

BOWEN UNIVERSITY, IWO

B. PHYSIOTHERAPY PROGRAMME

2021/2022 SESSION SECOND SEMESTER EXAMINATION

PST 513: GERONTOLOGY/GERIATRIC PHYSIOTHERAPY

Date: 09/09/2022

Time Allowed: Two 2 ½ hours

SECTION A: Answer all questions

PART 1: ESSAY

1. Mention any two instruments you can use to assess each of the constructs in older adults:
 - a. Quality of life
 - b. Fear of falling
 - c. Physical activity

Write on the scoring and interpretation of any chosen one of the instruments mentioned above

2. List the four approaches to clinical diagnosis.
3. Define frailty according to Morley
4. Write on the clinical frailty scale.
5. What is the role of a physiotherapist in comprehensive geriatric assessment?

PART 2:

Answer true or false. A wrong answer attracts a penalty.

1. Clinical frailty scale is an off shoot of Rockwood's Accumulation of Deficits Model.
2. Rockwood's model is more physiotherapy-friendly than the Fried's model
3. The cut-off point of Rockwood's model is a score of 3.
4. The following are the five categories of Fried's model: Physical activity, Muscle strength, gait speed, fatigue, and physical function.
5. Comprehensive geriatric assessment must be multidimensional
6. Comprehensive geriatric assessment focuses on quality of life; functional status; prognosis; and outcome - entailing greater depth and breadth.
7. Comprehensive geriatric assessment has six domains.
8. Frailty is synonymous with ageing.
9. Impairment involves deficits in the performance of ADL and IADL that are broadly pertinent to many social roles.
10. Disease is an ongoing pathological state that is delineated by a particular cluster of signs and symptoms.

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SECTION B:

PART 1: ESSAY:

Answer all questions in this section

- 1) a) An 82 year old geriatric female patient was referred to your clinic, as a Physiotherapist discuss the various components that will be involved in your comprehensive assessment.(7 marks)
- b) Enumerate the Pros and Cons of Home and Institutional Physiotherapy geriatric care (3 marks)
- 2) Mr Smith is a 72 years old retired teacher who had been diagnosed with DM with Diabetic neuropathy complication was referred by the multidisciplinary team to your department for expertise management using the SOAPIER format how will you evaluate and manage him for Diabetic neuropathy as a Physiotherapist(10 marks)

PART 2:

GENERAL INSTRUCTION: Answer all questions and choose the option that best answers each question and do it in the question paper

- 1) All of following is true concerning Diabetic neuropathy except?
 - a) Tingling/"pins and needles" or burning sensation in the feet
 - b) Numbness in the hands or feet, often on both sides, described as a stocking-and-glove distribution
 - c) Deep tendon reflexes are commonly intact
 - d) Vibratory sense in the feet is tested with a 128-Hz tuning fork placed at the base of the great toenail
- 2) Which of the following is true concerning administering of Therapeutic exercise; Do NOT exercise if blood glucose level (BGL) is:
 - a) < 100 mg/dL
 - b) > 250-300 mg/dL
 - c) < 100mg/dl
 - d) Option a and b
- 3) Which of the following is incorrect concerning Diabetes mellitus
 - a) Insulin Resistance is a prominent feature of type 2 diabetes.
 - b) Central obesity contributes to insulin resistance
 - c) Type 1 DM is characterized by destruction of a-cells usually leading to absolute insulin deficiency
 - d) Impaired glucose tolerance can predispose to Type 2 DM
- 4) Predictors for acute glucose response to exercise includes the following except

