**TITLE: HOW SOCIAL**

**DETERMINANTS IMPACT**

**DEPRESSIVE SYMPTOMS IN AFRO**

**CARIBBEAN WOMEN RESIDING IN**

**THE U.S.V.I.**


**Submitted in partial**

**fulfillment of the**

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contained therein.

# ABSTRACT

The purpose of this research is to examine the relationships between the social structure (household income, employment status, education), and selected demographic characteristics (age, marital status), and self-reported health, and depressive symptoms in Afro Caribbean women residing in the United States Virgin Islands (U.S.V.I.).

The prevalence of mental health disorders creates hardship within families and leads to negative economic impact within societies around the world (Wang et al, 2012 & Whiteford et al,

2013).  The World Health

Organization (WHO) (2012),

Depression Fact Sheet notes

that depression affects the

lives of about 300 million

people throughout the world.

Depression is responsible for

interruption of daily

functioning in people who are

affected.  According to the

Substance Abuse and Mental

Health Services

Administration (SAMSHA),

(2014), depression is the

highest-ranking mental health

disorder in the United

States.

This retrospective

correlational descriptive

study accessed secondary data

from a parent study of 200

Afro Caribbean women.  The

current study sample

consisted of 126 women who

self-identified as Afro

Caribbean/Afro American 40

years of age and older and

who resided in the USVI at

the time of the parent study.

The social determinants

measured were: social

structure (household income,

employment status);

education, and demographic

characteristics (age, marital

status, and self-reported

health status).  Depression

symptoms were measured using

the Beck Depression Inventory

1996.  The coefficient alpha

of the BDI-II scale was .87.

Total scores on the BDI-

II and income were

significantly correlated with

Pearson r of-0.21 (p=.019).
There was significant
association between scores in
BDI-II scale and self-
reported health status (chi-
square = 24.82, p <0.001).
Afro Caribbean women in the
U.S.V.I. with high socio-
economic status tend to have
lower scores on the BDI-II
scale.  Also, Afro Caribbean
women's self-reported health
were positively related to
their scores on the BDI-II
scale.

**DEDICATION**

This Scholarly Project would not be possible without these extra special people in my life.  My sister, Natasha Lettsome, who has been my cheerleader through thick and thin. My brother, Clyde Lettsome, who has been a tremendous support through the chaotic and uncertain years.  Lastly, my mentor, Dr. Gloria B. Callwood, who has been a constant source of encouragement and support during the pursuit of my doctoral degree.

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## <u>Chapter 1</u>

**INTRODUCTION**

The purpose of this research is to examine the relationships between social structure (household income, employment status, education), and selected demographic characteristics (age, marital status, and self-reported health, and depressive symptoms.

In Afro Caribbean women residing in United States Virgin Islands (U.S.V.I.). This study is a secondary analysis based on the parent study:  Health Status and Health Practices among African American and Afro Caribbean Women 2011 (NIH,

5P20MD002286).  This chapter will highlight the problem, purpose statement, the conceptual framework which is based on the Social Determinants of Health as described by Marmot & Wilkinson (2006), research questions, and theoretical definitions.

Problem

The prominence of mental health disorders was ascertained through several studies conducted to assess the global burden of disease. The Global Burden of Disease Study from 2010 (Wang, H., Dwyer-Lindegren, L., Lofgren, K.T., Rajaratnam, J.K., Marcus, J.R. et al. (2012); Whiteford, H.A., Degenhardt,

L., Rehm, J., Baxter, A.J.,
Ferrari, A.J., et al., 2013),
that included nearly 200
countries, reported that
mental health and substance
abuse disorders were
responsible for 183.9 million
(7.4%) of disability-adjusted
life years (DALYs), 6
million-12 (.5%) years of
life lost to premature
mortality (YLLs), and 175.3
million (22.9%) years lived
with disability (YLDs).  The
data revealed that mental
health and substance abuse
disorders were the major
cause of YLDs globally with
depressive disorders being
responsible for 31.7 million-
49.2 million (40.5%) of DALYs
(Whiteford et al., 2013).
The mental health and

substance use disorders were classified based on the Diagnostic and Statistical Manual of Mental Disorders (DSM) IV TR or the International Classification of Diseases (ICD) (Whiteford et al., 2013). Mental health disorders in the United States continue to rise as adults progress through the life course their need for mental health services continue to rise (American Psychological Association (APA), 2015).

The World Health Organization (WHO) (2012) Depression Fact Sheet, notes that depression affects greater than 300 million people world-wide.

Depression has global impact as a chronic mental health disorder that interrupts the daily function of those it affects. Subsequently, people affected by depression are unable to carry out their duties or day to day responsibilities at home, school, and their work environment (WHO, 2012). People can exhibit different intensities of depression. Depression may manifest as mild, moderate, or severe (WHO, 2012). As depression intensifies, the person becomes more incapacitated. One of the most untoward health outcomes of depression is suicide. Nearly one million people with

depression world-wide commit suicide annually (WHO, 2012).

Many barriers have been identified as factors which hinder the treatment of people affected by depression (WHO, 2012).  One barrier is the stigma people experience from society when diagnosed with a mental health disorder.  Another barrier is that persons in the need of treatment for depression lack the necessary resources to obtain treatment.  Lastly there are circumstances in which inadequately trained healthcare providers missed diagnosing people with depression (WHO, 2012).

The World Federation for Mental Health (2012),

reported that depression is a rampant illness that affects people everywhere in the world, and is often present with other medical illnesses. Marcus, Yasamy, Ommeren, Chisholm, and Saxena (2012) noted that depression typically presents in early childhood, impacts functioning, and has a tendency to recur through the life span thus leading to disability and contributing to loss of total work years.

Tomlinson (2013) stated that 70% of the burden of mental health disorders is prevalent in low and middle income countries. This level of burden is expected to increase drastically by 2030.

Tomlinson maintained that mental health is a rudimentary component necessary for people to meet their potential, have meaningful interpersonal relationships, and obtain and maintain gainful.

Importantly, the World Health Assembly (WHO, 2012) recognizes the far reaching impact of depression and has called upon countries to develop comprehensive and strategic responses to mitigate the burden of depression.  It is WHO's aim to assist countries to offer more services for people with mental health disorders in the hope that once treatment is, people with depression

can lead normal lives (WHO, 2012).  Annually over 9% of adults in the U.S. experience depressive symptoms (SAMSHA, 2014).  NSDUH reported in 2013 that 6.7% of adults (15.7 million) people exhibited at least one major depressive episode in the past year (SAMHSA, 2013). This study focuses on Afro Caribbean women who reside in the United States Virgin Islands (U.S.V.I.).  The U.S.V.I. is two times the size of Washington, DC, is located in the Caribbean and the North Atlantic Ocean and has a population of about 100,000 Central Intelligence Agency (CIA) Fact Book, 2014).

The U.S.V.I. Office of the Governor (2002), Virgin Islands Health Improvement Plan reports that access to health care services can be obtained from public, private, or community based organizations.  The U.S.V.I. Police Department Testimonial (2015), reports that there have been increased Calls-for-Service with people who are mentally ill.  In 2012, there were 168 Calls-for-Service, in 2013 there were 194 Calls-for-Service, and in 2014 there were 246 Calls-for-Service with regard to bringing the mentally ill for healthcare services (Committee on Health, Hospitals, and Human Services Testimonial, 2015).  At the

31st Legislature June 2015, the Chief Nursing Officer of Schneider Regional Medical Center (SRMC) stated that the Behavioral Health Unit (BHU) at SRMC renders inpatient services to adults who are experiencing acute mental health disorders such as bipolar, psychoses, and depression.  According to the psychiatrist at Governor Juan F. Luis Hospital & Medical Center on St. Croix (2015), the institution is attempting to bridge the gap in offering mental health services by adding additional services and space for mental health care.

