

## Clinical Activity of SAAAB and HAABS Dietary Supplement on Hepatitis C and B Markers

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**Abstract:** Hepatitis B virus (HBV) and hepatitis C virus (HCV) coinfection is not uncommon as a result of similar routes of infection. Patients who are coinfecting represent a unique group with diverse serologic profiles. Combined chronic hepatitis B and C leads to more severe liver disease and an increased risk of hepatocellular carcinoma. Furthermore, coinfecting patients represent a treatment challenge but the liver can be toned by some herbal extracts to an extent of making hepatitis C becomes infinitesimal and render hepatitis B markers anergic. The herbal extracts are basically poly herbal preparation with *Vernonia amygdalina* as its active ingredient which is believed to strengthen the immune system through many cytokines and chemokines regulations. With the abundant presence of tannins, phlobatannins, flavonoids, steroids, terpenoids, saponins and cardiac glycosides, which are the most important bioactive constituents of medicinal plants, the poly herbal preparation is able to reverse hepatitis B envelop antigen (HBeAg) reactive to HBeAg non reactive and makes the surface antigen of the hepatitis B virus anergic within a span of three (3) weeks.

The natural history and treatment of patients with HBV and HCV coinfection is reviewed.

**Keywords:** Treatment, Hepatitis B, Hepatitis C, HBV/HCV Coinfection, *Vernonia amygdalina*

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### I. Introduction

Hepatitis basically is a disease of the liver and is a serious public health issue today. Hepatitis is caused by a virus. The virus causes different types of hepatitis namely: hepatitis A, B, C, D, and E. Hepatitis G virus was recently identified flavivirus and found structurally related to hepatitis C virus. Hepatitis can also be inflammation of the liver caused by toxic substances or immunological abnormalities.

Hepatitis B and hepatitis C viruses are the most common causes of chronic liver disease worldwide. Acute infection with hepatitis B virus (HBV) or hepatitis C virus (HCV) may result in chronic infection, which occurs at a high rate in infants infected with HBV and the majority of individuals infected with HCV<sup>5</sup>. Chronic HBV and/or HCV infection can progress to cirrhosis and be complicated by hepatocellular carcinoma (HCC)<sup>1</sup>. Coinfection with both viruses can occur because of shared routes of infection. Patients with dual HBV and HCV infection have more severe liver disease, and are at an increased risk for progression to HCC<sup>1-4</sup>. Coinfecting patients represent a diverse group with various viral replication and immunity profiles. Because of their distinct clinical course and heterogeneity, identification of patients who are candidates for therapy and selection of the optimal antiviral therapy is a challenge for clinicians. Herein we review the natural history of HBV/HCV coinfection, current understanding of the interactions between these hepatotropic viruses, and the limited literature on treatment of coinfecting patients.

Hepatitis B virus (HBV) is present in the blood, saliva, semen, vaginal secretions, and menstrual blood and to an infinitesimal degree in perspiration, breast milk, tears and urine of infected individuals<sup>5</sup>. A highly resilient virus, resistant to breakdown, can survive outside the body and easily transmitted through contact with infected body fluids<sup>5</sup>.

The symptoms mimic that of typhoid/ malaria, but the symptoms which may last several weeks include general weakness and fatigue that may continue for months, loss of appetite, nausea and vomiting, jaundice, dark urine and pale stools<sup>79</sup>.

Though no specific treatment is indicated for acute hepatitis A, B, C, D and E, but the liver can be toned by some herbal extracts to an extent of making hepatitis C becomes infinitesimal and renders hepatitis B markers anergic. One of such polyherbal formulations used for various ethnomedicinal purposes in Nigeria including the treatment of Hepatitis B and C is SAAAB<sup>R</sup> with or without HAABS. The constituents of SAAAB<sup>R</sup> and HAABS include; *sesamum indicatum*, *Vernonia amygdalina*, *Aloe barbadensis*, *Saccharum officinarum*, *Allium sativum*, *Amaranthus caudatus* and *Pinto bean seed* and *zingibir officinale* respectively. The medicinal uses of the constituents of SAAAB<sup>R</sup> and HAABS are well documented in literature (Dalziel 1937). But like most traditional medicines in Africa, little or no scientific information is available on this polyherbal component preparation that is akin to the Chinese traditional medicine (TCM) or the India Ayurvedic preparation.

