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TRENDS OF ISCHEMIC HEART DISEASE IN THE UK AND US AFTER WHO GUIDANCE IS IMPLEMENTED

*Patrick O'Connell, R.N.

Adelphi University, University in Garden City, New York

*Corresponding Author

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Abstract

Objective: Research was conducted to identify trends of ischemic heart disease in the United Kingdom and the United States. Evaluation of the World Health Organization (WHO) was researched to identify tools used to improve outcomes of ischemic heart disease in the United Kingdom, United States and lower income countries.

Method: Reviews of literature from nursing data bases (CINAHL and Medline – Pubmed) with the terms heart disease, United Kingdom, United States, and World Health Organization were used. Studies were conducted by evaluating country trends and how the role of the World Health Organization changed outcomes over time.

Results: The literature search located 11 articles from CINAHL and 7 articles from Medline – Pubmed. A total of 8 articles were analyzed. Additional sources of data were obtained from <http://www.who.int/mediacentre/factsheet/fs312/en>.

Conclusion: All of the articles concluded that early recognition to health and lifestyle behaviors can affect outcomes of heart disease. The studies showed that changes in exercise, stress, nutrition, cigarette smoking, alcohol and management of other disease processes can affect ischemic heart disease outcomes. Studies showed that more needs to be done to improve outcomes for low and middle income countries.

Keywords: Ischemic Heart Disease (IHD), Diabetes Mellitus (DM), World Health Organization (WHO), Health Promotion

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INTRODUCTION

Trends of Ischemic Heart Disease in the UK and US after WHO Guidance is Implemented

Ischemic heart disease is the number one cause of death worldwide. Most of the deaths occur in low or middle income countries. Most cardiovascular diseases can be minimized or prevented by early recognition of risk factors and behavioral modifications. The World Health Organization (WHO) was formed in 1948 to guide health initiatives to countries worldwide in the battle to lower ischemic heart disease and other communicable or non-communicable diseases (WHO, 2015). The World Health Organization was formed April 07, 1948 in Geneva, Switzerland. There are 194 member states appointed to this organization. The WHO is mainly funded by the United States, Japan, Germany, United Kingdom, France and other voluntary contributions.

The WHO provides surveillance and research for many diseases such as cardiovascular disease (CVD), strokes, diabetes (DM), and cancer (CA). Published medical classifications, framework for conventions on tobacco control, surveillance of international health regulation and guidance to policy making are WHO responsibilities (WHO, 2015). The purpose of this meta-analysis is to identify the trends of ischemic heart disease in the United Kingdom and the United States. The WHO was analyzed to evaluate the progress of preventative measures and how these initiatives affect the overall trends for ischemic heart disease. Lower income countries were analyzed to identify the need for more interventions.

Trends and outcomes

United Kingdom

The WHO (2015) identified the trends of ischemic heart disease deaths in the United Kingdom (UK) decreased from 195.8 per 100,000 populations to 111.8 per 100,000

*Corresponding author: Patrick O'Connell, RN.
Adelphi University, University in Garden City, New York

populations from 2000 to 2012. The reason for this drop is access to healthcare, programs for prevention, public awareness and medications for prevention. The trends for diabetes were not as favorable. They decreased from 5.7 per 100,000 populations to 4.2 per 100,000 populations from 2000 to 2012. WHO predicts that diabetes will be the seventh leading cause of death by 2030 and 50 percent will die of cardiovascular disease. WHO estimates that 90 percent of diabetes is type II. Excess body weight and physical inactivity plays a large role in these results.

United States

WHO (2015) identified the trends of ischemic heart disease deaths in the United States (US) decreased from 202.4 per 100,000 populations to 136.0 per 100,000 populations from 2000 to 2012. The reason for this drop is access to healthcare, programs for prevention, public awareness and medications for prevention however; the UK had much better results. The trends for diabetes decreased from 16.7 per 100,000 populations to 13.4 per 100,000 populations from 2000 to 2012. The staggering results indicate that more education and better health promotion programs are needed.

Middle and lower income countries

WHO (2015) states that 17.5 million people died from cardiovascular disease in 2012 representing 31 percent of deaths globally. Out of 16 million deaths under the age of 70, lower and middle income countries had 37 percent of the deaths involving cardiovascular disease. Death from diabetes was estimated to be 1.5 million in 2012. More than 80 percent of the deaths were in low and middle income countries. These results indicate a major lack of access to healthcare, health promotion programs, preventative medicine and public awareness.

