

CONTROLLED AEROBIC AND ANAEROBIC EXERCISES FOR REGULATING CALORIES IN HUMAN BODY: HEALTH ANALYSIS AND EVALUATION FOR AVERTING HYPO-HYPERGLYCEMIA

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ABSTRACT: This position paper “controlled aerobic and anaerobic exercises for regulating calories in human body: health analysis and evaluation for averting hypo-hyperglycemia” was written to analyze and evaluate the activities that possess propensities to reduce weight and burn calories for health and safety. The literature review strategy was adopted. Issues discussed are: Why human beings eat, what portion to eat, eating fat and catastrophes. calories required, calories used, weight required and weight loss. It was concluded that inability of humans to control eating for fatness inflict sickness on them i.e heart diseases, diabetes, sleep apnoia, cancer and low fertility. It was recommended among others that: Activity based endeavours should be engaged in. House chores (dusting the mounted glassed photographs, washing the car, weeding the flower bed also washing windows, also karate and table tennis can serve as calories reducing activities) also serves as best activities.

Keywords: controlled, aerobic, anaerobic, calories, hypo-hyperglycemia

INTRODUCTION

Beware, metabolism is actually the sum total of all the chemical reaction that occur in your body. Your body takes in foods, burns some to generate power uses some to produce new materials (cells, tissues, organs) and routes the rest into storage (fat) for future use. Natom & Heslin (2019) posited that the chemical reactions that occur breakdown compound into smaller units (the foods you eat are broken down into small unit of energy), or build complex structure from smaller unit (your muscles are made up of fragment that come from the protein food you eat like egg). Consumption of food in excess does not significantly ensure adequate health. Too much food can contribute to excess fatness and indeed lack of healthy body especially if one’s activity level is too low. People in Nigeria consume large amount of food hoping to gain healthy body.

STATEMENT OF THE PROBLEM

Consumption of huge amount of food is significantly ascribed to high status healthy living standard life in Nigeria. Unless the stomach is filled up with tuwo, amala, eba, rice, yam, pounded yam, semovita or whichever native food preferred in Nigeria, feeding habit is not fulfilled. Several servings of fish, eggs, shrimps, snails, meat dog, cow, goat, pigs, sheep, etc. are consumed with impunity as mark of wealth, affluence and importance in Nigerian society. And activities are hardly engaged in to burn off excess glucose and glycogen consumed. Really even in bucketerias, only solid food (amala, iyade ,eba, etc.) are consumed and sometimes soups are discarded . Vegetable soups are not adequately consumed and some heavy feeders hardly drink enough water. Therefore, several vitamins, minerals (inorganic compound) and roughages are missed in diet. Several calories are also stored to exhume excess fatty acid coupled with lack of exercise.

PURPOSE OF THE PAPER

This position paper is written to educate, sensitize and awaken the interest of the seekers of health to obtain some information concerning food consumption, adequate vitamin, roughages and water for health. Furtherstill, health educators, nurses, doctors and practitioners would find healthful knowledge. And that exercise we should understand the aerobic and anaerobic exercise that have parallel value level with formal forms of exercise.

DELIMITATION OF THE PAPER

This paper is delimited to (I) Deception of calories (II) perception of food portion considered taken (tables 1,2,3,4) taken contemporarily. (III) calories required for growth and health. (IV) calories used by the body (V) Guide to real life fitness (VI) Valuable calories tracking.

Food and Nutrients

Perception of food, name of nutrient, function, source of nutrients and deficiencies are the life wire of healthy body. According to Owojaiye & Onidiji (2011) values of food are organized and put into table 1,2,3 and 4 as follows:

Table 1; Carbohydrates, fat soluble vitamins and water-soluble vitamin & roughages
CARBOHYDRATE

