health watch

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

June 2010 No. 76

The Burden of Depression and Anxiety in Colorado: Findings from the Colorado Behavioral Risk Factor Surveillance System, 2008

Kieu O. Vu, M.S.P.H; Alyson Shupe, Ph.D., Colorado Department of Public Health and Environment; Ann M. Jones, Ph.D.; John Hamilton, MBA, Colorado Division of Behavioral Health, Colorado Department of Human Services

Introduction

Depression and anxiety are leading causes of mental health disorders and are associated with the increased risk of morbidity, mortality, poor quality of life, and risk factors for noncompliance of medical treatment as well as contributors to the increase in the severity of a disease. Although mental health is an important public health issue and an important piece of disease prevention and health promotion, little is known about the burden of depression and anxiety in Colorado.

In 2008, the Colorado Behavioral Risk Factor Surveillance System (BRFSS) at the Colorado Department of Public Health and Environment included an Anxiety and Depression Module in order to produce population-based prevalence estimates of adult depression and anxiety in the state. The following report summarizes the prevalence of current depression and lifetime anxiety among Colorado adults and examines the relationships between depression and anxiety, and sociodemographics, health behaviors, chronic diseases, quality of life, health status, and health care access.

Methodology

The Colorado BRFSS is a telephone survey conducted by random-digit dialing of adults 18 years and older living in a household with a landline telephone. The survey is an important tool for surveillance and evaluation of health behaviors and chronic health conditions among the adult population. It is conducted annually by the Survey Research Unit of the Colorado Department of Public Health and Environment in collaboration with the Centers for Disease Control and Prevention. In 2008, the depression and anxiety questions were administered to a total of 5,884 adults or approximately half of the total sample.

The Anxiety and Depression Module included eight questions from the Patient Health Questionnaire (PHQ-8), an instrument that can establish provisional depressive disorder diagnosis using the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria.[1] A depression severity scale was created to derive a total score from the PHQ-8 ques-

Colorado Department of Public Health and Environment

Health Statistics Section

Alyson Shupe, Ph.D., Section Chief
Monica Clancy
Kieu Vu, M.S.P.H.

Maternal and Child Health Surveillance Unit
Rickey Tolliver, M.P.H., Director
Janelle Mares
Irene Pinela

Public Health Informatics Unit
Chris Wells, M.S., Director
Geoff Bock
Doug Duncan
Gloria Mora
Jeff Scott
Bruce Straw
Paul Turtle

Survey Research Unit
Becky Rosenblatt, M.A., Director
Mark King
Michael Poisson
Ava Williams

Vital Statistics Unit
Mary Chase, Director
Kirk Bol, M.S.P.H.
Juanita Galvan
Yvonne Garcia

4300 Cherry Creek Drive South
Denver, Colorado 80246-1530
(303)692-2160
(800)886-7689

health.statistics@state.co.us
www.cdphe.state.co.us/hs/

tions. The number of days during which symptoms were reported was converted to points; the points were summed across the eight questions to determine the severity of depressive symptoms. Scores ranged from 0 to 27. Cut-points of 5, 10, 15, and 20 represent the threshold for mild, moderate, moderately severe, and severe depression. In this report, a cut-off score of 10 points or more was used to define *current depression*. For the remainder of this paper, the terms depression and current depression are used interchangeably.

The Anxiety and Depression Module also included a question that asked respondents if a healthcare provider ever told them they had an anxiety disorder (including acute distress disorder, anxiety, generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, phobia, posttraumatic stress disorder, or social anxiety disorder). This question was used to estimate the prevalence of ever having a diagnosis of anxiety in a respondent's lifetime. Ninety-five percent confidence intervals (CI) were calculated in order to assess statistical differences between current depression or lifetime anxiety diagnosis status by selected demographics, health behaviors, and health conditions. Non-overlapping CIs between the various groups indicated a statistically significant difference. Data were analyzed using SAS v9.2.

Results

Sociodemographics

Table 1 shows the prevalence of current depression and lifetime anxiety diagnosis by selected socio-economic variables. Survey results indicate that approximately 228,417 adults or 7 percent of the total adult population in Colorado met criteria for current depression. Additionally, an estimated 422,050 (12%) Colorado adults have ever been diagnosed with anxiety in their lifetimes.

