

A REPORT ON

STUDENTS' INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

UNDERTAKEN AT

**KWARA STATE UNIVERSITY TEACHING HOSPITAL (KWASUTH) ILORIN KWARA
STATE NIGERIA**

IN

DEPARTMENT OF NUTRITION AND DIETETIC

FROM AUGUST TO NOVEMBER

BY

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MATRIC NO

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF NATIONAL
DIPLOMA (ND) IN NUTRITION AND DIETETICS**

CERTIFICATION

This is to certify that this report was complied by **ADESINA ADEYEMI OYINADE** a student of the department of **NUTRITION AND DIETETICS, INSTITUTE OF APPLIED SCIENCE, KWARA STATE POLYTECHNIC ILORIN KWARA STATE NIGERIA** on completion of SIWES

SIWES COORDINATOR.

.....
SIGNATURE/DATE

HEAD OF DEPARTMENT.

.....
SIGNATURE/DATE

DEDICATION

This is dedicated to God Almighty who has been my source of Strength, Grace and Wisdom and also dedicated to my Family.

ACKNOWLEDGMENT

I thank God Almighty who has preserved my life to attain this greater height of education, providing a suitable and correlated placement to my course of study and granting me enough wisdom, knowledge and understanding and also saw me through the period of the SIWES. I am also grateful to the entire staff of Nutrition and Dietetics of KWASUTH for their support, for their motherly and fatherly care throughout my training.

SIWES OVERVIEW

The Students' Industrial Work Experience Scheme (SIWES) is a skills training program designed to prepare and expose students of Universities, Polytechnic, College of Education, College of Agriculture, College of Technology, for the industrial work situation they are likely to meet after graduation. The Scheme affords Students the opportunity of familiarizing and exposing themselves to handling equipment and machine that are usually not available in their institution. It provides students with an opportunity to apply their knowledge in real work situation thereby bridging the gap between theory and practical

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CHAPTER ONE

1.1 INTRODUCTION

The Students Industrial Work Experience Scheme (SIWES). It is a program designed for students in Nigerian university and polytechnic to gain practical work experience in their chosen field

1.2 BACKGROUND OF SIWES

The Students Industrial Work Experience Scheme (SIWES) was established in 1973 by the Industrial Training Fund (ITF) in Nigeria. The programme involves the ITF, students, and industries. It's meant to bridge the gap between theory and practical work, sharpen students' skills and understanding of actual work process and also provide an avenue to acquire more knowledge.

1.3 OBJECTIVE OF SIWES

- 1) To provide student with practical work experience in their chosen field
- 2) Expose students to work methods and techniques in handling equipment and machinery that may not be available in their institutions.
- 3) To enhance students to skills and knowledge in their field
- 4) Provide an avenue for students in institutions of higher learning to acquire industrial skills and experience during their courses of study.
- 5) To prepare student for the workforce after graduation.
- 6) Exposure of students to the environment in which they will eventually work, thereby enabling them to see how their future professions are organized in practice.

CHAPTER TWO

2.1 LOCATION AND BRIEF HISTORY OF KWASUTH

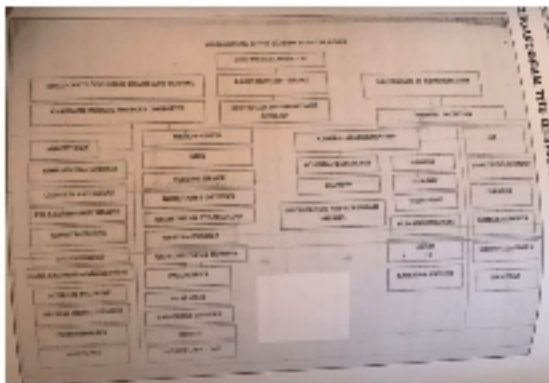
Kwara State University Teaching Hospital Ilorin (KWASUTH) is a part of academic framework designed to support medical education, health care services, and research in the region. Kwara State University Teaching Hospital is located at surulere Rd, ilorin. The structure of the hospital is typically organized to facilitate various medical services programs.

2.2 OBJECTIVES OF KWASUTH

- The hospital serves as a training site for medical students, resident doctor's, and other health professionals.
- Kwara State University Teaching Hospital provides quality patient care, offering various medical services, including emergency care, surgery, pediatric and more
- The hospital has modern facilities, including state-art-equipment, laboratories and wards.

- The hospital is involved in medical research, aiming medical knowledge.
- KWASUTH plays a vital role in providing health care services, medical training, and search in Kwara State and beyond.

