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The Link Between Heart Disease in Low Socioeconomic Communities in America

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The Link Between Heart Disease in Low Socioeconomic Communities in America

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Spring 2020

NURS 4500 Directed Research/Senior Thesis

Dr. Patricia Harris

Abstract

As a future medical professional in the healthcare field, we continue to see patients admitted for cardiovascular issues. Cardiovascular diseases (CVDs) remain the leading cause of mortality among adults living in the U.S. despite advances in treatment throughout the past century. A number of risk factors such as hypertension, obesity, smoking, and physical inactivity contribute to the significant rise of cardiovascular disease. Research data suggests that there is correlation between cardiovascular disease, low socioeconomic status, and diet. According to the American Phycological Association socioeconomic status is measured by income, educational status, and occupation, and has been shown to be closely related to the quality of one's diet (APA, n.d.). The aim of this research is to provide evidence that low socioeconomic status is indeed a risk factor of cardiovascular disease and by integrating into the nursing practice may reduce the disparities amongst individuals, communities, and larger populations (Socioeconomic, n.d.).

This is a proposal for further research following a literature review of the incidence of cardiovascular disease in low socioeconomic neighborhoods. The literature review was conducted using Iceberg and includes articles that illustrate a correlational relationship between cardiovascular disease and a lack of access to healthy foods within these communities. Adults living in low socioeconomic neighborhoods do not have access to healthier foods such as organic fruits and vegetables and do not have a high enough income to purchase healthier foods. Data suggests that low income families purchase low cost items and spend their limited resources on saturated fats, trans fats, sweets, and processed foods, all of which contribute to an increased risk of heart disease.

This proposal outlines further study in this area by comparing the prevalence of cardiovascular disease within low socioeconomic communities and wealthy communities.

Disease mapping of these areas is expected to show a direct comparison between these two factors. Additional investigation into the impact of diet and socioeconomic status on CVDs is warranted.

Acknowledgments

This work would not have been possible without the inspiration from my father Sorayuth Luy Chea, Professor Harris, and the support from my colleagues. The Nursing Program faculty and staff at Dominican University of California have worked proactively to provide me with the resources that I need to pursue my aspirations and goals to become an exemplary nurse.

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Introduction

Heart disease is the number 1 killer of both men and women in America. We have discovered ways to treat various types of heart disease but yet, we have not found a cure to this pandemic. Why is it that heart disease remains an undefeated killer these past decades? Do we not have the knowledge or proper technology to combat this life-threatening problem? The answer is, we do. However, the biggest factor behind heart disease is the dramatic deterioration in lifestyle that is causing people to develop this condition. Heart disease has been strongly correlated with low socioeconomic status.

Problem Statement

Low socioeconomic status is associated with poor nutrition, a well-documented risk factor of developing cardiovascular diseases such as atherosclerosis, heart failure, and evidently heart attacks. Poor nutrition can lead to altered cholesterol levels, hypertension, and obesity which are all additional risk factors of heart disease. Further research is needed to determine if low socioeconomic status is linked to lower socioeconomic areas where healthy, fresh food is less available. This raises the question: Are heart disease and low socioeconomic status inextricably linked? This is an important issue because we are constantly seeing patients hospitalized for cardiac related problems. Therefore, it is imperative to determine the overall causes for this prevalent issue.

Literature Review

The research literature utilized in this paper are gathered from a variety of multiple sources using databases through Dominican University of California Library, such as Ebsco, PubMed, CINAHL, and UpToDate. Five original research articles emphasizing how socioeconomic status impacts cardiac health of adult patients has been found and used to create and support the literature review of this paper. A combination of keywords that were used to successfully search for these articles include: socioeconomic status and heart disease, coronary heart disease, low socioeconomic status and the risk of heart disease, quality of life in patients with heart disease, nutrition and heart disease, psychological outcomes and cardiac patients, and socioeconomic inequalities among cardiac patients. All of the articles found provide different aspects on how socioeconomic inequalities play a key role in the manifestation of increase risk of cardiac disease. Please see literature review table in appendix.

