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DEPARTMENT: HUMAN NUTRITION AND DIETETICS.

LEVEL: 200

COURSE: INTRODUCTION TO HUMAN NUTRITION AND DIETETICS (NTD212)

LECTURER: DR. AJAYI

ASSIGNMENT:

Write about 10 important scientist who have made significant contributions to the field of human nutrition and highlight their discovery.

Answers;

1. Lucy Wills: went to Bombay in 1928 to investigate the macrocytic(large cell) anaemia of pregnancy most commonly seen in Mohammedan women. After failing to associate the condition with infection or deficiency of vitamins A or C, she found that yeast and its proprietary extract ‘Marmite’ were highly effective in curing the conditions.

Back in England, Lucy and colleagues reported in 1937 that feeding a poor Bombay diet to rhesus monkeys also induced macrocytic anaemia and leucopenia; this responded to both Marmite and to crude liver extracts.

1. H.M.Evans and Katherine Bishop: In 1922 while working at Berley found that a purified diet with vitamin supplements that supported good growth in female rats nevertheless failed to support normal reproduction; the embryos were being reabsorbed before the end of pregnancy. Lettuce was the first food found to prevent this problem, but then cod liver oil seem unexpectedly to increase the problem. The active factor was named ‘vitamin E’, following further investigations by many groups, it was isolated in 1935 and named ‘tocopherol’
2. Henrik Dam: The Danish worker reported in 1935 that it was the deficiency of a new fat-soluble vitamin, which he named ‘vitamin K’ in recognition of its essential role in blood coagulation. It was discovered to occur naturally in modified forms in many plants and to be produced by bacterial growth in stored animal products. The vitamin also cured the hemorrhaging of patients with obstructive jaundice who lacked bile to aid absorption of the vitamin and of cattle that had been eating sweet clover hay that contained an anti-vitamin.
3. Thomas Barlow: A London pediatrician in 1885 had observed in some children with rickets an additional problem reminiscent of adult scurvy. Postmortem examinations had shown effusion of blood around the ends of the long bones and the separation of the rib bones from their connecting cartilage. These were characteristics of scurvy in adults as seen by Lind and other early investigators, but not all characteristic of rickets. It had also been found that giving children orange juice together with raw cow’s milk, or even raw cow’s milk alone would result in their recovery.
4. Axel Holst: In 1902, was concerned at the appearance of what had been diagnosed as beriberi in the crews of Norwegian sailing ships, seized an opportunity to visit Grijns in Batavia and to see his work on chicken polyneuritis. On his return to Oslo, he attempted to obtain a closer model of ‘ship-beriberi’ by using a mammal as his experimental species, and chose guinea pigs. He fed them grains, either whole or milled, and found that they all died within 30 days. When the carcasses were opened he saw ‘pronounced hemorrhages’ and looseness of the molar teeth.
5. Wilbur Olin Atwater: He is known for his studies in nutrition and metabolism. Atwater invented a device called the respiration calorimeter that measured human metabolism balance by a person performing certain activities. This new invention aided many new studies in dietary evolution and food analysis. Energy and protein sources were studied and measured to determine that certain foods provide different amounts of nutrients and energy than other.
6. Dutch Worker: In 1839, suggested that substances were all compounds of a common radical combined with different proportions of phosphorus, sulfur or both; and the hypothetical radius was named ‘protein’from a greek word implying that it was the primary material of the animal kingdom.
7. Edward Frankland: Developed a technique for measuring directly the heat combustion of foods and of urea. For protein, with an allowance for the gross energy remaining in the excreted urea.
8. F.G..Hopkins and S.W.Cole: In 1902, isolated that amino acid tryptophan which contains an indole ring, from an enzymic digest and showed that it was destroyed by conditions of acid hydrolysis. Also in 1906, Hopkin and another colleague reported that mice receiving zein (which contains no tryptophan) as their sole protein source lived longer if they also received supplement of tryptophan.
9. Abderhalden: In 1909, found out that adult dogs could remain in nitrogen balance if the acid hydrolysates of protein that they were receiving were supplemented with amino acids. This result didn’t yet prove that tryptophan was utilized for protein synthesis because there was no growth, but they did show that this organic compound had some essential functions.