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Prevalence of severe psychological distress and its association with behavioral risk factors, quality of life indicators, and health outcomes: Colorado Behavioral Risk Factor Surveillance System, 2007

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Introduction

In 2005, the Center for Mental Health Services (CMHS) and the Centers for Disease Prevention and Control (CDC) proposed adding a module to the Behavioral Risk Factor Surveillance System to estimate the prevalence of serious psychological distress and to assess barriers to accessing mental health services. Through a collaborative effort between the Colorado Department of Public Health and Environment and the Division of Behavioral Health at the Department of Human Services, the module was implemented in Colorado in 2007. This report summarizes some of the findings.

Methods

The Colorado Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing statewide telephone health survey of Colorado adults ages 18 years and older. Interviews with 11,908 respondents were completed in 2007. All households with telephones have a chance of being selected to participate in the survey, with individual survey respondents being randomly selected from each successfully contacted household. In 2007, the Colorado BRFSS included 10 questions on mental illness and stigma. The mental illness and stigma questions were asked of one half of the sample, for a total of 5,938 completed interviews. The first six questions comprised a scale known as the Kessler 6, or K/6.[1]. The K/6 is designed to measure nonspecific psychological distress. The questions also ascertained characteristics and health risk factors and outcomes of those who were currently taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem. Finally, the questions assessed the stigma associated with mental illness. Variables were tested to determine if significant differences existed between the responses for various groups: ninety-five percent confidence intervals (CIs) were calculated, and significance was determined by examining overlap of the CIs between the prevalence estimates. All differences reported here are statistically significant unless otherwise noted. Data were analyzed using SAS version 9.1 and SUDAAN Release 9.0.0 (Windows Individual User SAS-Callable version).

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Results

Serious psychological distress

In Colorado, approximately 103,000 adults (3.1% of the adult population) were classified as having serious psychological distress (SPD) as measured by the K/6. As shown in Table 1, there was no difference in prevalence of SPD by sex. Adults ages 50-69 had a lower prevalence of SPD than adults ages 30-49, but no other significant differences were observed between other age groups. Blacks (10.5%) had a higher prevalence of SPD than Whites (2.6%) and Hispanics (4.4%). Hispanics were more likely to have SPD than Whites. Adults with a college degree or more education were less likely to have SPD than those with lower educational attainment. Adults who had been previously married (either divorced or widowed, 4.7%) had a higher prevalence of SPD than those who were married or part of an unmarried couple (2.3%). Employed adults (1.9%) had the lowest prevalence of SPD, and those who were unemployed (14.3%) or unable to work (20.7%) had a higher prevalence of SPD than those who were employed or retired (2.2%).

Table 1. Prevalence of serious psychological distress among adults by select sociodemographic characteristics: Colorado BRFSS, 2007

	Percent	(95% CI)*
Sex		
Male	3.0	(2.1-4.1)
Female	3.3	(2.7-4.2)
Age Group		
18-29	3.7	(1.9-7.0)
30-49	3.5	(3.5-3.5)
50-69	2.7	(2.2-3.3)
70+	1.9	(.9-3.9)
Race and Ethnicity		
White	2.6	(1.7-3.8)
Black	10.5	(6.2-17.1)
Hispanic	4.4	(4.1-4.7)
Education		
< HS	8.0	(5.5-11.7)
HS diploma	4.4	(3.1-6.3)
> College	1.9	(1.8-2.0)
Marital Status		
Married/couple	2.3	(2.1-2.7)
Previously married	4.7	(4.2-5.4)
Never married	5.2	(2.6-10.0)
Employment Status		
Employed	1.9	(1.9-1.9)
Unemployed	14.3	(6.9-27.5)
Retired	2.2	(2.0-2.5)
Unable to work	20.7	(13.1-31.1)

* Confidence interval

Colorado adults with SPD were more likely than those without SPD to smoke, binge drink, be heavy drinkers, and to be physically inactive and obese (Figure 1). One in four adults with SPD were obese, half were smokers, more than one in four were binge drinkers and more than one third were physically inactive.

Similarly, those with SPD were more likely to have diabetes, cardiovascular disease, and asthma. There was not a significant difference between those with and without SPD in the prevalence of arthritis (Figure 2).

