for interpreting and resolving problems. The advantage of the use of this technique is that it allows in-depth discussion of the ideas and issues, and identify priorities and possible solutions to the problem issues by the participating members (Carney et al, 1996). It has the advantage of possessing both "brainstorming and brainwriting" (p. 268). features, and allows jotting down important points and prioritizing the ideas generated (Van Gundy (1981, p. 268).

It is a highly structured technique which involves not much time and resource. The session is conducted by a facilitator, a recorder and an assistant who provides secretarial back up support. The role of the facilitator is not to lead the discussion but to bring about smooth running of the session.

(ii) Procedures Of NGT: The NGT is conducted through five different stages. They are as follows:

Opening Statement: The facilitator describes how the discussion session will be conducted and what type of participation is desired from the group members. In other words the facilitator describes the whole process of NGT. After making this statement, each participant is given a sheet of paper which contains the question that introduces the topic for discussion.

Silent Generation Of Ideas: The participants generate ideas about the problem issues that the question has addressed to, and writes down the points thus generated but does not allow for consultation and discussion.

Round Robin: During this stage, the participants are invited in turns to state their ideas generated in the second stage, and the process is continued till all participants have exhausted their ideas or reach the time limit set for this stage. The ideas are recorded on the board or flipchart.

Clarification Of Ideas: This stage allows participants to explain or clarify on their statement of ideas recorded on the board or flipchart. The facilitator, while requesting more details about the ideas, does not make judgmental comments.

Voting And Ranking: In this final stage, the recorded ideas are written down on the cards in order of priority by all participants. The cards are collected by the assistant and the ranking is done by giving scores as per the priority rankings done by the participants.

(iii) Advantages & Disadvantages Of Using NGT: According to VanGundy (1981), NGT provides equal opportunities group members to participate in the discussion session, and thereby, gives a sense of satisfaction and commitment. It has "separate stages for idea generation and evaluation" (VanGundy, p. 271) which allows lot of ideas to be discussed. Carney, McIntosh and Worth (1996) also stated that NGT allows discussions to be conducted on the basis of democratic process.

However, there are some disadvantages of using NGT. VanGundy stated that because of its structured technique, it calls for the involvement of the facilitator who has a good knowledge of NGT process besides requiring preparation and facilities. He also stated that the technique allows limited topics to be discussed because only one topic can be discussed at a time.

4.5. Participants (Sample Population)

There are three different groups of nursing staff in the hospital - Assistant Nurses (ANs), Assistant Nurses in Midwifery (ANMs) and General Nurses in Midwifery (GNMs). Although their level of basic qualification and training differs, GNMs being the topmost category of the nursing staff, they are never-the-less, all involved in inpatient care including emergency medical care during off days and after outpatient hours.

Initially, Nominal Group Technique was planned for three different groups of nursing staff in order to obtain the consensus ideas and solutions to the problems of emergency medical care. However, this was not possible because most of the nurses who had been working in Monggar Regional Referral Hospital for the last three years were transferred to other hospitals in the country and their substitutes had not joined duty at the time of the data exercise. Even if they had joined duty, they would not know the problems of emergency medical care which are specific to this hospital. And as such, they could not have contributed meaningfully to the discussions. Furthermore, the matron who is in charge of both nursing staff and inpatient wards had difficulty in sparing even one group of five nurses for the research discussion because of the acute shortage of nursing staff temporarily resulting from the transfer exercise.

Therefore, the exercise of Nominal Group Technique had to be conducted for only one group of five nurses from all three different nursing categories on the basis of convenience sampling method. The group consisted of one ANM, two ANs and two GNMs. They were selected for the study because they were on off duty days.

There was no administrative problem such as seeking permission and poor cooperation from the hospital staff because I still appeared to them as the "boss" of the hospital although there is an Officiating District Medical Officer in my absence during the whole study period in Bangkok, and he was out of station then.

4.6. Facilitator/Recorder/Assistant:

It was fortunate that Dr. Johnathan ND ZI, Gynecologist and a United Nations Volunteer (UNV) working in Monggar Regional Referral Hospital, happen to be in station at the time of the data exercise. He has co-authored research papers, and is very much interested in action research works. I identified him for facilitating the Nominal Group Technique session for two reasons: a) For his research background which would add substance to the research process , and b) To avoid biases because my facilitating the session would definitely bring in some degree of biases. I participated as a recorder while Dr. Johnathan acted both as a facilitator and assistant. It was felt assistant was not necessary.

The Nominal Group Technique was new to Dr. Johnathan. Therefore, in preparation for the discussion session he was given the literature on the topic, and after the reading the matter was discussed at length specially the development of the question for the session. The following questions were drafted for consideration before coming with the final one:

(i). What are the problems faced by the on duty nurses in providing emergency medical care after OPD hours, and what would you suggest to improve the situation ?

(ii). What is the most frequent emergency during your calls?

(iii). What problems do you commonly face when receiving an emergency i.e. as the first contact with the health personnel ?

(iv). When Doctor on call arrives, what are some of the problems faced till he deals with the emergency ?

(v). Are there problems in getting the Doctor on call and the other supporting staff for diagnostic tests ?

(vi). Are there any general or specific problems like administering the Doctor on Call's prescriptions, patient admissions, monitoring vital signs, giving treatment etc. Till you hand over the duty to the next ?

The questions listed above were studied for drafting a single comprehensive question that will evoke desired responses. The final question reads as follows:

From when you first receive the emergency patient, then calling the Doctor on duty to till he comes and sees the patient and gives his prescriptions, what are all or some of the problems you in particular face during your shift do face till you hand over to the next group ?

4.7. Time And Date Of The Session:

The session fixed on 4 March 1997 from 12 noon to 1.30 PM in the classroom of the Diarrhea Training Unit had to be postponed to 5th from 10.00 am to 11.30 am because the participating nurses who were taking off that day having done emergency duty previous night could not make it at the stipulated time. On 5th also the session had to be started 30 minutes late at 10.30 am but this time the facilitator showed up late because the facilitator was kept tied down by the patients in his chamber at the Outpatient Department.

