

NURSING INSTITUTE, JHENAIDAH  
REPUBLIC OF BANGLADESH

LECTURE 03

# FUNDAMENTALS OF NURSING

DIPLOMA IN NURSING SCIENCE AND MIDWIFERY

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# FUNDAMENTALS OF NURSING - VITAL SIGNS RESPIRATION

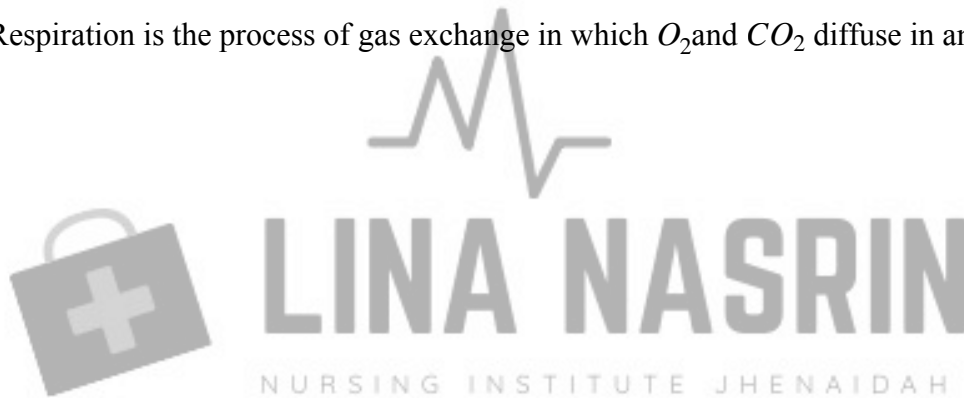
## Questions:

- ◆ **Define respiration. / What is respiration?**

## Definition of Respiration:

Respiration is a physiological process by which oxygen is transported from the outside air to the cells and carbon dioxide is eliminated in the opposite direction.

In short, Respiration is the process of gas exchange in which  $O_2$  and  $CO_2$  diffuse in and out of the blood.



## Questions:

- ◆ **Write down the phases of respiration.**

## Phases of Respiration.

Respiration has two phases;

1. Inspiration- Intake of air into the lungs from atmosphere.

Its duration is about 2 second.

2. Expiration- Elimination (output) of air from the lungs.

Its duration is about 3 second.

During normal breathing , inspiration is an active process and expiration is a passive process.

**Questions:**

- ◆ **Write down the purposes of Respiration.**

The purposes of assessing Respiration:

1. To assess rate, rhythm and volume of respiration.
2. To assess for any change in condition and health status.
3. To monitor the effectiveness of therapy related to respiration system.

**Questions:**

- ◆ **Write down the functions of respiration.**

**Functions of respiration:**

1. Pulmonary ventilation, Which means the inflow and outflow of air between the atmosphere and the lung alveoli.
2. Diffusion of oxygen and carbon dioxide between the alveoli and blood.
3. Transport of oxygen and carbon dioxide in the blood and body fluids to and from the body's tissue cells; and
4. Regulation of ventilation and other facets of respiration.



**Questions:**

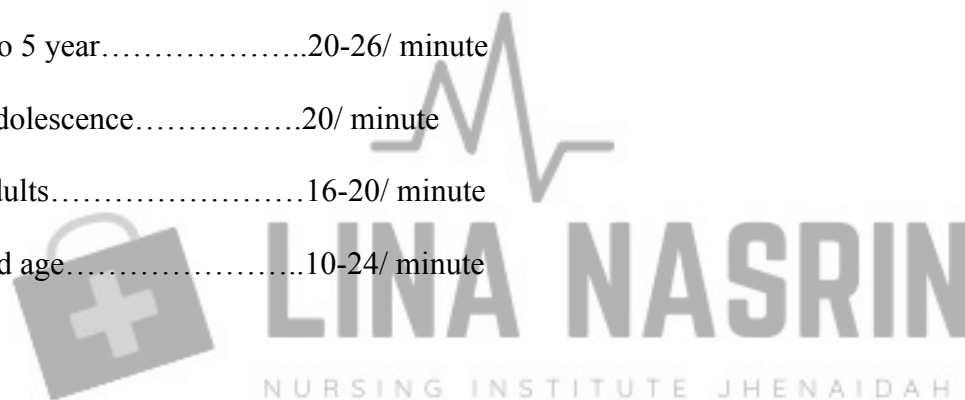
- ◆ **Write down the normal variation of respiration.**

**Normal variations in Respiration:**

The normal rate of respiration for an adult is 16 to 20 per minute.

Age:

- a. At birth.....30-40/ minute
- b. One year.....26-30/ minute
- c. 2 to 5 year.....20-26/ minute
- d. Adolescence.....20/ minute
- e. Adults.....16-20/ minute
- f. Old age.....10-24/ minute



**Questions:**

- ◆ **What to observe in respiration?**

**Observe in respiration:**

1. Rate , rhythm, depth, and easiness of respiration.
2. Movements of chest, abdomen and nose.
3. Colour of patient.

## Questions:

### ◆ Procedure of assessing Respiration:

#### A. Articles:

1. Wrist watch with second hand.
2. Graphic record.
3. Pen (colour according to agency policy)

#### B. Procedure:

1. Ensure that patient is relaxed. Assess other vital signs such as pulse or temperature prior to counting respiration.
2. Assess for factors that may alter respiration.
3. Wait for 5-10 minutes before assessing respiration if patient had been active.
4. Position patient in sitting or supine position with head elevated at 45-60.
5. Keep your fingers over the wrist as if checking pulse and position patients hand over his lower chest or abdomen.
6. Observe one complete respiratory cycle- inspiration.
7. Assess rate, depth, rhythm and character of respiration.
8. Count respiration for one whole minute.
9. Wash hands.
10. Record the findings and report any abnormal findings.