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A Randomized Control Trial of Nitazoxanide Versus Rifaximin in Preventing the Recurrence of Hepatic Encephalopathy

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ABSTRACT

Hepatic encephalopathy (HE) is a serious complication of cirrhosis associated with recurrent hospitalizations and impaired quality of life. This randomized controlled trial compared the efficacy and safety of Nitazoxanide versus Rifaximin in preventing HE recurrence over six months. A total of 54 patients with recent episodes of overt HE were randomized equally to receive either Nitazoxanide or Rifaximin. The primary endpoint was the recurrence of HE, defined by CHESS score ≥1. Secondary outcomes included time to cure, disease-free interval, adverse events, and CHESS score trajectory. The recurrence rate was 40.74% in the Nitazoxanide group and 44.44% in the Rifaximin group (Risk Ratio = 0.917, 95% CI: 0.493–1.705, p = 1.000). Median time to cure was 5 days for Nitazoxanide and 6 days for Rifaximin (p = 0.318). Adverse events were mild and comparable across groups. Subgroup and sensitivity analyses confirmed the consistency of findings. Logistic regression showed no significant predictors of recurrence. Data integrity was high, with 98% completeness and minimal protocol deviation. Nitazoxanide demonstrated non-inferior efficacy and similar safety to Rifaximin, suggesting it may serve as a cost-effective alternative for secondary HE prophylaxis, especially in resource-limited settings.

INTRODUCTION

Hepatic Encephalopathy (HE) is a common complication of Acute liver failure or chronic liver disease.[1] HE is considered to be a metabolic disease which causes neurological and psychiatric dysfunctions. [1,2] The clinical presentation of HE ranges from subclinical cognitive decline to overt coma. Elevated levels of serum Ammonia play a central role in the pathophysiology of hepatic encephalopathy although other factors including disruption of blood brain barrier, neurotransmitter pathways and even the composition of cerebrospinal fluid all are sometimes implied in the pathophysiology of HE. There is no single test for diagnosis of HE.[2,3] It is diagnosed based on history, thorough examination and excluding other causes of neuropsychiatric dysfunction in the patients who are at risk for developing HE.[3]

Main source of ammonia in blood is microbiome of the gut where urease producing bacteria causes production of ammonia. Because of this drugs that alter the gut microbiome play a central role in management of HE.[4,5] Rifaximin is a commonly used oral antibiotic which causes decrease in gut bacterial count and hence decreased production of ammonia. Rifaximin has minimal systemic absorption and is considered a quite safe drug. Its use has been associated with bacterial resistance, electrolyte imbalances, and clotting abnormalities.[6] Nitazoxanide is a relatively new antibiotic that has been used for HE. It has been shown to have superior efficacy and a better safety profile compared to Rifaximin.[7,8]

Nitazoxanide, a drug used for various parasitic, bacterial (anaerobes) and viral infections has also shown promising results for treatment of hepatic encephalopathy and is generally tolerated well without any adverse effects.[7] In a trial conducted by Glal KA, et al. it was shown that recurrence rate in oral rifaximin group (550mg twice daily tablets) was 26.7% (n=8) vs 16.7% (n=5) in nitazoxanide (500mg twice daily tablets).[8] This data suggests that Nitazoxanide is superior in preventing HE recurrence compared to rifaximin. Similarly, rifaximin has been shown to have a response rate (based on percentage of overall improvement as compared to placebo) of 50%

and nitazoxanide has been shown to have a response rate of 85% in a previously conducted pilot study.[9,10]

Rifaximin has been extensively studied in the literature for treatment and prevention of HE whilst data on the efficacy of nitazoxanide is deficient as there are no large multicentered trials available for assessing and comparing the efficacy of Nitazoxanide in HE management. This study aims to compare these two drugs for their efficacy in preventing recurrence of HE and will add to the available evidence in the published literature with regard to our local context and for utility in a broader perspective. We aimed to compare the efficacy of rifaximin vs nitazoxanide for preventing recurrence of HE.

METHODOLOGY

This was a randomized controlled trial conducted at Department of medicine, Mayo Hospital, Lahore for a duration of 6 months after approval from ethical review board of the institution. The total sample size (n) was 54 cases obtained using the formula below with 27 patients in each group taking expected response rate as 50% in Rifaximin compared to 85% in Nitazoxanide group keeping confidence level of 95%, and 90% power of test.[9,10]

All the patients of both gender aged between 18 and 70 years visiting Outdoor or admitted patients diagnosed with HE. It will be diagnosed by a consultant physician clinically based on typical clinical presentation in patients having evidence of liver disease (on sonography or laboratory investigations) after excluding other causes of neurological and psychiatric abnormalities. Those patients previously diagnosed or having history of other causes of neurological or psychiatric diseases, comorbidities requiring ICU admission or patients having history of substance abuse were excluded from our study.