NAMES OF NUTRIENT	FUNCTION	PRSENT IN	DEFICIENY
Carbohydrate Glucose	-Provide energy -from fat if eaten in excess and deposited under skin and around vital organs	Cassava, yam, rice, millet, sugar, bread, potatoes, maize, guinea corn, plantain, banana, acha, starch, cellulose, jam, tamba, cereals.	Hypoglycemia Weakness of the body Fainting
FAT SOLUBLE VITAMINS			
Vitamin A (Retinol)	-help proper function of eyes - prevent blindness	cud liver oil, carrot, yellow maize tomatoes	Eye defect, blindness, exophthalmia
Vitamin D (cholecalciterol)	-bone formation -calcium, phosphorus - prevent rickets	Yeast, cheese, milk, egg, yolk, margarine, butter	Rickets, (osteomalacia), Bent legs, malformation of bones

Vitamin E (Tocopherols)	-promote blood clotting	Liver, vegetables, kidney, eggs, cassava	Blood clotting is prolonged
Vitamin K (Naphthoquinones)	-Formation of prothrombin in the liver -controls protein synthesis	Fish, beans, maize, guinea corn.	Blood clotting is prolonged
Roughages	-stimulate the muscle of digestive system for excretion	Vegetables, fruits, whole grains, cereals and wood parts	Difficulty in passing small excretes.

WATER SOLUBLE VITAMINS

Vitamin B1 (Thiamine)	-stimulate appetite -prevent anemia	Milk, Liver, Eggs, Fish, Fresh vegetable,	-fatigue -cracks at the corner of the mouth -skin rashes -soreness of the lips and tongue -loss of appetite -irritability -beriberi due to lack of thiamine -defect of the nervous system and death
Vitamin B2 (Riboflavin)	-oxidizes carbohydrates		
Vitamin B3 (Nicotinic acid)	-hold the gum in the mouth		
Vitamin B6 (Pyridoxine)	-act as a reducing agent in		
Vitamin C (Ascorbic acid)	living tissues -metabolizes the tissues	Citrus fruits, orange, lemons limes, grape fruit & tomatoes.	
Vitamin B12			

Source: Owojaiye, S.O. & Omidiji, J.O. (2011). Drug, Nutrition, Sex & Health planning for school & colleges in Nigeria pp 43-62 Ilorin.

Table 1 above present carbohydrates (glucose), fats soluble vitamins, and water soluble vitamins and roughages.

Vitamin A which is retinol helps proper functioning of the eye and prevents blindness. Furthermore, vitamin E (Tocopherol) promotes blood clotting. Both vitamin A and E can be obtained from cod liver oil, carrots, yellow maize and tomatoes. Also, liver, vegetables, kidney, egg and cassava. The deficiency of vitamin A and vitamin E are as follows, eye defect, blindness, blood clotting is prolonged

Table 2: Clinical finding of Vitamins

S/No	Clinical finding	Deficiency of associated disorder
1.	Eyes dull, dry xerosis, corneal, xerosis conjunctivitis	Vitamin A exophthalmia Vitamin A
2.	Face: moon face Nasolabiodysebacea	Protein-kuashiokor Riboflavin Arboflavinosi
3.	Lip and oral structures: angular fissures scars or stomatic bleeding, gum swollen, spongy	Riboflavin (B-complex) arboflavinosis acid-secrvy

4.	Tongue magenta, tongue glosistics pale teeth, dental carried, decay	Riboflavin, Pyridoxine folacin iron, Vitamin B ₁₂ Nicotinc acid fluorine, security Excess fluoride fluorosis
5.	Gland (neck) parotid enlargement and hyoid enlargement	Protein-PEM starvation alcoholishmlodine goiter
6.	Nauskoilonychinas bone & joints Epicalica (thickeing) & bone pain	Iron chromium (spoon) shaped nail vitamin D-Rcketscavit D, P and vit C osteomlacia
7.	Muscle, extremities wasting edema	Protein- energy Thiamin-kwarshorkor sodium chloride
8.	Neurolkjogiphthamolegia disorientation mental disorder convulsions	Thiamin-wernike'sencephalothy thiamin, sodium vit 12, water. Niacin, mg vit 12 phydrinxine.
9.	General diarrhea delayed wound healing and tissues repair, anemia, pallor anorexia fatigue, lassitude apart growth retardationconsutipation glucose intolerance	Niacin folacin,vit B12 vit C zn protein, energy iron. Iron vit, B12 folacin, copper vit. B12, vit. C Thiamin Enbergery, iron vuit C protein energy, iron vit C protein energy, mg, zn, ca, vit. D thiamin chromium

