

Nutritional Assessment in New Admissions at St Vincent De Paul Residence

INTRODUCTION

Undernutrition leading to nutritional deficiency is a common problem which occurs in long term care facilities. This may in turn translate into an increase in morbidity and mortality and a decrease in the quality of life of the patients.

The aim of this audit is to research the current protocols used as a nutritional assessment at St Vincent De Paul Residence (SVPR). After identifying such protocols and comparing them with the standards set by the Nutritional Task Force of the International Association of Gerontology and Geriatrics (IAGG European Region) and the International Academy of Nutrition and Aging (IANA), this document sets out recommendations by which nutritional assessment of newly admitted patients at this long term care facility can be improved.

ETHICS

Before commencing the audit the management board of SVPR was contacted for data protection approval. The Faculty of Medicine and Surgery Research Ethics Committee's approval was also obtained.

This audit did not consist of interviews, recordings or photos of the patient population. The information gathered was from Mater Dei Hospital online softwares - Patient Dashboard and iSoft, which are linked to the SVPR admission database. After collection of data, only the authors of this paper had access to the information and results.

METHODOLOGY

New admissions to SVPR were automatically recruited for this study. Table 1 shows the recruitment criteria used. The SVPR records office was contacted to recruit such a population.

Table 1: Population recruitment criteria

Period	May 2021 - October 2021
Wards	42 wards were included (42 wards were open at the time)
Exclusions	Patients who passed away at time of recruitment were excluded from data collection

Every patient in this population was checked for any blood tests that were taken within a week of their admission, any anthropometric measures and any nutritional assessment forms that were filled in on admission in their appropriate file. This data was all transcribed and recorded on Google Sheets.

Blood tests were checked via iSOFT, which is the program currently being used by all local doctors to book routine tests for patients. The authors of this audit had already been given access to this program. For the patient cohort used for this audit, it was checked if the following specific blood tests were taken during the first week of their admission:

- Haemoglobin
- Cholesterol
- Albumin
- Iron profile
- Vitamin screening

According to Salva et al.,¹ these tests are important for the nutritional assessment of the patient.

RESULTS

303 patients were recruited in the audit. Figures 1 to 5 show what blood tests were taken on their admission as a percentage from the total. There was no standard blood test protocol which was noted during the audit, blood tests varied throughout. The commonest tests ordered were haemoglobin (81%) and albumin (61%) levels.

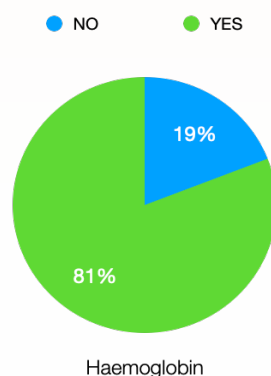


Figure 1: Haemoglobin

- Pie chart demonstrating percentage of patients tested for haemoglobin levels on admission [Yes - tested; No - not tested].

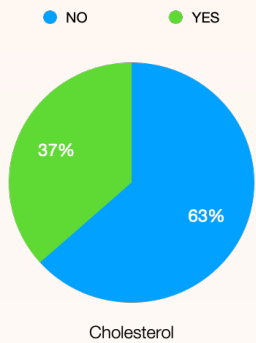


Figure 2: Cholesterol - Pie chart demonstrating percentage of patients tested for cholesterol levels on admission [Yes - tested; No - not tested).

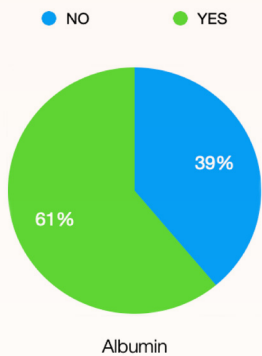


Figure 3: Albumin - Pie chart demonstrating percentage of patients tested for albumin levels on admission [Yes - tested; No - not tested).

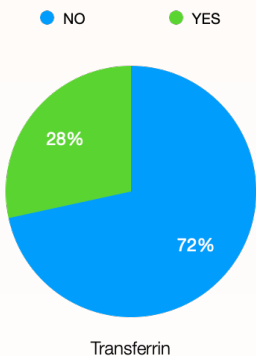


Figure 4: Iron Profile - Pie chart demonstrating percentage of patients tested for iron profile on admission [Yes - tested; No - not tested).

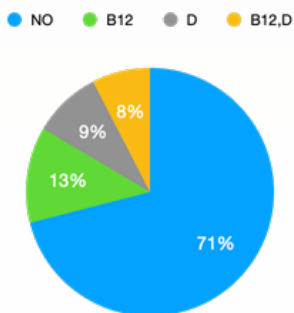


Figure 5: Vitamin Screen - Pie chart demonstrating percentage of patients tested for vitamin levels on admission [B12 - tested for vitamin B12 only; D - tested for vitamin D only; B12,D - tested for both; No - none tested for).

Table 2 shows a summary of what anthropometric measures are taken in each ward on admission. Whilst all wards measure weight on request, only 4 wards out of 42 take weights on admission. Weight was the only anthropometric measure mentioned by the wards. The reason outlined for not taking the weight on admission was the lack of resources to do so. Anthropometric assessment is done 6 monthly by all SVPR wards as this is requested by the SVPR nutritionist.