2.3 THE ORGANIZATIONAL STRUCTURE OF THE INSTITUTE IS AS ILLUSTRATED BELOW



2.4 THE VARIOUS DEPARTMENTS AT KWASUTH AND THEIR FUNCTIONS

1. **ADMINISTRATIVE BLOCK:** This area oversees the management of the hospital, including human resources, finance, and strategic planning.
2. **GENERAL OUTPATIENT DEPARTMENT (GOPD):** This section provides services to patients who do not require admission and includes various clinics such as general practice, pediatrics, obstetrics and gynecology among others.
3. **IMPATIENT WARD:** These are designated areas for patients who require hospitalization. Wards are usually specialized according to medical discipline (e.g. surgical, medical, maternity).
4. **EMERGENCY DEPARTMENT:** This area provides immediate care for illness and injuries.
5. **DIAGNOSTIC IMAGING:** Facilities such as X-ray, ultrasound that assist in diagnosing patient condition.
6. **LABORATORY SERVICES:** Various labs for conducting tests, including blood tests, genotype, microbiology, biochemistry.
7. **SURGICAL THEATRES:** Operating rooms equipped for performing surgeries, often accompanied by recovery areas.

CHAPTER THREE

3.1 INTRODUCTION AND ORIENTATION

On my first day at Kwara State University Teaching Hospital Ilorin Kwara State. I was orientated by the Head of Department of Nutrition and Dietetics unit and officially introduced to other staffs.

The HOD in charge also introduced me to some equipment and kitchen utensils used in the kitchen for cooking such as Heightometer, Weighing scales (for children and adults) MUAC (Mid upper arm circumference), Measuring Tape, Measuring Spoons, Blender, food processor, Hot plate, Fridge, cooking pots, cooking gas, oven, etc.

3.1.1 PICTORIAL REPRESENTATION OF SOME EQUIPMENT AND COOKING UTENSILS USED IN NUTRITION AND DIETETICS UNIT AND THEIR FUNCTIONS



Fig 1. HEIGHTOMETER

Uses: Heightometer also know as a stadiometer, is a medical device used to measure the height of a person, typically in a clinical or medical setting

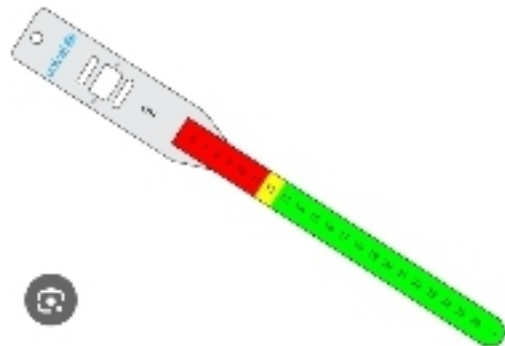


Fig 2. MUAC (Mid upper arm circumference)

Uses: MUAC is a simple, non-invasive measurements used to access the nutritional status of individual.



Fig 3 WEIGHING SCALE

Uses: Weighing scales, also known as weight scales or simply scale, are devices used to measure the weight or mass of an object or person.



Fig 4. COOKING GAS AND OVEN

Uses: Cooking gas is a popular fuel source for cooking.

Oven is a kitchen appliance used for cooking, baking and heating food.



Fig 5 COOKING POTS

Uses: cooking pots are essential parts of any kitchen. It's used for various things like boiling, steaming, heating, frying, stewing



Fig 6. HOT PLATE

Uses: A hot plate is a laboratory or kitchen device used to heat substances, typically in a controlled and consistent manner



Fig 7. MEASURING SPOONS

Uses: Measuring Spoons are kitchen essentials used to accurately measure ingredients when cooking or baking



Fig 8. BLENDER

Uses: Blender is a kitchen appliances used to puree, mix, and blend foods and liquids



Fig 10. FRIDGE

Uses: Fridge also know as a refrigerator is an essential kitchen appliances used to keep food and drinks cool or chilled.

3.2 HOW TO CALCULATE BMI (BODY MASS INDEX)

BMI(Body Mass Index): This is calculated by dividing the weight of the client (kg) by the height squared.

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (cm)}^2}$$

BMI Values.	Interpretation
<18.5.	Underweight
18.5-24.9.	Normal
25.0-29.9.	Overweight
30.0-34.9.	Obesity class 1(moderately obesity)
35-39.9.	Obesity class 2(severely obesity)
≥ 40	Obesity class 3(morbidly obesity)

3.3 VITAMIN A SUPPLEMENTATION

Vitamin A is an important intervention for child survival, because it protect children against infections. Examples: Diarrhea, eye infection, throat infection, measles. Vitamin A is key for

good vision, targeted children should be given vitamin A from 6 to 59 months of age. You don't give vitamin A to kids less than 6 months.

