THE NUTRICONNECT

Unlocking The Power Of Nutrition Together

NEWSLETTER

The Nutrition Edge for Sports.

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Proper nutrition fuels peak performance, aids recovery and supports long term athletic health. In this particular issue we sight out and bring to your understanding the different scientific facts and help you all our dearly esteemed readers to drop the myths that you may have come across about nutrition in sports. Remember a reader lives a thousand lives before he/she dies!

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Nutrition therapy for recovery from injury.

Injuries are common in sports people and impair performance. There are minor injuries such as a scratch, bruise and more complicated like a torn ligament, fracture, concussion and oral-facial injury among that limit the ability to use the affected area.

The recovery process is facilitated by the sum use of medical and surgical therapy, physiotherapy, psychotherapy and nutrition therapy. Nutrition therapy is important since key nutrients are utilized daily in the body to assist muscle growth and strength.

Nutrition therapy in injury is divided into two phases, that is to say; immobilization phase and the rehabilitation phase. Immobilization phase is from the time of injury to 3 weeks post injury and focuses on reducing inflammation, tissue rebuilding and repairing. Rehabilitation on the other hand involves tissue remodeling and can -take place between 3 weeks to around 2 years post injury. Here are foods to consider when building an eating plan for an injured Sports person;

Carbohydrates; this is the main source of energy for physical activity. Carbohydrates intake should be lowered in the immobilization phase since there is no activity. However, increased in the rehabilitation phase depending on the activity intensity, duration and body weight goals.

Proteins; the intake of proteins should be increased in both phases since proteins are needed for muscle repair and tissue recovery. This can be done by consuming a protein rich food every 3 hours during the day after physiotherapy sessions and before bed.

Fats in particular intake of omega 3 fatty acid food improve recovery from injury since they possess anti-inflammatory properties and increase protein synthesis.

Minerals like Calcium, Phosphorus, Zinc, Magnesium, Sodium, Potassium and Vitamins such As Vitamin A, D, E, and C are important in wound healing, tissue repair, bone health, and boosting immunity. They also act as anti-oxidants.

Fluids; proper hydration of at least 8 glasses of 250ml a day to support delivery of nutrients to all organs and tissues.

During injury recovery, sport people should avoid fried fatty (pizza, fries), added sugars and concentrated sweets (soda, candy, ice cream) and alcohol which inhibits muscle protein synthesis and increase muscle loss.

Conclusively, nutrition therapy can hasten the recovery process in conjunction with all the above mentioned therapies. However, individual caloric requirements should be identified to ensure that their energy requirements are met and tailored to specific injury. It should be noted that nutrition timing that is to say the hours before and after physiotherapy is crucial to augment the outcome.

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LYNN KAINOBUGABE

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Nutrition for endurance and strength in sports

Ever wanted to flaunt Joshua Cheptegei's stamina but failed miserably? That was me a few months back falling in a heap on my haunches, serenading pebbles on the asphalt, burning and panting like a lizard with child after a mere 10-minute jog.

Simple daily tasks like walking from your car, taking the stairs are loathsome because your endurance and strength took a beating but hey… I've learnt that our feeding habits greatly influence how much our bodies can endure during physical activity.

Endurance refers to the body's ability to sustain prolonged physical activity e.g. swimming, running, writing, cleaning the house while strength is the ability of a body to generate force against resistance e.g. climbing stairs, opening lids, carrying groceries.

Endurance and strength are vital in preventing and management of chronic diseases, improving body composition, muscle and bone health with age and also prevention of injury. Notably in endurance and strength training or activity our mental input as well energy are required.

Therefore one's body requires complex carbs like whole grains, fruits veggies to produce glucose for sustenance, replenishment of glycogen reserves. The fibers also improve digestion and contribute to overall health which is crucial for both strength and endurance activity.

Good fats are crucial in long endurance activities as they provide slow burning energy once glycogen stores are depleted hence performing for longer periods without fatigue.

Healthy fats aid absorption of fat soluble vitamins A, D, E, K and other nutrients that are essential for muscle recovery.