Table 2: Summary of new admission protocols per ward

Wards (Total - 42)	Anthropometric Measures
27 - 64.3%	Weight only on request
1 - 2.4%	Weight on admission + monthly + on request
3 - 7.1%	Weight on admission + on request
6 - 14.3%	Weight every Sunday + on request
5 - 11.9%	Weight monthly + on request

A nutritional assessment form developed by the SVPR nutritionist is available, however after auditing all 42 wards, only 1 ward fills this form for newly admitted patients.

CONCLUSION AND WAY FORWARD

An adequate population study was recruited to audit nutritional assessment effectively in a long-term care admission facility. Having wards using multiple strategies and fulfilling no specific criteria for primarily assessing nutrition in new admissions to this facility is suboptimal.

In relation to the above findings, the following is being proposed:

1. A blood test bundle has been developed by the authors for SVPR staff doctors to book for new admissions. A single list of tests will standardise level of care throughout the facility. This list, along with a justification of the tests can be seen in table 3. This will also be sent by email to all staff doctors. The appropriate staff at Mater Dei Hospital's IT department will be contacted to set up a 'Geriatric Bundle' to this aim.

2. New admission patients should have an appropriate nutritional assessment form filled in. A form has been prepared as seen in figure 6. To mitigate any problems relating to incomplete documentation, the following is being proposed:
- An email will be sent with a poster to inform ward staff to fill in the form - repeat emails may follow.
 - Posters will be used in every ward to remind staff of the changes.
 - Ward nursing officer's signatures will be required on the forms themselves.
 - Multiple copies of the form will be printed and inserted into the new admission files that are used currently.

Table 3: New admission geriatric bundle

Test	Justification
Iron profile	Recommended for assessing nutrition ¹⁻³
Vitamin B12	
Vitamin D	
Albumin	
Full blood count	
Magnesium	These tests, although not directly assessing nutrition, were found to be already booked during admission and will therefore be included in this bundle.
Calcium and phosphate	
Liver function test	
Thyroid function test	
Folate	

Figure 6: Mini-Nutritional Assessment form

SVP Saint Vincent De Paul MNA Completed by Dr. Christina Cassar and Dr. David Borg under the supervision of Dr. Peter Ferry

New Admission Mini Nutritional Assessment Form

Name and Surname: _____ ID no.: _____
 Sex: _____ Age: _____ Weight: _____ Height: _____ Date: _____

Complete the screen by filling in the boxes with the appropriate numbers. For the final score, total the numbers in each section.

A Has food intake declined over the past three months due to loss of appetite, digestive problems, chewing or swallowing difficulties?
 0 = Severe decrease in food intake
 1 = Moderate decrease in food intake
 2 = No decrease in food intake

B Involuntary weight loss during the last 3 months?
 0 = Weight loss greater than 3 kg (6.6 pounds)
 1 = Does not know
 2 = Weight loss between 1 and 3 kg (2.2 and 6.6 pounds)
 3 = No weight loss

C Mobility?
 0 = Bed or chair bound
 1 = Able to get out of bed/chair, but does not go out
 2 = Goes out

D Has the patient suffered psychological stress or acute disease in the past three months?
 0 = Yes
 2 = No

E Neuropsychological problems?
 0 = Severe dementia or depression
 1 = Mild dementia
 2 = No psychological problems

F1 Body mass index (BMI)? (weight in kg / height in m²)
 0 = BMI less than 19
 1 = BMI 19 to less than 21
 2 = BMI 21 to less than 23
 3 = BMI 23 or greater

IF BMI IS NOT AVAILABLE, REPLACE QUESTION F1 WITH QUESTION F2. DO NOT ANSWER QUESTION F2 IF QUESTION F1 IS ALREADY COMPLETED.

F2 Answer only if unable to obtain BMI
 0 = CC less than 31
 3 = CC 31 or greater

Total score (Max 14 points)	
12 – 14 points	Normal nutritional status *
8 – 11 points	At risk of malnutrition **
0 – 7 points	Malnourished ***

* Rescreen according to request or 3 monthly
 ** Close weight monitoring ± nutritional intervention
 *** Nutritional intervention + in depth nutritional assessment + close weight monitoring

This form is to be completed in the first week of a new admission or transferred long term care patient. This form is not meant to correlate with any other monthly or weekly weight, it serves a purpose by itself and should be present in every patient's file for aid in nutritional assessment.

Name and surname of ward nurse in charge: _____
 Name and surname of ward staff filling in form: _____
 Signature of ward staff: _____
 Date: _____

A re-audit will be done in 2023 to ensure the required improvements have come into effect.

REFERENCES

1. Salva A, Coll-Planas L, Bruce S, et al. Nutritional assessment of residents in long-term care facilities (LTCFs): recommendations of the task force on nutrition and ageing of the IAGG European region and the IANA. *J Nutr Health Aging* 2009;13(6):475-83.
2. Thomas D, Ashmen W, Morley J, et al. Nutritional management in long-term care: development of a clinical guideline. Council for Nutritional Strategies in Long-Term Care. *J Gerontol A Biol Sci Med Sci* 2000;55(12):M725-34.
3. Hannan JL, Radwany SM, Albanese T. In-hospital mortality in patients older than 60 years with very low albumin levels. *J Pain Symptom Manage*. 2012 Mar;43(3):631-7.