



Results of an audit- MUST patients be malnourished before surgery?

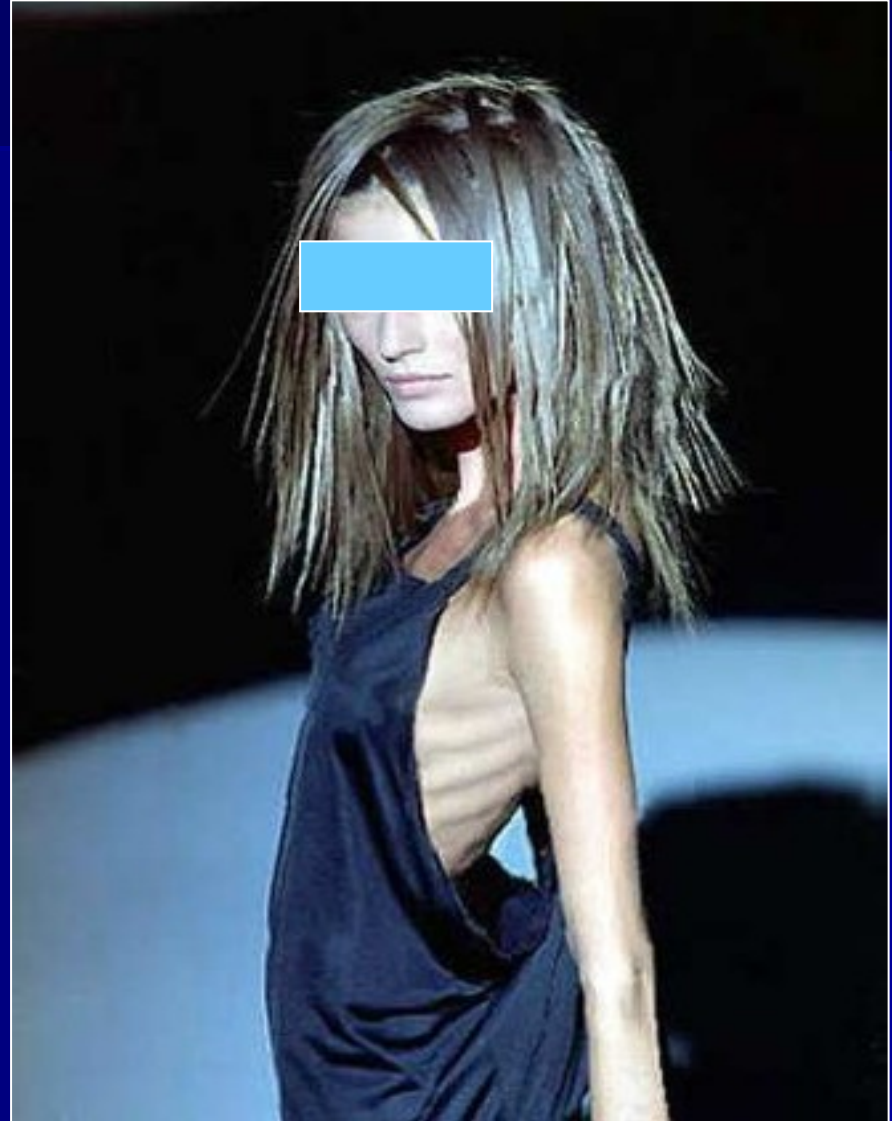
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Preoperative/Community Dietitian,
Wrexham Maelor Hospital



Introduction

- To improve the nutritional status of patients going for a surgical procedure.
- Referral criteria
- Patients coming through
 - Hypertension
 - Uncontrolled diabetes
 - Iron deficiency Anaemia
 - Swallowing difficulties
 - Patients with dietary restrictions i.e dairy free.
 - Obese patients
 - Malnourished patients.....

Obesity & Malnutrition!



How much time do I currently have?....



Aim of the audit

To identify the rate of malnutrition & obesity in patients attending the preoperative department

