

A study of the Communicable Disease Notification process functioning at a Tertiary care hospital in Srilanka

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Abstract- Prevention of the spread of communicable diseases takes place with the coordinated effort of the preventive and curative health sectors. An efficient disease notification process that is conducted in the curative care setup is an important step in effectively preventing communicable disease outbreaks in the community. It is mandatory to notify the diseases that are mentioned in the list of notifiable diseases to the relevant health authorities by the health staff for further action in view of their prevention. Lack of notification was found to be mainly due to the lack of knowledge regarding the diseases that are included in the notifiable disease list and the lack of understanding of the importance of the communicable disease notification process.

I. INTRODUCTION

Threats posed by new, emerging or re-emerging infectious diseases are taking a global dimension. These diseases are a leading cause of morbidity and mortality around the world and influence the economic growth and development of nations. Many evaluation studies on existing infectious disease surveillance systems (passive and active) have been undertaken to identify the strengths and weaknesses in order to improve surveillance activities. The world today is largely characterised by globalisation, connectivity and speed. However, the control of the spread of communicable diseases is still a challenge. Notifiable disease reporting systems provide the basis for the surveillance of communicable diseases field (Chandrasekar, Mahesan and Bath, 2013).

A successful disease control system is based on the cumulative recording of the occurrence of spreading diseases. Disease notification and tracking are vital components in ensuring the protection of public health. To prevent and control the spread of infectious diseases around the world, health organisations must monitor trends over time, not only in human diseases but also in animal diseases (Cheong, Chatwin and Young, 2009).

The objective of this study was to review the Communicable Disease notification process functioning at a Tertiary care hospital and identify the shortcomings and challenges that are faced by the health staff during the process.

Objectives of the case study

1. To study the communicable disease notification process functioning at a Tertiary care hospital in Srilanka
2. To find out the shortcomings and challenges in the current notification system at this hospital
3. To suggest measures to improve the functioning of the notification system at this hospital.

II. PROBLEM ANALYSIS

Methodology

The following methodology was used for problem analysis;

1. Key Informant Interviews (KII)
2. Focus Group Discussions (FGD)
3. Secondary data from Electronic Indoor Morbidity and Mortality records(e-IMMR)

Problem identification

Those mentioned above qualitative and quantitative methods were used to collect the facts regarding the Notification process and problems faced during the process.

The key stakeholders in the process were the Director of the Tertiary care hospital, the Deputy Director, a senior consultant Physician, a senior Pediatrician, one Senior House officer (SHO) each from medical and paediatric wards, the Special Grade Chief Nursing Officer (SGCNO), the Infection Control Medical officer (ICMO), the Infection Control Nursing Officers (ICNO), and the Medical Records Officer (MRO) in charge of the Medical Record unit.

KIIs were conducted with all the key stakeholders mentioned above.

FGDs were conducted with the ward-in-charge nurses from general medical and pediatric wards, and ward nursing offers were randomly selected from each ward of the wards mentioned above.

