Parental characteristics and lead knowledge in the minimization of environmental lead exposure.

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ABSTRACT

A method for guiding lead intervention and minimizing lead exposures in Philadelphia is through understanding the relationship between parental characteristics such as gender, the age of parents, income, marital status and education attainment and lead knowledge. Parental characteristic may play a significant role in the identification of population groups where knowledge pertaining to lead exposure is inadequate. Through awareness and intervention, we can implement preventive measures to minimization and eliminate lead exposure. The theoretical concept of the study is Krieger ecosocial theory. The ecosocial theory provides guidance and analyzes differences in existing health relationships, especially those with biological and psychosocial influences. An exploratory cross-section design explores the association between parental characteristics gender, age of parent, income, marital status and education attainment and lead knowledge in the elimination of lead-based paint and high-risk exposure in communities of Philadelphia. Data analysis is through descriptive and inferential statistics. Descriptive statistics is through calculation of central of tendency. Inferential statistics aids with determination of the relationship between the dependent variable (lead knowledge) and independent variable (age of parents, gender, income, marital status and education attainment). Data analysis for the inferential statistics is through multiple variable regressions. The exploration of parental characteristics including gender, the age of parents, income, marital status and education attainment produces social change through identifying lead exposure in Philadelphia, aiding in the minimization and prevention of lead exposures in Philadelphia, PA in addition to increasing cognitive and neurological impacts for improved academic performance resulting in quality jobs and increased socioeconomic status.

BACKGROUND

- In the U.S. 24 million homes are impacted by deteriorating lead paint[1].
- Pennsylvania ranks fifth with housing stock built before 1950[2].
- Philadelphia ranks second with elevated blood levels[3].
- Gaps in the literature reflect a need for intervention and increased awareness about lead and parental characteristics.

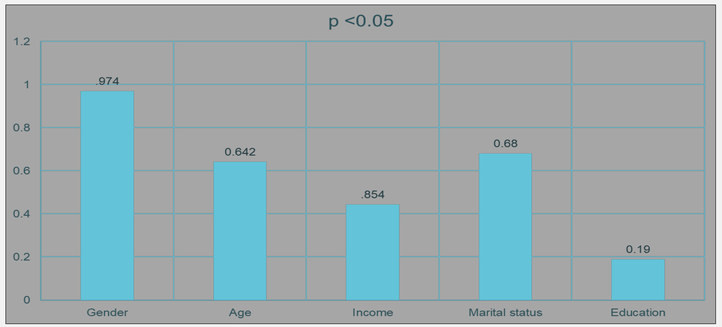
PROBLEM STATEMENT

- Elevated blood levels pose a significant health and safety threat to children.
- Lead was banned over 40 years.
- Parent play significant role in controlling environmental activities of their children.
- Few studies address lead knowledge with regard to the relationship between parental characteristic (gender, the age of parents, income, marital and education attainment.
- In Arkansas, outreach was effective in reducing lead exposure.

METHODS

- A cross-sectional study of 124 rideshare personnel (parents) using Southeastern Pennsylvania Transit Authority(SEPTA) blue and orange line living in ascertain zip codes/and other Philadelphia zip codes.
- A modified Lead Knowledge Test developed by Dr. Helen Binns of the Lurie Children Hospital was used to explore parental characteristics; in addition to lead knowledge of participants.

RESULTS



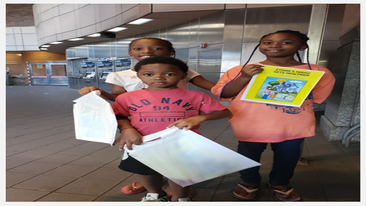
DISCUSSION

- Income seems to be a weak predictor of lead knowledge.
- Noted that 74.2 % of sample was not married indicating non-traditional households and parental situations
- Policy directive need examinations for schools, homes, and workplaces..

STUDY LIMITATIONS

- Generalizability of the results.
- Convenience sampling problematic.
- Locations lacked variability in ethnicity.
- Challenges with collection of minimum questionnaire at .
- Transit locations did not accurately identify personnel living in high-risk lead areas.

Participants completing Lead Knowledge Test



Participants Children Receiving CDC Lead Knowledge coloring books

Table 1
Frequency table for parental characteristics

Variable	n	%
Sex		
Male	66	53.2
Female	58	46.8
Age		
18-30	50	40.3
31-40	47	37.9
41-50	17	13.7
51-60	7	5.6
60+	3	2.4
Race		
White	14	11.3
Black	91	73.4
Hispanic	8	6.5
Asian	3	2.4
Other	8	6.5
Income		
<25,000	70	56.5
25,000-35,000	30	24.2
35,000-45,000	12	9.7
45,000	12	9.7
Marital Status		
Married	20	16.1
Never married	92	74.2
Widow	3	2.4
Divorced	9	7.3

CONCLUSION

- Cross-sectional study found no significant correlation between parental characteristic and lead knowledge.
- Parental characteristics do not appear to be a predictor in the minimization of environmental lead exposure in Philadelphia, PA.

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