

Title: A comparison of actual weight versus estimated weight using Broselow tape, Traditional and Updated Advanced Pediatric Life Support (APLS) formulas in Filipino children ages 1 to 12 years old in a private tertiary hospital

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An accurate method of estimated body weight (EBW) is a priority in critical care situations for safety and effectiveness of emergent intervention as none exists for Filipino children.
Objective: To determine the best method in estimating weight of Filipino children ages1-12 years old.
Methodology/Analysis: Analytical quantitative cross-sectional study where 496 computer-randomized children ages 1-12 years old of normal weight-for-age or BMI-for-age included. Actual weights using a single calibrated weighing scale with height measurements were compared to EBW using Traditional APLS, Updated APLS and Broselow tape on late infancy (1-2 years old), early childhood (3-6 years old), late childhood (7-10 years old) and pre-pubescent (11-12 years old). Mean differences, p-values, Bland-Altman plots and Pearson correlation were utilized for data analysis.
Results: For late infancy, all weight estimation systems showed no significant difference with actual weight (Broselow tape p=0.417, Traditional APLS p=0.078, Updated APLS p=0.078). However, Traditional and Updated APLS had better agreement (-3.49 to 3.49).

For early childhood, Traditional APLS showed significant difference to actual weight (p=0.000). Both the Broselow tape (p=0.091) and Updated APLS (p=0.173) showed no significant difference. However, Broselow tape had better agreement (-7.17 to 7.17) than Updated APLS.

For late childhood (Broselow tape p=0.029, Traditional APLS p=0.000, Updated APLS p=0.000) and pre-pubescent (Broselow tape p=0.000, Traditional APLS p=0.000, Updated APLS p=0.000), all weight estimation systems showed significant differences with actual weight.
Conclusion: Traditional APLS and Updated APLS are highly recommended to estimate weight for late infancy. Broselow Tape is recommended for early childhood. None of the estimates are recommended for late childhood and pre-pubescent.

Biography
Maria Gabriela Quesada completed her pediatric residency training in 2019 at Capitol Medical Center, Inc, Philippines. She had her medical degree in Far Eastern University – Dr. Nicanor Reyes Medical Foundation. She has interest in research and has won a few poster presentations locally early in her career.

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