These active constituents are believed to strengthen the immune system through many cytokines and chemokines regulations. With the abundant presence of tannins, phlobatannins, flavonoids, steroids, terpenoids, saponins and cardiac glycosides, which are the most important bioactive constituents of medicinal plants, the poly herbal preparation is able to reverse hepatitis B envelop antigen (HBeAg) reactive to HBeAg non reactive and makes the surface antigen of the hepatitis B virus anergic (unresponsive, unreplicative) within a span of three (3) weeks.

HBV infection can be prevented by hepatitis B vaccine and the use of prophylaxis (condom).

This study is therefore designed to determine the clinical activities of SAAAB<sup>R</sup> - Vernonia amygdalina, Alium sativum, Ossimun gratissum and Aloe barbadensis on hepatitis C and B markers and to create awareness to the public and other healthcare workers on the importance of vaccination against hepatitis B virus.

## **II. Methodology**

**2.0 STUDY DESIGN:** The study is a descriptive cross-sectional survey.

**2.1 STUDY AREA:** This study was carried out at the Medical Laboratory Department of Halamin Chemicals Nigeria Limited, Abuja F.C.T. This is a pharmaceutical company that specializes in the research and manufacture of supplements of African origin indicated for the management and treatment of various non communicable diseases and some communicable diseases. Approval was sought and obtained from the inventor of Halamin herbal products before this work was carried out.

**2.2 STUDY POPULATION:** Study population was made of suspected cases of hepatitis B and C clients within the age bracket 0 month to 59 years, that came to seek medical attention in Halamin Chemicals Nigeria Limited centre, Abuja from March, 2012 to August, 2012. Suspected cases comprised of clients that presented with fever and any of the following: heart burn, malaise, nausea, vomiting, dark colored urine or jaundice.

**2.3 DATAL COLLECTION:** Social-demographic data including age, sex, presenting complaints, relevant signs elicited and orthodox drugs pretreatment were obtained from the clients.

**2.3 SPECIMEN COLLECTION:** After obtaining the relevant information and explaining to the clients the test procedures, 2ml of blood was collected aseptically through venepuncture using sterile syringe and needle following application of tourniquet. The surface of the skin was disinfected with methylated spirit on cotton wool and allowed to dry. The blood was transferred to a plain container and allowed to clot at room temperature. The clot was dislodged and centrifuged at 1000rpm for 5 minutes. The serum was harvested using a Pasteur pipette and transferred into serum containers with caps and properly labeled. The test was performed immediately, unless stated otherwise, in which case, the samples were kept frozen.

The test was done using the CTK Biotech HBV 5- panel rapid test kit. This test cassette was manufactured by CTK Biotech. Inc. San Diego, USA, and the principles were based on the immunochromatographic sandwich. Procedures adopted for all the tests and the interpretations of the results were in accordance with the manufacturers' specification.

## **III. Results**

The results of the findings of HBV co infection with HCV and the frequency and clearance level of the HBV are presented below:

An assessment of the prevalence level of HBV and HCV clients shows that nearly all age groups are affected. However, it was observed that the highest occurrence of positive cases was recorded within the active age group of 20-29 years; no positive case was recorded in the age group of 0-9 years.

Table 2 shows that the number of negative cases outweighed the positives with 66.5% and 33.5% respectively. The females' gender recorded highest positive number with 64.91 %, while males recorded only 35.08%.

From the table 3, it could be understood that in overall, 47 (82.5%) of the 57 patients screened were reactive. Of these, 10 (17.5%) tested positive to Hepatitis C virus.

As shown in table 4, out of the 47(82.5%) clients that tested positive to HBsAg, 20(54.05%) were positive to HBeAg and 7(18.91%) were positive HBcAb

According to table 5, it could succinctly be said that there was a 100% clearance of HBeAg with patches of resistance found among HBsAg and HBcAg after three weeks use of the dietary supplement

Table 6 shows a 100% clearance of hepatitis C after a week use of the supplement.