- a) Post-exercise glucose
 - b) Moderate intensity= max HR (220-age) X (50-70%)
 - c) Duration of exercise
 - d) Hgb A1c
- 5) With an increased risk for obesity related diseases including type 2 diabetes which of the following statement is false?
- a) A waist-to-hip ratio of < 1 in men
 - b) A waist-to-hip ratio of > 0.8 in women
 - c) A waist-to-hip ratio of > 0.8 in women or > 1 in men
 - d) A waist-to-hip ratio of >1 in men or > 0.8 in women
- 6)The ACSM exercise prescription guidelines recommend for neuromotor exercise for the elderly includes the following except?
- a) Frequency of 2-3 days / week
 - b) Progressively difficult postures that gradually reduce the BOS (Two-legged stand, semi tandem stand, tandem stand, one legged stand.)
 - c) Reducing sensory inputs (Standing with eyes opened)
 - d) Dynamic movements that perturb the COG (tandem walk, circle turns)
- 7) The ACSM exercise prescription guidelines recommend for aerobic exercises for the elderly includes the following except
- a) Frequency – 3-5 days / week (moderate intensity physical activity)
 - b) Intensity – Borg scale of 7 – 8 in a scale of 10 for moderate intensity
 - c) Type – Any modality that does not impose excessive orthopaedic and cardiopulmonary stress
brisk walking, and stationary cycle exercise.
 - d) Time – Moderate intensity: 30 – 60 minutes / day in bouts of 10 minutes each to total of 150 – 300 min / week
- 8)Which of the following confirmed values meet the diagnostic criteria for diabetes?
- a) fasting blood glucose of 100-126 mg/dl
 - b) Impaired Glucose Tolerance ≥ 140 mg/dl
 - c) 2 hour post prandial glucose ≥ 200 mg/dl
 - d) Impaired Fasting Glycaemia of 110-126 mg/dl
- 9) Which of the following statements is correct?
- a) "Prediabetes" is a condition characterized by an increased risk for the future development of type 2 diabetes
 - b) Insulin suppresses the activity of glycogen synthase
 - c) The rise in insulin concentration after meal ingestion is reduced in type 1 but not in type 2 diabetes
 - d) Insulin mediates glucose uptake in the brain
- 10) The risk factors for type 2 diabetes mellitus include the following except:
- a) Family history
 - b) Having a BMI of 23kg/m²
 - c) Hypertension [BP \geq 140/90 mm Hg]
 - d) HDL-c \leq 35mg/dL and/or TG level \geq 250mg/dL

- 11) The pathogenesis of hyperglycemia in type 2 diabetes includes all the following mechanisms except for:
- Increased glucose production by the liver
 - Impaired insulin secretion
 - Decreased glucose uptake from the skeletal muscle
 - All of the options given are correct
- 12) Which statement best describes the differences between the characteristics of type 1 and type 2 diabetes:
- persons with type 2 diabetes usually require lower doses of insulin than person with type 1 diabetes because they have a milder form of diabetes
 - persons with type 1 diabetes rapidly develop chronic complications
 - autoimmune factors are involved in the pathogenesis of type 1 but not type 2 diabetes
 - persons with type 1 diabetes can increase endogenous insulin production by taking oral hypoglycemic agents
- 13) According to ACSM which of the following is false concerning recommended moderate mode of therapeutic exercise for diabetic mellitus patient
- Activities that are 3 to 6 METS in intensity
 - Walking 1 mile between 15 and 23 minutes.
 - Biking between 15 and 90 Watts.
 - Activity in an 15 to 17 range using Rate of Perceived Exertion.
- 14) Which of the following are the recommended blood pressure and lipid goals for the prevention of cardiovascular disease in adults with diabetes?
- BP < 140/90, Trig <150, LDL < 100
 - BP < 135/80, Trig < 200, LDL < 130
 - BP < 130/80, Trig <150, LDL < 100
 - BP < 130/85, Trig < 300, LDL < 100
- 15) Diabetes mellitus is a disorder characterized by hyperglycemia.
Which of the following are not the common characteristic features of type 2 diabetes mellitus?
- Impaired insulin secretion
 - Increased Insulin resistance
 - Diabetic ketoacidosis
 - Excessive hepatic glucose production
- 16) Which of the following are the characteristic features of type 1 diabetes mellitus?
- Type 1 diabetes is caused by an absolute deficiency of insulin.
 - Type 1 diabetes is associated with the autoimmune destruction of beta cells.
 - Patients with type 1 diabetes present with diabetic ketoacidosis
 - All of the above
- 17) Which of the following serum measurements are not used for diagnosis of diabetes mellitus
- Insulin
 - Glucose Tolerance Test
 - Postprandial blood glucose
 - Glycosylated Hemoglobin HbA1c

18) Prediabetes is the term used for individuals that do not meet the criteria for diabetes but are too high to be considered normal.

Which of the following statement accurately characterize prediabetes?