4.8. Procedures Of Nominal Group Technique Session

Opening Statement: Dr. Johnathan welcomed the group to the discussion session. He apologized to them for the inconvenience caused as a result of the time they had to spare for the session. He then explained in brief about the action research proposal on Emergency Medical Services, and the Nominal Group Technique as data collecting instrument. He described the group members overall task and solicited their active and meaningful participation because the result of the discussion would greatly enhance the implementation of the proposed study. He then described the group procedures and principles, and summarized the subsequent process of the Nominal Group Technique. Dr. Johnathan made it very clear that in no way the group's individual remark would be taken as personal. He said that outcome of the discussion would be considered wholly as the contribution of the group.

After making this opening statement, the facilitator distributed to the group members a sheet of paper which was actually a question paper, containing one single question developed specifically for the session.

Silent Generation Of Ideas: The facilitator distributed the question paper to the group members and asked them to read it carefully, and record all the points- both general and specific issues - that tend to answer the given question. They were also given three sheets of plain paper each to jot down the ideas generated during this stage.

Reading the question, the participants looked quite blank in their faces. The facilitator immediately intervened to explain the question. He read out the question to them and explained what the question meant. It was realized that the question was not easily understandable. They were then allotted 10 minutes for the "silent generation of ideas" during which no consultation or discussion was allowed.

Round Robin: The participants were invited, in turn, to state their ideas and points which were recorded on the white board. The first participant invited to state her ideas, gave her point which was way out of the context of the given question. She had still not understood the question. Other participants, following this, stated their ideas which were relevant to the topic for discussion. In her later turns, she came in line with the other participants in stating the relevant points.

In the process of stating the ideas in turns, two of the participants often had nothing to state at their turns but they re-entered the round robin when they had their points. All the points were recorded on the white board and when it reached a total of 19 points the participants had exhausted their ideas. This was the end of the round robin.

Clarification Of Ideas: The participants were asked to clarify the points they had stated. The clarification was sought for all the 19 points recorded on the white board.

Voting And Ranking: The facilitator gave five cards each to the participants, and were asked to write down one point on each of the cards from the points which were recorded on the white board and number them from 1 to 5 in order of priority. Facilitator made it clear that the five points each participant was to select out of the 19 points recorded should be the point that appear very important to her. In prioritizing the five selected points, the participants were asked to put number 1 to the point which appeared very important to her and number 5 to the point which was least important. Likewise, the three remaining points were to be numbered in the same way. When they had all finished with selecting and prioritizing the five points, the cards were collected.

After collecting the cards, the rankings were done on the basis of total scores obtained by prioritized issues. The score of 5 to 1 was given to the issues as ranked

by the participants in order of priority 1 to 5. Thus the issue that scored the highest was ranked the first priority problem. Likewise the rest of the issues were ranked in order of decreasing priority as per the decreasing scores.

4.9.Concluding Remark

At the close of the session at 11.25 AM, simple refreshment with tea and cake was served to the participants, facilitator and recorder. Before the group dispersed, the facilitator thanked the participants for their time and contribution to the discussion session.

Although the Nominal Group Technique session should be conducted within 90 minutes, no time limit could be set for different stages of the discussion session except the 10 minutes time limit allotted for the first stage of the silent generation of the ideas. The timing was done with the help of the recorder's SEIKO 5 wrist watch kept on the table in front of the recorder. The time taken for the session was 55 minutes.

The room where the discussion session was held, was quite cold. The electric heater could not be used to heat the room because there was power failure. It appeared that the participants were eager to get out of the room.

4.10.Discussion

A total of 19 points were raised by the participants during the Round Robin Stage, and all these points were discussed in the Clarification Stage. The members explained their ideas before calling for debate. Ideas were discussed point by point as listed on the white board.

Problems faced by the nursing staff encompass a whole range of managerial and technical issues as listed in table 4.1. Even when participants were asked to prioritize 5 issues each from the total of 19 issues listed on the white board, a total of 13 issues still featured as priority problem areas (see table 4.8), and these 13 priority issues were ranked on the basis of the total scores obtained by each issue when the scoring of 5 to 1 was given to the issues in priority order of 1 to 5 (see table 4.9). Table 4.10. shows the list of 13 priority issues as ranked according to the total scores obtained by each issue.

Repeated power failure over prolonged period of time without prior notice has been giving a lot of problem to the nursing staff in discharge of duties in wards specially during emergency management of the cases. It is understood that the erratic power supply is common to all consumers alike, and there is nothing much that the management authority could do to help the situation until the new hydro-project at Jepshing is commissioned by the year 2000. As an interim measure, it was suggested that a generator be installed in the hospital as an alternative power supply during the emergencies.

Insufficient linens is the second priority problem area in the wards. This problem has occurred from 1995 as a result of increased bed occupancy rate since the upgradation of hospital to Eastern Regional Referral Hospital. Administratively speaking, this is not a major problem. Provision of sufficient linen supply to the wards can be made within the existing budget allocation. It is a management problem.

The nursing staff on duty often cannot obtain the services of the ward boys and nurse aids when they are most needed to assist them in the emergencies. The reason for their absence from duty has not been stated clearly, but implicated indirectly that they are being called out from ward by some senior staff for works in their homes. Sometimes they are unable to perform duty because they report to duty in drunken state (alcoholic influence).

Ambulance service is another problem area for the nursing staff on duty. There is no clear understanding as to how the calls for ambulance service should be coordinated after OPD hours. Most calls, either by telephone or in person, are received by the nurse on duty. Since the duty nurse is not authorized to detail the ambulance for fetching the patient, the call is relayed to the DMO or the Administrative Officer in the absence of DMO, who then tells the nurse to dispatch the ambulance. It was stated that often the ambulance drivers refuse to comply with the instructions given by the nurses. This causes delay in delivering ambulance service, besides causing bad relations when the non-compliance has to be reported back to the DMO. Another problem with the ambulance service is the shortage of

ambulance vehicles. There is not enough vehicle to meet the increasing calls for ambulance service. They suggested for streamlining the system whereby the dispatch of ambulance can be made immediately.