These healthy fats include olive oil, avocados, nuts, pumpkin seeds, chia seeds, fish, and dark chocolate.

Proteins are essential as well to kick start muscle repair and growth, these include eggs, Greek yoghurt, milk, cheese, chia seeds, chickpeas and soy.

Hydrate-hydrate as this cuts on fatigue, cushions joints by keeping the synovial fluid at optimal levels, it also softens the cartilage reducing friction and stiffness, keeps the skin moist, eliminates waste products and transports nutrients around the body.

Avoid skipping meals and eat healthy snacks in between. 80% of time eat well, 20% cut yourself some slack □

KEBIRUNGI RACHAEL

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Special nutrition needs for athletes with disabilities.

Despite the wealth of scientific research and information known regarding dietary needs of athletes, very little attention has been devoted to athletes with disabilities. Little is known about the nutrition needs and problems of disabled athletes. There is need for more nutrition information and proper nutrition practices for disabled athletes than regular athletes participating in competitions and those who exercise for health.

Nutrition, which is vital in physical performance of athletes, has an important place in the lives of both disabled and nondisabled athletes. Adequate nutrition guarantees the recovery of energy and the need for energy generation for activity. An inadequate diet in terms of quality and quantity plays a role in the development of diseases that can lead to nutritional deficiencies and disabilities.

Sports nutritionists of different special groups with disabled athletes are required to interpret the athlete's knowledge regarding nutrition needs.

Every type of disability may require specific nutrition plan hence nutritional assessment is a must to define the individual's consumption, know the mistakes ad suggest the necessary changes to design the most nutrition plan. Also the energy requirements and nutritional needs can be according to the region type and type of physical disability. The important thing is to create an appropriate diet plan by calculating the requirements specific to the athlete.

When disability is more than functional, the presentation of nutrition strategies requires an in- depth understanding of the individual athlete and an adjustment of standard practices to meet his or her specific needs. In addition other medical issues, genetics and practical limitations can influence their ability to undertake a dietary change. Although there are no standard values for athletes' daily recommended energy and nutrient intake levels since they are similar to the general population and have a variety of nutrient requirements and composition. This article reviews the nutrition needs of athletes with physical disabilities in terms of energy, macronutrient and micronutrient requirements.

Energy requirement.

The energy requirements of disabled athletes is lower than those of healthy athletes. It has been determined that this requirement is between 1500 and 2300 kcal on average. According to Mountjoy et al. (22), a negative energy balance in athletes can cause syndrome's relative energy deficiency in sports.

This syndrome affects various systems in the human body like gastrointestinal, metabolism, immune system, hematology and endocrine systems, cardiovascular and skeletal systems and psychology.

Proteins.

During exercise, there is a negative balance between protein synthesis and disintegration rates throughout the body and an increase in the oxidation rate of amino acids which causes a transient catabolic state. Insufficient dietary protein results in loss of muscle mass and negative nitrogen imbalance. Arginine is recommended because of its vasodilation, collagen synthesizing and cytokine response enhancing properties in wound healing.

Dietary fat.

Fats which are the basic components of cell membrane are the main components of a healthy diet that facilitates the absorption of fat soluble vitamins. They are used as substrate for energy in form of plasma free fatty acids, intramuscular triglycerides and adipose tissue in endurance training.

Micronutrients.

The distribution of micronutrients needs to be planned to ensure the presence of substrates to regulate metabolic pathways and modulate physical training- induced musculoskeletal adaptations.

Fiber and fluid.

Water is an essential nutrient for both intracellular and extracellular biochemical and physiological functions. Physiological loss of 1% to 2% water from the body affects both aerobic and anaerobic performance. The recommended fluid intake has not been determined due to the low number of studies specific to disabled athletes. Therefore, it is more appropriate for athletes to be trained to determine their own water intake. Furthermore, a diet rich in fiber and combined with adequate fluid intake is recommended to regulate bowel movements.

Conclusion.

Nutrition strategies play a role in determining performance in athletes with disabilities. Considering the nature of disability and the specific sports branch, it is necessary to determine the needed nutrition solutions to ensure the best protection of the athletes.

References.

