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GTB NUTRITION - The Health Supportive Diet

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ABSTRACT

This cross-sectional study evaluated patient-reported health outcomes, satisfaction, and experiences following adherence to the GTB Nutrition protocol, a structured anti-inflammatory dietary intervention. A purpose-designed questionnaire was administered to 21 patients who had followed the protocol for at least one month. Quantitative and qualitative data were analyzed using descriptive statistics and thematic analysis. Participants demonstrated a dramatic shift in self-rated health: from 57.1% rating health as "Average" and 23.8% as "Poor" at baseline, to 66.7% reporting "Excellent" and 28.6% "Good" post-intervention. The most frequently reported improvements were increased energy levels (81%), improved digestion (81%), and reduced acidity (81%). Substantial benefits were also noted in reduced brain fog (76.2%), improved sleep quality (76.2%), easier breathing (57.1%), and relief from constipation (52.4%). Qualitative analysis revealed themes of transformative multi-system health benefits, initial dietary challenges giving way to sustainable simplicity, cultivation of discipline and positive lifestyle integration, and high satisfaction and advocacy for a natural healing approach. The GTB Nutrition protocol is associated with significant patient-perceived improvements across multiple health domains and is highly valued within an integrative care model.

Keywords: Therapeutic nutrition, dietary intervention, patient-reported outcomes, lifestyle medicine, chronic disease, inflammation, integrative medicine.

1. INTRODUCTION

The continuous increases in the global prevalence of chronic, non-communicable diseases (NCDs) such as Cardiovascular Diseases, Metabolic Syndrome, Gastrointestinal Disorders, and Autoimmune Disorders place significant strains on modern healthcare systems (World Health Organization, 2023). Many medical practitioners have historically focused on pharmacological treatments for symptoms management; however, this model tends to miss important underlying etiologies for many patients, specifically modifiable lifestyle factors like nutrition. There is now abundant scientific evidence supporting the premise that diet has a direct and major influence on health and is a significant contributor to the development of chronic inflammation, oxidative stress, and metabolic dysfunction, which are also the common links between most NCDs (Christ et al., 2019; Furman et al., 2019).

As a result of this realization, the development of the field of lifestyle medicine is based on the belief that targeting dietary changes, in conjunction with changes to other modifiable risk factors, can prevent, treat, and manage disease (Rippe, 2018). Diets containing primarily whole foods, phytonutrients, (nutritional compounds obtained from fruits, vegetables, and grains) are seen as a vital part of preventive health. In addition, there have been numerous studies demonstrating that whole-food plant-based diets can positively impact many clinical measurements such as Lipid Profile, Glycemic Control, and Systemic Inflammatory Scores (Mentella et al., 2021). However, the successful translation of nutritional science into clinical

practice requires more than general guidelines; it demands structured, individualized, and supportive protocols that patients can adopt sustainably (Ojo et al., 2023).

Created in Canada, the GTB Nutrition Protocol is a protocol developed in an integrated, multi-specialty clinical setting that provides dietary support to patients experiencing many complex multi-system issues simultaneously. The synergistic integration of standard medical diagnostic skills and nutrition lifestyle interventions serve as a basis for establishing a customised patient-centred approach. Rather than a generic "one-size-fits-all" diet, it is a framework that supports patients in creating a virtually empty nutrient-free home. The initial focus is on removing the most common sources of nutrients that create inflammation (i.e., processed dairy products, processed meat products and excess sugar) from their diet, and maximising access to fruits and vegetables, nuts and seeds, and enough water to satisfy the body's fluid needs (Awuchi et al., 2020). In addition to the nutrition protocol, patients are also provided with other customised treatment options, with an understanding that dietary changes establish the optimal environment within the body for the body to support healing and will enhance the effectiveness of other therapeutic options.

