



2024

Ethiopian Health Professionals Licensing Examination(EHPLE)

INFORMATION BOOKLET

EMERGENCY AND CRITICAL CARE NURSING



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MINISTRY OF HEALTH - ETHIOPIA

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HEALTHIER CITIZENS FOR PROSPEROUS NATION!



**Institute of
Educational Research**

Message From the State Minister, Ministry of Health -Ethiopia



Mrs. Frehiwot Abebe

Improving healthcare quality is a global priority for sustainable development, with high quality healthcare being a key component of universal health coverage. One strategy to maintain health care standards is through provision of health professional competency assessment. Consequently, in 2019, the Ministry of Health Ethiopia, initiated the Ethiopian Health Professionals Licensing Examination (EHPLE) for undergraduates in seven health disciplines, which has since expanded to include 13 health disciplines.

The main goal of this competency assessment is to identify health professionals with minimal competencies necessary to perform their duties safely and competently, thus enhancing the quality of health care services. This initiative is overseen by a dedicated Health and Health Related Institutions and Professionals' Regulatory Lead Executive Office (LEO), comprising four desks, which plays a pivotal role in strengthening the system and enabling the LEO to conduct the competency exam more extensively and with improved organization and quality.

It is important to note that this competency assessment differs significantly from traditional academic or employment examinations. Hence, this information booklet has been created to address the informational needs of both examinees and teaching faculty regarding the Ethiopian Health Professionals' Licensure Examination. Additionally, it aims to facilitate the assessment process, while promoting transparency and ensuring the sustainability of the program.

The preparation of this guideline involved the collaboration of esteemed experts from various higher education institutions, the Ministry of Health, JHPIEGO-Ethiopia, Amref/HWIP, Health Professionals' Associations, and the Ministry of Education. Their invaluable contributions are acknowledged with sincere gratitude, alongside appreciation for the Ministry of Health staff for their unwavering commitment and hard work throughout the project.

Acknowledgements

This Information Booklet for Ethiopian Health Professional's Licensure Examinations is a contribution from several educators, researchers, students and concerned individuals with a genuine interest to propel Ethiopia's medical and health sciences education forward.

The Ministry of Health is grateful for the contribution of many individuals and institutions in realizing this endeavor. Among these are Professional Associations, Student Association, Higher Education Institutions (both public and private), JHPIEGO-Ethiopia, AMREF/HWIP, MOE (Ethernet), UNFPA, AAU-IER and all HHRIPR LEOs staff.



Acronyms and Abbreviations

EHPLE	Ethiopian Health Professionals Licensing Examination
ETA	Educational and Training Authority
HEIs	Higher Education Institutions
HHrIPR-LEO	Health and Health-related Institutions and Professionals Regulatory Lead Executive Office
HSTP-II	Health Sector Transformational Plan-II
MCQ	Multiple Choice Question
MoH	Ministry of Health
WHO	World Health Organization



Purpose of the Information Booklet

The Ethiopian Health Professionals' Licensure Examination (EHPLE) Information Booklet serves as a comprehensive guide for those individuals seeking information about the exam. It typically outlines basic information for candidate registration, exam development and administration processes and procedures, result notification, and the licensing process. It also includes information on the exam framework, i.e., the exam domain, sub-domain, content, process, and task, with sample exam items specific to each profession.

The publication of this Booklet is crucial for the following reasons:

- **Clarity and guidance:** It provides clear information about the exam by ensuring candidates understand the necessary information to prepare them.
- **Accessibility:** It serves as a readily accessible resource for individuals pursuing to take the exam, consolidating essential information in one document and facilitating easy access to necessary details. It also helps other stakeholders who might be interested in such resources.
- **Transparency:** It promotes transparency in the examination process and fosters trust among stakeholders about the exam.

In summary, the publication of this Booklet is essential for creating a transparent, standardized, and accessible framework that guides candidates through the EHPLE process.

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Definition of terms

- **Domain:** a broad category or area of knowledge or skills of a profession
- **Sub-domain:** a subset of a broader domain that focuses on knowledge or skills related to the overarching domain
- **Content:** a more specific subcategory, which is a breakdown of the sub-domain
- **Task:** the responsibility, knowledge, skill, and attitude of a junior undergraduate professional in an actual work environment
- **Process:** a systematic sequence of steps or actions designed to achieve a specific outcome
- **Learning outcome:** a clear and measurable statement that describes what the examinee is expected to know or be able to do
- **Relative emphasis:** the proportional importance or weight assigned to different content areas or categories within the assessment
- **Item:** a particular multiple-choice question
- **Item developer:** a subject matter expert responsible for writing test items or questions that make up the examination
- **Item reviewer:** a subject matter expert responsible for reviewing and refining the test items or questions that make up the examination
- **Standard setting:** a process of determining a cut-off point or passing score for an exam
- **Item difficulty index:** a statistical measure that indicates the proportion of examinees who answered a particular test item correctly
- **Discrimination index:** a statistical measure that evaluates how well a particular test item differentiates between high-performing and low-performing examinees
- **Admission paper:** a printout paper generated by the system after completing registration that contains the examinee's photo, QR code, and necessary information

1. Introduction

1.1. Background

Competency assessment is one of the strategies for controlling the standard of healthcare services provided in healthcare facilities. The World Health Organization (WHO) recommends all healthcare professionals to have necessary competencies. In Ethiopia, the Health Sector Transformational Plan-II (HSTP-II) states competency assessment of all graduates before joining the health workforce as one of the strategic initiatives.