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SSENGENDO BRIGHTON

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The Nutrition Edge for Sports: Special Nutrition Needs for Athletes with Disabilities.

Introduction

Athletes with disabilities face unique nutritional challenges that require tailored dietary strategies to optimize their performance and overall health. This article explores the special nutrition needs of these athletes, providing insights into how these needs can be met effectively, with examples from both sports and university settings.

Understanding the Unique Needs

Athletes with disabilities often have specific nutritional requirements due to the nature of their disabilities. For instance, wheelchair athletes may have different energy expenditure and hydration needs compared to able-bodied athletes. Additionally, conditions such as spinal cord injuries can affect metabolism and nutrient absorption. Therefore, a personalized approach to nutrition is essential.

Macronutrient Requirements

Carbohydrates, proteins, and fats are crucial for all athletes, but the proportions may vary for those with disabilities. Carbohydrates are the primary energy source, especially for endurance sports. Proteins are vital for muscle repair and recovery, while fats provide a concentrated energy source. For example, a Paralympic swimmer might require a higher protein intake to support muscle recovery after intense training sessions.

Micronutrient Considerations

Vitamins and minerals play a significant role in the health and performance of athletes with disabilities. Calcium and vitamin D are essential for bone health, particularly for athletes with limited mobility who may be at higher risk of osteoporosis. Iron is crucial for preventing anaemia, which can be a concern for athletes with certain disabilities.

Hydration Strategies

Hydration needs can vary significantly among athletes with disabilities. For instance, athletes with spinal cord injuries may have impaired sweating mechanisms, affecting their ability to regulate body temperature. Customized hydration plans, including electrolyte management, are necessary to prevent dehydration and maintain performance. Furthermore, a diet rich in fiber and combined with adequate fluid intake is recommended to regulate bowel movements.

Practical Applications in Sports and University Settings

Case Study: Makerere University. At Makerere University, nutrition programs can be designed to support athletes with disabilities. For instance, a wheelchair basketball player might benefit from a diet rich in lean proteins, whole grains, and healthy fats to support energy levels and muscle recovery. Nutrition workshops can educate athletes on meal planning, hydration strategies, and the importance of micronutrients. Owing to the fact that Makerere is one of largest and oldest University in Africa, its approach would serve as a model for other institutions aiming to provide inclusive, effective nutrition support for disabled athletes.

Conclusion

Meeting the special nutrition needs of athletes with disabilities is crucial for their performance and overall well-being. By understanding and addressing these unique requirements, sports nutritionists can help these athletes achieve their full potential.

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MDPI. (2024). Special Nutritional Needs and Nutritional Status of Team Sports Athletes.

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BSc. Human Nutrition, Year 1

Makerere University

Special nutritional need for athletes with disabilities.

The athletes with disabilities such as wheelchair basketball, blind soccer and deaf football players, hand cycling, para lifters among others require unique nutritional needs unlike the nondisabled athletes. This is due to their impaired mobility, altered energy expenditure, changes in body composition, muscle atrophy or change in fat distribution. Proper nutrition protect them from further injury and also aid in recovery. Different disabilities in the sport arena incur different challenges and below are the conditions and their respective nutritional requirement recommendations;

Spinal cord injury: Difficulty in thermoregulation due to disruption in the nervous body temperature control, pressure sores due to prolonged sitting in the wheelchair and muscle atrophy, peripheral nerve entrapment syndrome among others. In this case the athlete would require an increased protein, vitamin c, zinc intake for would healing and muscle preservation. Anti-inflammatory foods should be part of daily diet.

Cerebral palsy: This involving the knee and foot deformities and one faces muscle weakness or stiffness, poor coordination and balance and seizures sometimes such a person suffers gastroesophageal reflux disease, dysphagia (swallowing disorder).Such an athlete requires high calorie diet for increased energy needs due to spasms and movement difficulties, texture modified foods to ease swallowing protein rich foods to support muscle growth and repair, fibre rich food to promote digestive health.