In several cases over the course of years in clinical practice, professional experience and many established therapeutic practitioners, have shown a correlation, through their clinical experience and by consistently supplying substantial evidence with regards to positive outcomes. As reported by the patients themselves, the CTN Protocol has resulted in much more than just weight control; for most patients, they experienced: Increased energy levels and decreased fatigue; Resolving digestive problems resulting from process and chronic malfunction (e.g., acid reflux and constipation); Dramatic reduction in systemic inflammation, including significant reductions in joint pain and skin rashes, Improvements in cognitive clarity (reduction of "brain fog"); Improvements in parameters managed medically for decades such as blood pressure and cholesterol); As well as the improvement of more specific conditions, such as asthma, ulcerative colitis and chronic headaches. According to these observations, the reduction of inflammation, diversity in gut microbiota and better metabolic equilibrium may be responsible for a Systemic Effect.

Even though these observations show promise, the systematic gathering and evaluation of patients' experiences have not been formally collected and assessed (Tao et al., 2020). In recent years, PROMs have become an important tool in healthcare research because they measure how an intervention has directly affected quality of life, symptoms, and functional ability from the perspective of the patient - something a strictly biochemical measure may not capture (FDA 2009).

Consequently, the purpose of this research is to formally evaluate how patients perceive the efficacy and acceptability of adherence to the GTB Nutrition Protocol. The main purpose of this study is to evaluate the types of health improvements that patients report experiencing after following the diet. Other purposes include understanding the issues faced in the process of following the diet, how this has influenced and changed their daily lifestyle, and also the level of patient satisfaction with the diet and the degree to which patients would recommend it to others.

The results of this cross-sectional survey are presented in this paper. We believe that the results support the hypothesis that those who adhere to the GTB Nutrition protocol will report very high levels of improvement in their physical and mental wellbeing, and view following the protocol as something to be used in the long-term management of their health.

2. METHODOLOGY

2.1. Study Design and Rationale

To determine how patients have benefitted from using GTB Nutrition protocols, a descriptive and cross-

sectional study will be performed to collect patient-generated information such as perceived effects, level of satisfaction, and general health status following participation in the GTB Protocol at a single point in time. Cross Sectional studies are a common methodology in the fields of medicine and health, as they allow for determining the prevalence of different conditions, describing overall characteristics of the study population, and generating hypotheses that can later be tested through longitudinal studies and experimental designs. Because the main focus of the study was on systematically recording and analyzing the full range of subjective positive outcomes as well as the negative challenges that were reported by patients after using the protocol, cross-sectionals are an appropriate choice for this purpose. Additionally, this design will be optimal for collecting large amounts of real-time information and feedback from a clinical patient population.

2.2. Study Setting and Population

The Integrative Medicine Study occurred through the practice of Integrative Medicine (IM) of Dr. Jagatjit Singh Ahluwalia located in Canada, and it follows an IM model of care whereby individuals diagnosed with chronic health problems are treated using a multi-specialty approach. The creation of dietary changes has been one of the main components of the treatment of many chronic health issues that are often caused by compromised immunity and/or chronic inflammation. The target population for the study was the adult population that received a GTB Nutrition prescription from Dr. Ahluwalia's IM practice. In order to meet the inclusion criteria of this study, patients were required to have a minimum of six months of documented experience with this dietary modification and to be at least 18 years of age with a medically diagnosed chronic health condition, including but not limited to gastrointestinal issues, metabolic syndrome, autoimmune disorders, ongoing fatigue, respiratory conditions, and several forms of chronic pain. In addition, the participants were required to have completed the GTB Nutrition program as outlined on the guide, adhered to the protocol for 4 weeks prior to completing the survey, had the cognitive ability to provide consent, and to be fluent in the English language when completing the survey tool. The exclusion criteria consisted of those participants who had followed the protocol for a duration that is less than four weeks prior to being surveyed; those with cognitive deficits sufficient to prevent their understanding of the survey; and those participants who were enrolled in other trials of structured dietary interventions at the same time. A convenience sampling technique was used to gather data. All eligible participants who attended follow-up appointments during the collection period or who had any type of electronic contact with the clinic. This was done to obtain data from a sample of patients who were actively involved with the clinic and could provide valuable information about their experiences. This approach is feasible for busy clinics to collect valuable data and captures patients who are highly engaged with their care.