Supplies for Vitamin A Supplementation

1. Vitamin A capsules of 100,000IU (international unit) Blue color is given to a child of 6-11 months of age.

Vitamin A capsules of 200,000 IU (international unit) Red color is given to a child of 12-59 months.

Protocol of Vitamin A Supplementation

- Ascertain the age of the child
- Ask the caregiver to hold the child firmly, make sure the child is calm.
- Give the appropriate dose of vitamin to the child
 - *100,000IU (blue) to a child of 6-11 months
 - *200,000IU (Red) to a child of 12-59 months
- To give Vitamin A, cut the nipple of the capsules at the middle (not the top or bottom) with scissors
- Immediately squeeze the drops of the liquid to the child's mouth, do not put the capsule into the child's mouth or allow the child to swallow the capsule.
- Check if the child is comfortable when swallowing it.

3.4 ONE THOUSANDS DAYS OF LIFE

One thousand days of life is a period of life from conception to the second birthday of any child. (270 days in the womb, 365 days to the first birthday to another 365 days to the second birthday).

Stages of the first 1000 Days

- 1) Pregnancy
- 2) Infant
- 3) Toddler hood

*At each of these stages the brain is vulnerable to poor nutrition either from the deficiency of key nutrient or true toxic stress caused by prolonged or acute food securities.

PREGNANCY

- The brain of the embryo begins to develop very early
- Neural tube develops by day 16
- By fourth week, the brain is estimated to contain 10,000 cells
- By the 24th week the brain contains 10 billion cells
- This transformation is fueled by nutrient from the mother's diet.

*WHO RECOMMENDATIONS : Mothers and caregivers and health workers should provide children with 20mg of zinc per day for 10-14 days and if the child is less than 6 months they can give 10mg of zinc.

- A pregnant woman's diet and her nutrient status are the only source of nutrition for the developing baby
- If things go wrong at this stage, it can lead to birth defects leading to death or long life disability

3.5 ACCESSING NUTRITIONAL STATUS IN ADULTS

- Among adults, malnutrition can be in the form of undernutrition and overnutrition (overweight/obesity).

- Their nutritional status can be access using body mass index (BMI) and waist circumference and waist hip ratio.
- Waist circumference is measured by passing a tape measure through the umbilicus.
- Hip circumference is measured by passing a tape measure across the greater tronchanters.
- Wait circumference is divided by the hip circumference in order to estimate the waist hip ratio.

$$\frac{W}{H}$$

$$H = WHR$$

- Waist circumference and waist hip ratio are however used for accessing obesity
- For females, waist circumference greater than 88cm is abnormal while for male waist circumference 102cm is abnormal
- Female waist hip ratio greater than 0.7 and males with 0.9 indicate overweight/obesity
- Higher ratio can mean you have more fat around your waist. This can lead to a higher risk of heart diseases or diabetes

***ABDOMINAL OBESITY:**Too much fat around your waist is known as abdominal obesity, this fat is called 'Visceral organs' because it surround your life .

3.6 ROLES OF FIBER IN DIABETES

Fiber plays a significant role in managing diabetes.

1. It helps to control blood sugar level by slowing down the digestion and absorption of carbohydrates
2. It also support a heavy gut which is essential for overall well being including proper digestion and immune function
3. It is recommended to risk fiber intake and drink plenty of water to prevent potential gastro intestinal discomfort
4. Overall, incorporating about writing of fiber rich foods such as fruits, vegetables, whole grain, legumes,nut and seeds into the diet can support optimal digestion gut health and overall wellbeing.
5. Soluble fiber slows down the absorption of glucose or sugars helping prevent spikes in blood sugar levels
6. Fiber rich foods are typically more filling and can help control appetite, leading to reduce calories intake
7. Fiber slows down the digestion of food, promoting a feeling of fullness and helping with weight management.

3.7 STUNNING, UNDERWEIGHT AND WASTING

STUNNING

Stunning is when a child has low height of their age compare to other children of the same age, usually due to undernutrition from or before birth and related to infection.

UNDERWEIGHT

Underweight is when a child has low weight for their age compare to the other children of the same age, and indication of wasting or stunning or combination.

WASTING

Waisting is when a child has low weight for their height compare to other children of the same age and indication of an acute period of malnutrition or illness

3.8 MATERNAL INFANT YOUNG CHILD NUTRITION COUNSELING

1. Begin breastfeeding within the first hour of birth to help the baby learn to breastfeed, increase breast milk production and reduce your bleeding.
2. Feed your baby only breast milk for the first 6 months. After 6 months, introduce complementary food such as pap, custard, and breakfast cereals and breast feed up to 24 months
3. When breastfeeding, increase intake of meat, fish, eggs, beans, seeds and nut, green leafy vegetables, orange/yellow colored fruits, milk, Rice, wheat, potatoes, tubers, in meals and eat two extra meals in a day.

