

SIOP Africa Sub-Saharan Paediatric Oncology Nursing Network

Outline Curriculum Framework for a Foundation Programme in Paediatric Oncology Nursing

Introduction

The Sub-Saharan African nursing network is building on existing initiatives and partnerships focussed on nurse training and education in the region. It is formally affiliated to SIOP Africa.

One of the aims of the network is to develop a tiered formalized paediatric oncology nursing curriculum relevant to Sub-Saharan Africa, which meets the SIOP baseline standards for paediatric oncology nursing in developing countries (1). This curriculum includes the orientation or 'Foundation' programme presented here, for nurses new to the speciality, or hospitals starting to develop their own paediatric oncology programme.

Development of the 'Foundation' course outline framework.

A Delphi survey approach was used to ensure that the programme was focussed on the needs and concerns of nurses across the region (2). The course outline presented here is based on the consensus view of survey respondents and experts from within the Network Steering Committee. This course outline is supported by an agreed competence framework, core presentations and a handbook for facilitators.

Course delivery

The course is composed of 12 modules; broken down into topic areas, The modular presentation of the curriculum enables it to be delivered in one taught 'block', or as distinct modules over a longer period of time, depending on local requirements. When taught as an orientation programme for new staff it should be delivered alongside a period of supervised practice, in line with the SIOP Baseline Standards.

Standard 2 states that all new nursing employees should receive a formalised paediatric oncology induction (orientation) programme to include two weeks of theory and clinical skills training and three to four weeks spent with an experienced nurse preceptor (3).

Course outline

Module	Module objectives	Taught content
Module 1: General introduction to cancer	<ul style="list-style-type: none"> • Demonstrate understanding of the basic pathological processes which lead to cancer <ul style="list-style-type: none"> ○ Demonstrate understanding of cell division and describe the stages of the cell cycle ○ Describe the characteristics of malignant cells • Demonstrate understanding of the causes of cancer in adults and in children • Describe the presentation of common and curable childhood cancers • Describe physiological and clinical differences between adult and childhood cancer and their management 	<ul style="list-style-type: none"> • Introduction to cancer and cancer biology • Common types of childhood cancer • Difference between child and adult cancers
Module 2: Diagnosis of cancer	<ul style="list-style-type: none"> • Describe the presentation and 'Early Warning Signs' of common childhood cancers • Demonstrate understanding of diagnostic procedures and tests for diagnosis • Demonstrate ability to interpret the results of basic investigations 	<ul style="list-style-type: none"> • Early warning signs of childhood cancer • Diagnostic work up and common tests performed to diagnose childhood cancer • Basic investigations and interpretation of laboratory results
Module 3: Cancer treatment modalities	<ul style="list-style-type: none"> • Define childhood cancer treatment modalities • Demonstrate understanding of nursing care before and after surgery for common surgical malignancies • Demonstrate understanding of principles of radiotherapy 	<ul style="list-style-type: none"> • Surgery <ul style="list-style-type: none"> ○ Pre- and post-operative nursing care • Radiation therapy <ul style="list-style-type: none"> ○ Preparation and nursing management of a patient on radiation therapy

<p>Module 3: (cont.)</p>	<ul style="list-style-type: none"> • Demonstrate understanding of principles of chemotherapy • Explain the concept of neoadjuvant and adjuvant chemotherapy • Describe the classes of the commonly used chemotherapy agents and their main mode of action • Demonstrates knowledge of the different chemotherapy types, and modes of delivery • Demonstrates knowledge of pre-chemotherapy needs such as fluid management, anti-nausea medications and 'critical tests' including blood counts • Demonstrates knowledge of treatment side effects and management 	<ul style="list-style-type: none"> • Chemotherapy – to include: <ul style="list-style-type: none"> ○ Principles of chemotherapy ○ Chemotherapy drug classification ○ Chemotherapy safety <ul style="list-style-type: none"> ▪ Preparation of chemotherapy <ul style="list-style-type: none"> • Dose calculation • Chemotherapy admixture and transport ▪ Administration of chemotherapy <ul style="list-style-type: none"> • Extravasation: prevention, recognition and management ○ Fluid management before, during and after chemotherapy
<p>Module 4: Management of Chemotherapy side effects</p>	<ul style="list-style-type: none"> • Outline the common short term side effects of chemotherapy • Demonstrates understanding of pathophysiology of Chemotherapy Induced Nausea and Vomiting (CINV) • Able to identify chemotherapy agents according to emetogenicity and principles of anti-emetic treatment • Able to identify chemotherapy agents which can cause diarrhoea and constipation and outline ways to manage these effects • Identifies chemotherapy agents with bone marrow suppressing properties • Educates patients and families on bulk forming diet and increase fluid intake in case of constipation • Educates patients and families on bone marrow suppression and need for isolation 	<ul style="list-style-type: none"> • Chemotherapy induced nausea and vomiting • Diarrhoea and constipation • Bone marrow suppression <ul style="list-style-type: none"> ○ Anaemia; neutropenia; thrombocytopenia ○ Blood products administration and management ○ Febrile neutropenia • Mucositis <ul style="list-style-type: none"> ○ Mucositis prevention in Methotrexate treatment with folinic acid and fluid management ○ Early signs and symptoms of mucositis • Haemorrhagic cystitis • Hypersensitivity and allergic reactions