2.3. Intervention: The GTB Nutrition Protocol

The GTB Nutrition protocol is a structured, whole-food-based, anti-inflammatory dietary framework designed as a therapeutic intervention. It is not a generic "healthy eating" guide but a prescribed protocol with specific eliminations and emphases tailored to reduce systemic inflammatory load and promote metabolic homeostasis. Its core, consistent components include the elimination of pro-inflammatory foods such as dairy products, refined sugars, processed meats, and refined carbohydrates, which are identified as common triggers for gut permeability, insulin resistance, and inflammation. The protocol emphasizes nutrient density through the daily consumption of a minimum of one pound of fresh fruits, typically consumed as breakfast, and a high intake of vegetables, particularly raw in the form of salads. It also includes nuts, seeds, and legumes for fiber, healthy fats, and protein. Hydration and specific functional foods are stressed, with an emphasis on consistent water intake and the incorporation of items like coconut

water for electrolytes and herbal teas. Guidance on meal timing and simplicity is provided, focusing on meal frequency and alignment with circadian rhythms, such as earlier dinners, and emphasizes simple, whole-food combinations to aid digestion. The diet is presented as the nutritional cornerstone within a broader multi-specialty treatment plan, which may include other lifestyle modifications and conventional treatments tailored to the individual's diagnosis. While personalized adjustments are made based on individual tolerances and specific health conditions, such as H. pylori infection or severe allergies, these core principles are universal. Patient education is provided verbally and in writing at the initiation of treatment, with reinforcement during subsequent consultations.

2.4. Data Collection Instrument: Development and Structure

A self-administered questionnaire was purpose-designed to be both clinically informative and patient-friendly, balancing quantitative data collection with qualitative depth. Its development was informed by a review of Patient-Reported Outcome Measures used in nutritional and lifestyle medicine research, with the goal of capturing the domains of health most likely impacted by the intervention. The final questionnaire comprised four sections. Section A collected demographic and clinical context through basic demographic data and key adherence metrics via closed-ended questions. This included self-rated health status pre- and post-intervention on a 4-point scale, duration of protocol adherence categorized into timeframes, and whether other concurrent treatments were being used. Section B was a checklist of health improvements, a closed-ended, multiple-response checklist based on the most frequently observed clinical improvements in the practice. Patients were instructed to select all applicable improvements they noticed since starting the diet from a predefined list including energy levels, digestion, acidity reduction, decreased inflammation, reduced brain fog, hair fall reduction, improved blood pressure, better cholesterol results, less aggression or irritability, easier breathing, relief from constipation, improved sleep quality, and better overall mood. Section C contained qualitative feedback through five open-ended questions designed to elicit rich, descriptive data on major health changes, the most helpful aspect of the diet, challenges faced, lifestyle alterations, and recommendation rationale. Section D provided final feedback through a 10-point Likert scale for overall satisfaction and a closed-ended question on intention to continue the protocol long-term. The questionnaire was piloted with a small group of patients for clarity, flow, and comprehensiveness, leading to minor refinements in wording before full deployment.

2.5. Data Collection Procedure

Data were collected over a defined period from October to November 2025. Eligible patients were invited to participate during their clinical follow-up visits or via secure electronic communication. The purpose of the study was explained, and participation was presented as entirely voluntary, with no impact on the clinical care received. Informed consent was implied by the voluntary completion and submission of the questionnaire. To ensure anonymity and encourage candid responses, no personally identifiable information was linked to the survey responses in the analysis dataset. Participants had the option to complete a paper version of the questionnaire in the clinic or an identical digital form sent via a secure, encrypted platform. All completed questionnaires were stored securely, with paper forms kept in a locked cabinet and digital data on a password-protected, encrypted server accessible only to the principal investigator.

2.6. Data Analysis

The collected data were analyzed using a mixed-methods approach to provide a comprehensive understanding of the patient experience. Quantitative data from Sections A, B, and D were extracted, cleaned, and entered into a spreadsheet. Descriptive statistics were performed using the software.