While analyzing the research articles the nursing student found four themes within the literature: The effects of socioeconomic status before and after acquiring coronary heart disease, how socioeconomic status effects the psychologic behavior of adults that correspond to the diagnosis of coronary heart disease, socioeconomic ethnic disparities in cardiovascular risk in United States, and the importance of nutrition and cardiovascular disease. Within the themes the nursing student was able to find his own research connections through each article. The information provided will assist in guiding him in his research study of the **link and effect of low socioeconomic status on the occurrence of heart disease.**

The literature review of this paper will be divided in four categories. The first category describes the difference in quality of life before and after being diagnosed with coronary heart disease (one article). The second category will be the difference in psychological outcomes among cardiac patients based on socioeconomic inequalities (one article). The third category will examine the socioeconomic status and ethnic disparities relative to cardiovascular risks in the United States (two articles). The fourth category will describe the importance of nutrition and how socioeconomic status is correlated with healthy foods and the prevalence of heart disease (one article).

Difference in Quality of Life Before and After Being Diagnosed with Coronary Heart Disease

Giorgio Barbareschi, Robbert Sanderman, Gertrudis I. J. M. Kempen, and Adelita V. Ranchor (2009) conducted a research about Socioeconomic status and the course of quality of life in older patients diagnosed with coronary heart disease. The goal of the study was to determine whether there were differences in the course of quality of life before and after an incidence of coronary heart disease among the older population of differing socioeconomic status. This study was necessary to determine if quality of life due to socioeconomic status were already present before the incident of coronary heart disease or a consequence of the diagnosis. There were five thousand two hundred and seventy-nine participants between ages 57 and 96-year-old adults who were recruited for the study. They were monitored by their general health practitioner from 1993 and 1998. After being diagnosed with coronary heart disease, the research team sent out letters asking the patients to participate in the follow up study. Two hundred and two adult patients would then be followed up longitudinally from two months, six months, and

twelve months using a community-based survey. Two types of coronary heart disease that were relevant to the study were myocardial infarction and congested heart failure. Socioeconomic status combined three major indicators that were created at the baseline: educational level, income, and occupational prestige (Barbareschi et al, 2009).

The results indicated that patients of high socioeconomic status reported better outcomes at the premorbid assessment with less depressive feelings and optimal physical functioning. Additionally, after being diagnosed with coronary heart disease patients of high socioeconomic status maintained their physical functioning within 12 months and showed better role and social functioning after 1 year of the diagnosis. With respect to gender: patients with low socioeconomic status were predominantly women, while patients of with a high socioeconomic status were mostly men. Furthermore, patients with low socioeconomic status were slightly older and their cardiac symptoms showed more signs of severity compared to patients with a higher socioeconomic status (Barbareschi et al, 2009). These findings imply a great and important need to integrate socioeconomic status when discussing risks of cardiovascular disease to better assess and deliver optimal care. One of the limitations of this research was that some patients with poorer health dropped out of the study which may have biased the sample results.

Difference in psychological outcomes among cardiac patients based on socioeconomic inequalities

Zuzana Skodova et al (2009) conducted a research based on the socioeconomic inequalities in quality of life and psychological outcomes among cardiac patients. The goal of the study was to analyze "socioeconomic inequalities in the psychological characteristics (psychological well-being, perceived mental health status) and perceived quality of life among

cardiac patients" (Skodova et al, 2009, p. 233). They predicted that by the year 2020, which is our current year, that coronary heart disease will, "overtake infectious disease as the world's leading cause of death and disability" (Skodova et al, 2009, p. 233). They were right. This research is relative to today's public health because both psychosocial and socioeconomic factors play a significant key role on the quality of life. Having a socioeconomic disadvantage in society may constitute an independent health risk such as cardiovascular disease. Socioeconomic disadvantage such as poor income and low education, "is associated with higher presence of coronary heart disease" (Skodova et al, 2009, p.234). That being said, higher mortality and morbidity risk are found in patients from a lower socioeconomic group. As psychosocial factors play a key role in quality of life, poor mental health such depression and anxiety has also been correlated with a higher incidence of a sedentary lifestyle. Smoking, lack of physical activity, and negative physiological changes all contribute to an increase risk of coronary heart disease. Three hundred and sixty-two adult patients less than seventy years old were referred by their cardiologist and invited to participate in this research during their hospitalization for coronary angiography. These participants were then interviewed by trained personnel with questions regarding medical history, socioeconomic position (Education and income), and functional status. To assess the psychological well-being, patients were required to complete a self-reported questionnaire. Results showed significant socioeconomic differences illustrating that patients with, "low income or education had a higher probability of having poor psychological well-being compared to participants with high income or education and were more likely to have worse mental health status, and low quality of life" (Skodova et al, 2009, p. 236). The data obtained by this study conclude that socioeconomic status is in fact associated with negative psychological outcomes and poor quality of life among cardiac patients. Therefore, focusing on the aspect of