Table 2: shows clinical finding of vitamins. Bleeding gum, tooth decay and dental caries are rilao flavin (vitamin B complex) deficiency. While dullness of the eyes is associated with vitamin A deficiency. Nutrients proper digestion however is dependent on adequate consumption of water. Types of water, source and comprehensive value are organized and put in a table as follows:

Table 3: Water Types, Sources and Uses

S/No	TYPES OF WATER	SOURCES	USES
1.	Soft and safe water	Tap water, spring water	for drinking
2.	Soft and hard water	Well water (cued be purified through distillation, filtration, building chemicalization).	for cooking. for diluting drugs. for washing.
3.	Natural water	Rain water. Its safety denenalsion method of collection.	for manufacturing drinks & medicine.
4.	Pond water	Stagnant, may not be safe for drinking unless treated.	as cooking agents during food cooking during swallowing.
5.	River water	Flowing, may not be safe for drinking unless treated.	for feeding animals. for wetting flower
6.	Seas and ocean water	Occupy large expanse of land. May be safety, not safe for drinking unless treated.	
7.	Stream H ₂ O pond like water	May or not flow. May not be safe for drinking unless treated.	
8.	Oasis water	Found in the sahara desert. May not be safe for drinking unless treated.	

Table 3 above shows essential nutrient that human beings require apart from air we breath is water. As observed by Owojaiye & Omidiji (2011), (1) humans can get along for days without food but only a few days without water. Three quarter of components of organisms and individual cell in man contains approximately water. In-fact 80% of the human body is water; secondly, water acts as a solvent and nutrient are dissolved in it so that such nutrients may pass through the blood stream for use throughout the body. Also, water carried waste out of the body and also helps to regulate the body temperature.

Table 4: Mineral salt required by the body

Compounds require by the body, if not adequate can significantly xlefer heartly body and healthy body

NAME	FUNCTION	PRESENT IN	DEFICIENCY
CALCIUM	Hardening of bones and teeth -Coagulation of blood -Essential durin muscles contraction	Milk, Cheese, Meat, Green Vegetable, Egg	-Rickets -Retarded growth poor development of teeth and bones
PHOSPHORUS	-Protein synthesis -Helps to maintain constant composition of blood fluid. -For cell activities -Strengthens bones and teeth	Milk, meat, eggs, cheese, lean meat, fish, crysters, crabs, cray fish (sea food)	Poor development of bones and teeth. -Retarded growth
SODIUM	-Associated with muscle construction -Transmission of nerve impulse in nerve fibres -Maintenance of electrolyte balance in the body ie. control of proper osmotic pressure in the body fluid	Fish, Meat, Eggs, Milk and Table Salt (Sodium chloride NaCl)	Edema
POTASSIUM	Useful for -Formation of soft tissues in the body -Transmission of nerve impulse contraction muscles cell metabolism	Milk, Fruits and vegetables	Paralysis -Cardiac disturbance
IRON	Formation of Hemoglobin in the red blood cells. -Necessary for tissue oxidation	Liver, Vegetables, Kidneys, Eggs, Cassava, Fish, Bean and Grains	Anaemia, lack of Heamoglobin in the red blood cells.
IODINE	Essential for proper functioning of the thyroid glands in the formulation and hormones protherotine	Sea fish, Fresh or dried sea food, common salt, water plants.	Goitre (Swelling of neck region cretinism Stunted growth)
COPPER	Essential in the utilization of iron to form haemoglobin	Liver, Nuts, cereals, dried fruit, fish, animal tissue, vegetables.	Anaemia (Lack of Haemoglobin in the red blood cells.)
MAGNESSIUM	Formation of bones and teeth -Essential for nerve conduction	Greenleaf, vegetable, sea foods	Neuromuscular irritability
FLUORIDE	For bones and teeth formation	Tea, coffee, fluoride water	Dental carries osteoporosis
COBALT	For maturation of red blood cells	Green leafy vegetable	Anaemia children
ZINC	Essential for enzymes component	Most vegetables	Dwarfism