The Ministry of Health (MoH) launched the Ethiopian Health Professionals Licensing Examination (EHPLE) for undergraduates in 2019. The Health and Health-related Institutions and Professionals Regulatory Lead Executive Office (HHrIPR-LEO) of the Ministry of Health was given a mission to implement the ministry's objective to achieve competency-related goals. It has the responsibility to ensure that the EHPLE meets technical, professional, and legal standards, and to protect the health, safety, and welfare of the public by assessing candidates' abilities to practice competently.

Currently, the exam is given for 13 health professions (Medicine, Nursing, Public Health, Pharmacy, Medical Laboratory Science, Anesthesia, Midwifery, Dental Medicine, Medical Radiology Technology, Environmental Health, Psychiatric Nursing, Pediatric and Child Health Nursing, and Emergency and Critical Care Nursing). Since its introduction until February 2024, a total of 166293 examinees took the exam in 14 rounds.

1.2. The Rationale of EHPLE

One of the critical functions of the MoH is to guarantee the efficiency, quality, and equity of healthcare delivery and to protect the public from any undesirable consequences in healthcare delivery practices. As professionals' competence is a significant determinant of the quality of health, evaluation of health professionals' competence has now been given due attention. The licensing examination for health professionals serves as a crucial step to ensure that individuals entering the field meet specific competency standards. The sole aim of the competency assessment is to safeguard public health by verifying that health professionals have the minimal basic knowledge, attitude, and skill required to provide safe and effective care.

Licensing exams act as a preventive measure, ensuring that only competent professionals join the health workforce, which, in turn, contributes to reducing the occurrence of medical errors and enhancing overall patient safety. By setting standards through examinations, regulatory bodies strive to minimize the risk of medical errors caused by incompetence.

2. Key processes of EHPL

EHPL involves several key processes to ensure the quality and reliability of the examination.

2.1. Registration of candidates

EHPL has a mandatory online registration system for both new and repeat candidates, which can be found at www.hple.moh.gov.et

Please note these important notes during registration.

New Test Takers:



- The list of eligible candidates from governmental and private Higher Education Institutions (HEIs) will be sent from Ministry of Education (MoE) to MoH and uploaded to the online registration system by MoH.
- Once the name of the candidate is uploaded to the system and registration has opened for the current exam round, the candidate must register at www.hple.moh.gov.et by uploading the necessary documents listed below.
 - ✓ a scanned original or temporary degree
 - ✓ a scanned government-issued ID, passport, driving license, or any other legal ID
 - ✓ a passport-size photo of the candidate
 - ✓ For international candidates:
 - Equivalence document from ETA
 - Completing an externship attachment according to assignment by the regulatory body
 - Externship attachment completion letter

Repeat Test Takers:



- Since the information about re-exam candidates already exists in the system, the candidate should register by directly going to www.hple.moh.gov.et. There is no need for re-exam candidates to upload their documents.

Both new and repeat candidates:



- After completing the registration, the candidate must download and print the admission paper by logging into his/her account using his/her email address and password
- The candidate can change the exam center by logging into his/her account only during the registration period
- Once an examinee has selected his/her exam center during the registration period, an application for center change will not be allowed

2.2. Task Analysis

The first step of exam development involves conducting a comprehensive task analysis study, which identifies the tasks, knowledge, skills, and abilities required from a junior undergraduate professional in the specific profession. The analysis is typically done through surveys, interviews, or observations of practitioners in the actual work environment, as well as through the Delphi method with subject matter experts.

2.3. Exam Blueprint

Based on the task analysis findings, a test blueprint is created that outlines the content areas to be covered in the examination and the weight or emphasis given to each area. This ensures that the exam reflects the key competencies and knowledge needed for competent practice in that specific profession. Blueprint or test specification is the matrix or chart that shows the number and type of test questions represented across the topics in the content area, consistent with the learning outcome and relative weight of the test given to each content area. The blueprint also identifies the percentage weighting of cognitive dimensions as the level of competence tested in each knowledge domain.

Key components of a blueprint are:

- Domain
- Sub-domain
- Content
- Task
- Process
- Learning outcome
- Assessment methods
- Assessment tools/instrument (test format)
- Relative emphasis (in percentage)

2.4. Item Development

The items are developed following specific guidelines to ensure clarity, relevance, and fairness. Subject matter experts with experience in the field are selected from HEIs to develop test questions (items) that align with the test blueprint. The exam questions will focus mainly on “knows how” according to the competency level of the Miller's pyramid. The items are produced in a secure location on designated computers that are free from internet connectivity. The items are scenario-based and constructed with stem, lead-in, and four options/alternatives. All items will have a single-best-answer type of Multiple Choice Question (MCQ) that addresses the learning outcome defined in each content area. Standard text books, updated guidelines, and standards are used as reference materials.

