

A Survey to Determine the Quality of Self-Care of Children with Asthma in Southwest Georgia

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NEBULIZERS

- Deliver large doses of medications
- Easy to use
- Preferred in situations where needed only for short periods
- Expensive because of equipment
- More systemic side effects



ASTHMA AND CHILDREN

- Asthma is the most common chronic disease of childhood and a leading cause of disability among children
- Prevalence among persons aged 0-17 years increased approximately 5% each year during 1980–1995
- 1998 estimate of 53 per 1000 children

METERED DOSE INHALERS

- Deliver small doses of medication
- Portable and inexpensive devices
- Preferred for chronic treatment
- Fewer systemic side effects
- Use is technique dependent



TREATMENT OF CHILDHOOD ASTHMA

- Inhaled medications are the standard of treatment
 - Metered dose inhalers and other devices that deliver small doses of medication
 - Nebulizers and other devices that deliver large doses of medications
- Use of chronic oral medications are discouraged because of systemic adverse effects

SPACERS

- Spacers make metered dose inhalers easier to use and therefore improve compliance
- Some newer devices are designed with "spacers" as part of the device



PEAK FLOW METERS



- Inexpensive, hand-held device used to measure how air flows from the lungs
- PFM's can give an idea when a patient is getting near "danger zones" and rescue meds are needed
- Studies have shown PFM's to be of benefit in children as young as 3 years old

MATERIALS AND METHODS

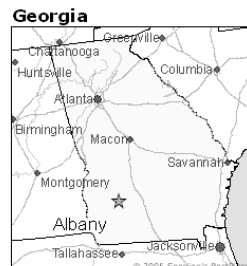
- Approval was granted by the Institutional Review Board of Phoebe Putney Memorial Health System and Albany Area Primary Health Care
- Patient population:
 - Children ages 5-20 years
 - Being seen at East Albany Pediatrics and Adolescent Center in Albany, GA
- After informed consent was obtained, parents were interviewed by Pharmacy Students and were asked the survey questions
- The child's own medications, sample medications, pictures of inhalers, and pictures of peak flow meters and spacer devices were available to aid in identification

RESCUE VS. MAINTENANCE

- Rescue inhalers
 - Usually albuterol
 - May be used frequently with few adverse effects
 - Used primarily during bronchospasm, but may be used at other times
- Maintenance inhalers
 - Usually steroids, but may contain other medications
 - Used on a daily basis to prevent bronchospasm
 - May not be useful in reversing bronchospasm
 - May have adverse effects if used too frequently

ABOUT ALBANY, GA

- "The Good Life City"
- Population: 75,852
 - African American: 67.2%
 - White: 30%
 - Other: 2.8%
- Median household income: \$32,729 (national: ~\$50k)
 - 26.1% ≤ \$15k
- The healthcare center for SW Georgia



THE PROJECT

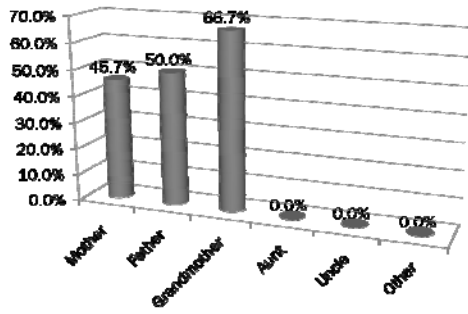
Survey parents of patients at East Albany Pediatric and Adolescent Center and Phoebe Family Care Center

- 1) Which of your child's inhalers is for maintenance and which is for rescue?
- 2) Does your child use a spacer device with the inhalers?
- 3) Does your child use a peak flow meter?
- 4) Parents were also asked to demonstrate the proper technique for the inhaler.

DEMOGRAPHICS

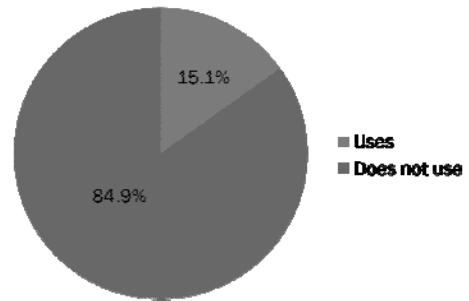
N	56
Male	33 (58.9%)
Female	23 (41.1%)
Average age (years)	10.3
Racial demographics	
African American	50 (89.3%)
White, non-Hispanic	3 (5.4%)
Hispanic	3 (5.4%)
Parent or Adult Guardian	
Mother	35 (62.5%)
Father	6 (10.7%)
Grandmother	9 (16.1%)
Aunt	5 (7.1%)
Uncle	1 (1.8%)
Other	1 (1.8%)