Table 4 above presents inorganic compounds required for growth, and health. Dental carries and osteoporosis cumulate due to deficiencies in chlorine derived from tea, coffee and fluoride water. While rickets, poor development of teeth and bones are due to lack of calcium derivable from milk, cheese, meat, green vegetables and eggs. Consumption of carbohydrates, vitamins, inorganic compounds are precursors

of healthy mind in the healthy body. However, the ability to consume these nutrients are a mirage for human; so much so that some become infected with certain ailments and become too fat when lack of appropriate activities (exercises) prevails.

Perception of Calories

According to Natow & Heslin (2019) the human drive to eat is for survival. But that eating may become problematic if one's habit is to consume food each time one passes the refrigerator. Furthermore, Natow and Heslin (2019) and Owojaiye & Omidiji (2011) averred that: (i) Calories are calories, whether from apple or chocolate, bread, beans, puff-puff or any snacks. (ii) When the amount of food (fuel) consumed is equal to the amount of food required to maintain the body, the weight remains constant. (iii) Consumption of too many calories results into storage of fatty acid in the thighs, hips and waist. (iv) Consumption of too few calories results into the storage of fat been depleted, therefore the thighs, hips and waist get slimmer. This is because the surplus calories had been depleted. (v) Cut on calories and the weight is lost. (vi) Calories produce many calories even from healthy foods. (vii) Calories come from bread, meat or salad dressing. (viii) weight control is equal to burning as much calories per food consumption. (ix) To burn calories effectively however, knowledge of amount of calories required and how much calories to burn per activity is demanded to balance the two, then the food index must be perceived. An average woman eats 1,850 calories a day; while a man eats 2,550 calories. How can the food portion be decoded?

Perception of calories portion.

When intake of food, whether protein, fat or carbohydrates exceeds the caloric value, the expenditures as work and heat, the excess will be stored in the body tissue (Adams, 1991). Also Fox & Mathews (1991) asserted that overweight creates health hazards like Cardio vascular diseases, muscular-skeletal, diabetes mellitus, gallbladder and renal diseases especially in a weight bearing joint and stroke. Stroke is an interference with blood circulation of the arteries that can result in death of brain cells for lack of continuous supply of oxygen rich blood. Natow & Heslin (2019) posited that "smaller portion = a smaller You". (ii) Only a slice of bread is recognized as adequate portion in the past years. (iii) There is preference for larger size of food contemporarily. (iv) Humans have recently preferred 4 times the size of foods consumed 20 years ago and. (v) These are reasons for heavy weight, and therefore extra calories. (vi) When fruits, and vegetables are consumed in a large portion that are just good-for-You nutrients. (vii) Therefore, when you take snacks, bags of chips, ice-cream, peanuts, yogurt, cookies, you may be overindulging the body in calories control

Furthermore, Natow & Heslin (2019) presents portion size analysis for human perception of calories; and the size of nutrients to consume; as presented in figure I as follows:

