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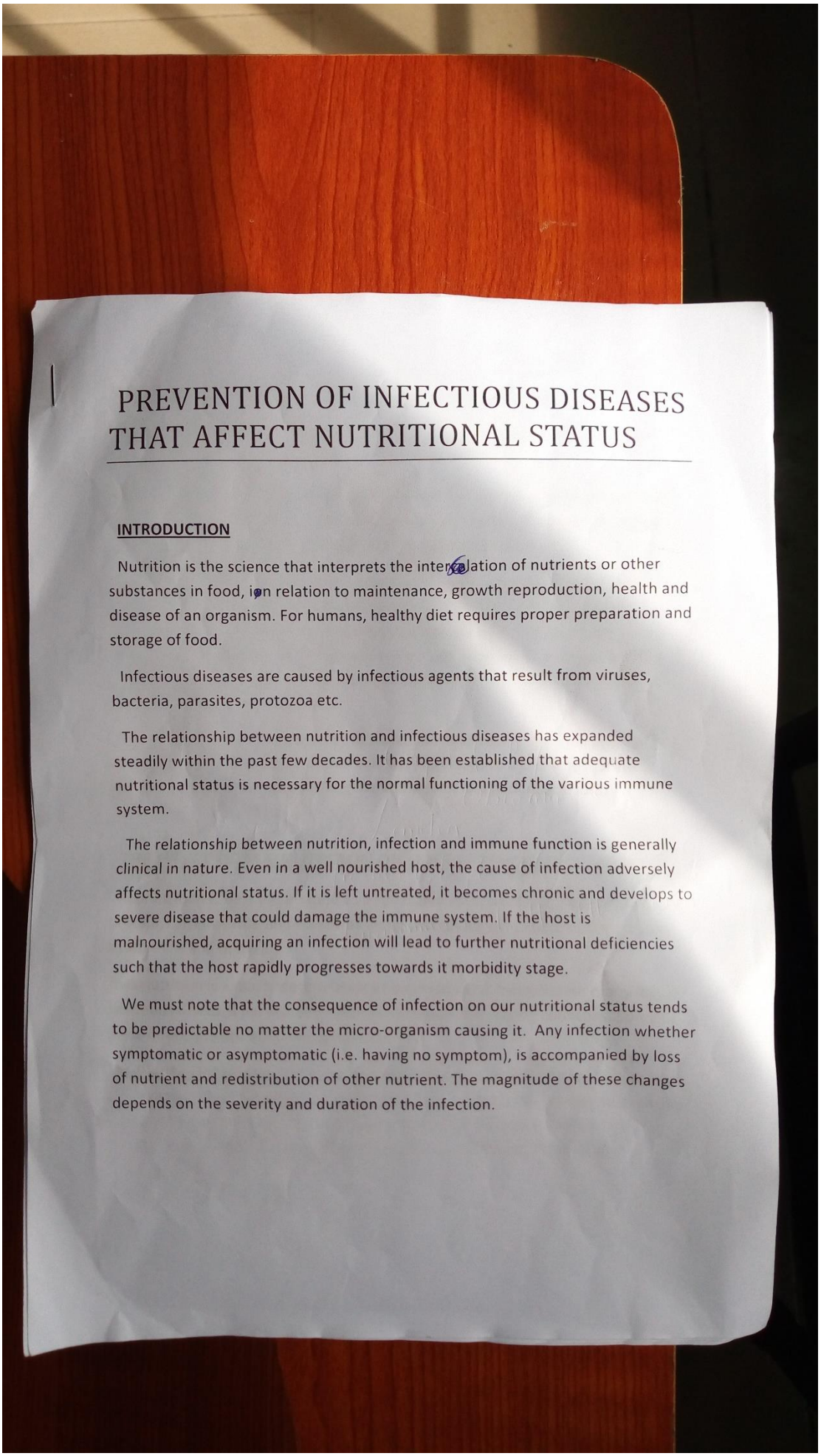

PREVENTION OF INFECTIOUS DISEASES THAT AFFECT NUTRITIONAL STATUS

INTRODUCTION

Nutrition is the science that interprets the interrelation of nutrients or other substances in food, in relation to maintenance, growth reproduction, health and disease of an organism. For humans, healthy diet requires proper preparation and storage of food.