psychosocial factors in cardiac patients, socioeconomic status should be taken into account when developing optimal care. A limitation of the study was including other psychological characteristics such as stress. As stress has been a contributing factor of heart disease.

Socioeconomic status and ethnic disparities relative to cardiovascular risks

The article, "Socioeconomic status and Ethnic Disparities in Cardiovascular Risk in the United States" is written by Arun S Karlamangla PhD, Sharon Stein Merkin PhD, Eileen M Crimmins PhD, and Teresa E Seeman PhD (2010). The purpose of the study was to measure the relation of socioeconomic status and ethnic differences at risk for coronary heart disease in the United States. This research is significant because it magnifies the population at risk for coronary artery disease living in poverty. As stated in the research, "Reduction of these disparities has been a focus of interest for policy makers and requires the early detection and management of risk factors in underprivileged groups. Indeed, low SES and minority groups do report higher values of risk factors for cardiovascular disease" (Arun S Karlamnagla et al, 2010, p.1). Data that was gathered for this study came from the National Health and Nutrition Examination Survey that was conducted between 2001 and 2006. The sample included 12,154 adults older than twenty years of age. Race/ethnicity was classified as Non-Hispanic White, Non-Hispanic Black, US-Born Mexican American, and Foreign-born Mexican American. The demographic, biological, and health data surveys were conducted by at home interviews which were followed by an examination and blood draw. The gender, age, race/ethnicity, income, and education data were all gathered from standard adult questionnaires. If socioeconomic status is to be defined by combining education and income, results presented strong coronary heart disease risk gradients in all four race/ethnicity groups. Therefore, the risk for cardiovascular disease in the United States are less related to race/ethnicity and more prevalent to socioeconomic status. Which

implies that regardless of race or ethnicity having a low socioeconomic status increases the risk of acquiring cardiovascular disease. A limitation that this research had was including other race and ethnic populations into the study such as Asians and Middle Eastern adults.

Pollack et al (2012) also conducted a similar study to Karlamangla's research in which he tested the risk of coronary heart disease associated with neighborhood socioeconomic status, describing if it was relative by gender and race/ethnicity in the US and whether the results remained consistent in a 10-year timespan. He also included neighborhood characteristics that influence the incidence of coronary heart disease such as smoking, hypertension, and cholesterol. To support the nursing student's argument, Pollack emphasizes that neighborhood socioeconomic status has been linked with dietary patterns and obesity, physical inactivity, and smoking in local and national samples (Pollack, 2012, pg.6). For example, poorer neighborhoods may have less access to healthier and affordable foods. Pollack illustrated that, "living in a low socioeconomic neighborhood may affect an individual's exposure to particular stressors and constrain opportunities to pursue positive health behaviors (e.g. through decreased access to healthy foods and safe places to exercise), and it may do so in ways that have differential effects by gender and race/ethnicity" (Pollack, 2012, pg.2) A cross sectional study was done using the Health and Nutrition Examination Survey data from 1999 to 2004. The study sample final total included eleven thousand nine hundred and forty-six adults from the ages between thirty and seventy-five. Results indicated that neighborhood socioeconomic status is significantly associated with a ten-year risk of coronary heart disease and the relationship varies by gender and race/ethnicity. Additionally, the relationship between neighborhood socioeconomic status and coronary heart disease was stronger for men compared to women and were not significant among black and Hispanics. Results conclude that the association between suboptimal

neighborhood factors such as low socioeconomic status has been linked with higher incidence, prevalence, and mortality from coronary heart disease (Pollack, 2012).