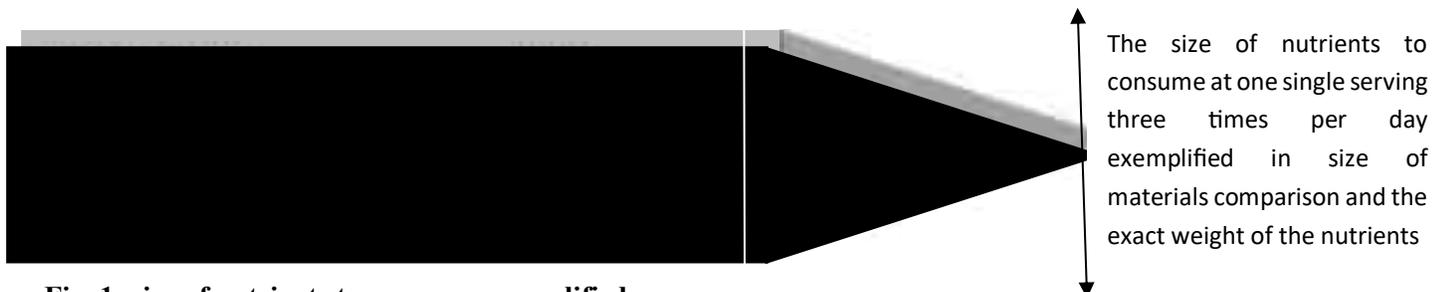


Fig. 1: size of nutrients to consume exemplified.

Source: Natow A.B and Heslin J.A (2019) i.e. calories counter; Pockets Books: London

Mathematically therefore: 1. First- What is the weight required?

- What is your current weight?
2. What is the target weight?

Select an activity factor that fits your current activity level:

1. Your target weight is _____
2. Your activity factor is _____

20 = Very active men

15 = Moderately active men/ Very active women

13 = Inactive men, moderately active women and people over 55 years old

10 = Inactive women, repeat dieters and seriously overweight people.

3. Target weight x activity factor = calories required each day

- A. If your target weight is 130 pounds and you are a moderately active woman (Factor 13) you need about 1,600-1,700 calories a day.

$$= 130 \text{ pounds} \times 13 = 1,690 \text{ calories}$$

$$= (\text{Target weight} \times \text{activity factor } 13)$$

- B. If your target weight is 130 pounds and you are a very active man (Factor 20) You need about 2,600 calories a day.

$$= 130 \text{ pounds} \times 20 = 2,600 \text{ calories}$$

$$= (\text{Target weight} \times \text{activity factor } 20)$$

- C. If your target weight is 130 pounds and you are a moderately active man or very active woman (Factor 15) you need about 1,950 calories.

$$= 130 \text{ pounds} \times 15 = 1,950 \text{ calories}$$

$$= (\text{Target weight} \times \text{activity factor } 15)$$

- D. If your target weight is 130 pounds and you are inactive woman, repeat dieters and seriously overweight person. You need 1,300 calories.

$$= 130 \times 10 = 1,300 \text{ calories}$$

$$= (\text{Target weight} \times \text{activity factor } 10)$$

Consumption of amount of calories each day guarantees weight loss. Only enough calories that support this target weight not heavier current weight. This amount of calories should be coupled with exercise to engineer faster weight loss.

Figure 1 above elucidates on the size of materials with which to compare the calories used by the body at a serving three times per day. Computer mouse weighs 4-ounce, tennis ball, ping-pong ball =2 ounce and the size of the thumbnail should be enough butter to use. However, excess of these materials is preferred by humans which make them oversize and overweight; because excess calories had been consumed. But what is the exact calories required by the body?

Calories required for growth and health

Observation of Natow & Heslin (2019) proffered that (a) excess calories intake and less exercise results into consequential overweight; that is erroneously blamed on metabolism (see Fig 2.) while metabolism is equal to sum total of all the nutrients (chemical reactions) that take place in the body. (c) Human body ingest food nutrients, digest it to evoke power (energy), utilize some to generate fresh cells (new materials), then divert the unused (excess) into power bank (fat) for future use. The human mechanism is programmed to metabolize whatever food nutrients is injected at anytime. It behaves on moderated consumption ability complied with adequate exercise (activity) to control the weight.

NOTE:

- I. The muscles are made up of fragments that come from protein foods like eggs.
- II. The energy used by the body is to keep it alive and moving
- III. This energy requirement can be translated into calories required each day.
- IV. Energy is required to keep the body's temperature, allowing the nerves to work, make breathing possible, keep the heart beating, allow organs to function.
- V. Also nourish the body tissues, repair and replace body fluids and parts.