*The first stage of breast milk (colostrum) contain immunoglobulin A. It prevent babies from infection (first immunization for babies)

*Egg yolk is recommended at 6-11 months. It contain vitamin K which helps in brain development. Baby can be given full egg from 1 year.

3.9 NUTRITION AND INTERVENTION TO BREAK THE UNDERNUTRITION CYCLE

1. Optimal breastfeeding
2. Early initiation of breastfeeding
3. Exclusive breastfeeding from 0-6 months
4. Complementary feeding and continue breastfeeding until 2 years or beyond
5. Feeding a sick child frequently
6. Vitamin A Supplementation for 6-59 months
7. Deworming for children 12-24 months
8. Using insecticide treated bed to prevent malaria

CHAPTER FOUR

4.0 NUTRITION PRACTICES DURING PREGNANCY

- Monitor your weight regularly (during ANC, hospital visit and at home if possible). A woman gain 10-12kg weight during pregnancy
- Use long lasting insecticide treated mosquito net to prevent malaria
- Decrease work load and get plenty of rest
- Avoid alcohol and smoking during pregnancy. These can harm the health of the foetus in the womb
- Avoid drinking tea and coffee during meal. These change the way the baby uses the food you eat. It's better you take them one or more hour before or after a meal.

4.1 THE DIET PLAN FOR A PREGNANT WOMAN

The diet plan for a pregnant woman is called 5 star diet

1 STAR DIET: Staples foods (Grains; maize, wheat, rice, millet) natural either grind or mill but do not sieve.

2 STAR DIET: 1) Legumes; Leguminous crop (beans, soybean, groundnut, green peas, sesame seed) 2) vitamin A rich fruits and vegetables (carrots, pumpkin, mango, papaya, orange, dark green leafs, yellow sweet potatoes, fresh sweet potatoes)

3 STAR DIET: Other fruits and vegetables (watermelon, avocado,pear, pineapple, banana, tomatoes, eggplant, cabbage)

4 STAR DIET: Animal source (meat,liver, chicken,eggs and diary products such as cheese, yoghurt, milk)

5 STAR DIET: Oil and fat (Oil seeds, margarine,butter,improves the absorption of some vitamin and produce extra calories.

4.2 LOW BIRTH WEIGHT

1. Birth weight less than 2500gramm(less than 2.5kg)
2. Very low birth weight (VLBW) birth weight less than 1500gram less than (1.5kg)
3. Extremely low birth weight (ELBW) less than 1000gram less than (1.5kg)

4.3 UNDERSTANDING LOW BIRTH WEIGHT YOU PRETERM INFANT

Preterm infant means birth before completed 37 weeks

1. Low Birth Weight could be a consequences of preterm birth or due to small size of destination age or both
2. They are at higher risk of early growth retardation, infections, diseases, and development delay
3. It's associated with reduce transist of survival during infant and childhood
4. It is also associated with increase of obesity, diabetes, and heart diseases in later life
5. Common LBW infants include feeding difficulty, temperature instability.

4.4 KEY POINT FOR NUTRITIONAL MANAGEMENT FOR LBW

- A small baby requires special consideration for feeding fluid management, and maintenance of normal body temperature
- LBW infants who are able to breastfeed should be put to the breast as soon as possible after birth when they are clinical stable
- LBW infants should be exclusively breastfeed for 6 months of age
- LBW infants who need to be free by an alternative oral feeding method should be free with a spoon or cup

4.5 MEAL PLANNING AND DIET FORMULATION

Meal planning is the process of making a plan of meal with adequate nutrition for every member of the family within the available resources. It means planning diet which will provide all nutrient in required amounts and proportions. It also involves deciding what to eat daily at each meal.

Purpose, Objectives and Importance of Meal planning

1. Meal planning economies on time, labour, energy, and fuel.
2. It saves money by keeping expenditure within the family food budget.
3. It helps in satisfying/filling the nutritional need requirements of the family members
4. The meal planning helps to make the best use of material, time and financial resources to obtain meals that can help to meet the physical, social and psychological need of the individual and family
5. Meal planning is essential to help them strong, healthy and free from any diseases and deficiency of any kind
6. Meal planning determine the adequacy of diet,the kind of food purchase, it's quality and cost, the way it is stored, prepare and served

WHY MEAL PLANNING

- It enhance provision of appetizing, nourishing and attractive meal to custome at a fair price
- Help to determine requirements accurately
- Ensures that food is not wasted
- Time and effort on receiving food material is safe
- Time and effort in preparing and cooking is also minimized
- It save fuel and cut down unwaste through excessive leftover
- Help to note favorite dishes and does not well consumed among family members,tend to offer a wider choice of dishes because seasonal varieties of food can be introduce in advance.

