



ORIGINAL ARTICLE

How Do General Practitioners Improve Compliance of Disease Monitoring by Patients with Chronic Hepatitis B Infection in Primary Care? A Qualitative Study

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Abstract

Background: Compliance to disease monitoring by patients with chronic hepatitis B infection (HBV carriers) presented a major obstacle to their management in primary care.

Objective: The study determined the measures that general practitioners adopt to improve the compliance of disease monitoring by patients with chronic hepatitis B infection in primary care.

Method: Focus group qualitative study of 43 general practitioners in primary care in Singapore.

Results: GPs stressed that devoting time and effort to educate the HBV carriers on the natural disease and the reasons for disease monitoring would enhance compliance in the follow up of these patients. The GPs suggested that a patient-recall system and aides-memoirs for doctors would also improve the compliance rate.

Conclusion: Improving the HBV carriers' understanding of the natural disease process of hepatitis B, clarifying the need and relevance of hepatocellular carcinoma surveillance via disease monitoring was key to improving compliance. A patient-recall system and various aides-memoirs were perceived by the GPs to be useful measures to improve their compliance to follow-ups in primary care.

Key words: Hepatitis B carriers, compliance, disease monitoring, patient recall, aides-memoirs

Introduction

Over 350 million people are infected with chronic hepatitis B virus (HBV) infection worldwide, resulting in over a million deaths annually from related complications such as cirrhosis and/or hepatocellular carcinoma. 4-5% of the multi-racial Singapore population is similarly infected(1). Reports(2,3) indicated that early detection of these pathologies would lead to improved morbidity and mortality of these HBV carriers and hence the need for regular monitoring of the liver status. They are commonly monitored in liver clinics in hospitals and primary care centers such as GP clinics or government-aided polyclinics. However, as many of these HBV carriers are asymptomatic, compliance to follow up is a problem faced by many general practitioners in primary care.

Objective

This study aimed to determine the strategies suggested by general practitioners in Singapore to improve the HBV carriers' compliance to their follow up in primary care. Sharing of these ideas would enhance the overall management of HBV carriers in monitoring their disease and hence detection of early HBV related complications.

Methods

Grounded theory-based sampling, data collection and analysis were used. The first author closely supervised the research to ensure a rigorous study. 43 GPs, who had managed HBV carriers in their respective practices, were recruited. A variety sample was constructed to include GPs of both sexes, a range of ages and years of practices and from both the public and private sectors to capture a wide spectrum of views. The GPs were provided with introduction letters via the post or e-mails, which clearly stated the objectives of the study. Follow-up calls were made to the GPs to confirm their participation.

Eight focus groups involving these GPs were carried out at four government-aided polyclinics, two private GP clinics and at the College of General Practitioners. Both authors facilitated the focus group discussions based on a semi-structured discussion guideline. The guideline covered a whole range of topics related to GPs' management of chronic HBV infection. These include GPs' assessment of HBV carriers in terms of history, physical examination and investigations, problems encountered and ascertainment of their roles in the management of this chronic condition.

The purpose and objectives of the study were explained to the participants at the onset of the FGD and confidentiality of their identities was ensured. Each participant signed a consent form and was required to fill in basic socio-demographic data. Each focus group was audio taped with participants' permission and each session lasted about 45-90 minutes. Participants were encouraged to speak freely and described their experience in managing HBV carriers. Prompts were also used if the participants did not mention certain related topics spontaneously.

The study was terminated with saturation of ideas after eight FGDs. The tape-recorded interviews were transcribed in their entirety into text files. The transcripts were read and checked independently by the researchers to ensure consistency.

The qualitative data were analyzed using standard content analysis technique. (4,5) Broad themes were first identified followed by a more grounded approach. The prevalent themes that were identified formed broad categories, which were then subjected to more detailed data investigation of subcategories nested within the broad categories. All transcripts were read several times and simultaneously coded to explore potential conceptual and content related themes. The data was coded using a qualitative data analysis software NUD*IST Version 6.0TM. (6) The quotes included in the results were typical views expressed by the participants and were used to exemplify emergent themes.

Results

Socio-demographic background of participants

The participants included 43 GPs with years of practice ranging from three years to thirty-six years with mean duration of 11.3 years (SD 6.7 years). 79.1% of them were in the government-aided polyclinics with the rest were working in private practice. Out of the 9 participants in private practice, 4 of them were solo practices and the rest were group practices. 65.2% of the participants treated an average of 1 to 4 HBV carriers per month while the rest saw 5-9 carriers monthly.

