

CHAPTER 1

INTRODUCTION



1.1 Background and Rationale

Hepatitis C is a viral infection that causes inflammation, injury, and ultimately scarring of the liver. It is the predominant cause of post-transfusion non-A, non-B hepatitis patients (PT-NANBH). Researchers did not develop a screening test until 1990, long after the hepatitis C virus had infected millions of people. Over 50% of patients with HCV, infection will develop chronic infection and gradual progression to liver cirrhosis or hepatocellular carcinoma (Houghton et al, 1991).

In Northeastern part of Thailand, revealed the prevalence among a blood donor was 6.5% in male and 0.9% in female (Songsivilai et al, 1997). The prevalence in male was higher than in female and increased with age (Songsivilai et al, 1997, Guadagno et al, 1997). There was a report showing a 2.4% prevalence rate of HCV infection in blood donors in Northern part of Thailand (Mundee et al, 1995). Previous studies on the prevalence of hepatitis C virus (HCV) infection in Asian countries reported an average less than 1.5% (Songsivilai et al, 1997).

Patients at the highest risk for acquiring hepatitis C are intravenous drug users and persons requiring multiple transfusions drug users and persons requiring multiple transfusions of blood or blood products, such as hemophiliacs and patients undergoing major surgery. Household contacts appear to be at low risk, and transmission by sexual or other intimate contact occurs much less frequently than with HBV. The risk of HCV transmission from a needlestick exposure to blood from a source positive for antibody to HCV is below 1%, but may be higher when the source of exposure is highly viremic (Antonio and Piero, 1999).

The major mode of transmission of HCV was parenteral route and sexual transmission seems to be the minor importance in the spreading of HCV (Wang et al, 1998). Both sexual and parenteral route were the predominant modes of hepatitis B virus (HBV) transmission (Weltman et al, 1995). Both HBV and HCV are major health concerns in several countries, including Taiwan (Glasgow et al, 1997), Japan and Thailand (Songsivilai et al, 1997, Mundee et al, 1995, Luengrojanakul et al, 1994, and Luksamijarulkul et al, 1996).

No vaccine is currently available to prevent hepatitis C and treatment for chronic hepatitis C is too costly for most of the people in developing countries to afford. Thus, from a global perspective, the greatest impact on hepatitis C disease burden will likely be achieved by focusing efforts on reducing the risk of HCV transmission from nosocomial exposures (e.g. blood transfusions, unsafe injection practices) and high-risk behaviors (e.g. injection drug use) (WHO, 2000).

Infected population for Hepatitis C in Thailand is found to be 1%, and the treatment is still difficult to be cure. The treatment cost is expensive and long term. For this study focusing on the incidence for receiving the hepatitis from post-transfusion at Thai Red Cross National Blood Center. Screening the quality of the blood before processing to others recipient, which can inhibits the spreading of the disease directly. At the same time for the infected population for hepatitis C will receive the treatment at King Chulalongkorn Memorial Hospital, which co-ordinate with Thai Red Cross National Blood Center. For the researcher at this time will focusing on the cost of screening and the treatment cost. Screening process for the quality of the blood from the donors and compare with the cost of the receiver for Hepatitis C as cost-benefit analysis.

1.2 Research Questions:

This study will try to address following research questions:

1.2.1 What is the cost of increasing screening test of hepatitis C virus in blood donor at The National Blood Center?

1.2.2 Is it economical to screen all the blood donors for hepatitis C virus at The National Blood Center?

1.3 Research Objectives

1.3.1 To study the component for the cost and benefit of screening hepatitis C virus in blood donors.

1.3.2 To evaluate cost and benefit of screening hepatitis C in blood donors.

1.4 Scope of the study:

The data collection will be by using the blood donors from The National Blood Center, Thai Red Cross and the patient with hepatitis C from King Chulalongkorn Memorial Hospital since the year 1998-2000.

1.5 Possible Benefit

Every hospital with the similar situation will gain the useful data about cost benefit if screening HCV in blood donor to set-up the program in order to reduce HCV infected population and can also saved cost for treatment for individual and the country.