A5-3: Changes In Infant Disposable Diaper Weights Over Time

Author List:
Presenting Author: Joan Carlisle
Additional Author: Amanda Moore, Alyssa Cooper, Terri Henderson, Debbie Mayfield, Randa Taylor, Jennifer Thomas, Laduska Van Fleet, David Askanazi, Naomi Fineberg, Yanhui Sun

Presenting Author: Joan Carlisle
Address: 5541 Double Oak Lane
Birmingham, Alabama 35242
United States
Ph: 205 939-9128
Fax:
Email: joan.carlisle@chsys.org
Institution: Children's Health System

Additional Author: Amanda Moore
Address: 7 NW, Children's Health System, 1600 7th Avenue South
Birmingham, Alabama 35233
United States
Ph: 205 939-9128
Fax:
Email: joan.carlisle@chsys.org
Institution: Children's Health System

Additional Author: Alyssa Cooper
Address: 5 T, Children's Health System, 1600 7th Avenue South
Birmingham, Alabama 35233
United States
Ph: 205 939-9128
Fax:
Email: joan.carlisle@chsys.org
Institution: Children's Health System

Additional Author: Terri Henderson
Address: 7 NW, Children's Health System, 1600 7th Avenue South
Birmingham, Alabama 35233
United States
Ph: 205 939-9128
Fax:
Email: Joan.Carlisle@chsys.org
Institution: Children's Health System
Abstract:
Introduction: A time honored and significant role of a nurse is to monitor accurate intake and output measurements that are critical in evaluating fluid status of hospitalized infants and children. Acute care nurses at a children’s hospital questioned the practice of weighing disposable infant diapers immediately after voiding and wanted to know if a delay in weighing until the end of the shift would alter the weight of the diapers. A review of the literature disclosed few published studies related to diaper weighing and none that were conducted in an acute care setting.

Method(s): The method was an experimental, laboratory model. Designated amounts of saline were added to 4 sizes of dry infant disposable diapers. Diapers were weighed immediately post-wetting and then at hourly intervals for seven hours. For each size diaper, two volumes of saline were added simulating the upper and lower volumes of normal output. Wet diapers were either folded or left unfolded.
**Results:** Repeated measures analysis of variance (RMANOVA) with balanced data (F-test) was used to analyze the data. Statistical significance was set at 0.05 and clinical significance was set at a 5 percent or greater change in diaper weight. Diaper weight changes over time were statistically significantly different for all time points and for all volumes regardless of diaper size. None of the measurements involving folding were statistically significant. Actual changes in diaper weights were very small and consistent between the diapers in each group. The largest change was a 3 percent change over 7 hours (i.e., 3 grams out of 100 milliliters). This very small yet consistent change led to statistical significance but did not have clinical significance.

**Discussion & Conclusions:** While small albeit significant changes occurred over time in the weight of all diapers for all volumes, these changes were too small to be of clinical significance. Therefore, it is appropriate to wait and weigh all the diapers at the end of eight hours. Implications are applicable in many areas of nursing: evidence based practice, policy development (consistency in practice), nurse work life environment (time savings), budget concerns (increased nurse efficiency) and parent satisfaction (less interruptions).

**Abstract History:**
This abstract has been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.
Poster Research in Progress: 2009 Alabama State Nurses Association Clinical Education Sessions-FACES; 2009 Alabama League for Nursing Annual Meeting; 2009 Sigma Theta Tau International Nursing Research Congress

**Financial Disclosure:**
No, I (or a member of my immediate family) have not received something of value* from or own stock (or stock options) in a commercial company or institution related directly or indirectly to the subject of my presentation.

**FDA Disclosure:**
I will not be describing any pharmaceutical and/or medical device.

**Non-Exclusive License:**

Submitted by:
joan.carlisle@chsxs.org