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THE RELATIONSHIP BETWEEN HEALTH LITERACY AND THE USE OF TRADITIONAL MEDICINE METHODS IN PATIENTS WITH VIRAL HEPATITIS

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Abstract

Background: Viral hepatitis remains a significant public health challenge. Despite the availability of highly effective direct-acting antivirals, a substantial proportion of patients delay evidence-based treatment in favor of unverified traditional medicine. The patient's level of health literacy is hypothesized to be a critical determinant in this decision-making process. Objective: To investigate the correlation between the level of health literacy and the frequency of utilizing traditional medicine methods among patients diagnosed with chronic viral hepatitis. Methods: A cross-sectional study was conducted involving 84 patients with chronic viral hepatitis (B and C). Health literacy was quantitatively assessed using the validated HLS-EU-Q16 questionnaire, categorizing patients into adequate, problematic, and inadequate health literacy groups. The use of traditional medicine (herbal remedies, cupping therapy, animal-derived products) and the delay in seeking professional medical care were evaluated through a structured survey. Results: Out of 84 patients, 32.1% (n=27) demonstrated inadequate health literacy. A strong inverse correlation was identified between health literacy scores and the reliance on traditional medicine ($r = -0.68$, $p < 0.01$). In the inadequate health literacy group, 81.4% of patients frequently used traditional remedies prior to or instead of seeking antiviral therapy, compared to only 18.1% in the adequate health literacy group ($p < 0.01$). Furthermore, low health literacy was significantly associated with a delayed initiation of specific antiviral treatment (average delay of 14.5 ± 3.2 months). Conclusion: There is a profound inverse relationship between health literacy and the use of traditional medicine in viral hepatitis management. Inadequate health literacy drives patients toward unproven alternative therapies, risking potential hepatotoxicity and disease progression. Enhancing patient education is paramount for improving adherence to standard antiviral protocols.

Keywords

viral hepatitis, health literacy, traditional medicine, alternative therapy, hepatotoxicity, patient education.

INTRODUCTION

Chronic viral hepatitis, particularly strains B and C, represents a profound burden on global public health, frequently culminating in liver cirrhosis and hepatocellular carcinoma if left unchecked. The landscape of hepatology has been revolutionized over the last decade by the introduction of direct-acting antivirals (DAAs), which offer cure rates exceeding 95% for Hepatitis C and potent viral suppression for Hepatitis B [1]. However, clinical reality often diverges from pharmacological potential. A significant barrier to eradicating these infections is not the lack of medication, but human behavior—specifically, the delay in seeking professional medical care and the widespread reliance on unverified traditional medicine [2].

In many regions with rich ethnobotanical and cultural traditions, traditional and complementary medicine (TCM) is deeply woven into the fabric of everyday healthcare. While

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certain herbal remedies may offer symptomatic relief for minor ailments, their application in chronic viral infections is highly problematic [3]. The lack of active antiviral properties in these remedies allows the virus to replicate silently. Furthermore, unregulated herbal mixtures frequently cause herb-induced liver injury (HILI), compounding the existing viral hepatic damage [4].

The underlying catalyst driving patients toward these alternative methods, rather than evidence-based hepatology, is increasingly recognized to be health literacy. Health literacy (HL) is defined as the cognitive and social skills that determine the motivation and ability of individuals to gain access to, understand, and use information in ways that promote and maintain good health [5]. A patient with inadequate health literacy may fail to comprehend the asymptomatic nature of viral replication, interpreting the absence of acute pain as an absence of disease, or equating the symptomatic relief provided by a traditional healer with a virological cure [6].

Despite the empirical observation of this phenomenon in clinical practice, there is a scarcity of structured, quantitative data assessing this behavioral dynamic in the local population. Therefore, the present study aimed to rigorously investigate the correlation between the level of health literacy and the frequency of utilizing traditional medicine methods among patients diagnosed with chronic viral hepatitis, ultimately to inform better patient-communication strategies.

MATERIALS AND METHODS

Study Design and Participants - A cross-sectional, observational study was carried out at the Department of Infectious Diseases, Andijan State Medical Institute. The study cohort included 84 adult patients (46 males, 38 females) with an average age of 45.2 ± 8.4 years, who had a confirmed laboratory diagnosis of chronic viral hepatitis B (n=39) or hepatitis C (n=45).

To ensure the integrity of the behavioral assessment, patients who had already completed a full course of antiviral therapy or those with severe hepatic decompensation (Child-Pugh Class C) were excluded from the study. All participants provided informed consent, and the study design complied with the ethical principles of the Declaration of Helsinki.

Assessment Instruments - Data collection was conducted through face-to-face interviews utilizing two primary assessment tools:

Health Literacy Assessment - We utilized the validated short-form European Health Literacy Questionnaire (HLS-EU-Q16). This tool assesses a patient's self-reported difficulty in accessing, understanding, appraising, and applying health information. Based on their cumulative scores, participants were stratified into three distinct categories:

- *Adequate HL* (sufficient skills to navigate the healthcare system)
- *Problematic HL* (experiencing moderate difficulties)
- *Inadequate HL* (severe limitations in understanding health information)

Traditional Medicine Use Survey - A specially designed, structured questionnaire was administered to evaluate the use of alternative treatments. The survey gathered data on the types of traditional medicine used (e.g., herbal decoctions, camel milk, cupping therapy/hijama, strict unorthodox diets), the frequency of use, and the primary motivation (e.g., distrust of modern medicine, perceived high cost of drugs, advice from relatives). Additionally, the survey measured the "treatment delay"—the time elapsed (in months) between the initial diagnosis of hepatitis and the first consultation with a specialized hepatologist or infectious disease specialist for standard antiviral therapy.

