**Maintaining Adequate Nutrition in a Depressed Economy: The Nigerian Outlook**

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**ABSTRACT**

The current global food crisis and economic downturn, is confronting the poor with challenges of food security and nutrition globally. Volatile food prices continue and wages for unskilled labour are unable to keep pace. The resultant financial crisis has increased the rate of unemployment and decreased the financial ability of poor people to buy goods as they now feel the unpleasant effects of a globalized economy. The crisis has reduced the accessible funds needed for the social protection of the most vulnerable people from malnourishment. Literature has recognized that poor people in developing countries spend more than half of their earnings on food with little or nothing for health. With limited income, circumscribed budgets, and less food intake, poor households reduce their calorie intake. This means developing country consumers shift to even less-balanced diets with micronutrient deficiencies.The paper is to explore health promotion and disease prevention strategies that the nurse can use to maintain adequate nutrition in a depressed economy. The thrust of this paper is the social advocacy role of the nurse. Nurses as ombudsmen must rise to the challenge and use their professional skills and nursing knowledge to provide nutrition information to the various age groups on how good nutrition can prevent diseases and impaired cognitive development.

**Keywords:** Economy, Depressed Economy, Nutrition, Health Promotion, Disease prevention.

**Introduction and background**

The current global food crisis and economic downturn, is confronting the poor with challenges of food security and nutrition as wages for unskilled labour are unable to keep pace with volatile food prices. The increased rate of unemployment has decreased the financial ability of poor people to buy food as they now feel the unpleasant effects of a globalized depressed economy and its resultant financial crisis.1 The crisis has reduced the accessible funds needed for the social protection of the most vulnerable people from malnourishment. Additionally, Braun2 recognised that poor people in developing countries spend more than half of their earnings on food with little or nothing for health. With limited income, circumscribed budgets, and less food intake, poor households reduce their calorie intake. This means developing country consumers shift to even less-balanced diets with micronutrient deficiencies. All these are signs of a depressed economy.

A depressed economy (economic meltdown) courtesy of President Barack Obama of the USA, is an economy that is sluggish in growth or one which is characterized by a high-interest rate, increased foreign debt, high exchange rate, high unemployment rate, a widening merchandised trade deficit and growing internal debt 3. As stated in Sustainable Development Goal 1 (SGD 1) (‘to end poverty in all its forms everywhere’), poverty harms people’s lives, alters social inclusion, cohesion, and well-being and the risk of poverty could be handed down from one generation to the next. European Commission4 and Ogbonna5 observed in a BBC broadcast in Lagos on the 27th of February that Nigeria is currently experiencing its worst economic crisis in a generation, leading to widespread hardship and anger. This can lead to inadequate nutrition for the people concerned.6 According to Mrozek *et al*7 and Polen8 poor nutrition contributes to the development of depressive disorders.

According to Adeyemi,9 a depressed economy as can be seen in Nigeria, can lead to civil unrest, youth restiveness, riots, and war. Nutrition on the other hand is a process of getting or giving the right type of food for good health.10 The question is, can good nutrition be maintained in a depressed economy when the sources of animal protein are out of reach of the common man, when most people’s take-home pay cannot take them home and most families cannot afford one decent meal? Children are seen scavenging the dustbins looking for food. The contention here as stated by Adeyemi9 is that good nutrition will be difficult to achieve in a depressed economy. Therefore, nurses as ombudsmen must rise to the challenge and use their professional skills and nursing knowledge to save their fellow human beings.

The goal of this paper is to explore health promotion and disease prevention strategies that the nurse can use to maintain adequate nutrition in a depressed economy. The premise is that maintaining adequate nutrition in a depressed economy should be established on three fundamentals – **Food Consumed, Available Health Care Services and Basic Environmental Sanitation**

**Conceptual Framework**

An ecological model is used. Maintenance of nutrition is an extremely complex phenomenon that has its roots in the interaction of many factors, biological, social, cultural, economic, and political. The major advantage of the model is that it helps to distinguish between the myriad of influences on nutrition while at the same time providing a framework for understanding how they interact.

societal

Community

Relationship

Individual

**An ecological model (Source: Kennedy *et al*.11)**

The model is composed of four levels. The overlapping illustrates how factors at each level are strengthened or modified by factors of another. The first level identifies biological and personal factors that can influence the nutritional status of an individual. These include their income and wealth, educational level and knowledge on health issues, and their use of health services.

