Med Intensiva. 2018;xxx(xx):xxx–xxx

medicina intensiva

www.elsevier.es/medintensiva

ORIGINAL

Quality of anthropometric measurements in Spanish Intensive Care Units (The CAMIES Study)☆

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Received 9 June 2017; accepted 8 September 2017

KEYWORDS
Anthropometry;
Body height;
Body weight;
Critical illness;
Intensive care practices

Abstract
Introduction: Real body weight and height are essential data to be obtained in all critically ill patients (CIP), due to their influence in the designing of therapies and monitoring. Visual estimation is a very inaccurate practice. No precise descriptions of anthropometric measurements among CIP are available in the clinical practice guides.
Objective: To describe anthropometric quality in CIP, health professional perception of such quality, and its influencing factors.
Design: Computer-assisted telephone or self-interviewing.
Setting: Doctors and nurses of all Spanish Intensive Care Units (ICU) attending adults.
Relevant variables: Anthropometric practices were described in detail, along with the proclivity to obtain real measurements, and the influence of professional experience, the number of ICU beds, and the health professional group involved.
Results: A total of 481 questionnaires were collected from 176 hospitals (36.8% from physicians). The availability of measuring tools is limited (weight 68.7% – height 76.7%), with no relation to the number of ICU beds (weight $p = .343$, height $p = .61$). Visual estimation was the most frequent way of obtaining measurements (weight 65.9% – height 64.8%), even when measuring tools were available. Willingness to take real measurements was very low, especially among physicians, and professional experience was associated to increased rejection ($p < .001$).

☆ Please cite this article as: García-Martínez MA, Cherednichenko T, Hidalgo Encinas Y, Catalá Espinosa AI, Arrascaeta Llanes A, Acosta Escribano JA. Calidad de la medición antropométrica en las Unidades de Medicina Intensiva españolas (Estudio CAMIES). Med Intensiva. 2018. https://doi.org/10.1016/j.medin.2017.09.008

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Conclusions: Visually estimated measurements exceed real measurements in the routine practice of Spanish ICUs. Measurement tools are not widely available in the ICU, and even when available, their use is not guaranteed. The surveyed population does not view anthropometric measures as being important for clinical practice. An effort should be made by scientific societies to promote reliable anthropometric practice in Spanish ICUs.

PALABRAS CLAVE
Antropometría;
Peso;
Talla;
Enfermedad crítica;
Prácticas en Medicina Intensiva

Calidad de la medición antropométrica en las Unidades de Medicina Intensiva españolas (Estudio CAMIES)

Resumen
Introducción: El peso y la talla reales son datos de inexcusable obtención en todos los pacientes críticamente enfermos (PCE) por su implicación en el diseño de las terapias y la monitorización. La estimación visual es una práctica poco fiable. No existe una descripción precisa en las guías de práctica clínica del PCE acerca de la obtención de medidas antropométricas.
Objetivo: Describir la calidad en la práctica de la antropometría en el PCE, la percepción de los sanitarios y los factores influyentes.
Diseño: Entrevista telefónica y personal asistida por ordenador.
Ámbito: Médicos y diplomados en Enfermería de todos los servicios de Medicina Intensiva (UCI) de adultos del territorio español.
Variables de interés: Se exploró la práctica habitual de toma de medidas, la proclividad al uso de medidas reales y la influencia de la experiencia, el tamaño de la UCI y el grupo profesional.
Resultados: Se obtuvieron 481 cuestionarios desde 176 hospitales, el 36,8% de médicos. La dotación en equipos de medida es escasa (peso 68,7%, talla 76,7%) y no se relaciona con el tamaño de la UCI (peso p = 0,343, talla p = 0,61). La estimación visual es la forma más frecuente de obtener medidas (peso 65,9%, talla 64,8%), incluso cuando se dispone de herramientas de medida. La disposición a la toma de medidas reales es baja, sobre todo entre médicos (36,2% de rechazo) y mayor experiencia asoció mayor rechazo (p < 0,001).
Conclusiones: La estimación supera a la toma de medidas reales en la rutina de las UCI españolas. Las herramientas de medida no están ampliamente disponibles en las UCI y su uso es minoritario aun existiendo. La población encuestada es poco tendente a considerar importante la toma de medidas. Debe realizarse un esfuerzo por parte de las sociedades científicas para promover la práctica antropométrica fiable en las UCI españolas.

Introduction

None of the scientific societies that publish guides on the management of acute and critically ill patients doubt the need for measuring the body weight and height of those subjects admitted to the Intensive Care Unit (ICU), though they do not specify exactly how such measurements are to be obtained. These parameters are essential for planning the treatment of critically ill patients, since many management interventions require rigorous body weight measurement, such as protective mechanical ventilation; the administration of vasoactive drugs, inotropic agents, aminoglycosides, glycopeptides or antiseizure drugs; and artificial nutrition support. Error in measuring body weight can result in overdosing, with the associated increase in risk of adverse effects, or in underdosing, with failure to obtain the expected benefits. Previous studies have pointed out the incapacity of healthcare staff to adequately estimate the measurements of critically ill patients within tolerable limits of error,[1,2] though despite this fact estimation appears to remain the most widely used strategy for recording patient weight and height in the ICU.

Although it seems reasonable that anthropometric measurements should be the standard in the ICU, the literature indicates that this practice is neither widespread nor protocolized. We decided to carry out a national survey to define anthropometric practices in Spain.

Material and methods

A population-based descriptive study involving census sampling was carried out, with the development of a questionnaire for administration to all hospitals of the Spanish public healthcare system. The hospitals and number of beds were recorded from the Spanish National Hospitals catalog of 2013, published by the Spanish Ministry of Health, Social