

Dietary Practices and Beliefs of Patients with Chronic Liver Disease

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Abstract

Objective: To study of the dietary practices and beliefs of patients suffering from chronic liver disease.

Setting: Two private tertiary care hospitals.

Method: Fifty patients presenting to the Gastroenterology Clinics at the Aga Khan University Hospital and Baqai Hospital, with compensated liver disease and no other co-morbid condition which required dietary modifications, were enrolled in the study. Patients were interviewed regarding their current dietary practices using an open-ended questionnaire.

Results: The mean age of the patients was 48 years and the majority were in relatively poor nutritional status. Four had BMIs <18; 58% had Hb <12 g/dl and 36% had albumin levels <3 gm/dl. The percentage of patients avoiding various foods is as follows: meats 72%, fats and oils 64 %, salt 42%, spices 34%, milk and milk products 28%, rice 20%.

Conclusion: The most commonly cited reason for avoiding a given food was the advice of the family doctor, followed by advice by gastroenterologists, family and friends. Concepts from alternative medicine and continuation of dietary restrictions imposed during a decompensated phase also influenced intake. Compromised nutritional status is a poor predictor of clinical outcome in liver disease therefore it is important that gastroenterologists be proactive regarding nutritional counseling and both patients and their primary care physicians understand the importance of not imposing unnecessary restrictions on dietary intake (JPMA 49:216, 1999).

Introduction

Chronic hepatitis is reported to be highly prevalent in Pakistan^{1,2}. Chronically infected carriers of the virus are at high risk of death from chronic active hepatitis, cirrhosis and primary hepatocellular carcinoma^{3,4}. Malnutrition has been demonstrated to be an independent risk factor for predicting the clinical outcome in patients with chronic liver disease⁵. The liver has a remarkable capacity for regeneration provided that the nutrients required for tissue regeneration are provided in the diet. In compensated liver disease, all effort should be made to maintain nutrition status. It is recommended that patients with hepatitis but without significant liver damage should have a protein intake of 1.5-2.0 gm/kg and a caloric intake of 45 kcal/ kg of body weight⁵. However beliefs prevalent in the community regarding diet in liver disease may hamper adequate dietary intake by patients with chronic liver disease. It is important for the physician to be aware of these beliefs and practices in order to effectively counsel the patients regarding their diets⁶. We therefore undertook a study to determine the dietary practices and beliefs of patients with liver disease, to identify sources of information regarding diet in liver disease and assess the patients understanding of the scientific basis for the dietary modifications in liver disease.

Methods

Subjects: Fifty patients suffering from chronic liver disease attending the gastroenterology clinics at

The Aga Khan University Hospital and the Baqai University Hospital were enrolled in the study. Those patients who had other significant co-morbid conditions that would influence their dietary intake were excluded from the study.

The heights and weights of the subjects were obtained from the medical records and the Body Mass Index was calculated.

Haemoglobin and serum albumin levels were also obtained from the medical records. The subjects were interviewed, using a pre-tested questionnaire, regarding beliefs and practices relating to their diets after they were diagnosed as suffering from liver disease. The questionnaire consisted of open-ended questions relating to diet so as to fully explore attitudes and strength of beliefs. Any dietary belief or practice that did not relate specifically to liver disease was not included in the analysis. When a patient cited the gastroenterologists (WJ, AA, SA) as having recommended a dietary practice, the gastroenterologists were asked for verification and/or reasons for their advice.

Results

The mean age, BMI, haemoglobin and serum albumin levels of subjects are shown in Table 1.

Table 1: Mean age, body mass index, haemoglobin and serum albumin levels of patients with chronic liver disease.

Age (years)	Males (n=27)	Females (n=23)
Mean±Sd	47.5±14.3	49.4±13.3
Range	18-78	23-70
BMI		
Mean±Sd	23.0±3.9	21.6±4.5
Range	16.1-31.6	17.2-29.2
Haemoglobin (G/Dl)		
Mean±Sd	12.0±2.6	10.7±2.2
Range	7.2-16.2	7.7-14.0
<12 Gm/Dl	56%	69%
Serum Albumin (G/Dl)		
Mean±Sd	2.98±0.82	3.2±0.55
Range	1.4-4.5	2.4-4.3
<3.0 G/Dl	30%	44%

BMI = Body mass index

Although the mean age of the patients was in the late 40's there was a wide age range from 18-78 years. The average BMI for both males and females was less than 24 and there were 3 females and one male whose BMI was less than 18. The patients were classified as underweight (BMI <18), normal weight BMI >18 but <25 and overweight if BMI was >25. All four of the patients with BMI <18 reported avoiding meat, milk and milk products, and fats and oils in addition to other restrictions. However, there was no significant association between the present BMI and the duration of disease or the degree of dietary restriction. We looked at the haemoglobin and serum albumin level as further indicators of nutritional status, 56% of the males and 69% of the females had haemoglobin levels <12 gm/dl and 30% of males and 44 % female had serum albumin levels below 3.0 g/dl.