The second level deals with determinants of the nutritional status that arise from inter-individual relationships. This refers to factors that affect the nutritional status that is peculiar to the individual’s position in society concerning those around him.

The third level explores the community context in which social relationship occurs, such as schools, workplaces and neighborhoods. This level also seeks to identify the characteristics of these settings that affect the nutritional status.

The fourth level looks at the broad societal factors that create malnutrition. These include political and environmental factors. Social and cultural norms are not left out either. Examples of such factors would include the structure of the health system, norms that entrench male dominance over women and children, and those that support political conflict. Larger societal factors would include economic, educational and social policies that help to maintain economy and inequality. Underpinning the ecological approach is the general theory in which levels one to four are treated as systems with semi-permeable boundaries that permit the process of adaptation to other systems and environments.

Health and economic prosperity go hand in hand. In micro and macro data, there is abundant evidence that there is a link between nutrition and productivity (economic prosperity).12 In literature, this causal linkage has 2 pathways. The first holds that the higher-income individual invests more as income grows with the individual investing in the better diet, sanitation, and better health care. The second pathway holds that healthier workers are less susceptible to diseases, more alert, and more energetic, hence the tendency to be more productive and earn more. These pathways as can be seen run in both directions. These economic pathways assume that the economy is buoyant. However, the question asked by Jung13 is, what happens in a depressed economy as we have in Nigeria, where there is an economic meltdown, mass unemployment and a high rate of redundancy? In this context, rather than resigning to fate, alternative measures must be taken. There is a dearth of national surveys providing data for the analysis of the relationship between good nutrition and the economy.14 Though there have been several individualized institutional efforts and attempt at generating the database on nutrition/economy for Nigeria, these efforts are hampered by inadequate funds to implement large-scale surveys. Professor Atinome of the Federation of African Nutrition Societies15 opined that the nutritional situation in Nigeria is a silent emergency. The premise is that the poor nutritional situation in the country does not attract the much attention it commands when compared with national disasters like fire, flood, or plane crashes.

**Factors affecting the nutritional status of the various age groups.**

1. Developmental factors e.g. infancy (these nutritious foods for growth and development), (aged do not need much food as they have stopped growing)
2. Gender (males tend to eat more; the father has the best meal in the family)
3. Ethnicity and culture- not giving eggs to children.
4. Beliefs about food - snails are avoided by some people.
5. Personal preferences e.g. vegetarians
6. Religious practices - Muslims do not eat pork.
7. Medication and therapy
8. Heath status
9. Educational status – educated individuals tend to eat good food and have access to the health facility
10. Lifestyles – high consumption of fast food,
11. Advertisement
12. Psychological factors – depressed people tend to eat less

**How the nurse can maintain adequate nutrition**

These are professional nursing activities that are demonstrated by the nurse through the nursing process. These involve assessment, diagnosis, outcome identification, implementation, and evaluation. The nursing process is the foundation of clinical decision-making and encompasses all significant actions taken by nurses in providing care to all consumers.

**Assessment**

The assessment requires linguistically and culturally effective communication skills, interviewing, behavioural observation, database record review, and a comprehensive holistic assessment of the consumer and relevant systems. This enables the nurse to make sound clinical judgments and plan appropriate interventions to reduce the morbidity and mortality associated with malnutrition. The data collection is determined by the consumer’s immediate health and nutritional status or need. Assessment data are to be shared with the interdisciplinary team to reduce duplication.

The data may include:

History of health patterns and health problems; family, social, cultural, and community systems; daily activities, functional health status, substance use, health habits, and social roles, including work and sexual function; spiritual or philosophical beliefs and values; economic, political, legal and environmental factors affecting health; health beliefs and practices.

The assessment can be done in two ways.

