

# **A European survey of adult intensive care nurses' practice in relation to nutritional assessment**

*Fulbrook P, Bongers A, and Albarran JW*

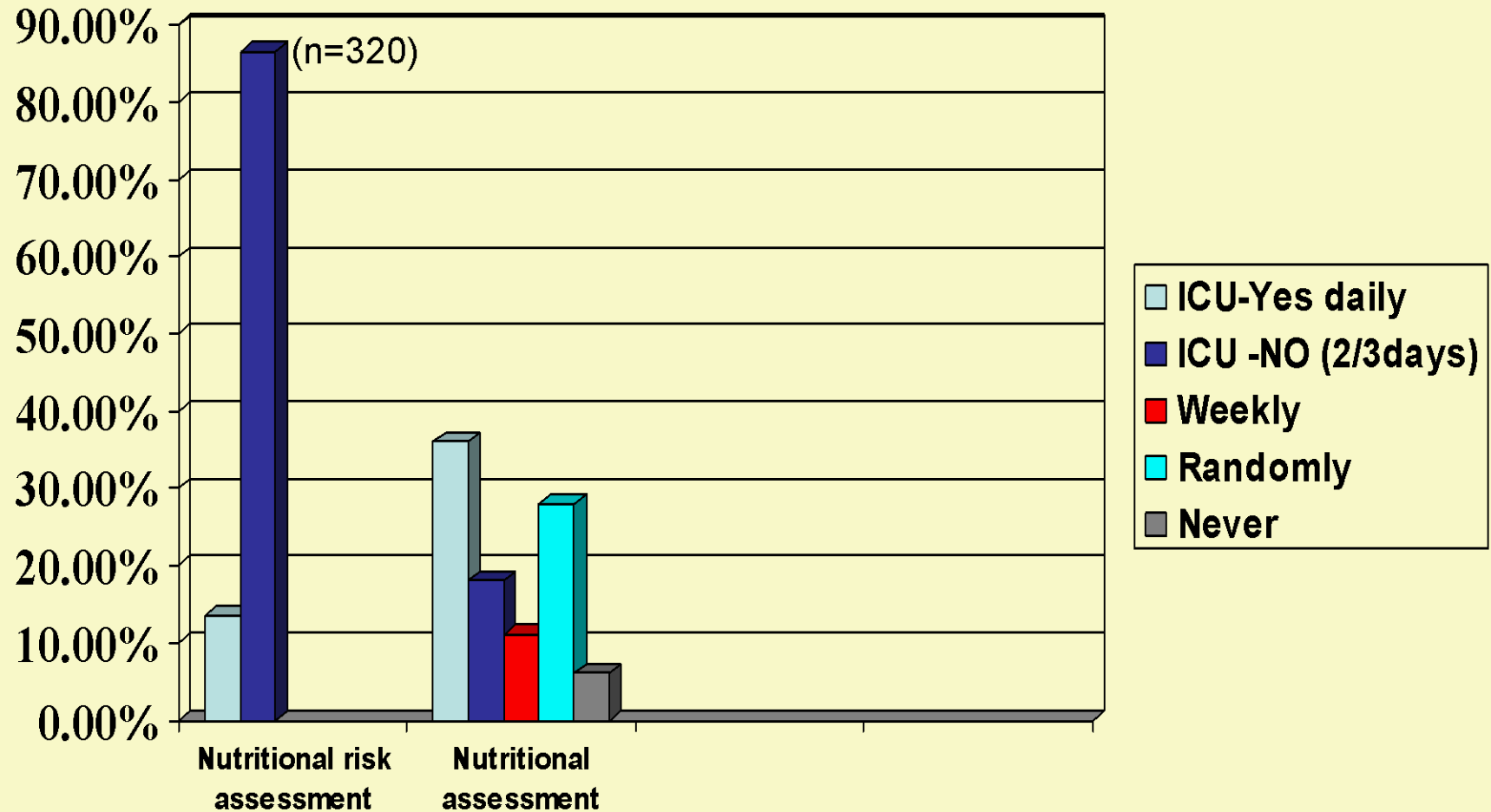


- **Aim** The primary aim of this survey was to gather an overview about specific nutritional practices and procedures in European adult intensive care units (ICUs).
- **Sample:** A convenience sample of national representatives of the European federation of Critical Care Nursing associations (EfCCNa) representing 20 countries were invited to participate.
- **Data collection:** A 51-item self-administered questionnaire covering the demographic characteristics of ICUs, the nature of nutritional assessments and enteral feeding practices was distributed to 383 ICUs in 20 European countries
- **Results:** 380 (99.2%) questionnaires were returned. Most were from state hospitals (n = 345).

