Research

Prevalence of Asthma Disparities amongst African-American Children

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ABSTRACT

It is known that there is a higher prevalence of asthma and poorer health outcomes in African American children compared to Caucasian children. Our research report concentrates on finding why African American communities have higher rates of asthma and poorer associated health outcomes. Although it is sometimes thought that this disparity is due to genetic or income differences, our job is to inform the community about alternative factors associated with this health disparity. We conducted a literature review in order to gather the evidence needed to answer this question and come to a conclusion on this issue. Our findings indicate that the reasons contributing to the high prevalence and poorer health outcomes of childhood asthma in African American communities include a variety of social factors, including disparities in health care access and communication, the social structure of neighborhoods, and environmental effects of low-quality living conditions.

INTRODUCTION

Asthma is the most common chronic disease of children in the United States. 6.9% of all children under the age of eighteen have asthma. Asthma is a chronic inflammatory disease of the airways that causes symptoms such as coughing, wheezing, chest tightness, and shortness of breath (Kaliner, 2003). Asthma continues to disproportionately affect minority and low income groups, especially among African Americans who live in low income areas. African American children have 1.6 times the odds of being diagnosed with asthma compared to Caucasian children, and African Americans are five times likely to die from asthma than Caucasians (Smith, 2005; Bryant-Stephens, 2009). Previously, asthma disparities have been attributed to differences in genetics and socio-economic status, but more recent research has shown that other factors are more important in this inequality. There is a higher prevalence and poorer health outcomes of childhood asthma in African-American communities when compared to Caucasian communities due to a variety of social factors, including disparities in health care access and communications, the social structure of neighborhoods, and environments effects of low quality living conditions.

METHODS

We chose a topic that we could support with evidence with the intent of using our results to teach others who are unaware of the reality behind this issue. To do this, we conducted searches on Google Scholar and PubMed to gather articles relating to our chosen topic. After careful analysis of the articles, specific evidence supporting our topics was chosen to create a synthesis of the information we found.

RESULTS/DISCUSSION

Access to Health Care

Studies have shown that many factors related to medical providers and their minority patients are correlated with racial disparities in childhood asthma. The main factors include low quality health care, established beliefs, and issues with communication.

Even though African Americans and Caucasians may have the same access to health care, the resulting quality of treatment is often lower for the former. Evidence has shown that minorities living in poor neighborhoods do not have access to health care that is as high quality as that of middle-class Caucasians. A certain study found that, in a poor minority neighborhood, there was a higher rate of hospitalization and substantially less people with inhalers, suggesting that asthmatic residents of this poor neighborhood were being undertreated (Gold, 2005). The National Cooperative Inner City Asthma Study found that, by having little care and treatment available for asthma, inner-city children were more prone to developing the health disorder (Gold, 2005). Not surprisingly, it was found that minorities compared to Caucasians, would have a higher chance of seeing primary physicians rather than specialists because of the cost of the care that specialists usually charged (Bryant-Stephens, 2009).

Another reason that African Americans may experience lower quality health care is that established beliefs and biases can hinder interactions between minorities and their health care providers. Because disease susceptibility varies between ethnicities, even with physicians using The National Asthma Education and Prevention Program guidelines, they have misinterpreted symptoms and their severity based on inadequately written guidelines and standards. The result of this is inappropriate amounts or types of medicine

prescribed to the patient (Bryant-Stephens, 2009). Additionally, studies by Riekert have shown that even when providers prescribed the appropriate amount of medicine, at least a third of the patients would not take their medicines due to cultural and health beliefs (Bryant-Stephens, 2009).

In addition, lack of communication and understanding between patients and providers has also been a major contributing factor to asthma health disparities. Low literacy levels have been found within minorities and studies have shown that this can contribute to misunderstanding information and directions provided by the doctor (Diette, 2007). Not knowing the appropriate amounts of medicine to take can lead to dire consequences. In one health literacy study, 483 minority patients, mostly African-American, were given information relating to asthma to read. It was found that only 27% of the study subjects could read at a high school level (Diette, 2007). Furthermore, another study found that sometimes physicians seeing African American patients would more likely control the conversation and talk to them less about their conditions compared to physicians seeing Caucasian patients (Diette, 2007).