2.5. Item Review

Once developed, the items undergo a rigorous review process by item reviewers. The main purpose of the exam review process is to evaluate content relevance, technical accuracy, clarity, and sensitivity related to culture and religion. More experienced subject matter experts as well as psychometric experts will do the review to ensure the items meet psychometric standards. Subject matter experts shall review the items to confirm that they are accurate, clearly stated, and correctly keyed using the checklist. Psychometric experts shall reviews the items to ensure that they are not technically flawed. They also work on editorial review to check grammar, punctuation, and spelling errors. This helps ensure the reliability and validity of the items.

2.6. Standard setting method

The standard setting or cut-off point of the EHPLC is determined using the Modified-Angoff method, which is one of the most widely used and legally defensible standard setting approaches to set a cut-off point for high-stake competency examinations.

The method involves a panel of subject matter experts who evaluate each test question and then estimate the probability that a minimally competent examinee would answer each test item correctly. The average of the experts' predictions for a test question becomes its predicted difficulty. The average of the predicted difficulty values across all items on a test is the recommended cut-off point. This point indicates the minimum level of knowledge and skill required to pass.

2.7. Exam Administration

The EHPLC is administered following established protocols and guidelines. Proper test administration procedures, appropriate security measures, and appropriate consideration for test-takers who need special support will be applied during exam administration at exam centers. The exam is administered in selected HEIs nationally, where candidates can choose based on their convenience at the time of registration. The exam schedule will be posted ahead of time on the MOH website and official Facebook page. Examinees who have a valid admission paper are eligible to sit for the exam. The mode of exam administration is computer-based testing.

CAUTIONS

-
- Candidates are allowed



- Attend the orientation session in order to sit for the exam
 - Arrive at the exam center on time
 - Bring a legal ID and admission paper
 - Complete the exam within the allotted time frame
-

- Candidates are **NOT** allowed



- To bring reference materials, blank paper, or notes into the exam center
- To smoke, eat, or drink in the exam room
- To bring mobile phones, tablets, smart watches, camera devices, eyeglasses, calculators or any type of electronic device into the exam center
- To bring their personal belongings to the exam center
- To bring weapons and sharp materials into the exam center
- To give or receive assistance to or from other candidates during the examination

2.8. Scoring and post exam analysis

Once the exam is completed, the scoring process begins. The exam scoring process involves computerized scoring using software.

Post-exam analysis is the process of analyzing examinees' responses to individual test items in order to assess the quality of the items and the exam as a whole. This phase helps to identify any poorly performing items that may need revision or removal from the exam. The item difficulty index, discrimination index, and reliability coefficient are elements of exam analysis.

2.9. Result notification and appeal management

After scoring and analysis, individual score reports are generated and provided to examinees through the website www.hple.moh.gov.et. After result notification, examinees can submit their appeal through phone or email within 10 working days after result notification.

2.10. Licensing

The list of examinees who passed the exam will be sent to regional and city administration regulatory bodies. A license is obtained from the regional/zonal health bodies where he/she permanently lives.

Requirements for professional licensing are:



- Passing the EHPLE
- Original or temporary degree
- Educational documents (10th and 12th certificates)
- Medical certificate
- Government issued ID
- Additional prerequisites based on the requirements of regional regulatory bodies

3. Exam framework

The key broader professional roles, also known as domains or main knowledge areas serve as a building framework for the licensing examination content for Emergency and Critical care nurses. The domains are further divided into discrete professional attributes that constitute sub-units (also referred to as sub-domains) defining the professional identity for Emergency and Critical care nurses, specifying the performance level of each sub-domain serve as the final characteristic of the professional duties on which the licensing exam focuses.

The contents of the licensing examination are presented below, structured into key roles (domains), sub-units (sub-domains), and tasks. The examination emphasis for each domain and sub-domain, out of the total 100% questions, is indicated in brackets.

Key professional roles/ domains

- ☐ Patient Care (77.0%)
- ☐ Scholar (6.0%)
- ☐ Professionalism (6.0%)
- ☐ Leadership and management (5.0%)
- ☐ Health promotion and disease prevention (6.0%)

Key role/ domain 1: Patient care (77.0%)

Description: This domain encompasses the professional roles of Emergency and Critical care nurses in the provision of high-quality, safe, and patient-centered holistic nursing care within their scope of practice. The provision of up-to-date, ethical, and resource-efficient nursing care requires the application of integrated knowledge of biomedical, fundamental nursing, clinical, behavioral, and social sciences. This is conducted in collaboration with patients and their families, other healthcare professionals, and the community. As patient care providers, ECCN shall implement the Emergency and Critical nursing care process by collecting and interpreting information, making clinical decisions, carrying out diagnostic and therapeutic nursing interventions, providing nursing care, and evaluating interventions. To demonstrate competence in this domain candidates shall apply such integrated knowledge in the following sub-areas:

- ☐ Respiratory System (15.0%)
- ☐ Cardiovascular system (14.0%)
- ☐ Nervous system (9.0%)
- ☐ Gastro Intestinal System (6.0%)
- ☐ Genitourinary System (3.0%)
- ☐ Endocrine system (4.0%)
- ☐ EENT system (3.0%)
- ☐ Immune system and Integumentary (3.0%)
- ☐ Trauma and musculoskeletal system (16.0%)
- ☐ Special Population (4.0%)

Key role/ domain 2: Scholar (6.0%)

Description: This domain encompasses the professional roles of Emergency and Critical care nurses in generating and utilizing scientific data to improve the health and well-being of Ethiopians and broaden their scientific knowledge within the healthcare system and community setting. Providing this service requires the application of integrated knowledge in research methods, measurements of health and disease, biostatistics, epidemiology, clinical audit, evidence-based practice, and research ethics. To demonstrate competence in this domain, candidates must possess applied knowledge in planning, problem identification, data collection, analysis, interpretation, report write up, and dissemination of research outputs.

Key role/ domain 3: Professionalism (6.0%)

Description: This domain encompasses the professional commitment of Emergency and Critical care nurses to promoting the health and well-being of individuals and society through adhering to ethical standards, maintaining personal integrity, and upholding high standards of competence in all areas of practice. To exhibit competence in this domain, candidates must possess applied knowledge of ethical principles, medico-legal practices, effective communication, accountability to the profession and society, maintenance of professional excellence and personal health, and professional values such as compassion, respect, integrity, honesty, altruism, and humility.

Key role/ domain 4: Leadership and management (5.0%)

Description: This domain encompasses the professional roles of Emergency and Critical care nurses in envisioning a high-quality healthcare system through self-awareness, active participation in healthcare teams, leading teams, and managing health systems. Providing this service requires the application of integrated knowledge in continuous quality improvement, effective health system leadership, management, and healthcare ethics. To demonstrate competence in this domain candidate shall possess applied knowledge to plan, organize, staff, lead, execute, monitor, and control healthcare resources and activities.

Key role/ domain 5: Health promotion and disease prevention (6.0%)

Description: This domain encompasses the professional roles of Emergency and Critical care nurses in enhancing the health and well-being of patients, communities, and the larger populations they serve through health advocacy, disease prevention, health promotion and the promotion of health equity. Providing this service takes an integrated understanding of determinants of health, health informatics, epidemiology, communicable disease control, health education.

Table 1 Exam Content for Emergency and Critical Care Nursing Profession

Domain Patient care	
Sub-domain: Respiratory System	
Contents	Tasks
Acute Asthma, COPD exacerbation, Pleural effusion, ARDS, Respiratory failure, Pneumothorax, Pulmonary Edema, Severe pneumonia	Assess and diagnose common respiratory emergency and critical problems
	Formulate management plan for patients with common respiratory emergency and critical problems
	Provide nursing care for patients with emergency and critical respiratory problems
	Monitor and evaluate the progress of emergency and acutely ill patients with respiratory problems
Sub-domain: Cardiovascular System	
Contents	Tasks
Acute Heart Failure, Acute coronary syndrome, Arrhythmia (AF, VT, VF, asystole, SVT), Embolism, Hypertensive crisis, Cardiogenic Shock, DIC, Pericardial Disease (effusion, pericarditis, tamponade), severe Anemia, and Thrombocytopenia	Assess and diagnose common cardiovascular emergency and critical problems
	Formulate management plan for patients with cardiovascular diseases
	Provide nursing care for patients with emergency and critical cardiovascular problems
	Manage patients with common cardiovascular emergency and critical problems
	Monitor and evaluates the progress of emergency and acutely ill patients with cardiovascular disorders
Sub-domain: Nervous System	
Contents	Tasks
GBS, Myasthenia gravis, Tetanus, Botulism, Acute meningitis, Stroke, Status epileptics, Headache, Altered Mental Status	Assess and diagnose patients with common nervous system emergency and critical problems
	Formulate management plan for patients with neurological emergency and critical problems
	Manage common nervous system emergency and critical problems
	Provide nursing care for patients with nervous system emergency and critical problems
	Monitor and evaluates emergency and critical patients with nervous system problems
Sub-domain: GI System	
Contents	Tasks
GI bleeding, Appendicitis, Intestinal obstruction, Acute pancreatitis, Acute peritonitis, PUD, Acute diarrhea	Assess and diagnose patients with gastrointestinal emergencies and critical problems
	Formulate management plan for patients with GI emergency and critical problems
	Manage patients with emergency and critical gastro-intestinal problems
	Provide nursing care for patients who have gastro intestinal emergency and critical problems
	Monitor and evaluates the progress of emergency and acutely ill patients with GI system problems
Sub-domain: GU System	
Contents	Tasks
Electrolyte imbalance, fluid imbalance, Acute kidney injury, CKD, Acid	Assess and diagnose patients with Genito-urinary emergency and critical problems
	Formulate management plan for patients with GUT emergency and critical problems