Age

Adults in the age group 70 or older had a lower prevalence of depression and anxiety compared to other age groups.

Gender

There was no difference in the prevalence of current depression between men and women while lifetime anxiety was more common among women (14.8%) compared to men (9.8%).

Education

There was a smaller prevalence of current depression among respondents who had a college education or greater. For lifetime anxiety, there was no difference by education level.

Race/Ethnicity

Hispanics (10.7%) had a higher prevalence of current depression compared to non-Hispanic Whites (5.9%). There was no difference between racial ethnic groups with respect to ever being diagnosed with anxiety.

Marital Status

Both the prevalence of current depression and lifetime anxiety was highest among those who were previously married or those never married compared to those who were married.

Employment

Those who were unemployed (18.8%) or unable to work (40.9%) had a higher prevalence of depression compared to persons who were employed (5.0%). Similarly, adults who were unemployed (19.9%) or unable to work (42.4%) had higher estimates of lifetime-diagnosed anxiety compared to adults who were employed (10.3%).

Sexual Orientation

There was no difference in the prevalence of current depression or a lifetime diagnosis of anxiety by a person's sexual orientation.

Adverse Health Behaviors & Obesity

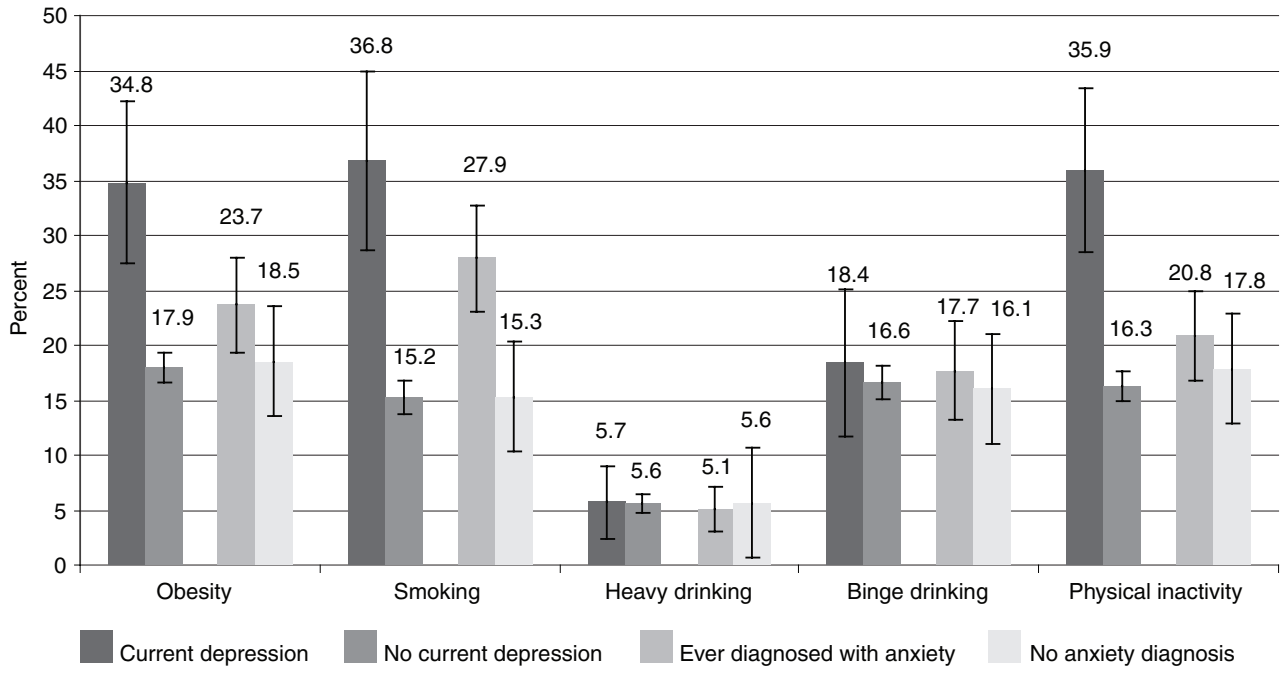
Figure 1 illustrates Colorado adults with current depression were more likely to be obese, current smokers, and physically inactive compared to adults without current depression. Of the selected adverse health behaviors, only current tobacco use was higher among adults who had been diagnosed with anxiety at some time in their lives.

