

LIFESTYLE ENTREPRENEURSHIP: DEVELOPMENT OF GLUTEN-FREE AND CASEIN-FREE DIETS

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ABSTRACT

This study focused lifestyle entrepreneurship on the development of gluten-free and casein-free diets for the management of nutritional challenges of children with autism in Rivers State. The study adopted the Research and Development (R and D) and qualitative designs. The population for the study comprised of 38 participants. The 9-point hedonic scale and two sets of questionnaires were used to collect data. All chemical experiments were carried out using Association of Analytical Chemists (AOAC), while focus group discussions were used to collect qualitative data. Mean and standard deviation were used to analyze the data. The hypotheses were analyzed using Analysis of Variance (ANOVA) at the significant level of 0.05. The major findings from the study were the nutritional challenges faced by parents for autistic children which included: selective eating behaviours and nutrient deficiencies in the children. The moisture values of the diets ranged from 32.63% in the Plantain Broth Pancake (PBP) to 89.72% in the Chamomile-Carotene Grain Drink (CCGD) which was the highest; protein value ranged from 0.65% to 7.64% which was highest (PBP). The CCGD had low protein content (0.81%). The crude fibre values ranged from 7.47% to 19.26% (in the SPRB) which was the highest, while CCGD had no crude fibre. The carbohydrate value ranged from 8.49% to 19.99% (in the PBP) which was the highest. The anti-nutrient values of the diets were relatively low, with significant differences. The calcium value ranged from 106.89 mg/100g to 239mg/100g (in the PBP – Plantain Broth Pancake, which was the highest. The magnesium value ranged from 45.65mg/100g to 221.49mg/100g) in the PBP which was the highest. The iron and zinc values were highest 2.27mg/100g to 5.23mg/100g in the PBP which was the highest, and 1.09mg/100g to 3.09mg/100g in the PBP for zinc. Vitamin B₁₂ ranged from 0.91mg/100g to 1.42mg/100g (SPBP) which was the highest, while Vitamin A values

ranged from 70.52IU/100g to 198.40IU/100g in the PBP which was the highest. All the diets were accepted by the judges. The findings revealed therapeutic benefits in managing symptoms such as food refusals (M=2.87), constipation diarrhea (M=3.35), bloating/gas (M=2.63), sleep disturbances (M=2.50), pale skin (M=3.35) and food allergies (2.81). Findings highlight varying levels of therapeutic effectiveness, with distinct benefits associated with each diet. The study has shown that limited food variety leads to nutrient deficiencies, as certain essential vitamins and minerals may be lacking in their diet. The study concluded that the developed diets present potentials in the management of autism-related problems in children on basis of lifestyle entrepreneurship. The study recommended a need for more resources and support in implementing these diets, and educational programs for parents and caregivers on lifestyle entrepreneurship.

KEYWORDS: *Gluten, Casein-free Diets, Autism, Sensory Sensitivities, Care Givers, Lifestyle Entrepreneurship*

Introduction

Segreto (2025) strongly argued that lifestyle entrepreneurship aligned with designing a business that works for your life. This is in life with ovharhe (2025a) which pointed out that knowledge, skills and attitude is embedded from the infant entrepreneurship stage that is pivoted with special need children such as autism, cerebral palsy, ADHD among others (Ovharhe (2022).

Ovharhe (2024, 2025) stretches that innovation skill is very vital to be develop and manage at early age with the lifestyle entrepreneurship.

This is because a lifestyle entrepreneur is someone who starts and runs a business with the primary goal of sustaining or improving a desired way of life. Unlike traditional entrepreneurs who may focus on rapid growth, maximizing revenue, or building a company to sell, lifestyle entrepreneurs focus on freedom, flexibility, and fulfillment. They build their businesses around their lives, not the other way around. Success is measured not only by profits, but by the ability to do meaningful work, spend time with loved ones, travel, pursue passions, and live with autonomy.

The foundation of lifestyle entrepreneurship is alignment between business activities and personal values, passions, and long-term goals. Whether it's the freedom to work remotely from anywhere in the world, the ability to pursue creative projects, or the time to raise a family without rigid schedules, lifestyle entrepreneurs intentionally structure their businesses to serve their lives (Segreto, 2025).