4.6 INTERPERSONAL AND COMMUNICATION SKILLS

***A PASSIVE LISTENER**

A passive listener won't provide feedback or ask questions, making it unclear whether or not understand what is being said.

***AN ACTIVE LISTENER**

An active listener will demonstrate that he/she is receiving the information by nodding, asking questions using body language and more.

***HELPFUL NON-VERBAL COMMUNICATIONS**

Non-verbal communication means showing your attitude through your posture, expression and everything except through speaking. Helpful non-verbal communication makes a mother feel that you are interested in her so it help her to talk to you.

***OPEN ENDED QUESTIONS**

Open ended questions are usually the most helpful. To answer them, a mother or caregiver,must give you some information. Open ended questions usually start with (when, where,how,who,why,what). For example; What are you feeding your baby?

***CLOSE ENDED QUESTIONS**

Close ended questions are usually less helpful. They tell the mother the answer that you expect, and she can answer them with a YES/NO. For example; Did you breastfeed your baby?

4.7 NUTRITIONAL ASSESSMENT AND COUNSELING

*I was posted to National Program Immunization (NPI) in which I checked the children weight,MUAC, and also gave them vitamin A according to their age i .e Vitamin A capsule of 100,000IU blue is given to a child of 6-11 months. Vitamin A capsule 200,000IU red is given to a child of 12-59 months.

*I was posted to Antenatal clinic(ANC) in which I counsel the pregnant women to monitor their weight regularly (during ANC, hospital visit, and at home if possible). A woman gain 10-12kg weight during pregnancy,they should use long lasting insecticide treated mosquito net to prevent malaria,they should decrease work load and get plenty of rest

*I was posted to General Outpatient Department (GOPD)to counsel them about what a diabetes patient should eat. I counsel them to be eating vegetables (Dark leafy greens, carrots, tomatoes) Fruits, Whole grain (brown rice, whole wheat bread, whole grain pasta),Lean protein (chicken, turkey, fish, beans, and low-fat dairy products. They should also limit sugary drinks,fried food, processed meats.

CHAPTER FIVE

5.1 SUMMARY OF ATTACHMENT ACTIVITIES

The experience gained at my place of attachment was enlightening and eye opening. Assisting with food preparation, ensuring safety and sanitation standards are met, provide group counseling sessions on healthy eating, weight management and chronic diseases prevention. These attachments activities provide hands-on experience in various settings, helping me to develop practical skills about nutrition and dietetics.

5.2 PROBLEM ENCOUNTER DURING THE PROGRAM

The only problem i encounter during my siwes is transportation expenses. The SIWES organization required me to commute to the organizations premises on a daily basis. However,the organization's location was far from my residence, resulting in high transportation cost.

5.3 SUGGESTIONS FOR IMPROVEMENT OF SIWES

Here are some suggestions for improving the Student's Industrial Work Experience Scheme (SIWES):

- **INCREASE COLLABORATION** : Improve collaboration between educational institutions and industry partners. This can include involving industry in the training of students, and updating the curriculum based on industry feedback.
- **IMPROVE ENGAGEMENT** : Make SIWES more engaging by involving students in meaningful projects and encouraging them to take initiative.
- **IMPROVE ASSESSMENT**: Improve the assessment process and strategies to reflect the needs of the modern workplace. This can include providing industry-based supervisors with job specifications to guide their training.
- **IMPROVE JOB PLACEMENT**: Improve the development, management, and quality assurance of job placement.
- **IMPROVE LOGBOOK AND REPORT WRITING** : Teach students how to correctly fill out their logbooks and write reports.

5.4 CONCLUSION

My SIWES Program at Kwara State University Teaching Hospital Ilorin Kwara State,has been a valuable and enriching experience. Throughout the 16 weeks program, i gained practical knowledge and skills in the field of nutrition and dietetics.

This experience has not only enhanced my knowledge and skills but also instilled in me a deeper passion for the field of nutrition and dietetics. I am confident that the skills and knowledge gained during this program will be invaluable in my future career.

5.5 RECOMMENDATION

- Be proactive and take initiative in seeking out learning opportunities
- Develop strong communication and interpersonal skills to efficiently collaborate with healthcare professionals and patients
- Be flexible and adaptable in responding to changing situation and priorities