

## **Towards a Framework for Preventing Heart Disease- Rational, Focus on the Young**

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Autopsy studies demonstrate cardiovascular disease begins early in life. The Korean Soldiers study examined the development of atherosclerosis in young men killed in the Korean War. In 77% of the hearts, some evidence of atherosclerosis was discovered. (1) Data from a similar autopsy study in Vietnam noted a decline of atherosclerosis in 45% casualties suggesting a reduction in this risk factor in young men. (2) More recently, the percent of American service members with signs of coronary artery disease has declined even further falling to a rate of less than one in 10 military personnel. (3)

These reductions should not mask the issue that coronary heart disease remains the number one cause of death in the Americas and developed countries, killing more people than all cancers combined. Studies done in Louisiana showed plaque was visible in 7 year old children who died in accidents suggesting plaque formation begins at a very young age. Plaque is the precursor of coronary artery disease later in life. These studies conclude, atherosclerotic changes in the coronary arteries appear early in, and long before ischemic heart disease becomes clinically apparent. Beginning in early childhood, fatty streaks are causative, accumulative, and persistent for coronary disease which is difficult to reverse later in life.

The well-established childhood obesity epidemic is driving up the population prevalence of high blood pressure (BP) in the young. Raised arterial blood pressure is commonly associated with other cardiovascular risk factors. While morbidity and mortality due to atherosclerosis do not occur in hypertensive children, the intermediate markers of target organ damage-left ventricular hypertrophy, thickening of the carotid vessel wall, retinal vascular changes, and subtle cognitive changes, are detectable in children and adolescents with elevated blood pressure.

Life styles, which includes food selection, exercise patterns, experimenting with tobacco, alcohol, risk taking behavior are learned early in life. Obese children become obese adults, obese adults are more likely to have obese children. The cycle of cardiovascular risk among families is fairly strong. This cycle can be interrupted with heart health education activities to expose and teach children alternatives and to learn to make wise decisions about their own health. The venue for such education, which has traditionally been done with various success, has been classroom health education lectures.

### **Children's Art Poster Contest Pilot Test**

In 2017 Dr. Dan Lackland provided an opportunity to introduce the children's art poster contest to WHL member nations and others. WHL and the Linda Joy Pollin Cardiovascular Disease Women's Heart Health Program at the Hadassah Medical Center in Israel conducted a pilot art poster contest among Arab and Israeli children in a selected Tel Aviv school.

In 2018 another art poster contest was conducted at the Cedars-Sinai Barbra Streisand-Linda Joy Pollin Cardiovascular Disease Wellness Center in Los Angeles. Both Centers used a similar model of providing health education classes to students. It was reported from both Centers that the children participated with enthusiasm. Senior Nurse and Physician clinicians worked with teachers to provide heart disease prevention education. Thereafter, children drew posters, expressing what they learned and depicting various descriptions of hypertension and cardiovascular disease prevention. Prizes and certificates were



awarded. These posters were published in March 2017, June 2017 and June 2018 WHL newsletters and displayed on the WHL website.

The experiences of the Linda Joy Pollin Centers in Israel and Los Angeles provide evidence that children can be taught heart health education, enjoy the experience and express heart health education in art forms. If this movement is created globally among children, having them tweet, text, and sing heart health education

messages about eating habits and making good food choices, exercise, weight control, and tobacco avoidance, there is a chance to shape or develop early on, heart healthy lifestyles. Peer pressure among the young is a potent motivator.



### Conducting a Global Children's Art Poster Contest - 2019

The information from the two pilot studies suggests the feasibility to conduct a WHL 2019 Global Children's Art Poster Contest. Members of the WHL are challenged to conduct the contest among children in their nation. Member nations should submit the best of the posters to WHL headquarters for posting in the WHL

Newsletter and displayed on the WHL website.

The framework for conducting the contest should include:

- secure cooperation from school administration to conduct the education and art contest
- develop an outline for a heart health education curriculum and teach heart disease prevention to the students' education level
- ask the children to express what they learn by drawing a poster using the art media of choice

The WHL will recognize the winners for the member nations art poster contests by providing WHL award certificates.

### References

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(3) Webber BJ, Seguin PG, Burnett D=DG et al. Prevalence of and Risk Factors for Autopsy-Determined Atherosclerosis Among US Service Members, 2001-2011 *JAMA*. 2012;308(24):2577-2583.