Significance to Nursing

According to the Institute of Medicine (IOM) (2010), legislation passed in 2010 created a greater demand for healthcare services for an additional 32 million people.  Some challenges include management of chronic conditions, primary prevention, and a demand for better provision of mental health services.  IOM noted that the workforce of three million nurses can provide valid input to care as their roles are expanded (IOM, 2010).

Significance to Nursing in U.S.V.I

The health and mental health needs in the U.S.V.I. are vast.  One of the

greatest challenges is lack
of nurses obtaining graduate
degrees in mental health who
have expertise in diagnosing
and treating depressive
symptoms.  This dearth of
educated mental health nurses
has far reaching effects
regarding effects regarding
the quality of care that
people who have mental issues
in the U.S.V.I. receive.  As
noted by the IOB, nurses who
practice within the full
scope of their education have
the potential to meet health
care needs including mental
health needs of Afro
Caribbean women living in the
Virgin Islands.

Conceptual framework

This study was informed
by the conceptual framework
that guided the parent,
Marmot & Wilkinson (2006)
Social Determinants of Health
Framework.

## Conceptual Framework
• Social Determinants Of Health

Social Structure → Material Factors

Work

Social Environment → Psychological → Brain/Neuro-Endocrine & immune response

Health Behaviors

Early life

Genes Genotypes

Culture Ethnicity

Pathophysiological Changes

Well-Being Morbidity Mortality
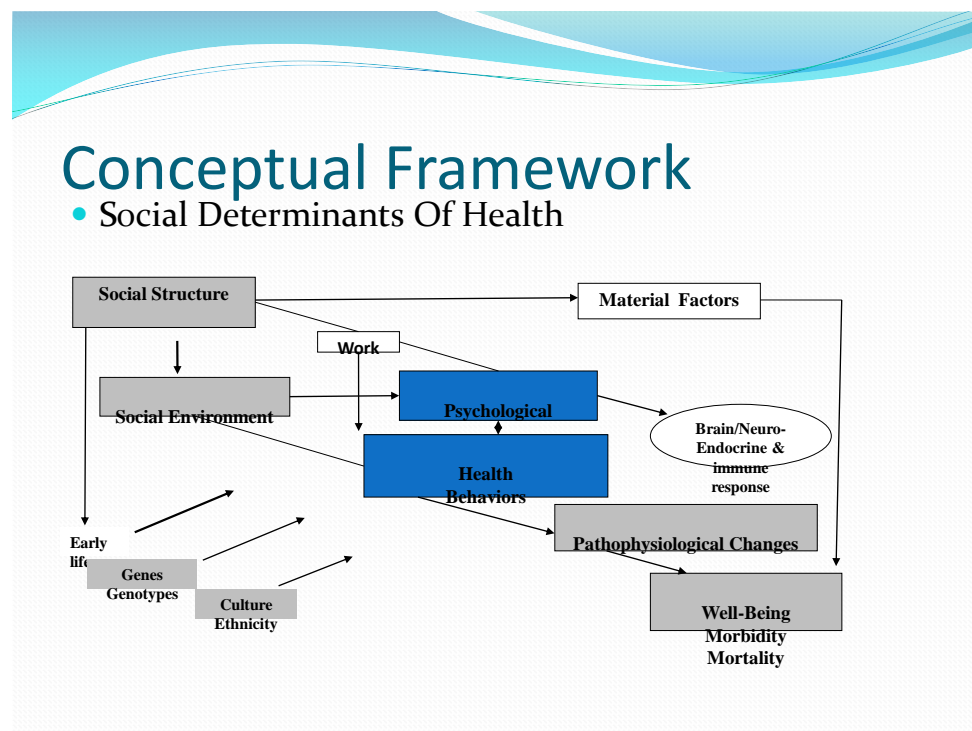
The Social
Determinants of Health
Framework describes pathways
that impact health.  For the

current study only the social structure, work as employment, and self-reported health as an indicator of well-being were included as potentials factors that may affect the presence of depressive symptoms.

Research Questions

The research questions that guided this study are:

1).  What is the level of depressive symptoms in Afro Caribbean women 40 years and older?

2).  What are the relationships between social structure (household income, employment status, education), and selected demographic characteristics

(age, marital status), and self-reported health, and depressive symptoms among Afro Caribbean women 40 years and older?

Theoretical definitions

Social structure is defined as a woman's house hold income, employment status and education. According to Mackenbach, et al. (2003) level of education and income can be used to represent socioeconomic status which can reflect social structure in societies.

Depressive symptoms are the psychological affect stress has on the mental processes (Brunner & Marmot, 2006).

Age is defined by the number of years of life.

Marital status is defined as being married, divorced, widowed and not married.

Self-reported is the woman's subjective evaluation of her health status.

Summary

Depression impacts people all around the world (WHO, 2012). Women are more prone to depression than men (Bromberger et al., 2012). Blacks from the Caribbean make up over 3% of the Black population in the United States (Jackson et al., 2003). Social determinants of health research have been

used to inform policy which would in turn produces healthier outcomes for populations (Marmot & Wilkinson, 1998). The current study has the potential to contribute to nurses' knowledge of the relationship between social structure, selected demographic characteristics and self-reported to the experience of depressive symptoms in Afro Caribbean women.

Figure 1.2 (Conceptual Model

for this research)
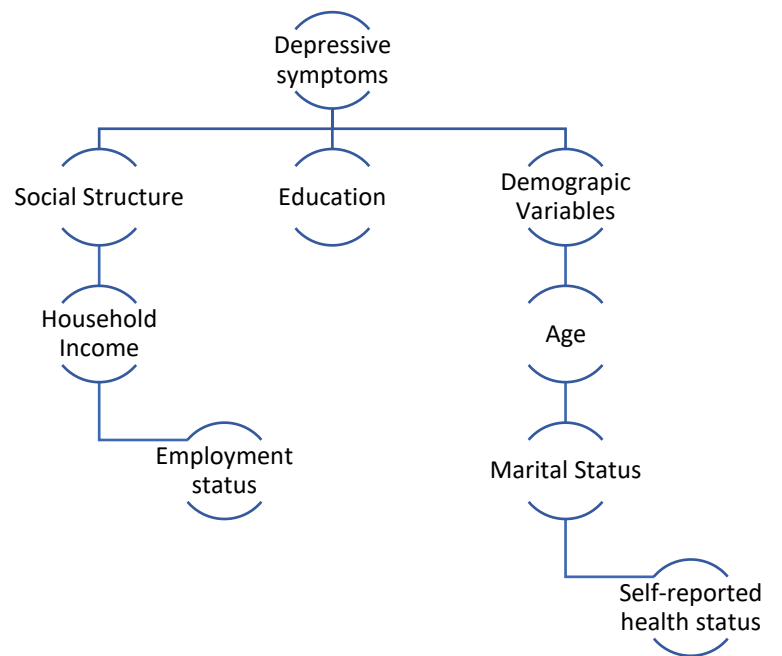
**Chapter 2**

REVIEW OF LITERATURE

The purpose of this research is to examine the relationships between social structure (household income, employment status, education), and selected demographic characteristics (age, marital status), and self-reported health, depressive symptoms in Afro Caribbean women. The chapter focuses on social determinants of health (Marmot et al., 1991) on health outcomes; description of depression and depressive symptoms; and specifically addresses depressive symptoms in Afro Caribbean women.