base imbalance, Acute pyelonephritis	Manage patients with emergency and critical Genito-urinary problems
	Monitor and evaluates the progress of emergency and critical patients with GU system problems
Sub-domain: Endocrine System	
Contents	Tasks
DKA, Hypoglycemia/Hyperglycemia, HHS, Thyrotoxicosis, Adrenal crisis	Assess and diagnose patients with endocrine emergency and critical problems
	Formulate management plan for patients with common endocrine emergency and critical problems
	Monitor and evaluates the progress of emergency and acutely ill patients with endocrine problems
Sub-domain: EENT System	
Contents	Tasks
Peri-tonsillar abscess, Foreign body obstruction, Epistaxis	Assess patients with emergency EENT Problems
	Formulate management plan for patients with EENT Emergency Problems
	Manage patients with EENT Emergency Problems
	Monitor and evaluate patients with common EENT emergencies
Sub-domain: Immune System and Integumentary	
Contents	Tasks
Hypersensitivity and skin allergic reaction, HIV related emergencies	Formulate management plan for common immunologic and integumentary emergencies
	Manage common immunologic and integumentary emergencies
	Monitor and evaluate patients with common immunologic and integumentary emergencies
Sub-domain: Trauma and Musculoskeletal System	
Contents	Tasks
Head and spinal cord injury, Neck and facial injury, Chest injury, Abdominal trauma, Urology trauma, MSS injuries, Burn injury, Poisoning	Conduct primary survey to diagnose life threatening problems and secondary survey to identify missed injuries for trauma pts.
	Formulate management plan for patients with trauma and musculoskeletal emergency
	Provide Advanced Trauma Life Support
	Provide emergency care for patients with burn problems
	Provide proper emergency and critical care for poisoning
	Monitor and evaluates the progress of emergency and critical patients with trauma (Mental status, Vital signs, Oxygenation, Ventilation, hemodynamic)
Sub-domain: ECCN for Special Population	
Contents	Tasks
Abnormal Uterine Bleeding (AUB), APH, PPH, Preeclampsia and Eclampsia, Puerperal Sepsis, Active third stage labor, Febrile seizure, Meningitis, Dehydration, Severe pneumonia, Hypoglycemia, Asphyxia, Neonatal sepsis, Hypothermia, Acute psychosis, Suicide attempt,	Assess and diagnose common obstetric and gynecological emergencies
	Manage mothers with Obstetric and gynecological emergencies
	Monitor and evaluate mothers with Obstetric and gynecological emergencies
	Formulate management plan for common pediatrics and neonatal emergencies (ETAT)
	Manage common pediatrics and neonatal emergencies
	Monitor and evaluates the progress of common pediatrics and neonatal emergencies
	Formulate management plan for psychiatric emergencies
	Provide emergency care for patients with psychiatric emergencies

and Delirium	Monitor and evaluate psychiatric emergencies
Domain-2: Health Promotion and Disease Prevention	
Contents	Tasks
Surveillance, Screening, Nutritional assessment, Traditional practice, CDC, Outbreaks, Epidemic, Diseases transmission, Violence, Intervention, Palliative care, First aid	Assess community health status (surveillance and screening for emerging and re-emerging issues)
Disaster	Promote disaster and accident prevention (education)
Domain-3: Leadership and Management	
Contents	Tasks
Planning, Management, Manager and leader, Skill, Health care delivery system, Supervision, Primary Health Care (PHC)	Manage health care system (planning, organizing, staffing, directing, and controlling)
Communication, Decision, Health team, Conflict, Health Care insurance	Coordinate and lead emergency and critical care team
Monitoring and Evaluation, infection prevention principles, Infection Prevention and Control (IPC), Risk Management	Create a safe and conducive environment for staff, client, attendant and bystanders
Service audit	Organize emergency and critical care service quality audits
Domain-4: Scholar	
Contents	Tasks
Research planning	Develop research proposal and report
Field work	Collect quantitative and qualitative data and information
Analysis/ report	Analyze and interpret quantitative and qualitative data and information
Teaching aids, methods, Lesson plan	Mentor students or other health professionals with application of basic principles of teaching methods
Domain-5: Professionalism	
Contents	Tasks
Standards, Roles, Ethical dilemmas, Bills of right, MRC	Adhere to standard of practice (for ECCN practicing in Ethiopia), legal and ethical principles pertaining to nursing practice (including ethical dilemmas, Motivate, Respectful, Care (MRC) at all levels and settings)
Documentation	Produce and maintain accurate documentation of activities, procedures, results and prepare report
Communication, Consents	Establish and maintain effective communication at all levels of EMSS (including Advocacy for patients and the emergency and critical care nursing profession)

Sample Questions

1. A 55-year-old female patient, who has a respiratory distress and diagnosed with acute severe asthma, is admitted to an emergency department. She also has productive cough and chest tightness. Her physical examination reveals: respiratory rate of 29/min, pulse rate of 120/min and oxygen saturation of 91 percent.