Importance of Nutrition and Socioeconomic Status

In the study conducted by Li Chen, Haidong Zhu, Bernard Gutini, and Yanbin Dong, the authors identify the dietary patterns of adolescents in the southeastern region of the United States and explored the relations to diet among socioeconomic status, family structure, and cardiovascular disease risk factors (Chen et al., 2019). They emphasize that "Dietary patterns represent a broader picture of food and nutrient consumption and thus may be more predictive of health outcomes" (Chen et al., 2019, p.1). For example, a Western dietary pattern characterized by processed food, foods high in fat, fried foods, junk food, and all foods that are considered an atherosclerotic diet may predispose an adolescent living in low socioeconomic to cardiovascular disease. Many previous researches about dietary patterns and cardiovascular disease risks were focused on elderly adults. Findings that have been conducted within adolescents are limited and recent concerns suggest that further studies are warranted. Seven hundred and forty-three adolescents participated in a cross-sectional study that was divided into four dietary pattern groups. The four dietary patterns were derived: "Healthy", "Sugar sweetened beverage (SSB) and fried food", "Snack and sweets", and "Processed meat". After the authors received approval from the county superintendents and school principals, they sent out flyers to all the students from the ages fourteen to eighteen of the selected schools. Interested students would respond and minor students were accompanied by their parents. Both child and parents answered questionnaires about their self-identity, dietary patterns, parent's socioeconomic status based on education and income, and family structure. Results indicated that adolescents with healthy dietary patterns were higher among those with more educated mothers and fathers. These

adolescents consumed more fruits, vegetables, whole grain, fish and other seafood, and nuts than adolescents living in a lower socioeconomic community where their parents had a lesser education (Chen et al., 2019, pg. 3) Additionally adolescents living in higher socioeconomic status were less likely to report fried foods, snack and sweets, and sugar sweetened beverage in their dietary pattern. These adolescents had a higher percentage of energy from protein and fiber intake. Furthermore, parental working status and socioeconomic status are associated with the diet quality health patterns in adolescents. Moreover, the dietary patterns of snacks and sweets, sugar sweetened beverage, fried food, and processed meat found in adolescents living in lower socioeconomic communities increase their risk of developing future cardiovascular disease. These findings imply an important need to incorporate socioeconomic status when discussing risks of cardiovascular disease to enhance care and education to families of lower socioeconomic status about nutrition. This could be a type of primary prevention measure for adolescents living in a low socioeconomic neighborhood to avert the onset of heart disease. The same way Michelle Obama pushed to increase the tax on sugary drinks in hopes to prevent the rise of obesity and diabetes. This article had some limitations. One, socioeconomic indicator such as household income was missing, and other adolescent characteristics such as physical activity or vegetarian beliefs were not included. However, the strength of the study outweighs their limitations.

Proposal

According to data collected from this literature review, low socioeconomic status has shown to have a negative outcome on cardiovascular health. All of the articles analyzed provides evidence that a lower socioeconomic status in today's society plays a significant role in acquiring cardiovascular disease. However, the literature does not consider socioeconomic status as a risk

factor of heart disease. This implies that this factor should be adopted into future research regarding cardiovascular health.

Socioeconomic status is defined and measured by education, income, and occupation. Finding an effective and feasible solution for decreasing the prevalence of cardiovascular disease in lower socioeconomic populations is essential. This analysis determined that having a lower socioeconomic status is inextricably linked with heart disease and further research is essential to prevent future hospitalizations related to cardiovascular health.

Further research is required to study the long-term effects of socioeconomic status within the U.S. because we continue to see increasing economic disparities and frequent admissions relating to cardiovascular disease. Socioeconomic status and heart disease need to be explored in future studies so that it may provide a change in medical costs of heart related admissions and optimize treatment. Additionally, future research is essential to better understand the underlying mechanisms of cardiovascular disease risk affecting low socioeconomic individuals to determine efficient education based on nutrition and prevention. Integrating socioeconomic status into the traditional heart disease risk prediction models will allow improved management and effective interventions of individuals with high risk. Research articles included in this literature review have provided pertinent data that will help strengthen the design of this research study.

