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ASSESSMENT OF NUTRITIONAL STATUS OF CRITICALLY ILL PATIENTS TILL DISCHARGE FROM HOSPITAL.

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Abstract: Aim of the study is to assess and compare the nutritional status of critically ill patients till discharge from hospital and to find the association between type of feed and length of ICU stay with nutritional status of critically ill patients. Descriptive evaluatory approach with quasi experimental exploratory descriptive design was adopted. Observational checklist to assess the nutritional history and modified Subjective Global Assessment for body composition to assess the nutritional status of critically ill patients were used. On admission demographic data, medical history and a basis nutritional history and nutritional assessment were done. On every third day till discharge nutritional history and nutritional assessment were performed.

Index Terms **- Assessment, Nutritional status, critically ill patients, Subjective Global Assessment guidance for body composition.**

I. INTRODUCTION

Food does not only just satisfy one's appetite, but also is rich with all the nutrients that our body needs to maintain health and grow. The two-broad classification of nutrients is macronutrients and micronutrients. Macronutrients are compounds that is required by the body in a huge amount and micronutrients are compounds which are necessary, but in a comparatively smaller amount. These can be further categorized into five different varieties that is carbohydrates, proteins, and fat which are required by the human body in a huge consignment and is referred as macronutrients. The other two varieties are vitamins and minerals. The last but not the least subtype is water, which is essential for survival[1]. A general inspection gives a relevant data about the status of nutrition of a person. An individual with typical status of nutrition gives the impression of normal vitals along with healthy skin, hair and nails. Especially, the clients who are critically ill, the prevalent consequence of admission in hospital is undernutrition.[3] A study done between 1996 and 2005, in acute care patients showed that, the generality of lack of proper nutrition was 13-78%.[4] Hyper metabolism and inadequate intake of energy and protein rich food can lead to malnutrition.[5,6]

Critical illness makes a patient prone to malnutrition. Factors that are commonly seen in the intensive care unit are anorexia, nausea, vomiting, altered sensorium, dysphagia, gastro paresis and mechanical ventilation. All these exacerbate the effects of starvation. The shortage of energy in critical illness has a more pronounced effect compared to natural fasting. It is also escorted by endocrine and inflammatory stress response to the underlying disease process which result in immunosuppression, generalized weakness and increased morbidity. Malnutrition has been linked with greater morbidity and mortality in critically ill patients.[13]

It is found to be a noteworthy dissimilarity between energy intake and energy requirements in hospitalized patients. Few studies done in Iran regarding assessment of malnutrition in ICU patients showed that the risk of malnutrition is increased by improper nutritional support provided. If optimal energy is provided to the patients the effect of care can be uplifted. Another study done in Iran revealed that, in patients who are admitted in ICU, there is a notable difference in energy requirement and intake. Also, there was no specific nutritional protocol available, no sufficient care and monitoring provided to them and in a shorter duration of time they become affected with severe malnutrition.[8]

The ultimate aim of this current study is assessment of the status of nutrition of seriously ill patients on the days of ICU admission till discharge trough variable clinical indicators. In incorporation, the pattern of feeding of the clients, also the type of feeding and initiation of feeding in patients will also be documented to determine the duration of ICU stay and nutritional status in these patients during hospital stay and till discharge from hospital.

Operational Definition

Assessment: - In this study "assessment" refers to assess the nutritional status of critically ill patients using modified Subjective Global Assessment guidance for body composition.

Nutritional status: In this study "nutritional status" refers to the nutritional condition of the patient assessed by modified Subjective Global Assessment guidance for body composition.

Patients:- In this study the "critically ill patients" refers to patients who is admitted in SICU, MICU and EMSICU of tertiary care teaching hospital Navi Mumbai.

I. RESEARCH METHODOLOGY

3.1Population and Sample

In this study population comprises of all patients admitted in various hospitals in Navi Mumbai. Target population is all critically ill patients admitted in selected hospitals of Navi Mumbai. Accessible population is all critically ill patients admitted in SICU, MICU and EMSICU of a tertiary care teaching hospital Navi Mumbai. The sample for the present study comprises of all critically ill patients admitted in SICU, MICU and EMSICU of a tertiary care teaching hospital Navi Mumbai. Sample size is100. In this study Non probability convenient sampling technique was used to select the sample based on the inclusion criteria. Selection of samples depended on the ready availability and fulfillment of inclusion criteria until the sample size of 100 was reached.

3.2 Data and Sources of Data

The data collection tools used for the present study are as follows. 1.Demographic data to assess the history of critically ill patient 2. Observational checklist to assess the nutritional history on admission and every third day till discharge from the hospital. 3. Modified Subjective Global Assessment guidance for body composition to assess the nutritional status on admission and every third day till discharge from the hospital.

The data collection instrument prepared for the study was observational checklist to assess the nutritional history and modified subjective global assessment guidance for body composition.

The content validity of the tools was obtained from 11 experts in the field of nursing and medicine. Out of eleven experts one was Nutritionist and remaining experts are from various specialties. Suggestions were incorporated to modify the tools as necessary.