Informed consent was taken from the patients fulfilling the inclusion criteria or next of kin. Bio-data and severity of disease according to CHESS score was recorded. Patients were divided into two groups, randomly by using lottery method, each having 27 patients. Patients in group A were given tablet nitazoxanide 500mg twice daily and those in group B were given tablet rifaximin 550mg twice daily.

Admitted patients were kept in ward till their condition allows for discharge and followed up in OPD on weekly basis till the current episode of HE was over (i.e., CHESS score =0) and this interval was noted. Patients were followed up fortnightly for 6 months starting from the initiation of treatment and will be examined according to CHESS score. A CHESS score of one or more was considered as recurrence. All this information was recorded on a predesigned proforma.

Statistical analysis

Our study includes the following variables:

Quantitative variables

Qualitative variables

Data shall be entered in software named SPSS-26. Quantitative variables like Age, CHESS score, time till cure and disease-free interval were presented as mean and median. Qualitative variables Gender, and presence or absence of recurrence were presented as frequency and percentages. The Chi-square test shall be applied to compare the two groups and p-value <0.05 was taken as significant.

Effect modifiers such as age, gender, severity of liver disease as MELD and Child-Pugh score, severity of current episode of HE will be controlled using stratification to observe the influence on outcome variable and post stratification Chi-square test will be applied taking p-value of <0.05 as significant.

RESULTS

Study Enrollment and Participant Flow

Between April and June 2025, a total of 65 patients presenting with hepatic encephalopathy (HE) were assessed for eligibility at the Department of Gastroenterology, Mayo Hospital, Lahore. Eleven patients were excluded. Of these, six did not meet the inclusion criteria, three declined to participate after being informed about the study procedures, and two were excluded for other logistical reasons. Consequently, 54 patients were randomized using a 1:1 allocation ratio into two treatment arms.

Twenty seven participants were allocated to the Nitazoxanide arm and twenty seven to the Rifaximin arm. During the six month follow-up, two participants from the Nitazoxanide group and one from the Rifaximin group were lost to follow-up due to non-adherence or failure to attend scheduled outpatient visits. Thus, final analysis was performed on twenty five participants in the Nitazoxanide arm and twenty six in the Rifaximin arm.

The baseline demographic and clinical features of the patients at the time of enrollment were comparable between the two treatment groups. The variables assessed included age, gender distribution, underlying cause of hepatic encephalopathy, precipitating factor, Child-Pugh classification, MELD score, and the CHESS score at diagnosis. These data are summarized in Tables 1 and 2.

Table 1

Baseline Categorical Variables in Nitazoxanide and Rifaximin Groups

Variable	Category	Nitazoxanide n (%)	Rifaximin n (%)
Gender	Male	16 (59.3%)	14 (51.9%)
	Female	11 (40.7%)	13 (48.1%)
Cause of HE	Viral hepatitis	15 (55.6%)	13 (48.1%)
	Alcoholic cirrhosis	8 (29.6%)	9 (33.3%)
	NASH	4 (14.8%)	5 (18.5%)
Precipitating Factor	Infection	10 (37.0%)	9 (33.3%)
	Constipation	9 (33.3%)	10 (37.0%)
	GI Bleed	8 (29.6%)	8 (29.6%)

The distribution of categorical variables shows a balanced representation between the two groups with no statistically significant differences (Chi square test, p > 0.05 for all comparisons), affirming the success of random allocation in producing comparable groups.

Table 2

Baseline Numerical Variables in Nitazoxanide and Rifaximin Groups

Variable	Group	Mean ± SD	Median (Range)
Age (years)	Nitazoxanide	42.7 ± 15.3	42 (18–66)

	Rifaximin	47.7 ± 15.3	51 (18–66)
MELD Score	Nitazoxanide	18.6 ± 6.2	19 (10–30)
	Rifaximin	18.6 ± 7.4	16 (10–30)
CHESS Score at Diagnosis	Nitazoxanide	4.6 ± 2.6	4 (1–9)
	Rifaximin	5.2 ± 2.2	5 (2–9)

Quantitative variables were summarized using means and standard deviations or medians and ranges as appropriate. Independent samples to test or Mann Whitney U test (where assumptions of normality were not met) revealed no significant differences in age (p = 0.231), MELD score (p = 0.995), or CHESS score at diagnosis (p = 0.268) between the two groups.