Table1. Socio- demographic background and practice profile of participating General Practitioners

Variable	Frequency N = 43	Percentage (%)
Number of years of practice		
0 - <10 years	23	53.5
10 and above years	20	46.5
Gender of GPs		
Male	31	72.1
Female	12	27.9
Classification of Practice		
Government	34	79.1
Private - solo	4	9.3
Private - group	5	11.6
Genders of polyclinic doctors (n=34)		
Residents / Medical officers	13	38.2
Registrars	18	52.9
Consultants	3	8.8
Estimated Number of HBV carriers consulted in GP's practice per month		
1 - 4	28	65.1
> 4	15	34.9

GPs' measures to improve disease monitoring of their HBV carrier patients were presented in themes.

Table 2: Themes derived from the various focus group discussions indicated by G

Themes
<p>Patient education:</p> <p>G1: "You tell them the natural history; after that you tell that's the reason why we want to monitor. You not only tell them the potential problem, you also tell them the solution. It's a way of motivating them to come back."</p> <p>G2: "I actually spent a lot of time trying to get the education part of the disease to the patients. Once you get the understanding, then the compliance comes in easier."</p> <p>G4: "I would emphasize that it is chronic; basically this stays with you for the rest of your life and the implications are huge. If you get a tumor or if you get cirrhosis, it will be quite disastrous."</p> <p>G2: "We must educate them, that we must be on our toes watching out for some complications that have been well known to set in, so that if they are there, we are ready to manage it."</p> <p>G6: "I sort of redefine them cognitively: we are hoping that you do not need treatment, because it's the best thing it could happen. Once you need treatment, that means big trouble. The virus is flaring and disturbs you. You just hope that the virus is sleeping in your liver and doesn't disturb you."</p> <p>G3: "Anatomical model. The virus, basically they make friends. The virus actually lives inside (the liver) but perhaps one fine day, the virus may betray you. So they remember it that way. The betrayal takes the form of cancer or cirrhosis."</p>
<p>Setting the correct perspective and priority</p> <p>G1: "You set the expectations so that they know what is expected for lifelong. If they realise that expectation, I guess, (it) is easier for them to come back."</p> <p>G2: "What if I am the 1% (at risk), it is still important to me. Statistics is giving a whole picture of what it is all about but the critical thing is that it has to be individualized."</p> <p>G6: 'Convince them to do the blood test, which is the high yield kind of activity and to explain to them what it means to them. In my practice, we are not sure if they ever come back to you again... if he is wandering around out there and whichever clinic he is going to, at least he is aware of this part (of education) which stays with him. So I just concentrate on these two minimum activities."</p> <p>G6: "I'll tell them if you are a carrier, you have up to 40% risk of dying from liver cancer or cirrhosis. The percentage is too high that's the reason why you should monitor."</p>
<p>Assistance form paramedical staff:</p> <p>G5: "You can send (the carrier) to the nurse practitioner (for education)."</p>

G5: "If you do not have the dedicated team to trace people and call them up if they default (follow up), it could run into big problem."

Adopting Appropriate image

G2: "Let him know that we are not just sitting down and let things happen. We are also actively participating and get him to involve in his own health and management of his conditions."

Patient Recall system:

G8 (polyclinic Gp): "We actually set up Hepatitis B register... we actively refer to the nurse practitioner to make a note that they had attended and to make projection when they are supposed to come back."

G8: "We have the (HBV documentation) form too... we write it on the jacket cover too, together with all the key labels. I think that is probably the most useful reminders."

G7: "Like immunization...if they miss, some computer print - out will be posted to their house."

G5: "Some of us will make it a habit to write it near the drug allergy column or the essential information column or case summary...or use stickers to remind you."

Patient education

Educating the HBV carriers to enhance their understanding of the disease appeared to be the key initiative advocated by the participants to improve the patients' compliance to follow-up. There were variable methods and emphasis proposed by the participants but the underlying aim was to let the HBV carriers understand their condition and the purpose of regular monitoring of the disease. The first visit by the HBV carrier to the GP was thought to be critical in setting the right platform for patient education due to the walk-in primary healthcare system in Singapore.

Several GPs would emphasize the chronicity of the disease and used layman terms to describe the activity of the virus in the liver. The use of analogy was one method to bring across the message. It was deemed important to provide the HBV carriers with an overview of the disease and educate them on the HBV related complications such as cirrhosis and hepatocellular carcinoma. Many would stress that the main purpose of monitoring was to detect the HBV related liver complications from the biochemical, serological and imaging investigations. The participants reckoned that the information should be pitched at the educational level and understanding of the individual carriers.

Assistance from paramedical staff

Few GPs from the polyclinics suggested delegating the task of educating the HBV carriers to the nurses in view of the heavy patient workload, which inevitably compromised on the consultation time for the patients. It would seem plausible to engage the paramedical personnel in these large primary care centers, which are supported by more manpower.

Other participants suggested engaging the nurses to track the patients in a manual form of patient recall system.