The reliability of Modified Subjective Global Assessment for body composition was established through inter-rater method among 10 patients admitted in SICU, MICU and EMSICU of a tertiary care hospital Navi Mumbai. The tool was reliable with the value of 0.9968.

Pretesting of the all tools was done to determine the feasibility and clarity of tool. Total 10 patients who fulfill the inclusion criteria were selected for pre-testing the tool over 1month in a tertiary care teaching hospital Navi Mumbai. All the tools were found feasible to implement.

The data collection process includes the exact, systematic gathering of information relevant to the research purpose, questions, or hypothesis of a study49 . Written consent was taken from Medical Superintendent of MGM Medical College Hospital Kamothe. Data collection was done from 27-03-2019 to 27-05-2019. Patients who meet inclusion criteria were selected. Introduced of the study to Samples and/or relatives. Data collection was done in three-month period. Data collection started on admission and followed up done on every third day till discharge from hospital. On admission demographic data, medical history and a basis nutritional history and nutritional assessment were done. On every third day till discharge nutritional history and nutritional assessment were performed.

3.3 Theoretical framework

The present study was aimed in assessing the nutritional status of critically ill patients. The conceptual framework used in this study is Donabedian quality of care model. In this theory Donabedian explains three domains from which the information can be collected to evaluate whether the quality of care is good, fair or poor. Therefore, the quality of nutrition provided and the outcome of the critically ill patients can be assessed by the following three domains of Donabedian model;

1. Structure: Structure includes the setting in which the care is rendered. In this study structure includes the reasons for which the patient admitted in the hospital and the factors that makes the feeding delay and increases the risk of complications.
2. Process: Process is the action taken by the health care professionals in hospital. In this study process means the type of nutritional support provided to the patients.
3. Outcome: Outcome is all the effects of the health care measures on patients including physiological, psychological and behavioral impact. In this study outcome is all the effects of the nutritional support provided to critically ill patients

3.4 Analysis of Data

Analysis of objectives was done with help of inferential and descriptive statistics. The data collected was first coded and entered into the computer. The data was treated using SPSS 10 (Statistical package for social science, version 10.0) statistical software. Data is described in terms of frequency, percentage. and chi-square test in order to fulfil the objective of the study. A 'p' value less than 0.05 was considered as significant.

IV. RESULTS AND DISCUSSION

4.1 Results of Descriptive Statics of Study Variables

It was found that out of 100 patients' majority, 33% were in the age group of 50-59 years and 30% in the age group of 18-29 years. 69% were males and 31% were females in the group. Majority of patients, 38% stayed in ICU for 4-7 days then they were shifted to ward and 8% of them remained for more than 15days in ICU. The length of ICU stay had a Significant association with type of feed and nutritional status of critically ill patients. On admission 92% of critically ill patients were kept NBM and 5% were started with oral diet and at the time of discharge majority76.92% were started on oral diet and 4.4% were 79 discharged on RT feeds. As the length of stay

increases majority critically ill patientswere on liquid diet through RT. Type of feed is having a significant association with length of ICU stay and nutritional status of critically ill patients on both discharge from ICU and hospital. On admission 1% of patients were severely malnourished and during hospital stay 27.47% of the patients get severely malnourished. The nutritional status shows a significant association with type of feed and the Length of ICU stay of critically ill patients.

Figures and Tables

Table No:1 Socio-demographic characteristics of critically ill patients.

Demographic variables	***f***	**%**
Age group (in years)		
18 – 29	30	30
30 – 39	17	17
40 – 49	20	20
50 – 59	33	33
Occupation		
Professional	29	29
Skilled labor	26	26
Unskilled labor	15	15
Student	14	14
House wife	16	16
Diagnosis		
Medical	48	48
General Surgery	19	19
Neurosurgery	24	24
Orthopedics	9	9

Table 1 shows that majority (33%) of critically ill patients were in the age group (in years)of 50-59 years and males were 69% and females were 31% and maximum 29% were professionals. Maximum critically ill patients (48%) were admitted with medical complaints, 19%, 24% and 9% were admitted under General surgery, Neurosurgery and Orthopedics respectively.

