



**TECHNICAL REPORT ON STUDENT
INDUSTRIAL WORK EXPERIENNCE SCHEME
(SIWES)**

UNDERTAKEN AT

**UNIVERSITY OF ILORIN TEACHING HOSPITAL (UITH)
PMB 1459 OFF JEBBA ROAD ILORIN KWARA STATE**

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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 employment 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.

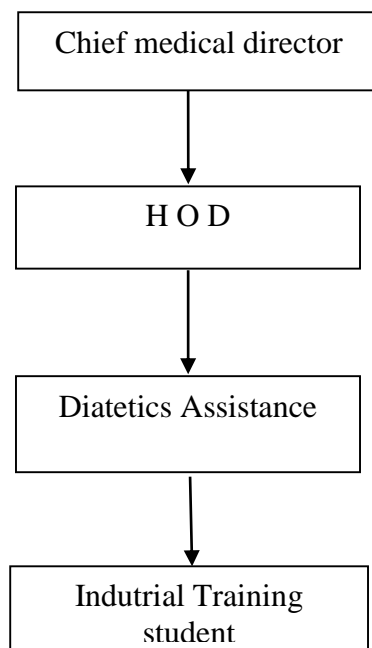
During this programme, as designed by the ITF, student are expected to get technical assistance and acquire more experience scheme in their chosen field of study and exposed them to the usage of source machines and safety precaution where relevant before the completion of their programme in their various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

Obesity is a medical condition characterized by an excessive accumulation of body fat that poses a risk to health. It occurs when energy intake from food and drinks exceeds energy expenditure over a prolonged period. Obesity is commonly measured using the Body Mass Index (BMI), where a BMI of 30 or above indicates obesity. It is associated with various health complications, including type 2 diabetes, cardiovascular diseases, and certain types of cancer.

3.2 Physiology of Obesity

Obesity affects multiple physiological systems in the body. Excess fat, especially visceral fat, disrupts normal hormonal functions and metabolism. It leads to insulin resistance, increases inflammation, and alters lipid profiles. Over time, these changes can impair cardiovascular health, liver function, and hormone regulation. Additionally, obesity places stress on the musculoskeletal system, leading to joint pain and mobility issues.

3.3 Causes of Obesity

- Excessive calorie intake, especially from processed and high-fat foods
- Sedentary lifestyle with minimal physical activity
- Genetic predisposition affecting metabolism and appetite regulation
- Hormonal imbalances (e.g., hypothyroidism, Cushing's syndrome)

- Psychological factors such as stress and emotional eating
- Certain medications that promote weight gain

3.4 Symptoms of Obesity

- Noticeable weight gain and increased body fat
- Shortness of breath during physical activity
- Fatigue and low stamina
- Joint pain, particularly in the knees and lower back
- Sleep disorders, including sleep apnea
- Increased risk of hypertension and elevated cholesterol

3.5 Treatment of Obesity

- Adopting a healthy, calorie-controlled diet
- Engaging in regular physical exercise
- Behavioral therapy to address emotional and psychological eating habits
- Medical intervention with weight-loss medications (when appropriate)
- In severe cases, surgical procedures like bariatric surgery
- Continuous lifestyle modifications and support systems

3.6 Nutritional Treatment for Obesity

Nutritional strategies for managing obesity include:

- Low-calorie, nutrient-dense foods: Focus on vegetables, lean proteins, and whole grains
- High-fiber foods: Such as oats, legumes, and fruits to improve satiety
- Healthy fats: Including avocados, nuts, and olive oil in moderation
- Reduced sugar and refined carbs: To control blood sugar levels and reduce calorie intake
- Controlled portions: Monitoring serving sizes to avoid overeating

3.7 Type of Food to Be Eaten for Obesity Management

- Lean proteins: Grilled chicken, fish, tofu, and legumes for muscle maintenance
- Non-starchy vegetables: Spinach, broccoli, cucumber, and zucchini
- Whole grains: Brown rice, quinoa, and whole wheat for long-lasting energy
- Fruits: Apples, berries, and citrus fruits in moderate amounts
- Low-fat dairy: Skim milk, low-fat yogurt, and cheese alternatives
- Water and herbal teas: To stay hydrated and avoid sugary beverages

CHAPTER FOUR

4.1 KWASHIORKOR

Kwashiorkor is a severe form of protein-energy malnutrition that primarily affects children, especially in developing regions. It results from a deficiency in dietary protein, even when calorie intake may be adequate. This condition commonly occurs during weaning when a child is switched from breast milk to a carbohydrate-rich, protein-poor diet. Kwashiorkor is characterized by swelling (edema), irritability, fatty liver, and a distended abdomen, among other symptoms. Without timely intervention, it can lead to life-threatening complications.