Social Determinants of Health

The White Hall study was a landmark study in the United Kingdom involving British civil servants in 1967.  The authors examined the association between social class, employment grade and mortality of diseases.  Disparities in health were observed in civil servants in the lower employment grades when compared with civil servants in the higher employment grades (Marmot et al., 1991). In order to asses if gaps in health disparities had narrowed or widened a new cohort in 1985 called the White Hall II examined social

class and morbidity among
6,900 men and 3,414 women 35-
55 years old.  The results
indicated that the higher the
employment grade the lower
prevalence of diseases
occurred.  For example, men
and women in the category
probable/possible ischemia on
ECG or angina was 7.6% for
males in the high employment
grade but 12.3% for males in
the lowest grade,
subsequently, 4.5% of women
in the high employment grade,
and 11.1% in the lowest
grade, reported
probable/possible ischemia on
ECG or angina (Marmot et al.,
1991).

   Marmot & Wilkinson
(2006)observed that life

expectance for people
residing in Scotland differed
according to their
geographical location within
that country.  People in
affluent neighborhoods lived
longer than people in poorer
neighborhoods in Scotland.
Also, the authors noted that
this observation was not only
endemic to Scotland but
disparities in life
expectancy were observed in
the United Kingdom, Russia,
Sweden, Iceland, and the
United States (Marmot &
Wilkinson, 2006).  The quest
to discover the disparities
surrounding this phenomenon
was carefully researched and
translated into action.
Marmot & Wilkinson (2006)
maintained the position that

people's social status help

to dictate health outcomes.

They examined a number of

internal and external

pathways that contributed to

the overall health and well-

being of people.

Depression

Clinical depression and

all major affective disorders

are classified according to

the Diagnostic & Statistical

Manual of Mental Health

Disorders DSM-IV-TR and the

most recent revision

designated as DSM V published

by the American Psychological

Association APA) in 2013.

According to the

American Psychiatric

Association (2013)depressive

disorders are an interruption

of mood.  The different
classifications of mood
disorders are: depressive
disorder, dysthymia,
premenstrual dysphoric
disorder,
substance/medication induced
depressive disorder, and
depressive disorder due to
another medical condition,
other specified depressive
disorder, and unspecified
depressive disorder.  APA
(2013) editors stated that
the DSM V has deviated
somewhat from the DSM IV
because it separates bipolar
related disorders from
depressive disorders.

People with depressive
disorders typically present
with symptoms such as being

sad, empty, and irritable while exhibiting somatic complaints and having changes in their cognitive abilities (APA, 2013). Depressive disorders symptoms may occur within days, weeks, months, or years and its origin may vary somewhat based on its classification. Regardless of which classification of depressive disorder, people who are diagnosed experience limitation that affect function and functional health (APA, 2013).

Pratt & Brody (2014) indicated that the prevalence of depression was greater for females across the life course. The statistics revealed the most frequent

prevalence of depression was

women aged 40-59.  Males of

the same category reported

depression at 7.2% and

females at 12.3%.  It was

further noted that at least

15% of people living below

the poverty level had

depression compared to 6.2%

who were equal to or above

the poverty level (Pratt &

Brody, 2014).  Also, 90% of

people with severe symptoms

of depression had difficulty

performing their work duties,

home functions, or engaging

in social activities because

of their depression.  Data

retrieved from United States

Household Survey indicated

that only 35% of the people

with severe depression, about

20% of people experienced

moderate depression, and 13%

had mild depression and

accessed mental health

services in the past year

(Pratt & Brody, 2014).

In the Women's Health

Across the Nation Mental

Health Study (SWAN MHS),

Colvin et al. (2014) examined

familial history of

depression in order to

predict major depression in

midlife women.  The

participants were 303 African

American and Caucasian women

42 to 52 years of age.  The

results indicated that women

with family history of

depression were three times

more likely to experience

major depression than those

who did not have family

history of depression (Colvin
et al., 2014).

Giurgescu et al. (2015),
examined neighborhood
quality, perceived stress,
and social support on
depressive symptoms for 1383
new African American mothers
during pregnancy.  The women
were between the ages of 18
to 45 years.  The four
measures for neighborhood
quality were: neighborhood
disorder, neighborhood
safety/danger, walking
environment, and overall
rating of the neighborhood.
The findings indicated that
low quality neighborhoods
were associated with greater
levels of depressive symptoms
during pregnancy (p=.011).

Once stressors were eliminated for the women and social support increased, the women had a higher level of mental well-being (Giurgescu et al., 2015).

The National Institute of Mental Health (NIH) (2015), state that depression may coexist with other biological illnesses such as heart disease, stroke, cancer, human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), diabetes, and Parkinson's disease (National Institute of Mental Health, 2015).

According to Sperner-Unterweger et al. (2014)

imbalance in adrenaline,

noradrenaline, and dopamine

leads to mood dysregulation.

Imbalances in hormones and

neurotransmitters are seen in

persons with infections,

autoimmune diseases, or

cancer. Depressive symptoms

can also occur because of

medication side effects,

development of disease, or

complications of disease

(Sperner-Unterweger et al.,

2014).

Dispnallet al. (2015)

examined the association

between dietary patterns,

diabetes, and depression.

The data was a secondary

analysis from the National

Health and Nutrition

Examination Surveys (NHANES)

(2009-2010).  There were 5000 subjects between the ages of 20-75 years enrolled in the study.  The results of the study indicated that subjects who had diabetes and had a healthy dietary intake were less likely to have depression (Dipnall et al., 2015).

Bromberger et al. (2011) conducted and obtained data from the Study of Women's Health Across the Nation (SWAN), and Colvin and colleagues 2014) the Mental Health Study (MHS).  There were 463 subjects enrolled in SWAN and 443 subjects in MHS. The age ranged from 42-52 years old.

Bromberger et al. (2011) examined the probability of women experiencing major depression in the perimenopausal stages.  There were 221 premenopausal African American and Caucasian women in the study. The results indicated that women were two to four times more likely to experience major depression in the perimenopausal stage and early postmenopausal period (Bromberger et al., 2011).

Colvin et al. (2014) examined family history of depression as a prediction for major depression for women in midlife transition. There were 303 African American and Caucasian women

enrolled in the study.  The results indicated that women with familial depression wee three times more likely to have a depression than those who did not have familial depression (Colvin et al., 2014).

Ward et al. (2014) focused on older African American women's lived experiences with depression and coping behaviors.  The qualitative study included 13 African American females 60 years of age and older. Participants were included if they had a score of 16 or higher on the Center for Epidemiologic Studies Depression Scale (CES-D). The mean score for the women

on CES-D was 24.5.  Women

excluded from the study were

those with suicidal ideation

and current use of

recreational drugs and

alcohol.  The women's

perceptions of depression

were a result of trauma,

poverty, and disempowerment.

Some of the women viewed

depression as a normal

reaction to circumstances

that occur in life;

therefore, there was no need

to seek healthcare services

for depression.  The women

coped with depression by

obtaining strength through

their faith and resilience

(Ward, 2014).

Meyer et al. (2014)

examined the influence of

social determinants of health on mental health and self-rated health.  The data for the study were obtained from the California Health Interview Survey 2009.  The subjects consisted of 47,614 adults with 70.7% White, 12.8% Latino, 10.9% Asian, 4.3% African American, 1.1% American Indian/Alaska Native, and 0.2% Pacific Islander.  Females accounted for about 50% of the sample and the average age was 45 years.  The results indicated that subjects with lower levels of income were less likely to exercise in their neighborhood because of safety concerns and this had a negative impact on mental health and self-rated health.

