THE DEVELOPMENT OF UPPER GASTROINTESTINAL BLEEDING GUIDELINE IN REFERRAL SYSTEM FROM COMMUNITY HOSPITAL IN PATHUMTHANI PROVIDENCE

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Abstract
This research study is conducted by using descriptive research. The study is focusing on the consensus guidelines to patients with active upper gastrointestinal tract bleeding forwarded from the community hospitals in the Pathumthani Hospital network. There are seven community hospitals with 47 doctors participated in this program. This research study was conducted during February 1\textsuperscript{st}, 2012 to May 31\textsuperscript{st}, 2012. After the implementation of the guidelines, adapted from the standards of the Medical Association of Thailand, to the patients with acute upper gastrointestinal tract bleeding, we found that there were 24 activities should be followed. This research found that of the full potential of all 24 activities had not been applied due to some factors, such as lack of the readiness and pharmaceutical preparations. In some cases there were no reduction in acid secretion.

Keywords: guidelines, referral system, community hospitals

Introduction
Bleeding from the upper gastrointestinal tract is a critical condition in clinical practice because it is a condition that has a high mortality rate. A study by the Medical Society of Gastroenterology of Thailand (1) found that bleeding from the gastrointestinal tract if not treated properly when patients first come to the hospital is often fatal as high as 15%. In the year of 2004, the Gastrointestinal Medical Association of Thailand (1) began to look more closely through scientific evidence at the mortality rate of patients hemorrhaging from the upper gastrointestinal tract.

Prathumthani Hospital is a tertiary level of care and services hospital. It is the main hospital to accommodate all patients submitted from the secondary and primary hospitals in the network. The News Information Agency reports that patients in medical wards that are bleeding from the upper gastrointestinal tract are a very acute condition; it is the sixth leading cause of death in the medical wards. It has also been found in the year 2010 that patients bleeding from the upper gastrointestinal tract in acute hospital locations increased from 3.78% to 60.97% (those dying within 24 hours) (2). Upon further examination these patients who died were being transferred from community hospitals in the network. There is no way these hospitals can care for patients appropriately staked the Gastrointestinal Medical Association of Thailand; especially in regard to severe patients. The assessment of blood loss and fluid replacement is adequate, which is a major cause of death, but the there are associated complications: renal failure, severe shock when they arrive at the hospital and low blood sugar that leads to lose of consciousness.

According to the above situation there is no absolute information on whether or not the hospital network locations provided the appropriate care or if they followed the medical treatment according to the guidelines of the Medical Association of Thailand. What are some productive ways to develop guidelines for a patient that is bleeding from the upper gastrointestinal tract in acute hospitals?

The research questions
1. What is the best approach to help a patient that is bleeding from the upper gastrointestinal tract at an acute community hospital network?
2. According to the doctor's recommendations, what are factors affecting the patient with bleeding from upper gastrointestinal tract acute when forwarding patient to the hospital community and hospital network?

3. What are the Guidelines for mutual recognition among the community hospitals and network locations when forwarding patients that are bleeding from the upper gastrointestinal tract in acute hospitals?

4. What are some of the results of guidelines for mutual recognition that have been established in a patient with bleeding from the upper gastrointestinal tract acute?

The purpose of the research

1. To study a patient that is bleeding from the upper gastrointestinal tract in an acute community hospital in the network. Hospital locations.

2. To explore the factors that affect a patient who is bleeding from the upper gastrointestinal tract in an acute community hospitals in the network, in the opinion of the physician who sent the patient.

3. To develop guidelines for a patient who is bleeding from the upper gastrointestinal tract in an acute medical hospital community hospital network locations established together.

4. To evaluate an approach that has been commonly accepted of a patient that is bleeding from the upper gastrointestinal tract.

Definitions used in the research.

Development of guidelines means the process of creating rules for individual practitioners to achieve its objectives in an ethical and responsible manner.

