

NURSING INSTITUTE, JHENAIDAH
REPUBLIC OF BANGLADESH

LECTURE 01

FUNDAMENTALS OF NURSING

DIPLOMA IN NURSING SCIENCE AND MIDWIFERY

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FUNDAMENTALS OF NURSING - VITAL SIGNS

BLOOD PRESSURE

Questions:

- Write short note on: Blood pressure or Define blood pressure or What is blood pressure?

Definition of Blood Pressure:

Blood pressure is defined as the lateral pressure exerted by the column of blood on the wall of the arteries while blood flows through it.

Generally the term “blood pressure” refers to arterial blood pressure.

Questions:

- What is the Normal blood pressure? or Give normal value of blood pressure.

Normal Blood Pressure:

Blood pressure is usually expressed with the systolic pressure written above the diastolic pressure as follow:-

Blood pressure (BP) = 120/80 mmHg (Systolic/ Diastole)



Questions:

- Name the different types of blood pressure with their normal value.
- Describe the types of blood pressure with normal value. or Mention the types of blood pressure with normal value. / Mention the types of blood pressure.

Types of Blood Pressure:

- Systolic blood pressure
- Diastolic blood pressure
- Pulse pressure
- Mean arterial blood pressure

Systolic Blood Pressure (Systolic Pressure)

It is the maximum pressure exerted by the blood on the arterial wall during systole of the heart.

Normal systolic pressure: 120 mmHg (Range: 110- 140 mmHg).

Diastolic Blood Pressure (Diastolic pressure)

It is the minimum pressure exerted on the arterial wall during diastole of the heart.

Normal diastolic pressure : 80 mmHg (Range : 30-40 mmHg)

Pulse Pressure

It is the difference between the systolic pressure and diastolic pressure.

Normal Pulse pressure : 40 mmHg (Range : 30-40 mmHg)

FUNDAMENTALS OF NURSING - VITAL SIGNS

BLOOD PRESSURE

Mean Arterial Blood Pressure (Mean Pressure)

Mean arterial blood pressure is the average pressure existing in the arteries.

It is the diastolic pressure pulse one-third of pulse pressure.

Normal mean pressure: 93 mmHg [80+13=93]

Questions:

- What is the importance of blood pressure?

Importance of blood pressure

1. Blood pressure is essential for the flow of blood through blood vessels.
2. It provides motive force for filtration at the capillary bed which is essential for-
 - Tissue nutrition
 - Formation of urine
 - Formation of lymph
 - Venous return



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Questions:

- Describe Procedure and precaution of measurement of blood pressure.

Measurement of Blood Pressure Requirements:

- Sphygmomanometer
- Stethoscope

Procedure:

1. The subject should be physically and mentally relaxed, free from excitement.
2. The subject should lie down or sit comfortably. If he sits, he should place the arm on a table at the level of the heart.
3. The 'Zero' of the sphygmomanometer, and the cuff should be at level of the heart.
4. The arm is exposed up to the shoulder.
5. The cuff is wrapped around the upper arm just above the elbow (middle of the cuff lies over the brachial artery).
6. The brachial artery is palpated in the cubital fossa, just medial to the tendon of the biceps brachii muscle, a little below the cuff.

FUNDAMENTALS OF NURSING - VITAL SIGNS BLOOD PRESSURE

7. The radial artery is palpated at the wrist by placing the middle three fingers over it.
8. The cuff is rapidly inflated by the hand pump, raising the pressure 30mm Hg above the level at which the radial pulsation disappears.
9. The diaphragm of the stethoscope is placed lightly on the brachial artery and then the pressure in the cuff is gradually lowered by means of the release valve, keeping the ear pieces of the stethoscope in the ears.
10. As the pressure is lowered slowly (2 mm/sec), at a particular level in the mercury column, a tapping sound is heard. The level at which the sound is first heard is regarded as the systolic pressure.
11. The pressure in the cuff is further reduced gradually, and the character of the sound changes and finally at the particular level the sound disappears. The at which the sound disappears is regarded as the diastolic pressure.
12. The cuff is deflected and the procedure is repeated for three times.

