THE IMPORTANCE AND CHALLENGES ASSOCIATED WITH RECRUITING AFRICAN AMERICAN DONORS FOR BLOOD DONATION IN THE UNITED STATES

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INTRODUCTION: BACKGROUND

• Blood match compatibility is not based on race or ethnicity
  • However, persons of the same race/ethnicity typically have similar rare antigens in their blood.

• Blood transfusions between a donor and recipient with similar antigens can reduce the risk of fatal transfusion related complications or fatalities.¹¹
INTRODUCTION: BACKGROUND

• Minority populations, especially African Americans, donate blood products infrequently.

• Possibly due to:
  • Decreased rates of eligibility and increased donor deferral,
  • Varying motivators,
  • and fear and mistrust in the healthcare system.

• In addition, different marketing strategies and education strategies may improve donation rates.
INTRODUCTION: PURPOSE

• To affirm the importance and need for a greater amount of blood donations from African Americans.
• To determine what barriers prevent this population from donating blood.
• To explore new strategies that could improve donor recruitment
METHODS

• This paper consisted of a literature review.

• Data was collected from the National Institutes of Health (NIH), the Central Blood Bank, the American Red Cross, Medscape and more.

• Search terms included “blood donations”, “minority blood donations”, “sickle cell disease”, “rare blood antigens”, “motivating donation factors”, “donation deferral rates.”

• Only articles and studies conducted in the past 30 years were included.
LITERATURE REVIEW: INTRO

- 14 studies were analyzed regarding this topic.
- Many of which offered their own hypothesis for this lack of African American blood donations.
LITERATURE REVIEW: INTRO

- African Americans donate blood less frequently than Caucasians.
- 2016 Study by Dr. Edward L. Murphy and Dr. Beth Shaz: analyzed 1,288,998 donations from 729,068 donors.\textsuperscript{15}

Results:
- 5.8\% of the donations were from African American donors and 86.7\% were from Caucasian donors.\textsuperscript{15}
- Regional differences in African American donation rates.
  - Southeastern blood centers had the highest African American donation rates of 16\%
BARRIERS TO AFRICAN
AMERICAN BLOOD DONATION
BARRIER #1: AFRICAN AMERICANS HAVE LOWER HEMOGLOBIN LEVELS COMPARED TO OTHER RACIAL/ETHNIC GROUPS AND ARE MORE LIKELY TO BE DEFERRED

• Racial and ethnic groups have differing rates at which they are eligible to donate.

• The Food and Drug Administration (FDA) sets forth blood donation eligibility requirements for donation and transfusion. ¹⁸

• One of the most common reasons for deferral is a donor’s hemoglobin levels being too low.
  • Minimum hemoglobin level is 12.5 g/dl for whole blood donation regardless of sex, ethnicity or race. ¹⁸
**BARRIER #1: AFRICAN AMERICANS HAVE LOWER HEMOGLOBIN LEVELS COMPARED TO OTHER RACIAL/ETHNIC GROUPS AND ARE MORE LIKELY TO BE DEFERRED**

- 2014 study by Dr. Alan Mast:
  - Studied the prevalence of low hemoglobin deferrals
  - **Results:**
    - Of the 1,263,131 donation attempts there were:
      - 10,305 deferred African American women (a 29.2% deferral rate)
      - 543 deferred African American men (a 2.4% deferral rate)
    - As compared to:
      - 93,372 deferred Caucasian women (a 16.6% deferral rate)
      - 8,784 deferred Caucasian men (a 1.6% deferral rate).
  - Average hemoglobin levels for an African American donor was typically 1.5-1.7 g/dl lower than that of Caucasian donors\(^1\)
BARRIER #2: AFRICAN AMERICANS MAY HAVE DIFFERENT BARRIERS AND MOTIVATORS FOR DONATING