Prathumthani Hospital, is the tertiary level hospital in the network defined by Ministry of Health 209/2555 dated 28 February 2555 regarding the management of the health service network. Prathumthani Hospital is (Geographic Information System: GIS) is located in PathumThani province. There are three levels of hospital care and services within the network: primary, secondary, and tertiary care. These are the networking hospitals in the program; Lad Lud Kwew Hospital, Sam Cook Hospital, Democrat Prachatippat Hospital, Tanburi Hospital, Klong Luang Hospital, Nong Sue Hospital, and Lum Look Kaa Hospital.

Delivery of patients to hospitals, or hospital networks, means sending a patient from primary or secondary hospitals to the tertiary hospital. During this process treatment and care is documented and procedures are followed. Patients are cared for at the tertiary care hospital until they have recovered enough to be sent back to the primary or secondary level hospital.

Patients hemorrhaging from the upper gastrointestinal tract refer to patients with acute bleeding in the upper gastrointestinal tract from the esophagus to the section called the Ligament of Treitz.

Standard delivery is a patient being transferred from the secondary hospital to the tertiary hospital. In the secondary hospital the treating physician must first properly diagnosis and treat the patient before transferring to the tertiary hospital. The doctor needs to know the technical and procedural skills including: proper diagnosis and treatment, an ability to explain the health key indicators, the complications and procedures, and indicators and contraindications.

Submission guidelines were developed by doctors for patients that are bleeding from the gastrointestinal tract from acute recognized disorder. The community hospital network in Thailand established a standard of care and to implement a responsible professional ethics.

Development guidelines

Danai Tianphut (2542:6) refers to the development of the quality system to facilitate and to enhance the ability of physicians in hospitals and community organizations to develop a process that aims to provide people with knowledge; to provide specialization and experience, to effectively resolve the situation, the staff attitude, and the ethics of responsibility.
System of community hospitals in the network

Ministry of Public Health Provides a means of transmission to patients by hospital geographic information systems (Geographic Information System: GIS) of the Ministry it is called the Managed Health Network. The management health network is a multi-level in health services, including primary care (Primary care) secondary care (Secondary care) and tertiary care (Tertiary care). The associated referral system is to send a patient from one hospital to another based on their ability to maintain an appropriate standard for the system. The network serves as a hospital to hospital destination for patients to receive treatment. The implementation of patient care is ongoing, fast and accurate and patients fared better.

Concept of perceptions or opinions

Sophia Pitsanai (2543, page 14) below are the summarizes the factors that influence people’s concepts and perceptions and their opinions. Personal factors and environment factors are the two important elements that influence people’s concepts and perceptions or their opinions. Personal factors include beliefs, values, social and personal factors, and environmental factors. Mass media, radio, television, newspapers, etc. These environmental factors also have made a large influence on the perception and opinions of individuals. Each individual’s perception of personal factors and Environmental factors are different, each person in the society will inevitably have different concept of perceptions and/or opinions.

Concept of recognition

Rogers (Rogers (7)) suggest that there are five stages of the adoption process.

1. Awareness stage - it is the initial stage before accepting or rejecting a new idea. During this stage people study the new information of a particular subject or thing that is related to the workplace. In addition, Awareness stage is the beginning stage; therefore, it would not fully receive the comprehensive information.

2. Interest Stage – at this stage people begin to seek more details about new biotechnologies, which enable a person to gain new knowledge. In addition, personality and past experiences would affect how the person communicates to others people.

3. Evaluation Stage – this is a stage that all the methodology has been tested and proven to be effective.

4. Trial Stage- at this stage the person will experiment. The methodology will be tested and proven to be effective for him/her to gain personal experience. Testing the methodology will beneficial to the examinee and will be accepted and recognized by others.

5. Adoption Stage- it is the stage that all the new experiences will be accepted. The examinee will conducted the activities, observe and verify the effectiveness of methodology, tools, steps and procedures and see the benefit of those things.