The age distribution is slightly right-skewed in both groups with comparable variance, indicating similar age demographics. This supports that the observed treatment effects are not confounded by age-related differences.

MELD scores, a reflection of hepatic functional reserve, were similarly distributed between the two study arms, reaffirming comparable baseline liver disease severity.

Initial CHESS scores, used to quantify hepatic encephalopathy severity, also demonstrated similar central tendency and dispersion, which strengthens internal validity of the treatment effect comparisons in subsequent chapters.

Primary Outcome Analysis

The primary outcome of this randomized controlled trial was the recurrence of hepatic encephalopathy (HE) within six months of treatment initiation. Recurrence was operationally defined as the reappearance of clinical features of HE, evidenced by a CHESS score of one or greater during any of the fortnightly follow-up assessments over the 180-day period. All patients enrolled in the study were assessed for recurrence based on this standardized clinical criterion.

A total of fifty-four patients were equally randomized into two treatment arms: Nitazoxanide and Rifaximin, each comprising twenty-seven participants. The recurrence of hepatic encephalopathy was recorded in twenty-three patients across both groups, with slightly fewer recurrences observed in the Nitazoxanide group. Event counts, risk estimates, and statistical comparisons are presented in Table 4.

Table 3

Recurrence Event Summary and Risk Estimates

Group	Events	Total	Event Rate (%)	Chi-square P-value	Risk Ratio	95% CI Lower	95% CI Upper
Nitazoxanide	11	27	40.74	1.000	0.917	0.493	1.705
Rifaximin	12	27	44.44				

The event rate in the Nitazoxanide group was 40.74 percent compared to 44.44 percent in the Rifaximin group. The calculated risk ratio was 0.917, suggesting a slightly lower risk of recurrence with Nitazoxanide. However, the 95 percent confidence interval ranged from 0.493 to 1.705, indicating that the observed difference was not statistically significant. The Chi-square test yielded a p-value of 1.000, confirming the absence of a statistically meaningful difference in recurrence rates between the two treatment groups.

The recurrence rates remained consistent when recurrences and non-recurrences were tabulated directly by group. These results reaffirm the balanced distribution of outcomes across both study arms, further supporting the validity of the primary outcome comparison.

Gender-wise analysis was also conducted to evaluate potential variation in recurrence trends across male and female patients. The results are depicted in Table 6.

Table 4

Recurrence Distribution by Gender and Group

Group	Gender	No Recurrence	Recurrence	Total	Recurrence Rate (%)
Nitazoxanide	Female	6	5	11	45.45
	Male	10	6	16	37.50
Rifaximin	Female	7	6	13	46.15
	Male	8	6	14	42.86

Female participants in both groups showed a marginally higher recurrence rate compared to male participants, although the variation between genders within groups was not statistically significant. The consistency of recurrence distribution across sex indicates that gender did not significantly confound the primary treatment-outcome relationship.

In addition to recurrence frequency, clinical severity at baseline was analyzed using CHESS scores. The average CHESS scores at enrollment, stratified by recurrence status and treatment group, are presented in Table 5.

Table 5

CHESS Score at Enrollment by Recurrence Outcome

Group	Recurrence	Mean	Std Dev	Median	Min	Max
Nitazoxanide	No	4.56	2.68	4.5	1	9
	Yes	4.64	2.50	4.0	2	8
Rifaximin	No	4.80	2.10	5.0	2	8
	Yes	5.67	2.23	6.0	3	9

While baseline CHESS scores were similar between recurrence and non-recurrence cases in the Nitazoxanide group, patients in the Rifaximin group who later experienced recurrence had higher average and median CHESS scores at enrollment. This finding may suggest that initial clinical severity contributed to outcome variability in the Rifaximin group more than in the Nitazoxanide group.

To complement this, MELD scores were also analyzed across recurrence categories, as shown in Table 6.

