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J. Hao

C. Kerrigan

L. Kreiger

J. McAvoy

C. Sikavi

See next page for additional authors

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Authors

J. Hao, C. Kerrigan, L. Kreiger, J. McAvoy, C. Sikavi, D. Swift, L. Wickberg, C. Dembeck, C. Frenette, J. Carney, and M. Fung

Is Blood Donation an Opportunity for Hypertension Awareness?

¹Hao J, ¹Kerrigan C, ¹Kreiger L, ¹McAvoy J, ¹Sikavi C, ¹Swift D, ¹Wickberg L, ²Dembeck C, ²Frenette C, ¹Carney J, ¹Fung M.

¹UVM College of Medicine, ²American Red Cross Northern New England Region, Burlington VT

Introduction

- Blood centers serve as a cornerstone of public health by providing potentially lifesaving blood products. Interactions with millions of potential donors provides these centers with a unique means of health education and screening opportunities^{1,2}.
- Hypertension screening is one potentially feasible option in these centers. Hypertension, a modifiable risk factor affecting one in three adults, contributes to nearly half of all cardiovascular disease related deaths in the U.S.³. **14.1 million U.S. adults are unaware of their hypertension⁴**, which has designated this disease “the silent killer.”
- Blood pressure screening is required in the United States for the donation of blood. **Many hypertensive donors, even those who are deferred for this reason, are never educated on the meaning of their blood pressure results.**
- Numerous studies have evaluated the efficacy of blood centers in screening populations for risk factors ranging from hyperlipidemia and hyperglycemia^{5,6} to genetic diseases⁷.

Our study seeks to determine:

- How many donors fall within the pre-hypertensive or hypertensive blood pressure range based on their reading at the time of donation.
- How many at-risk donors are not aware of these hypertensive or pre-hypertensive readings.
- Whether blood centers can effectively provide blood pressure education by means of an informational pamphlet.

Methods

- 1200 voluntary and anonymous 25-question surveys were distributed to presenting blood donors through the Red Cross in VT and NH and collected from 10/10/12 to 10/26/12.
- Deferred donors could still participate in the study
- Participants first answered twenty-two questions, then read an informational pamphlet about hypertension. Three additional questions were asked regarding the utility of this handout.
- Prehypertension/hypertension was defined as having either a diastolic or systolic blood pressure measurement falling into the respective range.
- Data was double-entered into Microsoft Excel 2010 and crosschecked for accuracy.
- Descriptive statistical analysis was done using SPSS.

Less than half of donors had normotensive readings at donation

Self Reported Blood Pressure at Donation	N= 688
Normotensive (systolic <120, diastolic<80)	46.9%
Pre-Hypertensive (systolic 120-139 AND/OR diastolic 80-89)	41.7%
Hypertensive (systolic over 140 AND/OR diastolic over 90)	11.3%

Donor Demographics	
Gender	N=835
Male	47.4%
Female	52.5%
Other	0.1%
Age	N=836
Mean 46.8 years old; Range 18-84	
Race	N=807
Non-Hispanic white	80.7%
Multiple/Other	19.3%
Highest Level of Education Obtained	
Less than High School	0.4%
High School or equivalent	31.6%
Associate/Trade Degree	14.3%
Bachelors or above	53.8%
Donor Status	N=835
First Time Donor	5.0%
Repeat Donor	95.0%

The frequency of elevated blood pressure at donation increased with age

45% of donors with a hypertensive reading at blood donation had never been told they have hypertension by a health care provider

*those that selected "Hypertensive" for their blood

Before being given the pamphlet, a majority of donors were neutral or thought a pamphlet about high blood pressure would be helpful

A majority of donors thought the pamphlet on high blood pressure was valuable

A majority of donors stated they were at least somewhat likely to use the information provided to make lifestyle changes

Conclusions

- Based on these findings, we conclude that there is an opportunity for increasing hypertension awareness at the time of blood donation.
- Within the highest risk group, those reporting a hypertensive blood pressure, almost half of them had not ever been told they had hypertension.
- In addition, the surveyed donors largely felt that the pamphlet of educational material about hypertension was valuable and were at least somewhat likely to use that information to make lifestyle changes.
- These findings suggest that increasing hypertension awareness as part of a blood donation screening is not only needed, but useful as a public health measure.

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