Methodology

This research study is conducted by using descriptive research. The study is focusing on the submission guidelines from the community hospitals in the network, and how to care for patients that are bleeding from the upper gastrointestinal tract which is an acute condition which is mandated by Medical Association of Thailand. There are seven hospitals that belong to this program: Lad Lud Kwew Hospital, Sam Coak Hospital, Democrat Prachatippat Hospital, Tanburi Hospital, Klong Luang Hospital, Nong Sue Hospital, and Lum Look Kaa Hospital. There are few qualifications and requirements for a doctor who is eligible to give treatment and recommendations for patients that are bleeding from the upper gastrointestinal tract in the hospital’s network locations; 1) they must have at least one year experience in working with a community hospital 2) take strict heed to the other 47 doctors who are currently working at the community hospitals (From February 1 – 31 May 2555).
Results

The results were evaluated by physicians in community hospitals in the network. There were 20 working days total for this project (February 1st, 2555 to February 20th, 2555). The findings found that a total of 47 physicians, 18 were male physicians (38.3 percent) and 29 were female physicians (61.7 percent). These physicians are the doctors in the community hospital network in Prathumtani. Most of the doctors are in the age range between 25-35 years, and there were 27 physicians that fall into this category (57.6 percent). In addition, there were some physicians who have less than three years working experience at the community hospital. The numbers of the physicians in this category were 24 physicians, which contributed to a total of 51.1 percent of the physicians. Furthermore, there were 37 physicians (78.7 percent) who were not aware of the guidelines or the treatment process for patients who are bleeding from the upper gastrointestinal tract. Only 10 physicians 5 were aware of the guidelines and the treatment process for a patient who is bleeding from the upper gastrointestinal tract.

Study approach to the patient with bleeding from the upper gastrointestinal tract acute community hospitals in the network

According to the seventy invoices of patients that were bleeding from the upper gastrointestinal tract that were collected from the Prathumtani hospital and hospital network during the year 2009 to 2011; it was found that there high occurrence of physicians not following the guidelines or the procedures to care for the patient with bleeding from the upper gastrointestinal tract as an acute condition. The following lists of activities below are things that had not been fully satisfy according to the standards: 1) the result show that there are some activities that the hospitals did well more than other activities, 2) there is a high frequency of activities that the hospital performs, such as the evaluation of the concentration of blood (Hct), cleaning the stomach (92.8 percent), food and water deprivation (91.4 percent) and measure signal pulse (90.0 percent). On the other hand, there is a low frequency of activities that the hospital performed to its' patients, such as the evaluation of the concentration of blood every six hours was 71.4 percent at the time, providing IV Fluid Loading was 67.1 percent and considering the inclusion of blood (CBC) was 62.9 percent. In addition, there were some activities that did not administer to the patients at all, such as Plt <50,000 to Plt 10 U and Film acute abdomen.

Over all, the results of this study suggests that there is a big achievement gap to be filled in order to meet the standard of the Medical Association of Thailand, when forwarding the patient with bleeding from the upper gastrointestinal tract.

After pre-treatment of the patient the doctors in the community hospital network believe there are key indicators that would necessitate the transfer of the patient to the Prathumtani Hospital. The summary is below.

Symptoms and main reasons for transferring the patient to Prathumtani Hospital

According to the interviews of doctors who have treated the patients that are bleeding from the gastrointestinal tract from all the hospitals in network found there are several reasons for forwarding patient to Prathumtani Hospital. The reasons can be divided into 6 groups:

Group number 1. There were about 95.7 percent of the physicians' opinion believe that if a patient that is bleeding from the gastrointestinal tract and is in shock, that patient must be forwarded to Prathumtani Hospital immediately.

Group number 2. There were 78 percent of the physicians agreed that after providing primary medical assessments to a patient that is bleeding from the gastrointestinal tract they must forward their patients toward the Prathumtani Hospital. Due to the high risk of this illness, all of the patients in this category must would always be submitted to the main hospital, but there 54.3 percent of not having the medical assessment records attached when forwarding the patient to the Prathumtani Hospital.

984
Group number 3. There were about 64 percent of physicians that agreed if they found patients with various diseases associated with bleeding from the gastrointestinal, they must forward these patients immediately.

Group number 4. There were about 23.1 percent agreed when having to perform drugs reduce acid secretion (Omeprazole) combined with other treatments, patients with gastrointestinal hemorrhage must always forward to the main hospital.