CORRECTLY IDENTIFY BOTH MAINTENANCE AND RESCUE MEDS

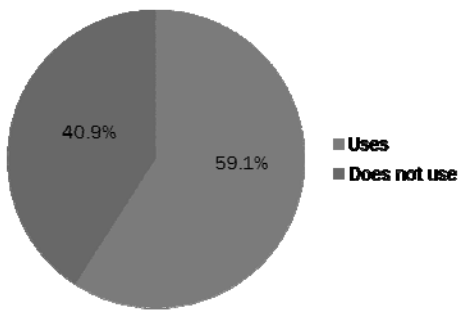


p = 0.244 by c²

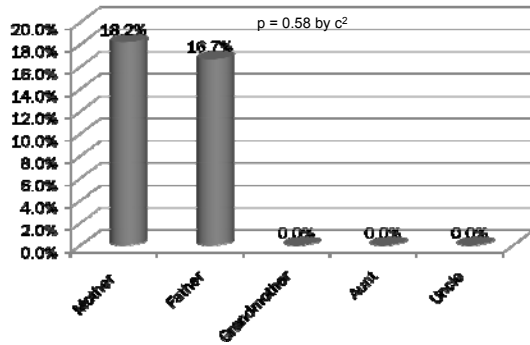
PEAK FLOW METER USAGE



SPACER USAGE

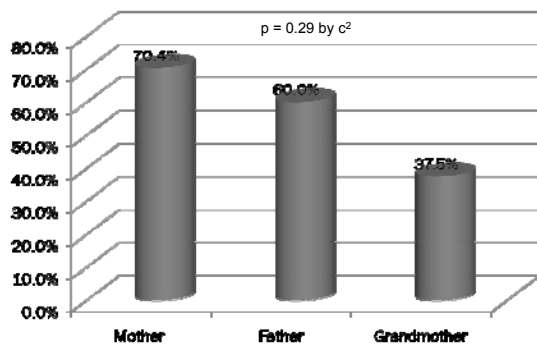


PEAK FLOW METER USAGE BY PARENT



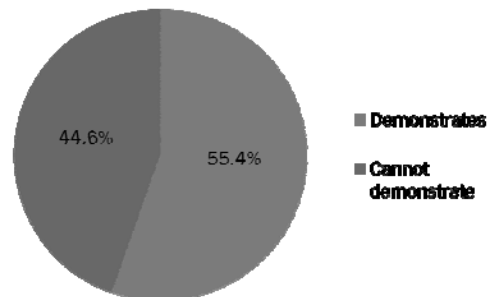
p = 0.58 by c²

SPACER USAGE BY PARENT

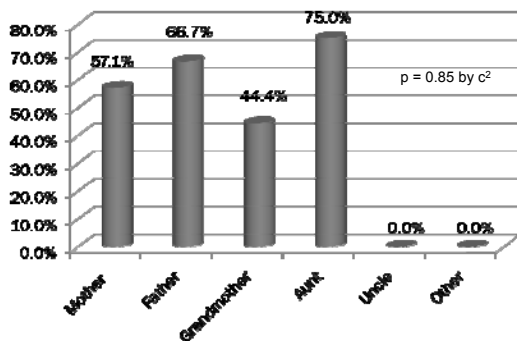


p = 0.29 by c²

DEMONSTRATES PROPER TECHNIQUE



DEMONSTRATES PROPER TECHNIQUE BY PARENT



CONCLUSIONS

- Less than half of all adults bringing children to the clinic were able to correctly identify both rescue and maintenance inhalers
 - Grandmothers performed better than mothers or fathers at correctly identifying both meds
 - Fathers performed slightly better than mothers, but the sample was too small to detect significant differences
- Though almost 60% of patients reported using a spacer device (some inhalers have spacer mechanisms built-in), spacer usage could still be improved
- Improvement in peak flow meter usage is needed
- Slightly more than half of parents demonstrated how to correctly use the inhalers their child was using
 - Better education on correct inhaler technique is needed
- Asthma education programs could improve control, decrease complications and exacerbations, and potentially decrease healthcare costs for patients, health-systems, and communities

QUESTIONS?