Social Structure and Neighborhood

Studies have shown that many factors that contribute to asthma are correlated with social neighborhood structure. Many studies have shown that income is the main factor of asthma disparities; however, additional studies have shown that low income is not the only factor. One study showed that even when African Americans and Caucasians have the same income, they still have different asthma outcomes (Pearlman, 2006). Social factors have affected asthma prevalence and outcomes in African American communities in many ways such as violence, segregation/marginalization, and stress.

The presence of violence in many African American communities contributes to childhood disparities in asthma. Articles have shown that the more violence there is the more likely that the neighborhood is going to remain poor. Violence in the community puts people in danger and retains them in the same poverty level. Additionally, gang violence can lead children to fall into bad influences such as smoking and smoking can cause asthma. Violence in the neighborhood has also made a significant impact on children's fitness because the lack of security has made parents prohibit their children to go outside and play. The lack of exercise can lead to childhood obesity, which is correlated with asthma as well (Wright, 2006).

Another reason why African American communities have a higher rate of childhood asthma is because of residential segregation. One article illustrated that poor African American communities that are separated from other ethnic communities have a higher concentration of poverty which leads to a lack of resources and support. People in these marginalized neighborhoods do not have access to other people's resources (Wright, 2006). On the other hand, poor Caucasian communities often live in an economically diverse area where available resources can be shared amongst themselves. African American people have the disadvantage of being marginalized so that they do not have access to healthier food and a healthier environment. Children with asthma need a healthier diet and a healthier environment in order to control their asthma or to prevent children from having asthma.

Another factor that contributes to higher rates of asthma in low-income, urban African-American communities is stress. Stress can lead parents to smoke, and second-hand smoke can trigger asthma in their children. Parents are mainly stressed about not having employment, having violence in the neighborhood and having to worry about their child's asthma and that leads to more smoking. Studies also show that when it comes to race, Caucasians are most supportive to their kids when they have asthma than African Americans (Bryant-Stephens, 2009). Many African-American parents have to work to support their families; however, this is time that could be spent taking care of their children. In many cases, these children are not given their medication for asthma. This increases the prevalence of children dying from asthma because their asthma attacks are left untreated.

Physical Environmental Factors

The physical environment plays a major role in the higher prevalence of asthma in urban African American children. The environmental factors that contribute to higher rates of asthma and poorer health outcomes are indoor allergens due to poor building structures and pollution.

The high rate of asthma in poor urban African American communities is partially due to low-quality housing where children are exposed to indoor allergens such as dust mites, smoking, and cockroaches. Low income African- American children often live in poorer housing which can cause more harm to their health (Gold, 2005). Second-hand smoke is another major cause of asthma. Children normally breathe more quickly than an adult, which allows them to inhale more chemicals. Exposure to cockroaches, whose body feces and saliva can cause allergic reactions, can also lead to a severe asthma attacks (Bryant-Stephens, 2009). Dust mites also can cause allergic reactions which can increase asthma attacks (Bryant-Stephens, 2009). Building structures of low income African American communities are often breeding grounds for these indoor allergens because of water damage and mold that breaks down the walls and exposes African-American children to the allergens that lead to asthma (Bryant-Stephens, 2009).

Another physical environmental factor that contributes to asthma in urban African American communities is pollution. African American children have been known to live in more polluted areas, living near

traffic pollution, diesel exhaust which help develop more vulnerability to allergens (Gold, 2005). The pollution that can trigger asthma attacks among African-American children is the high level of ozone. The ozone causes irritation to the lungs, and then creates inflammation in the lungs making it hard to breathe. Traffic and industrial sources have been known to increase airway obstruction, resulting in a greater number of children being hospitalized in these polluted areas.

CONCLUSION

Our research suggests that contributing factors to these asthma disparities are correlated with access to health care, the structure of neighborhoods, and environmental status. Issues in access to health care include low quality health care, problems originating from established beliefs, and issues with communication between provider and patient. The structure of neighborhoods also contributes to asthma disparities because violence, marginalization, and stress play significant in the development of asthma. Finally, contributing environmental factors include indoor allergens, the condition of building structures, and pollution. In order to address these issues, we aim to inform communities that are unaware of these existing factors that contribute to asthma disparities. Methods that the communities are capable of carrying out can also be taught to make communities safer, such as starting fundraisers to raise money to build more suitable housing and providing more health literacy support within hospitals to improve provider-to-patient communication.

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