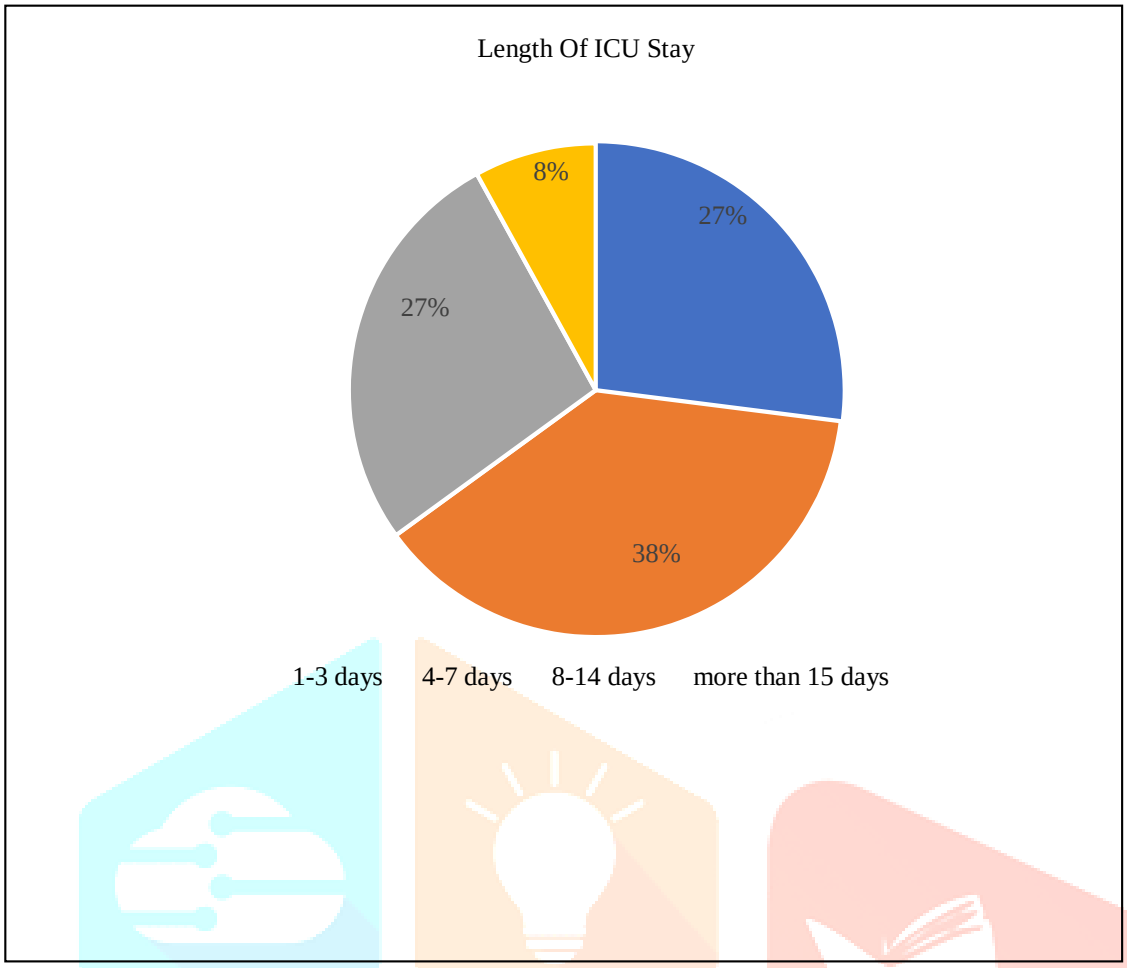

Figure no:3 Distribution of critically ill patients based on length of ICU stay.

Figure 3 reveals that 38% of critically ill patients stayed in ICU for 4-7 days and only 8%of them remained for more than 15days.

Table No:2 Medical history of critically ill critically ill patients.

Medical history	*f*	%
COPD	3	3.0
Anemia	1	1.0
Asthma	1	1.0
HTN	17	17.0
Seizure disorder	2	2.0
Level of consciousness		
Fully Conscious	58	58.0
Semiconscious	9	9.0
Unconscious	33	33.0
Functional capacity of the client		
Fully dependent	59	59.0
Partially dependent	32	32.0
Independent	9	9.0

Table 2 depicts that 17% of critically ill patients had past history of hypertension and 76%were having no any past history. On admission 58% of critically ill patients were conscious, and 33% were unconscious, of which 9% were independent, 32% were partially dependentand 59% were fully dependent.

Table 3: Distribution of critically ill patients based on type IV fluid administered on admission till discharge from hospital.

Type of IV fluid	On admission *(f)* n=100	Day 3 *(f)* n=100	Day 6 *(f)* n=99	Day 9 *(f)* n=72	Day 12 *(f)* n=48	Discharge *(f)* n=91
NS and RL	71	44	23	11	-	-
DNS and RL	17	16	10	7	2	-
D5 and RL	3	3	2	2	2	-
D5, NS and RL	1	1	1	-	-	-
Not on IVfluids	8	35	36	28	32	-

Table 3 shows that majority of the critically ill patients were started on IV of which 71% critically ill patients were started with NS and RL and was completely omitted by day12.