1. **Direct clinical assessment/physical examination**

This examines the clinical changes which can be seen or felt in an individual to show whether the person is nutritionally healthy, over-nourished as in obesity, or undernourished as in Marasmus and Kwashiorkor. Data can be elicited from:

1. **physical examination**

Hair; lack of luster, straight, thin, dry, bristle

Face; diffuse, pigmented, moon face

Eyes; pale conjunctiva, dryness, blindness, sclera pigmentation

Lips; angular stomatitis

Teeth; mottled, enamel, dental caries, spongy gum, bleeding

Skin; dermatosis, petechiae, dry flaky, scaly, lack of subcutaneous fat

G.I.T; anorexia, indigestion, diarrhea, constipation

C.N.S; psychomotor changes, decreased flexes tingling of hands and feet

C V S; Tachycardia

1. **Biochemical method:** This gives objective data and it includes, blood test e.g. PCV, HB, and albumin in a urine test for sugar
2. **Anthropometry**: This is the use of a simple measuring device. The parameters include;

Weight- Infant birth weight is doubled at 6 months and tripled at 1 year

 Adult weight is 70kg

Height- toddler 1-2 years is 10-12 cm

 Adult 1.68 meters

Mid-arm circumference: This is an index of infant welfare; it measures fat muscles and skeleton. Skin fold calipers are used

Adult –male-32cm

 female28cm

Children 11cm at birth

 16cm at 1 year

 17cm at 5-year

If the observed levels are below these normal levels then the individual is malnourished.

1. **Indirect clinical assessment**

This includes a dietary survey by food recalls, food records, weighted intake, and diet history

**Nursing Diagnosis/Problem Identification**

The nurse analyzes the assessment data to determine diagnoses/problem identification. The basis for providing nursing care is the recognition and identification of patterns of response to actual or potential nutritional problems.

Diagnoses and risk factors are validated and prioritized with the consumer, significant others, and other health care providers when appropriate and possible. Diagnoses identify actual or potential health problems on:

* self-care limitations or impaired functioning related to nutrition.
* deficits in the functioning of significant biological, emotional, and cognitive systems; (Mongol child)
* physical systems that occur along with altered psychological functioning, addiction, or developmental delay related to nutrition, smoking, and obesity.
* interpersonal, systemic socio/ethnic/cultural, spiritual, or environmental circumstances or events which affect the nutritional status of the consumer (a child staying with a grandma with little income is susceptible to malnutrition).

Nursing diagnoses and clinical impressions are documented in a manner that facilitates the identification of consumer outcomes and their use in the plan of care.

**Outcome Identification**

The nurse identifies expected outcomes individualized to the consumer and related to the treatment setting. Within the context of providing nursing care, the goal is to influence health outcomes and maximize functional status, state of well-being, and quality of life.

Expected outcomes are:

* Derived from the nursing diagnoses and/or problem statements identified.
* Consumer-oriented, therapeutically sound, realistic e.g. in the treatment of a child with marasmus the health status of the child, the income and educational level of the parent must be considered,
* Attainable in relation to resources available and cost-effectiveness.
* Documented as measurable goals.

**Planning**

The nurse develops a plan of care that prescribes interventions to attain expected outcomes. The plan must include how to achieve stated treatment goals.

The plan is individualized and tailored to the consumer’s health problems, condition, or psychotherapeutic and physiological needs. The plan is developed in collaboration with the consumer, significant others, and interdisciplinary team members, as appropriate. The plan is documented in a manner that allows access by team members and modification of the plan as necessary.

**Implementation**

The nurse implements the interventions identified in the plan of care relative to the treatment setting.

In implementing the plan of care, nurses use a wide range of interventions designed to prevent mental and physical health problems and promote, maintain, and restore mental and physical health.

* Interventions are selected based on the needs and/or desires of the consumer and accepted practice.
* Interventions are adapted to changing consumer needs and situations, using sound knowledge and principles in the decision-making process.
* Progress or lack of progress toward identified goals is periodically documented with appropriate revision of goals.

**Intervention-Therapeutic use of self**

The nurse uses the therapeutic self to establish a relationship with consumers and to structure nursing interventions to help consumers develop the awareness, coping skills, and behaviour changes that promote adequate nutrition and health. Therefore, the nurse can serve as a role model and provide the consumer with opportunities to learn the principles of wellness and health promotion.