Balance is not an afterthought it's a priority. This means designing workflows, choosing clients, and creating offerings that align with how the entrepreneur wants to spend their days. Burnout is avoided not by working less necessarily, but by working on what matters most

Research indicates that nutrition plays a crucial role in supporting the overall health and well-being of autistic children. Research explores appropriate foods for autistic children, considering their unique sensory sensitivities, nutritional needs, and potential benefits of specific dietary choices, with references to empirical studies and expert insights. Autistic children often experience sensory sensitivities that influence their perception of taste, texture, color, and smell of food (Cermak et al., 2020). It is essential to consider these sensitivities when planning a diet for autistic children to ensure that the foods provided are acceptable and enjoyable.

Many autistic children have preferences for specific textures. Offering foods with varied textures, such as crunchy, smooth, or chewy options, allows for a more diverse and accommodating diet (Cermak et al., 2020). Some children with autism may have temperature sensitivities. Providing foods at a temperature that aligns with their preferences, whether warm or cold, can enhance the palatability of meals. The visual presentation of food can significantly impact a child's willingness to try new items. Creative and visually appealing presentations may make food more enticing for autistic children (Whiteley et al., 2023).

Incorporating a variety of whole foods, such as fruits, vegetables, lean proteins, and whole grains, provides essential nutrients for growth and development (Hyman et al., 2022). These foods are generally rich in vitamins, minerals, and fiber, contributing to overall health. Autistic children can benefit from a variety of protein sources, including lean meats, poultry, fish, eggs, dairy products, legumes, and nuts (Herndon et al., 2019). Richardson et al. (2015) noted that protein is essential for muscle development, immune function, and neurotransmitter synthesis. Furthermore, offering nutrient-dense snacks, such as fresh fruits, vegetables with hummus, yogurt, or cheese, can be beneficial for providing essential nutrients while satisfying hunger between meals (Nali et al., 2018).

Foods rich in omega-3 fatty acids, such as fatty fish (e.g., salmon), flaxseeds, and chia seeds, may contribute to cognitive development and potentially support aspects of neurological function (Richardson et al., 2005). Tailoring the diet to the child's individual preferences and aversions is crucial. This may involve involving the child in meal planning, gradually introducing new foods, and respecting their sensory sensitivities (Cermak et al., 2020).

A well-balanced diet with a variety of nutrient-dense foods supports overall health and helps address potential nutritional deficiencies that some autistic children may be at risk for (Hediger et al., 2018). A diet rich in fiber from fruits, vegetables, and whole grains can contribute to optimal gastrointestinal function, potentially addressing common gastrointestinal issues reported in

individuals with autism (Buie et al., 2020). Certain nutrients, such as omega-3 fatty acids, have been associated with cognitive function. While more research is needed, incorporating foods rich in these nutrients may support cognitive development in autistic children (Richardson et al., 2015).

Creating a suitable diet for autistic children involves a thoughtful consideration of their sensory sensitivities, nutritional needs, and individual preferences. Offering a diverse range of whole foods, protein sources, and nutrient-dense snacks can contribute to optimal growth and development (Whiteley et al., 2023). Tailoring the diet to accommodate sensory sensitivities and involving the child in meal planning fosters a positive relationship with food (Richardson et al., 2015; Nali et al., 2018). While more research is needed to establish specific dietary guidelines for autism, the principles of a balanced and individualized diet can enhance the well-being of autistic children.

Literature Review

Lifestyle Entrepreneurship

Starting a lifestyle business comes with many of the same challenges as any entrepreneurial venture, including inconsistent income, self-discipline requirements, and the need for self-marketing. However, lifestyle entrepreneurs also encounter unique scenarios:

- **Freedom of schedule** can lead to challenges in time management.
- **Autonomy** means all decisions fall on the entrepreneur, requiring self-trust and strategic clarity.
- **Remote or solo operations** may create feelings of isolation or disconnection unless counterbalanced by intentional community-building.
- **Flexibility** often means you must define your own definition of success, not one imposed by industry benchmarks or outside investors.

