B.Sc. NUTRITION LAB MANUAL

6th Semester

Prepared By

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Nutrition

MIDNAPORE CITY COLLEGE

C13P: Dietetics and Counselling (Practical)

5. LACTATION COUNSELLING:

Breast feeding can be described as one of the most rewarding pursuits of motherhood. Breast milk is the perfect nutrition for your new born and has the nutrients to boost your child's immunity. Research has indicated that babies that are breast fed have better immune levels to fight infectious diseases, allergies, ear infections and child hood illnesses. Moreover children who have been exclusively breast fed have reported with a higher IQ level that their contrary.

Breast Feeding and the bond:

Breast feeding helps in forming a bond between the mother and the new born baby. This exercise not just benefits the baby, but also is beneficial to the mother:

Helps in relaxation

Helps in weight loss

Reduces the risk of breast cancer

Reduces the risk of ovarian cancer

Reduces the risk of osteoporosis

Hence it is medically recommended that mothers opt for exclusive breastfeeding

Lactation Counseling:

It is recommended that a mother commences breastfeeding in the first hour of her becoming a new mother. In fact the baby should receive the first batch of the mother's milk – colostrums- which is rich in nutrients and antibodies. Post the same the mother has to be trained on a number of aspects.

Specialized Lactation Counseling:

For many working women, exclusive breast feeding becomes a challenge, as they have to balance the work, family and baby responsibilities. Paras Bliss Lactation Counselors provide you with easy solutions to store your breast milk and feed your baby when required. They also provide training to the new nannies on the requirements of the baby.

Baby Attention:

Post-delivery breast feeding helps the mother to regain her body composition and lose the extra weight. With breast feeding the baby builds on its strength and gains weight. Paras Bliss Lactation Counselors help you in case your baby is not gaining the requisite amount of weight. They work with the team of neonatologists and pediatricians to ensure that the best medical handling is given to the baby.

SAM COUNSELLING

Current dietary recommendations regarding family foods for the management of moderate malnutrition were ascertained through correspondence with selected UN and donor agencies, international NGOs, pediatric associations, and ministries of health. A request for information was also posted at ProNut-HIV@healthnet.org, which is a global health information network. In addition, the WHO Secretariat made a request to 210 contacts. Where sufficient data were available, dietary recommendations were compared with nutritional requirements derived for this Consultation for children with moderate malnutrition gaining weight at a rate of 5g/kg/day. Linear programming was used to identify “problem nutrients” for a range of dietary patterns and to determine which combination of foods provided the “best-fit solution” in terms of meeting nutritional requirements. A hypothetical child aged 12 to 15 months, 70 cm in length, and weighing 6.7 kg was used to represent a typical case with moderate malnutrition (moderate stunting and moderate wasting). To ascertain the effectiveness of dietary counseling, a combination of database searches and hand-searching was used for studies published since 1980. These included Medline, Popline, PubMed, BIDS (CAB Abstracts), and the Cochrane Library. Personal contacts were also made for unpublished data. Any strategy for the dietary management of moderate malnutrition should have low case-fatality, support catch-up growth and improve immune function, provide continuing care and support, assess progress, and take action when needed. To assess the effectiveness of dietary counseling, information was therefore particularly sought regarding mortality, rates of weight and length gain, morbidity, immune function, and post recovery relapse rates.

Counselling of Eating Disorder

Eating Disorders

Eating disorders are common, particularly among women. Up to 3% of American women meet diagnostic criteria for an eating disorder, and up to 20% of college-aged women engage in some form of binging and purging behavior. Anorexia nervosa and bulimia nervosa are the best-known eating disorders; others included in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), are avoidant/restrictive food intake disorder, binge eating disorder, unspecified feeding and eating disorders, pica, and rumination disorder.

Anorexia nervosa is characterized by restricted food intake leading to low body weight, fear of gaining weight, and a distorted body image. About half of patients develop concurrent bulimic symptoms, and amenorrhea is common.