Depression in Caribbean

Lincoln & Chae (2012), Taylor et al. (2013), Assari (2014), and Manuel et al. (2012) obtained data from the National Survey of American Life (NSAL).  NSAL investigated the effect of mental health disorders on persons who were African American, Afro Caribbean, and Non-Hispanic White.  The sample included 3,570 African Americans, 1,621 Caribbean Blacks, and 891 Non-Hispanic White 18 years and older. Lincoln & Chae (2012) investigated emotional support, negative interaction and major depressive disorders among African Americans and Caribbean

Blacks.  Multivariable
logistic regression analyses
determined the subjects'
probability of experiencing
lifetime depressive disorder.
The findings indicated that
African American Blacks were
at greater risks for
developing major depressive
disorders (MDD) because of
constant exposure to
interpersonal conflicts and
criticisms from family
members.  African American
women had greater possibility
of MDD than men.  African
Americans who resided in the
Northeast and North Central
regions had greater
possibility of MDD than
African Americans who resided
in the South.  Caribbean
Blacks who never married had

higher MDD than married women.  Also, Caribbean Blacks who lived in the Northeast had lower prevalence of MDD than those residing in other locations on the mainland (Lincoln & Chae, 2012).

Taylor et al. (2013) examined nativity and country of origin differences in relation to comorbid mood, anxiety, and obsessive compulsive disorders among Caribbean Blacks in the United States.  Multinomial logistic regression analyses were done.  The results indicated that 72.67% of the subjects did not have a mood nor anxiety disorder.  About 7% had both anxiety and mood

disorders, 8% mood disorder only, and 11% anxiety disorder only. Caribbean women had lower incidences of anxiety disorders. Caribbean Blacks with both a mood and anxiety disorders (81%) accessed mental health services more frequently than Caribbean Blacks with either a mood or anxiety disorder.

Assari (2014), investigated the relationship between religious coping and the number of chronic medical conditions, and major depressive disorder (MDD)among African Americans, Caribbean Blacks and Non-Hispanic Whites. The results indicated that the higher the religious coping the lower

the rates of MDD within 12

months among Caribbean

Blacks.  Religious coping did

not have any significant

effect among the African

Americans nor the Non-

Hispanic Whites subjects.

According to Jackson et

al. (2001-2003), the National

Survey of American Life

(NSAL)was conducted to

explore the nature, severity,

and disabling effects of

mental illness in the Blacks

and non-Hispanic Whites in

the U.S. population.  A

secondary analysis of data

from the NSAL, by Gibbs et

al. (2013)indicated that

Blacks accounted for about

13% of the population in the

United States and more than

3% migrated from the Caribbean. There were 32,500 subjects who self-identified as African Americans, Caribbean Blacks, and non-Hispanic Whites (Gibbs et al., 2013). The similarity between Caribbean Blacks and United States Blacks were that they belonged to the same race and have their roots in the African continent. Differences included their geographical locations, educational preparation, socioeconomic status, and mental health. Caribbean Blacks live in the northeast or southern area of the United States. Whereas American Blacks have traditionally resided in the south (Gibbs et al., 2013).

The educational preparation
of the two groups also
suggested some variability
(Gibbs et al., 2013).  The
study indicated that 18.52%
of Caribbean Blacks had less
than high school diploma,
29.60% had a high school
diploma, and 51.88% had
college preparation.  Some
19.42% American Blacks had
less than high school
diploma, and 48% had college
preparation (Gibbs et al.,
2013).  With regards to
individual income, 50.16%
Caribbean Blacks earned $0-
19,999, 24.51% earned
$20,000-34,999, 35.43% earned
$35,000-69,999 and 4.83%
earned $70,000 or greater.
53.92% of American Blacks
earned $0-19,999, 24.52%

earned $20,000-34,999, 18.57%
earned $35,000-69,999 and
3.08% earned $70,000 or
greater (Gibbs et al., 2013).

Manuel et al. (2012)
also examined differences in
socioeconomic status with
African Americans, Black
Caribbeans, and Non-Hispanic
Whites in the United States.
The subjects ages were 18-94
years and about 54.13% of
them were women.  Forty
percent (40%) of the sample
were married, 26% never
married, 12% were divorced,
and 20% were separated,
cohabiting, or widowed.  The
average household income was
about $42,000.  The majority
of the subjects had attained
at least a high school

diploma and about 21% had a college degree.  The results indicated that Black Caribbeans were 20% more likely to obtain a college degree than African Americans.  With regards to income, Black Caribbeans reported an annual income of $53,00 and African Americans reported an income of $34,000.  Home ownership was dependent on Cairbbean Blacks residing in the United States for over 10 years.

Lastly, Gibbs et al, 2013 conducted a one month and life time prevalence and adjusted odds ratio for the DSM IV TR for Caribbean Blacks and American Blacks. The findings indicated that

2.22% of Caribbean Blacks had major depressive disorder and .23% had dysthymia.  4.58% of American Blacks had major depressive disorder and 1.19% had dysthymia.  Life time prevalence of major depressive disorder for Caribbean Blacks was 4.27% and 1.27% for dysthymia. While 9.10% of American Blacks had life time prevalence for major depressive disorder and 2.37% dysthymia (Gibbs et al., 2013).

Depression in and social factors of Afro Caribbean women

Lucea, M.B. et al. (2012) examined the effects of intimated partner

violence, depression and Post Traumatic Stress Disorders (PTSD) on disordered eating problems among African American and African Caribbean women. There were 781 women enrolled in the study with 327 from Baltimore, MD, 234 from St. Thomas U.S.V.I and 220 from St. Croix U.S.V.I. The age range was 18-55 years old. Eighty percent (80%) of the women had a high school diploma, 48% were employed, 69% had health insurance, and the annual income for 93% of women was less than $24,000. Six percent of the women reported eating disorders, 37% reported symptoms of depression, and 12% reported symptoms of PTSD. The

findings indicated that depression was the precursor for disordered eating.

The literacy rate in the U.S.V.I is between 90-95%. In addition, the islands have a relatively diverse population with: Black 76.2%, White 13.1%, Asian 1.1%, other 6.1%, and mixed 3.5% comprise the population. English is the predominant language but there are a percentage of the population who speak Spanish, French, or other languages (CIA, 2014). Employment in the U.S.V.I is as follows: there were 952 employed by the federal government, 10,071 employed by the territorial government, and 27,681

employed in the private
sector.  Exports to the U.S.
in refined petroleum was
$31.6 million and rum exports
were over $68 million
dollars.

Summary

In summary, although
depression begins with
dysregulation in mood it is
exhibited by its impact on
cognitive abilities, and
behavior.  People
experiencing depression are
not able to function at their
optimal level in society.
The findings by Lincoln &
Chae (2012) indicated that
Afro Caribbean women who are
single had higher levels of
major depressive disorder
than married women.  Research

indicated that Caribbean

Blacks are more apt to seek

mental health services when

both a mood disorder and

anxiety disorder coexisted

(Taylor et al., 2013).

## **CHAPTER 3**

METHODS

The purpose of this research is to examine the relationships between social structure (household income, employment status, education), and selected demographic characteristics (age, marital status), and self-reported health, and depressive symptoms in Afro Caribbean women.  This chapter describes the methodology, which includes setting, sample design, eligibility criteria, independent, demographic, and dependent variables, and how they will be operationalized in the proposed study.  Also, being discussed are the

procedures for recruitment of subjects, data collection, data management, data analysis, and protection of human subjects.  This research study is an extension from the parent study entitled: Health Status and Health Practices among African American and Afro Caribbean Women 2011 (NIH, 5P20MD002286) which was approved by Case IRB Protocol #20060635, and the University of the Virgin Islands.

Parent Study

The Parent study was a correlational descriptive logistic regression design.  The study examined how the participants perceived their health

status.  Upon completion of
the questionnaire women
received an incentive of
twenty dollars ($20.00).