The research question being studied is - Are heart disease and low socioeconomic status inextricably linked? Socioeconomic status accentuates the disadvantages low income families have in preventing cardiovascular disease, such as poor access to nutritious foods, poor psychological outcomes, environmental factors, lifestyle changes, eating habits, education, and overall health outcomes. The purpose of this study is to provide evidence that having a lower socioeconomic status increases that risk of acquiring some type of cardiovascular disease. The

author hopes the results of this study will aid future research of cardiovascular disease and to integrate socioeconomic status as a risk factor to reduce disparities in individuals, communities, and larger populations.

Primary Research Aims

- Provide evidence that Socioeconomic status is in fact a Risk Factor
- The results of the study will help highlight SES as a risk factor of heart disease so that interventions to reduce disparities will be warranted

Theoretical Framework

Dr. Jean Watson is a nurse theorist, the founder of Watson Caring Science Institute, and distinguished Dean Emerita of University of Colorado Denver, College of Nursing (Dr. Jean Watson, n.d.). She is known for developing the Philosophy and Science of Caring which encompasses how nurses express care to their patients and believe that "caring is central to nursing practice and promotes health better than a simple medical cure" (Gonzalo, 2019). Watson believes that caring consists of ten "carative" factors, one of them is assisting with gratification of human needs which include food and fluid, elimination, and ventilation (Watson, n.d.). Her theory supports this thesis because providing patients with healthy food and education promotes a better quality of life and therefore reduces the risk of cardiovascular disease. Watson believes that everyone deserves good food for good health and assisting people to get healthy food implies that nurses are delivering genuine care.

Study Design

The proposed study is a grounded theory qualitative study that implements the use of a clinician survey and an interview. This type of study captures the importance of people's lived experiences. Watson's Philosophy of Science and Caring states that a "human's health includes a

high level of...social function" (Watson, n.d.) This study will be carried out by conducting surveys and interviews, which would help us understand the lived experiences of people who are considered part of the low socioeconomic status population. The survey will consist of three qualifying questions to determine eligibility for an interview. The qualifying factors will be an answer of no for family history of cardiovascular disease, yes for a diagnosis of cardiovascular disease, and yes for low socioeconomic status (defined as making less than \$50,000 a year) (Demographics, n.d.). If the participant qualifies, the interview will consist of a series of openended questions related to their lived experiences related to low socioeconomic status and cardiovascular disease.

Methods

Recruitment of this study will involve identifying patients that meet inclusion criteria by introducing the study to patients at a community clinic. Inclusion criteria involves a family history of heart disease, diagnosed with heart disease, and low socioeconomic status. After the patients are identified as being eligible, the student then would explain the study to the patient, including hypothesized outcomes and confidentiality, and ask the patient if they would like to participate in an interview. This recruitment method will continue at the clinic until a minimum of six interviews have been conducted. The six adult participants will be offered a fifty-dollar stipend for their time.

The interviews will be forty-five minutes to an hour in length. The questions will consist of:

- 1. Place of living?
- 2. How far must you travel for healthy food?
- 3. Type of transportation?

- 4. How much do you spend per month on groceries?
- 5. Do you personally feel like you eat healthy?
- 6. How does cardiovascular disease affect your daily life physically, psychologically, and emotionally?
- 7. Do you feel that you are being provided with healthy foods in your community?
- 8. Do you have enough funds to purchase healthy foods?
- 9. Do they feel like you are being treated different due to their socioeconomic status?
- 10. Do you know the correlation of food and heart health?

Recruiting diagnosed patients living in a low socioeconomic neighborhood and orchestrating an interview will provide researchers with first-hand experiences and a deeper understanding of cardiovascular disease in low socioeconomic communities.

Content analysis for these interviews will show common themes expressed by each participant. Expected themes will be food deserts (urban area in which it is difficult to buy affordable healthy foods), lack of transportation, and lack of knowledge of a healthy diet.

The themes will then be analyzed and reported within the study.