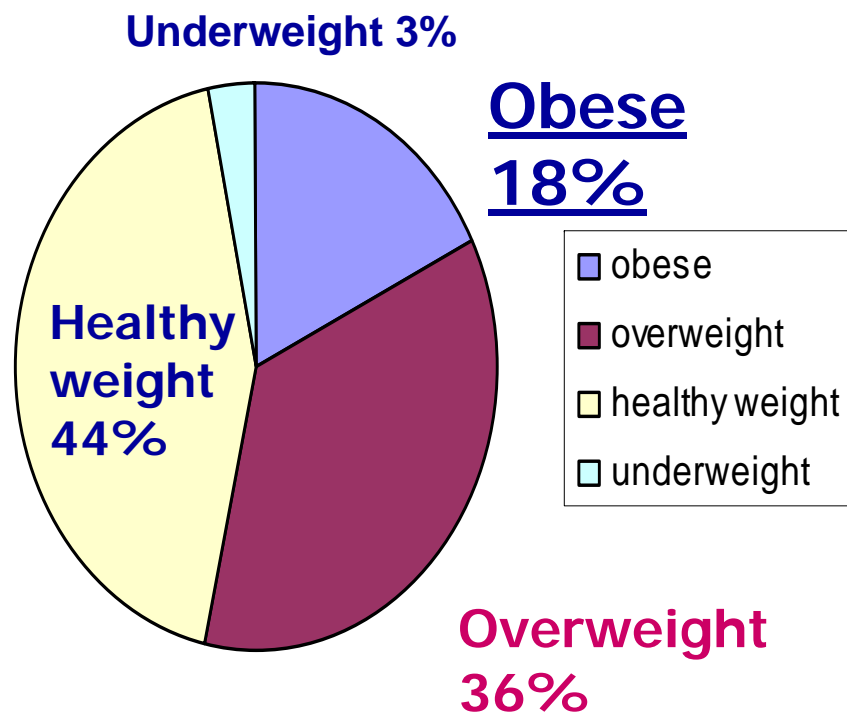
- 1. BMI range & waist circumference
- 2. The risk of becoming malnourished
- 3. Haemoglobin levels
- 4. Time waiting for surgery from pre op appointment
- 5. Time waiting for surgery from first outpatient appointment.
- 6. Dietetic Intervention

Method

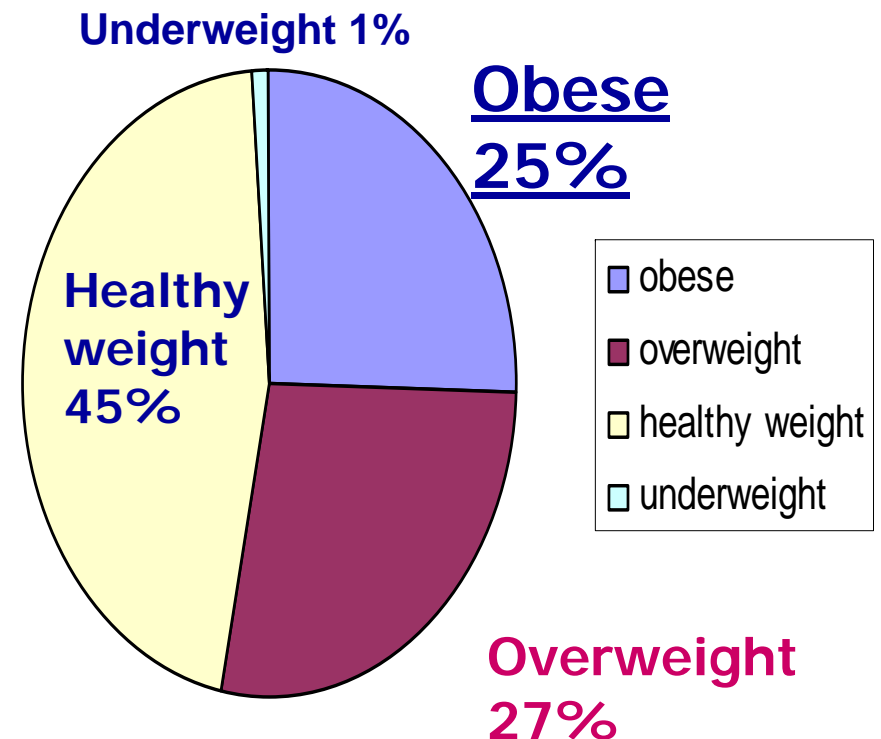
- Over 5 days
- Wt, Ht & BMI
- Waist circumference if BMI >30
- MUST
- Haemoglobin
- Dietary advice provided if patients were
 - BMI 30 & >30
 - BMI <19
 - MUST score 2 & >2
- 74 patients attended

RESULTS 1 - BMI classification (n=74)

Health survey for Wales 2003



Preop audit 2007



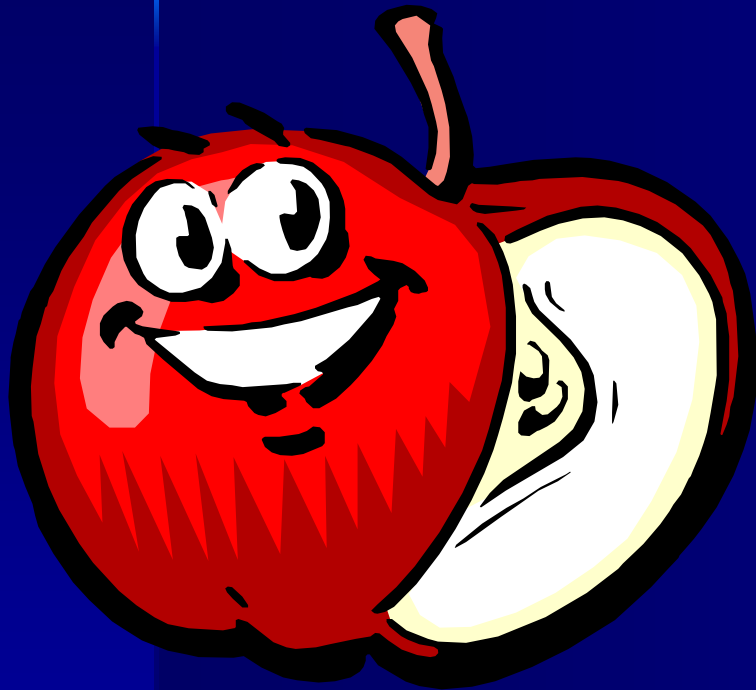
RESULTS 1 Waist circumference BMI above 30 (n=17)