But the rewards freedom, purpose, personal growth, and a business truly aligned with your lifestyle are substantial.

How to Prepare

Becoming a lifestyle entrepreneur doesn't mean jumping blindly into freelancing or launching an online business overnight. It requires clarity, planning, and intentional design. Preparation should include:

1. **Define your ideal lifestyle:** Consider how and where you want to live, how many hours you want to work, your income needs, and the experiences you want your business to support.
2. **Inventory your skills, passions, and resources:** Match what you can do and love doing with what people are willing to pay for. This overlap is often the foundation of lifestyle businesses.
3. **Test and validate your idea:** Start small. Pilot offerings or side projects can help you gain traction without risking financial stability.
4. **Plan for sustainability:** Lifestyle entrepreneurship is not a hobby. You must understand how to price your services or products, build a brand, attract clients, and generate recurring revenue.
5. **Simplify operations:** Choose low-overhead business models like consulting, digital products, coaching, online courses, affiliate marketing, or freelancing.

What to Avoid

Even though lifestyle entrepreneurship may seem less rigid than traditional business models, there are pitfalls to avoid:

- **Chasing trends instead of alignment:** Don't fall into business models that are popular but don't fit your skills, interests, or lifestyle preferences.
- **Underestimating the workload:** Lifestyle businesses may look easy on the outside, but they require discipline, consistency, and planning — especially in the beginning.
- **Ignoring scalability:** Many lifestyle entrepreneurs plateau because they build a business that depends too heavily on their direct time or effort.
- **Over-customizing or underpricing:** Saying yes to every client or offer can quickly create a business that feels overwhelming and out of alignment.
- **Neglecting financial planning:** Freedom requires financial clarity. Budget for taxes, reinvestment, and slow periods to avoid cash flow stress.

How to Scale a Lifestyle Business

Scaling a lifestyle business does not mean sacrificing flexibility or losing personal control. Instead, it means building smart systems and extending your impact beyond one-to-one work. Here's how:

1. **Productize services:** Turn your expertise into digital products such as courses, templates, memberships, or ebooks. This creates scalable income streams that require less direct time.
2. **Automate and delegate:** Use technology to automate repetitive tasks (like email sequences or invoicing) and hire freelancers or virtual assistants for tasks outside your core strengths.
3. **Build a personal brand:** Invest in content creation, storytelling, and thought leadership to attract ideal clients, grow your audience, and position yourself as an authority.
4. **Create recurring revenue:** Subscriptions, memberships, retainers, and packaged service tiers provide income stability and scalability.
5. **Expand reach with partnerships:** Collaborate with other creators, cross-promote products, or become an affiliate for aligned brands.
6. **License intellectual property:** If you've developed frameworks, systems, or training, consider licensing them to other professionals or organizations.

Ultimately, the goal isn't just to make more money — it's to extend your ability to live the life you want, without working more or straying from your values.

Intentional Living

Lifestyle entrepreneurship is about intentional living. It's not about sacrificing growth for comfort or ambition for ease. It's about deciding what truly matters and building a business that supports that vision. Whether you're dreaming of working from a beachside café, spending more time with your kids, or doing work that lights you up every day, lifestyle entrepreneurship puts you in the driver's seat (Segreto, 2025).

About Your Entrepreneurial Success (YES)

Your Entrepreneurial Success (YES) is a dedicated platform created for aspiring entrepreneurs, family business stakeholders, and the next generation of partners and leaders. Recently launched, YES is designed to deliver the insight, strategy, and inspiration needed to successfully navigate and thrive throughout the entrepreneurial journey (Segoto, 2025).

If you're thinking of business ownership for yourself and learning how the choice of a franchise, startup or acquisition can "jump-start" both the process AND your earning potential, please visit *OwnABizness.com*. If interested in taking a deeper dive into how to succeed as an entrepreneur, please visit *AccelerateSuccessCoaching.com*.