**Table 1. Distribution of sample**

Region of Europe	n	Freq	%	Freq	%
<b>Northern:</b> Finland, Denmark, Iceland, Norway, Sweden	80	78	97.5	-	-
<b>Western:</b> Austria, Belgium, Germany, Switzerland, The Netherlands, UK	120	96	80.0	18	15.0
<b>Eastern:</b> Croatia, Hungary, Poland, Slovenia	80	78	97.5	1	1.3
<b>Southern:</b> France, Greece, Italy, Spain, Turkey	100	93	93.0	7	7.0

# Fig 1 Nutritional assessments

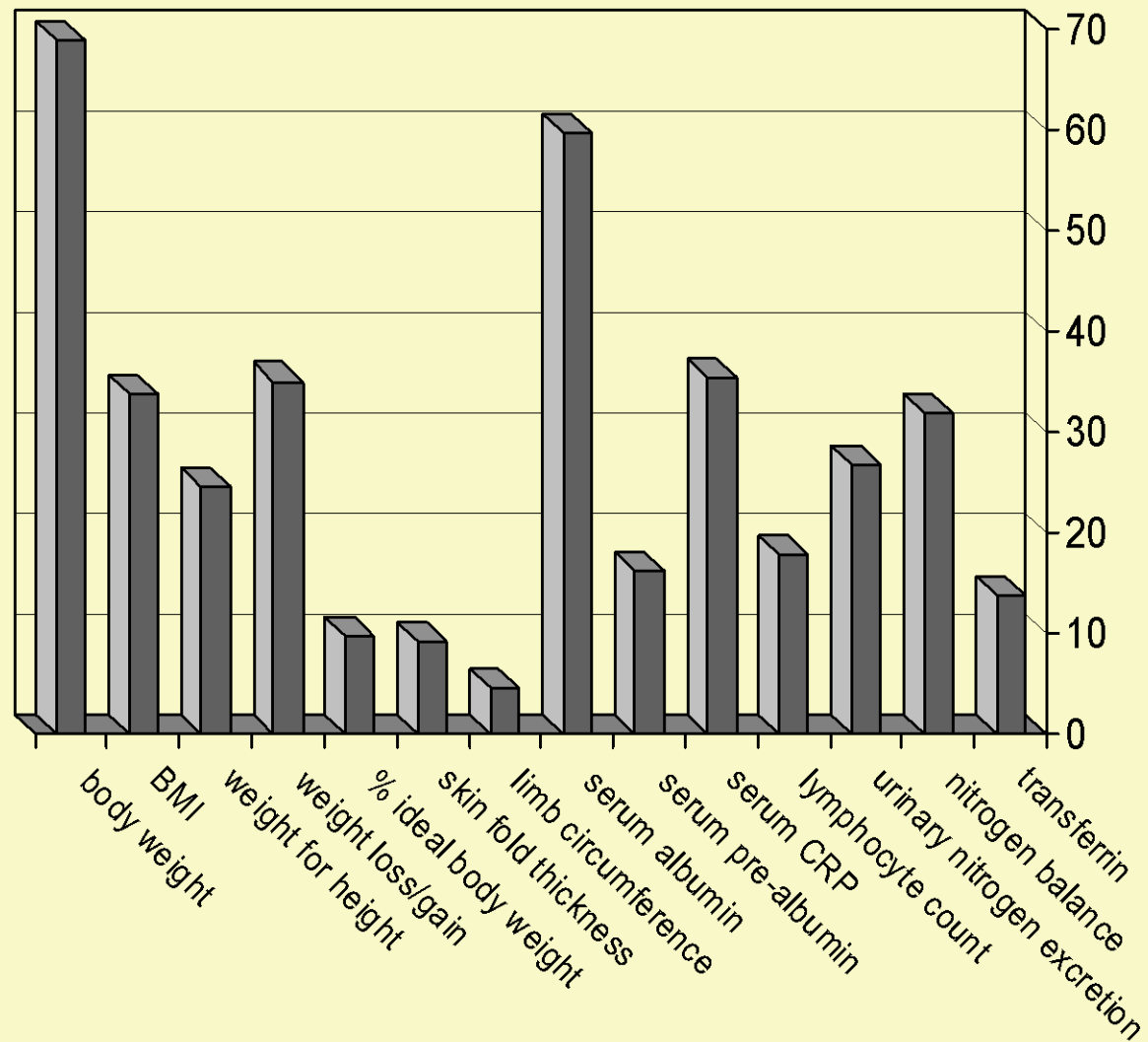


- 44% of intensivists and 24% of anaesthetists were responsible for nutritional assessments
- Where an intensivist was responsible for nutritional assessment, this was often randomly performed (34%) and only 21 (13.5%) used a nutritional risk score
- Only 21 (5.6%) of nurses and 15 (3.9%) of dieticians had this role- nurses have given such a function a low profile

## Main measures for assessment

- Body weight was used a preferred index (70%)
- Serum albumin was the second most commonly measured factor with 59.7% of ICUs using it as part of their nutritional assessment. 16.3% (n = 62) measured serum pre-albumin
- In other studies biochemical markers were mainly used
- In common with other research anthropometric assessments, measures of functional capacity and immunological assays were rare

**Figure 3. Frequency of use of measures of nutritional status (% of ICUs)**



## Tube placement (NG/OG)

- Most common approach to feeding was via NGT (84.5%, n =239/283)
- Types of NG tubes used:
  - Polyurethane 49%
  - Silicone 29%
  - Polyvinyl Chloride 20%

- Our results indicate a decline in the use of injecting air and abdominal x-rays compared to previous research findings
- Radiographs are currently regarded as the gold-standard
- Despite this, many still use insufflations of air and stethoscopes, however, hearing gurgling sounds can be misleading as they do not reliably confirm that the tube is actually in the stomach

## Most current reliable indicators in ensuring accurate tube position include

- the presence of bile in aspirate (indicates that tube is probably in the small bowel)
- pH aspirate ( $\leq 6$  gastric;  $> 6$  intestinal)
- Using this combination of tests is currently deemed as best available practice in determining location of nasogastric tubes