- Primary reason for donating blood may vary between different racial groups.
- 2015 study by Dr. Grossman:
- Telephone survey of 162 African American women ages 18 to 30 years old in the St. Louis metropolitan area.\(^2^2\)
- “What would you say are the main reasons that prevent you from donating?”
  - Inconvenience (19%), fear of needles (16%), takes too much time (15%), fear of contracting disease (12%), and fear of discovering that they have a disease (7%).\(^2^2\)
- “What do you think are the most important things that could be done to significantly increase blood donations in the black community?”
  - Increased awareness of need (43%), move convenient locations (19%), encouragement by pastor (17%), assurance that it is safe (12%), incentives (5%).\(^2^2\)
BARRIER #2: AFRICAN AMERICANS MAY HAVE DIFFERENT BARRIERS AND MOTIVATORS FOR DONATING

- 2012 study by T. N. Muthivhi:
- Analyzed the prevalence of Black South African donations and what motivates and deters them to donate blood.\textsuperscript{6}
  - 62%, of blood donations were collected from Caucasian donors
    - Whom make up 11% of the population in South Africa.\textsuperscript{6}
  - 24% of blood was collected from black donors
    - Whom make up 83% of the population in South Africa.\textsuperscript{6}
BARRIER #2: AFRICAN AMERICANS MAY HAVE DIFFERENT BARRIERS AND MOTIVATORS FOR DONATING

- 2012 study by T. N. Muthivhi continued:

- Strongest motivators were:
  - Promotional communications (27.7%)
  - General advertising, direct marketing and incentives (20.1%)
    - Such as: gift items, money, recognition, health check-up, infectious disease screening, etc.\textsuperscript{6}
  - Altruism 16.5%.\textsuperscript{6}
  - Convenience of the collection site 6.7%\textsuperscript{6}

- Strongest deterrents were:
  - Fear (40.7%)
  - Negative attitudes (14.1%)\textsuperscript{6}

- Unique to Black South Africans $\rightarrow$ historic discrimination that may have lingering effects
BARRIER #3: AFRICAN AMERICANS RESPOND DIFFERENTLY TO VARIOUS MARKETING STRATEGIES IMPLEMENTED BY BLOOD DONATION CENTERS

- There is a poor response to current marketing strategies.

- 2007 study by Dr. Shaz found that:
  - 43% of African Americans donors preferred to receive donation reminders in the mail, as compared to 27% of Caucasians.\(^{23}\)
  - 31% African Americans responded well to free health screenings, as compared to 24% of Caucasian donors.\(^{23}\)
  - 20% of African Americans donors preferred race-specific marketing campaigns that place an emphasis in community involvement by the American red cross.\(^{23}\)
STRATEGIES TO INCREASE AFRICAN AMERICAN BLOOD DONATION
STRATEGY #1: HEMOGLOBIN EDUCATION PROGRAMS MAY IMPROVE AFRICAN AMERICAN ELIGIBILITY

• There is a need for improved hemoglobin education based training programs
  • Focus on improving the quality of phlebotomy training and education on the causes and treatments for low hemoglobin, so that they can relay that information to their donors.

• *Hemoglobin Fact Sheet* and a support center phone number (1-866-236-3276)

• Study from December 2008 to March 2009:
  • Goal: Identify strategies to improve the health of blood donors deferred for low hemoglobin.³
  • Results: Little to no consistency regarding how low hemoglobin information was provided
    • 58% of donors said the blood donation center provided verbal information regarding ways to increase their hemoglobin/hematocrit.³
    • 85% of donors were given a written pamphlet regarding foods rich in iron.³
    • 33% of donors said they were provided with a handout that described the different causes of low hemoglobin.³
**STRATEGY #2: DEVELOP NEW MARKETING STRATEGIES THAT FOCUS ON RECRUITMENT OF AFRICAN AMERICAN BLOOD DONORS**

- Study by Dr. Beth Shaz:
  - Surveyed members of 15 African American churches in Atlanta, Georgia.\(^\text{21}\)

- Results:
  - Most African American donors prefer to donate by being asked from a religious group.
  - 13% of donors cited their reason for donating was to receive special recognition or award
  - 8% of donors cited their reason was to receive free gifts.\(^\text{21}\)

- African American churches are a great place to recruit minority blood donors
  - 90% of African Americans report a religious affiliation and more than 50% of African Americans attend religious services at least once per week.\(^\text{21}\)
DISCUSSION: SHORTAGE OF AFRICAN AMERICAN BLOOD DONATIONS

- This blood supply shortage is clearly significant across the U.S. as evident from the 14 studies analyzed in this literature review.