Group number 5. There were about 15.3 percent agreed that patient who is currently receiving the preventative HIV infection in the blood and at the same time bleeding from the gastrointestinal will be forwarded.

Group number 6. These physicians agreed with all five reasons stated in all the five groups above, but they also want to preserve their own answers to the question why they forward their patients to the main hospital.

Factors that prevented the physician not be able to follow the guidelines by the association

Normally, The Health Association has specify the level of the medical treatment standard to be 85.5 percent at the time when performing treatment care to the patient in this category. Yet, there were some cases fail to the standard. The assessments to the physicians of why they and the hospital failed to give strict heed to the specific guidelines (step-by-step) according to the Health Association Standards, when providing primary care to the patient who is having high risk of with bleeding from the gastrointestinal tract.

Medical Personal Problems

There were about 37 medical personal (78.7 percent) who did not know how to comprehensively follow the medical treatments, procedure, and standard set froth from Health Association when performing treatment care to the patient in this category.

Technology, Equipment, and Medicine problems

There were 3 physicians (6.4 percent) agreed that the community hospitals did not necessary provide welled medical equipment, medicine and technology when dealing with patient who has bleeding from the gastrointestinal tract. For example, they found that many community hospitals did not have drugs for reducing acid secretion for their patients.

Organization and System problems

Even though the Health Association established the standard guidelines and procedures of how to treat patient with bleeding from the gastrointestinal tract, those guidelines were a little bit unclear. The 7 activities, which the Health Association expected the physicians and community hospital to follow with exactness with dealing with patients in this category, were sometimes unclear to many physicians and many times the term and definitions in the content were to broad and that lead to the misinterpret the meanings. They believe that the Medical Association of Thailand should rewrite the guidelines and provide a standard comprehensive handbook for all the entire medical system with those seven activities if they want to see the better outcomes.

The consensus data from all the physicians who are currently working for community hospitals when forwarding patients with bleeding from the upper gastrointestinal tract

Below are the practice guidelines that had been concluded and agreed upon by the doctors who are currently working for community hospital network when performing medical treatment to the patient in this category.
**Practice Guideline**

1. If not DM  5% D/NSS(1,000)+B.co 2 cc. v. rate 100 cc/hr
2. If DM  Change 0.45+NSS1000 cc.+B.co v.rate 100 cc/hr
3. INPO
4. Hct Stat Blood PRC 1 U
5. CBC
6. BS
7. BUN
8. Cr
9. Electrolyte
10. PT, PTT 11) LFT
12. Hct q 6 hr.
13. If Hct < 20% PRC 3 U
14. If Hct < 25% PRC 2 U
15. < 30% PRC 1 U
14) Gastric Lavage until see clear
15) If platelet < 50,000 give Platelet 10 U FFP 10 cc/kg
16) Vit. K1 (10 mg.) v. OD. X 3 days.
17) If SBP < 80 mmHg. give Haemaccel 500 ml v. rate 100 ml/hr
18) EKG 12 leads for age > 60 years.
19) CXR
20) Film Acute Abdomen if anemia with guarding
21) Set appointment for Gastroscope
22) Record Urine output q 1 hr. If < 30 cc/hr Notify doctor
23) Losec 80 mg. v stat
24) Losec IV then 40 mg. v q 6 hr

**Evaluation approach was confirmed in a patient who is bleeding from the upper gastrointestinal tract acute compared with the guidelines and standards of the Medical Association of Thailand**

Base on table 4.5 indicated that doctors had forwarding their patients with bleeding from the upper gastrointestinal tract can be vary among the community hospitals in the network in Prathamthani unit. We found that Prachatippat Hospital forwarded 6 patients and same as Klong Luang Hospital. Thanburi Hospital forwarded 4 of their patients to the Prathamthani Hospital, where as Lad LumKheaw Hospital and Nongsue Hospital both hospitals forwarded the same amount of their patients, each sent 2 patients. Lum Luuka Hospital only forwarded 1 patient. On the other hand, there is no patient begin forwarded from Sam Coke Hospital.