Ethical Considerations and Issues

One ethical problem to consider involves privacy. The study will not include names or disclose personal detailed information, and the participant will be informed that the study is for research purposes only. Other issues might include language barriers because the study is not limited to a specific ethnic group. Therefore, an interpreter might be needed to assist with the survey and interview. The most important ethical issue that needs to be considered are the occupations of the participants. Due to their socioeconomic status some might be extremely busy with work and supporting their families and might not be able to partake in the study, also

making this matter a limitation to the study. To address this, the participants will receive \$50 upon completion of their interview. Another ethical limitation that should be considered is that the participants may feel sensitive about revealing their socioeconomic status and health history. Therefore, reassuring that the results will only be used for educational purposes only is important to acknowledge. Another limitation would be the number of participants that would like to be interviewed. The strength of this study lies in these interviews because they give access to firsthand experiences.

Conclusion

Data collected and analyzed for this research has revealed that having a lower socioeconomic status in society is in fact linked with cardiovascular disease. As nursing students and medical professionals, we are taught the various risks of heart disease. However, socioeconomic status is not typically considered a risk factor. Emphasizing and integrating low socioeconomic status as a risk factor will advocate for more attention and care to this population. With Dr. Watson's theory in mind, delivering genuine care is in fact central to the nursing practice to promote better health outcomes. Delivering education around healthy diet patterns may serve as a primary prevention strategy against cardiovascular health that may decrease the rate of hospitalization, morbidity, and mortality. Highlighting low socioeconomic status as a risk factor may cultivate financial help for patients who may not afford certain care that they need. Recognizing and eliminating these disparities may in fact be a first step in primary prevention of cardiovascular disease. Further research is warranted to explore the correlation of socioeconomic status and cardiovascular disease.

References

- Barbareschi, G., Sanderman, R., Kempen, G. I. J., & Ranchor, A. V. (2009). *Socioeconomic status and the course of quality of life in older patients with coronary heart disease*.,:

 Springer Nature. doi:10.1007/s12529-008-9010-8
- Chen, L., Zhu, H., Gutin, B., & Dong, Y. (2019). Race, gender, family structure, socioeconomic status, dietary patterns, and cardiovascular health in adolescents. *Current Developments in Nutrition*, *3*(11), nzz117. doi:10.1093/cdn/nzz117
- Demographics. (n.d.). Retrieved April 8, 2020, from http://www.nccp.org/profiles/US_profile_6.html
- Dr. Jean Watson. (n.d.). Retrieved April 8, 2020, from https://www.watsoncaringscience.org/jean-bio/
- Gonzalo, A., Gonzalo, A., Gonzalo, A., & St. Paul University. (2019, September 12). Jean Watson: Theory of Human Caring. Retrieved April 8, 2020, from https://nurseslabs.com/jean-watsons-philosophy-theory-transpersonal-caring/
- Jean Watson. (n.d.). Retrieved April 8, 2020, from https://nursing-theory.org/nursing-theorists/Jean-Watson.php
- Karlamangla, A. S., Merkin, S. S., Crimmins, E. M., & Seeman, T. E. (2010). Socio-economic and ethnic disparities in cardiovascular risk in the united states, 2001-2006 doi:10.1016/j.annepidem.2010.05.003
- (n.d.). Retrieved April 5, 2020, from https://www.apa.org/topics/socioeconomic-status/

- Pollack, C. E., Slaughter, M. E., Griffin, B. A., Dubowitz, T., & Bird, C. E. (2012).

 Neighborhood socioeconomic status and coronary heart disease risk prediction in a nationally representative sample. *Public Health*, *126*(10), 827-835.

 doi:10.1016/j.puhe.2012.05.028
- Skodova, Z., Nagyova, I., van Dijk, J. P., Sudzinova, A., Vargova, H., Rosenberger, J., . . . Reijneveld, S. A. (2009). Socioeconomic inequalities in quality of life and psychological outcomes among cardiac patients. *International Journal of Public Health*, *54*(4), 233-240. doi:10.1007/s00038-009-7086-9