Parent Study: Sample

The participants of the
study were 200 women, 40
years and older, from
Cleveland, Ohio and 200 women
from the USVI.  The inclusion
criteria were those women who
self-identified as African
American and Afro Caribbean
who had the ability to read
and understand English.

Parent Study: Measures

The independent
variables for the study were
access to health, life
events, health literacy, and
cost of care.  The

demographic variables were age, marital status, employment status, socioeconomic levels, education, and religion. The dependent variable was health status.

Parent Study: Recruitment

The participants were recruited from public schools, community centers, beauty shops, nail salons, churches, hospital clinic waiting rooms, and hospital employee pools. The subjects resided on St. Thomas, St. Croix, or St. John in the U.S.V.I.

Current Study

This is a retrospective correlational descriptive

study using secondary data analysis.  The study examined the relationships social structure (household income, employment status education), and selected demographic characteristics (age, marital status), and self-reported health, and depressive symptoms in African American and Afro Caribbean women.

Sample Setting

According to the Government of the United States Virgin Islands Healthy People 2010, females account for over 50% of the population.  When the women in the U.S.V.I. were categorized into age groups, there were over 30,000 women 40 years and older.  Less

than 10% of the women in the entire population were age 85 years and older (n= 767) (U.S.V.I. Government, 2010).

Study Sample

In the parent study the sample consisted of 200 women who self-identified as Afro American Afro Caribbean women 40 years and older who resided in the U.S.V.I. Subjects from the Parent Study who self-identified as African American or Afro Caribbean women,40 years of age and older, and resided in the U.S.V.I were included in the study. Subjects who did not complete the Beck Inventory instrument will be excluded from this study.

Measures

The variables measured for social structure include socioeconomics (household income and employment status) and education. Socioeconomics was operationalized by household income: What is your approximate total household income (before taxes) during the past year? 1). Under $10,000, 2). $10,000-$14,999, 3). $15,000-$19,000, 4). $20,000-$24,999, 5). $25,000-$29,999, 6). $30,000-$34,999, 7). $35,000-$39,999, 8). $40,000-$49,999, 9). $50,000-$99,999, 10). $10,000 and above.

Employment status was operationalized by: What is your employment status? 1).

Full-time, 2). Part-time, 3).
Not employed, 4). Other
(please describe).

Education was
operationalized by: 1). Less
than high school graduation,
2). High school graduate
(includes G.E.D), 3). Greater
than high school, but no
degree, 4). Technical trade/
Community college degree, 5).
Bachelor's Degree, 6).
Master's degree, 7).
Ph.D/Professional degree, 8).
Other (Please describe).

Demographic variables

The demographic
variables in the proposed
study are age, marital
status, and self-reported
health status.  Age was

operationalized by asking:
How old are you?

Marital status was
operationalized by: 1).
Single, 2). Married, 3).
Divorced, 4). Separated.

Self-reported health
status was operationalized
by: 1). Poor, 2). Fair, 3).
Good, 4). Excellent.

Dependent variable

Depressive symptoms were
measured using the Beck 1996
Depression Inventory (Beck,
1996).  The Beck 1996
Depression Inventory II (BDI-
II) is a revision from the
original Beck Depression
Scale (Beck, Steer, Ball, &
Ranieri, 1996).  The BDII is
comprised of 21 set of

statements where the subject reports how he/she is feeling in the past week on a scale from 0-3 with 0 meaning not at all to 3 meaning overwhelming (Beck, et al., 1996). The BDI-II was tested for reliability and validity with 140 psychiatric patients. The reliability was 0.91 and test re-test validity was 0.93 (Beck et al., 1996). Beck et al. (1996) recommended that the instrument's reliability and validity made it adequate for use in the clinical setting.

1). Minimal depression scores of 0-13, 2). Mild depression scores of 14-19, 3). Moderate depression scores of 20-28, and 4).

Severe depression scores of
29-63.

Procedures

Recruitment

Approval for the
proposed study was obtained
from the IRB at Case Western
Reserve University with
assistance from the primary
investigator of the Parent
Study.

For the proposed study
the sample consisted of the
200 women who self-identified
as Afro American Afro
Caribbean women 40 years and
older and who resided in the
U.S.V.I. at the time of the
Parent Study.  The principle
investigator of the parent
study identified those cases

which do not a complete Beck
Inventory.  Those cases were
deleted and the remaining
cases saved into a data base
for the current study only.
The data base included
selected variables
representing social
determinant factors and the
scores for the Beck Inventory
Scale.

Data Collection

Then data were extracted
from the Parent Study based
on inclusion criteria and
selected variables for the
current study.  The data
extracted did not include any
identifying data for the
study participants.

Data Management and
Analysis

The Statistical Package
for the Social Science (SPSS)
version 24 was used for data
entry and analysis.  Data
analysis began with
preparatory activities such
as the treatment of missing
data, identification of
outliers and other such data
cleaning tasks.  A detailed
descriptive analysis of all
quantitative data was
performed, involving the
summarization of data
techniques.  If statistical
assumptions were severely
violated, other statistical
procedures (i.e.,
nonparametric methods) was
employed.  The first phase of
the analysis was detailed
descriptive statistics to
characterize the

distributions including
measures of central tendency
(mean, median, and mode) and
dispersion (range, variance,
standard deviation) for
continuous variables and
frequency distributions for
the categorical variables.

Research Question 1:
What is the level of
depressive symptoms in Afro
Caribbean women 40 years and
older? To address Research
Question 1, frequency
distribution of the total
score of the Beck Depression
scale are reported.

Research Question 2:
What are the relationships
between the demographic
characteristics and
depressive symptoms among

Afro Caribbean women 40 years and older?  To address this research question, Pearson's correlation analysis was used to determine the significance of the relationship between demographic characteristics and depressive symptoms. Spearman rank correlation coefficient was considered if the normality assumptions were not met.

Protection of Human Subjects

The risks of the proposed study to human subjects were minimal.  The proposed study was a secondary analysis, thus there were no direct with study participants.

Summary

The proposed research examined the social determinants of health variable social structure (household income and employment status), and education.  The demographic and personal characteristics variables included age, marital status, and self-reported health status.  The dependent variable was depressive symptoms.

**<u>Chapter 4</u>**

RESULTS AND DISCUSSION

The purpose of this research is to examine the relationships between social structure (household income, employment status, education), and selected demographic characteristics (age, marital status), and self-reported health, and depressive symptoms in Afro Caribbean women. This chapter describes and discusses the results of the research.

Results

As indicated in Table 1, the mean age for sample of 126 U.S.V.I. participants was 55.26 years (SD=10.07). More

than 34% of the participants were married and almost 60% were employed full time. The median income was $37,500 and more than 35% reported an annual income of $50,000 or higher. The majority (58%) of the participants had an education that exceeded the high school level. About 57% of the participants classified their health as "good".

Research Question 1:

What is the level of depressive symptoms in Afro Caribbean women 40 years and older?