Table 1. Prevalence of current depression and lifetime anxiety by selected sociodemographic characteristics, Colorado adults, BRFSS, 2008

	Depression			Anxiety		
	Weighted population estimate	Percentage	95% C.I.*	Weighted population estimate	Percentage	95% C.I.*
All Adults	228,417	7.0	6.0-8.1	422,050	12.3	11.1-13.4
Age Group						
18-29	70,860	11.1	7.1-15.1	104,181	15.6	11.5-19.7
30-49	88,640	6.2	4.9-7.6	167,759	11.5	9.7-13.2
50-69	60,089	6.5	5.3-7.6	125,625	12.7	11.2-14.2
70+	8,827	3.5	2.2-4.7	21,600	7.2	5.4-9.0
Sex						
Male	102,452	6.2	4.5-8.0	168,149	9.8	8.1-11.4
Female	125,965	7.8	6.5-9.0	253,902	14.8	13.2-16.4
Race and Ethnicity						
White	150,926	5.9	4.9-7.0	336,176	12.5	11.2-13.8
Black	6,034	9.9	3.2-16.6	8,723	12.9	4.2-21.6
Hispanic	52,464	10.7	7.1-14.4	56,884	11.2	7.7-14.6
Education						
< HS	38,302	13.5	7.9-19.1	36,278	11.7	8.0-15.4
HS diploma	71,058	10.0	7.0-12.9	100,130	13.1	10.1-16.1
≥College	119,057	5.3	4.3-6.2	283,971	12.0	10.7-13.4
Marital Status						
Married/couple	117,351	5.2	4.2-6.2	245,358	10.4	9.1-11.6
Previously married	53,847	11.6	8.1-15.2	82,257	16.2	13.4-19.0
Never Married	56,593	10.8	7.1-14.6	93,990	17.1	12.9-21.4
Employment status						
Employed	108,149	5.0	4.0-6.1	228,353	10.3	9.0-11.6
Unemployed	38,197	18.8	10.4-27.2	42,719	19.9	12.6-27.2
Unable to work	33,735	40.9	31.7-50.0	42,626	42.4	34.0-50.8
Sexual orientation						
Heterosexual	218,123	7.0	5.9-8.0	400,960	12.2	11.0-13.4
Homosexual, bisexual, other	5,832	9.2	3.7-14.7	15,180	23.1	12.0-34.1

* Confidence Interval

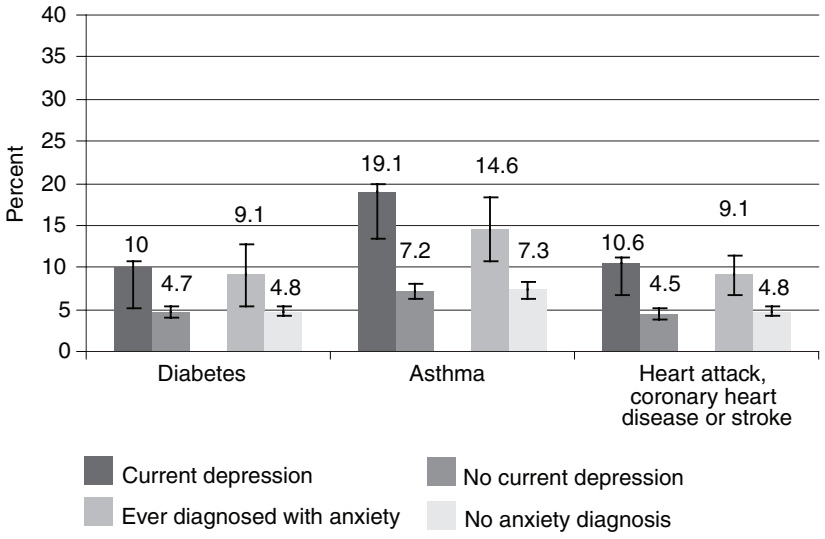
Figure 1. Adverse health behaviors and obesity by depression and anxiety diagnosis status, Colorado adults, BRFSS, 2008



Chronic Disease

Those with current depression and those with a lifetime diagnosis of anxiety were more likely to have asthma and heart disease (Figure 2). There was no difference between those with and without either current depression or lifetime anxiety with respect to the prevalence of diabetes.