The concept of a “lifestyle entrepreneur” defines a unique breed of business owner who seeks to build a venture that not only provides financial independence but also aligns with their personal passions, hobbies, or, as the name suggests, a lifestyle. In essence, they strive to have a life while simultaneously “earning a living.” This means lifestyle entrepreneurs prioritize creating businesses that reflect their interests and allow them to live life on their own terms, aligning their work with their values and personal aspirations. Alvaro (2025) highlight that these entrepreneurs differ from traditional business owners in their motivations and goals, often placing lifestyle choices above maximizing profits.

Across the continent, young Africans are embracing a new narrative, one centred on financial literacy, digital innovation, and purpose-driven work. They are increasingly turning to digital platforms, fintech, and even cryptocurrencies to manage money, save, and invest. Entrepreneurship, for many, is no longer a fallback; it is a first choice, a deliberate path to building wealth, securing autonomy, and living meaningfully.

Millennials and Gen Z are rejecting outdated employment models. Instead, they are pursuing ventures that reflect their values and passions, businesses that allow them to earn a living while making a difference. Many are using entrepreneurship to address the social and economic challenges within their communities, proving that profit and purpose can co-exist.

This is the era of lifestyle entrepreneurship, where individuals harness their talents, social platforms, and communities to create sustainable income streams that match the lives they aspire to lead.

From TikTok creators and YouTube educators to fashion designers, beauty entrepreneurs, and Twitch streamers, young Africans are tapping into global trends, monetising their creativity, and exporting culture in real time. Though some in older generations may dismiss this movement as unserious or unstable, these modern entrepreneurs are quickly becoming job creators and redefining wealth, work, and influence in ways the previous generation never imagined (Sur, 2025).

Why This Matters for Africa

Africa is home to the youngest population in the world. As of 2024, over 60% of the population was under the age of 25. By 2030, one in three young people globally will be African. But this demographic dividend is perched on precarious ground.

Millions of young people are out of school, unemployed, or underemployed. Even those enrolled in tertiary institutions face an uncertain future, with little assurance of jobs upon graduation. The promise of formal employment is no longer enough.

Lifestyle entrepreneurship is emerging as a strategic solution; a way for young Africans to chart their own futures, earn with dignity, and create resilient livelihoods. If harnessed correctly, it can shift the trajectory of our continent. But to succeed, young people need more than ambition; they need access.

Solving Social Problems Through Enterprise

Today's most influential platforms began with the simplest ambition: to solve a real problem. M-Pesa gave Kenya's unbanked a lifeline. WeChat reimaged connection and payment for China's youth. WhatsApp became an everyday tool for communication in Nigeria.

Africa's young entrepreneurs are attempting the same, building businesses that solve local problems in practical, relatable ways. But they are constrained by a lack of funding, limited access to digital tools, the absence of mentorship, and exclusion from global networks.

Gluten and Casein-free Diets

A gluten-free/casein-free diet is also known as the GFCF diet. It is one of several alternative treatments for children with autism (Silberman, 2015). When following this strict elimination diet, all foods containing gluten (found in wheat, barley and rye) and casein (found in milk and dairy products) are removed from the child's daily food intake (Bandini et al., 2020). Often called a GF/CF diet, this eating plan avoids foods that contain gluten (found in many breads and cereals) and casein (found in milk products). Eliminating gluten and casein may help to change symptoms and behaviours of autism (Silberman, 2015). Nali et al. (2018) noted that some parents have started their child with autism on a version of the GF/CF diet for a different reason, and later noticed improvement in behavior, social skills, and learning.

When someone is on a gluten-free diet, most bread and grain products are forbidden (Cermak et al., 2020). Therefore, it is important to make sure that the child (or other person) receives ample fiber, vitamins, and minerals. Supplementation can help make up for the lack of these nutrients when foods containing gluten are eliminated (Bandini et al., 2020). A GF/CF diet is not easy to follow. Because the diet does not contain milk products, or many breads and cereals, a child may not get enough calcium, fiber and vitamins A, D, and B complex and calories. Some parents of children with autism believe their children are allergic or sensitive to the components found in these foods (Cermak et al., 2020). Some seek allergy testing for confirmation. Yet, even when no allergy is confirmed, many parents of autistic children still choose to offer the GFCF diet. Among the benefits they report are changes in speech and behavior.