What is the most appropriate nursing care plan for this patient?

- (A) To position the patient to upright position
- (B) To position the patient to supine position
- (C) To position the patient to prone position
- (D) To administer pain relief medication

Answer key: The answer is **A**

Explanation: In this scenario, the patient is presented with respiratory distress due to acute severe asthma which is revealed by tachypneic and decreased oxygen saturation. Upright position helps the patient to be relieved from shortness of breath by increasing oxygenation. Besides, it helps the patient to restore normal breathing pattern. To position the patient to supine position (option B) may be considered as alternative but is not the appropriate and effective nursing care plan to relieve shortness of breath. To position the patient to prone position (option C) may help to relieve the respiratory distress but is less effective nursing care to restore normal breathing. To administer pain relief medication (option D) this can be used to relieve pain but is not most appropriate nursing care plan to relieve respiratory distress.

2. A 40-year-old female patient is admitted to an emergency department with a diagnosis of moderate asthma. She has such asthmatic symptoms as shortness of breath, cough and chest tightness which became worse over the last 24 hours. On physical examination, the patient's pulse rate is 119/min, oxygen saturation is 88 percent, and respiratory rate is 30/min.

What is the priority nursing intervention for this patient?

- (A) Consulting physician for intubation
- (B) Securing IV line with normal saline
- (C) Positioning the patient on flat position
- (D) Providing oxygen with face mask

Answer key: The answer is **D**

Explanation: In this case scenario, the patient is diagnosed with moderate asthma with shortness of breath, cough and chest tightness. Option D is the priority nursing intervention to relieve the patient from difficulty of breathing by providing high flow volume of oxygen. Consulting physician for intubation (option A) can be considered as the priority nursing intervention but it is not the priority intervention as intubation is the last intervention option. Securing IV line with normal saline (option B) can be the alternative option to maintain fluid balance but it is not the priority nursing intervention for relieving shortness of breath. Positioning the patient on flat position (option C) may

be considered as an alternative intervention but it cannot adequately relieve shortness of breath.

3. A 50-year-old female patient came to an emergency room with complaints of frequent vomiting and diarrhea. She informed that the diarrhea is painless and lasted for more than 24 hours. On assessment, she is lethargic, has scaphoid abdomen, and poorly returned skin turgor with cyanotic appearance.

What is the most appropriate initial assessment for this patient?

- | | |
|-------------------------------------|-------------------------------------|
| (A) Rapid toxicology screening | (C) Quick bed side ultrasonography |
| (B) Urgent laboratory investigation | (D) Rapid assessment of vital signs |

Answer key: The answer is **D**

Explanation: In this case scenario, the patient complains of frequent vomiting and diarrhea which lasts more than 24 hours. Rapid assessment of vital signs (option D) is the most appropriate initial assessment to identify status of vital signs of a patient which helps to determine the diagnosis and provide clue for the management. Rapid toxicology screening (option A) can be used as alternative assessment but is not the first step assessment for this patient. Urgent laboratory investigation (option B) can be considered as alternative assessment method but it is done after the initial assessment. Quick bed side ultrasonography (option C) can be used as an assessment technique to diagnose the patient's problem but it is requested based on initial assessment and laboratory findings.

4. A 42-year-old male patient is admitted to an emergency department with a diagnosis of acute coronary syndrome. He complains of severe chest pain that radiates to his shoulder. On assessment, the nurse found that he is anxious and restless. His vital signs show: Blood pressure of 80/60 mmHg, Pulse rate of 55/min, Respiratory rate of 28/min and temperature of 37.5 °C.

What is the most appropriate initial care plan for this patient?

- | | |
|---|--|
| (A) To restore damaged myocardial cells | (C) To relieve pain and ischemic signs |
| (B) To reduce anxiety and restlessness | (D) To eliminate etiologic factors |

Answer key: The answer is **C**

Explanation: In this case scenario, the patient is complaining of severe chest pain with unstable vital sign. Relieving pain and ischemic sign (option C) is the most appropriate initial care plan which helps to relieve patient from severe chest pain and stop further tissue ischemia and increases tissue perfusion to the area. To restore damaged myocardial cells (option A) can be considered as alternative nursing care plan but it is not immediate care plan for this patient. To reduce anxiety and restlessness (option B) can be used as alternative care plan but this can be provided after patient relieve from severe pain and ischemia. To eliminate etiologic factors (option D) can be used as alternative care plan

eliminate the tumor. Biopsy (option D) is a diagnostic procedure to remove a small sample of tissue to be examined microscopically to detect malignant cells but it is not appropriate management to avoid the tumor.

7. A 45-year-old male patient comes to an emergency room with complaints of constipation, acute abdominal pain, abdominal distension and vomiting of three days duration. Physical examination reveals the presence of tachycardia, dehydration, and abdominal rigidity.

What is the most relevant investigation to diagnose this case?