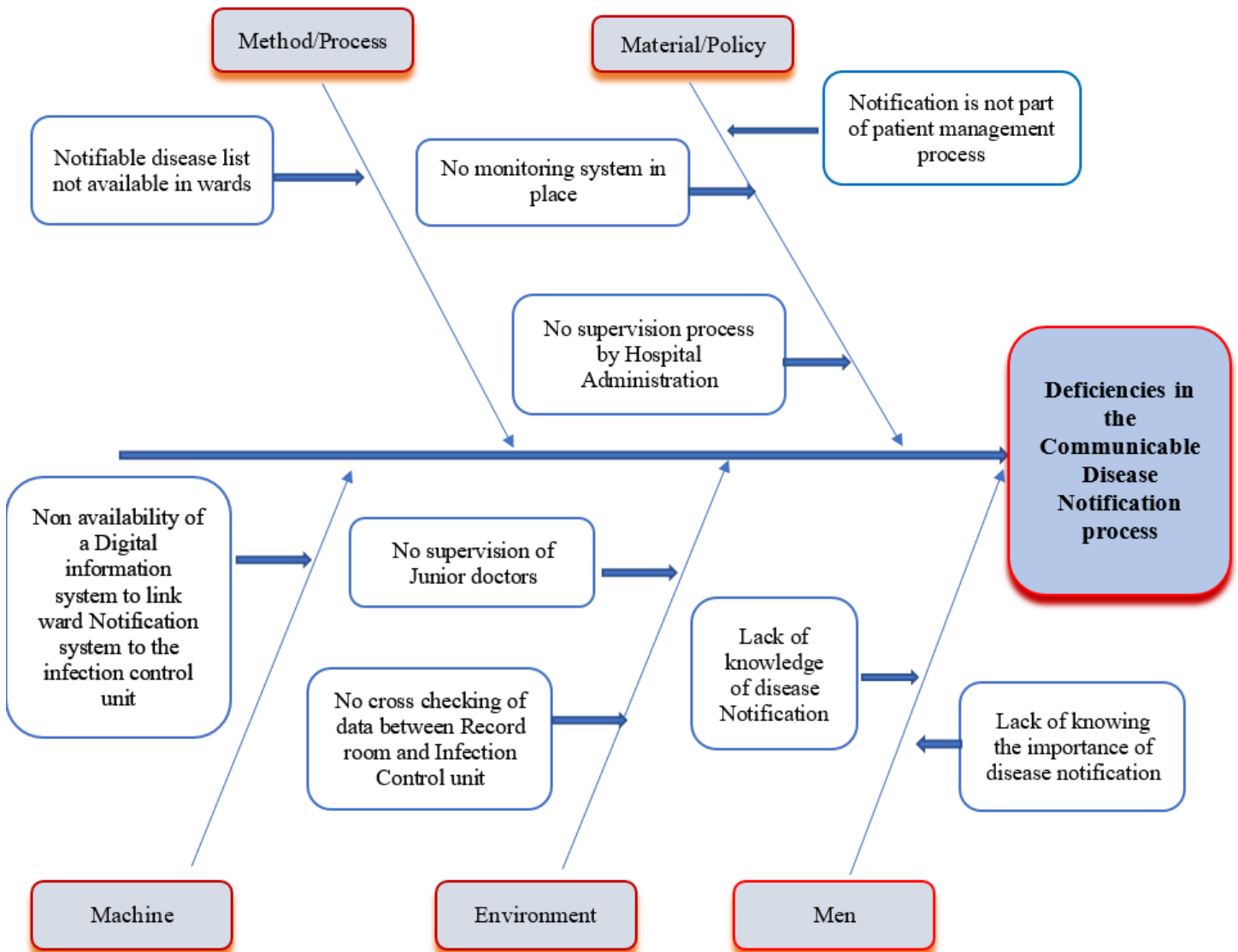
The following issues were identified as the main challenges to the notification process.

1. Lack of knowledge and lack of knowing the importance of the disease notification system among Intern House officers, Senior House officers, Medical officers, and Nursing staff
2. Lack of responsibility on the part of the key health staff towards the disease Notification process
3. No monitoring system for the disease notification process
4. Lack of supervision of the disease notifications by SHOs, Consultants and hospital administration

5. Lack of coordination by the Infection control unit with the Medical record room
6. Medical Record officers in the Record room lack knowledge regarding the Notifiable disease list and the Notification process

A fishbone diagram was used for root cause analysis.

Fishbone Diagram



For this study, data from e-IMMR (January 2022 to August 2022) from the record room were collected. They were then compared with the data recorded in the hospital Notification register available at the Infection control unit.

Notifiable Disease	Total recorded in record room(x)	Total recorded in infection control unit(y)	Difference (y-x)
Dengue fever +Dengue Hemorrhagic Fever (DHF)	181	185	+4
Chicken pox	9	10	+1
AFP	0	0	0
Diphtheria	0	0	0
Dysentery	20	18	-2
Encephalitis	18	3	-15
Typhoid fever/Enteric fever	0	1	+1
Food poisoning	23	11	-12
Rabies	0	0	0
Leptospirosis	164	79	-85
Malaria	0	0	0
Measles	0	0	0
Meningitis	29	2	-27
Mumps	1	1	0
Rubella	0	0	0
Simple continuous fever	207	0	-207
Tetanus	1	0	-1
Typhus fever	5	1	-4
Hepatitis A	124	28	-96
Whooping cough	0	0	0
Leprosy	06	15	+9
Total			Difference =(-449)

III. PROPOSALS

Prioritisation of root causes

Finding solutions to the identified problems is very important for an efficient Disease Notification process. All the issues identified are interconnected. Therefore, finding solutions for all of them must be regarded as a top priority.

Discussion

1. Lack of knowledge of the disease notification system

The notification of diseases is done from the ward setup. Once a patient is admitted to the ward, if the patient is suspected of a communicable disease, it has to be notified. The admitting Medical officer will do this. However, it was observed that many

of them didn't know the list of Notifiable diseases. Some of the nursing staff as well did not have proper knowledge of the Notifiable disease list.

2. Lack of knowing the importance of the disease notification system

The main reason for the deficiency in notifying was that some Medical officers and interns didn't fully understand the importance of it. They did not know that this is only one part of a process where the notified disease is traced at the Medical Officer of the Health level to prevent outbreaks of the infection.