Doctor on call, having seen the emergency patient and prescribed the treatment, often does not bother to ask the nurse whether the drugs prescribed are in stock in emergency drug cupboard. By the time they know some prescribed drugs are unavailable or out of stock, the doctor has already left the ward, and they have to call back to re-write the prescription. Sometimes they have to call the drug storekeeper for the drugs from the central store. This inadvertence causes unnecessary delays in the treatment of the emergency patients. It was suggested that the doctor ask the nurse on duty about the position of the drug stock before writing the prescription.

The nursing staff on duty finds difficult in locating the whereabouts of the doctor on call. It is expected that the doctor on call, when not in residence, should leave message with the nurse on duty as to where he should be contacted for the emergency calls. But this is often said than done.The group felt that the doctor on call should make it a point to keep the nurse on duty informed about his whereabouts.

The doctor prescribes some medical/surgical procedures and leaves instructions with the nurses for carrying out these procedures without giving any thought as to whether the nurses can perform this duty. Very often the nurse on duty

has no skill and competency for this kind of job. It is important that the doctor make sure that the nurse has the skill to carry out his instructions.

The group suggested for appointing a compound nurse who will look after emergencies after OPD hours. This is to relieve the ward duty nurses from the additional burden of attending the emergencies.

There is delay in responding to the emergency calls by the staff on call. The group felt that DMO should look into its problem. They also felt that the management authority should look into the problem of getting the dead removed from the ward. The deceased party refuse to take the dead to the mortuary pending the transport arranging for taking home. This creates unhealthy and disturbing scene in the wards.

Getting blood donors is another problem. The group suggested for establishment of blood bank in the hospital. But this is not possible in the light of the present constraints of infrastructure and resources. Blood donation motivation campaign can be strengthened.

There are often too many relatives attending the patients, which disturbs and hampers the functions of the nursing staff. The ward management should enforce the rules and regulations of the ward strictly.

4.11.Results

4.11.1 : Points generated during Round Robin stage

1. Difficulty monitoring vital signs due to power failure
2. Inaccessibility (not available when wanted) of supporting staff
3. Insufficient beds
4. Inaccessibility (unable to contact) of Doctor on call
5. Insufficient linens for the beds
6. Power failure
7. Inaccessibility (unable to contact) to ambulance drivers
8. Need for compound nurse to attend to emergencies
9. Late response from staff on call
10. Prescription of drugs not featuring in the emergency drug cupboard
11. Unnecessary pressures from patient party
12. Too many patient attendants hamper the performance of duty
13. Increased workload because staff on duty has to attend to emergencies besides regular inpatient care, thereby decreasing the efficiency
14. Need for additional ambulance vehicles and drivers, and poor cooperation from the drivers
15. Difficulty in getting the deceased out of the ward to the mortuary

16. Language barrier as the staff has to know five different languages of the region to communicate properly with the patients
17. Impatience of staff on call specially the Doctor during emergencies, demanding too much in too short a time from the nursing staff on duty
18. Difficulty in getting the blood donors
19. Insufficient technical support (doctors giving instructions and going away without making sure whether the procedures can be performed by the nurses) from the Doctor on call.

4.11.2 : Ideas identified in order of priority by the first participant

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1. Power failure
2. Insufficient linens for beds
3. Need for additional ambulance vehicles and drivers, and poor cooperation from the drivers
4. Inaccessibility of supporting staff
5. Too many patient attendants hamper the performance of duty

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4.11.3 : Ideas identified in order of priority by the second participant

1. Power failure
2. Insufficient linens for beds
3. Inaccessibility of supporting staff
4. Increased workload because staff on duty has to attend emergencies besides regular inpatient care, thereby decreasing efficiency
5. Difficulty in getting blood donors

4.11.4 : Ideas identified in order of priority by the third participant

1. Insufficient technical support from the Doctor on call
2. Power failure
3. Need for additional ambulance vehicles and drivers, and poor cooperation from drivers
4. Need for compound nurse to attend emergencies
5. Increased workload because staff on duty has to attend emergencies besides regular inpatient care, thereby reducing efficiency.

4.11.5 : Ideas identified in order of priority by the fourth participant

1. Inaccessibility of Doctor on call
2. Prescription of drugs not featuring in emergency drug cupboard
3. Power failure
4. Late response from staff on call
5. Need for additional ambulance vehicles and drivers, and poor cooperation from drivers

4.11.6 : Ideas identified in order of priority by the fifth participant

1. Inaccessibility of supporting staff
2. Insufficient linens for beds
3. Prescription of drugs not featuring in the emergency drug cupboard
4. Difficulty in getting the deceased out of the ward to the mortuary
5. Power failure

4.11.7 : Priority ideas identified by all 5 participants

1. Power failure
2. Insufficient technical support from Doctor on call
3. Inaccessibility of Doctor on call
4. Inaccessibility of supporting staff
5. Insufficient beds
6. Prescription of drugs not featured in emergency drug cupboard
7. Need for additional ambulance vehicles and drivers, and poor cooperation from drivers
8. Need for compound nurse to attend emergencies
9. Increased workload because staff on duty has to attend emergencies besides regular inpatient care, thereby decreasing the efficiency
10. Late response from the staff on call
11. Difficulty in getting the deceased out of the ward to the mortuary
12. Difficulty in getting the blood donors
13. Too many patient attendants hamper the performance of duty

4.11.8 : Total scores for priority issues according to priority ranking given by participants when score of 5 to 1 allotied for each issue in priority order of 1 to 5.