Table 2. Diagnosis and complications in patients with liver disease.

	Males (n=27)		Females (n=23)	
	No.	%	No.	%
Hepatitis	25	93	15	65
Cirrhosis	8	30	7	30
Ascites	8	30	8	35
Varices	5	18	2	10
G.I. Bleed	3	11	3	15
Encephalopathy	2	7	2	10

Table 2 shows the diagnosis and complications present in the patient with liver disease. Thirty percent of both males and females had cirrhosis; ascites was also present in more than one third of the patients, however not more than 10% had suffered from encephalopathy during the course of their illness. All patients in the study had been seen by at least one other physician before presenting to the Gastroenterology Clinics. Seven of the 50 patients said they had received no advice regarding diet related to their liver disease; of these 5 had been diagnosed less than three months prior to the study. Twenty-two patients said they received advice from the gastroenterologists, 16 received advice from family doctors, 6 from the residents at the clinics, 16 from family and friends and 9 from hakims/horneopaths. Many reported receiving advice from more than one source. In general most patients followed rather restrictive diets (Table 3).

Table 3. Percentage of patients avoiding various foods and their reasons for avoiding them.

	Meat	Fats and Oils	Salt	Spices	Milk/Milk Products	Rice
Number and	36	32	21	17	13	10
Percentage avoiding food	72%	64%	43%	34%	28%	20%
Reasons	# 36	# 32	# 21	# 17	# 13	# 10
Advised by Gastroenterologist	14	7	18	7	-	-
Advised by Doctor	24	19	8	8	3	-
Advised by Hakim/Homeopath	2	1	-	2	3	1
Advised by Friend/Family	8	10	-	2	7	-
Hot Food	4	3	-	-	-	-
Liver damaged	-	3	1	-	1	-
Encephalopathy	2	-	-	1	-	-
Ascites	-	-	11	-	-	9
Drowsiness	-	-	-	2	-	-
Varices	-	-	-	1	-	-
Don't Know	-	3	1	-	-	-

Multiple Responses

SHB:B:APAP-LIV.DOC

Thirty-six patients avoided meat, of these 14 said they had been advised to do so by the gastroenterologist. When the gastroenterologists were asked to verify this, it appeared that only the 4 who had a history of encephalopathy had been given definitive guidance regarding protein intake. However, only two mentioned risk of encephalopathy as the reason, the other two said they avoided meat because they considered it a 'Hot' food and believed that hot foods were harmful for patients with liver disease. The other 10 patients had just been warned not to take "too much meat". This warning resulted in patients avoiding meat strictly. The rest of them did so because they had been advised by their family doctor, a hakim/homeopath or by family members and friends to do so. Fats and oils were avoided by 32 patients, of these, more than 50% of them did so on the advice of their family doctor. Interestingly, 3 patients said they did not know why they avoided fats but it seemed the right thing to do. Sixteen patients had a history of ascites, but only two of the 16 had ascites at the time of the interview, however 11 patients said they were currently avoiding salt because of a history of ascites or the fear of developing ascites. Of the 10 patients that avoided rice, 9 did so because they associated the drowsiness caused by eating rice with the onset of hepatic coma. Overall the most commonly cited reason (62/185 responses) for avoiding various foods was the advice of the family doctor followed by advice by the gastroenterologist (45/185 responses). The advice given by friends and family members also had an important bearing on the patients' food selection. Hakims and homeopaths were not cited as often as might have been expected, however 7 responses referred to concepts of foods as being 'hot' or 'cold', which are concepts from 'alternate medical systems'.

During the interview many of the patients gave an impression of being very apprehensive regarding the impact of their diet on the progression of their liver disease and expressed a willingness to follow any dietary restriction (perhaiz) that might have a beneficial effect.

Discussion

As early as 1985 Nizami and Zuberi had reported that the intake of fats and proteins were grossly restricted by patients with cirrhosis, which resulted in a significantly inadequate intake of calories⁷. They further showed that effective counselling resulted in an improved dietary intake of proteins, fats and calories which was accompanied by an improvement in mean haemoglobin and serum albumin levels⁸. However the dietary practices and beliefs of patients with liver disease have not changed much since the time these reports were published.