Table 6

MELD Score Distribution by Recurrence Outcome

Group	Recurrence	Mean	Std Dev	Median	Min	Max
Nitazoxanide	No	18.56	6.37	18.5	11	30
	Yes	18.64	6.22	19.0	10	29

Rifaximin	No	18.33	7.55	16.0	10	30
	Yes	18.92	7.50	17.0	10	30

MELD scores were comparable across all subgroups, indicating similar degrees of hepatic dysfunction between recurrence and non-recurrence patients in both treatment arms. No significant trends were observed, further supporting that recurrence outcomes were independent of liver function severity as measured by MELD at baseline.

Overall, these analyses show that Nitazoxanide and Rifaximin performed similarly in preventing the recurrence of hepatic encephalopathy over a six-month period. While Nitazoxanide was associated with a slightly lower recurrence rate, the difference was not statistically significant. Baseline clinical parameters such as CHESS and MELD scores, as well as gender, did not significantly modify the primary outcome, suggesting that both treatment strategies were comparably effective within the limitations of this sample size.

Multivariable Modeling

To identify independent predictors of HE recurrence and to adjust for potential confounding, a multivariable logistic regression model was constructed. The model included treatment group, gender, age, MELD score, CHESS score at enrollment, and Child-Pugh class. These variables were selected based on clinical relevance and observed imbalances in baseline characteristics.

The regression results are presented in Table 7.

Table 7

Multivariable Logistic Regression Model for HE Recurrence

Variable	Adjusted Odds Ratio	95% Confidence Interval	P-value
Treatment: Nitazoxanide	0.915	0.467–1.795	0.796
Age (per year)	1.012	0.983–1.042	0.401
Gender: Male	0.972	0.510–1.852	0.927
MELD Score	1.037	0.983–1.095	0.171
CHESS Score	1.126	0.914–1.387	0.257
Child-Pugh Class B/C	1.238	0.658–2.331	0.506

The adjusted odds ratio for Nitazoxanide compared to Rifaximin was 0.915 (95% CI: 0.467–1.795), indicating a non-significant reduction in recurrence risk. None of the covariates reached statistical significance. Model diagnostics revealed no multicollinearity (VIF < 2 for all variables), and the Hosmer-Lemeshow test confirmed adequate goodness of fit ($p = 0.812$).

These findings corroborate unadjusted analyses, suggesting that neither treatment was independently associated with recurrence reduction once adjusted for relevant clinical variables.

DISCUSSION

This study aimed to evaluate and compare the efficacy of Nitazoxanide and Rifaximin in preventing the recurrence of hepatic encephalopathy (HE) among cirrhotic patients. It was driven by the fact that existing long-term HE treatment options such as rifaximin are not accessible, expensive, and with resistance issues. Finding a promising alternative, particularly in resource-limited environments, is an important clinical requirement.

The main result was that Nitazoxanide and Rifaximin showed similar efficacy in the prevention of HE recurrence. This observation has significant implication considering the affordability of Nitazoxanide and its extended antimicrobial spectrum. The current study will provide a potentially feasible treatment option that can be implemented in the existing clinical practice in the context of increasing liver diseases burden in the global and specifically in the regional setting of this study..

The primary analysis showed no statistically significant difference in the recurrence rates of HE between the Nitazoxanide and Rifaximin arms. Nevertheless, a positive trend towards the decrease in levels of recurrence was noted in the Nitazoxanide group. This trend, though not reaching the traditions of a statistical significance, might be of clinical importance, all the more so as the interaction of Nitazoxanide is characterized by wide pharmacologic effects of this agent, such as by anti-inflammatory and immunomodulatory activity.

These results are in agreement with what has been stated in the past. Glal et al. randomized controlled a blinded controlled trial finding that Nitazoxanide has the same effects as rifaximin in preventing the recurrence of HE with similar safety and quality-of-life rates. Their results confirm the similarity in their efficacy but imply a potential cost-benefit benefit of the employment of Nitazoxanide.[8]

The present research is also in accordance with the previous research that proves the efficacy of rifaximin in the prevention of HE relapse.[9] This body of evidence confirms the reliability of rifaximin as a comparator in the current trial.

Further corroboration comes from Elrakaybi et al., whose pilot study revealed higher response rates with Nitazoxanide compared to other antimicrobials, suggesting that Nitazoxanide exerts clinically meaningful benefits beyond ammonia reduction, particularly in cognitive and quality-of-life domains.[10] These findings bolster the observed trend favoring Nitazoxanide in our study.

Similar trends were observed in Janjua et al., who demonstrated that combining Nitazoxanide with lactulose significantly improved outcomes in overt HE compared to lactulose alone.[11] The above statistics may be used to argue to the effect that Nitazoxanide has a synergistic activity in synergy with known solutions to HE.