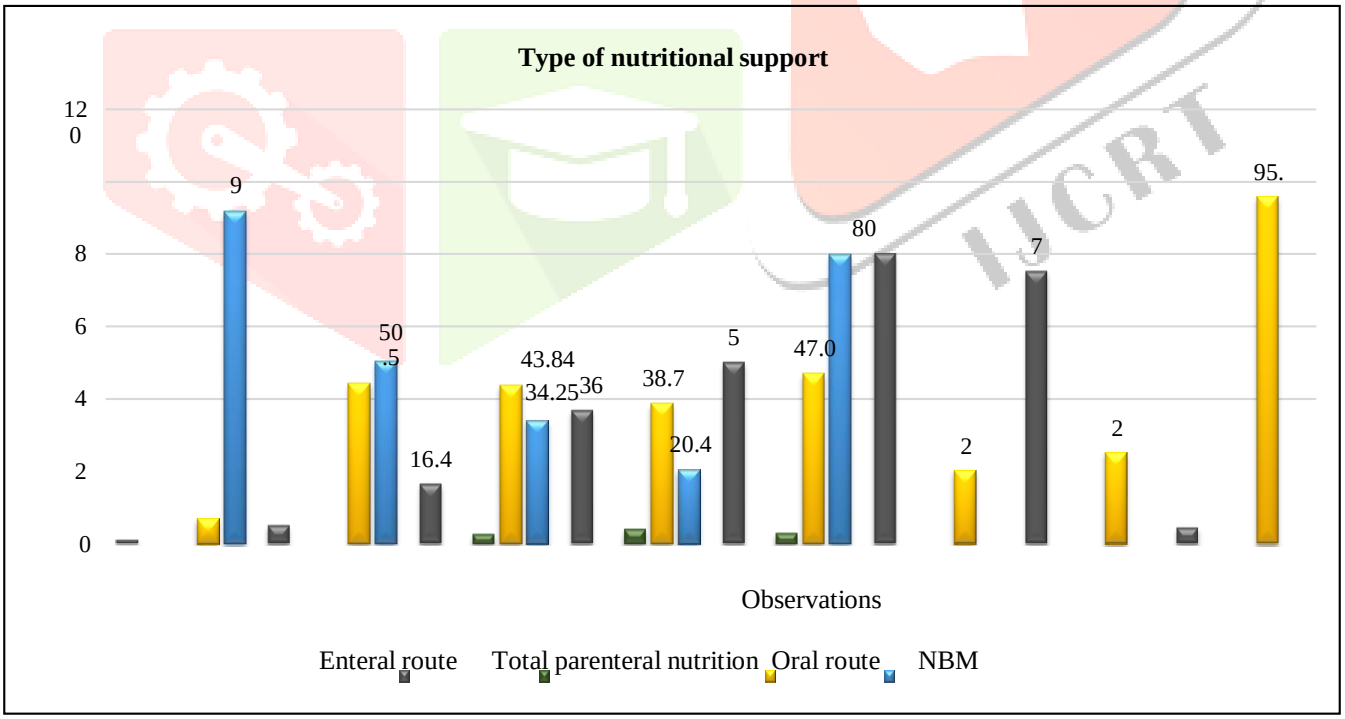

Figure 3: *Distribution of Critically ill patients based on type of nutritional support provided on admission till discharge from hospital.*

Figure 3 depicts that majority of critically ill patients i.e. 92% critically ill patients were NBM on admission and at the time of discharge95.6% critically ill patients were shifted to oral route. For the critically ill patients with increased length of stay the type of nutritional support was enteral route.