Frequencies and percentages were calculated for all categorical variables, such as the proportion of patients reporting each health improvement, the distribution of adherence duration, and overall satisfaction scores. Measures of central tendency were used where applicable. The data were summarized using tables and graphical representations, such as bar charts, to illustrate the prevalence of reported outcomes. Qualitative data from Section C were analyzed using thematic analysis, a rigorous method for identifying, analyzing, and reporting patterns within qualitative data. The process involved six stages. The first stage was familiarization through immersive reading and re-reading of all textual responses to gain a deep understanding of the content. The second stage was generating initial codes by systematically identifying interesting features and labeling them across the entire dataset. The third stage involved searching for themes by collating codes into potential overarching themes that captured significant patterns in the data. The fourth stage was reviewing themes, which involved checking if the candidate themes worked coherently with the coded extracts and the entire dataset, leading to refinement and merging or splitting of themes as necessary. The fifth stage was defining and naming themes, where the essence of each final theme was clearly articulated, and illustrative, anonymized patient quotes were selected. The final stage was reporting, where the thematic narrative was woven into the results section. To enhance the trustworthiness and credibility of the qualitative analysis, the coding and thematic development were conducted by the principal investigator and reviewed to ensure consistency and mitigate interpretive bias. Representative verbatim quotes are presented with only minor typographical corrections for readability.

2.7. Ethical Considerations

The research conducted for this study was in accordance with the principles of the Declaration. This research consisted of analyses of aggregated feedback from the patients, and the quality-of-care improvement data collected as part of routine clinical practice, and as such, it posed only a low risk to the patients involved. For this reason, the use of a formal institutional review board approval was waived according to the applicable service evaluation guidelines. However, throughout this process, all ethical safeguards were found to be adhered to. All patient identifiable information was completely stripped prior to the patient feedback or quality improvement data being analysed. In this way, we did not include, in the report of results, the patient's name, phone number or a particular identification number. All patient participation in the study was strictly voluntary, with an explicit notification given to patients that the patients' decision to participate or not would not have an impact on their care in any way. Informed consent was obtained from all patients who participated in the study so that anonymised patient feedback could be used for both research and publication purposes. All paper and electronic data were kept, handled and retained under strict protocols for confidentiality and security, and measures were taken to prevent any kind of unauthorised access.

3. RESULTS

This report provides a thorough evaluation of the Patient Reported Outcomes of Twenty-One Subjects who complied with the GTB Nutrition Programme. The Patient Reported Outcomes are based on data collected from a structured questionnaire that includes both quantitative and qualitative data regarding health changes, adherence and baseline characteristics, in addition to giving patients an opportunity to provide their thoughts about participating in the GTB Nutrition Programme and what difference it made in their life.

3.1. Quantitative Profile: Cohort Characteristics and Protocol Adherence

First, prior to drawing any conclusions, it is important to assess both the baseline health status of partici-

pants within the cohort along with their levels of participation in the intervention being studied. Figure 1 displays the self-assessed health status of participants at the time of starting the GTB Nutrition protocol. The data indicates that a substantial proportion of participants had reported experiencing significant health problems upon joining the study. More than half (57.1%) of respondents rated their health as "Average" prior to the implementation of the intervention, while an additional 23.8% rated their health as "Poor," and 19% rated their health as “Good. As a result, there were no respondents who rated their initial health as “Excellent." This analysis indicates that most respondents were likely to have been suffering from poor health prior to starting the intervention and were seeking assistance to improve it.

Figure 2 presents a dramatic difference in self-reported health status results following adherence to the diet protocol designed for this study. The differences between the pre- and post- diet protocol results can be seen with the drastic improvement of health statuses measured during this study. The results demonstrate that most of the participants in the study reported their current health status as excellent (66.7% (n=14)) or good (28.6% (n=6)). A small percentage of the participants reported being in average health (4.8% (n=1)), and no participants reported being in poor health after completing the protocol. The large percentage of participants who moved from a lower health category to a higher health category illustrates the major improvement in self-perceived well-being for those participants who completed the diet protocol.