**Intervention-Counseling**

Counseling reinforces healthy behaviour and interaction patterns and helps the consumer modify or discontinue unhealthy ones. Confidentiality inherent in the counseling role is maintained. Counseling also promotes the consumer’s personal and social integration.The nurse uses counseling interventions to assist the consumer to improve or regain previous coping abilities, fostering adequate nutrition and health.

* Advising how to buy nutritious food with the little money available, bulk purchasing.
* Setting priorities, conflict resolution, behaviour modification,
* Referral sources and available community support systems are brought to her knowledge.

**Psychobiological Interventions**

This becomes necessary when the consumer needs nutritional supplements such as iron and vitamin supplements. The nurse uses knowledge of psychobiological interventions and applies clinical skills to restore the consumer’s nutritional health. The premise is that psychobiological interventions provide the foundation for the treatment regimen. Nurses are in an excellent position to support the use of such interventions.

* Current knowledge of psychopharmacology and other psychobiological therapies are used to guide nursing actions (the use of iron supplements, iv, total nutrition).
* The intended actions, and side effects, including medicine-food interactions and therapeutic doses of psychopharmacological agents are monitored.
* The consumer’s responses to therapies serve as indications of treatment effectiveness and are monitored and documented on an ongoing basis.

**Intervention - Health Promotion and Health Maintenance**

A major construct within the nursing paradigm is health promotion and prevention. The nurse employs strategies and interventions to promote and maintain health and prevent health problems.Health promotion and disease prevention strategies are based on knowledge of health beliefs, practices, and epidemiological principles, along with the social, ethnic, cultural, and political issues that affect health in an identified community. These interventions are to identify consumers that are at risk” for health problems. These include those with obesity, kwashiorkor, marasmus, anorexia nervosa, etc. Community resources are identified to assist consumers in using prevention and health care services appropriately.[14]

**Intervention - Health Teaching**

* Health teaching is based on principles of learning. The nurse, through health teaching, assists consumers in achieving satisfying, productive, and healthy patterns of living
* Health teaching must include health promotion activities such as encouraging breastfeeding, the need to give children a balanced diet, avoiding smoking, and alcohol consumption, regular exercises, healthy eating and lifestyle, cultivation of small backyard gardening where possible
* Health teaching methods utilized must be appropriate to the consumer’s age, developmental level, gender, social/cultural/ ethnic influences, and education.
* Constructive feedback and positive rewards reinforce learning.

Erik Erickson's 8 psychosocial developmental stages are used below as a platform for health teaching across all ages.16

**Infancy (birth-one year)**

**E**ducate the mother on the following: The importance of breastfeeding, proper positioning of breast, appropriate weaning techniques, proper care of feeding utensils when using feed formulas, the importance of a healthy balanced diet to her baby especially during the lactation period, the importance of personal hygiene, care of the breast, the introduction of food supplement as from 6 months and ensuring that substitutes are adequate where necessary to prevent nutritional deficiencies.

**Toddler (1-3years)**

The nurse should emphasize the need for adequate intake of vitamins, especially C and A, and minerals including iron and calcium which are necessary for the prevention of nutritional deficiencies, Suggest to the parents that mealtime should be made pleasant with varieties of simple attractive food, Advise to avoid using food as a punishment or reward, Schedule meals, sleep and snacks time that will allow for optimum appetite and behaviour. Avoid routine use of sweets; Mealtime should be short because of the short attention span

**Pre-school (3-5 years)**

The nurse should educate the parents on

-the nutritional needs of the pre-scholar to maintain his nutritional health status. This age group likes plain food and not too much-spiced food

-that the children should not be coerced or bribed to eat

-they should not be allowed to nibble over food

-meals should be served in a comfortable environment

**School-age (6-12 years)**

The nurse should counsel and teach parents or guardians to review the child’s eating habits including snacks:

* Parents should be role models in eating habits e.g. eating a balanced diet
* Be aware of dietary problems stemming from the child’s independence in food choices e.g. obesity which has physiological and psychological effects.
* The nurse should emphasize the need for regular exercises necessary for the reduction of overweight and cardiac overload.