- (A) CT-scan (C) Urine analysis
(B) Chest X-ray (D) Stool examination

Answer key: The answer is **A**

Explanations: In this scenario, CT scan is the most widely used diagnostic method for patient with signs and symptoms of gastrointestinal disorders. CT scan (option A) is more accurate diagnostic tool to identify abdominal pathology, which also provides detail information about the abdomen. If there is an intestinal obstruction, CT scan can identify the location, severity, and the causes of obstructions. CT scan result will also guide which type of management is appropriate for this patient. Chest X-ray (option B) is may be considered as a diagnostic tool for respiratory disease. Urine analysis (option C) can be used to diagnose any disease associated with genitourinary system and stool examination (option D) is used to identify parasitic disease. In this case the three options are not mostly used diagnostic methods for patient with signs and symptoms of gastrointestinal disorders.

8. A 25-year-old male patient came to a health center emergency room with complaints of excessive sweating, increased urination and vomiting of six hours duration. On assessment, he is lean, has pulse rate of 140/min, respiratory rate of 30/min and hypothermia. Laboratory finding shows that he has urine ketones+3 and plasma glucose level of 300mg/dl.

What is the most likely diagnosis of the patient?

- (A) Adrenal crisis (C) Hypoglycemia
(B) Hyperglycemia (D) Diabetic ketoacidosis

Answer key: The answer is **D**

Explanations: In this scenario, the patient is presented with a typical clinical presentation of diabetic ketoacidosis. DKA (option D) is an emergency condition which is manifested by the three clinical features such as hyperglycemia, dehydration and acidosis with electrolyte loss. In addition, a patient with DKA has polyuria, polydipsia, hypotension, nausea and vomiting. Adrenal crisis (option A) is a life-threatening clinical condition due to insufficient levels of cortisol. The clinical manifestations include: hypotension, abdominal pain, nausea and disorientation. Ketone is not positive on patient with

adrenalin crisis and hypoglycemia. Hyperglycemia (option B) alone may cause long term complication on the patient, which is not acute and fatal like DKA. Hypoglycemia (option C) is a common complication with diabetic mellitus patient. A patient with hypoglycemia is manifested by low plasma level of blood glucose, change in mental status and negative ketones.

9. A 35-year-old male patient is referred to a surgical emergency ward with a diagnosis of septic arthritis. Even though he has been taking broad spectrum IV antibiotics, he showed no improvement. A nurse assessed the patient and diagnosed the case as deficient knowledge about septic arthritis process and treatment regimen.

What is the most important nursing intervention for the patient?

- (A) Improving the bowel elimination
- (B) Controlling the infectious process
- (C) Supporting adherence of prescribed antibiotics
- (D) Observing weight-bearing and activity restriction

Answer key: The answer is C

Explanations: In this scenario, the patient would be treated with broad spectrum antibiotics. Once antibiotic is started, the nurse should support the patient for adherence of antibiotics. The nurse should counsel and advise the patient about the importance of treatment adherence and associated clinical outcome. Improving the bowel elimination (option A) is an important nursing intervention for all patients who are admitted to a ward but in this case there is no association between bowel elimination and response to treatment. Controlling the infection process (option B), indicates that the nursing diagnosis is knowledge deficit, the infection process will be controlled when broad spectrum antibiotics is administered properly and when good adherence is ensured. Observing weight-bearing and activity restriction (option D), may be applied to prevent further complications, but this kind of nursing interventions doesn't have a direct association with knowledge deficit, drug adherence and response to treatment.

10. A 33-year-old male patient was referred to an emergency department from district health center with a diagnosis of femoral and pelvic fractures. During assessment, he complains of severe pain and petechiae in the buccal membranes and conjunctival sacs on the hard palate, the chest and anterior axillary folds. His blood pressure is 80/50 mmHg, temperature is 39.5 degree centigrade, SpO₂ is 80 percent, and respiratory rate is 24/min.

What is the most likely complication in this scenario?

- (A) Fat embolism
- (B) Heterotopic ossification
- (C) Compartment syndrome
- (D) Complex regional pain syndrome

Answer key: The answer is **A**

Explanation: In this scenario, fat embolism is the most common and early complication of patient with long bone and pelvic bone fracture. Usually, fat embolism occurs within 12-48 hours following injury and more common in adults younger than 49 years. Common clinical presentation of fat embolism is hypoxia, tachypnea, tachycardia, chest pain, wheezing and cough. Heterotopic ossification (option B) is a complication which is manifested after bone fracture. It is an abnormal bone formation which occurs near to bone or within the muscle. Clinical manifestations are pain over the affected muscle, and restricted range of motions. Compartment syndrome (option C) is one of limb-threatening conditions as a result of low tissue perfusions which lead to limb ischemia. Patient with compartment syndrome complains deep throbbing pain which is not respond to opioid treatment. Complex regional pain syndrome (option D) is a delay type of complication which usually occurs after fracture of upper extremity. It has clinical presentations of burning sensations, edema, stiffness and hyperesthesia.