**Table 1: HBV and HCV in different Ages (CROSS TABULATION)**

AGE GROUP (YEAR)	0-9	10-19	20-29	30-39	40-49	50-59	TOTAL
Occurrence of HBV/HCV							
Positive	0	9	49	5	3	2	40 %( 68)
Negative	10	11	21	26	27	7	60 %( 102)
Total	10	20	70	31	30	9	100 %( 170)

**Table 2: HBV and HCV in respect to sex (CROSS TABULATION)**

SEX	Male	Female	Total
Occurrence of HBV/HCV			
Positive	20	37	57
Negative	49	64	113
Total	69	101	170

**Table3: CORRELLATION BETWEEN HBV and HCV**

	HBV	HCV	TOTAL
Positive	47	10	57
Negative	0	0	0
Total	47	10	57

**Table 4: HBV MARKERS FREQUENCY**

HBsAg	Frequency	Percent	Valid percent	Cumulative
percent				
HBeAg	20	74.1	74.1	74.1
HBcAb	7	25.9	25.9	100
Total	27	100	100	

**Table 5: CLEARANCE LEVEL OF HBV MARKERS AFTER THREE WEEKS USE OF THE DIETARY SUPPLEMENT**

	Frequency	percent	valid percent	cumulative percent
HBeAg	0	0	0	0
HBcAb	5	100	100	100
Total	5	100	100	

**Table 6: CLEARANCE LEVEL OF HCV MARKERS AFTER THREE WEEKS USE OF THE DIETARY SUPPLEMENT**

	Frequency	percent	valid percent	cumulative percent
HCV	0	0	0	0

#### IV. Discussion

Generally from the research carried out in the study area, it can be succinctly said that nearly all age group are affected, this is due to the resilience nature of the virus surviving in almost all body fluid. However the disease was more on the active age group possibly because of the high sexual activity being engaged in at this age. This is contrary to the observation of Gaeta *et al*<sup>9</sup> among patients in Italy. It is plausible that this disparity in the range of age of infection among patients was because of the demographic location of the study area, more so that the aim was to treat patients compared to the epidemiological survey studied by Gaeta et al. The female gender, however, bore the highest burden of the disease; this probably is in realization that the female reproductive system is delicate and prone to easy damage in case of attack. This agrees with the finding of Itodo<sup>79</sup>.

Hepatitis B topped the table on the ranking principally because of its high infectivity rate, more so that it resists breakdown and can survive outside the body for a very long time<sup>77</sup>. Out of the 47 (82.5%) clients that were screened/ diagnosed positive to HBsAg and the 10 (17.5%) that tested positive to HCV, 20 (54.05%) and 7 (18.91%) tested positive to HBsAg and HBcAb respectively indicating high level of infectivity, replicability and possible damage to the liver<sup>77</sup>.

While it has been reported that there is no cure for Hepatitis B and C for now, that the main goal of treatment of chronic Hepatitis B is to suppress HBV replication and to induce remission of liver disease before

development of cirrhosis and hepatocellular carcinoma<sup>80</sup>, the synergistic effect of SAAAB and HAABS dietary supplement has shown a 100% clearance of HBeAg with detection of anti-HBe, improvement in liver disease and normalization of aminotransferases. This 100% clearance level of HBeAg could be because of the active ingredient contained in SAAAB-*Vernonia amygdalina* which has got an abundance of active ingredients with cytokines and chemokines regulations that are able to reverse HBeAg reactive to HBeAg non-reactive (seroconversion) within a span of three weeks and clears HCV from the blood within a span of one week

By and large, of the 47(82.5%) clients treated with the supplements, 95% showed a recovery, clinically and haematologically, having no side effects. Thus, it is concluded that SAAAB and HAABS cures, improves clinical and haematological state in patients suffering from HBV and HCV.

## V. Conclusion

In conclusion, this study has shown that there is a cure for the chronic form of hepatitis- HBV and HCV. The total clearance of HBeAg and HCV upon administration of SAAAB and HAABS for three weeks and one week respectively is a testimony to this fact. Therefore, since prevention still remains the key to control, efforts must be made to strengthen strategies aimed at increasing awareness and encouraging people to take seriously the issue of vaccination. It is also important for the vaccination to be made mandatory for all unvaccinated adolescents and adults. Furthermore to cure and improve the quality of life of people infected with the chronic form of hepatitis, the novel supplements- SAAAB and HAABS should be allowed to be dispensed in hospitals and pharmacies across the length and breadth of the country and beyond.

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