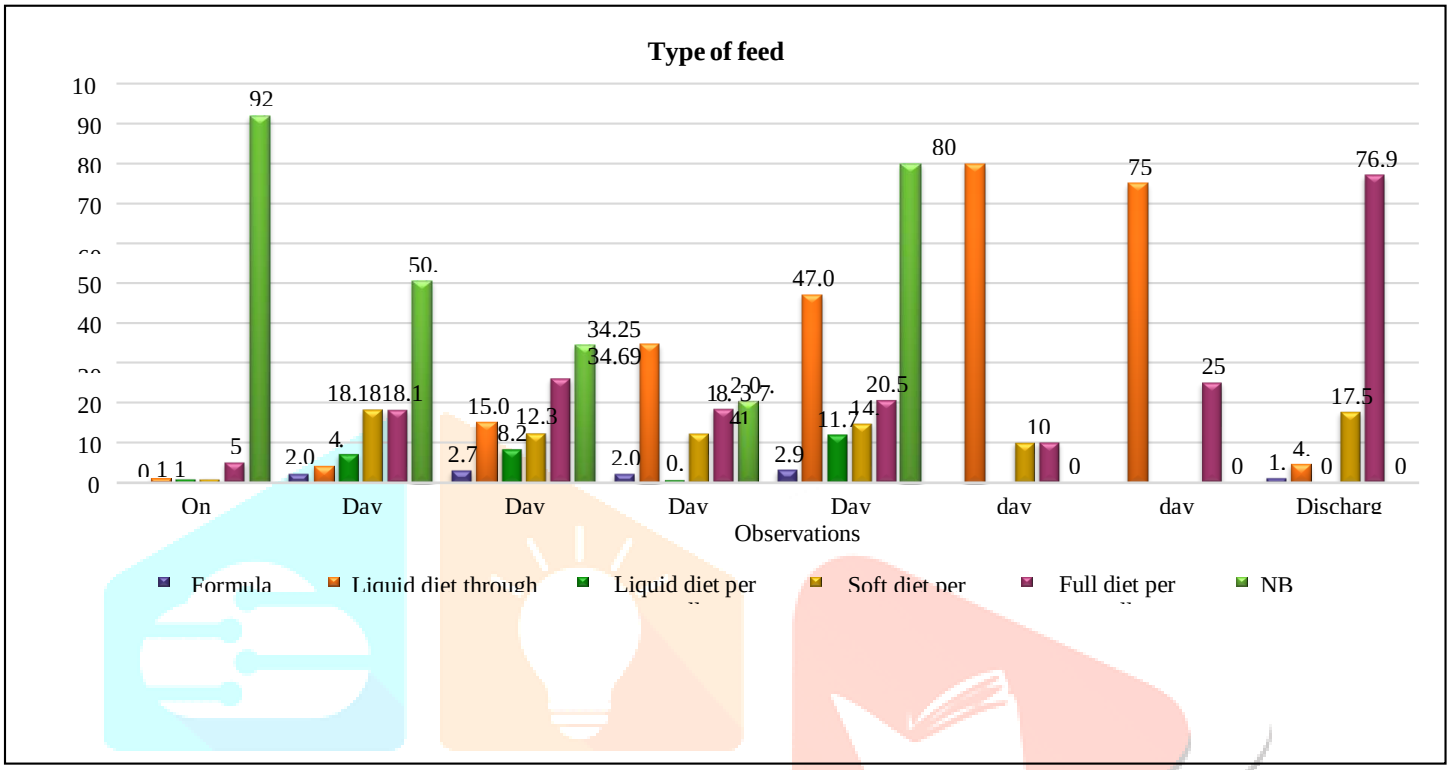

***Figure 4**: Distribution of critically ill patients based on type of feed provided on admission till discharge from hospital.*

Figure 4 illustrate that only 5% critically ill patients were started with oral diet on admission and at the time of discharge majority of critically ill patients i.e. 76.92% were started on oral diet and 4.4% of critically ill patients were discharged on RT feed. As the lengthof stay increases majority were on liquid diet through RT.

Table 4: Analysis of Subcutaneous fat under the eyes using Subjective Global Assessment guidance for body composition

Parameters	On Admission *(f)* n=100	%	At Discharge *(f)* n=91	%
Hollowed look, depression, dark circles	1	1	22	24.18
Somewhat hollow look, Slightly Dark circles	20	20	52	57.14
Slightly bulging area	79	79	17	18.68

Table 4 depicts that the subcutaneous fat under the eyes were normal for maximum number of critically ill patients (79%) and at the timeof discharge the maximum critically ill patients gone to mild/moderate category (57.14%).

Table no 5: Analysis of subcutaneous fat in Triceps using Subjective Global Assessment guidance for body composition.

	On Admission (f) n=100	%	At Discharge(f) n=91	%
Very little space between fingers, or fingers touch	0	0	15	16.48
Some depth to fat tissue, but not ample. Loose fitting skin.	12	12	33	36.26
Large space between fingers	88	88	43	47.25

Table 5 shows that subcutaneous fat on triceps were normal for 88% of critically ill patients on admission and was normal for 47.25%and severe for 16.48% at the time of discharge.

Table no 6: Analysis of subcutaneous fat in Ribs, lower back, sides of trunk using Subjective Global Assessment guidance for bodycomposition.

Parameters	On Admission (f) n=100	%	At Discharge (f) n=91	%
Indentation between ribs very obvious. Iliac crest very prominent	0	0	15	16.48
Ribs obvious, but indentations are not marked. Iliac Crest somewhat prominent	14	14	34	37.36
Chest is full; ribs do not show. Slight to no protrusion of the iliac crest	86	86	42	46.15

Table 6 shows that subcutaneous fat on ribs and lower back were normal for 86% of the critically ill patients on admission and at thetime of discharge normal subcutaneous fat in ribs and lower back was seen in 46.15% and severe loss for 16.48%.

Table no 7: Analysis of Muscle wasting in Temple using Subjective Global Assessment guidance for body composition.

Parameters	On Admission (f) n=100	%	At Discharge (f) n=91	%
Hollowing, depression	0	0	13	14.28
Slight depression	16	16	39	42.86
Well-defined muscle	84	84	39	42.86

Table 7 shows that on admission muscle in temple area were found normal for 84% and at the time of discharge majority of critically illpatients i.e. 42.86 % falls under both normal and mild/moderate category of muscle wasting in temple.

Table no 8: Analysis of muscle wasting in clavicle using Subjective Global Assessment guidance for body composition.

Parameters	On Admission (f) n=100	%	At Discharge (f) n=91	%
Protruding/prominent bone	0	0	16	17.58
Some protrusion; may not be all the way along	15	15	35	38.46
Not visible in males; may be visible but not prominent in females.	85	85	40	43.96

Table 8 depicts that muscle in clavicle was normal for 85% of the critically ill patients on admission and at the time of discharge 43.96% was under normal category and 17.58% had severe muscle wasting in clavicle.

Table no 9: Analysis of muscle wasting in shoulder using Subjective Global Assessment guidance for body composition.