Health promotion

United Kingdom

The Food and Agricultural Organization (FAO) and WHO made dietary recommendations for fats and fatty acids in human nutrition in 2009 (WHO/FAO 2008, 2009). It based separate recommendations for adults and children. Through cohort studies, they now know more about how specific fatty acid affects early growth and development as well as the nutritional value for chronic diseases such as CVD and DM (Schenkler, 2012). Schenkler (2012) argues that with studies that have emerged throughout the past two decades, the dietary guidelines on fats should be reassessed. The recommendations is that total fat should be a minimum of 15 percent and a maximum of 35 percent with an adequate level of fatty acids and fat soluble vitamins however; it has insufficient evidence concerning energy intake between fat and carbohydrate. Evidence for a relationship between total fat for CVD and DM has been inconsistent. Considerations need to be addressed between the relation of saturated fatty acids (SFA) and their effect on plasma lipid levels which affect lipoprotein cholesterol levels. FAO/WHO recommends SFA be limited to 10 percent and anything over should be replaced with polyunsaturated fatty acids (PUFA) to reduce LDL cholesterol.

Brinsden and Ferrand (2012) stated that chronic diseases such as CVD, respiratory disease, obesity, cancer and diabetes are now the leading global causes of death. Modifiable risk factors such as unhealthy eating, excessive alcohol consumption, tobacco smoking, physical inactivity and high blood pressure contribute to these causes. These lifestyles are seen in all middle and high income countries. It is prevalent in the developing world where they develop a double burden of disease in combination with other infectious diseases. Salt consumption in processed food has been decreased since the introduction refrigeration and canning processes however; people are still adding way to much salt to their food. Salt intake can vary from 5g to 18 g per person per day. The recommended value of salt is 1 gram per day. Evidence shows that salt is a greater risk factor than any other factor. Lowering salt intake can lower blood pressure, risk of stroke, heart disease and heart failure (He and MacGregor, 2010). WHO acknowledged that salt reduction is one of the most cost effective health initiatives for disease prevention. WHO set a goal to decrease world-wide salt intake to less than 5 g per person per day by 2025 (WHO 2003, 2006).

The Standing Conference on Drug Abuse is a magazine for practitioners to publish research about addiction. Funding for this project came from Action on Addiction, the Department of Health Substance Misuse Advisory Service and the National Treatment Agency. Analyses are downloaded over 25,000 times per month for research on health and addiction (Miller, O'Reilly and Jarvis, 2010). Miller, O'Reilly and Jarvis (2010) stated that WHO reported twenty four risk factors responsible for 44 percent of an estimated 60,000 deaths annually. The five leading risks for mortality were high blood pressure at 12.8 percent, tobacco use at 8.7 percent, high blood glucose at 5.8 percent, physical inactivity at 5.5 percent and obesity at 5 percent. Alcohol was listed at 3.8 percent. The study stated that most risk factors can be linked to multiple diseases and targeting these factors can reduce the cause of disease. All of the leading risk factors are linked to CVD.

Moller, Dherani, Harwood, Kinsella and Pope (2012) stated that the public health was the government's agenda after the WHO publication. Local authorities were responsible for planning and implementing initiatives to improve health and reduce inequalities in their communities. Local policy-makers required evidence-based validation tools to guide decision making. European countries with low adult and child mortality use the WHO burden of disease (BoD) methodology. Wirral Primary Care Trust (PCT) initiated a project in England to identify if the WHO comparative risk assessment (CRA) would be useful at a local level. Results from 2005 to 2007 showed that 10,608 people died and that 48 percent were male. The four major cause of death were ischemic heart disease at 16.2 percent, cerebrovascular disease at 9.9 percent, lung cancer at 7 percent and chronic obstructive lung disease at 5.5 percent. The major risk factors were tobacco smoking at 23.4 percent, obesity at 5.3 percent, low fruit and vegetable intake at 4.6 percent, insufficient exercise at 3.8 percent and alcohol consumption at 2.5 percent. The study did show that moderate alcohol consumption has positive effects on cardiovascular disease however; it was rated the second highest contributor to deaths at younger ages (Moller, Dherani, Harwood, Kinsella and Pope, 2012).