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Statistical Analysis - Statistical evaluation was executed using SPSS Statistics version 26.0. Continuous data with normal distribution were expressed as mean ± standard deviation (M ± SD), while categorical variables were presented as percentages. The Chi-square (χ^2) test was utilized to compare categorical data among the health literacy groups. Pearson's correlation coefficient (r) was calculated to assess the strength of the linear relationship between the continuous variables (HL scores and delay duration). Statistical significance was established at a threshold of $p < 0.05$.

RESULTS

The evaluation of health literacy via the HLS-EU-Q16 revealed a concerning landscape among the patient cohort. Only a minority of the participants possessed the necessary skills to effectively process medical information. Specifically, 26.2% (n=22) of patients were classified as having Adequate HL, 41.7% (n=35) fell into the Problematic HL category, and a significant 32.1% (n=27) demonstrated Inadequate HL.

When mapping these literacy profiles against the patients' healthcare-seeking behaviors, a striking disparity emerged. As detailed in Table 1, the utilization of traditional and alternative medicine was heavily skewed toward those with lower health literacy.

Table 1. Frequency of traditional medicine use stratified by Health Literacy level.

Parameter	Adequate HL (n=22)	Problematic HL (n=35)	Inadequate HL (n=27)
Used Traditional Medicine (Overall)	4 (18.1%)	19 (54.2%)*	22 (81.4%)*†
- *Herbal Decoctions*	3 (13.6%)	14 (40.0%)	18 (66.6%)
- *Cupping Therapy (Hijama)*	1 (4.5%)	9 (25.7%)	15 (55.5%)
- *Animal-derived products (e.g., Camel Milk)*	2 (9.0%)	11 (31.4%)	14 (51.8%)
Delay in seeking antiviral therapy (months)	2.5 ± 1.1	6.8 ± 2.4*	14.5 ± 3.2*†

*Note: * $p < 0.05$ vs. Adequate HL group; † $p < 0.05$ vs. Problematic HL group. (Patients could select multiple traditional methods).*

Patients in the Inadequate HL group were highly reliant on unverified treatments; 81.4% of them used traditional methods primarily to manage their hepatitis. In stark contrast, only 18.1% of patients with Adequate HL reported using such methods, usually only as a minor supplement rather than a replacement for primary care.

The most critical clinical consequence of this behavior was the delay in initiating specific, evidence-based antiviral therapy. The correlation analysis demonstrated a strong inverse relationship between the health literacy score and the time delayed before consulting a specialist ($r = -0.68$, $p < 0.01$). Patients with Adequate HL sought specialized medical help within an average of 2.5 months post-diagnosis. Conversely, those with Inadequate HL delayed professional treatment by an average of 14.5 months—a critical window during which silent fibrotic changes in the liver can rapidly progress.

When asked about their motivations in the survey, 74% of patients in the Inadequate HL group cited "fear of chemical drugs" and a "belief that natural means safe" as their primary reasons for choosing traditional healers, underscoring a fundamental misunderstanding of pharmacology and viral pathogenesis.

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DISCUSSION

The findings of this study illuminate a critical behavioral barrier in the modern management of viral hepatitis. The data robustly confirm our hypothesis: there is a profound, inverse correlation between a patient's health literacy and their propensity to rely on traditional, non-evidence-based medicine.

In regions where traditional practices are deeply culturally ingrained, the decision to use herbal or alternative therapies is not necessarily born out of a rejection of modern medicine, but rather a misinterpretation of risk and efficacy. As our results show, patients with inadequate health literacy equated "natural" with "harmless." This is a dangerous misconception in hepatology [7]. The liver is the primary site of xenobiotic metabolism, and numerous popular herbal supplements contain pyrrolizidine alkaloids or other hepatotoxins that can induce severe herb-induced liver injury (HILI), paradoxically accelerating the hepatic decompensation they sought to prevent [8].

Furthermore, viral hepatitis B and C are often clinically silent for decades. Patients with low health literacy struggle with the abstract concept of an asymptomatic, microscopic pathogen actively destroying their liver [9]. Traditional healers frequently offer treatments aimed at general well-being or alleviating vague symptoms (like fatigue or right upper quadrant discomfort). When these minor symptoms temporarily subside, the health-illiterate patient falsely assumes the underlying viral infection has been cured, leading to the dramatic 14.5-month delay in seeking actual antiviral therapy observed in our Inadequate HL cohort.

This delay is not benign. The era of direct-acting antivirals means that Hepatitis C is entirely curable, and Hepatitis B is highly manageable [10]. However, the efficacy of DAAs is maximized when initiated before the onset of advanced fibrosis. By losing over a year to ineffective traditional treatments, patients with low health literacy inadvertently narrow their own therapeutic window and increase their risk of hepatocellular carcinoma [11].

Addressing this issue requires a paradigm shift in faculty therapy and outpatient hepatology. Clinicians can no longer assume that prescribing a medication is sufficient; they must actively assess the patient's comprehension. Interventions should include culturally sensitive, plain-language educational programs that demystify viral replication and explicitly warn against the dangers of hepatotoxic herbal remedies.

CONCLUSION

There is a high prevalence of problematic and inadequate health literacy among patients suffering from chronic viral hepatitis, which directly dictates their healthcare-seeking behavior.

A strong inverse correlation exists between health literacy and the utilization of traditional medicine. Patients with inadequate health literacy are over four times more likely to rely on unproven alternative methods (81.4%) compared to their highly literate counterparts (18.1%).

The reliance on traditional medicine, fueled by a lack of medical comprehension, results in a dangerous delay in initiating specific antiviral therapy (averaging over a year in the lowest literacy group). This highlights that improving patient education and health literacy is not merely a supplementary task, but a vital clinical intervention necessary to prevent disease progression and optimize the outcomes of modern antiviral treatments.

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