Bulimia nervosa is characterized by recurrent episodes of binge eating and inappropriate compensatory behaviors intended to prevent weight gain or cause weight loss, such as self-induced vomiting or laxative abuse.[1] Body weight is usually normal, and patients often have dry skin, low blood pressure, and increased heart rate.

Binge eating disorder is characterized by recurrent episodes of binge eating without inappropriate compensatory behaviors. Episodes are accompanied by a sense of loss of control overeating.[1]Unspecified feeding or eating disorders may include atypical anorexia nervosa, bulimia nervosa of low frequency, binge eating of low frequency, purging disorder, or night eating syndrome.

The etiology of eating disorders is likely multifactorial, with genetic, psychological, environmental, and social factors implicated.[2] Some clinicians have speculated that a cultural preoccupation with thinness and dieting in the US and other Western countries has set the stage for eating disorders. Equally plausible is the possibility that the increasing prevalence of overweight and obesity in the US and other countries has triggered an unhealthy response to weight problems (i.e., binging, purging, and restricting). Up to 40% of adolescent girls in the US believe they are overweight, and approximately 60% are attempting to lose weight. A substantial number of these girls have reported that they tried vomiting or laxatives to control their weight.

Significant morbidity and mortality are associated with severe or long-standing eating disorders, including osteoporosis, decreased gray matter, electrolyte and metabolic abnormalities, heart disorders including arrhythmias caused by electrolyte imbalances, gastrointestinal dysfunction, dental erosion, and infertility. Osteoporosis, decreased gray matter, and dental erosion are often not reversible, even with appropriate treatment and weight recovery. Comorbid psychiatric disorders, including depression, anxiety, and obsessive-compulsive disorder, are present in more than half of patients.

Nutritional Considerations

Nutrition therapy is indicated for patients with eating disorders, including anorexia nervosa, bulimia nervosa, and binge eating disorder. The degree to which nutrition professionals should be involved depends on the seriousness of the disorder. For instance, individuals who meet some but not all diagnostic criteria for anorexia or bulimia may not face the same mortality risk

as an individual with a more clearly defined and serious eating disorder.[20] Similarly, individuals with the "restricting" subtype of anorexia who are significantly below ideal body weight and have disordered electrolyte concentrations are at greater risk of life-threatening arrhythmias compared with anorexic individuals who present with the bingeing/purging subtype.

Refeeding: Particularly in persons who are significantly underweight, electrolytes should be carefully monitored and refeeding introduced gradually and progressively. Hypokalemia has been reported in 14% of patients with bulimia nervosa, and hyponatremia may be brought on by the use of diuretics, vomiting, and/or excessive water intake. Patients often ingest excessive water to curb hunger or provide the false impression of weight stability during weight checks at medical appointments. If patients are aggressively fed and rehydrated, hypophosphatemia-induced refeeding syndrome may occur, potentially involving dysrhythmias, respiratory failure, rhabdomyolysis, seizures, coma, heart failure, weakness, hemolysis, hypotension, ileus, metabolic acidosis, and sudden death.[22] High sodium intake increases the risk of fluid overexpansion. Limiting sodium intake to required amounts (500 mg/d) is recommended.

To further assist in preventing refeeding syndrome, supplemental phosphorus should be started early and serum levels maintained above 3.0 mg/dL.[24] Hypomagnesemia occurs in approximately 1 in 6 patients with anorexia nervosa and may persist for weeks after refeeding.[25] Although weight gain is an eventual goal for anorexic patients, calories should be secondary to protein during initial refeeding. Suggested guidelines include providing 1.2 grams of protein per kilogram of ideal body weight/day for the first week and no more than 20 kcal/kilogram/day during the first week to avoid refeeding syndrome.22 A reasonable weight regain goal is 0.5-1.0 pound per week.

