Improving the Heart Health of African Immigrants through Community-Engaged Research

Yvonne Commodore-Mensah, PhD, MHS, RN
Assistant Professor
Johns Hopkins School of Nursing
Johns Hopkins Bloomberg School of Public Health
June 30, 2021

@ycommodore
Objectives

1. Describe current research on heart disease risk factors in African immigrant in the U.S.

2. Share lessons learned in engaging African immigrants in community engaged research.
My journey
Cardiometabolic Health in African Immigrants to the United States: A Call to Re-examine Research on African-descent populations

Yvonne Commodore-Mensah 1, Cheryl Dennison Himmelfarb 1, Charles Agyemang 2, Anne E Sumner 3

Affiliations  +  expand
PMID: 26675140  PMCID: PMC4671407  DOI: 10.18865/ed.25.3.373
Free PMC article

Abstract

In the 20th century, Africans in Sub-Saharan Africa had lower rates of cardiometabolic disease than Africans who migrated. However, in the 21st century, beyond infectious diseases, the triple epidemics of obesity, diabetes and hypertension have taken hold in Africa. Therefore, Africans are acquiring these chronic diseases at different rates and different intensity prior to migration. To ensure optimal care and health outcomes, the United States practice of grouping all African-descent populations into the “Black/African American” category without regard to country of origin masks socioeconomic and cultural differences and needs re-evaluation. Overall, research on African-descent populations would benefit from a shift from a racial to an ethnic perspective. To demonstrate the value of disaggregating data on African-descent populations, the epidemiologic transition, social, economic, and health characteristics of African immigrants are presented.
African Immigrant Population in the US

Immigration from Africa surges since 1970

Total U.S. foreign-born population from Africa, in thousands

80 200 364 881 2,060

Note: Africa includes North African and sub-Saharan African countries as defined by IPUMS.

PEW RESEARCH CENTER

Regions of Birth of African Immigrants

Nigeria, Ethiopia, Egypt are top birthplaces for African immigrants in the U.S.

Leading countries of birth for the foreign-born population from Africa in the U.S. (2015, in thousands)

- Nigeria: 327K
- Ethiopia: 222K
- Egypt: 192K
- Ghana: 156K
- Kenya: 136K
- South Africa: 92K
- Somalia: 80K
- Morocco: 76K
- Liberia: 74K
- Cameroon: 51K
- Sierra Leone: 49K
- Cape Verde: 48K
- Sudan: 44K
- Eritrea: 37K
- Tanzania: 28K
- Senegal: 26K
- Zimbabwe: 23K
- Algeria: 23K
- Togo: 22K
- Uganda: 21K

Note: Africa includes North African and sub-Saharan countries as defined by IPUMS. Does not include unspecified or uncategorized areas.
Source: Pew Research Center tabulations of 2015 American Community Survey (1% IPUMS).

Pew Research Center

Heart Health of African Immigrants
Cardiovascular Disease Risk and the Association with Acculturation in West African Immigrants (WAI) Residing in the United States
Methods

- **Study Design:** Cross-sectional
- **Setting:** 7 Churches in the Baltimore/Washington, DC
- **Target population:** 1st generation African immigrant adults
- **Sampling:** Convenience sampling

**Inclusion criteria:**
- Adults 35-74 years
- Self identify as Ghanaian or Nigerian WAI
- Reside in the Baltimore/Washington, D.C. metro area
- Able to read and write English and provide informed consent

**Exclusion criteria:**
- Pregnancy
- Born in the US or in another African country
### Sociodemographic Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total (N=253)</th>
<th>Males (n=106)</th>
<th>Females (n=147)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>49.5 ± 9.2</td>
<td>49.7 ± 9.2</td>
<td>49.3 ± 9.2</td>
<td>0.7196</td>
</tr>
<tr>
<td><strong>Educational status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;High school</td>
<td>61(25)</td>
<td>19(18)</td>
<td>42(29)</td>
<td>0.055</td>
</tr>
<tr>
<td>High school</td>
<td>38(15)</td>
<td>14(13)</td>
<td>24(17)</td>
<td></td>
</tr>
<tr>
<td>≥College</td>
<td>150(60)</td>
<td>72(69)</td>
<td>77(54)</td>
<td></td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td>181(79)</td>
<td>81(90)</td>
<td>100(72)</td>
<td>0.001**</td>
</tr>
<tr>
<td><strong>Married</strong></td>
<td>193(76)</td>
<td>94(90)</td>
<td>99(67)</td>
<td>0.001**</td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;$25,000</td>
<td>44(18)</td>
<td>16(15)</td>
<td>28(20)</td>
<td>0.007**</td>
</tr>
<tr>
<td>$25,000-$50,000</td>
<td>113(46)</td>
<td>39(38)</td>
<td>74(52)</td>
<td></td>
</tr>
<tr>
<td>＞$50,000</td>
<td>88(36)</td>
<td>49(47)</td>
<td>39(28)</td>
<td></td>
</tr>
<tr>
<td><strong>Health insurance, Yes</strong></td>
<td>127(52)</td>
<td>56(55)</td>
<td>71(49)</td>
<td>0.387</td>
</tr>
<tr>
<td>≥10 years of US residence (%)</td>
<td>170(67)</td>
<td>81(76)</td>
<td>89(61)</td>
<td>0.008**</td>
</tr>
<tr>
<td><strong>Green-Card/US-citizen</strong></td>
<td>194(77)</td>
<td>84(80)</td>
<td>110(75)</td>
<td>0.385</td>
</tr>
</tbody>
</table>