Most research have indicated that the benefit of a gluten-free/casein-free diet is based on the theory that children with autism may have an allergy or high sensitivity to foods containing gluten or casein (Masino & Rho, 2022). Children with autism, according to the theory, process peptides and

proteins in foods containing gluten and casein differently than other people do. Hypothetically, this difference in processing may exacerbate autistic symptoms. Some believe that the brain treats these proteins like false opiate-like chemicals (Silberman, 2015). The reaction to these chemicals, they say, leads a child to act in a certain way. The idea behind the use of the diet is to reduce symptoms and improve social and cognitive behaviors and speech (Masino & Rho, 2022).

In recent years, the adoption of gluten-free and casein-free diets has gained popularity, particularly in the context of managing various health conditions, including Autism Spectrum Disorder (ASD). This review examines the principles behind gluten and casein-free diets, explores the claimed benefits and controversies, and considers the implications of such dietary interventions, with references to empirical studies and expert opinions.

As reported by Kapp (2013), gluten is a protein found in wheat, barley, rye, and their derivatives, while casein is a protein present in dairy products. Gluten and casein-free diets involve the complete exclusion of these proteins from the diet: 1) Advocates of gluten and casein-free diets in the context of autism propose that these proteins can lead to the release of opioid-like substances during digestion, potentially influencing behavior and cognitive function (Whiteley et al., 2023). The elimination of gluten and casein is believed to mitigate these effects.

Some parents and caregivers of children with ASD have reported improvements in behavior, attention, and social interaction following the implementation of gluten and casein-free diets (Whiteley et al., 2023; Kapp, 2013; Hagner & Cooney, 2015). 2) Individuals with autism often experience gastrointestinal symptoms, and proponents of these diets suggest that removing gluten and casein may alleviate such symptoms and improve overall gut health (Buie et al., 2020). While anecdotal reports suggest benefits, the scientific evidence supporting the widespread efficacy of gluten and casein-free diets in autism is limited and inconclusive (Whiteley et al., 2023). Rigorous, well-controlled studies with larger sample sizes are needed to draw definitive conclusions.

The exclusion of gluten-containing grains and dairy products may lead to nutritional gaps, raising concerns about the adequacy of essential nutrients, such as calcium, vitamin D, and B-vitamins, in the diet (Hyman et al., 2022). Careful dietary planning or supplementation is essential to address these concerns. Adhering to a gluten and casein-free diet can be challenging due to the ubiquity of these proteins in various foods. Ensuring compliance while maintaining a nutritionally balanced diet may be demanding for families and caregivers. Given the variability in responses to gluten and casein-free diets, it is crucial to recognize that not all individuals with autism may benefit from or require such dietary interventions. A personalized approach, considering the individual's medical history, preferences, and nutritional needs, is recommended (Hyman et al., 2022).

Before implementing a gluten and casein-free diet, consultation with healthcare professionals, including dietitians and healthcare providers, is advised. These professionals can provide guidance

on maintaining nutritional adequacy, monitor potential side effects, and ensure a comprehensive approach to the individual's health. The adoption of gluten and casein-free diets has become a topic of interest, particularly in the context of managing autism. While anecdotal reports suggest potential benefits, the scientific evidence supporting the widespread efficacy of these diets remains limited and inconclusive (Silberman, 2015). Controversies and challenges, such as potential nutritional gaps and implementation difficulties, underscore the importance of approaching these dietary interventions with caution and under professional guidance.

Understanding the individual variability in responses to dietary changes, recognizing the potential nutritional implications, and maintaining a balanced and individualized approach are essential considerations (Masino & Rho, 2022). Ongoing research and well-designed studies are necessary to advance our understanding of the impact of gluten and casein-free diets on autism and to guide evidence-based recommendations for individuals considering or currently following such dietary interventions.

Methodology

The research study usually involves a number of phases which are generally called R and D cycle. Research and Development design was chosen for this study because the study involved recipe and diets development.