We also found that when there was a case of forwarding patient with blood from the upper gastrointestinal tract each hospital did actively engage in communication with the Prathamthani Hospital. During forwarding the patent to the Prathamthani Hospital, the Thunyaburi Hospital did not send a nurse or medical personal along with patient 2 times and out of those 2 time there was only 1 record show the medical record wrote by teh doctor of Phrathamthani Hospital. We also found that the some patients in this group also having cirhosis and diabetes. The rate of doctors providing the disinfectant to this patients was only 40 percent.

The cause of transmission of patients from a community hospital compare to other community hospital were difference. Phrachatippat Hospital is the hospital that has most number of patients who had shock status while forwarding to Prathamthani Hospital. Klong Luang Hospital sent 2 patients for the purpose of receiving proper medical treatment. Lam Luukka Hospital and Lad Lum Hospital both sent 1 of their patient to the main hospital. Thunyaburi Hospital forwarded 4 patient to the main hospital while Klong Lung Hospital sent 3 and Nong Seu Hospital send 2 patients. According to the invoices of patients that were bleeding from the upper gastrointestinal tract that
were being forwarded to the Prathumthani Hospital found that of all 20 patients, who were being forwarded to the Prathumthani Hospital, from February 1\textsuperscript{st}, 2012 to May 31\textsuperscript{st}, 2012, had has the forwarding documents attached. This means that all of these community hospitals did provide the pre-treatment to their patients before forwarded them to the Prathumthani Hospital and it shows that is an increase of doctors who are working at the community hospitals did follow the specific guidelines and being meet all the criteria of the Medical Association of Thailand. Physicians in community hospitals have begun to evaluate patients with high risk and provide their full capacity of pre-treatment to the patients who often have complications as well. All of the 19 patients were being evaluated with the concentrations of blood (Hct), but 13 of those patients have the sum of bleeding (CBC). In addition, there were 17 cases which being administered with gastric lavage of evaluation of bleeding from the stomach early part (Gastric lavage). Fifteen cases were received Vitamin K 15, and eleven cases had drug to reduce acid secretion (Omeprazole). Furthermore, there were 18 cases who receive the assessment of the level of sugar in the blood by piercing the finger (DTX), and 8 cases had made the reservation of blood before leaving the community hospitals. There were 9 cases of patients who had been checked up the function of the kidney, and at the same time 10 of the patients were received the blood concentrations (Hct) in every 6 hours. Finally, there were 18 cases receive the blood replacement services, 2 cases were being collected of Urine exam, and there were 5 cases who did not have the similar cases as the rest of the patients mentioned above.

After the doctors and hospitals personal who follow the specific guidelines and put their effort of all the criteria that were set forth by the Medical Association of Thailand when forwarding patients that were bleeding from the upper gastrointestinal tract, from February 1\textsuperscript{st}, 2012 to May 31\textsuperscript{st}, 2012, among the 20 invoices that were submitted to Prathumthani Hospital found the improvement of each of the community hospital who is working very hard to meet the standards of the association. Even though these community hospital did not meet all the 24 activities that has been set to follow, the results of this implementation of new guidelines and standards were increased gradually.

We found out that after the community hospital admitted the patient to the hospital, then perform the pre-treatment and provide the medical assessment to the patient. As the results, the assessment indicates that the patient is also at the high-risk patient, the detail of the guidelines and medical treatments had been recorded in the invoice of forwarding patient. These are the medical treatments that were found; the evaluation of the concentration of blood (Hct) were 70 percent, blood testing every 6 hours were 80 percent, check the complete blood count were 75 percent, provide Vitamin K were 70 percent, drug to reduce acid secretion (7,8,9,10)(Proton pump inhibitor) in loading dose 80 mg of losec were 35 percent, and giving the reduce acid secretion at the normal amount of losec 40 mg iv q 6 hr were 30 percent, give substances into sugar (5%D/Nss) were 10 percent, give non-substances into sugar for patient who do not have diabetes were 65 percent, urine test were 25 percent, electrical cardiology were 15 percent. There were no chest X-ray, the X-ray abdomen, endoscope and Appointment for checking the stomach.