The duration of adherence is an important indicator of both the effectiveness of the adherence protocol and the continued effect over time. The variety of durations is shown in the Graphic (Fig. 3). The majority of participants (38.1% or n=8) reported being adherent for over six months, indicating that they have been able to sustain adherence over long periods of time. The second largest group comprised of 33.3% (n=7) stated that they adhered for a period of one to three months, which would represent the initial stabilization period after beginning the protocol. Those who had adhered for a period of three to six months comprised of 23.8% (n=5), while those who adhered for less than one month represented the smallest group (4.8% or n=1). This distribution supports the notion that data included in our analyses represents both newly adapted patients and also includes a greater number of long-term sustainable adherents.

Figure 4 illustrates the integrated context of this clinical approach. 19.0% (n=4) reported concurrently following other medical or lifestyle treatments alongside the GTB Nutrition protocol. This is consistent with the multidisciplinary foundation of care where dietary modification is part of a larger system rather than a stand-alone intervention and is used in conjunction with additional therapies (e.g., allopathic medications, etc.) that influence patient health status. This integrated context will be essential in properly understanding the health benefits reported in the holistic treatment framework that formed the basis for these results.

3.2. Prevalence and Spectrum of Patient-Reported Health Improvements

The most direct quantitative evidence of the protocol's effects comes from the detailed checklist of specific health improvements, the results of which are summarized in **Figure 5**. Patients selected all benefits they had noticed since starting the diet, yielding a clear hierarchy of the most frequently experienced outcomes. The most reported benefits of the protocol are higher energy levels and improved digestion, with 81.0% (n=17) of participants. The fact that 81.0% (n=17) of patients had reported reduced acidity indicates that there was a high prevalence of gastroesophageal discomfort among the patients, as indicated by the number of patients reporting the benefit (See Figure 5).

Other significant benefits included the ability to improve the levels of brain inflammation and cognitive function, as well as sleep quality, with each being reported by 76.2% (n=16) of patients. In addition, 42.9%

(n=9) of patients reported reduced levels of inflammation, showing that the protocol had a true anti-inflammatory impact on a substantial number of patients.

In addition to the positive effects on respiratory, gastrointestinal, and metabolic function, 57.1% (n=12) of patients felt they were breathing more easily and 52.4% (n=11) of patients reported improved relief from constipation. In addition, 38.1% (n=8) of patients reported feeling less aggressive or irritable, which suggests that these patients may be benefiting from the protocol's ability to regulate emotions.

While the number of patients reporting improvements in biomarkers (cholesterol levels and reduction in hair fall) was relatively small compared to the other benefits, they are still clinically significant, with 19.0% (n=4) of patients reporting improvements in cholesterol levels and 14.3% (n=3) of patients reporting improved blood pressure levels.MA **better overall mood** was noted by 9.5% (n=2) of participants. In final feedback, the protocol's acceptability was strongly affirmed, with most participants indicating they would recommend it to others.

3.3. Qualitative Insights: Thematic Analysis of Patient Narratives

The qualitative data from open-ended responses provided depth and context to the quantitative metrics, revealing the nuanced patient journey through four central themes.

Theme 1: Transformative and Multi-System Health Benefits. The testimonials provided by patients have consistently indicated a significant and broad scope of improvement and/or remedy for the various co-existing diseases and conditions which were reported by the patient. Resolution of individual diagnoses such as 'I had asthma and I couldn't breathe but now I'm feeling better' (Patient 1), and complete remission of ulcerative colitis, with one patient describing themselves as 'Cured' from ulcerative colitis alongside resolution of bone pains (Patient 2), through to 'totally revitalised, or through combinations of symptoms. Many of the patients reported a "synergistic" resolution or alleviation of symptoms and/or conditions. These include reports of "sleep better, sweat less, lose hair, no constipation, improve back pain", (Patient 10) and "have better skin, less hair loss, weight reduction, improved digestion, and decreased stomach pain" (Patient 16). Collectively, these reports indicate a multi-faceted, comprehensive recovery regarding the physical (structure), metabolic (function), and functional (impact) areas of their life.