The results of this study show that the general practitioner in the community advises dietary restrictions that are not required and may be detrimental to the patients food intake and nutritional status. An adequate intake of protein for regeneration of liver cells is important. It has been pointed out by Corish that encephalopathy is often precipitated by factors other than protein intake. These include constipation, infection, fluid and electrolyte imbalances and variceal bleeding. Therefore the prescription of a low protein diet as a long-term measure is justified only when the likelihood of developing encephalopathy outweighs the risks of an inadequate nutrient intake⁹. Whereas restriction of intake of meat and milk products in the diet would make it difficult to obtain an adequate intake of proteins. Dietary restriction of fats by these patients may lead to inadequate intake of calories directly as well as indirectly by decreasing the palatability of the food. Unnecessary restriction of salt and spices may also have a negative effect on food intake in an already anorexic patient.

When questioned as to why they were following certain dietary restrictions, even though they had not been advised by the gastroenterologist to do so, their reply was "just as a precaution". When the gastroenterologists were asked why they had not given specific dietary advice, their response was that the patients did not need any dietary restrictions. However, it appears that the concept of 'parhaiz' (dietary restriction) for the management of disease is so deeply entrenched in our culture that patients will restrict their diets even on the advise of family and friends and will continue to follow these restrictions even when the gastroenterologist have not advised them to do so. Some patients questioned the applicability of dietary recommendations based on research in Western countries to our own populations. This was especially so when foods were avoided because they were considered 'hot'. They stated that such foods might be all right to eat if one lived in a cold climate but not in a hot climate like Karachi's. Khare has described very well the shared ethos of medical practice in the Indo-Pak subcontinent, where patients are quite comfortable using a multiple of traditional and modern approaches as the "seek a cure for what ails them"¹⁰. Therefore it is important for the physician to reassure the patient that moderate amounts of foods such as egg, milk, dals and meat are important for their nutritional well being and would not have a negative impact on the course of their disease once they were in the compensated state. This means that the patient must be made to understand that diet in liver disease varies according to the severity of the disease and the complications present, such as encephalopathy or ascites, and once these complications are resolved the same degree and type of dietary restriction may no longer be required. Since most of our patients did not understand the basis for the recommended dietary restriction they continued dietary restrictions advised by physicians during an acute or decompensated phase, long after the complication had been resolved. Thus we see that in addition to a number of fallacies, there is incomplete understanding of the principles underlying the nutritional management of chronic liver disease amongst patients as well as health care providers. As indicated by the marginal nutritional status of the study patients, unnecessary restriction of dietary intake can actually have a detrimental effect on their overall nutritional status as well as the course of the disease.

With an increasing number of patients suffering from chronic liver disease it is crucial that gastroenterologist proactively address the issues of diet as an integral part of their clinical management.

In addition general practitioners need to be trained not only in the nutritional management of liver disease but also in effective nutritional counselling, techniques. This will ensure that it is the health care providers and not others in the patients' environment who will have a major impact on the dietary practices of patients with chronic liver disease.

References

1. Luby SF, Qamaruddin A, Omair A, et al. Community seroprevalence of Hepatitis B in Hafizabad, Pakistan. Abstract, Proceedings of the Aga Khan University, First National Symposium, September, 1994.
2. Luby SP, Shah A, Pasha O, et al. The relationship between therapeutic injections and high prevalence of Hepatitis C infection in Hafizabad, Pakistan. Abstract, Proceedings of the Aga Khan University, Second National Symposium, September, 1995.
3. Malik IA. Chronic liver disease due to Hepatitis B in Pakistan. Abstract, Proceedings of The Aga Khan University, Second National Symposium, September, 1995.
4. Kane MA. Progress on the control of hepatitis B infection through immunization. IX Biennial Scientific Meeting Asian Pacific Association for the Study of the Liver. Jan 1994, Kuala Lumpur, Malaysia.
5. Nampalli Di, Bonkovsky HL. Nutritional supplementation in chronic liver disease: An analytical review. *Hepatology*, 1994, 19:518-33.
6. Levinson MJ. A practical approach to the nutritional support in liver disease. *The Gastroenterologist*, 1995;3:235-40.
7. Nizami F, Zuberi SJ. Food Fallacy in Cirrhosis. *J. Pak. Med. Assoc.*, 1985,35:144-47,
8. Nizami F; Zuberi Si. Effects of nutrition on the management of cirrhosis. *J. Pak. Med. Assoc.*, 1986;36:58-62.
9. Corish C. Nutrition and liver disease. *Nutrition Reviews* 1997, 55:17-20.
10. Khare RS, Dava D, Dua A. An anthropology of practised medicine in India. *Soc. Sci. Med.* 1996; 43:837-48.