United States

Capewell, Ford, Croft, Critchley, Greenlund and Labarthe (2009) examined the potential for reducing risk factors of coronary heart disease (CHD) by 20 percent by 2010 as a target under the Healthy People 2010 initiative. They also included targets for reducing total blood cholesterol to 199mg/dl, smoking to 12 percent of the population, hypertension to 16 percent of the population, diabetes to 6 percent of the population, obesity to 15 percent of the population and inactivity to 20 percent of the population. In the United States, 13 million people are affected, and the cost for direct healthcare exceeds US\$ 150 billion annually. They developed an IMPACT model which is a refined CHD model. The results suggested that there would be approximately 388,000 deaths age 25 to 84 by 2010 which is 15 percent more than the 338,000 deaths in 2000.

The model suggested that there would be 40,000 fewer deaths if blood cholesterol levels decreased to 199mg/dl, 26,000 fewer deaths if smoking fell to 12 percent of the population, 48,000 fewer deaths if blood pressure drops to 119.4 mm/Hg for men and women 12,000 fewer deaths if physical activity rose 80 percent, 17,000 fewer deaths if Body Mass Index (BMI) decreased to 25 for men and 26.0 for women and 44,000 fewer deaths if diabetes dropped to 6 percent of the population. Their data was consistent with study results in England, Scotland and the United States. Strat and Gorwood (2011) state that 85,000 people die each year from alcohol related diseases and car accidents in the United States and alcohol is the third leading cause of mortality. They agree that research suggests benefits of alcohol consumption at moderate amounts can reduce cardiovascular disease however; the relationship follows a J-shaped curve. They say that both abstinence and heavy drinking poses an increased risk to cardiovascular disease as of data from the National Epidemiology Survey on Alcohol and Related Conditions (NESARC)

World-wide

Moran, Forouzanfar, Roth, Mensah, Ezzati, Murray et al. (2014) conducted a temporal trend analysis for heart disease in 21 world regions. Their data was obtained from country-level surveillance, verbal autopsy and vital registration data. Factors observed were regional income, metabolic and nutrition, and other covariates. Their results showed a decline in ischemic heart disease (IHD) in high income regions such as Australasia, Western Europe and North America since 1980. In 2010, Eastern Europe, Central Asia and South Asia had the highest age-standardized IHD mortality rates. South Asia, North Africa, the Middle East and sub-Saharan, Africa had the youngest age mortality rates compared with most other regions. This study indicates that low income regions need health education and access to healthcare. Further research needs to be obtained for risk factors of behavior and environmental factors that contribute to the high rates of IHD. Wnorlida, Norsa'adah, Aniza, Norakmar and Aljunid (2013) conducted a medical record review of 249 patients attending diabetic clinics in Malaysia. Their goal was to identify associated risks of developing CHD in Type II diabetes. The mean age was 57 years and a majority had Type II diabetes for

more than ten years. Results revealed that 14.1 of the patients took insulin; hypertension and dyslipidemia were at 23 percent and 46 percent, retinopathy was at 79 percent, nephropathy was at 31 percent, neuropathy was at 8 percent and stroke was at 4 percent. Only 12 percent developed CHD after a follow-up time of six years. Their results suggested that stroke was the main associated factor for CHD in Type II diabetes. WHO estimates that diabetes will increase 164 percent by 2030 in Malaysia.

Conclusion

The literature in this meta-analysis shows evidence that WHO is assisting the trends in the United Kingdom and the United States. More research and action plans need to be implemented in low and middle income countries. Ischemic heart disease is a leading cause of death world-wide however; many risk factors such as poor nutrition, excessive alcohol consumption, tobacco smoking, physical inactivity and high blood pressure are modifiable factors. Diabetes Type II is linked very heavily with ischemic heart disease and the main modifiable risk factors are obesity and inactivity. With more health promotion and better access to healthcare, ischemic heart disease and diabetes Type II can see a downward trend. WHO (2015) has an action plan to attain nine voluntary global targets including a 25 percent reduction in premature mortality from cardiovascular disease, cancer, diabetes or chronic respiratory diseases by 2025.

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