Analysis:

The mean total score for the BDI-II was 5.55 (SD=

5.95).  Based on the cutoff

scores and interpretive

labels, 114 participants

(90.48%) scored in the

minimal range (0-13), 9

(7.14%) in the mild range

(14-19), 1 (0.79%) in the

moderate range (20-28) and 2

(1.59%) in the severe range

(29-63%) (Table 1).  The

coefficient alpha of the BDI-

II scale was 0.87, suggesting

that the BDI-II exhibited a

high level of internal

consistency for the study

sample.

| Table 1.  Sample Characteristics  (n = 126) | | |
|---|---|---|
| **Variables** | **Mean** | **St. Deviation** |
| **Age (in years)** | 55.26 | 10.07 |
| **BDI-II Total Score** | 5.55 | 5.95 |
| **Variables** | **N** | **%** |
| **Marital Status** | | |
|    Married | 56 | 44.44 |
|    Divorced | 22 | 17.46 |
|    Single (never married) | 34 | 26.98 |
|    Widowed | 12 | 9.52 |
|    Separated | 2 | 1.59 |
| **Employment Status** | | |
|    Employed full-time | 75 | 59.52 |
|    Employed part-time | 9 | 7.14 |
|    Not Employed | 12 | 9.52 |
|    Other | 30 | 23.81 |
| **Household Annual Income** | | |
|    Under $10,000 | 7 | 5.56 |
|    $10,000 - $14,999 | 15 | 11.90 |
|    $15,000 - $19,999 | 9 | 7.14 |
|    $20,000 - $24,999 | 11 | 8.73 |
|    $25,000 - $29,999 | 8 | 6.35 |
|    $30,000 - $34,999 | 9 | 7.14 |
|    $35,000 - $39,999 | 8 | 6.35 |
|    $40,000 - $49,999 | 14 | 11.11 |
|    $50,000 - $99,999 | 38 | 30.16 |
|    $100,000 or above | 7 | 5.56 |
| **Education** | | |
|    Less than high school | 19 | 15.08 |
|    High School | 33 | 26.19 |
|    Greater than high school | 21 | 16.67 |
|    Community college | 14 | 11.11 |
|    Bachelor's Degree | 20 | 15.87 |
|    Master's Degree | 16 | 12.70 |
|    Doctorate | 1 | 0.79 |
|    Other | 2 | 1.59 |
| **Self-Reported Health Status** | | |
|    Poor | 3 | 2.38 |
|    Fair | 32 | 25.40 |
|    Good | 72 | 57.14 |
|    Excellent | 19 | 15.08 |
| **BDI-II Classification** | | |
|    Minimal | 114 | 90.48 |
|    Mild | 9 | 7.14 |
|    Moderate | 1 | 0.79 |
|    Severe | 2 | 1.59 |

Research Question 2:

What are the relationships between social structure (household income, employment status, education), selected demographic characteristics (age, marital status), and self-reported health and depressive symptoms among Afro Caribbean women 40 years and older?

Analysis:

Using Spearman correlation analysis, the results indicates that the relationships between the total scores in BDI-II scale and age ($r = 0.02$, $p = 0.841$) and education ($r = -0.05$, $p = 0.548$) were statistically non-significant. However,

the relationship between

total scores in BDI-II scale

and income (r = -0.21, p =

0.019) was statistically

significant.  The higher

income was significantly

associated with lower BDI-II

total score, i.e. higher

income was related to lower

depressive symptoms.  In

addition, using the Kruskal-

Wallis Test, the analysis did

not support the association

between total scores in BDI-

II scale and employment

status (chi-square = 0.26, p

= 0.879) and marital status

(chi-square = 8.48, p =

0.076).  However, there was a

significant association

between total scores in BDI-

II scale and self-reported

health status (chi-square =

24.82, p < 0.0001); those who
reported their health status
as "poor: or "fair" had
significantly higher total
scores in BDI-II scale
compare to those identified
their health status as "good"
or excellent."

Discussion

Research Question 1:

What is the level of
depressive symptoms in Afro
Caribbean women 40 years and
older?

Over 90% of the women in
this study had minimal to
mild depressive symptoms on
the Beck Depression Inventory
1996.  This finding does not
agree with the reports of
higher incidences of

depressive symptoms in women.
Additionally, over 58% of the
Afro Caribbean women in this
study had greater than a high
school diploma which may
affect socioeconomic status.

Research Question 2:

What are the
relationships between social
structure (household income,
employment status,
education), and selected
demographic characteristics
(age, marital status), and
self-reported health, and
depressive symptoms among
Afro Caribbean women 40 years
and older?

In this study, income
has a significant inverse
relationship to depressive
symptoms, and self-rated

health had a significant
positive association with BDI
scores.  These findings are
consistent with a study by
Meyer et al., (2014), that
indicated there was a strong
association between socio-
economic status and self-
rated health.  Additionally,
Manuel et al. (2012) study
reported that Afro Caribbeans
were more educated and had a
higher level of socio-
economic status than African
Americans counterparts.

## **Chapter 5**

Summary

The purpose of this research is to examine the relationships between social structure (household income, employment status, education), and selected demographic characteristics (age, marital status), and self-reported health, and depressive symptoms in Afro Caribbean women. This chapter summarizes pertinent findings, research limitations, implications for nursing, and future recommendations.

A retrospective, correlational descriptive study used a secondary data set for analysis. Th

participants resided on St. Thomas, St. Croix, and St. John in the U.S.V.I. Participants were recruited from a variety of places within U.S.V.I. including: hospital employee pools, beauty shops, public schools, churches, hospital clinic waiting rooms, and community centers. Participation in the study was voluntary and participants were free to withdraw from the study without any penalty.

Only 126 of the 200 participants were eligible for the current study. The mean age for the participants was 55 years; more than 49% were married; and, almost 60% were employed full-time. The

median income was $37,500 and
35% of the women reported an
annual income of $50,000 and
higher.  Over 50% of the
participants' education
exceeded the high school
level.  About 57% of the
participants classified their
health as "good".

Pertinent Findings

The participants who
reported their health to be
poor, scored in the moderate
(.79%) to severe range
(1.59%) for depressive
symptoms.  Of the 32
participants who reported
their health as fair only
nine exhibited mild
depressive symptoms.  About
35% (43) of the participants
income was $50,000 and

greater. There was a statistical significance relationship between annual income and depressive symptoms. Self-rated health was significantly associated with depressive symptoms.

Limitations

There were several limitations to the research. First, a secondary data set was used so that one had to use the variable measures used for the parent study. This can raise measurement issues with the data set and the lack of the ability to include certain relevant measures. The internal validity of the study cannot be fully assessed regarding

procedures and data collection.

The women in the study sample were more highly educated and had greater incomes than expected in the general population of Afro Carribean women so caution must be taken in generalizing findings to other groups and samples. In addition, the women in the sample had fewer depressive symptoms than what is reported in other literature so there can be a lack of variability.

Implications for Nursing Knowledge

The study findings can enhance the body of knowledge about factors related to

depressive symptoms in Afro
Caribbean women in the
U.S.V.I. When these women
report their health to be
fair or poor they need
evaluation for levels of
depressive symptoms.  Factors
that may identify risks for
depressive symptoms include
income and self-reported
health.  The prevalence of
mental illnesses continues to
rise around the world and
nurses need to understand how
to care for diverse
populations, especially the
Afro Caribbean women,
diagnosed with mental health
disorders.

Practice

The findings for this
research will be shared with

the Virgin Islands State
Nurse Association (VISNA).
The researcher can be one of
the speakers at VISNA's
annual in-service education
for RN recertification.

Education

Findings from this
research maybe shared with
faculty and students in
nursing education programs.
Of note is sharing the
information about the
relationship between income
and depressive symptoms; and
the association of self-
reported health status and
depressive symptoms in Afro
Caribbean women.

Policy

Policy maybe influenced by sharing findings with: SAMHSA; governmental facilities within the U.S.V.I. which provide mental health services to the population; and, the Mental Health Board of U.S.V.I.

Recommendations for Research

A longitudinal study of factors related to depressive symptoms in Caribbean women, including familial histories of depression has the potential to determine a better predictive risk model of risk for depressive symptoms and clinical depression.  Future research should include a more socioeconomically diverse

population of women.  Also,
there should be recruitment
of a sample with greater
diversity in educational
level specifically women who
did not complete high school.