## Table 2. Frequency of feeding tube change

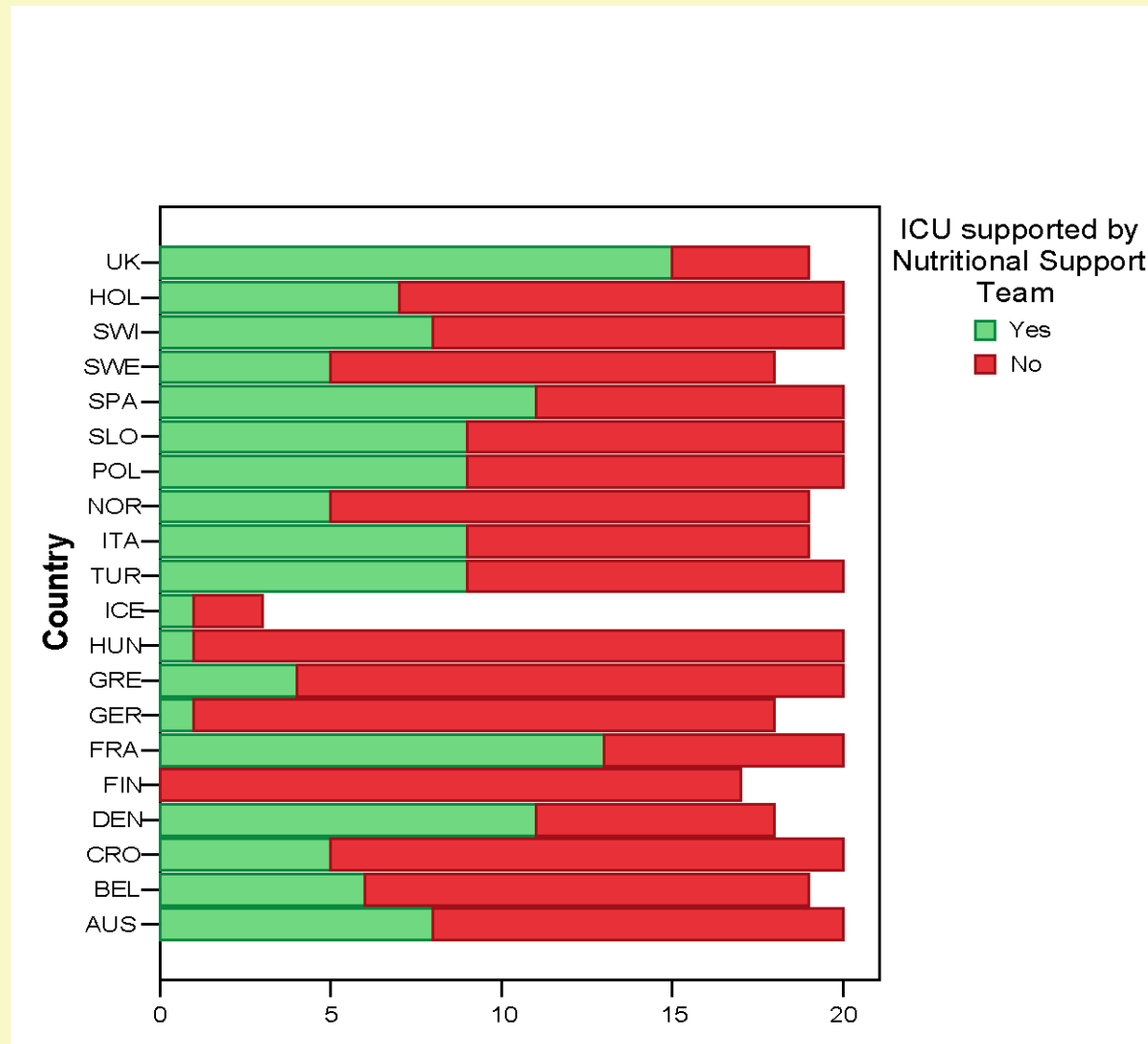
Frequency of feeding tube change	n	%
Every 1-3 days	7	1.9
Every 4-7 days	42	11.6
Every 8-14 days	26	7.2
Every 15-21 days	18	5.0
Every 22-42 days	15	4.2
Regularly (unspecified)	13	3.6
When necessary (unspecified)	6	1.7
Randomly (unspecified)	184	51.0
Never	43	11.9

- According to the national French healthcare agency, there is no recommendation to support a specific pattern of changing tubes, regardless of where they are placed (Agence Nationale d'Accréditation et d'Évaluation en Santé 2001).
- Williams and Leslie (2004, 2005) conducted comprehensive review of the literature but did not address this issue.
- It is acknowledged that tubes do become blocked and kinked, and to some extent this may account for the random pattern of tube-changing found in this survey

# Nutritional support teams

- **Only 36%** of ICUs were supported by NSTs
- Most were common in university hospitals ( $p = 0.001$ ,  $df = 1$ )
- Most were led by doctors (42.4%), the next group were dieticians (30.6%)
- Units with an NST were more like to **perform an NRS**
- There was also a significant difference ( $p < 0.001$ ) in the frequency of assessment by ICUs supported by a NST, with nearly half (45%,  $n = 60/133$ ) assessing **nutritional status daily**

## Figure 2. Nutritional support team by country



Only, UK, Denmark, France and Spain had more >50% supported by NSTs

## Protocols

- 75.7%, of units had a protocol or guideline for enteral feeding.
- Northern ICUs (88.1%) used protocols more often
- 54.2% of protocols were developed by doctors, 21% by nurses and 16% multi-professionally
- The presence of protocols was associated with better patient outcomes

# Conclusion

- It is recommended that work should commence to develop nursing European guidelines for EF, including exploring evidence-based methods of checking NGT placement.
- Critical care nursing education programmes should place a strong emphasis on evidence-based assessment of nutritional risk and status.
- Nutritional based protocols should be developed with a stronger multi-disciplinary team approach