- Ideal
MEN < 40 inches
WOMEN < 35 inches



**APPLE
shaped!**

8 MALES & 9 FEMALES
were apple shaped



Visceral Fat:

***A Small Contribution to Total
Obesity, A Big Contribution to
Obesity Related Disease! i.e
CHD & insulin resistance***

Why do patients become Obese?



Eating too much!

Increasing age decreasing BMR



Consequences of Obesity

- Anaesthetic risk
- Obese patients bleed more compared with patients with a BMI of <26 *Bowditch & Villar, 1999*
- Delayed wound healing
- Reduced mobility postoperatively
- Obese people live on average 9 years less
The obesity forum 2007
- Obesity costs the NHS Half a billion pounds a year directly (indirectly 2 billion)

RESULTS 2.

Why do patients become Malnourished?

- Increased nutritional requirements
- Anxiety about surgery
- Pain
- Malabsorption
- Nausea & vomiting
- Difficulty eating & swallowing

Consequences of Malnutrition

Impaired wound healing

Impaired immune function

More prescriptions (10%) *Martyn c n et al 1998*

Increased length of stay *Hillel M, et al 1996*

Increased risk of post operative complications

Malnutrition costs NHS 7.3 billion pounds a year *BBC Feb 2006*

- **Malnutrition**
- **Universal**
- **Screening**
- **Tool**



If patients score a MUST of 2 or above they are at risk of becoming malnourished

RESULTS 2 Patients at risk of becoming malnourished

**Patient's
MUST score**

```
graph TD; A[Patient's MUST score] --> B[61 had a MUST score of less than 2  
83%]; A --> C[12 had a MUST score of 2 or more  
17%];
```

**61 had a
MUST score of
less than 2
83%**

**12 had a
MUST score of 2
or more
17%**

RESULTS 3 Haemoglobin

Iron....

...is an essential component in oxygen transportation

... is required for haemoglobin synthesis

..... deficiency in the diet can lead to anaemia.

...is the most commonest nutritional deficiency in the world



*Manual of dietetic practice
2001*

RESULTS 3 Haemoglobin levels

female = 11.5-17gm/dl (n=23) males= 12.5-18gm/dl (n=34)

Average Prevalence in Europe

10-20% of women

4.3-12% men & elderly

Audit results

3% of women

26% of men

Iron deficiency Anaemia Assessment, Prevention & control, A guide for programme managers, WHO 1990-1995

RESULTS 4.

Number of days from pre-op to surgery.

- Minimum -1 day waiting
- Average - 18 days
- Maximum - 150 days (21 weeks)

RESULTS 5.

Number of days from outpatient appointment to surgery.

- Minimum- was 6 days
- Average- 106 days (15 weeks)
- Maximum- 482 days (68 weeks)

Good idea - More time !



Good idea - More time !

“My dear we have 15 weeks to get you nutritionally ready for the removal of your bunions!”

“Hooray! then I can wear my new Jimmy Choo’s!”



RESULTS 6

Dietetic intervention

- BMI above 30
- BMI below 19
- MUST 2 or above
- Asked for help!

| | |
|-----|-----|
| NO | 43% |
| YES | 57% |

Summary of results

- 25% of patients are obese
- 17 % of patients are at risk of becoming malnourished.
- 26 % of men were at risk of anaemia.
- Dietetic input was required in over half of patients.
- Insufficient time at preoperative clinic for a Dietitian to implement dietary modification in obese patients.

Recommendations from audit

- Nutritionally screen all surgical patients attending outpatients department.
- Be aware of the risks of being obese or malnourished.
- Refer patients to the Dietetic department as soon as possible.
 - BMI of 30 & >30 (obese)
 - BMI of 19 & <19 (underweight)
 - MUST score of 2 & >2
 - Any patient wishing to discuss their diet with a Dietitian prior to surgery

**Give us more timeWe
don't have magic wands!**



**“We want to be size
zeros in 18 days”**

Thankyou Wrexham Maelor Hospital preoperative team

Pharmacy Technician

Preoperative
clinic clerk



Anaesthetist

Pharmacist

Preoperative
Nurses

Physiotherapy

Dietitian