TECHNICAL REPORT ON STUDENT INDUSTRIAL WORK EXPERIENNCE SCHEME (SIWES)

UNDERTAKEN AT

UNIVERSITY OF ILORIN TEACHING HOSPITAL (UITH)
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CHAPTER ONE

1.1 INTRODUCTION

SIWES was established by Industrial Training Fund (ITF) in 1973 to solve the problem of lack of adequate practical skills preparatory for emploPyment in industrial by Nigerian graduates of tertiary institution.

The scheme exposes student to industry based skills necessary for a smooth transition from the classroom to the world of work. It affords student of tertiary institution the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment which are usually not available in the educational institution.

Participation in SIWES has become a necessary pre-condition for the award of Diploma and Degree Certificates in specific discipline in most institution of higher learning in the country, in accordance with the education policy of government.

1.2 PURPOSE OF SIWES

In the earlier stage, student are graduating without any technical knowledge or working experience and this makes them to undergo further training after securing an employment. With this reason, student industrial training was established.

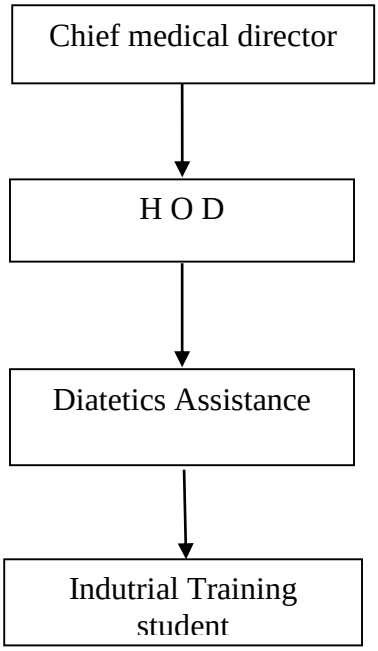
During this programme, as designed by the ITF, student are expected to get technical assistance and acquire more experience scheme in their chosen field of study and exposed them to the usage of source machines and safety precaution where relevant before the completion of their programme in their various institutions.

1.3 AIMS AND OBJECTIVE OF SIWES

1. To provide an avenue for student in the Nigerian Institution to acquire industrial skills and experience during their course of study.
2. To provide student with an opportunity to apply their theoretical knowledge in real work situation thereby bridging the gap between theory and practice.
3. To prepare students for the work situation they are likely to meet after graduation.
3. To expose the student to work method and techniques in handling equipment and machinery that may not be available in their institution.
4. To allow the transition phase from school to the world of working environment easier and facilitate students contact for later job placements.

CHAPTER TWO

2.1 ORGANIZATIONAL CHART OF THE COMPANY



2.2 PRECAUTIONS TAKEN IN NUTRITION AND DIETETICS

1. Always wear a clean apron or lab coat when handling food or conducting nutritional assessments.
2. Ensure proper hand hygiene and wear disposable gloves when preparing food or handling dietary supplements.
3. Do not eat, drink, or smoke in food preparation areas to prevent contamination.

4. Always wash hands before and after handling food, supplements, or conducting nutritional tests.
5. The food preparation and consultation area must be well-ventilated to maintain hygiene and prevent foodborne illnesses.
6. Handle all kitchen and dietary equipment with care to prevent accidents and food contamination.
7. All sharp objects, such as knives and food thermometers, must be properly handled and disposed of safely when necessary.
8. Every food sample must be properly labeled and stored at the appropriate temperature to prevent spoilage and contamination.
9. Nutrition and dietary records must be kept properly for accurate assessment and monitoring of dietary intake.
10. There must not be any exposed electrical wires or faulty appliances in food preparation areas to ensure safety.
11. Proper waste segregation must be maintained, separating biodegradable, non-biodegradable, and hazardous waste to promote hygiene and environmental sustainability.

2.3 SOME NUTRITION AND DIETETICS EQUIPMENT AND THEIR USES

1. **Food Scale:** Used for accurately weighing food ingredients and portion sizes for dietary assessments.