Amputee: one who has lost a limb or anybody part suffers muscle atrophy of the less used or unused body parts, part suffers muscle atrophy of the less used or unused body parts, electrolyte imbalance due to the prosthetic related friction that causes excessive sweating, changes in movement patterns affecting muscle and electrolyte distribution. **Blind:** Increased calorie intake to compensate for increased energy expenditure due to the adaptive techniques put to use and generally a balanced diet is required.

Intellectually disabled: includes the Down syndrome, autism spectrum disorder victims who can involve in adaptive sports or therapeutic recreation sport activities.

These category suffer dysphagia, food selectivity and refusal, epilepsy related to nutrition and medication interactions. Such athletes require balanced diet, adequate hydration, regular planning and monitoring.

Call to action points

Develop teaching materials and guidelines that can be shared to para-athletes, their instructors and nutritionists based on individual problems attributed to the individual disability characteristics of the para athletes.

Various dietary patterns are to be developed for early recovery from conditions and fast healing.

Sports dietitians or registered are to be consulted for personalized guidance.

The athletes should be kept hydrated always with water and fed with nutrient dense foods including fruits, vegetables, whole grains, lean proteins and healthy fats. Keep food and hydration dairy to track intake and monitor progress. Plan meals and snacks in advance to ensure adequate nutrition.

In conclusion disable athletes require tailored or individual nutrition plans for optimum performance, to prevent health complications and enhance well-being. By understanding specific nutritional needs and implementing practical tips, athletes with disabilities can reach their full potential and achieve success in their respective sports.

References

- International Paralympic community nutrition guidance
- www.sportnutrix.com

INTERVIEW WITH A NUTRITIONIST.

NANTEGE REGINA

NUTRITIONIST

1. Please introduce yourself to our readers.

My name is Nantege Regina a registered Dietitian/Nutritionist with 6 years of experience in diet therapy and behavior change support for the prevention and management of obesity, malnutrition and diet-related non-communicable diseases. I hold a Bachelor of Science in Human Nutrition and currently undertaking a Master's Degree in Human Nutrition. I am the founder of Impact Nutrition Company the creator of the Lya Dietitian App and part-time as a Clinical Nutritionist at AAR Health Care, a Teaching Assistant at the Department of Nursing and Midwifery, Uganda Christian University. Additionally I keep fit by running and hiking and am very passionate about supporting our local food production to shorten the food chain and maximize the nourishment from fresh foods.

2. What is your experience as a Nutritionist and what is the motivation behind it?

I have basically dealt with Runners at my work and because I am a runner myself, I easily realized the gap left without Nutrition support. This means that I did not need to try so hard to find the challenge to which I am providing the solution now.

3. How does Nutrition relate to physical training?

To start with, any person that exercises uses energy and this comes from the food sources that provide it. To support energy cells (Muscle cells) by maintaining and building them we shall need the protein foods and other nutrients to support physical activity.

4. What specific nutrients are the most important to the different types of athletes?

As earlier mentioned we have the energy giving foods that is to say the carbohydrates and lipids and the body building foods (Protein). Every athlete needs these basic macronutrients.

5. How should athletes adjust their diets in the lead up to a major event or competition?

There is what we call the Pre-sports nutrition where we give an athlete foods that will sustain them during the activity. This can have high glucose amounts but easily digestible for example a pre-workout snack. During the activity, the person has to rehydrate with a sweetened drink to provide energy and water to replenish the sweat losses especially for those doing moderate and high intensity exercises. They also need sodium and potassium as well since they are lost a lot during sweating. Intermittent hydration is advisable (for example every 10 minutes) to prevent sugar overload at ago putting one at risk of stomach upset! Failure to provide these nutrients during the activity can cause muscle cramping. After this the athlete can have a post workout nutrition to replace glycogen stores, hydration and other nutrients.

6. What nutrients are often overlooked but so crucial for athletic performance?

Actually, there is usually no overlooking and if it is there then is because of lack of knowledge about how much we need the macro and micronutrients before, during and after the exercise. Also, the need for some nutrients will depend on the intensity of the exercise for instance a student walking from their hall of residence to go for a lecture will not need the inclusion of sodium and potassium in their drink as an athlete in a marathon.

