

ICCN Poster Presentations

Food processing and human health

To determine the contributing factors for tube-feeding patients not meeting energy requirements

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Introduction: Nutritional status can influence the medical outcome of a patient. For patients who are unable to obtain nutrients via the oral route, alternative nutrition feeding modalities have to be considered. One of the alternatives is supplying nutrients in the form of nutritional formulas via the feeding tube. However, various factors such as intolerance of feeds and medical procedures may affect the feeding regime, thus hindering patients from meeting their nutritional requirements. This study aims to determine the type of factors, which contribute to tube-feeding patients not meeting energy requirements.

Method: In this retrospective study, all new inpatients on nasogastric tube feeding seen by Dietitians over a one-year period at a general hospital were included. Nutritional assessment, calculation of patient's nutritional requirements (based on equations) were conducted before a nutrition care plan was recommended by the Dietitian. Patients received the recommended nutrition formulas via tube accordingly. Patients were reviewed for tolerance of feeds and adjustments were made as appropriate. Patients who were not on tube feeding by day 5, for example patients who were upgraded to oral feeding, discharged patients and deceased patients, were excluded from this study. Patients were reviewed to confirm if their energy requirements were met by day 5 post-commencement of feeds. The main factor or reason was identified if patient was not meeting his/her energy requirements by day 5.

Results & Discussion: Data from more than 800 tube feeding cases were reviewed. Data analysis showed that more than 70% patients met their energy requirements by day 5 whilst 30% did not. The main contributing factors for patients not meeting their energy requirements include: aspiration, diarrhea, patient on Nil By Mouth, medical procedures which require patients to 'fast' or hinder the feeding schedule. Some of these factors are not within the Dietitian's control. However, factors such as diarrhea and aspirate may be related to the type of nutritional formulas, feeding schedule and also the administration of feeds. The study also investigated the relationship between the type of diagnosis and patients not meeting energy requirements by day 5.

Conclusion: Major factors contributing to tube feeding patients not meeting their energy requirements include both non-nutrition related factors such as medical procedures, and nutrition-related factors such as aspirate and diarrhea.

The vitamin D content of fortified milk produced locally

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Objective: The objective of this research is to determine the vitamin D content of milk and milk products produced in Saudi Arabia.

Methods: Milk samples were saponified, extracted with diethylether, purified using straight phase high pressure liquid chromatography (HPLC), separated by reverse phase HPLC and detected at 254nm.

Results: A total of 160 milk containers with normal fat, low fat, and skimmed milk, fortified with vitamin D were analyzed for vitamin D content. Only 5 percent contained 80%-120% of the amount stated on the label (400 IU/L). Sixteen percent contained 32%-362% more than the amount stated on the label, whereas 59% of the fortified milk samples contained vitamin D in the level of non-fortified milk. The vitamin D content of the 34 non-fortified samples was ranging from undetectable to 50 IU/L.

Conclusion: The amount of vitamin D in fortified milk are far below the amount stated on the label. (Supported by King Abdulaziz City of Science and Technology, Grant No. AR-20-58)