Theme 2: Adherence Facilitated by Simplicity, Despite Initial Dietary Challenges. The transition to a new dietary protocol appeared to be one of the most frequently mentioned topics among all patients. Most patients found the new dietary protocol to be very easy to adjust to after their adjustment period. Many patients described their experiences of adjustment to the new dietary protocol with statements like, "I didn't experience any difficulty," or "The new dietary routine was quite simple to follow." However, most patients also mentioned that they had initially struggled with adjusting to the new diet due to the elimination of long-standing staples such as meat and dairy. For example, one patient stated, "The challenge of eliminating meat was significant for me since it was something I consumed daily" (Patient 15). Another said, "No meat and no dairy were the two largest dietary changes. I used to eat both types of food daily" (Patient 16). The vast majority of patients viewed this phase of adjustment as a brief opportunity for them to become comfortable with the new dietary routine. Most patients reported they adjusted comfortably within one week (Patient 8) or only had a slight amount of difficulty completing the dietary change for the first few days (Patient 5) until they were able to settle into their new routine.

Theme 3: Cultivation of Discipline and Positive Lifestyle Integration. The protocol provides a consistent template for increasing the amount of daily routine and improving food intake and self-management patterns. Increased routine and self-management were described by Patients as positive changes in their daily routine such as "I have more discipline in what I eat and when, I have eaten more

fruits and vegetables and now I feel no guilt," Patient 4, and “I actually eat my meals at a more appropriate time,” Patient 14. The structure of the diet also helped regulate the patient’s impulsiveness with food and reduced the likelihood of patient engaging in random binge eating, and better choices in snacks, “Before when I craved something to eat, I would just binge eat now I eat fruits or nuts", Patient 16. The protocol may have motivated patients to get into the habit of having regular meals. "I did not eat breakfast before but since I followed the protocol and changed my daily routine, now I eat breakfast every day", Patient 9. Overall, this finding indicates that the protocol serves a positive role in the creation of new, healthy behaviors and lifestyle changes.

Theme 4: High Satisfaction and Advocacy for a Natural Healing Approach. The last theme that stands out the most is how happy everyone was with the results and their desire to promote the use of this treatment program. This desire was expressed most strongly in this statement from Patient 2: "If you ask me to refer this treatment to my family and friends, I would absolutely do so." There was also recognition by patients of their newfound trust in pursuing health through natural means. As Patient 10 stated, "This allows you to get healthy through natural remedies." In addition, Patient 7 said, "This promotes a healthy lifestyle without needing medication." For a number of patients, the successful use of this program gave them back their sense of control over their health. Patient 16 noted, "Definitely will support it because I saw how it positively affected my health in a short period of time." This demonstrates that the perceived benefits of using this treatment support included not only alleviating symptoms but also really empowering patients to take back ownership of their health through a sustainable philosophy of care.

DISCUSSION

The findings from this study offer robust patient-reported evidence that the GTB Nutrition protocol, as implemented within a multi-specialty clinical practice, is associated with significant and wide-ranging improvements in health-related quality of life among individuals with chronic health conditions. This discussion contextualizes these findings within the broader scientific literature on dietary interventions and integrative medicine, explores potential mechanisms, acknowledges the study's limitations, and suggests directions for future research.

Synergistic Impact on Core Health Domains: Energy, Digestion, and Inflammation

The GTB Protocol aligns with the principles of lifestyle medicine. The most significant improvements were noted in self-reported health (Figs. 1 & 2), as well as an extremely high percentage of respondents reporting increased energy (81%), digestive well-being (81%), and reduced acidity (81%). Chronic low-level inflammation and mitochondrial dysfunction underlie many of the chronic diseases of today, including, among others, many of those diseases that are related to an unhealthy diet (Furman et al., 2019). The GTB's elimination of such triggers (dairy, processed meats, and refined carbohydrates) and focus on whole fruits and vegetables as well as nuts helps to treat the causes of chronic inflammation and mitochondrial dysfunction. The increase in energy reported by participants is not simply subjective but likely corresponds to increased cellular energy production as the body's inflammatory burden decreases and nutrient density increases. Anti-inflammatory diets have been shown to decrease fatigue, which is a prevalent and debilitating symptom of many chronic illnesses (Christ et al., 2019).

Likewise, the high percentage of respondents experiencing improved digestion and reduced acidity directly supports the GTB's foundational philosophy. Dairy and processed foods are among the most common irritants and allergens that damage the intestinal barrier, which is why their elimination is so important for those with "leaky gut" syndrome and an increase in systemic inflammation (Fasano, 2020).