2. **Incubator:** Used to provide an optimum temperature for the growth of probiotic cultures and fermentation processes.
3. **Microscope:** Used for examining food samples, detecting microorganisms, and analyzing food quality.
4. **Autoclave:** Used for sterilizing kitchen utensils and food preparation tools to ensure food safety.
5. **Refrigerator:** Used for preserving perishable food items, nutritional supplements, and dietetic samples.
6. **Bunsen Burner:** Used for sterilizing equipment and performing controlled heating in food experiments.
7. **Analytical Balance:** Used for precisely measuring food samples and nutritional supplements.
8. **Slides:** Used for microscopic analysis of foodborne microbes and food quality assessments.
9. **Spectrophotometer:** Used for analyzing nutrient composition, food color, and quality testing.
10. **Centrifuge Machine:** Used for separating food components, such as fats and proteins, during food analysis.

CHAPTER THREE

3.1 FORTIFIED PAP

Definition

Fortified pap is a nutritionally enriched version of traditional pap (also known as "akamu" or "ogi"), which is a fermented cereal pudding commonly made from maize, millet, or sorghum. The fortification process involves adding essential vitamins, minerals, and proteins to enhance its nutritional value, making it more beneficial for infants, pregnant women, and individuals with nutritional deficiencies.

3.2 Physiology

Fortified pap provides essential nutrients that support bodily functions, including digestion, metabolism, and immune response. The added vitamins (such as vitamin A, B-complex, and D) aid in energy production, vision, and nerve function. Minerals like iron and calcium help in red blood cell formation and bone development. The carbohydrates present in pap serve as a quick energy source, while added proteins contribute to muscle growth and repair.

3.3 Causes of Nutritional Deficiency Leading to the Need for Fortified Pap

- Poor dietary intake of essential nutrients
- Malabsorption disorders (e.g., celiac disease)
- Increased nutritional demand during pregnancy and lactation

- Chronic illnesses such as anemia and kwashiorkor
- Weaning infants who require additional nutrients for growth

3.4 Symptoms of Nutritional Deficiency

- Fatigue and weakness
- Slow growth in children
- Pale skin due to anemia
- Weakened immune system (frequent infections)
- Brittle nails and hair loss
- Poor cognitive development in infants

3.5 Treatment

- Consuming a balanced diet rich in essential nutrients
- Taking vitamin and mineral supplements if necessary
- Treating underlying medical conditions that cause nutrient deficiencies
- Encouraging proper infant feeding practices, including breastfeeding and weaning with fortified foods

3.6 Nutritional Treatment

- Fortified pap is enriched with essential nutrients such as:
    - **Proteins:** From soybeans, groundnuts, or milk powder

- **Iron:** To prevent anemia, often added through vegetables or supplements
- **Vitamins A & D:** For vision and bone health
- **Calcium:** From powdered milk or fish to strengthen bones
- **Zinc and Folic Acid:** To support immune function and cell growth

3.7 Type of Food to be Eaten Alongside Fortified Pap

- **Protein-rich foods:** Eggs, fish, lean meat, beans, and groundnuts
- **Fruits and vegetables:** Carrots, oranges, spinach, and banana for additional vitamins
- **Dairy products:** Milk, yogurt, and cheese for calcium
- **Healthy fats:** Avocados, nuts, and vegetable oils for brain function and energy
- **Whole grains:** Brown rice, oats, and whole wheat bread for sustained energy

CHAPTER FOUR

4.1 DIABETES MELLITUS

Diabetes mellitus is a medical condition that affects how your body uses blood sugar (glucose). Glucose is essential for your health because it's a vital source of energy for the cells that make up your muscles and tissues. When you have diabetes, your body either doesn't make enough insulin or can't effectively use the insulin it does make. This results in an accumulation of sugar in your blood, which can lead to various health problems over time if not managed properly. There are different types of diabetes, including Type 1, Type 2, and gestational diabetes.

4.2 PATHOGENESIS OF DIABETES

Diabetes pathogenesis involves how the disease develops in the body. It typically relates to issues with insulin production or utilization, leading to high blood sugar levels. In Type 1 diabetes, the immune system mistakenly attacks insulin-producing cells in the pancreas. In Type 2 diabetes, the body becomes resistant to insulin or doesn't produce enough of it. These disruptions in insulin function result in elevated blood sugar levels, causing the symptoms and complications associated with diabetes.