In addition to the need for a hypercaloric diet during weight restoration, evidence suggests that individuals with anorexia nervosa require 200-400 calories per day more than matched controls in order to maintain weight.

Emotional support. It is essential to avoid power struggles over diet choices or weight gain. Individuals with eating disorders often drop out of treatment programs because eating generates profound anxiety. Aggregate results of surveys of eating-disordered patients found that they rated support, understanding, and empathic relationships as critically important. Psychological approaches were viewed as the most helpful, while medical interventions focused exclusively on weight were viewed as not helpful. Pressuring patients to make commitments to improve (e.g., to enroll in treatment or gain weight) has not been demonstrated as effective and may be counterproductive. Instruments used to assess patients' readiness to stop restricting foods, purging, or bingeing have been found to be good predictors of clinical outcome in patients with anorexia nervosa.

Nonrestrictive vegetarian or vegan diets can be adequate. Patients who follow vegetarian diets should not be pushed to alter that preference. Many healthy people choose to avoid meat or avoid all animal-derived products, and these choices bring many health benefits. People suffering from eating disorders also often report feeling disgusted by meat. However, vegetarianism does not cause eating disorders.[27] In one study vegetarians and vegans motivated by ethical concerns had lower eating-related pathology than semi-vegetarians or "flexitarians." Previous research conflating vegetarianism with disordered eating often did not

account for food avoidance that is normative in the context of vegetarianism. Healthful plant-based foods should be a part of eating disorder recovery.

Weight-loss treatments for patients with binge eating disorder. Studies of the effects of both dietary and behavioral approaches to weight loss show that weight-loss treatments reduce binge eating frequency. Although it was once suspected that attempts at weight loss preceded binge episodes, the structured meal plans provided for weight loss may give binge eaters a feeling of greater control over food intake. Spontaneous remission of binge eating has also been reported.

Vitamin/mineral deficiency. More than half of patients with anorexia nervosa failed to meet the recommended dietary allowance (RDA) for vitamin D, calcium, folate, vitamin B12, zinc, magnesium, and copper when assessed by diet history. Deficiencies are also commonly found for several vitamins, including thiamine, B2, niacin, B6, folate, C, E, and K.[31],[32],[33] There have been case reports of patients with anorexia nervosa who were diagnosed with pellagra due to niacin deficiency and scurvy due to vitamin C deficiency.[34],[35] There are also case studies of patients with bulimia nervosa presenting with folate deficiency and coagulation abnormalities due to vitamin K deficiency. Replacement of these and other nutrients is an important part of nutrition therapy. Zinc in particular has been found to enhance the rate of recovery in anorexics by increasing weight gain and improving anxiety and depression.

Bone health. Low intakes of calcium, vitamin D, and vitamin K can reduce bone mineral density and put eating disorder patients at very high risk for osteoporosis.[39],[40],[41] Weight gain itself reduces bone turnover in patients with anorexia nervosa.[42] In one study, treating bone disease in anorexic patients with calcium and vitamin D supplements was as effective as etidronate for reversing osteoporosis.

Counselling of Renal Disease

Nutritional education and dietary counseling for patients with renal disease play a significant role in the preservation of renal function and overall well-being of the renal patient since dietary protein intake can modulate renal function.

Methods

A total of 277 patients from two renal care units (138 patients in control group, patients were undergoing hemodialysis in government hospital, 139 in the experimental group where patients from an exclusive kidney hospital) participated in this study. Independent Ethics Committee cleared the study protocol. Patients were enrolled once written informed consent was obtained. Both male and female patients above 18 years of age, with chronic kidney disease (CKD) stage-V and receiving two or three hemodialysis sessions per week for at least 6 months, were included in the study. Patients who were not willing to comply with study procedures, not willing to take high-protein diet as suggested, having the history of malabsorption syndromes and seropositive for retrovirus infection were excluded from the study.