**p<0.05**

**p<0.01**
Prevalence of Heart Disease Risk Factors by Sex, N=253
Research Team

1. Dr. Sally Peprah
2. Dr. Kojo Amoakwa
3. Dr. Maame Sampah
4. Audrey Addaquay-Corey
5. Dr. Felicia Sam
6. Dr. Nancy Abu-Bonsrah
7. Dr. Jonathan Aboagye
8. Tran Hong
9. Selase Agudu-Morgan
10. Loretta Odro
11. Dr. Mercy Baffour
12. Dr. David Nartey
13. Grace Onayiga
14. Dr. Charles Berko
African Immigrant Health Study

- Survey on sociodemographic background, health history, health-related behaviors, cultural preferences, stress, physical function
- Blood pressure, height, and weight measurement
- Inclusion criteria:
  - Participants must be at least 30 years old
  - Live in the Baltimore-Washington, DC
  - Able to read, write and speak English.
Social Determinants of Hypertension and Diabetes, N=456

- Odds of diabetes 5 times higher among unemployed (aOR: 5.00, 95% CI: 2.13, 11.11)
- Odds of hypertension 73% higher among insured (aOR:1.73, 95% CI: 1.00, 3.00)

Ruth-Alma N. Turkson-Ocran, PhD, MPH, RN, FNP-BC; Sarah L. Szanton, PhD, ANP; Lisa A. Cooper, MD, MPH; Sherita H. Golden, MD, MHS; Rexford S. Ahima, MD, PhD; Nancy Perrin, PhD; Yvonne Commodore-Mensah, PhD, MHS, RN.
A Virtual Cardiometabolic Health Program for African Immigrants: The Afro-DPP Program
To examine whether a virtual, culturally-tailored lifestyle intervention with remote monitoring of blood pressure and body composition *(The Afro-DPP Program)* improves blood pressure, body weight, body mass index among African immigrants.
Intervention

1st intervention group: Will *immediately* begin 6 months of lifestyle intervention with a Lifestyle Coach and remote monitoring of blood pressure and body composition.

Delayed intervention group: Will receive remote monitoring of blood pressure and body composition for the 1st 6 months and then will receive lifestyle intervention after 6 months.
The Afro-DPP Program

► Research study visits and Afro-DPP sessions:
  • 5 research study visits
    – Blood pressure measurements, body weight, and study questionnaires will be obtained
  • 31 DPP curriculum sessions
    – Sessions will take place via Zoom with Lifestyle Coach

► Research study materials:
  • Bluetooth Omron blood pressure device
  • Bluetooth Omron digital scale
  • REDCap link for questionnaires
Lessons Learned
COMMENTARY: ENGAGING AFRICAN IMMIGRANTS IN RESEARCH – EXPERIENCES AND LESSONS FROM THE FIELD

Yvonne Commodore-Mensah, PhD, MHS, RN; Ruth-Alma Turkson-Ocran, PhD, MPH, RN, FNP-BC; Nwakaege A. Nmezi, PhD, MS; Manka Nkimbeng, PhD, MPH, RN; Joycelyn Cudjoe, PhD, RN; Danielle S. Mensah, BS; Sarah York, MSN, RN; Sarah Mosburg, PhD, RN; Nishit Patel, MD, MPH; Eunice Adu, MSN; Justine Cortez, MSN, RN; Francoise Mbaka-Mouyeme, BSN, RN; George Mwinnyaa, MHS; Cheryl Dennison Himmelfarb, PhD, ANP, RN; Lisa A. Cooper, MD, MPH; Whisea A. D. Williams, PhD; Manka Nkimbeng; Hae-Ra Han; Elizabeth A. Mikkelsen; Leigh Ann Godfrey; Joycelyn Cudjoe; Ruth-Alma Turkson-Ocran; Angelica K. Ezeigwe; Yvonne Commodore-Mensah; Manka Nkimbeng; Hae-Ra Han

Journal of Community Health
https://doi.org/10.1007/s10900-019-00677-y

COMMENTARY

Recruiting African Immigrant Women for Community-Based Cancer Prevention Studies: Lessons Learned from the AfroPap Study

Joycelyn Cudjoe · Ruth-Alma Turkson-Ocran · Angelica K. Ezeigwe · Yvonne Commodore-Mensah · Manka Nkimbeng · Hae-Ra Han
Lessons learned

- Building Trust with African immigrant communities
  - Be transparent
  - Explain the purpose of research
  - Engage trusted community leaders
  - Ensure team reflects the target population

- Immigration status and study participation
  - Use oral consent as appropriate
  - Collect minimal identifiers
Lessons learned

- **Religious considerations**
  - Consider religious leaders as gatekeepers
  - Observe religious practices

- **Logistics of study implementation**
  - Strive for efficiency (such as online surveys)
  - Recruit a diverse and competent team
  - Consider social media for recruitment

- **Fostering long-term partnerships**
  - Offer before you take
  - Stay connected to the community
Thank you!

Contact Info:

ycommod1@jhu.edu
@ycommodore