↓ **AMAZINGLY**

- Fat tissues is less active, requires less energy.
- Muscle tissue even at rest is more active uses more energy

↕ 50

When exercise is performed, and developed more muscles tissues, more calories are burnt everyday; thereby taking the Muscles healthy. The rest of the calories the body needs each day are used to support the level of activity.

Fig 2: Metabolism processes in humans.

Source: Natow A.B and Heslin, J.A the calorie counter pocket books London.

In figure 2 above, it becomes imperative that inactive body requires fewer calories while active body require more calories.

The Calories you Use

Activity burns calories, and activity build muscles, which burn calories 70 time faster than fat. For someone who has been relatively inactive, using up as little as 500 extra calories a week through activity will have health benefit. If you are true couch potato, this may be the level at which to start. Real weight loss and fitness benefit start to kick in when you use up 1,000 calories a week. Consider 2,000 calories has a great goal to strive for over time.

Everything you do counts: planned activities, as well as real- life fitness – walking, gardening, golf, tennis, even house-work. The more activity you do, the more calories we burn. And the really good news is that research has showed you benefit from exercise whether the activities is continuous or done in small bits, been activity for as little as 10 minutes at a time not only burns calories but as a positive impact on your health. The key is to move every day.

Real life fitness

- Pace while you're talking on the phone
- Deliver memos and messages in person rather than email or phone
- Go window shopping
- Clean your house – washing floor, vacuuming carpets, washing windows, and scrubbing bathroom equal vigorous exercises.
- Garden – weeding , hoeing. Cutting lawn, raking or trimming bushes burn as many calories as playing a game of tennis
- Turn your launch break into an exercise excursion
- Carry a basket when shopping for a few items-it's like a free weight that keeps getting heavier and heavier, switch arms for a maximum workout
- Sign up for a charity walk, bike, or run
- Turn on the T.V one night a week and plan something active
- Make exercise a hobby- take golf, tennis or skating lessons
- Park your car at the farthest end of the parking lot
- Take the stairs- you burn 10 calories for every flight you climb; over a life time that uses up thousands of calories
- Dance- salsa, polka, tango- square dancers can cover 5 miles in an evening
- Grocery shop- one hour of pushing, lifting, and bending in the supermarket use as many calories as a half hour on a treadmill
- Spend rainy weekend afternoon walking around a museum; when the sun shines, go to the zoo
- Wash the car
- Go bowling instead of to the movies
- Walk the dog
- Push the baby in carriage or take the kids to the playing ground
- Be an active spectator-walk the circumference of the soccer field while the kids are playing
- Play games as a family- badminton, volleyball, stickball, croquet

Fig.4 Real Life Fitness

Source: Natow A.B and Heslin, J.A the calorie counter pocket books London.

Daily activity will help you reach your target weight faster. Depending on your current level of activity, aim to use up 500 to 1,000 calories a week. Your ultimate is to double this amount as you become more fit. On the chart “Using up calories,” “page 12, find the activity you’ve done and the weight column closest to your current weight. Multiply the calories burned in one minute by the number of minutes you were active.

For example, if you weighed 150 and weeded your flower bed for 15 minutes, you used up 890 calories. *Gardening (weeding)*

$$5.9 \text{ (calories burned in 1 minutes)} \times 15 \text{ minutes} = 88.5 \text{ calories}$$

If your activity goal for the week is to burn 500 calories, you’ve already burned 89 with one simple chore. Keep track of the calories you burn each day, and total the amount you burn in a week.