In the experimental group, patients were given repeated dietary counseling by a renal dietician, whereas control group patients were provided with the necessary nutritional information by another health professional. The primary intention of advice was to make each patient to increase their protein intake to 1.2 g/kg/day.

Detailed demographic, clinical, nutritional, biochemical, and subjective global assessment (SGA) were completed at the beginning of the study and after 6 months. The SGA is easy and rapidly conducted tool used by nurses, dietitians, or physicians to assess PEM in chronic dialysis patients. SGA has a set of questions relating to a history part (60%) and physical examination (40%). It assesses four components of medical history (i.e., weight change, dietary intake, gastrointestinal symptoms, and functional capacity) and three components of physical examination (loss of subcutaneous fat, muscle wasting and edema). A fully quantitative score consists of seven parts with the total score ranging between 7 (normal) and 49 (severely malnourished). Patients were categorized as well-nourished (WN) (SGA = 1–14), mild to moderate malnourishment (MMM) (SGA = 15–35), severe malnutrition (SM) (SGA = 36–49).

In the control group, dialysis technicians gave instructions to patients regarding fluid and salt restriction, and to practice leaching method to decrease potassium restrict. However, these dietary advices were verbal, not at regular intervals and usually lasted less than five minutes. Contrary to this, the dietary counseling in experimental group, was given two times in a month by renal dietician. It was tailored for each level of malnutrition by assessing their dietary patterns using food frequency questionnaire and 24 hour recall method. The advices given to the patients also included correction of electrolyte imbalance, high protein intake, fluid restriction, knowledge on allowed and restricted foods, disadvantages of leaching methods, and tips for maintain thirst. The average consultation time for each patient was 10–15 min. The dietary advice to the dialysis patients were either one-to-one counselling or group counselling. They also provided practical classes on nutritional education to the patient's family and friends via posters, newsletters and report cards in a simple format. After dietary counseling by renal dietician in the experimental group, all the patients who had a habit of alcoholism stopped alcohol intake, around 20% of patients had improvement in appetite, 30% of patients restricted water intake to one liter, and such an observation was not seen in the control group. Every day pulse consumption behavior in the control group was marginal when compared to experimental

group. Cola consumption was increased in the control group. Chocolate consumption was increased in experimental group. Leaching method practice was decreased to 5% in experimental group while in the control group it increased to approximately 38%.

CC14P: Entrepreneurship development, Enterprise management

and Entrepreneurship for small catering units (Practical)

10. Checklist for personal hygiene practices of food handlers

Basic requirements of a Food Safety Plan

Checklist for Personal Hygiene Practices of Food-handlers

- **Uniforms, aprons (or clothes) should be clean at the beginning of a work shift**
- **Wear a hair restraint (hat or hairnet)**
- **Keep fingernails short and clean**
- **Avoid touching nose, mouth, hair and skin during food preparation**
- **Do not smoke in food premises**
- **Do not cough or sneeze directly onto food. Wash hands after coughing or sneezing**
- **Wash your hands after blowing your nose**
- **Avoid wearing jewellery while handling and preparing food**
- **Avoid using strong perfumes/after shaves**
- **Do not wear uniforms or aprons outside the food preparation area**
- **Cover all wounds or cuts on hands or arms completely with bright-coloured waterproof wound strip**
- **Wear disposable gloves if there is a wound on the hand. Change both gloves and wound strip regularly**
- **Food handlers to be free from any illnesses such as gastro or the flu**
- **Cease work and report to the manager while ill**

Hands must be washed before:

- **Working**
- **Handling food and utensils**

Hands must be washed after:

- **Using the toilet**
- **Handling raw food**
- **Coughing, sneezing, eating, drinking or smoking**

- **Licking fingers**
- **Every break**
- **Touching pimples or sores**
- **Handling waste**
- **Carrying out cleaning duties**
- **Changing soiled clothes**
- **Touching ears, nose, hair, mouth, or other bare body parts**
- **Handling animals**
- **Any other unhygienic practice**