PRIORITY ISSUES	1st	S	2nd	S	3rd	S	4th	S	5th	S	TS
Power failure	5x2	10	4x 2	8	3x 1	3	2x 0	0	1x 1	1	22
Insufficient tech. Support from DOC	5x 1	5	4x 0	0	3x 0	0	2x 0	0	1x 0	0	5
Inaccessibility of supporting staff	5x 1	5	4x 0	0	3x 1	3	2x 1	2	1x 0	0	10
Inaccessibility of DOC	5x 1	5	4x 0	0	3x 0	0	2x 0	0	1x 0	0	5
Insufficient beds	5x 0	0	4x 3	12	3x 0	0	2x 0	0	1x 0	0	12
Pres. of drugs not in emerg. box	5x 0	0	4x 1	4	3x 1	3	2x 0	0	1x 0	0	7
Additional vehicles/drivers	5x 0	0	4x 0	0	3x 3	9	2x 0	0	1x 1	1	10
Need for compound nurse	5x 0	0	4x 0	0	3x 0	0	2x 2	4	1x 0	0	4
Increased workload	5x 0	0	4x 0	0	3x 0	0	2x 1	2	1x 1	1	3
Late response from staff on call	5x 0	0	4x 0	0	3x 0	0	2x 1	2	1x 1	1	2
Difficulty in disposing dead	5x0	0	4x 0	0	3x 0	0	2x 1	2	1x 0	0	2
No blood donors	5x0	0	4x 0	0	3x 0	0	2x 0	0	1x 1	1	1
Too many pt. attendants	5x 0	0	4x 0	0	3x 0	0	2x 0	0	1x 1	1	1

NOTE : 1st : First Priority 4th : Forth Priority S : Score
2nd : Second Priority 5th : Fifth Priority TS: Table Score
3rd : Third Priority

4.11.9 : Thirteen issues placed in order of priority after combining all priority ideas of the five participants according to the total scores obtained by each issue

1. Power failure

2. Insufficient linens for beds

3. a) Inaccessibility of supporting staff and

   b) Need for additional ambulance vehicles and drivers, and poor cooperation from drivers

4. Prescription of drugs not featuring in the emergency drug cupboard

5. Inaccessibility of Doctor on call.

6. Insufficient technical support from doctor on call

7. Inaccessibility of doctor on call

8. Need for a compound nurse

9. Increased workload for the nurses

10. Late response by the staff on call

11. Difficulty in disposing the dead from the ward

12. Difficulty in getting blood donor

13. Too many patient attendants

4.12. Limitations Of The Study:

(i). Since the sample population consisted of the nurses of MRRH, the findings cannot be generalized to the nursing staff of other hospitals in the country because each hospital provides emergency medical care differently depending the respective coverage areas, status of the hospital and its strategic location.

(ii). As the study involved only one group of nurses, the findings do not represent the problem perceptions by the other staff of the hospital of MRRH.

(iii). The focus group members were ANs, ANMs and GNMs with different qualification backgrounds. It was observed that the GNMs dominated the deliberations of the session because of their superior status. Therefore, the study is limited in its validity.

4.13.Recommendations For The Proposal

(i). The conduct of this group discussion using Nominal Group Technique as a qualitative research methodology shows that this technique may be one of the favored research methodologies to be used in solving day to day real-world problems, specially in the light of financial, manpower and time constraints. It is a highly structured technique, and produces good results in the given short period of time.

(ii). The important thing that needs to be considered carefully is the framing of the research question that addresses the topic for discussion. The experience from this Nominal Group Technique exercise indicates that the question be developed in such a way so as to be very clearly understandable to the participants. There should be as many different questions developed as there are different groups according to the educational status of the individual groups, but addressing the same topic, and should be pre-tested.

(iii). The room where the discussion session is to be held should be comfortable. The room in which the session was conducted was very cold. This made the participants too eager to get out of the room, thus rendering the discussion session ineffective.

(iv). Focus groups should be formed separately for ANs, ANMs, GNMs, Doctors, and technicians, so that each group consists of the members from similar educational and job status. As the exercise was conducted for a mixed group of nursing staff, GNMs, by virtue of their higher qualification tended to dominate the session.

4.14.Recommendations To The Hospital Authority

(i). There is the need to form Hospital Management Committee which should meet on a regular basis to solve the day-to-day problems of the hospital. The

administrative problems which featured in the problems issue can be solved by considering punitive or incentive means against the responsible staff by the collective decision of the committee members.

(ii). Alternative arrangement for the power supply to the inpatient wards, operation rooms, intensive care units and nurses' duty room , needs to be urgently looked into by the hospital authority. Power failure has been giving a lot of problem to the nursing staff, and it has hampered the performance of the patient care. It is expected that the problem of power failure will go from bad to worse because in the light of the new hydro-project at Jepshing, due to be commissioned by the year 2000, Government does not find the worth in investing in the maintenance of the old hydro-plant which requires a major overhaul.

(iii). One of the problems that came up in the discussion is getting easy access to the staff who are on call during emergency hours A system of getting access to quick response from the staff on call must be established to avoid late response to the emergency calls. Cost effective information technology may be considered.

(iv). The study showed that Doctors often go away after advising medical/surgical procedures expecting that the nurses will do the job without finding out whether they are competent to carry out the such orders. Nursing staff should be trained on the medical and surgical procedures that they are expected to perform, and the Doctors must make sure they are competent enough to perform independently.

(v). Patient visiting hours needs to be strictly enforced so as to maintain discipline in the wards. The nurses can perform better because of less disturbance from the patient attendants at the time of the medication.

(vi). A system of providing ambulance service without undue delay must be established whereby relaying of ambulance calls between District Medical Officer, Administrative Officer and the nurse on duty are avoided. The present system entails lot of delays and sometimes, indisciplinary responses from the drivers. It was found out that ultimately, the nurses have to take the brunt of complaints from the patient party.

4.15.Conclusion

The issues raised by the group is basically a managerial problem. The nature of the problems raised by the group indicates that there is the need to address the problem issues through participatory approach by involving all the responsible staff.

While the solution to the problems of power failure, need for additional ambulance vehicle, and compound nurse, would not be possible in the immediate future, other problems can be solved by proper management of the personnel and the resources. It does not call for any additional financial or manpower input from the Health Division. The findings from the discussion shows there is poor management of the hospital.

