

# MOBILE APPLICATIONS RELATED TO PARENTERAL NUTRITION: QUALITATIVE AND QUANTITATIVE ANALYSIS

J.T. De Pourcq<sup>1</sup>, J.A. Montero Delgado<sup>2</sup>, M. Gomis Pastor<sup>1</sup>, C. Fraile Clemente<sup>2</sup>, F.J. Merino Alonso<sup>2</sup>

<sup>1</sup>Hospital de la Santa Creu i Sant Pau, Pharmacy Department, Barcelona, Spain.

<sup>2</sup>Hospital Universitario Nuestra Señora de Candelaria, Pharmacy Department, Santa Cruz de Tenerife, Spain



## Background

In recent years, health apps has increased exponentially, being more than 325.000 available. Because of the lack of regulation, some of these apps may offer inaccurate content or may not reach the minimum quality standards in order to be used by healthcare professionals.

## Purpose

To analyze the availability of Parenteral Nutrition (PN) related apps for mobile devices and their quality according to Mobile App Rating Scale (MARS).

## Material and methods

Cross-sectional study performed in October 2018. A search was conducted on two major mobile platforms: Apple's App store and Google Play Store. The keywords used to identify the initial sample was "parenteral nutrition".

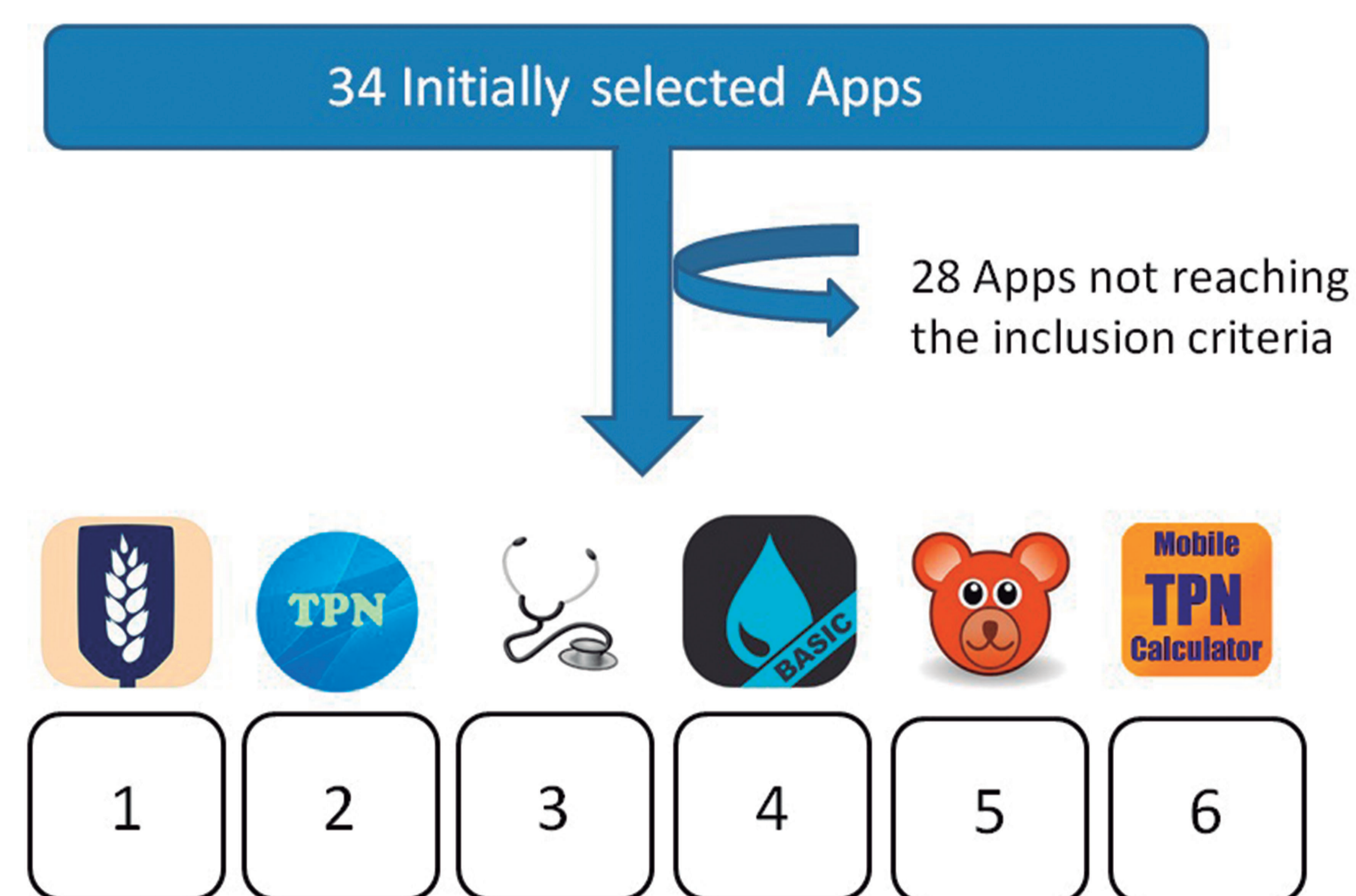
The exclusion criteria were:

- Not related to PN.
- Non medical category.
- No English or Spanish language.
- Not updated <36 months.
- Non-free apps.

The selected apps were downloaded in a smartphone and in a tablet of both systems in order to be analyzed. The app's quality and reliability was measured by means of MARS (score 0-5 points). MARS includes a 4-item subjective assessment which was also used to analyze the apps. Other variables analyzed were: social score (for Android apps), availability in operative systems and devices and price.

Data collection and statistical analysis were performed in a Google Drive spreadsheet.

## Results



- Of the 34 apps identified, only six met the inclusion and exclusion criteria. All were adressed to healthcare workers, standing out those addressed to ICU or neonatal units.
- The mean MARS was 2.82(2.41 - 3.75). The mean social score was 4.65. The three apps with best MARS (0-5) were "ASPEN ebooks" (3.75), "UCIN-Calc Beta" (3.06), "Nutricion Parenteral UCI" (2.68). These also obtained the best score in the subjective assessment (2.5, 3.25 and 2.25 respectively). The other analyzed apps obtained a MARS <3 points and a subjective score <2 points.

Number	Name	MARS Score	Subjective Score	Social Score	Operative Systems
1	ASPEN eBooks	3,75	2,5	4	iOS
2	Total parenteral nutrition ( neonates/ pediatics)	2,44	1,25	4,9	Android
3	Nutrición Parenteral - UCI	2,68	2,25	5	Android
4	NEOliq - Nutrición parenteral neonatal básica	2,41	1,25	5	Android
5	UCIN-Calc Beta	3,06	3,25	4,9	Android
6	Mobile TPN Calculator	2,62	1,25	4,1	Android

TOP 3 APPs according to MARS Score



TOP 3 APPs according to Subjective Assesment



## Conclusion

There are few updated apps related to PN, and they are all addressed to healthcare professionals. Only a few PN apps have enough quality to be used with guarantees by healthcare professionals in their activity.

## References and/or Acknowledgements

Stoyanov SR et al. Mobile App Rating Scale:A New Tool for Assessing the Quality of Health Mobile Apps. Eysenbach G, ed. JMIR mHealth and Health. 2015; 3(1): 27. doi:10.2196/mhealth3422.



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