7. How do athletes approach supplements and when do we give them?

If one is really unable to take in his/her food in the rightful amounts from the recommendations then they can embark on adding some supplements in their diets otherwise the food available can provide the required nutrients if prepared and consumed maximally. This means that take supplements only if you are not able to obtain enough of the nutrients from the diet.

8. How does an athlete's diet change when they are injured? What specific nutrients aid in tissue repair and faster recovery?

Except for muscle cramping, occurrence of an injury during a physical activity will push one to seek medical attention not nutrition care alone to aid faster recovery.

9. Do we need to categorize people of various ages nutritionally during a sport?

Sport is sport for every individual irrespective of age so there is no need for special foods for people of different age groups. They will all have the same nutrition care during activity. We shall only look at the intensity of the activity not the age to provide the special nutrition care. Also for the athletes with different medical complications (such as obesity, hypertension, diabetes) will have special and individualized nutrition plans during an exercise with their dietician who plans accordingly.

10. How has technology such as Apps, AI (Artificial Intelligence) and wearable devices impacted the way athletes monitor and adjust their nutrition in real-time?

Nutrition is needed by so many people and since they need these services at the comfort of their location then technology has provided this already since one does not need to move physically to meet a dietician. Technology also ensures easy tracking of progress and communication as well.

For more information visit these sites;

https://impactnutritionug.com/blog_details.php? Id=20&title-Run_and_Endurance_Sport_Nutrition

https://impactnutritionug.com/blog_details.php? Id30&title=PREVENT_UNINTENTIONAL_WEIGHT_LOSS

This means that we need a system as intelligent as a dietician to provide these services.

11. How then will technology shape the future of a Sports Nutritionist?

Technology is not here to take the nutritionist's job but rather to make his/her work simpler by reducing work overload since you can now deal many clients at ago and also reduce time wastage during the work process.

12. H ow is Sports Nutrition treated in our country?

There is no particular report about sports nutrition in this country so I do nave particular statistics about Sports Nutrition in general. However, I have seen a number of athletes with barely any aid of a Sports Nutritionist. The country has not fully embraced the relevance of Sports Nutrition in sport. There is low level of consultation of nutritionists attributed to the high costs involved so many of us decide to just volunteer to offer nutrition services.

13. Any concluding remarks.

A lot has been mentioned so I just thank you for reaching out and I hope to see our field of nutrition improving for the better.

INTERVIEW WITH AN ALUMNUS.

1. Please introduce yourself to our readers.

Hello there! I'm ELIZABETH KICONCO, a nutritionist whose career journey has taken me through a variety of diverse settings. From hospital corridors in Arua and Jinja to building resilience in vulnerable communities, my work has also expanded into knowledge management, communications, and advocacy on a global scale, including with the UN.

I graduated from Makerere University in 2021 with a BSc in Human Nutrition, and I'm currently part of the African Centre for Clean Air (ACCA) team, working on the SOWU project. Our focus is on collaborating with multiple stakeholders to develop a comprehensive national organic waste management strategy.

2. What was your perspective of nutrition during school?

Oh, those university days! Some people always initially thought nutrition was just about cooking and telling people how to lose or gain weight (spoiler alert: it's so much more!).

During my time at Makerere University, I was fortunate to have a background in nutrition from both 'O' and 'A' levels. In fact, pursuing a BSc. in Human Nutrition was my first choice, so I was genuinely happy about it. The course provided me with a solid foundation in the science behind nutrition, and our course units covered multiple areas. But it was only later, through practical experiences, that I truly appreciated the far-reaching impact nutrition has, not only in health but also in areas like policy-making, food systems, and global challenges such as climate change.

3. Do you appreciate nutrition now as you practice? Why?

Absolutely! As I have moved into the professional world, I've grown to appreciate the role of nutrition beyond just health and diet. Nutrition is deeply linked to sustainable development, community livelihoods, and tackling major global issues. Through my work, I've seen how advocating for nutrition in the right way can lead to real change across countries. As nutritionists, we play a key role in shaping not just healthier individuals, but healthier communities and societies for generations to come.

