

CAN WE ASSESS CHANGES IN PARENTAL KNOWLEDGE OF LEAD POISONING? A PILOT STUDY

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Purpose: One approach to lead poisoning prevention includes education. Though considered an integral element in case management for lead poisoning, there are little data that show benefits of an educational program. The objective of this pilot study is to develop and evaluate an instrument to measure parents' knowledge of lead poisoning. Results will be used to refine a comprehensive educational program

Methods: A 22-item survey was developed based on information provided in educational pamphlets that are intended for parents. Because this was a pilot study, we targeted the survey to parents of similar racial and socioeconomic background as our lead poisoned population, rather than selecting our sample based on a child's history of lead poisoning. The survey was given to parents to assess baseline knowledge of lead poisoning. Following this, the lead educational materials were shown to parents and the content discussed. The same survey tool was given a second time, in a pre- and post-test fashion. Descriptive statistics were calculated. Variables in the pre test were compared to those in the post-test using a paired t-test. The results of this survey were used to revise the questionnaire for use in families of lead poisoning children.

Results: A total of 36 parents participated in the pre-test, and 23 returned the post test. 18 of the participants were single, and 26 were African American. Both characteristics were similar to our lead poisoned population. The overall change in the pre and post tests improved for the study sample, with the mean correct answers increasing from 16 to 18 ($p = 0.007$). Parents improved their knowledge related to the following three points: lead may also be found in vinyl mini-blinds ($p = 0.002$), a diet high in calcium may be protective ($p = 0.31$), and a blood lead test is the only way to know whether a child is poisoned ($p = 0.04$). However, almost half of parents reported that a child will always appear sick and that a pill will protect them from lead poisoning, indicating a need for improved education on these points. In addition, most parents in this sample were already aware that it was not safe to scrape or sand paint, that lead may also be found in dirt, and that hand washing prior to meals may be protective.

Conclusion: Parents of children at high risk for lead poisoning have a reasonable baseline of knowledge about lead hazards and lead poisoning. Educational efforts in this sample provided a modest increase in knowledge in some areas. This study provided additional guidance as we work to improve educational methods for lead poisoning and the evaluation of these methods.

Summary of Study

This study was presented at the Southern Regional Meetings of the Ambulatory Pediatric Association and the Southern Society of Pediatric Research. This study helps begin the process of measuring the effect of educating families about risks from lead poisoning. It is the standard process of providing informational handouts to families when their child is identified as lead poisoned. Yet there is no information in the literature that parents learn from these materials.

This study provides some information about what parents already know or learn about lead poisoning. For instance, many families of inner city children already knew some of the basic points of lead exposure, such as how and from where lead can be acquired. This prior knowledge is presumably due to exposure in family or friends, or past experiences. Equally important though, there was some measure of transfer of knowledge, and some gaps in knowledge discovered. The authors hope to use this information in order to develop future educational interventions aimed at primary prevention.

Support from the Sustainable Universities Initiative provided support for Dr. Roberts in planning and carrying out the project, consultant fees for Dr. Stuart, and for travel support to attend the meeting to present the results. The survey tool is going to be adapted based on these results, and we will aim to incorporate this survey into a wide ranging primary prevention project in the future.