Health Disparity
Hispanics and African-Americans vs. General Population Mortality Rates: LEUKEMIA
High School Health Careers Program
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Health Disparity

What is Leukemia?  
- An acute or chronic disease of unknown cause involving the blood-forming organs.
- Characterized by an abnormal increase in the number of white blood cells in the tissues of the body.
- Leukemia is classified according to the type of white blood cells most prominently involved.

What is a Disparity?  
- Health Disparities are differences in the quality of health or health care across racial, ethnic, and socioeconomic groups.

2 HHS, Healthy People 2010
Leukemia

Why is it a disparity?

♦ Although Caucasian patients are more likely to develop leukemia, African-Americans and Latinos diagnosed with the diseases have a higher death rate.

How did it develop?

♦ The reason for the disparity is not known, however, it is believed that socioeconomic factors and access to care may be playing an important role.

Lia Steakley (2011) Study shows deaths from acute leukemia higher in minority patients, Published by Stanford School of Medicine, Internet resource
Incidence rates

[Graph showing the rate of leukemia and lymphoma by race/ethnicity for White, Black, Hispanic, American Indian/Alaska Native, and Asian/Pacific Islander populations. The rates are as follows:
- White: 50.7 per million (50.1 leukemia, 25.4 lymphoma)
- Black: 30.9 per million (30.1 leukemia, 24.0 lymphoma)
- Hispanic: 50.1 per million (50.1 leukemia, 18.0 lymphoma)
- American Indian/Alaska Native: 38.1 per million (38.1 leukemia, 9.2 lymphoma)
- Asian/Pacific Islander: 42.4 per million (42.4 leukemia, 18.2 lymphoma)
Mortality Rate According To Race

Education Dropout and Unemployment Rates

'Dropout Rates by Race in 2010-11

<table>
<thead>
<tr>
<th>Race</th>
<th>Dropout Rates</th>
<th>Unemployment Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Americans</td>
<td>1.7%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>7%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>4.8%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>7%</td>
<td>11.0%</td>
</tr>
</tbody>
</table>

Unemployment by Race/Ethnicity*

*Civilian population 16 years and over
**Dec. 2007 is the start of the recession.

¹Dropout Rates by Race in 2010-11

<http://www.doe.mass.edu/infoservices/reports/dropout/1011/>.
Uninsured and Poverty Rates

Change in uninsured rate

Caucasian

African-American

Hispanics

Other

Race/Ethnicity

2003  2007  2010

10.6  17.9  32.2  16.4

10.3  21.0  35.5  16.5

15.3  19.4  36.3  19.4

Finding out if your diagnosed

**Laboratory Tests:**
- Several blood tests are done in a hospital or medical laboratory.
- A CBC is done automated or manually by:
  - **Automated instrument**
    - Prints out counts and amounts of red cells, white cells, and platelets in the sample.
  - **Laboratory Technician**
    - Done when infection, inflammation or cancer is suspected.
    - Red cell shapes as well as count of different types of white cells.

**The blood tests look for:**
- Anemia.
- An abnormal increase in the number of lymphoid or myeloid white blood cells.
- Decrease in clotting components.

Classification of Leukemia

Acute

- Acute leukemia's can occur at any age and the disease development is rapid.

Chronic

- Chronic leukemia's usually occur in adults and the disease development tends to be slower than for acute leukemia's.

How do they work?

- Chronic Leukemia occurs when there are too many blood cells that “crowd out” the normal cells from the bone marrow.

- With Acute Leukemia, not only are there too many blood cells, the cells do not mature normally.
  - They accumulate in an immature stage and serve no useful function.

- What makes it a cancer is that the cells have a failure to become normal.

Risk Factors!

Risk factors for leukemia include:

- Exposure to ionizing radiation
- Exposure to benzene or certain other organic chemicals
- Previous treatment with chemotherapy drugs
- Certain genetic conditions

Other possible risk factors include:

- Exposure to low level solvent and metal mixtures
- Ex: working environment that exposes employees to chemicals
- Smoking

Symptoms?

Common symptoms of Leukemia

Systemic
- Weight loss
- Fever
- Frequent infections

Psychological
- Fatigue
- Loss of appetite

Lymph nodes
- Swelling

Spleen and/or liver
- Enlargement

Muscular
- Weakness

Skin
- Night sweats
- Easy bleeding and bruising
- Purplish patches or spots

Lungs
- Easy shortness of breath

Bones or joints
- Pain or tenderness

Google Images; Leukemia symptoms; http://leukemia-symptoms.net/
Treatments For:

Acute Leukemia and Chronic Leukemia

♦ Chemotherapy drugs

♦ Monoclonal antibodies

♦ Bone marrow or peripheral stem cell transplantation

♦ Radiation in combination with other treatments

Treatments Available

- Spinal Tap
- Bone Marrow Transplant
- Cytochemistry
- Flow Cytometry
- Radiation therapy for Blood Cancer
- Chemotherapy for Blood Cancer
- Stem cell transplants for Blood Cancer

Conclusion

Leukemia mortality is a disparity among African-Americans and Hispanics in which socioeconomic factors, such as lack of education, poverty, unemployment, and un insurance play an important role in developing this disparity.

Lack of education leads to future unemployment, which in turn can cause poverty and/or un insurance.

Since African-Americans and Hispanics in Massachusetts have financial deficiencies, compared to the general population, they would not be able to acquire the necessary therapies used to treat and combat leukemia.

Eventually lack of treatment may result fatal which would evidence the high mortality rates/disparity of leukemia in African Americans and Hispanics.
References


§ HHS, Healthy People 2010

§ http://leukemia-symptoms.net/