4. What skills are needed for a successful nutrition career?

Think of it like making your professional smoothie – you need multiple ingredients!

A successful nutritionist needs solid technical knowledge as a base, but one also needs strong communication skills and project management abilities. Because being a Nutritionist is such a people-oriented job, learning how to effectively collaborate with others is extremely important.

While university helped me develop a good technical foundation and practical skills, I really honed these skills through experiences outside the classroom like taking up leadership roles, volunteering, and internships. These hands-on experiences were key in shaping my career and opening up doors to other opportunities. So, as students, embrace your studies, but also, actively seek out experiences that give you real-world, practical skills.

5. What are the latest trends in nutrition science?

There is an increasing global emphasis on building sustainable food systems and how to adapt to and mitigate climate change. Additionally, there is a huge shift to 'How do we engage the youth in these global issues?' Uganda for instance has such a big young population, and all these growing bodies will need sustainable access to diverse, nutrient-rich, and affordable food to grow into healthy, productive adults.

Digital tools are also making a big impact, particularly in nutrition assessment, counseling, and support. This can allow a nutritionist to work with patients overseas for example, and not just within their locality.

Lastly, one of my personal favorites is the integration of Artificial Intelligence (AI), which is transforming not just nutrition but many sectors.

So how does a Nutritionist stay up-to-date with these trends? Engaging in continuous learning is key. Online courses (a quick Google search can point you to many resources) are a great way to start. Learn how to integrate AI tools into your daily tasks and stay informed on global discussions around nutrition. My previous roles exposed me to cross-country knowledge sharing, showing me how much Uganda can learn from other nations' successes and challenges.

To stay connected to these advancements, follow major nutrition organizations on social media, subscribe to their newsletters, and read their reports - this will help you stay in the loop and keep you updated on latest trends.

6. Do you have plans of furthering your studies?

Oh yes! The field of nutrition is evolving so quickly, and I'm very excited to be a part of it. I plan to further my studies focusing on Global Food Systems. We can no longer sacrifice the health of our planet for the sake of our food systems. This area is where I believe we can make a big difference in addressing both environmental and health issues globally.

7. What challenges have you faced?

As a young professional, I had to accept that I couldn't just jump into being an expert right away. Starting out as an intern or volunteer can be challenging, especially with the hectic work schedules and low or no pay yet you are expected to be having 'adult money'. However, these experiences can serve as a springboard to much greater opportunities if you are patient enough. My advice is to shift your perspective; while it might feel disorienting at first, focusing on gaining skills and building valuable networks is very important for your future career.

Furthermore, when you start out, some people may underestimate you because of your age. Don't let that discourage you! As long as you concentrate on expanding your skills and connecting with those who appreciate your potential, everything will eventually fall into place.

8. Any conclusions?

To all of you eyeing a nutrition career: it's not just about being the "food police." There are so many opportunities out there! My advice is to stay open-minded and curious. Make sure to equip yourself with a diverse skill set, keep up with global trends, and actively seek out opportunities that align with your passions. Embrace the journey, and you'll find a fulfilling career in nutrition!

FINAL YEAR PROJECTS TO SOLVE REAL CHALLENGES.

Development of Provitamin A and Fiber Enriched Gluten Free Cookies Using Brewers' Spent Grain and Orange Fleshed Sweet Potatoes **By; Muganga Reagan.**