Qualitative research is particularly valuable in exploring the subjective experiences of autistic children and their caregivers in response to nutrition therapy. While quantitative research focuses on measurable outcomes, such as improvements in specific behaviours or biological markers, qualitative research explores the “how” and “why” behind those changes. As ASD affects each child differently, a one-size-fits-all approach may not be appropriate for understanding the complexities of how nutrition therapy influences individual experiences.

The area of the study was Rivers State, Nigeria. Rivers State is one of the six states that constitute the south-south region of Nigeria. The state has an estimated population of five million. The state has 23 local government areas. However, the study was carried in Port Harcourt which is the largest zone in the state. The area has three autism centers namely – Our Lady of Guadalupe (OLG) Health Foundation/Autism Center (8, Faith Avenue, Woji, PortHacourt); Blazing Heart Autism Center (31c, Ohiamini Close, Behind Hospital Road, Rukpakulosi Town, Port Hacourt); and, and Otana Inclusive Center (Alakahia, East/West Road, Before UPTH junction Port Hacourt). The availability of these centers and the number of autistic children culminated in the choice of the area for the study.

Methodology

The population for the study comprised 38 subjects in three categories. Ten (10) autistic children (6 males and 4 females) undergoing management processes in three autism centers in Port Harcourt, Rivers State (Autism Centers Records, 2023). Eighteen (18) caregivers in the three autism centers under study. Ten (10) parents (8 mothers and 2 fathers) of the children in the autism centers in Port Harcourt.

The sample for the study was 38 respondents and participants which are distributed into three categories. In the first category, all the 10 autistic children in the centers. The minimal numbers of the children necessitated the utilization of all. It was noted that when a population is minimal, the whole population should be utilized (Hute & Shadey, 2020). Hence there was no sampling. In the second category, all the 10 parents of the autistic children in the centers. The minimal size of this population informed the non-sampling. In the third category, all the 18 caregivers in the centers were utilized for the study, indicating non-sampling.

The 9-point hedonic scale is a standard instrument for sensory evaluation; therefore it required no validation prior to utilization. However, the questionnaires for research questions 1 and 6 were validated by three Medical Doctors at the University of Port Harcourt Teaching Hospital, Choba, Port Harcourt.

Since the 9-point hedonic scale is a standard instrument for sensory evaluation, it required no reliability prior to utilization. However, the questionnaires for research questions 1 and 6 were subjected to trial testing using 10 parents and 10 caregivers at two autism centers in Owerri, Imo State, which has similar characteristics to the area of the study.

The collection of data for this study was done in four phases – chemical analysis of food samples, sensory evaluation, questionnaire distribution and evaluation of diets efficacy.

Proximate composition (total moisture content, crude protein, crude fat, crude fiber, total ash, total carbohydrate and gross energy values) of the diets (CCGD, LRCB, PBP, SPBP and SPRB) were determined by the following methods.

The data were analyzed in three separate ways. First, mean and standard deviation were used to analyze data from the judges on research questions 1 and 7 with 2.50 mean range set as the cut-off mark. The implication was that any score lower than 2.50 was regarded as disagreed (D) with while mean score of 2.5 and above was regarded as accepted (A).

A comparative statistics and comparative analysis was conducted to present the difference in proximate composition (moisture, crude protein, crude fiber, crude fat, total ash, total carbohydrate and gross energy values), vitamins, mineral contents (Ca, K, Na, Mg, Mn, Cu, Fe Zn and P) and

anti-nutritional factors (phytate and tannin) in the samples (CCGD, LRCB, PBP, SPBP and SPRB). The analyses were performed using SPSS version 21. Differences in means at $p < 0.05$ were considered significant. The formulated hypotheses were analyzed using t.test at the significant level of 0.05. Any significant level less than 0.05 is significant and accepted. But any significant level more than 0.05 is not significant and therefore rejected.

Data Presentation and Analysis

This chapter presents the data analysis and interpretation for the study. The data collected were analyzed based on the research questions and hypotheses formulated to guide the study as follows:

Data Presentation

Research Question 1: What are the nutritional challenges faced by parents for autistic children in Rivers State?