- a) Fasting blood glucose from 120-180 mg/dL
- b) Fasting blood glucose from 126-140 mg/dL
- c) Fasting blood glucose from 110-125 mg/dL
- d) All of the above

19) All of the following drugs are oral hypoglycemic drugs, Except

- a) Metformin
- b) Sulphonylureas
- c) Thiazolidinediones
- d) Insulin

20) A 79y/o female who underwent surgical procedure of (L) TKA with severe RA of hands, shoulders, knees. Which assistive aide is most appropriate for her usage?

- a) Large based quad cane
- b) Wheelchair
- c) Forearm supports attached to a two-wheel walker
- d) Two-wheel walker

21) Which of the following information concerning the usage of assistive aids in geriatrics is false

- a) Canes usage carries 15-20 % of body weight
- b) Crutches usage carries 50% of body weight
- c) Zimmer frame usage carries 50 % of body weight
- d) Wheel chair carries 100% of the body weight

22) A 31 y/o Mrs George who is an actress was diagnosed of DM which of the following therapeutic exercise consideration is likely to be incorrect

- a) Optimal timing for exercise is 2-3 hours after meal
- b) Low to moderate intensity is best to prevent abrupt changes in BGL.
- c) Therapeutic exercise increases sensitivity of cells to insulin (helpful in Type I DM)
- d) Blood glucose level should be 5.6-8.3 mmol/L before and ≥ 6.1 mmol/L after according to per Goodman and per Gulve respectively.

23) In Diabetic ketoacidosis, the lack of insulin causes increased production of ketone bodies.

Which of the following laboratory results are likely seen in diabetic ketoacidosis?

- a) Decreased arterial blood pH, increased blood glucose, decreased bicarbonate ion concentration
- b) Decreased arterial blood pH, increased blood glucose, decreased anion gap
- c) Increased arterial blood pH, increased blood glucose, decreased bicarbonate ion concentration
- d) All of the above

24) Which of the following laboratory measurement best indicate the blood glucose control over a period of weeks?

- a) Measurement of blood glucose
- b) Measurement of HbA1C
- c) Measurement of urinary ketone bodies
- d) Measurement of insulin

25) A 35 year old patient comes to your clinic with newly diagnosed diabetes. Lab tests reveal no C-peptide in her blood. She has lost a lot of weight recently, despite the fact that she has been eating a lot. This patient has:

- a) Adult-onset diabetes
- b) Gestational diabetic mellitus

- c) Type 2 diabetes
- d) Type 1 diabetes

26) Which of the following is false about Young-old group of the elderly:

- a) This group consists of the populations between 65 and 75 years of age and are somewhat similar to middle-aged patients with the average additional life expectancy of 15 to 20 years,.
- b) Physical therapist should concentrate on passive movements, including trunk turning, positioning in bed or chair, warmth, attention and eye-to-eye contact have the great significance for the happiness of patients.
- c) Physical therapy program include participating in a weight loss program, with this obese patients can reduce their risk for cardiovascular disease.
- d) Similarly an appropriate combination of endurance and strengthening exercises can slow down the rate of decline in neuromuscular functions.

27) Which of the following is false about Middle-old group of the elderly:

- a) They exhibit the occurrence of chronic diseases. Physical therapist should exert the aggressive efforts to deal with the problems like osteoporosis, diabetic neuropathy, falls, etc.
- b) The populations between 75 and 85 years of age are included in this group and they have minimum level of disability
- c) There is a decline in additional years of life expectancy. Physiotherapy is directed at the improvement of functional status in the finite remaining years.
- d) Option a and c

28) The following elements of physical functional status which are needed to be evaluated thoroughly and carefully are except

- a) Sensory status
- b) Balance and coordination
- c) Gait
- d) Instrumental activities of daily living

29) All the following is true concerning the Diabetes diagnostic criteria for DM except

- a) HbA_{1c} of between 6.0-6.4%
- b) HbA_{1c} > 6.5%
- c) Fasting Glucose \geq 7mmol/L
- d) Postprandial blood glucose \geq 200mg/dl

30) According to Wagner classification of Diabetic foot ulcer a 60yrs old diabetic patient with uncontrolled DM had stage 4 DFU. Which of the following interpret what grade 4 is

- a) Gangrenous patches with partial necrotic dark foot
- b) Necrotic dark foot
- c) Deep skin ulceration
- d) Bony infected deep ulceration with abscess