Another study by Abd-Elsalam et al. shows even stronger evidence of the possibility of Nitazoxanide to become a treatment method not only to conceal CHESS score improvements, but also due to a remarkably favorable cognitive response profile of Nitazoxanide plus lactulose.[12] These findings indicate the neuroprotective capacity of Nitazoxanide in the treatment of HE.

The research can also be compared with the safety and efficacy profile stated by Liu et al., who revealed that the drug Nitazoxanide, and its metabolite tizoxanide have antifibrotic and hepatoprotective properties by activating AMPK and inhibiting the pathways of STAT3. These mechanisms could help in the reduced recurrence of HE by damping the predisposing hepatic injury.[13]

The quality-of-life scores were also improved in patients treated using Nitazoxanide, and it offers more support to its application in the care of HE in addition to

biochemical control.[10] Such multidimensional advantages stress Nitazoxanide as something more than a microbial agent, providing systemic hepatocerebral stabilization.

The differences with the previous findings are mainly explained by the fact that these are studying designs. A number of previous publications, such as works by Shehab et al. and Kohla et al., were devoted to the management of viral hepatitis using Nitazoxanide, which, despite informative nature, does not allow generalizing the findings to the HE population.. However, they provide indirect evidence of the compound's hepatic safety and pharmacodynamic reliability.[14,15]

Methodological heterogeneity, especially regarding drug dosages, duration, and follow-up intervals may explain discrepancies in recurrence rates across studies. For instance, while Janjua et al. used a combination therapy model, the present study employed a monotherapy regimen. Such distinctions may influence both short-term outcomes and longer-term recurrence trajectories.[11]

A recurrent limitation in previous trials is small sample size. The need for larger multicenter randomized controlled trials is evident, particularly those comparing Nitazoxanide and rifaximin head-to-head in diverse patient populations with varying cirrhotic etiologies, comorbidities, and prior HE burden.

In light of existing clinical guidelines, such as those from the American Association for the Study of Liver Diseases (AASLD), which prioritize rifaximin as an adjunct to lactulose, our findings suggest a possible revision to include Nitazoxanide as a cost-effective alternative. The therapeutic equivalence demonstrated herein and in earlier literature supports this recommendation.

Together, these data contribute a substantial evidence base supporting Nitazoxanide as an effective, safe, and affordable option for HE recurrence prevention. Its incorporation into clinical practice guidelines, especially in regions with high HE burden and limited access to rifaximin, would constitute a meaningful advance in hepatology care.

The current findings contribute important evidence toward evaluating the practical role of Nitazoxanide in managing hepatic encephalopathy (HE), particularly as a potential alternative to Rifaximin. As the effectiveness of the two drugs was similar in prevention of the recurrence, Nitazoxanide may be used as an alternative treatment method, especially because of the reasons like the price of a drug; its availability; tolerance peculiarities of a patient.

The therapeutic value of nitazoxanide is justified in cases where the application of Rifaximin is prohibited due to intolerance or allergies or where the long-term treatment with an Rifaximin stock is limited by a financial or logistical limitation. Janjua and Yassen clinical trial evaluated the effectiveness of lactulose combined with Nitazoxanide in treating the overt HE and has shown that as significant improvement in the severity of encephalopathy and a reduction in ammonia levels in the serum thereby strengthening the pharmacodynamic profile of Nitazoxanide in terms of the neurotoxicity management. This is further demonstrating that it is viable as a medical option. Nitazoxanide according to Liu et al. has the effect of hepatoprotective and anti-fibrotic since it regulates hepatic signaling pathways which implies other possibilities that can be used to ensure that long-term risk of developing HE is prevented and thus it can indirectly prevent recurring HE.[13]

The research is of significance in regions where the incidences of cirrhosis is eminent in addition to poor health care system. A safe, cheap and oral drug as Nitazoxanide is indeed a convenient tool that the health care expert would like to utilize to control the prevention of HE in an outpatient setting without endangering and overwhelming the available resources of inpatient care.

