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Nutritional screening of selected patients admitted in a tertiary care teaching hospital in Vadodara

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***Abstract*---**Nutritional screening is an important factor for evaluation of patient nutritional status, especially whether or not they are at risk of undernutrition. One such tool is the Subjective Global Nutrition Assessment scale (SGA) which is a validated, widely and simple tool that assess nutritional status based on features of the history and physical examination and can be used in acute, rehab, community, and residential aged care settings. SGA is a tool that helps to identify whether or not malnutrition is present. Malnutrition has a negative impact on quality of life that requires it to be identified first and foremost. An early screening of nutritional status will be proven useful for taking an early interventional action towards it. The present study aims to screen the nutritional status of 150 patients of a tertiary care hospital in rural Vadodara.

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Keywords---malnutrition, nutritional status, nutritional screening, nutritional assessment.

Introduction

Malnutrition is a condition that is often seen in patients admitted in hospitals and is shown to be to be significantly correlated with negative clinical outcomes in malnourished patients, including increased mortality, increased hospital length of stay, increased complications and increased hospital readmissions, thus making its screening essential (1, 2). Therefore nutritional screening becomes essential in identification and determines the prevalence of malnutrition (3). Nutritional screening is conducted using simple and quick to use tools and is first in line to identify at-risk patients. These nutritional screening tools are a help in routine assessments to identify a potential or manifested malnutrition (4). One of the simple and validated tools is a subjective global assessment tool that is useful in diagnosis of malnutrition by evaluating a patient's history and physical examination by using structured clinical parameters (5). SGA screening tool identifies malnutrition by taking account of changes in food intake, weight, symptoms, functioning capacity, metabolic requirement and physical examination in the 2 weeks prior to the assessment. The following are specific factors to consider when completing the Subjective Global Assessment:

Nutrient Intake

The assessment is made on the basis of adequacy of food, therefore nutrient intake while taking in account the duration of diet fluctuation as well as changes in type of diet pattern or additional nutrition support.

Weight

One of the benefits of SGA is that it focuses not on the actual quantified value of weight of a person or the numbers that indicate weight loss or gain, rather it focuses on whether or not there have been fluctuations in weight in the past 2 weeks.

Symptoms

It comprises whether a person is experiencing a certain set of symptoms in relation of while eating, during eating and after eating and the changes in these symptoms during past 2 weeks.

Functional capacity

It notes whether or not there is any reduction of capacity to function in an individual and the duration of the noticed changes. Also it records the state of improvement in past 2 weeks.

Metabolic requirement

It categorizes whether a person is in need of higher than normal metabolic requirement depending on their current condition and stress.

Physical examination

It also determines by means of observation the presence of body fat loss, loss in muscle mass and presence of oedema/ascites. It also has a classification to state the nature of muscle and fat mass- cachexia or sarcopenia.

Methodology

It was a non-invasive cross-sectional study conducted to carry out nutritional screening on 150 patients in a tertiary care hospital of rural Vadodara.

The inclusion and exclusion criteria are as follows

Inclusion Criteria

1. Adult stable patients admitted in the facility.
2. Patients willing to participate in this study.

Exclusion criteria

1. Patients not willing to participate·
2. Patients on life support devices.

Statistical methods

Statistical analysis of the data carried out using single factor, one way analysis of variants (ANOVA) MS Office Excel. The significance level of $P \leq 0.01$ and $P \leq 0.05$ and F value have been considered.

Results and Discussion

The results are based upon the answers of the patients enrolled and are categorized based on the different categories in a SGA tool. In this study, out of 150 subjects, 86 were males and 64 were females.

Nutrient intake

62.7 % male subjects and 26.5% female subjects were reported having inadequate nutrient intake. Duration of inadequate diet from the last 15 days in male and female category were 13(15.1%) and 14(21.8%) respectively. Out of them, 23.2 % males and 26% of females were following a sub-optimal solid diet, whereas 18.6% males and 20.3% females were on low food intake or were on clear fluid diet. The recorded response for no change in nutrient intake in past two weeks was 41(47.6%) males and 26(40.6%) females.

Weight

75.5% and 64% of male and females respectively were in 30-60 kg weight range. 60.4% males and 60.9% females reported having < 5 % weight loss. 17.4 % and 20.3% males and females reported a weight loss between 5-10 %. 43 % males and 37.5 % females reported observing the weight loss in past 2 weeks.

Symptoms

Constipation (24.4 %), feeling full quicker (19.4 %), dental problems (12.4 %), vomiting (14.3 %) and anorexia (10.4 %) was the most common symptoms experienced by the subjects. 22.2 % of the subjects reported have constant, severe or multiple episodes of the symptoms.

Reduced functional capacity

50 % males and 35.5% males and females respectively, reported to find their capacity to function efficiently have reduced than normal one. In the past 2 weeks, 62.7 % males and 45.3 % females observed no distinct improvement. But 15.1 % males and 34.3 % females saw improvement in their functional capacity.

Metabolic requirement

65.1 % males and 51.5 % females were observed to be requiring a higher than normal nutritional and energy requirements.

Physical examination

60.4 % males and 48.4 % females were observed to have mild to moderate body fat loss, respectively, while 8.1 % males and 9.3 % females were observed to have severe body fat loss, respectively. 56.8 % males had mild to moderate muscle mass loss in comparison to 51.5 % females, while 8.1 % males and 9.3 % females were observed to have severe muscle mass loss, respectively. 23.2 % males had mild to moderate oedema compared to 15.1 % of females. Whereas, 2.3 % males and 3.1 % females were observed to have severe oedema.

SGA rating

After calculating the score for SGA screening tool, it was found that 72 % males and 67.1 % females were moderately malnourished. 12.7 % males and 10.9 % females were severely malnourished. Comparative relation was carried out between parameters of nutrient intake, % weight loss and SGA Rating. It was estimated that in males because of inadequate nutrient intake among 54 males, 33 suffered from weight loss and 19 of them had a mild-moderately malnourished state. In females among 47, 24 had <5% weight loss and 14 were in mild-moderately malnourished state.

Conclusion

This small sample size study reflects the usefulness of SGA and gives an insight to the clinical nutrition professionals for devising customized nutritional care plan. SGA is a quick, simple and validated tool for nutritional screening of hospitalized patients. However, comparative study with other nutritional screening tools like GLIM must further be explored.

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