Figure 2. Prevalence of chronic disease by depression and anxiety diagnosis status, Colorado adults, BRFSS, 2008



Impaired Health Related Quality of Life

In examining health-related quality-of-life questions, respondents who had current depression or those with a lifetime anxiety diagnosis reported more impaired quality of life. Depressed or anxious adults reported higher mean number of days where their physical health was not good or they felt limited in their daily activities compared to their counterparts (Figure 3).

Figure 3. Impaired health-related quality of life by depression and anxiety diagnosis status, Colorado adults, BRFSS, 2008

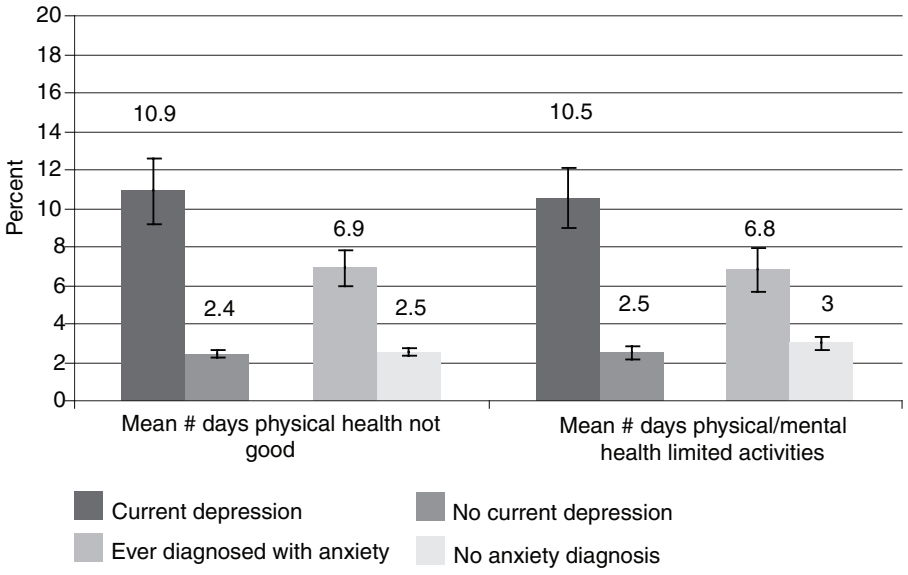
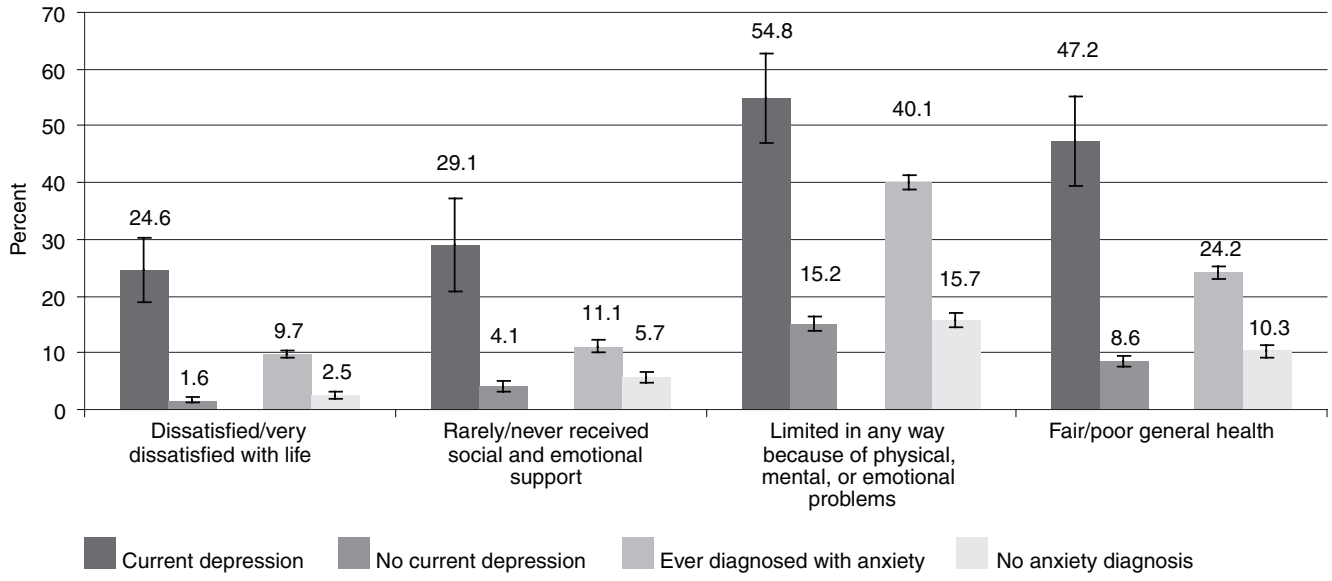