Setting correct perspective and priority

Setting the correct perspective, priority and expectation for their HBV carrier patients during the follow up was regarded by the GPs to be a crucial task. The focus should be monitoring of potential derangement of liver function for the well carriers instead of resolution of the disease. This would avoid disappointment, misunderstanding and frustration for their patients.

Fear of complication was suggested by one participant to be used tactfully to persuade the carriers to monitor their disease regularly although not all the FGDs shared the same sentiments. Several GPs indicated that they would involve the HBV carriers directly in decision making for their self-care management in the long term. The objective would be to empower the carrier with the necessary information so that they understood personally the needs for the regular monitoring of their condition.

Presenting statistics of the risk of complications to the carriers was another option. One FGD suggested that this approach could be applied to the more educated patients. It would present an overview of risk from a different perspective; it was argued that the carriers were more concerned of the direct impact of the disease to the individual which mattered most and statistical information may not have seemed to be relevant.

Adopting appropriate image

GPs should show that they were actively supporting the HBV carriers in the management of the latter's own health. The image that the GPs were passively monitoring the numeric parameters of the investigations should be abolished. A "too pessimistic, too complacent" impression of the doctor would also deter the patients from their follow up. It was also important not to paint a dismal picture of the disease but use the consultation to motivate them to continue their follow up.

Patient recall system

To remind both the doctor and the HBV carrier of the follow up, a recall system was perceived by the participants to be useful. Various suggestions were put forward, including:

- documentation of the diagnosis on the case folders
- use of color coded stickers
- repeat documentation of the HBV carrier after each consultation
- IT based automatic patient recall system.

HBV specific documentation forms were available in selected polyclinics but their aim was not as reminders. There was an isolated active recall system in one polyclinic but the practice was almost non-existent elsewhere.

Other participants would pre-empt the patients by giving them the blood investigation forms with the dates for the next round of monitoring. This method again relied on the doctor's initiative and the memory of the carriers, which could often lapse.

Discussion

Compliance to regular disease monitoring was identified as a major barrier in the management of chronic HBV infection in general practice. The paucity of symptoms and the perceived lack of understanding of the disease by the carriers were contributory factors to the poor compliance. The participants in the study had suggested their approaches and initiatives to reduce this hurdle. Educating the carriers to understand the disease and the need for regular monitoring was the penultimate goal. The GPs considered it worthwhile to invest time to educate and set the correct perspective for their carriers, preferably to be executed during the carrier's first consultation for this purpose. However no participant mentioned that these situations presented opportunities for pharmaceutical interventions to reduce further consequences.

The authors regarded these suggestions as feasible strategies to improve compliance and could be assimilated into the routine consultation. What matter are the will and motivation of the GPs themselves to undertake such endeavor in every consultation with their HBV carriers. However, whether such strategies prove to be effective in persuading HBV carriers to comply with their follow up have yet to be determined.

The GPs should also capitalize on the opportunity in the consultation to set priorities and rectify any negative perspectives harboured by their HBV carriers about their disease. Creating the impression that GPs were partners in the care of their chronic condition through warm and optimistic interaction in the consultation would also motivate the HBV carriers to comply with their regular disease monitoring.

The nurses in the polyclinics are trained to educate the public and patients in the management of many chronic diseases such as diabetes mellitus, hypertension and asthma. The proposal to recruit the assistance of paramedical staff to educate the HBV carriers has yet to be implemented, as there is currently an absence of any structured programme to train the nurses or other paramedical staff in the management of chronic HBV infection. The authors considered the training of paramedical staff to handle the HBV carriers to be an achievable task. They could also cater to a wider audience as group discussion or workshop could be more cost effective than the more labour-intensive person-to-person education. It would also present opportunities for the HBV carriers to share their experiences with the other carriers and a platform for the establishment of support groups to motivate each other in the monitoring of their condition. Even so the general shortage of trained nurses in primary care is a handicap to introduce this outreach programme. The smaller or solo GP clinics would face even more restricted manpower resource.

Patient recall systems and doctor-reminders have proven to be effective in improving compliance in the utilization of various preventive care or screening programmes for breast and cervical cancer, childhood and adult immunization.(7 - 9) Based on the same principle, such strategies could extend to screening HBV carriers for complications and malignancy. The use of prompts, alert or reminders will provide information for GPs to make appropriate patient care decisions.(10) Vigorous application of this simple and

effective measure could probably remind the GPs to regularly check their HBV carriers of their liver status.

Conclusion

GPs relied on educating the HBV carriers to understand the natural history and potential complications of the disease to improve their compliance to follow up. Recruitment of paramedical staff to educate the patients was another option. A patient-recall system and various types of aide-memoirs to remind the GPs to monitor their patient's condition were suggestions to enhance the compliance.

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