Infectious diseases are caused by infectious agents that result from viruses, bacteria, parasites, protozoa etc.

The relationship between nutrition and infectious diseases has expanded steadily within the past few decades. It has been established that adequate nutritional status is necessary for the normal functioning of the various immune system.

The relationship between nutrition, infection and immune function is generally clinical in nature. Even in a well nourished host, the cause of infection adversely affects nutritional status. If it is left untreated, it becomes chronic and develops to severe disease that could damage the immune system. If the host is malnourished, acquiring an infection will lead to further nutritional deficiencies such that the host rapidly progresses towards it morbidity stage.

We must note that the consequence of infection on our nutritional status tends to be predictable no matter the micro-organism causing it. Any infection whether symptomatic or asymptomatic (i.e. having no symptom), is accompanied by loss of nutrient and redistribution of other nutrient. The magnitude of these changes depends on the severity and duration of the infection.

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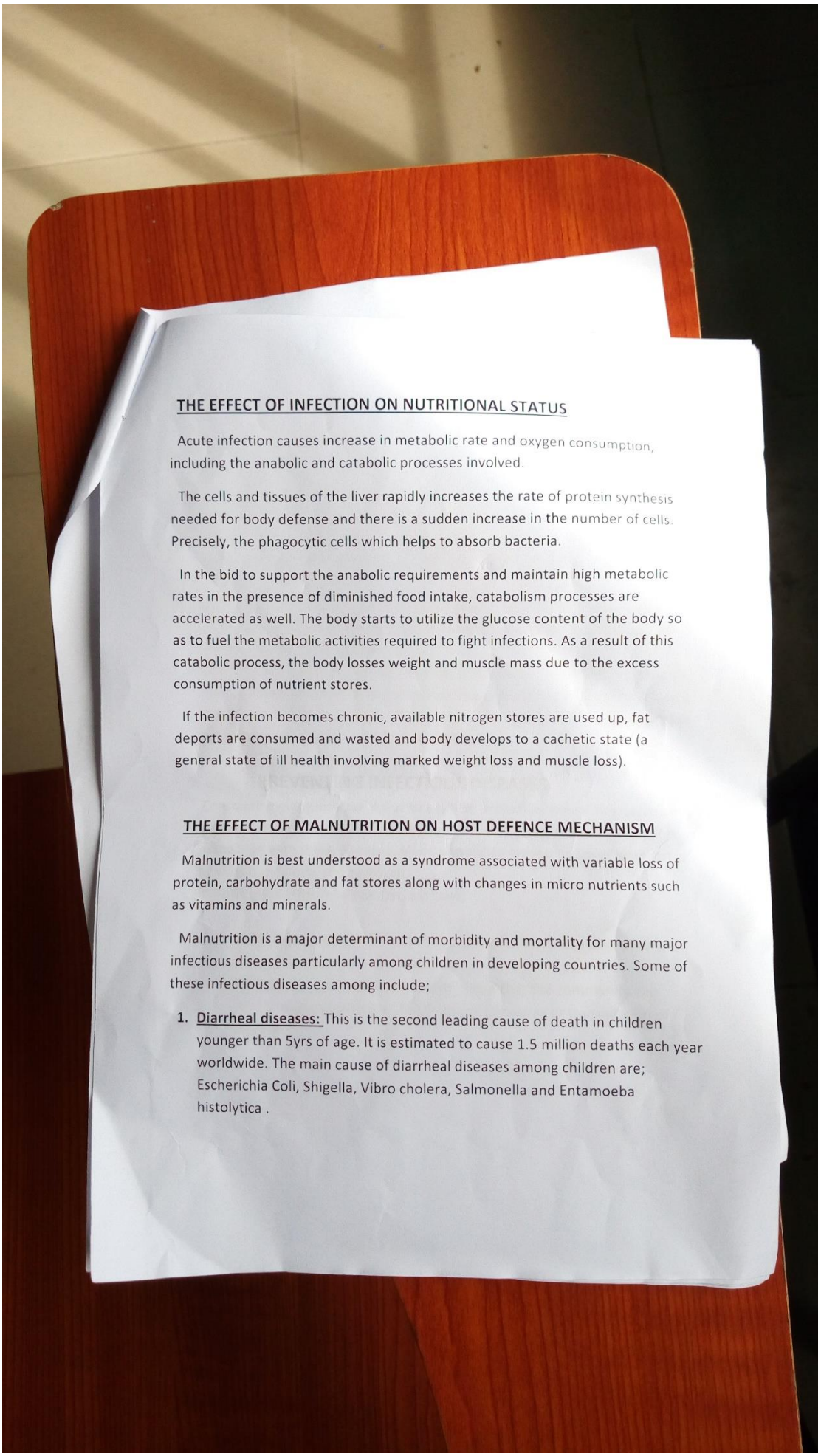