**<u>Bibliography</u>**

American Psychiatric Association
(2013).  Diagnostic and
Statistical Manual of Mental
Disorders 5th ed. Washington,
D.C.: American Psychiatric
Association.

American Psychological Association
(2015).  Mental and behavioral
health and older Americans.
Retrieved from
http://www.apa.org/print-
this.aspx.

Assari, S. (2014).  Chronic medical
conditions and major depressive
disorder: Differential role of
positive religious coping among
African Americans, Caribbean
Blacks and Non-Hispanic Whites.
*International Journal of*

*Preventive Medicine* 5(4), 405-413.

Beck, A.T., Steer, R.A., Ball, R., & Ranieri W. (1996). Comparison of Beck Depression Inventories-IA-II in psychiatric outpatients. *Journal of Personality Assessment* 67, 588-597.

Bromberger, J.T., Kravitz, H.M., Chang, Y.F., Cyranowski, J.M., Brown, C., & Matthews, K.A. (2011). Major depression during and after the menopausal transition: Study of women's health across the Nation (SWAN). *Psychological Medicine*, 41(9), 1879-1888.

Brown, C., Bromberger, J.T., Schott, L.I., Crawford, S., & Matthews,

K.A. (2014). Persistence of
depression in African American
and Caucasian women at midlife:
Findings from the Study of Women
Across the Nation (SWAN).
*Archives Women Mental Health* 17,
549-557.

Brunner, E., Marmot, M.(2006).  Social
organization, stress, and
health.  In Marmot, M.,&
Wilkinson R.G. (Eds).  Social
Determinants of Health 2nd
edition. (pp.6-30). Great
Britain: Oxford University
Press.

Bumberry, W., Oliver, J.M., & McClure,
J.N. (1978).  Validation of the
Beck Depression Inventory in a
university population using
psychiatric estimate as the

critierion. *Journal of Consulting and Clinical Psychology*, 46(1), 150-155.

Centers for Disease Control and Prevention (2015).  Depression. Retrieved from http://cdc.gov/workplacehealthpromotion/implementation/topics/depression.html

Central Intelligence Agency. [Accessed 26 March 2015]' World  factbook: Virgin Islands 2014. Available from: https://www.cia.gov/library/publications/the-world-factbook/geos/vg.html.

Chakraborty, A., King, M. , Leavey, G., & McKenzie, K. (2011). Perceived racism, medication adherence, and hospital admission in African-Caribbean

patients with psychosis in the
United Kingdom. *Social
Psychiatry Psychiatr Epidemiol*
46, 915-923

Chatters, L.M., Taylor, R.J., Lincoln,
K.D., Nguyen, A. & Joe, S.
(2011). Church-based social
support ad suicidality among
African Americas and Black
Caribbeans. *Archives of Suicide
Research* 15, 337-353.

Colvin, A., Richardson, G.A.,
Cyranowski, J.M., Youk, A., &
Bromberger, J.T. (2014). Does
family history of depression
predict major depression in
midlife women? Study of women's
health across the Nation Mental
Health Study (SWAN MHS).
*Archive Women Mental Health* 17,
269-278.

Committee on Health, Hospitals, and
     Human Services Testimonial, 2015


De Maynard, V.A. (2009).  Dissociation
     in Black or Black-British People
     of African and African-Caribbean
     Descent in the United Kingdom.
     *International Journal of Mental
     Health* 38(2), 37-73


Deuster, P. A., Dorner-K., S.J.,
     Remaley, A.T., & Poth, M.
     (2011).  Allostatic load &
     health status of African
     Americans & Whites.  *American
     Journal of Health Behavior*,
     34(6), 641-653


Dipnall, J.F., Pasco, J.A., Meyer, D.,
     Berk, M., Williams, L.J., Dodd,
     S., & Jacka, F.N. (2015).  The

association between dietary
patterns, diabetes, and
depression. *Journal of
Affective Disorders* 174, 215-
224.

Disability Rights Center of the Virgin
Islands (2008). Working toward
an effective mental health care
system in the United States
Virgin Islands.

Fava, M.A., Stephen, Stephen, J.R.,
Andrew, W.A., Nierenberg, J.E.,
Alpert, P.J., McGrath, M.E.,
Thase,D.W., Biggs, M., Luther,
J.F., Niederelie, G., Ritz,
Louse, & Trivedi, M.H. (2006).
A comparison of mirtazapine &
nortryptysline following two
consecutive failed medication
treatments for depressed
outpatient: A STAR*D Report.

*American Journal of Psychiatry* 163(7), 1161-1172.

Ferguson, T.S., Tulloch-Reid, M.K., Cunningham-Myrie, C.A., Davidson-Sadler, T., Copeland, S., Lewis-Fuller, E., & Wilks, R.J. (2011).  Chronic disease in the Caribbean:  Strategies to respond to the Public Health Challenge in the region:  What can we learn from Jamaica's experience*?  West Indian Medicine Journal*, 60(4), 397-410.

Fortinash, K.M. & Holoday-Worret, P.A. (2012).  Psychiatric Mental Health Nursing 5th ed. Nursing. St. Louis: Elsevier.

Gary, F.A. & Yarandi, H.N (2004). Depression among southern rural

African American women: A factor
analysis of the Beck Depression,
Inventory-II. *Nursing Research*,
53(4), 251-259.


Gibbs, T. A., Okuda, M., Oquendo, M.A,
Lawson, W.B., Wang, S., Thomas,
Y.F., & Blaco, C. (2013).
Mental health of African
Americas and Caribbean Blacks in
the United States: Results from
the National Epidemiological
Survey on alcohol and related
conditions. *American Journal of
Public Health*, 103 (2), 330-338.


Giurgescu, C., Misra, D.P., Sealy-
Jefferson, S., Caldwell, C.H.,
Templin, T.N., Slaughter-Acey,
J.C., & Osypuk, T.L. (2015). The
impact of neighborhood quality,
perceived stress, and social
support on depressive symptoms

during pregnancy in African American women. *Social Science & Medicine* 130, 172-180.

Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: A systematic analysis for the Global Burden of Disease Study (2013).  Retrrieved from http://dx.doi.org

Hamilton, J.B., Deal, A.M., Moore, A.D., Best, N.C., Galbraith, K.V., & Muss, H. (2013). Psychosocial predictors of depression among older African American patients with cancer. *Oncology Nursing Forum* 40(4), 394-402.

Insel T. (2015).  Four things leaders
      need to know about mental
      health.  National Institute of
      Mental Health.


Institute of Medicine (2010).  The
      future of nursing, leading
      change, advancing health. IOM
      Consensus Report 2010.


Institute of Medicine (2012).  The
      mental health and substance use
      workforce for older adults in
      whose hands?


Jackson, J.S., Torres, M., Caldwell,
      C.H., Neighbors, H.W., Nesse,
      R.M., Talylor R.J., Trierweiler,
      S.J., & Williams, D.R. (2004).
      The national survey of American
      life: A study of racial, ethnic
      and cultural influences on
      mental disorders and mental

health. International Journal of
Methods in *Psychiatric Research*
13 (4), 196-207.


Jackson, K.I., Janssen, I., Appelhans,
B.M., Kazbuskaite, R.,
Karavolos, K., Dugan, S.A.,
Avery, E.A., Shipp-Johnson,
K.J., Powell, L.H., & Kravitz,
H.M. (2014). Body image
satisfaction and depression in
midlife women; The Study of
Women's Health Across the Nation
(SWAN*). Archives Womens Mental
Health* (17), 177-187.