Parameters	On Admission (f) n=100	%	At Discharge (f) n=91	%
Square look; bones prominent	0	0	15	16.48
No square look; acromion process may protrude slightly	16	16	37	40.66
Rounded	84	84	39	42.86

Table 9 shows that muscle wasting in the shoulder was normal for 84% of critically ill patients on admission and at the time of discharge for muscle of shoulder was found normal for 39% and severe muscle wasting is observed among 16.48%.

Table no 10: Analysis of muscle wasting in Scapula/ribs using Subjective Global Assessment guidance for body composition.

	On Admission (f) n=100	%	At Discharge (f) n=91	%
Bones prominent; significant depression	0	0	16	17.58
Mild depressions or bone may show slightly; not all areas	17	17	35	38.46
Bones not prominent; no significant depressions	83	83	40	43.96

Table 10 shows that muscle of scapula and ribs was normal for 83% of critically ill patients on admission and at the time of discharge muscles were found normal for 40% and severe muscle wasting in scapula and ribs observed in 17.58% of critically ill patients.

Table no 11: Analysis of muscle wasting in Interosseous muscle between thumb and forefinger using Subjective Global Assessmentguidance for body composition.

Parameters	On Admission (f) n=100	%	At Discharge (f) n=91	%
Flat or depressed area	0	0	13	14.29
Slightly depressed	15	15	39	42.86
Muscle protrudes; could be flat in females	85	85	39	42.86

Table 11 depicts that muscle wasting in Interosseous muscle between thumb and forefinger was normal for 85% of critically ill patientson admission and at the time of discharge 39% of critically ill patients falls on both normal and mild/moderate category and severe muscle wasting found in 14.29% of critically ill patients.

Table no 12: Association between type of feed at discharge and length of ICU stay.

n=91

Type of Feed	Length of ICU stay (day)				χ^2	P-value	Significant at 5% level
Discharge	**1 -3**	**4 - 7**	**8 -14**	**15+**			
Formula feed	1	0	0	0			
Liquid diet through RT	0	0	1	3	34.711	0.001	S*
Soft diet per orally	2	6	6	2			
Full diet per orally	23	28	17	2			

*df=12, *statistically significant at 5% level*

Table 12 depicts that there is an association between type of feed on discharge and length of ICU stay with a statistically significant p value 0.001.

Table 13. Association between type of feed and subcutaneous fat under the eyes at the time of discharge from hospital.

n=91

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significa ntat 5% level
Formula feed	0	1	0			
Liquid diet through RT	3	1	0	15.685*	0.016	S*
Soft diet per orally	8	7	1			
Full diet per orally	11	4 3	16			

*df=6, *Statistically significant at 5% level*

Table 13 shows that there is a significant association between type of feed and subcutaneous fat under the eyes at the time of discharge.

Table 14: Association between type of feed and subcutaneous fat in Triceps at the time of discharge from hospital.

n=91

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significant at5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	24.848	<0.001	S *
Soft diet per orally	6	8	2			
Full diet per orally	6	24	40			

*df=6, *Statistically significant at 5% level*

Table 14 shows that there is a significant association between type of feed and subcutaneous fat triceps at the time of discharge.

Table 15: Association between type of feed and subcutaneous fat in Ribs, lower back, sides of trunk at the time of discharge fromhospital.

Type of feed	Severe loss(f)	Mild/moderate loss (f)	Normal(f)	χ^2	P-value	Significant at 5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	22.405	0.001	S *
Soft diet per orally	5	9	2			
Full diet per orally	7	24	39			

n=91

*df=6, *Statistically significant at 5% level.*

Table 15 shows that there is a significant association between type of feed and subcutaneous fat in ribs, lower back and sides of the trunkat the time of discharge.

Table 16: Association between type of feed and muscle wasting in Temple at the time of discharge from hospital.

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	24.733	<0.001	S*
Soft diet per orally	5	9	2			
Full diet per orally	5	29	36			

n=9

*df=6, *Statistically significant at 5% level*

Table 16 depicts that there is a significant association between the type of feed and muscle wasting of Temple at the time of discharge

Table 17: Association between type of feed and muscle wasting in Clavicle at the time of discharge from hospital.

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	19.939*	0.003	S*
Soft diet per orally	6	7	3			
Full diet per orally	7	27	36			

*df=6, *Statistically significant at 5% level.*

Table 17 depicts that there is a significant association between the type of feed and muscle wasting of clavicle at the time of discharge

Table 18: Association between type of feed and muscle wasting in Shoulder at the time of discharge from hospital.

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significant at5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	23.535	0.001	S*
Soft diet per orally	6	8	2			
Full diet per orally	6	28	36			

*df=6, *Statistically significant at 5% level*

Table 18 depicts that there is a significant association of type of feed with the muscle wasting of shoulder at the time of discharge.

Table 19: Association between type of feed and muscle wasting in Scapula/ribs at the time of discharge from hospital.

n=91

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significant at5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	22.070	0.001	S*
Soft diet per orally	6	8	2			
Full diet per orally	7	26	37			

*df=6, *Statistically significant at 5% level*

Table 19 depicts that there is a significant association between the type of feed and muscle wasting of scapula/ribs at the time of discharge.