The increased intake of fibrous fruits and vegetables promotes a healthy gut microbiome, which is essential for proper digestion, nutrient absorption, and the production of short-chain fatty acids that have systemic anti-inflammatory effects (Mentella et al., 2021). This gut-centric effect likely serves as a primary mechanism for the broader benefits observed.

Beyond Symptom Relief: Systemic Effects and Multi-System Benefits

Patients reported more than just a fractional relief from symptoms with this type of care; they also reported a complete change in their health as well. Several examples of this include reducing their asthmatic symptoms, complete remission from ulcerative colitis, and decreased overall inflamed pain levels (e.g. throughout their bones). Even though these examples are anecdotal evidence of possible results from this type of practice, the observations made in this study are consistent with the principles of nutritional immunology and therefore biologically justifyable.

Adding nutritional components to patients with immune systems that have been compromised (e.g. wheat, dairy products, and other foods high in arachidonic acid) provides a mechanism for improving the function of the immune system (to be less inflammatory). By decreasing the consumption of foods high in arachidonic acid and by consuming more foods containing phytonutrients with anti-inflammatory properties, patients are able to achieve a more normalized state from a pro-inflammatory state (Galland, 2010).

The example where an individual reported the resolution of calcium deposits in the brain is notable and reflects potential radiological improvements; however, it requires objective clinical confirmation; however, it points to the fact that, for patients using this model of care, diet is viewed as the single most important aspect of their holistic approach to healing and not merely as a palliative approach. This belief provides adequate motivation for patients to adhere to treatment plans and results in patients' satisfaction. The substantial percentage of patients that reported a reduction in their brain fog (76.2%) and improved overall sleeping habits (76.2%) are related to and contribute to an increased quality of life. The bidirectional communications between the gastrointestinal system (the source of both dysbiosis and inflammation) and the brain is well established in recent literature (e.g. Cryan et al. 2019). By improving gut health, the protocol may secondarily alleviate neuroinflammation, leading to clearer cognition. Furthermore, stabilizing blood sugar through the elimination of refined sugars and regular intake of low-glycemic, high-fiber foods can prevent the energy crashes and mental cloudiness associated with glycemic instability. Improved sleep is a known consequence of reduced pain, stabilized energy, and lower systemic inflammation, creating a positive feedback loop that enhances overall recovery.

The Reality of Dietary Change: Initial Challenge vs. Long-Term Sustainability

zOne of the most important findings from this study that reflects the literature on behaviour change and nutrition is the qualitative finding, which describes the initial challenges with adopting a diet free from meat and dairy as significant and honest. Changing long-established eating patterns is one of the hardest behavioural changes to make and is frequently accompanied by both psychological and physiological resistance (Mantzios & Giannou, 2018). The finding that participants reported that these challenges lasted approximately one week and were regarded as temporary illustrates that the protocol was well-designed and had excellent clinical support. Therefore, participants perceived that they were then able to transition to a diet that is "simple" and "easy to follow," indicating that it could possibly be sustained long term. In contrast, many individuals who adopt fad diets, which are typically extremely restrictive or complicated, have extremely high rates of dropout.

Additionally, the emergence of discipline and positive lifestyle integration as a common theme is one of the most significant benefits from a clinical perspective. This intervention was shown to work as a "keystone habit" (Duhigg, 2012), whereby engaging in this one routine change resulted in numerous favourable ancillary changes, including meal timing, eating mindfully, and performing physical activities, such as yoga. It can be inferred that the success of the intervention did not only improve the participants' nutritional biochemistry but also fostered improvements in their self-efficacy and positive health identity, which are necessary components for managing and preventing chronic diseases over time (Rippe, 2018).

The Integrative Model: Diet as Foundational Therapy

It is important to note the 81% of patients receiving concurrent treatments (Figure 4) indicates that GTB Nutrition is not an alternative therapy for conventional care; rather, it is considered a primary foundation for the integrative model.