Table 1: Mean and Standard Deviation on the nutritional challenges faced by parents for autistic children in Rivers State

Nutritional challenges include	Parents n=10			Caregivers n=18		
	M	SD	Rmk	M	SD	Rmk
1. Selective eating behaviours	2.87	0.90	A	2.64	0.74	A
2. Nutritional deficiencies for child	3.72	0.81	A	3.70	0.81	A
3. Many autistic children experience gastrointestinal problems	3.35	0.66	A	3.11	0.86	A
4. Higher prevalence of food allergies	2.63	1.03	A	2.59	0.99	A
5. Refusal to try new foods	3.15	1.02	A	3.19	0.96	A
6. Mealtime behaviours can be challenging	2.50	0.93	A	2.54	0.92	A
7. Nutritionally restrictive diets if not well-balanced	3.00	0.81	A	2.99	0.89	A
8. Complicating mealtime planning	3.28	0.73	A	3.35	0.67	A

9. Social pressure to have the child							
eat a varied and balanced diet	2.95	0.85	A	2.89	0.86	A	
10. Emotional distress from dealing							
with food refusals and mealtime							
disruptions	3.33	0.88	A	3.32	0.83	A	
11. Guilt or worry about the child's							
nutritional intake and health	2.80	0.79	A	2.82	0.80	A	

$\bar{X}$ =Mean; SD=Standard Deviation; TM=Total Mean; TSD=Total Standard Deviation; A=Agree; D=Disagree;

Agree = ≥ 2.50 while Disagree = < 2.50 .

Table.1 showed the mean and standard deviation on the nutritional challenges faced by parents for autistic children in Rivers State. The results indicate that the respondents (parents and caregivers) agreed with all the items in the questionnaire because they have mean scores which were ≥ 2.5 which was the cut-off mark. The Table showed that the highest mean score was M=3.72 (item 2), while the lowest mean score was M=2.50 (item 6). The standard deviation ranged from 0.66 to 1.03.

Test of Hypotheses

H0₁: There is no significant differences in the responses of caregivers and parents on symptoms of nutrition problems with autistic children after administration of the diets in Rivers State.

Table 2: T-test analysis of the mean responses of caregivers and parents on symptoms of nutrition problems with autistic children after administration of the diets in Rivers State

Group	N	$\bar{X}$	SD	P-value	DF	t-Cal	t-Tab	Decision
Caregivers	18	3.16	0.85	0.09	26	1.05	1.31	Accepted
Parents	10	2.67	0.69					

Table 4.8 shows the T-test analysis of the mean responses of caregivers and parents on symptoms of nutrition problems with autistic children after administration of the diets in Rivers State. The t-test analysis indicates that the t-tab (table value of 1.31) is greater that t-calculated value (t-cal) of

1.05 ($1.31 > 1.05$) at 0.08 level of significance, and at 26 degree of freedom (df). The implication of this finding is that there is no significant difference in the mean scores of the caregivers and parents on symptoms of nutrition problems with autistic children after administration of the diets in Rivers State.

Conclusion and Recommendations

Conclusion

Autism remains a major impediment to children's development. This is because, apart from the many challenges associated with it, nutritional problems compound the already precarious situation the children and their families are faced with. This study has shown that while having heightened sensory sensitivities which affect their response to certain tastes, textures, smells, and colours of food. They avoid foods with certain thereby depriving themselves of essential nutrients. The study has shown that limited food variety leads to nutrient deficiencies, as certain essential vitamins and minerals may be lacking in their diet. With common deficiencies which include vitamin D, calcium, iron, this study has revealed the potentials of the new diets which are vital for bone health, energy levels, and cognitive function. The study has provided interventions which are aimed at improving autistic children's nutritional wellbeing. The study has also revealed the benefits of the utilization of gluten – casein-free foodstuffs in promoting nutrition among these children.

Recommendations

Based on the findings of the study, the following recommendations were made:

- i. Information about the developed diets should be disseminated to families which have children with autism spectrum disorder to help address the nutritional problems associated with it.
- ii. The domestication of the various food crops which constituted major ingredients for these diets should be promoted and improved.

. Contribution to Scholarship

- Using lifestyle to pattern your feedings habit
- Using lifestyle to allied your business and diets

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