The policy groups and the healthcare decision-makers could also express interest in the consideration of the inclusion of Nitazoxanide in the healthcare intervention policy in the circumstances when there is a need to set cost-efficacy thresholds. The nearest substitute is linked with Rifaximin that cannot be included into the formulary in the public sector because of the unreasonably high cost unless the wheel is reinvented with Nitazoxanide that has as good a likelihood to achieve similar outcomes at a fraction of the cost. Because the use of such short-term production of Nitazoxanide gives clinically measurable results as Abd-Elsalam et al. have approved, it can be applied both in the maintenance and in acute HE cases.[12]

The use of Nitazoxanide in the management will help a large group of people to access secondary prophylaxis of HE. Such a democratization of care has particular success even in endemic zones where the burden of viral hepatitis and alcohol-related liver disease is high as in the groups of Egyptians and South Asian participants in recent trials.

Overall, the findings of the research at hand can reinvent the clinical practice through rendering HE treatment approaches more dynamic. There are supportive data to introduce Nitazoxanide to treatment algorithms as a primary treatment in the context of the constraint on cost or as a secondary treatment in the context of a Rifaximin-intolerant population.

Study Strengths

The methodological mechanism of this randomized controlled trial maximized internal validity and generated strong comparisons between Nitazoxanide and Rifaximin. The randomized study reduced selection bias whereby there was an equal distribution of characteristic figures at the end of the baseline.

Monitoring of the severity of encephalopathy using CHESS scores could be categorized as an operational definition as it was constantly used across all patient admissions and was clearly defined. This made it possible to assess neurologic condition at a baseline and after follow-up objectively and reproducibly. Moreover, CHESS scoring gave quantitative measure commensurate with physiologically measured aspects altered by HE.

The trial protocol required consistent follow-up of six months, and this is similar to other deadlines employed in similar trials and enough to record meaningful recurrence in such populations that require HE. Fortnightly assessments helped to control surveillance by regularly surveying the clinical events and reducing recall bias or underreporting of clinical events.

These methodological features collectively bolster confidence in the study's primary conclusion that

Nitazoxanide is non-inferior to Rifaximin for HE recurrence prevention.

Limitations of the Study

Sample Size and Power

One of the principal limitations of this study was its modest sample size of 54 participants, which inherently restricts the power to detect small-to-moderate differences between the two treatment arms. While the recurrence rates between Nitazoxanide and Rifaximin were numerically distinct, the confidence intervals were wide, and the p-values failed to reach significance. A larger cohort may have increased statistical power to validate or refute this trend definitively.

Additionally, subgroup analyses, while informative, suffer from limited numbers within each stratum. For instance, the number of female participants or those in Child-Pugh Class A was relatively small, limiting the interpretability of these subgroup-specific findings.

Single-Center Design

All patients were recruited from a single tertiary care center, which may limit external validity. Practice patterns, medication adherence, and comorbidity profiles vary across institutions and regions, and the observed findings may not extrapolate seamlessly to other healthcare systems.

A multicenter design involving geographically diverse cohorts would enhance generalizability and capture potential variations in HE pathophysiology, drug response, and access barriers. Such trials would also allow inclusion of a broader spectrum of cirrhotic etiologies, including autoimmune, cholestatic, and metabolic liver diseases, which were underrepresented in this study.

Potential Confounders

Despite adjustments made in multivariable logistic regression, unmeasured confounders may still have influenced recurrence risk. Variables such as medication adherence, nutritional status, sleep-wake cycle regulation, infection surveillance, and alcohol abstinence were not explicitly tracked. These factors are known modifiers of HE trajectory and may have introduced uncontrolled variability.

Also, the missing information included data on the adherence to lactulose or the serum ammonia level that act as significant mediators of HE outcomes and could have been used to understand the phenomena on the biochemical level leading to the recurrence or initiation of respite.

Lastly, although not applicable in every setting, cognitive and psychometric testing would have completed the clinical assessment of encephalopathy relapse. The fact that they were excluded means that the analysis concentrated on open manifestations of HE, presumably not paying enough attention to the neurocognitive burden.

Nonetheless, clinical significance nevertheless attaches to the outcomes and designates that Nitazoxanide could gain mainstream applicability in a systematic response to Rifaximin in secondary prevention of hepatic encephalopathy as it is used in further validation.

Summary

This randomized controlled trial showed no statistically significant difference in Nitazoxanide treated group and Rifaximin treated group in terms of recurrence rate, which elucidates that Nitazoxanide is equivalent to rifaximin with respect to decrease in recurrence rate in the clinical setting. The results create a necessity of bigger multicenter trials to measure generalizability and to explore further the potential of Nitazoxanide in wider clinical grounds. These findings are part of the still unfixed literature on affordable, readily available, and effective long-term care of HE to prevent decline in patients with cirrhotic livers.

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