4.16. Personal Testimonials

Introduction: In order to gather information on problem perceptions about emergency medical care by hospital, police and district administrative authorities. Questions, were mailed to these officials in the form of letters in December 1996. The respondents were selected on the basis of purposive sampling in order to obtain differing views from responsible authorities who are directly involved in responding to major emergency situations in the region and those who remain potential contributors to the development of the EMS system. Except for the respondents from MRRH, who were asked the same set of questions, the questions for others were framed differently so as solicit the opinions related to their area of involvement in the medical emergencies.

Out of the total of ten officials approached, only five responded. Two of them responded through mail while one responded through fax. Two other respondents had to be requested personally during the time of the data gathering exercise in Bhutan. Rest of the officials to whom questions were mailed, could not be accessed as they were not in their stations at the time of the data collection.

The questions were mailed to the following officials:-

1. Dr. Ngawang Tenzin,Officiating District Medical Officer, Monggar Regional Referral Hospital (MRRH),

2. Dr. Baktaraj Giri, Medical Specialist, MRRH,
3. Dr. Johnathan ND ZI, Gynecologist, MRRH,
4. Dr. Kashinath Sharma, Medical Officer, MRRH,
5. Dr. Gado Tshering Superintendent, Jigmi Dorji Wangchhuk National Referral Hospital, Thimphu,
6. Dr. Rinchhen Chhophel, Programme Director, IECH (Information, Education & Communication in Health) BUREAU, Health Division, Thimphu,
7. Dr. Chhencho Dorji, District Medical Officer, General Hospital, Tashigang,
8. Major Tashi, Superintendent of Police, Monggar Division,
9. Mr. Tshewang Rabgay, Dzongrab, Dzongkhag Administration, Monggar,
10. Mr. Rupnarayan Sharma, Administrative Officer, MRRH.

Above officials were chosen for the interview because some of them have past experience in managing major motor vehicle accident cases, and those officials from the east will be called upon to assist in the establishment of EMSS in MRRH.

4.17.Objectives:

(i). To solicit the problem perceptions of the colleagues and their suggestions for bringing about improvement in regard to EMS in the country in general, and in MRRH in particular.

(ii). To test the framing of the interview questions for the in-depth interview proposed in the action research study.

4.18. Personal Testimonial (Questions & Answers)

Questions asked to Dr. Johnathan ND ZI

1. What are the current problems and shortcomings in providing emergency medical care specially after OPD hours ?

2. With the existing system of providing EMS, what problems do you foresee if there is a major passenger bus accident in your area ?

Answers

"Emergency Medical Services (EMS) at Monggar Referral Hospital, can be divided into those during and out of working hours (OPD)- 9.00 am to 4.00 p.m.

from Monday to Friday; 9.00 am to 1.00 p.m. on Saturdays, and including Sundays and public holidays. They can further be divided into true emergencies and others. Others do include patients consulting regularly from far away distances who cannot reach the hospital POD before closing hours. However, this diagnosis can only be ruled out as from the emergency list after a careful assessment.

My discussion will focus mainly on Gynecological and obstretical emergencies. Most of these women will come complaining of pain, bleeding PV or fever.

Current problems and shortcomings include coming up with the diagnosis and therapeutics. The patient who usually is received in the ward duty room by the nurse-in-charge, will be attended to by a clinician. A high and good sense of judgment on the latter's side and a suspicion for certain rare pathologies in this environment which at times are life threatening can be life saving. Complementary ancillary investigations, however, are lacking, such as serologic/immunologic tests for specific antibody detection e.g. chlamydiae, sonography and laparoscopy.

The main therapeutic shortcoming is the lack of urgent blood replacement. Many a times emergencies present who require packed cells or whole blood transfusion. Donors may be unavailable or unwilling to donate blood for several hours or days. Truly a blood bank facility is yet to exist here, but patient party and the population at large through continuous education will come to understand that blood

loss can only be replaced by blood, and this first should come from generous/sympathetic donors.

Other logistics lacking which should be in place after reorganization include a casualty room with a nurse-in-charge and a compound nurse and staff to be on hand to attend the emergencies. Also there should be an increase in the number of medical technicians to cover the various services (Laboratory, X-Ray etc.) involved in handling emergencies throughout the 4 hours of the day".

Questions asked to Dr. Chhencho Dorji

1. What are the current problems and shortcomings in providing emergency medical care specially after OPD hours?

2. Do you feel there is a need to establish an EMS system or change existing services, perhaps by opening an Emergency Department?

3. What is your experience in providing EMS during major motor vehicle accidents? What are the shortcomings? What would you suggest to improve the emergency medical care when major man made accidents occur?

Answers

" At present, due to the small population and rarity of accidents etc., not much problems have been encountered.

Present set up is fine. There is no need for an Emergency Department considering the shortage of staff in general and also rare occurrence of emergencies.

Two major motor vehicle accidents have occurred at Tashigang in the past three years. Major shortcomings were : lack of proper equipment such as portable X-Ray machines, vehicles to transfer patients in cases that needed to be referred, appropriate staff like surgeon, anesthetist, and properly trained nursing staff. A referral center is either too far away (e.g. Thimphu) or the regional referral center itself is not equipped in terms of appropriate staff.

District level courses on emergency management for district level staff should be conducted regularly (yearly). EMS team should be set up at an appropriate place- which would mean the referral hospital where the team can move out at any time in case of major accidents in the region, instead of referring the critical patients. Most hospitals are adequately equipped to handle such situations, provided appropriate manpower is available. The team should provide backup and be prepared to take with them equipment which may not be available at the local hospital e.g. Boyle's apparatus, portable X-Rays, drugs. EMS team should comprise of a surgeon, an

anesthetist, a General Duty Medical Officer (GDMO), and 2 nurses appropriately trained.

The referral hospital should accommodate patients that require care once the emergency situation is dealt with because the local hospital may not be in a position to handle such patients.

Referral center should be well equipped especially in terms of transport to enable the EMS team to move quickly and also help in the transport of patients. The team should be prepared to move at short notice. Standbys should be identified and trained to replace a member in his/her absence.