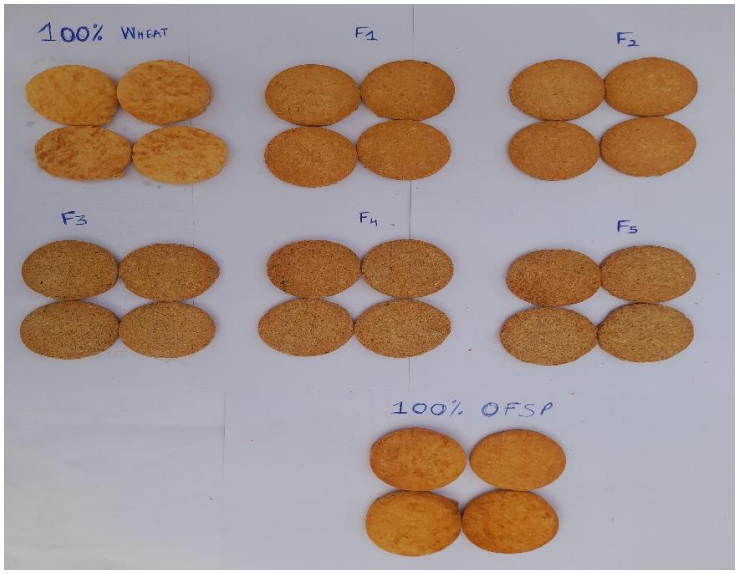
Nutrition related challenges today are multifaceted, with prevalent issues including Vitamin A deficiency, low dietary fiber intake and food allergies to wheat gluten. These challenges have driven innovations such as bio fortification and the formulation of fiber-enhanced food products. This study focuses on developing gluten-free cookies enriched with provitamin A and dietary fiber, while maintaining a low-calorie content. The cookies were formulated using Brewers' spent grain (BSG) and orange-fleshed sweet potatoes (OFSP) in varying ratios: 100:0:0, 0:10:90, 0:20:80, 0:30:70, 0:40:60, 0:50:50, and 0:0:100, respectively while wheat flour (100%) and OFSP flour (100%) served as controls. The proximate composition, energy content, β-carotene content, textural properties, and consumer acceptance of the cookies were evaluated using standard methods.

The moisture content, protein, fat, fiber, ash and carbohydrate ranged from 12.5% to 18.5%, 8.8% to 17.7%, 15.0% to 21.6%, 0.5% to 6.0%, 3.7% to 8.6% and 34.2% to 54.3%, respectively. Energy ranged from 343.2 kcal to 390.9 kcal. Addition of OFSP and BSG did not cause any significant differences ($p<0.05$) in hardness of the cookies. The results showed that inclusion of OFSP flour and BSG increased the protein content, decreased the carbohydrate content, and increased the fiber content as well as the β-carotene content. All the samples with up to 40% substitution of BSG had high scores of acceptability. This study, therefore, demonstrated the viability of producing acceptable nutrient-enriched gluten-free cookies, responding to the growing market demand for health-conscious snack options as well as dietary restrictions.

Formulated cookies

The images of the cookies produced for the respective

Formulations is shown in figure below.



KEY: OFSP=orange fleshed sweet potato, BSG=Brewer's Spent Grain, F1= 90% OFSP: 10% BSG, F2= 80% OFSP: 20% BSG, F3= 70% OFSP: 30% BSG, F4= 60% OFSP: 40% BSG, F5= 50% OFSP: 50% BSG

General Objectives

To enhance the nutritional composition of gluten free cookies through incorporation of Brewers' spent grain and orange fleshed sweet potato.

Specific Objectives

1. To determine the effect of brewers' spent grain (BSG) and orange fleshed sweet potato (OFSP) on the acceptability of cookies.
2. To determine the effect of brewers' spent grain (BSG) and orange fleshed sweet potato (OFSP) on the textural properties of cookies.
3. To determine the nutrient composition of the formulated cookies.

All samples possessed an appealing color, texture, taste, aroma and crispness. Also, all cookies made from brewers' spent grains and orange fleshed sweet potato flour with a maximum incorporation of 20% brewers' spent grains were acceptable to the panelists scoring 6.5. Therefore, cookies with up to 20% and 80% level of brewers' spent grains and orange fleshed sweet potato flour, respectively could be baked with satisfactory performance and acceptance.

Conclusion;

1. Although addition of BSG affected the acceptability, concentrations of up to 20% were acceptable.
2. Increasing the Brewers' Spent Grain (BSG) content up to 40% reduces the texture properties (hardness and crispness) of the cookies.
3. Inclusion of BSG and OFSP in wheat enhances the nutrient content of cookies especially in regards to beta-carotene, fiber, and protein.

