Improvement of Physician’s Knowledge about Hepatocellular Carcinoma (HCC) Surveillance

Yingluk Sritunyarat\textsuperscript{1}  
Roongruedee Chaiteerakij\textsuperscript{1}  
Rungsun Rerknimitr\textsuperscript{1}  
Sombat Trepraserttsuk\textsuperscript{1}  
Chonlada Phathong\textsuperscript{1}  
Phisit Tangkijvanich\textsuperscript{2}

\textsuperscript{1}Division of Gastroenterology, Department of Medicine, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Bangkok 10330, Thailand. \textsuperscript{2}Research Unit of Hepatitis and Liver Cancer, Chulalongkorn University, Bangkok 10330, Thailand. Department of Biochemistry, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand.

**Background:** Despite the survival benefit, HCC surveillance rate is only 23.1\% in Thailand. Our previous study showed that knowledge gap is the main factor contributing to low surveillance rate.

**Objective:** To determine whether providing brief educational program to physicians could improve surveillance rate.

**Methods:** Internal medicine residents in our university hospital between November 2015 and April 2016 were invited to complete a questionnaire on knowledge, attitudes, and adherence to HCC surveillance guidelines. Subsequently, they were sent briefing knowledge cards via social network such as LINE and FACEBOOK application. Two months later, residents’ knowledge, attitudes, and adherence to surveillance guidelines were re-evaluated using the same questionnaires. Knowledge scores before and after receiving cards were compared using Student’s T-test.

**Results:** Of the total of 143 participants, 97 and 108 completed questionnaires before and after receiving the cards. Response rates were 67.8\% and 75.5\% in the Before- and the After-groups. There were no differences in mean age, gender, and causes of cirrhosis of patients between both groups. The After-group recommended significantly more surveillance to chronic hepatitis B infected patients who were indicated, i.e. 63\% vs 40\%; \(P=0.001\). After education, the scores increased from 42\% to 59.3\% (\(P=0.09\)) for knowledge about optimal surveillance tool, and from 44\% to 50.9\% (\(P=0.60\)) for knowledge about surveillance interval. Next, guideline-adherence was assessed using 6 patient scenarios. The mean percentage score of the After-group was significantly more than the Before-group, i.e. 61.1\% vs 43.5\% (\(P<0.001\). Particularly, the rate of surveillance recommendation significantly increased in patients with compensated cirrhosis (37\% vs 63.9\%; \(P=0.002\)), non-cirrhotic hepatitis B infection with history of HCC in first degree relatives (35\% vs 60.2\%; \(P=0.007\)), and 45-year male patients with non-cirrhotic hepatitis B infection (35\% vs 60.2\%; \(P=0.007\)). Interestingly, there was no difference in attitudes regarding cost effectiveness of the surveillance between both groups.

**Conclusion:** Although physicians’ knowledge gap is the main barrier to HCC surveillance in Thailand, adherence to surveillance guidelines can be easily improved by regular education via accessible channel such as LINE application, FACEBOOK, etc.

**Keywords:** Surveillance, HCC, Education