THE EFFECT OF INFECTION ON NUTRITIONAL STATUS

Acute infection causes increase in metabolic rate and oxygen consumption, including the anabolic and catabolic processes involved.

The cells and tissues of the liver rapidly increases the rate of protein synthesis needed for body defense and there is a sudden increase in the number of cells. Precisely, the phagocytic cells which helps to absorb bacteria.

In the bid to support the anabolic requirements and maintain high metabolic rates in the presence of diminished food intake, catabolism processes are accelerated as well. The body starts to utilize the glucose content of the body so as to fuel the metabolic activities required to fight infections. As a result of this catabolic process, the body losses weight and muscle mass due to the excess consumption of nutrient stores.

If the infection becomes chronic, available nitrogen stores are used up, fat deports are consumed and wasted and body develops to a cachetic state (a general state of ill health involving marked weight loss and muscle loss).

THE EFFECT OF MALNUTRITION ON HOST DEFENCE MECHANISM

Malnutrition is best understood as a syndrome associated with variable loss of protein, carbohydrate and fat stores along with changes in micro nutrients such as vitamins and minerals.

Malnutrition is a major determinant of morbidity and mortality for many major infectious diseases particularly among children in developing countries. Some of these infectious diseases among include;

1. **Diarrheal diseases:** This is the second leading cause of death in children younger than 5yrs of age. It is estimated to cause 1.5 million deaths each year worldwide. The main cause of diarrheal diseases among children are; Escherichia Coli, Shigella, Vibro cholera, Salmonella and Entamoeba histolytica .