**Puberty and Adolescence (12-20years)**

At this stage, the nurse should educate the individuals of this age group on their nutritional needs as follows;

* Parents must promote better and lifelong eating habits by encouraging them to eat healthy snacks such as fruits
* Advise the parents to limit the amount of junk foods available at home (Coke, Fanta, these do not have nutritional value)
* Parents must avoid conflicts with youth on foods that are nutritionally needed, for example, taking a bottle of carbonated drink and snack as lunch.

Advise the adolescents on nutritional health problems such as obesity, anorexia nervosa, and bulimia and the necessary precautions. Obesity arises often because of taking in more energy in food than is expended in the activities of daily life. Thus, the unused calories are biochemically converted into fat cells in the body. Energy imbalance is regarded as an irreversible interplay between food intake, energy storage, and heat loss. This is expressed by the equation:

Energy intake Energy Expenditure + Energy Storage + Heat Loss.17

Perhaps more crucial to the issue of obesity is the fact that it reduces life expectancy. Table 2 below shows the relationship between body weight and life expectancy in a 25-year-old male.

Table 2: Relationship between body weight and life expectancy.18

|  |  |
| --- | --- |
| **Excess Weight** | **Expected Age at Death** |
| 0% (no increase)30% - 60% (increase)100% (increase) | 76 years63 years52 years |

**Young Adult**

The nurse should provide the young adult with resources such as charts and a list that contain food and the amount needed

* Instruct them to include iron rich food such as organ meat in their diet, also stress the importance of calcium and vitamin D to prevent osteoporosis later in life
* Create awareness on the effects of under and over nutrition e.g. the risks of hypertension and cardiovascular disease
* Stress the importance of low fat diet to prevent cardiovascular diseases

**Middle Adult (35-60 Years)**

The advice would include the following;

-the need to prevent obesity by reducing calorie intake and the need to have regular exercise

-that overweight is a risk factor for diabetes, hypertension, and the problem of mobility such as arthritis

-to eat sensible

**Older Adult/Elderly (60years – and above)**

It is generally believed that old age should be a time every hard-working person looks forward to. Rather than be an enjoyable experience, old age to a lot of the elderly, seems to be a never-ending nightmare. Many of them die while queuing up for their pension which is normally paid in arrears! Most are abandoned in the village with little or no financial support. Some are abandoned because they are witches. The result is that some old people are taken to old people’s homes while some take to the streets to beg for alms.

The intervention here is to educate them on the importance of fewer calorie intake, eating more food with fiber, exercising with care, how to get dentures if they have problems with their teeth, and how to source available health and social resources for recreation and help.

**Evaluation**

Nursing care is a dynamic process involving changes in the consumer’s health status over time, giving rise to the need for new data, different diagnoses, and modifications in the plan of care. Therefore, evaluation is a continuous process of appraising the effect of nursing interventions and the treatment regimen on the consumer’s nutritional health status and expected health outcomes. Evaluation is systematic and ongoing.

* Appropriate evaluative tools are used.
* The consumer’s responses to interventions are documented.
* The consumer, significant others, and team members are involved in the evaluation process, as much as possible, to ascertain the consumer’s level of satisfaction with care and evaluate the cost and benefits associated with the treatment process.
* The effectiveness of interventions in relation to outcomes is evaluated.
* On-going assessment data are used to revise diagnoses, outcomes, and the plan of care as needed.
* Revisions in the diagnoses, outcomes, and plan of care are documented.
* The revised plan provides for continuity of care.

**Conclusion**

In this article, attempts have been made to explore health promotion and disease prevention strategies that the nurse can use to maintain adequate nutrition in a depressed economy, with the hope of charting healthy road maps. Good nutrition in this paper is established on three fundamentals –food consumed, available health care services, and basic environmental sanitation. The thrust of this study is that nurses as ombudsmen must rise to the challenge and use their professional skills and nursing knowledge. There is a need to integrate nutrition into every aspect of our national development by providing nutrition information to the various age groups on how good nutrition can prevent diseases and impaired cognitive development. Social advocacy must be promoted and strengthened for the well-being of the populace.

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