11. A nurse is caring for a 62-year-old male patient diagnosed with delirium. The patient has no history of chronic illness, trauma, and substance abuse. Besides, he has no evidence of infection..

What is the most relevant history the nurse anticipates from this scenario?

(A) Systemic infections

(B) Substance-Intoxication

(C) Hypertensive encephalopathy

(D) Disturbance in the sleep–wake cycle

Answer key: The answer is **D**

Explanations: In this scenario, delirium is characterized by abnormal level of consciousness and a change of cognitions which occurs rapidly within a short period of time. For a patient with delirium, it is very important to collect a relevant history of fluctuation between hypersomnolence and insomnia. The nurse should also collect a history of the sleep-awake cycle which is the most important. Systemic infection (option A) may have a direct relationship with delirium; in this case there is no sign of infection. Substance intoxication (option B) may be considered as an etiology for delirium, but in this scenario there is no suggestive sign of intoxications induced delirium. Hypertensive encephalopathy (option C), this is one of a medical condition which may result delirium. In this case there no signs of an increased blood pressure. Generally, a patient with delirium due to any causes the most important and relevant history that the nurse should collect is Disturbance in the sleep–wake cycle.

12. A district health office with the help of other stakeholders is responsible for displaced community members who are displaced due to drought. Hence, the office is currently trying to restore power, provide shelters, job assistance, critical stress debriefing for emergency responders and victims. It is also providing small business loans to enable the affected community regain a proper level of functioning in a short and long term bases.

What is the most likely disaster management phase applied in this case?

- (A) Preparedness (B) Mitigation (C) Prevention (D) Recovery

Answer key: The answer is **D**

Explanations: - In this scenario, Recovery phase is an essential component of disaster management. Recovery aims on long term activities which support the community by reconstructing of the physical infrastructure, providing emotional, social and physical support. This phase also facilitate the improvement post disaster crises. The recovery phase is long-lasting and which needs multisectoral involvement. Recovery involves rebuilding homes, replacing property, resuming employment, restoring business, and permanently repairing and rebuilding infrastructures. Preparedness (option A) is a time for preparations and makes our self-ready to respond to a disaster, to any crises and in any emergency situations. Mitigation (option B) usually it is an initial phase of disaster management which is designed to reduce further damage and losses. Prevention (option C) specifically this phase will focus on prevention of disaster before causing crises, and damage on human being and resources. An adequate preparation will also reduce severe damage.

13. A nurse working in an emergency room was providing care to a patient who has a stick injury on his head due to fighting. Since, the case is medico-legal issue; the nurse recorded the type of injury, date and time, name of the patient, cause of the injury and the treatment given for the patient.

What the most relevant information missing from the above scenario?

- (A) Ethnicity of the patient (C) Religion of the patient
(B) The size of the wound (D) Duration of the injury

Answer key: The answer is **B**

Explanation: In routine documentation of any emergency trauma documentation, it is mandatory to include critical components that would help to give clear picture of the injury in an objective manner. These includes type of injury, date and time, name of the patient, cause of injury and the treatment given. Regarding the wound, the site, the depth, and size are critical; hence, should document. In this scenario, the size of the wound was not mentioned while it is determinant to give final decision in court. Other factors like ethnicity and religion cannot be changed through time and have less effect on the court decision.

14. The head of a health center has organized a health development army team for a surrounding community to prevent home delivery and associated neonatal mortality. The team members of the health development army know what and how of performing their expected activities in a most effective manner.

What are the most likely features that characterize the team member in this case?

- (A) Having a synergy team
- (B) Having a shared decision making
- (C) Having a defined roles and responsibilities
- (D) Having a common focus between team members

Answer key: The answer is C

Explanation: Teams that are effective can achieve more together than they would as individuals all working alone. Awareness of the characteristics of a team helps to manage effectively the group. Effective teams are built on communication, trust, shared decision-making, positive reinforcement, cooperation, flexibility, focus on common goals, having well defined roles and responsibilities, and they should have synergy. In this scenario among these characteristics of effective team, the team members of the health development army know the expected activities they have to perform and how to perform those activities these indicates the defined roles and responsibilities of team members is clear.

15. A researcher planned to conduct a study on the risk factors of birth asphyxia among newborns. Before deciding on the topic, the researcher reviewed the results of previously conducted researches on the field to explore whether there are major questions that require further investigation.

What is the most likely criterion applied by the researcher to select the research topic?

- (A) Feasibility
- (B) Relevance
- (C) Political acceptability
- (D) Avoidance of duplication

Answer key: the answer is D

Explanation: Avoiding duplication is the method that the researcher investigates whether the topic has been researched and investigates major questions that deserve further investigation remain unanswered. The scenario tells us that the researcher has reviewed the results of previously conducted research on the field to explore the major questions that deserve further investigation to avoid duplication of works. However, choice A considers the complexity of the problem and the resources that the researcher requires for the study; Choice B is about how a research result is useful in policy formulation; choice C is about the interest and support of the authorities.

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