4.2 PATHOGENESIS OF KWASHIORKOR

The pathogenesis of kwashiorkor involves a severe deficiency of dietary protein, which impairs the synthesis of essential body proteins, particularly albumin. The lack of albumin reduces the blood's ability to retain fluid, resulting in edema (fluid accumulation in tissues). Additionally, inadequate protein intake disrupts immune function, impairs enzyme and hormone synthesis, and causes fat infiltration in the liver. These changes contribute to the visible symptoms and systemic complications of the disease.

4.3 PATHOPHYSIOLOGY OF KWASHIORKOR

Kwashiorkor's pathophysiology centers on protein deficiency despite adequate energy intake. The shortage of amino acids leads to hypoalbuminemia (low albumin levels in the blood), which causes a shift of fluid from the blood vessels into body tissues, resulting in edema. The liver cannot properly process or export fats, leading to fatty liver. Muscle wasting, immune suppression, and impaired growth also occur. The child's body fails to respond to infections and stress due to lack of protein-based enzymes and immune components.

4.4 EPIDEMIOLOGY OF KWASHIORKOR

Kwashiorkor primarily affects children under five in low-income and food-insecure regions, particularly in sub-Saharan Africa, Southeast Asia, and parts of Latin America. The condition is most prevalent where diets are high in carbohydrates (like maize, cassava, or rice) but extremely low in protein. Factors such as poverty, drought, poor weaning practices, and infections contribute to its high incidence.

4.5 CAUSES OF KWASHIORKOR

1. Inadequate intake of dietary protein.
2. Poor weaning practices – replacing breast milk with starchy, protein-deficient foods.
3. Chronic or recurrent infections that increase the body's protein requirements.

4. Poverty and food insecurity.
5. Lack of maternal education about child nutrition.

4.6 SIGNS AND SYMPTOMS OF KWASHIORKOR

1. Swelling (edema), especially in the legs, feet, and face.
2. Enlarged, fatty liver.
3. Thin, brittle hair that may lose color or fall out easily.
4. Dermatitis or skin peeling and lesions.
5. Apathy, irritability, and general weakness.
6. Stunted growth and muscle wasting.
7. Distended abdomen (swollen belly).
8. Delayed wound healing and frequent infections.

4.7 DIAGNOSIS OF KWASHIORKOR

Diagnosis is typically based on clinical signs and nutritional history. Key diagnostic tools include:

- Physical examination (e.g., checking for edema, skin changes, and muscle wasting)
- Anthropometric measurements (e.g., weight-for-height, mid-upper arm circumference)

- Laboratory tests to assess levels of albumin, electrolytes, and liver function
- Dietary assessments to evaluate protein intake

4.8 PREVENTION OF KWASHIORKOR

1. Early and exclusive breastfeeding for the first 6 months.
2. Proper weaning with balanced, protein-rich complementary foods.
3. Nutritional education for mothers and caregivers.
4. Food aid and poverty alleviation programs in at-risk areas.
5. Monitoring child growth and health regularly.

4.9 TREATMENT OF KWASHIORKOR

1. Immediate nutritional rehabilitation with therapeutic foods.
2. Gradual reintroduction of proteins and calories under medical supervision.
3. Management of infections with antibiotics if needed.
4. Treatment of dehydration and electrolyte imbalance.
5. Monitoring and support for long-term recovery and growth.

4.10 NUTRITIONAL MANAGEMENT OF KWASHIORKOR

Effective nutritional management includes:

1. Providing high-protein, energy-dense therapeutic foods (e.g., F-75 and F-100 formulas).
2. Introducing easily digestible proteins from milk, eggs, legumes, and fish.
3. Offering fortified foods rich in essential vitamins and minerals (e.g., vitamin A, zinc, iron).
4. Including fruits (e.g., bananas, pawpaw) and vegetables (e.g., spinach, pumpkin) for micronutrients.
5. Ensuring frequent, small meals to gradually restore nutritional status.
6. Using ready-to-use therapeutic foods (RUTF) in community-based treatment settings.

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.

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.