Good communication should be maintained at all times between the referral center and the local hospital, and the center and between the team members and local staff..

In the chaos and rush of things , it is very important for the District Medical Officer to be cool and well organized. Delegation of responsibilities, mobilization of manpower, communication are not only time saving but also life saving".

Questions asked to Dr. Rinchhen Chhophel

1. What is your opinion about current system of providing emergency medical care by the hospitals? Do you see the need to institute EMS system in our referral hospitals?

2. What role can IECH BUREAU play specially in regard to dissemination of information to general public about the provision of emergency medical care within the EMS system?

Answers

"Although there is the need to explicitly define the term emergency before anything , I would like to consider that the word may have varied connotations depending on the level of health services being provided for the well being of the general people in a given country - in other words, level and quality of EMS in any given country is directly related to the level of development and the ability of the social service sectors in providing it.

While EMS in this context may be presented in different degrees and professionalism in most of the developing and developed countries, the situation may still be distinctly different in Bhutan or any other similar countries. In Bhutan, as you know, given the stage of development, its size, population, physical topography,

communication etc., the picture of EMS or any rudimentary emergency health services related to it may be presented in completely different manner in comparison with other countries.

Given the present types of emergencies that we face in our hospitals and keeping in mind our abilities and infrastructure, we could safely say that the current system of providing emergency medical care by our hospitals is in consonance with our present need.Of course, it is always desired to be better and there is room for improvement.

However, there are other related priority areas which require addressing to improve even the present system not directly the EMS but our own system of dealing with medical emergencies. The possible areas that require improvement are in human resource development, infrastructure, equipment, machines, tools, drugs, and other matters related to operational and administrative concerns (timeliness is most important). As such, our referral hospitals do not really merit starting EMS per se but improve and consolidate the present system in dealing with the kinds of medical emergencies.

The role of IECH BUREAU can be seen important in two areas in so far as the dissemination of information to the general public is concerned. Firstly, it can assist and facilitate in building an environment which is totally aware of the system. This should however, be planned and implemented well in advance of the

operationalization of the system. Secondly, it can also be a partner on a continuous basis by helping to disseminate crucial life saving information by making a well coordinated use of existing mass media, particularly the radio in our present context (and TV in future).

Above all, the development of communication networks, particularly the telecommunication with strategic linkages to all available Information Technologies (IT) in a decentralized manner is also very crucial to the establishment of the efficient EMS system".

Questions asked to Major Tashi

1. What is your impression about current system of providing emergency medical care in Monggar Hospital ? What would you suggest to improve the EMS system?

2. If an emergency medical situation has occurred, for instance, a major motor vehicle accident in your jurisdiction, what role can police force play independently and in coordination with the hospital authority ?

3. How should OEMs system be coordinated with neighboring districts?

Answers

"Despite the shortage of medical personnel, their efforts in attending emergencies is praise worthy. But sometimes it is sad to point out that almost all medical officers including specialists disappear either on leave or for some duties elsewhere. It would be nice if there is one medical officer in the hospital to attend emergencies only for 24 hours. Further, one ambulance has to be always on standby.

Usually police gets the first hand information regarding incidences like motor vehicle accidents, homicide etc., and police informs the medical officer to rush to the spot. But the doctor does not come to the site to take charge of the situation. At times, even before police reaches the accident site, the villagers start the rescuing operations by using their own devices to help the victims, unaware of the drastic consequences resulting from improper handling. So, it is felt that First Aid Training be given to the villagers. Sometimes workshop/exercise on this activity can be conducted.

I further suggest that all doctors (except emergency medical officer) while in station should let the emergency duty staff know their whereabouts. Some doctors might feel that they can go anywhere and relax since they are not on duties. But I feel that doctors should be easily contacted during medical emergencies".

Questions asked to Mr. Tshewang Rabgay

1. What is your impression about the current system of emergency medical care provided by Monggar Hospital ? What would you suggest to improve the services?

2. What would be the role of Dzongkhag Administration if a major motor vehicle accident (for example) has occurred in your area?

Answers

"In case of a major motor vehicle accident in the area, the role of the Dzongkhag Administration would be:-

a) Soon after the receipt of the information, will rush to the site and organize the nearest dwellers to find out and evacuate the accident passengers to the road point.

b) Organize quickest mode of transport

c) Reach the accident victims to the nearest Dispensary/BHU/Hospital for providing first aid.

d) Reach the serious cases to bigger hospital

e) Visit accident site to find out the cause of the accident".

4.19.Discussion/Conclusions:

The study of the respondents' opinions about the EMS addresses the following problem issues in order of priority:-

(i). Manpower: It is emphasized that medical staff be appropriately trained in EMS so that effective emergency medical care is provided both at the site and the health center. The EMS training for the medical staff be conducted on a regular basis.

(ii). Facility: The hospital should be equipped with all the equipment and materials required for the management of medical emergencies. There should be portable diagnostic facilities for use at the site.

(iii). Transport: Lack of transport facility is identified as a serious shortcoming during the emergency situation. It is suggested that ambulance service is maintained with vehicles kept standby 24 hours.

(iv). Mobile Ems Team: A mobile EMS team, consisting of a surgeon, an anesthetist and support staff, should be instituted and maintained at the Referral

Hospital. This team can move to help the emergency situations in other hospitals of the region, thus avoiding the transport of the critical victims to the referral hospital. There should also be a First Aid Team (Pre-Hospital Team) which should respond promptly to emergency situations by moving rapidly to the site for providing pre-hospital emergency medical care at the site and supervise evacuation of the victims.

(v). Communication: There is poor coordination and cooperation between the hospital, police and Dzongkhag authorities in terms of response to emergencies because the information is not communicated to the right authority. There is also lack of effective communication between the Referral Hospital, District Hospitals and the site.

(vi). Emergency Department: Respondents felt that at this point there is no need for an Emergency Department in the hospital. However, the need for a casualty unit at Monggar Hospital is identified.