Table 20: Association between type of feed and muscle wasting in Interosseous muscle between thumb and forefinger at the time of discharge from hospital.

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significant at5% level
Formula feed	0	0	1			
Liquid diet through RT	3	1	0	24.733	<0.001	Yes
Soft diet per orally	5	9	2			
Full diet per orally	5	29	36			

*df=6, *Statistically significant at 5% level*

Table 19 depicts that there is a significant association between the type of feed and muscle wasting of interosseous musclebetween thumb and forefinger at the time of discharge.

Table 21. Association between type of feed and subcutaneous fat under the eye of the patient at the time of discharge from ICU

n=91

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significant at5% level
Formula feed	0	2	0			
Liquid diet through RT	9	4	0	117.840	<0.001	S*
Liquid diet per orally	4	5	0			
Soft diet per orally	3	18	5			
Full diet per orally	5	14	9			
NBM	5	6	2			

*df=10, *Statistically significant at 5% level*

Table 21 shows that there is a significant association between type of feed and subcutaneous fat under the eye of the critically ill patientsat the time of discharge from ICU.

Table 22. Association between type of feed and subcutaneous fat in Triceps of the critically ill patients at the time of discharge fromICU

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	1	1			
Liquid diet through RT	7	5	1	133.813	<0.001	S*
Liquid diet per orally	0	3	6			
Soft diet per orally	2	7	17			
Full diet per orally	1	5	22			
NBM	1	8	4			

*df=10, *Statistically significant at 5% level*

Table 22 shows that there is a significant association between type of feed and subcutaneous fat in Triceps of critically ill patients at thetime of discharge from ICU

Table 23. Association between type of feed and subcutaneous fat in Ribs, lower back, sides of trunk of the critically ill patients at thetime of discharge from ICU

Type of feed	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	1	1			
Liquid diet through RT	8	5	0	136.065	<0.001	S*
Liquid diet per orally	0	5	4			
Soft diet per orally	3	6	17			
Full diet per orally	1	8	19			
NBM	1	8	4			

*df=10, *Statistically significant at 5% level*

Table 23 shows that there is a significant association between type of feed and subcutaneous fat in Ribs, lower back, sides of trunk ofcritically ill patients at the time of discharge from ICU

Table 24: Association between type of feed and muscle wasting in Temple of the critically ill patients at the time of discharge fromICU

Type of feed	Severe (f)	Mild/moderate (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	0	2			
Liquid diet through RT	8	5	0	136.873	<0.001	S*
Liquid diet per orally	0	5	4			
Soft diet per orally	3	8	15			
Full diet per orally	0	9	19			
NBM	1	7	5			

*df=10,*Statistically significant at 5% level*

Table 24 shows that there is a significant association between type of feed and muscle wasting in Temple of the critically ill patients atthe time of discharge from ICU.

Table 25. Association between type of feed and muscle wasting in Clavicle of the critically ill patients at the time of discharge fromICU

Type of feed	Severe (f)	Mild/moderate (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	1	1			
Liquid diet through RT	11	2	0	154.875	<0.001	S*
Liquid diet per orally	0	4	5			
Soft diet per orally	3	7	16			
Full diet per orally	1	6	21			
NBM	1	8	4			

n=91

*df=10, *Statistically significant at 5% level*

Table 25 shows that there is a significant association between type of feed and muscle wasting in clavicle of the critically ill patients atthe time of discharge from ICU

Table 26. Association between type of feed and subcutaneous fat in Shoulder of the critically ill patients at the time of discharge fromICU n=91

Type of feed	Severe (f)	Mild/moderate (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	1	1			
Liquid diet through RT	10	3	0	151.385	<0.001	S*
Liquid diet per orally	0	4	5			
Soft diet per orally	2	8	16			
Full diet per orally	1	6	21			
NBM	1	8	4			

*df=10, *Statistically significant at 5% level*

Table 26 shows that there is a significant association between type of feed and muscle wasting in shoulder of the critically ill patients atthe time of discharge from ICU

Table 27: Association between type of feed and subcutaneous fat in Scapula/ribs of the critically ill patients at the time of dischargefrom ICU

Type of feed	Severe (f)	Mild/moderate (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	1	1			
Liquid diet through RT	10	3	0	152.128	<0.001	S*
Liquid diet per orally	0	4	5			
Soft diet per orally	3	7	16			
Full diet per orally	0	7	21			
NBM	1	8	4			

*df=10, *Statistically significant at 5% level*

Table 27 shows that there is a significant association between type of feed and muscle wasting in Scapula/ribs of the critically ill patientsat the time of discharge from ICU

Table 28. Association between type of feed and subcutaneous fat in Interosseous muscle between thumb and forefinger of the criticallyill patients at the time of discharge from ICU

Type of feed	Severe (f)	Mild/moderate (f)	Normal (f)	χ^2	P-value	Significantat 5% level
Formula feed	0	1	1			
Liquid diet through RT	9	4	0	147.769	<0.001	Yes
Liquid diet per orally	0	4	5			

Soft diet per orally	2	8	16			
Full diet per orally	0	8	20			
NBM	1	8	4			

*df=10, *Statistically significant at 5% level*

Table 28 shows that there is a significant association between type of feed and muscle wasting in Interosseous muscle between thumband forefinger of the critically ill patients at the time of discharge from ICU.