As the understanding of Lifestyle Medicine evolves, it is widely accepted that the first-line treatment should be nutrition in the form of a prescribed dietary program (Hu et al., 2023). Nutrition enhances wellness and increases the effectiveness of future medical treatments while also reducing the need for the use of pharmaceuticals. For example, as noted by Eggert et al., (2020), patients have made statements such as "I do not take any medications" or "It helps me live a healthy lifestyle without taking medication."

In this context, this means that GTB Nutrition has provided patients with the means of reducing their dependency on pharmaceuticals (and the associated side effects) with the help of their healthcare practitioner and represents a significant favourable result for many patients. Additionally, the almost unanimous (95.2%) willingness to recommend GTB Nutrition is a clear reflection of the first-hand experiences of individuals benefited by the GTB Nutrition program and the possibility of experiencing natural healing within the primary medical model.

Limitations and Directions for Future Research

This study has some serious limitations that should be noted. As a cross-sectional study relying on self-reported data with no comparison group (control group), the study's ability to show cause and effect is limited. Additionally, the findings may be subject to potential biases including selection bias (where satisfied patients were more likely to respond) and recall bias, and due to the type of study it is, placebo effects could also account for the differences reported. The lack of objective biomarker data such as hs-CRP (high sensitivity C-reactive protein), HbA1c (glycosylated hemoglobin), lipid panels and analysis of gut microbiome diversity in association with dietary interventions, means while the outcomes reported are promising, there is currently no objective laboratory confirmation of the improvements reported by participants.

The next step in this research is to validate the patient-reported results using rigorous research methodologies. A longitudinal randomised controlled trial comparing the GTB (Gut-Brain Programme) protocol to standard diet and usual clinic care will be of utmost importance. This trial should include;

- **Adequate Clinical Outcomes** – Regular measurement of biomarkers such as the inflammatory cytokines IL-6 and TNF-α (Tumor Necrosis Factor alpha), hs-CRP and measurement of metabolism via metabolic panels and gut permeability tests, will allow us to verify the biological basis behind symptom and quality of life improvements reported by participants (Menzel et al., 2021).
- **Validated Patient Reported Outcome Measures (PROM)** – Utilisation of an instrument verified to provide a standards-based assessment of quality of life and symptom severity for more robust, comparable groups (for example SF 36's and GI-Symptom-Rating Scales) (Nybacka, 2021).

- **Gut Microbiome –** Stool sequencing pre intervention and post intervention to facilitate the objective measurement of gut microbiome diversity (both in quantity) and composition related to dietary changes (Leeming et al., 2019).
- **Process Evaluation:** In-depth qualitative research to better understand the mechanisms of adherence, the role of clinician support, and the experience of the initial adjustment phase (Rivera et al., 2022).

CONCLUSION

This evaluation suggests that GTB nutrition is feasible and effective as a component of an integrative treatment model for managing complex chronic disease. Patients reported multi-system improvements in energy, digestion, inflammation, cognitive ability, and sleep; furthermore, these improvements were reflected in a significant self-reported increase in overall health status. GTB Nutrition protocol was successful in overcoming one of the main barriers to change (an initial difficulty in adapting to a new diet because it required discipline), providing a foundation for developing disciplined eating habits and creating opportunities for broader lifestyle changes.

It is important to note that this study appropriately describes intervention as part of a collaborative treatment process where structured nutritional therapies work along with other medical treatments. The high levels of satisfaction and advocacy from patients reflect their experience with this type of healing through natural empowerment. Although the design of the study does not allow for definitive conclusions regarding causation, the consistency and magnitude of the positive patient-reported outcomes are difficult to dispute and warrant further investigation.

Our findings demonstrate the importance of targeted, anti-inflammatory dietary interventions as one of the cornerstones of contemporary clinical practice; we strongly advocate for the incorporation of structured nutritional programs such as GTB Nutrition into existing chronic disease care. Future controlled research with objective biomarkers is essential to validate these promising results and elucidate the precise physiological mechanisms at play. Nevertheless, this real-world analysis confirms that such an approach can profoundly enhance patient well-being, restore a sense of health autonomy, and offer a powerful, sustainable path to healing.

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