Authors/Citation	Purpose/Objective of Study	Sample - Population of interest, sample size	Study Design	Study Methods	Major Finding(s)	Strengths	Limitations
Barbareschi, G et al.,	To determine whether	202 Coronary heart	Qualitative Survey	202 Coronary heart	Patients with High	The method and major	Number of patients that
2009	there are differences in	disease patients		disease patients were	Socioeconomic status	findings support the	were surveyed
	the course of quality of			followed up	reported better	purpose of the study.	
	life before and after the			longitudinally using a	outcomes at the		
	incidence of coronary			community-based	premorbid assessment		Patients with poorer
	heart disease among			survey. Data on	with fewer depressive		health may have dropped out of the
	older persons of			patient's quality of life	feelings and better		study, biasing the
	differing			were collected before	physical functioning.		sample toward CHD patients with milder
	socioeconomic status			the diagnosis and the	They also showed		disease or lower
				three follow up	better role in social		anxiety and depression
				assessments	functioning after 1 year		
					after coronary heart		
					disease.		
Chen, Li et al., 2019	To identify the dietary	743 adolescents	Cross sectional	Questionnaires about	Adolescents living in a	Ongoing research.	Other ethnicities?
	patterns of adolescents	(minors were		self-identity, dietary	higher socioeconomic		More adolescents of
	in the southeastern	accompanied by their		patterns, parent's	neighborhood with		different regions
	region of the United	parents)		socioeconomic status	parents of high income		
	States exploring the			based on education and	and education ate		
	relations to diet among			income, and family	healthier and had a		data on race, family
	ses, family structure,			structure	better dietary pattern		structure, parental education, and
	and risk factors				than adolescents of		occupation were
					lower socioeconomic		collected; other SES indicators such as
					status.		household income
							were missing.
							Food Choices such as
	,						vegan or vegetarian.
Karlamangla, Arun S	To quantify	12,154 Adults	Quantitative Survey	Data came from the	Disparities in	The study and results	The study should have
et al., 2010	socioeconomic status	(excluding pregnant		National Health and	cardiovascular risk in	are comprehensive and	included more
	and ethnic differences	women)		Nutritional	the US are primarily	detailed making it a	ethnicities such as
	in risk for coronary			Examination Survey	related to	great article to fully	Foreign Asians and
	heart disease (CHD)			2001-2006. Outcomes	Socioeconomic status	examine.	Asian Americans
	accrued from major			examined were a 10 -			because this population

Authors/Citation	Purpose/Objective of Study	Sample - Population of interest, sample size	Study Design	Study Methods	Major Finding(s)	Strengths	Limitations
	risk factors, in the			year risk for CHD	and less to		are one of the most at
	United States.			events as predicted by	race/ethnicity.		risk for cardiovascular
				the National			disease.
				Cholesterol Education			
				program adult			
				treatment panel III.			
Pollack, C.E et al.,	To test the association	6484 Adults	Cross Sectional	Data for study came	Race/ethnicity and		The study should
2012	between coronary heart			from the National	gender were found to		include more adults in
	disease risk scores and			health and Nutrition	significantly modify		low socioeconomic
	neighborhood			Examination Survey	the association		status neighborhoods
	socioeconomic status			conducted between	between neighborhood		and compared them to
	in a US nationally			2001 -2006	socioeconomic status		higher socioeconomic
	representative sample				on CHD risk: the		status groups.
	and describe whether				association is larger in		
	he association varies				men than women and		
	by gender and				in whites than		
	race/ethnicity.				minorities.		
Skodova, Zuzana et al.,	To explore the	362 Adults referred by	Quantitative	A structured interview	Patients with low	Another	Lack of methods a
2009	socioeconomic	their cardiologist		was conducted with	income or education	comprehensive and	longitudinal design
	inequalities in the			362 patients referred	had a higher	concise article that I	would be useful in
	psychological			for a coronary	probability of having	will definitely look	order to explore also
	characteristics and			angiography.	poor psychological	more into depth and	the casual associations
	perceived quality of				well-being compared	use for my research	between
	life among cardiac				to participants with	paper.	socioeconomic status,
	patients.				high income or		mental health, and
					education and were		coronary heart disease.
					also more likely to	The results of the study	
					have worse mental	show significant socioeconomic	Limitations on types of
					health status, and low	differences in	psychological
					quality of life.	psychological well- being, perceived	characteristics other
						mental health status and perceived quality	than depression.

Authors/Citation	Purpose/Objective of Study	Sample - Population of interest, sample size	Study Design	Study Methods	Major Finding(s)	Strengths	Limitations
	Study	merest, sample size				of life among patients with CHD	