(vii). Public Education: The dissemination of information on EMS to the general public is identified as an important component of the EMS system, and it can be affected through the existing mass media.

4.20. Limitations

(i). The interview questions mailed to the respondents were actually meant to collect personal testimonials/monographs on the topic of EMS, and the questions were not the same for all the respondents. Therefore, the findings do not validate the study as it would otherwise give if in-depth interviews ere conducted.

(ii). Since the respondents were selected mainly from officials stationed in Monggar District headquarters, and on a purposive sampling basis, the opinions expressed by them does not represent the opinions of the officials from other Districts in the region.

(iii). The findings cannot be generalized because the answers to the interview questions are a collection of personal testimonials only

4.21. Recommendation

The findings from the answers to the mailed questions show the respondents' interest in the development of EMS system. Not all the respondents answered according to the given questions. For gathering comprehensive information, in-depth interviews should be conducted with the district bureaucrats and police officers.

4.22. Secondary Data

(i). Introduction: The injury data was collected in the first week of March 1997 in MRRH, with the help of record keeper and matron from the IPD. The data includes 60 injury cases admitted in wards from 1st January to December 1996. The main objective of this data gathering exercise is to review the existing injury recording and reporting system, and identify deficiencies in the present system. The findings will be used in designing format for injury surveillance system in MRRH.

(ii). Background: The information on patients are maintained with the hospital in so called "patient confidential files". Files are maintained for each individual patient visiting the OPD. In OPD, after getting registered, the patients are given registration number tags which they must show at the registration counter to get their files during subsequent visits. During off days and after OPD hours, patients seen in IPD are registered (registration tag numbers, if carried, are noted) on prescription cards which are collected who get admitted, their files are recovered from OPD or made new if visiting for the first time. On discharge, the files are delivered back to the record keeper. However, minor injury cases seen in IPD during emergency hours are not recorded.

In the OPD consultation chambers, doctors record the number of cases seen by tallying on the monthly morbidity reporting formats against the disease category columns in the formats. At the end of each month the formats are collected by the

record keeper for compilation, and a copy of it is submitted to the Health Division. Similarly, the monthly IPD reporting is done by the matron.

4.23. Data Collection

With the help of matron, the registration numbers and names of all injury cases admitted in wards from January to December 1996 were collected from the inpatient admission registers. The files of these cases are then recovered from the record room by the record keeper. Information collected from these files include injury data required for injury reporting system.

The aim of this data collection is to find out the deficiencies in the present injury recording and reporting system and affect improvements so to provide proper management of injury cases.

The admitted injury cases were serious cases admitted during both OPD and after OPD hours. Minor cases who report to the IPD after OPD hours are usually not recorded in the inpatient register.

4.24. Results/Discussion

The information entered in table 4.10 shows some aspects of injury particulars which are important standards for injury surveillance criteria. A good amount of data

can be collected from the patient files retained in the record room. But it is a time consuming task because these files contain mix case loads. There is no standard in the diagnosis, severity, and the cause of the injuries. How much information to write down in the files depends on the doctors as there is no standard format for recording the injury cases.

The data in the table shows lapses in history taking, assessment of the injuries, nature of the treatment outcome, and follow up of the cases referred out.

4.11.10 : Necessary information collected from the files of injury Cases Cases admitted in wards during 1996.

Sl. NO	AGE SEX	HISTORY	DIAGNOSIS	TREATMENT OUTCOME
1.	2/F	----------	2nd degree burn. Rt forearm and hand.	Good
2.	5/F	Fall from a height	Head injury with deep lacerated wounds on Rt leg/abrasions and fracture of Rt femur.	Good
3.	9/M	Fall from a tree	Supracondylar fracture of Rt humerus	Good
4.	3/M	----------	Scald injury of Lt hand	Good
5.	3 3 M	----------	Head injury with fracture of Lt ilium.	Good
6.	45/F	----------	Burn. Lt upper limb	Wound healing healthy. Discharged on request
7.	41/F	----------	Trauma wound with obstructed labour	C/S done. Good

Sl. NO	AGE SEX	HISTORY	DIAGNOSIS	TREATMENT OUTCOME
8.	1 2 M	Fall from the cliff	Scalp injury	Good
9.	3 3 M	Assault case	Contusion injury of Rt eye with subconjunctival hemorrhage	Good
10.	4 0 M	Hit by a log	Fracture of Rt scapula	Good
11.	3 3 M	----------	Fracture of neck of Rt femur	Referred to JDWNRH
12.	4 0 M	Accident at work	Scalp injury	Good
13.	3 9 M	Crush injury	Traumatic amputation of Lt little toe .	Good
14.	6 1 M	----------	FB in Rt eye	Good
15.	4 8 M	----------	Contusion injury of Lt eye with laceration of upper eye lid.	Good
16.	3 0 M	Fall from a tree	Traumatic paraplegia	Referred to JDWNRH
17.	25/F	----------	Sprain injury of Lt ankle	Good
18.	5/M	----------	1st degree burn	Good
19.	40/F	Fall from a height	Fracture of L 4	Discharged on request
20.	4 0 M	Hit by a rolling stone	Fracture of mandible and Rt Femur	Referred to JDWNRH
21.	4 0 M	Burnt by kerosene oil	10% burn-pelvic & groin	Good
22.	3/F	Trauma	Fracture of Rt tibia & fibula	Good
23.	3 6 M	----------	Cut injury of Rt. foot	Good
24.	1/F	----------	2nd degree of both feet	Absconded
25.	3 6 M	Accident at project site	Blunt injury of chest	Good