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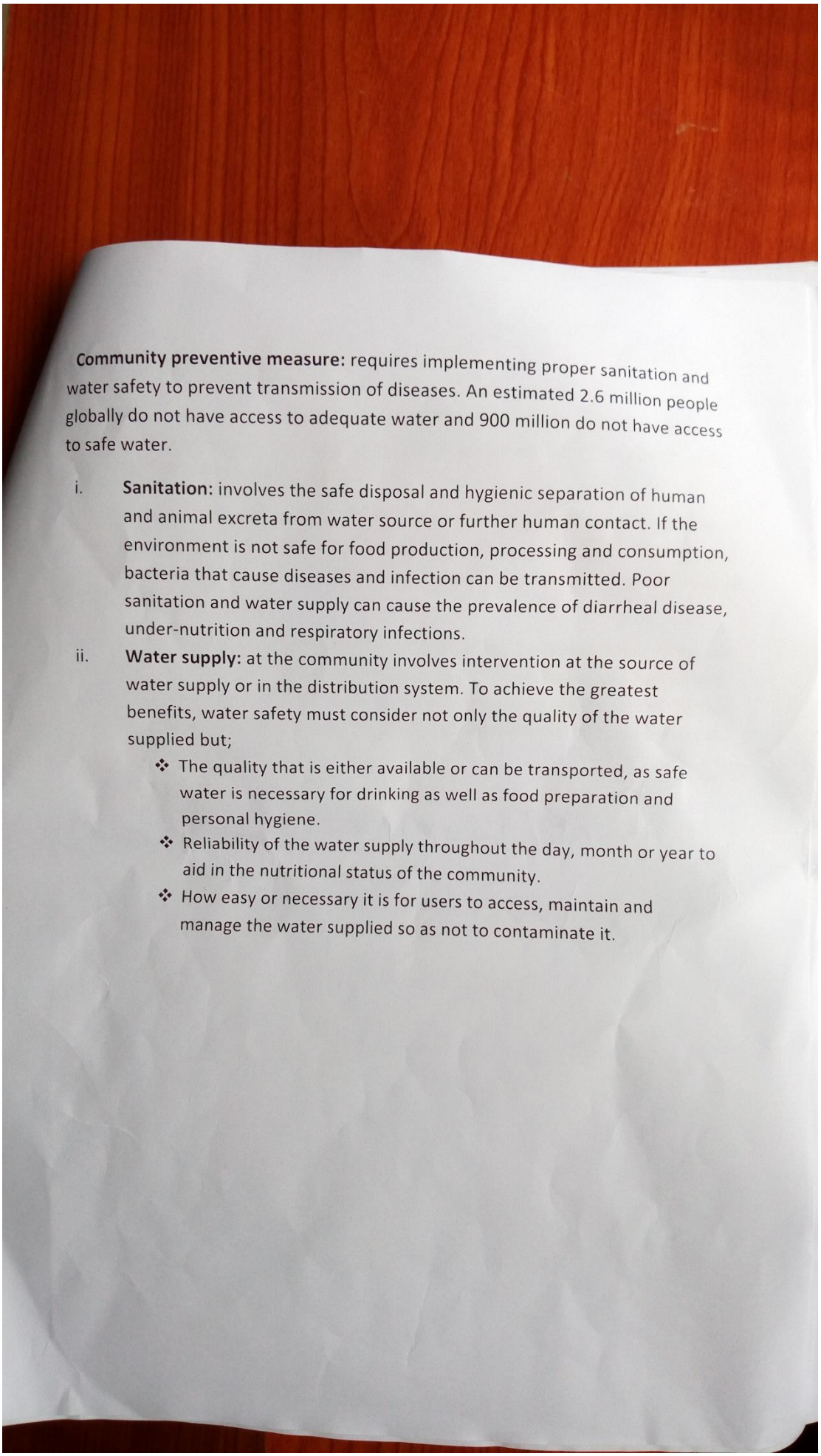

Community preventive measure: requires implementing proper sanitation and water safety to prevent transmission of diseases. An estimated 2.6 million people globally do not have access to adequate water and 900 million do not have access to safe water.

i. **Sanitation:** involves the safe disposal and hygienic separation of human and animal excreta from water source or further human contact. If the environment is not safe for food production, processing and consumption, bacteria that cause diseases and infection can be transmitted. Poor sanitation and water supply can cause the prevalence of diarrheal disease, under-nutrition and respiratory infections.

ii. **Water supply:** at the community involves intervention at the source of water supply or in the distribution system. To achieve the greatest benefits, water safety must consider not only the quality of the water supplied but;

- The quality that is either available or can be transported, as safe water is necessary for drinking as well as food preparation and personal hygiene.
- Reliability of the water supply throughout the day, month or year to aid in the nutritional status of the community.
- How easy or necessary it is for users to access, maintain and manage the water supplied so as not to contaminate it.

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