- In the large metropolitan area of Atlanta, Georgia, there was an uneven donation representation from the population.\(^20\)
  - Of the 389,340 donors in this study, only 16.3% were African American and 77.7% were Caucasian.\(^20\)
  - Even though in Atlanta 54% of the population is African American, 38.4% is Caucasian, 36.3% is non-Hispanic, and 5.2% is Hispanic or Latino.\(^17\)
DISCUSSION: LOW HEMOGLOBIN DEFERRALS

• African Americans hemoglobin levels are on average 1.5-1.7 g/dl lower than that of Caucasian donors.¹

• Opportunity for the FDA to change it’s policy and decrease the hemoglobin cut-off value

• Etiology of low hemoglobin in African Americans is unknown
  • Opportunity for new research regarding the cause of anemia unique to African Americans.

• Why is this important?
  • Once a potential donor is deferred for low hemoglobin, approximately 30% donate less over the following four to five years as compared to had they not been deferred.¹
DISCUSSION: MOTIVATORS AND DETERRENTS FOR DONATING BLOOD

• African Americans respond differently to various motivators
  • Such as: influence from a church pastor, gifts, or monetary incentives

• Unique reasons that prevent them from donating
  • Such as: fear of contracting a disease or fear of discovering they have a disease

• Limitations with Dr. Grossman’s telephone survey study previously discussed:
  • Age range of African American women ages 18 to 30
  • Small sample size
DISCUSSION: HEMOGLOBIN EDUCATION BASED TRAINING PROGRAMS

- New training programs with the goal of:
  - Improving the quality of phlebotomy training and education on the causes and treatments for low hemoglobin.
- Current hemoglobin education methods are inconsistent between phlebotomists
  - Can lead to confusion for the donor or a deficiency of information.
- Further exploration on the use of electronic media and connection to support groups or medical consultation.³
DISCUSSION: MODIFYING MARKETING STRATEGIES

• By adapting marketing strategies, blood donation centers could increase donation rates and generate consistent future donors.

• Mailed donation appointment reminders, race-specific marketing campaigns, and donor center community involvement increased African American donation rates.\(^{23}\)

• Limitation - this study compared a small range of marketing strategies.
  • Data would have improved had it compared wider range of media format and at different locations
    • Mailed donation reminders, Phone call reminders, Email reminders, Text message reminders etc.
    • Churches, community centers, and businesses in African American communities.

• More research is needed to determine what changes in marketing would best impact African American blood donation rates.
CONCLUSION

• Barriers:
  • Lower blood donation eligibility rates
  • Lower than average hemoglobin levels
  • Increased rate of deferrals
  • Unique motivators and deterrents to donating that are not being addressed

• Solutions:
  • Improve the quality of phlebotomy training and education on the causes and treatments for low hemoglobin, so that they can relay that information to their donors
  • FDA must consider decreasing the minimum hemoglobin level restrictions for African American donors
  • There is a need to further explore the motivators and deterrents for African American which would improve donor recruitment

• Based on the data and information collected and analyzed in this literature review, it was determined that there was sufficient evidence to address the purpose statement of this literature review.
REFERENCES:


2. MAST, ALAN E. "LOW HEMOGLOBIN DEFERRAL IN BLOOD DONORS." TRANSFUSION MEDICINE REVIEWS. U.S. NATIONAL LIBRARY OF MEDICINE, JAN. 2014. WEB. 1 JUNE 2017. HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC3944402/


REFERENCES:


REFERENCES:

17. DEMOGRAPHICS IN ATLANTA. WIKIPEDIA. WEB. 13 JUNE 2017. HTTPS://EN.WIKIPEDIA.ORG/WIKI/DEMOGRAPHICS_OF_ATLANTA