Recommendations

The following are recommended:

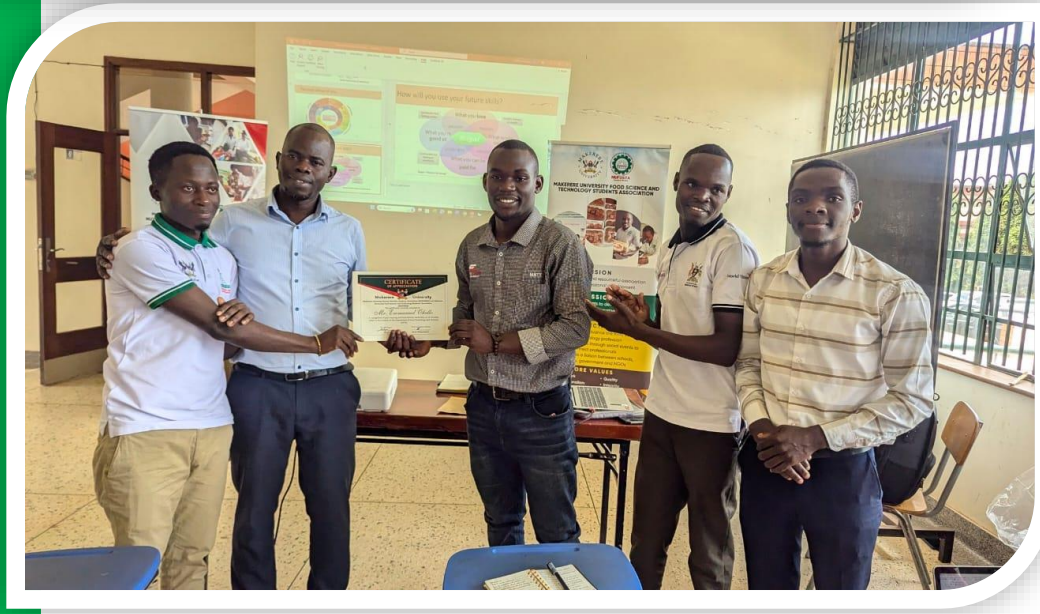
1. Brewers' spent grains (up to 20%) and Orange fleshed sweet potato flour (up to 80%) can be used by food processing industries for production of gluten free nutritious cookie snacks.
2. Shelf stability of the snacks should be investigated.
3. The sandy texture feels of the snacks that develops with increase of brewers' spent grains should be investigated.

LATEST ACTIVITIES

Students participating in the Nutrition Clinic at CAES (College of Agricultural and Environmental Science.

Awarding of our best article writer of the previous issue (Breast feeding and breast related challenges) by Prof. Ivan Muzira Mukisa

Moments during and after the career mentorship session carried out by Ms. Elizabeth Kiconco to the Nutrition students.



Moments during and after a career mentorship session offered to the Nutrition and Food Science and Technology students by Mr. Okello Emmanuel.

The student's quiz at the SFTNB conference hall where students from all courses at the school participated by forming groups. The out-standing groups receiving their rewards.

Students and Dr. Fungo Robert during the Commemoration of the world food day at imperial royal hotel on the 18th of October 2024.

The SFTNB Innovation Challenge were students show cased there wonderful innovations that aimed at solving challenges in the community basing on the knowledge in their respective fields of study. There was rewarding of the best innovations at the end of the activity.

Volume 3, issue 1: 1st Nov. 2024

FUN FACTS.

- Eating Pasta the night before a big game can top off glycogen stores.
- A banana is a great pre-workout snack, rich in potassium.
- Watermelon is 92% water, making it a refreshing hydrator.

MYTHS ABOUT SPORTS NUTRITION.

MYTH: Electrolytes supplements are essential.

REALITY: Whole foods and sports drinks provide sufficient electrolytes.

MYTH: Detox diets aid recovery.

REALITY: No scientific evidence supports detox diets for athletes.

MYTH: Post-workout meals must be provided within one hour.

REALITY: While timely nutrition helps, the anabolic window is wider than one hour.

MYTH: Eating too much protein builds muscle.

REALITY: Excess protein does not translate to muscle growth; proper training and recovery do.

Courtesy of Makerere University Human Nutrition Students Association (MUHUNSA)

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