<p>Module 5: Paediatric Oncological emergencies</p>	<ul style="list-style-type: none"> • Describe the complications arising from treatment of cancer • Outline the nursing care necessary for prevention, early detection, and treatment of complications of common chemotherapy treatments • Recognize the main oncologic emergencies and their management 	<ul style="list-style-type: none"> • Tumour lysis syndrome; prevention and management • Anaphylaxis and anaphylactic shock • Spinal Cord Compression • Septic shock • Hyperleukocytosis • Superior vena cava syndrome • Typhlitis • Seizures
<p>Module 6: Care of the sick child</p>	<ul style="list-style-type: none"> • Ability to undertake 'Top to toe' thorough physical examination and vital signs assessment for the child • Identifies signs that require urgent independent and collaborative interventions for a child during admission • Identifies signs of dehydration and principles of management 	<ul style="list-style-type: none"> • Physical examination and assessment skills • PEWS (Paediatric Early Warning Signs) • Basic life support in paediatrics • Venous access and IV lines
<p>Module 7: Providing safe care</p>	<ul style="list-style-type: none"> • Able to identify key principles of infection prevention and control • Identifies potential risks of handling chemotherapy 	<ul style="list-style-type: none"> • Infection prevention and control <ul style="list-style-type: none"> ○ Effective practice of hand hygiene with water and alcohol hand rub ○ Source isolation • Safe handling of chemotherapy <ul style="list-style-type: none"> ○ Use of PPE ○ Waste disposal and management (include cytotoxic waste) ○ Cytotoxic spill management
<p>Module 8: Psychosocial care</p>	<ul style="list-style-type: none"> • Demonstrates understanding of religious and cultural differences between families • Explains the psychological/emotional effects of cancer on the child and family • Identifies patients and families with extra needs for psychosocial and emotional support 	<ul style="list-style-type: none"> • Pre-treatment counselling • Psychological care of the child and family • Effective counselling of children with cancer and their parents/family • Religious and cultural practices of families of patients with cancer

<p>Module 9: Nutritional support for children with cancer</p>	<ul style="list-style-type: none"> • Identifies and assesses anthropometric parameters necessary for treatment and supportive care • Identifies education needs of child and family including recommended feeding patterns and hydration. 	<ul style="list-style-type: none"> • Nutritional education for parents • Essential anthropometric measurements • NG tubes/feeding
<p>Module 10: Palliative and supportive care to a child with cancer</p>	<ul style="list-style-type: none"> • Identifies and describes the principles of palliative care and end of life care and is aware of goals of each • Recognises contribution of the palliative care team (where available) in implementing care to alleviate any physical or psychosocial suffering of the patient, especially in terms of pain and side effects • Identifies the need to assess the patient and family preferences for end-of-life care, and involve them in discussions, decision making and goals. • Recognise the need for effective pain assessment and discuss the tools available • Recognise the need to prepare children for painful procedures and discuss the techniques for doing so 	<ul style="list-style-type: none"> • Symptom management <ul style="list-style-type: none"> ○ Pain assessment and management ○ Preparation for painful procedures • Quality of life • Death, dying and bereavement
<p>Module 11: Outpatient and follow up care</p>	<ul style="list-style-type: none"> • Identifies the need to explain to families potential short to medium term effects of chemotherapy • Identifies the symptoms that require patients to be brought back to the hospital following discharge after treatment • Explains recommended actions to be taken at home for common problems following treatment • Identifies education needed to dispel myths on childhood cancer, communicate warning signs and describe how to orient patients to care. 	<ul style="list-style-type: none"> • Triage of patients in Out Patient Department or other settings where they may present • Preparation of families for discharge <ul style="list-style-type: none"> ○ When to come in for an unscheduled visit ○ Fever at home • Community education on childhood cancer

<p>Module 12: Paediatric oncology nursing and the role of the nurse</p>	<ul style="list-style-type: none"> • Describes the role of the paediatric oncology nurse in a multidisciplinary team • Identifies potential stressors and how to mitigate them • Assesses and describes strategies to improve resilience for self and colleagues • Describes the importance of nursing research 	<ul style="list-style-type: none"> • What is a paediatric oncology nurse • Multidisciplinary team-work and the role of a nurse • Effective communication skills • Effective documentation of nursing care for children with cancer • Evidence based practice and nursing research in paediatric oncology • Stress Management for nursing professionals in paediatric oncology <ul style="list-style-type: none"> ○ Building resilience for self and for team ○ Time management in personal and professional life
--	---	---

REFERENCES

1. Day S, Hollis R, Challinor J, Bevilacqua G, Bosomprah E. Baseline standards for paediatric oncology nursing care in low to middle income countries: position statement of the SIOP PODC Nursing Working Group. *Lancet Oncol.* 2014 Jun;15(7):681–2.
2. Kiteni E, Afungchwi G, Gibson F, Hollis R. Outline for a Foundation Programme for Nurses New to Pediatric Oncology in Sub-Saharan Africa: Developed Using a Delphi Approach. In Abstracts from the 52th congress of the International Society of Paediatric Oncology (SIOP) Virtual congress, October 14 - 17, 2020. *Pediatric blood and cancer.* 2020 Dec; 6A (S4): 75
3. Day S, Challinor J, Hollis R, Abramovitz L, Hanaratri Y, Punjwani R. (2015) Paediatric oncology nursing care in low-and middle income countries: a need for baseline standards. *Cancer Control.* 2015; 111-116.