

DEVELOPMENT OF NEW EDUCATIONAL INTERVENTIONS TO LOWER THE RISK OF CHILD LEAD POISONING

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BACKGROUND

In 2015, New Haven, Connecticut identified 339 children that exceeded the Centers for Disease Control and Prevention's (CDC's) blood lead level (BLL) threshold of 5 mg/dl. In New Haven, there are currently many gaps in knowledge around lead exposure and poisoning in the general population. The deficit in education can be especially detrimental to at-risk populations that have fewer resources in general, let alone the necessary means to navigate a long process of medical and public health treatments. An effective strategy for physicians and public health professionals to address this issue will include information for patients to guide them through each step of this process with language and imagery that is easily accessible to all strata of the population who are affected.

This report is the result of a collaboration between the Yale-New Haven Hospital's Regional Lead Treatment Center and the Yale School of Public Health.

OBJECTIVES

- Identify and construct educational materials for mothers and families to advance understanding and application of lead safety measures
- Describe risk factors contributing to lead exposure and toxicity among first-time mothers and children in New Haven, CT

METHODS

- We collected data using the following 4 strategies: 1) To gain initial familiarity with the present circumstances regarding lead discovery and treatment, we engaged in discussions with the following 4 key informants: our 2 preceptors (members of the lead treatment team), a clinically-licensed social worker, and A certified Healthy Homes Specialist. 2) Participant observation of patients/families of patients undergoing lead treatment was conducted at the treatment clinic and through home visits. Ten patients/families were observed. 3) Five semi-structured interviews were conducted both over the phone and in-person with patients' family members. 4) Education materials were transformed from a format heavy in medical literature to a more user-friendly and visually-based format.

CONCLUSIONS AND RECOMMENDATIONS

- Common barriers to lead literacy include English literacy, education, and community knowledge of lead toxicity and prevention processes.
- Decreases in pediatric lead levels and accessibility to lead abatement procedures in the home can be attributed to the cooperativity and accessibility of the lead treatment team to create customized in-home care.
- Thorough verbal explanation—both the materials dispersed regarding lead exposure and risk factor education preventatively as well as lead level reports from the home regarding ingredients, furniture and other environmental contributors to high lead levels among children—plays a significant role in comprehensive of lead and its effects.

- More understandable reports or the incorporation of a verbal walk-through of all information provided in appointments with clinic treatment teams or relevant health department staff, including numbers, units, and levels, are needed. In particular, language should avoid using scientific and medical jargon.

RESULTS

Emergent Themes

General Education

Lead literacy workshops/fairs
More educational tools

Guidelines for Educational Tools

Picture representations of lead exposures
More resources about tenant rights regarding lead control

Participants had increased understanding of lead after treatment.

“I definitely heard about it here and there, at baby expos and conferences and stuff like that...But I never thought, I think my assumption was that in order for a child to get exposed, like you have to, they have to eat a bunch. It was totally new information to me that like a little bit, **a small paint chip is enough to get the levels up so high so quickly.**

“There was a lot more knowledge. I am **more knowledgeable about lead now.** There are certain things that I do now. Like changing the diet. It was hard and we can do it. Make the food look colorful. Like for example we try to give a lot of carrots so they can have carrots.”

When combined with in-person verbalization, educational tools work well.

“Well I prefer Marta, and Marta came in and explained everything to me. She explained all the health hazards and **it was better coming from her.**”

Primary prevention methods should be emphasized to reduce the risk of child lead poisoning.

“How could they improve? I don’t know what they can do to improve, besides putting it out there, **letting the public be aware about this lead issue...**I think people should know. The lead program should do that—put it out there more.”

LIMITATIONS

This study had a few limitations that may impact the interpretation of the findings. There was a relatively small sample size of five families. As a result, the findings do not exhibit external validity. Because of the sensitive nature of lead toxicity, only families that had strong relationships with the members of Regional Lead Center were chosen, which causes a selection bias. Participants may not have been comfortable completely opening up about the challenges they faced, leading to a potential underestimation of the barriers.

ACKNOWLEDGEMENTS

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CDC Childhood Lead Poisoning Program CT Department of Public Health-Lead Poisoning Prevention and Control Program
Connecticut Legal Services, Inc. References

RESOURCES

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