Gestational diabetes develops during pregnancy. It can lead to high blood sugar levels and usually resolves after giving birth. Proper management is crucial to

ensure the health of both the mother and the baby during pregnancy,some risk factors associated with gestational diabetes could be being overweight, having a family history of diabetes, being older than 25 during pregnancy, and having previously given birth to a baby weighing over 9 pounds. Proper management through medication, diet, and lifestyle changes is crucial in controlling diabetes and preventing complications.

4.3 PATHOPHYSIOLOGY OF DIABETES

Diabetes pathophysiology involves understanding how the disease affects the body's normal processes. It primarily centers around the role of insulin in regulating blood sugar levels. In Type 1 diabetes, the immune system attacks and destroys insulin-producing cells in the pancreas, leading to a lack of insulin. In Type 2 diabetes, the body becomes resistant to insulin's effects, resulting in elevated blood sugar levels. This dysregulation can lead to various complications if left uncontrolled, underscoring the importance of proper management through medication, diet, and lifestyle modifications.

4.4 EPIDEMIOLOGY OF DIABETES

Diabetes epidemiology involves studying the patterns, causes, and effects of diabetes within populations. It examines the prevalence, incidence, and risk factors associated with the disease. Understanding the epidemiology of diabetes helps in developing strategies for prevention, early detection, and management of the condition on a broader scale.

4.5 CAUSES OF DIABETES

1. In Type 1 diabetes, the immune system attacks insulin-producing cells in the pancreas.

2. In Type 2 diabetes, the body becomes resistant to insulin or doesn't produce enough of it.

3. These disruptions in insulin function lead to high blood sugar levels, causing the symptoms and complications of diabetes.

The causes of diabetes can be summarized as the immune system attacking insulin-producing cells in Type 1 diabetes and insulin resistance or inadequate production in Type 2 diabetes.

4.6 SIGNS AND SYMPTOMS OF DIABETES

1. Increased thirst and frequent urination.

2. Extreme hunger.

3. Unexplained weight loss.

4. Fatigue.

5. Blurred vision.

6. Slow-healing sores.
7. Frequent infections .

8. Tingling or numbness in hands or feet.

These signs and symptoms can vary depending on the type of diabetes and the individual's health condition.

4.7 DIAGNOSIS

Diagnosis of diabetes involves blood tests that measure blood sugar levels. The main tests used are fasting blood sugar test, oral glucose tolerance test, and A1C test. These tests help healthcare providers determine if an individual has diabetes and what type it is

4.8 PREVENTION OF DIABETES

1. Engage in regular exercise.
2. Maintain a balanced diet.
3. Keep a healthy weight.
4. Avoid excessive sugar intake.

Following these steps can help in preventing diabetes and promoting good health.

4.9TREATMENT OF DIABETES

1. Manage blood sugar levels through medication like insulin or oral medications.
2. Monitor blood sugar regularly.
3. Adopt a healthy lifestyle with a balanced diet and regular exercise.

4. Seek medical advice and follow a treatment plan tailored to individual needs.

4.10 NUTRITIONAL MANAGEMENT OF DIABETES

To manage diabetes through nutrition, it's essential to focus on a balanced diet that includes:

1. Controlling portion sizes to manage carbohydrate intake.
2. Choosing foods with a low glycemic index to help control blood sugar levels e.g beans,spinach,leafy grains.
3. Incorporating fiber-rich foods like fruits(berries,apple and citrus fruit), vegetables(leafy greens,spinach,mushroom), and whole grains(millet,sorghum and whole-wheat).
4. Limiting saturated fats (butter,cheese,fatty cut of meat)and trans fats(fried food,baked goods and margarine)to promote heart health.
5. Monitoring sugar intake and opting for healthier alternatives.
6. Staying hydrated with water as the primary beverage choice.

CHAPTER FIVE

5.1 CONCLUSION

The student industrial work experience scheme (SIWES) helps students to expand their knowledge and experience in their field of study. It will also help student whenever they come across it in future career.

5.2 RECOMMENDATION

I wish the government and the school authority to provide necessary materials for the students during this programme. They should also try to pay the students allowance so as to serve as help for the students in one way or the other.zs

Also, the supervisors should make sure they visit the students in their place's of attachment for proper monitoring, improvement and progress for the benefit of the societies as a whole.