3. Lack of responsibility and accountability for the disease notification

Notifying of a Communicable disease to the Infection Control (IC) unit is one of the main responsibilities of the ward Interns. Interns were of the opinion that their only concern was to treat the patient. Moreover, there needed to be more responsibility from the ward's senior nursing staff and senior doctors for not advising and guiding the junior nurses and doctors that notification was mandatory in case management.

4. Non-availability of a proper monitoring system

At the ward level and IC unit level, there isn't a monitoring system for the notification process in place. Cross-checking the Communicable disease data from e-IMMR in the record room with IC unit data is also not done.

5. Inadequate supervision by Senior health staff, Consultants and Hospital Administration

Junior doctors and nurses must be supervised by their seniors regularly to see if the notification process is proceeding as it should. Necessary advice and guidance must be given by them to the juniors when needed. The Infection control unit is also not supervised by the Hospital Administration.

6. Lack of knowledge of the Notifiable disease list by the Record room staff

The staff is responsible for entering the Communicable diseases and their codes into the e-IMMR online system, which is needed to possess updated knowledge of the Notifiable disease list and the Notification process.

IV. RECOMMENDATIONS

Brainstorming sessions were conducted with the deputy director and SHOs (medicine and surgery), as well as SGCNO, ICNO, and ICNO.

The following recommendations were suggested;

1. Lack of knowledge and importance of the disease notification system

Training on the Disease Notification process should be included in the orientation program that is given to the new Intern Medical officers. They should be made aware of its importance during this program. Training programs should also be conducted for nursing officers. The Regional Epidemiologist, together with the District Supervising Public Health Inspector, can be invited as resource persons for these events.

2. Lack of responsibility and accountability towards the disease notification system

SGCNO must name a liaison nurse from each ward who will be held responsible for sending the H544 cards to the IC unit without delay. This nursing officer must be accountable for updating the ward notification register. She should also, together with the nurse in charge, motivate the junior doctors to fill out the H 544 forms at the time of patient admission to the ward or as soon as the diagnosis is made by the Consultant or Senior Medical Officer. This nursing officer must also be responsible for maintaining an adequate number of H544 notification forms in the ward.

3. Non-availability of a proper monitoring system

Regular monitoring of the notifiable diseases should be done at the ward and IC unit levels. At the ward level, the nurse in charge must monitor the process at least once a week, and at the IC unit level, the ICNO must monitor the reporting process weekly. Charts with lists of notifiable diseases should be available in the wards and in a place where the admitting Medical officer can see them. The ICNO must get a return of the Notifiable diseases reported for the week from each ward weekly, even if it is a nil report.

4. Inadequate supervision by Senior health staff, Consultants and Hospital Administration

It is recommended that SHOs regularly inquire from the IHOs if the relevant diseases have been notified. Relevant consultants should also inquire from SHO/IHOs during ward rounds if the diseases have been notified to the IC units. SHOs and nursing staff should cross-check regarding this matter.

5. Need to update knowledge of the Notifiable disease list by the Record room staff

Record room staff has to be updated regarding the list of notifiable diseases. ICNO must regularly cross-check their data with record room data.

V. IMPLEMENTATION

1. The findings were discussed with the Director, the Deputy Director, consultant physicians, pediatricians and SGCNO as important stakeholders in the Disease Notification process. The Director must inform the consultants of the identified differences in the diseases reported at the IC unit and record room and take necessary action to prevent such errors in the future.

2. Interns will be trained on the notification process during their orientation program.

Other health groups will be trained by resource persons who will be invited from the Regional Directorate of Health Services.

3. The hospital Deputy director must regularly supervise the Notification process and report the findings to the Director as required.

4. Liaison nurses will function in all the wards

VI. CONCLUSION

This is the only tertiary level speciality healthcare providing hospital in the Province. It provides services mainly to the people of this province. It has an average number of around 135000 admissions per year.

Patients, when admitted with a communicable disease, will be notified from the ward through the H544 form to the IC unit based on confirmation or suspicion of the disease by the admitting medical officer.

Notification of communicable diseases is a legal requirement in Sri Lanka since 1897.

Following the receipt of the form, the IC unit is responsible for informing the area MOH of the disease. This process is very important for taking quick actions for the prevention of outbreaks. The root cause analysis that was conducted identified many shortcomings in key areas. Brainstorming sessions conducted with key stakeholders came up with important recommendations to overcome these. These recommendations were applied with the approval, supervision, and guidance of the Director for the efficient and effective functioning of the Notification process at this healthcare centre.

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