Karakus, M.C., & Okunade, A.A. (2012).
Obesity, depression, and
employment related outcomes
among workers near retirement.
*Ageing International* 37, 238-
253.

Kessler, R.C., Petukhova, M., Sampson, N.A., Zaslavsky, A.M., & Wittchen, H.U. (2012). Twelve-month and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States. *International Journal of Methods in Psychiatric Research* 21(3),169-184.

Lincoln, K.D., & Chae, D. H. (2012). Emotional support, negative interaction and major depressive disorder among African Americans and Caribbean Blacks: findings from the National Survey of American Life. *Social Psychiatry Psychiatr Epidemiol* 47, 361-372.

Lincoln, K.D., Taylor, R.J., Chae, D.H., & Chatters, L.M. (2010).

Demographic correlates of
psychological well-being and
distress among older African
Americas and Caribbean Black
adults. *Best Practices in Metal
Health* 6(1), 103-126.

Lucea, M.B., Francis, L., Sabri, B.,
Campbell, D.W., & Campbell, J.C.
(2012). Disordered eating among
African American and African
Caribbean Women: The influence
of intimate partner violence,
depression, and PTSD. *Issues in
Mental Health Nursing* 33, 513-
521.

Lynn Hammon (2009). Dissertation.
Case Western Reserve University

Maheswaran, H., Kupek.E., & Petrou, S.
(2015). Self-reported health
and socio-economic inequalities

in England, 1996-2009: Repeated
national cross-sectional study.
*Social Science & Medicine* (136-
137), 135-148.


Manuel, R.C., Taylor, R.J., & Jackson,
J.S. (2012).  Race and ethnic
group differences in socio-
economic status: Black
Caribbeans, African Americans
and Non-Hispanic Whites in the
United States. *The Western
Journal of Black Studies* 36(3),
228-238.


Marmot, M.G., Smith, G.D., Stansfeld,
S., Patel, C., North, F., Head,
J., White, I., Brunner, E., &
Feeney, A. (1991). *The Lancet.*
Health inequalities among
British civil servants: The
Whitehall II study 337, 1387-
1393.

Marmot, M.,& Wilkinson R.G. (2006).
    Social Determinants of Health 2<sup>nd</sup>
    edition.  Great Britain: Oxford
    University Press.


Meili R. (2015).  How to make the
    social determinants of health
    matter: An interview with Sir
    Michael Marmot.  Retrieved from
    http://www.thinkupstream.net/mar
    mot_interview.


Meyer, O.L., Castro-Schilo, L., &
    Aguilar-Gaxiola, S. (2014).
    Determinants of mental health &
    self-rated health: A model of
    socioeconomic status,
    neighborhood safety, & physical
    activity.  *Peer Reviewed
    Research and Practice*,1734-1741.

National Alliance on Mental Illness

    (2015). Depression. Retrieved

    from https.//www.nami.org/learn-

    more/mental-health-

    conditions/depression.

National Institute of Mental Health

    (2015). Depression

Oluwatayo, O., & Gater, R. (2004).

    The role of engagement with

    services in compulsory admission

    of African/Caribbean patients.

    *Social Psychiatry Psychiatr*

    *Epidemiol* 39, 739-743

Porter, S.N. & Pacquaio, D. (2011).

    Social & cultural construction

    of depression among African

    American women. *UPNAAI Nursing*

    *Journal*, 7(1) 13-5 & 17-9

Pratt, L.A. & Brody, D. (2014).
Depression and obesity in the
U.S. adult household population,
2005-2010.  National Center for
Health Statistics.

Pratt, L.A. & Brody, D. (2014).
Depression in the U.S. household
population, 2009-2012.  National
Center for Health Statistics.

Sheppard, V.B., Harper, F.W.K, Davis,
K., Hirpa, F., & Makambi, K.
(2014).  The importance of
contextual factors and age in
association with anxiety and
depression in Black breast
cancer patients. *Psycho-Oncology*
23, 143-150.

Sisley, E.J., Hutton, J.M., Goodbody,
C.L., & Brown, J.S.L (2011).  An
interpretative phenomenological

analysis of Africa Caribbean
women's experiences and
management of emotional
distress. *Health & Social Care
in the Community*, 19(4), 392-402

Solar, O. & Irwin A. (2010). A
Conceptual Framework for Action
on the Social Determinants of
Health: Social Determinants of
Health Discussion Paper 2
(Policy and Practice).

Sperner-Unterweger,B., Kohl,C.,&
Fuchs,D. (2014). Immune changes
and neurotransmitters: Possible
interactions in depression?
*Progress in Neuro-
Psychopharmacology & Biological
Psychiatry* 48, 268-276.

Substance Abuse and Mental Health
Services Administration (2015).

Mental and substance use
disorders.  Retrieved from
http://www.samhsa.gov/disorders/
mental


Sutton, P. (2012).  The European Union
and the Caribbean Region:
situating the Caribbean Overseas
countries and territories.
European Review of Latin
American and Caribbean Studies
93, 79-94.


Taylor, R.J., Nguyen, A.W., Sinkewicz,
M., Joe, S., & Chatters, L.M.
(2013).  Cormorbid mood and
anxiety disorders, suicidal
behavior, and substance abuse
among Black Caribbeans in the
U.S.A. Journal of African
American Studies 17, 409-425.

Tomilnson, M. (Ed) (2013).  Global
        mental health: A Sustainable
        post millennium development
        goal? International Health
        (5,)1-3


U.S. Virgin Islands (2000-2003).  U.S.
        Virgin Islands. Retrieved
        February 17,2003 from
        Infoplease.com.
        http://www.infoplease.com/ipa/Ao
        113951.html


United States Virgin Islands
        Government (2010) Census
        Reports.


U.S.V.I Police Department Testimonial
        2015.


Waite, R. & Killian, P. (2008).
        Health beliefs about depression

among African American women.
*Perspectives in Psychiatric Care*, 44(3), 185-195.


Wang, H.D., Dwyer-Lindgren, L.,
Lofgren, K.T., Rajaratnam, J.K.,
Marcus, J.R., Levin-Rector, A.,
Levitz, C.E., Lopez, A.D., &
Murray, C.J.L (2012).  Age-
specific and sex-specific
mortality in 187 countries,
1970-2010: A systematic analysis
for the Global Burden of Disease
Study 2010. Lancet 380, 2070-
2094.


Ward, E.C., Mengesha, M., & Issa, F.
(2014).  Older African American
women's lived experiences with
depression and coping behaviors.
*Journal of Psychiatric and
Mental Health Nursing* 21, 46-59.

Whiteford, H.A., Degenhandt, L., Rehm,
J., Baxter, A.J., Ferrari, A.J.,
Erskine, H.E., Charlson, F.J.,
Norman, R.E, Flaxman, A.D.,
Johns, N., Burstein, R., Murray,
C.J.L, & Vas. T. (2013).  Global
burden of disease attributable
to mental and substance use
disorders: findings from the
Global Burden of Disease Study
2010. Lancet, 1-11.


Wilbur, J., Zenk, S., Wang, E., Oh,
A., McDevitt, Block, D., McNeil,
S., & Ju, S. (2010).
Neighborhood characteristics,
adherence to walking, &
depressive symptoms in midlife
African American women.  *Journal
of Women's Health (Larchmt)*,
18(8), 1201-1210. doi.
10189/jwh.2008.1168.

Wilkinson, R. & Marmot M. (Eds.)
(2003). Social Determinants of
Health: The Solid Facts (2nd ed).
World Health Organizations.


World Federation for Mental Health
(2012). Depression: A global
crisis.


World Health Organization (2012).
Depression Fact Sheet. Retrieved
from
http://who.int/mediacentre/facts
heets/fs369/en/