Figure 4 shows parallel patterns for those who experience depression or lifetime anxiety with respect to diminished quality of life. Both those who have depression or lifetime anxiety were more likely to report life dissatisfaction; rarely receiving social and emotional support; limitations due to their physical, mental, or emotional problems; and overall fair or poor general health.

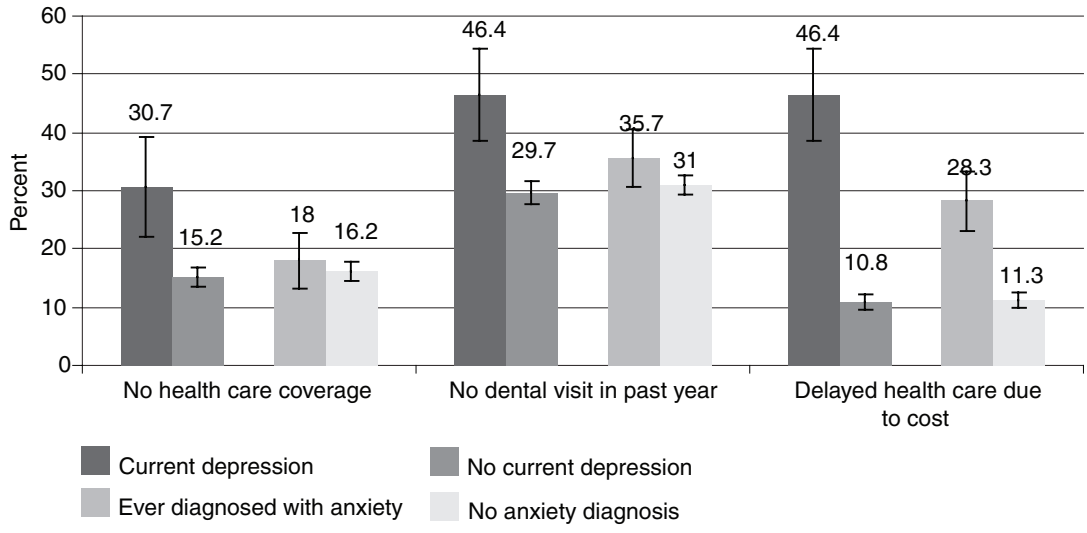
Figure 4. Life dissatisfaction, inadequate social and emotional support, disability, and general health status by depression and anxiety diagnosis status, Colorado adults, BRFSS, 2008



Health Care Access

As shown in Figure 5, health care access is a great disparity among those with depression. Depressed respondents compared to those who were not depressed were more likely to be uninsured and less likely to have a dental visit in the past year. Additionally, adults who were depressed were more likely delay their health care due to cost compared to their counterparts without depression. The same pattern of delayed health care due to cost was also present for adults with a lifetime anxiety compared to those without an anxiety diagnosis.

Figure 5. Health care access by depression and anxiety diagnosis status, Colorado adults, BRFSS, 2008



Discussion

The 2008 Colorado BRFSS provides a large amount of baseline data on anxiety and depression among Colorado adults. Although survey results are cross-sectional and it is not possible to infer causality, the data provide further evidence of the high level of comorbidity of mental health measures with chronic diseases and their risk factors. Examination of these mental health areas should be an important component to overall health care and prevention efforts. Public health programs can collaborate by incorporating mental health promotion and identification into chronic disease prevention efforts. Future public health efforts and research can integrate mental health to programmatic efforts and other resources to improve the general health and quality of life for all Coloradans.

References:
1 Kroenke K, Spitzer RL, Williams, JBW. The PHQ-9 Validity of a brief depression severity measure. 2001. Journal of General Internal Medicine, 16:606-613.