Table 29. Association between length of ICU stay and subcutaneous fat under the eyes of critically ill patients at discharge from hospital

n=91

Length of ICU stay	**Severe loss (f)**	**Mild/moderate loss(f)**	**Normal (f)**	χ^2	**P-value**	**Significantat 5% level**
1 -3	1	19	6			
4 – 7	6	18	10	27.667	<0.001	S*
8 -14	9	14	1			
15+	6	1	0			

*df =6,*Statistically significant at 5% level*

Table 29 shows that there is a significant association between the length of ICU stay and subcutaneous fat under the eyes of critically illpatients at discharge.

Table 30. Association between length of ICU stay and subcutaneous fat in Triceps of critically ill patients at discharge from hospital.

Length of ICU stay (days)	Severe loss (f)	Mild/moderate loss(f)	Normal (f)	χ^2	P-value	Significant at 5% level
1 -3	0	3	23			
4 – 7	2	12	20	79.097	<0.001	S*
8 -14	6	18	0			
15+	7	0	0			

n=91

*df=6, *Statistically significant at 5% level*

Table 30 shows that there is a significant association between the length of ICU stay and subcutaneous fat in Triceps of critically ill patients at discharge.

Table 31. Association between length of ICU stay and subcutaneous fat in Ribs, lower back, sides of trunk of critically ill patient at discharge from hospital

Length of ICU stay (days)	Severe loss (f)	Mild/moderate loss(f)	Normal (f)	χ^2	P-value	Significantat 5% level
1 -3	0	3	23			
4 – 7	1	15	18	65.490	<0.001	S*
8 -14	8	15	1			
15+	6	1	0			

*df=6, *Statistically significant at 5% level*

Table 31 shows that there is a significant association between the length of ICU stay and subcutaneous fat in Ribs, lower back, sides oftrunk of critically ill patients at discharge.

Table 32. Association between length of ICU stay and muscle wasting in Temple of the critically ill patient at discharge from hospital

n=91

Length of ICU stay (days)	Severe loss (f)	Mild/moderate loss(f)	Normal (f)	χ^2	P-value	Significantat 5% level
1 -3	0	3	23			
4 - 7	2	16	16	61.576	<0.001	S*
8 -14	6	18	0			
15+	5	2	0			

*df=6, *Statistically significant at 5% level*

Table 32 shows that there is a significant association between the length of ICU stay and muscle wasting in Temple of critically ill patients at discharge.

Table 33. Association between length of ICU stay and muscle wasting in Clavicle of the critically ill patient at discharge from hospital

n=91

Length of ICU stay (days)	Severe loss (f)	Mild/moderate loss(f)	Normal(f)	χ^2	P-value	Significant at 5% level
1 -3	0	3	23			
4 – 7	1	16	17	77.981	<0.001	S*
8 -14	8	16	0			
15+	7	0	0			

*df=6, *Statistically significant at 5% level*

Table 33 shows that there is a significant association between the length of ICU stay and muscle wasting in Clavicle of critically illpatients at discharge

Table 34. Association between length of ICU stay and muscle wasting in shoulder of the critically ill patient at discharge from hospital

n=91

Length of ICU stay (days)	Severe loss (f)	Mild/moderate loss (f)	Normal (f)	χ^2	P-value	Significantat 5% level
1 -3	0	3	23			
4 - 7	1	17	16	80.447	<0.001	S*
8 -14	7	17	0			
15+	7	0	0			

*df=6, *Statistically significant at 5% level*

Table 34 shows that there is a significant association between the length of ICU stay and muscle wasting in Shoulder of critically illpatients at discharge.

Table 35. Association between length of ICU stay and muscle wasting in Scapula/ribs of the critically ill patient at discharge from hospital

Length of ICU stay (days)	Severe loss (f)	Mild/moderate loss(f)	Normal (f)	χ^2	P-value	Significantat 5% level
1 -3	0	3	23			
4 - 7	1	17	16	75.033	<0.001	S*
8 -14	8	15	1			
15+	7	0	0			

*df=6, *Statistically significant at 5% level*

Table 35 shows that there is a significant association between the length of ICU stay and muscle wasting in Scapula/ribs of critically illpatients at discharge.

Table 36. Association between length of ICU stay and muscle wasting in Interosseous muscle between thumb and forefinger of the critically ill patient at discharge from hospital

Length of ICUstay (days)	Severe loss (f)	Mild/moderate loss(f)	Normal (f)	χ^2	P-value	Significantat 5% level
1 -3	0	3	23			
4 - 7	2	16	16	61.576	<0.001	S*
8 -14	6	18	0			
15+	5	2	0			

*df=6, *Statistically significant at 5% level*

Table 36 shows that there is an association between the length of ICU stay and muscle wasting in Interosseous muscle between thumb and forefinger of critically ill patients at the time of discharge.

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