		USING UP CALORIES					
POUNDS		100	125	150	175	200	
ACTIVITY		CALORIES USED PER MINUTE					
	Auto repair		2.8	3.5	4.2	4.8	5.5
	Badminton		3.6	4.6	5.4	6.4	7.3
	Basketball		4.9	6.2	9.9	11.5	13.2
	Bicycling						
↑	5 mph		1.9	2.4	2.9	3.4	3.9
↓	10 mph	4.2	5.3	6.4	7.4	8.5	
	Canoeing, 4mph		4.4	5.5	6.7	7.8	8.9
	Carpentry		2.6	3.2	3.8	4.6	5.3
	Dancing						
↑	Moderate (waltz)		3.1	4.0	4.8	5.6	6.4
	Active (square, disco)		4.5	5.6	6.8	7.9	9.1
↓	Aerobic dance		6.0	7.6	9.1	10.8	12.1
	Fishing	2.8	3.5	4.2	4.9	5.6	
	Football, touch	5.5	6.9	8.3	9.7	11.1	
	Gardening						
↑	Lawn moving, manual	3.0	3.8	4.6	5.2	5.9	
	Lawn moving, power		2.7	3.4	4.1	4.7	5.4
↓	Light gardening	2.4	3.0	3.6	4.2	4.8	
	Weeding		3.9	4.9	5.9	6.8	7.8
	Golf						
↑	Twosome (carry clubs)	3.6	4.6	5.4	6.4	7.3	
↓	Foursome (carry clubs)	2.7	3.4	4.1	4.5	5.4	
	Gymnastics		3.0	3.8	4.5	5.3	6.0
	Handball		6.5	6.2	9.9	11.5	13.2
	Hockey, field		5.0	7.6	9.1	10.8	12.1
	Horseback riding						
↑	Walk		1.9	2.4	2.9	3.4	3.9
	Trot		2.7	3.4	4.1	4.8	5.4
↓	Gallop		5.7	7.2	8.7	10.1	11.6
	House painting	2.3	2.9	3.5	4.0	4.6	
	House work						

↑ ↓	Dusting	1.8	2.3	2.6	3.1	3.5	
	Making beds		2.6	3.2	3.8	4.6	5.3
	Washing floors	3.0	3.8	4.6	5.3	6.1	
	Washing windows		2.8	3.5	4.2	4.8	5.5
Judo		8.5	10.6	12.8	14.9	17.1	
Karate		8.5	10.6	12.8	14.9	17.1	
Motorcycling		2.4	3.0	3.6	4.2	4.8	
Mountain climbing		6.5	8.2	9.8	11.5	13.1	

		USING UP CALORIES				
POUNDS		100	125	150	175	200
ACTIVITY		CALORIES USED PER MINUTE				
Running, steady rate						
↑ ↓	5mph	6.0	7.6	9.1	10.8	12.2
	7mph	9.7	12.1	14.6	17.1	19.5
Squash		6.7	8.4	10.1	11.8	13.5
Swimming						
↑ ↓	Backstroke	2.5	3.1	3.8	4.4	5.1
	Breaststroke	3.1	4.0	4.8	5.6	6.4
	Front crawl	4.0	5.0	6.0	7.0	8.0
Table tennis		3.4	4.3	5.2	6.3	7.2
Tennis						
↑ ↓	Singles	5.0	6.2	7.5	6.8	10.0
	Doubles		3.4	4.3	5.2	6.1
Typing		1.5	1.9	2.3	2.7	3.1
Volleyball		2.9	3.6	4.4	5.1	5.9
Walking						
↑ ↓	2mph	2.1	2.6	3.2	3.7	4.3
	4 mph	4.2	5.3	6.4	7.4	8.5
Weight Training						
↑ ↓	Free weight	23.9	4.9	5.9	6.8	7.8
	Nautilus	4.2	5.3	6.3	7.4	8.4
	Universal	5.3	6.6	8.0	9.3	10.6

CONCLUSIONS AND RECOMENDATIONS

Based on the forgoing, it could be concluded and recommended as follows:

- i. For food consumption follow the recommendation in fig. 1 above getting all bolus like Eba, Amala, Fufu, Tuwo, pounded yam, meat like beef, and fish to be in the size of a computer mouse and fruit like apple, mango and cashew to be in the size of tennis ball, and the salad dressing to be in the size of ping-pong ball and for butter or margarine to be in the size of thumb nail.

- ii. All this food measurement can be taken 3 times per day.
- iii. It was recommended among others that: Activity based endeavors should be engaged in. House chores (dusting the mounted glassed photographs, washing, the car, weeding the flower bed also washing windows, karate and table tennis can serve as calories reducing activities) also serves as best activities.

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