The summary of the research that were presented in the above table and did answer all the research questions on the subject, how to provide treatment and care for patients with bleeding form the upper gastrointestinal tract acute condition, of what cause the failure of following the guidelines and standards of the Medical Association of Thailand. In the opinion of the attending physicians state that the reason why there the way each doctor provide the way to forward his/her patient to the Prathumthani Hospital differently is because the term, definitions, guidelines and procedures that the Association established in forwarding the patient too broad. When the guidelines were to broad, it cause the misinterpret the meanings and can not produce the specific outcomes.

\textbf{The summary of the research and recommendations}

The main goal of the research is to develop method(s) and way(s) that would help a patient that is bleeding from the upper gastrointestinal tract with acute condition receive the primary services from the community hospital network, Prathumthani Province. This research is descriptive research type.
The result of the research has shown that this research presented in the above table and did answer all the research questions on the subject, how to provide treatment and care for patients with bleeding form the upper gastrointestinal tract acute condition and that not all the cases that had been studied follow all guidelines and standards of the Medical Association of Thailand. In the opinion of the attending physicians state that the reason why there the way each doctor provide the way to forward his/her patient to the Phrathamthani Hospital differently is because the term, definitions, guidelines and procedures that the Association established in forwarding the patient too broad. When bringing all the factors that will enable the future development the guidelines and criteria that will more benefit and more being accepted to the medical professional. After the implementation of the guidelines to the patients that were bleeding from the upper gastrointestinal tract acute condition we found that of all the 24 activities that need to be use in the medical treatment to each patient, during February 1st, 2012 to May 31st, 2012, had found that the activity that less to be used by the attending physicians were activity 4 and 6 respectively.

In addition, even though we found the ways to develop the guidelines for the pre-treatment (primary level) to the patient that were bleeding from the upper gastrointestinal tract acute condition, the 24 activities still did not apply to it full potential due to the readiness, the lack of pharmaceutical preparations, sometimes there were show no reduction in acid secretion, the preparation of the blood which required in activity number 4, and reduction the secretion of acid in activity number 6.

The result of the study also revealed that despite of the submission and acceptance to the guidelines among the physicians, but the utilize of the guidelines were not fully use due to limitation of management structure of the departments, medical personal, and technology that may not facilitate well or support well during the medical operation process. The lists below indicate the implementation of activities for the group of low-risk patient and the high-risk group patient.

The low-risk group used the activity number 1, 3, 10, and 11. These activities had been used less times at the Lad Lumkeaw Hospital and Nong Sua Hospital.

The low-risk group used the activity number 2, 4, 5, 6, 7, 8 and 9. These activities had been used at the Prachaitipat Hospital, Thunburi Hospital, Lum Lookkaa Hospital and Klong Luang Hospital.

The high-risk group used the activity number 15, 17, 19, 20 and 21. These activities were never been use at all.

The high-risk group used the activity number 12, 13, 14, 16, 18, 22, 23, and 24. These activities were being applied to 6 patient out of 20 patients total.

Among the hospitals that had been participated in the research study found that Klong Luang Hospital did use the most activities that has been provide, Klong Luang Hospital used 12 activities. The Nong Sua Hospital used 11 activities.

From the findings found that there were 5 activities that were not implemented during the research. These activities belonged in the high risk group. They are activity number 15, 17, 19, 20, 21. Therefore, to maintain the standard of care for patients with bleeding from the upper gastrointestinal tract, especially in patients with acute high risk proposed to be used as a measure of operating results for testimonials. It is important that when working with community hospitals in the network the guidelines or standards must be followed accordingly.

They also found that there was no record of drug reduced the secretion of acid to the patient at first step when providing medical treatment to the patients with high risk, and they did not give the Hemacel drug which is a drug use in the case of substitute for blood in hospital. This event indicated that the lack of preparation and storing of the drug still happening. It is important to have this kind of drug to be ready to use during apply those 24 activities to the patient on time.
Suggestions for research next time

To be effective in the research development, there must be an ongoing evaluation on this research. We should continue to study potential factors that will generate the better outcomes for the guidelines that will enable us for the better management of health care system.

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References

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