Sl. NO	AGE SEX	HISTORY	DIAGNOSIS	TREATMENT OUTCOME
26.	3 6 M	Hit by a log	Blunt trauma on back	Good
27.	1 7 M	Fall from a height	Fracture of Lt forearm	Good
28.	1 6 M	Sports	Fracture of Lt forearm	Good
29.	3 9 M	Fall from height	Multiple injuries	Good
30.	20/F	Hit by a log	Head injury	Good
31.	4 8 M	Fell down with a load of firewood	Multiple traumatic facial injuries	Good
32.	5 4 M	----------	Head injury	Referred to Gauhati, India
33.	2 4 M	Gored by a bull	Deep, lacerated , penetrating wounds on Lt buttock.	Good
34.	3 4 M	Fall from height	Head injury	Referred to Gauhati, India.
35.	25/F	Assault case	Lt VII nerve palsy with scar mark on Lt frontal region.	Good
36.	5 0 M	Road traffic accident	Bruise over Lt knee and swelling of Lt Knee	Good
37.	20/F	Road Traffic accident	Threatened abortion due to blunt trauma on abdomen	Good
38.	5 5 M	Road traffic accident	Superficial cut and abrasion injuries.	Good
39.	1 5 M	Road traffic accident	Lacerated wound over Rt internal malleolus with partial sectioning of transverse ligament	Good
40.	45/F	Road traffic accident	Blunt injury of chest	Good
41.	5 1 M	Road traffic accident	Fracture of 7th & 8th ribs	Good

Sl. NO	AGE SEX	HISTORY	DIAGNOSIS	TREATMENT OUTCOME
42.	53/F	Road traffic accident	Fracture of Rt femur	Referred to JDWNRH
43.	56/F	Road traffic accident	Fracture of 3rd. to 7th. ribs	Good
44.	55/F	Road traffic accident	Fracture of lower end of Rt tibia with blunt chest injury with fracture of 4 th. To 7th. ribs.	Good
45.	56/ M	Road traffic accident	Fracture of lower end of Rt tibia	Good
46.	5 7 M	Road traffic accident	Fracture of Rt clavicle	Good
47.	7/F	Hot water	2nd degree burn	Good
48.	8/M	Fell down on the ground	Unstable Colle's fracture of Rt forearm	Good
49.	4 7 M	Road traffic accident	Fracture of Rt femur	Referred to JDWNRH
50.	5 6 M	Fall from a height	Fracture of Rt clavicle	Good
51.	1 6 M	----------	Deep cut injury -Lt. face	Good
52.	8/F	Fell down on the ground	Supra condylar fracture of Lt humerus	Absconded after being told for Referral to JDWNRH
53.	2 2 M	Fall from a height	Cut injury on forehead and frontal region	Good
54.	55/F	Fall from a height	Contusion injury of chest with fracture of 4 th. To 9th ribs (Rt)	Good
55.	5 5 M	Fall from a height	Fracture of Rt scapula and 6th. To 7th ribs	Good
56.	3 1 M	Road traffic accident	Traumatic sprain injury of Lt ankle joint	Good
57.	42/F	----------	Crush injury of Lt hand	Good

Sl. NO	AGE SEX	HISTORY	DIAGNOSIS	TREATMENT OUTCOME
58.	6 5 M	----------	Colle's fracture of Lt forearm	Good
59.	4 0 M	Fall from a height	Cut injury of Lt knee	Good
60.	2 1 M	Road traffic accident	Bruises	Good

NOTE: M = Male & F=Female

In table 4.11, 60 injury cases are categorized under Road Traffic Accident (RTA), Industrial Accident (accidents at institutional work setting), Accident at Home/Community, and Others/No History (sustaining injuries at places other than the 3 settings, already mentioned/cases with no history of the cause), according to severity of the injury graded from 1 to 3. Severity/Urgency grading of the nature of injury was done on the basis of rough clinical judgment of the diagnosis of the injuries and/or cause of the injuries.

Severity/Urgency grading 1 indicates the patient would require immediate emergency medical care (in Bhutan context within 30 minutes to 2 hours); Grade 2 indicates the need for the institution of EMS procedures (in Bhutan context within 6 to 12 hours); and grade 3 indicates that the EMS care can be provided after 12 to 24 hours.

4.11.11 : Injury Data analyzed in order of Severity and according to RTA, Industrial Accident, Accidents at Home/Community and Others/No History

SEVERITY URGENCY	ROAD TRAFFIC ACCIDENT			INDUSTRIAL ACCIDENT			ACCIDENT AT HOME/COM.			OTHERS/NO HISTORY		
GRADE	Sl. Injury No.	Total	%	Sl. Injury No.	Total	%	Sl. Injury No.	Total	%	Sl. Injur y No.	Total	%
1	37,40 41,42 43,44 49	7	50				1,7,8, 26,30, 31 54,55	8	30	25, 3 2 , 37	3	20
2							2,10, 20,21, 24,29, 48,52, 53	9	35	13,14 15,51 57,58	6	40
3	36,38 39,45 46,56 60	7	50	12,28	2	6 7	3,4,6, 9,16, 27,35, 50,59	9	35	11,17 18,19 22,23	6	40

For each accident column, the percentage of injury is worked out against the corresponding severity grading. Under RTA, there is 50% cases each with grade 1 and grade 2 severity, and none with grade 2 severity, compared to industrial accident cases which has 100% with 3 severity and none with grade 1 and 2 severity. Accident at home/community's 30% with grade 1 severity, 37% with grade 2 and 33% with grade 3 severity. Under the last column (Other/No History), 18 % are with grade 1 severity, and 41% each with grade 2 and 3 severity.

The findings, although a very rough analysis of the injury cases, shows high rate of RTA cases requiring immediate institution of EMS procedures, and the rest 50% of cases can receive delayed emergency medical care. Of the accidents taking place at home/community, there is almost equal accident rates with all three severity grades. There is also high accident rates with severity grade 2 and 3 under unspecified nature of the accident.

4.25. Conclusion

The findings from this data exercise show that priority attention needs to be given to the provision of pre-hospital emergency medical care during RTAs, and establishment of casualty unit at the hospital for that matter. There is also high accident rates at home in the community, and this too, calls for providing EMS care in the villages as well as provision of continued care at the hospital.

4.26. Recommendation

A standard injury recording and reporting format with cause, severity, outcome and follow up criteria, needs to be developed so that the report can give a good picture of injuries in the area. This will give a baseline data for rendering improved EMS to the accident victims.

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