Figure 1. Adverse health behaviors and obesity by serious psychological distress status: Colorado BRFSS, 2007

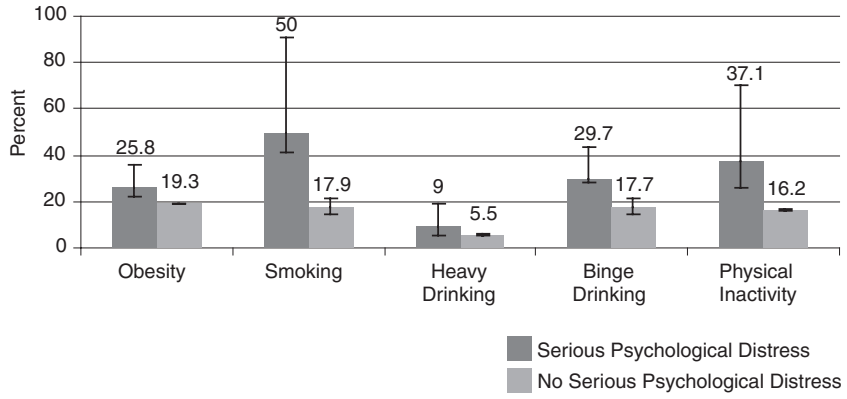
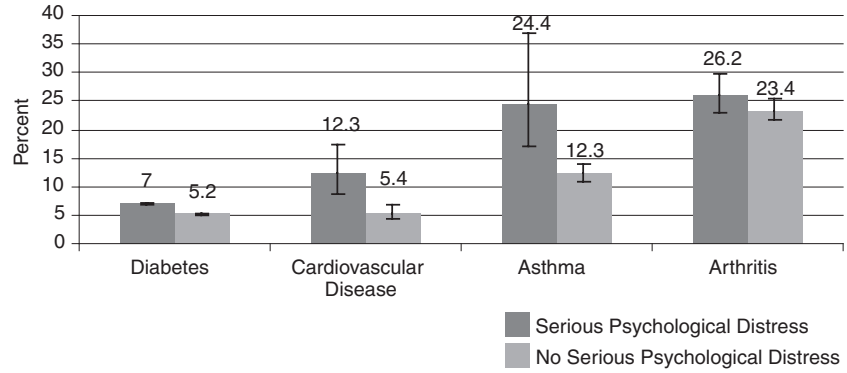
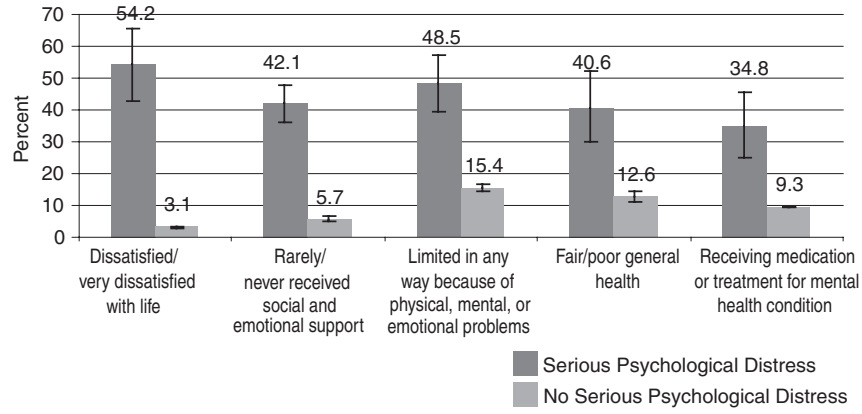


Figure 2. Prevalence of chronic disease by serious psychological distress status: Colorado BRFSS, 2007



As shown in Figure 3, those who experienced serious psychological distress were more likely to have diminished quality of life as measured by life satisfaction, social and emotional support, activity limitations, and general health status. Adults with SPD were more likely to be taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem than those without SPD. However, two-thirds of adults with SPD were not receiving treatment (65.2%).

Figure 3. Quality of life indicators by serious psychological distress status: Colorado BRFSS, 2007



Mental health treatment

Overall, approximately 335,000 Colorado adults (10.2% of the population) were taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem. As shown in Table 2, females (12.7%) were more likely than males (7.7%) to be receiving mental health treatment. Adults ages 50-69 were more likely to be receiving treatment than adults ages 18-29 but no differences were observed among the other age groups. Whites were more likely to be receiving treatment than Hispanics. Adults with a college degree or more education were more likely to be receiving mental health treatment than those with lower educational attainment. Adults who were married or part of a couple (9.4%) were less likely than those previously married (12.7%) or those never married (11.2%) to be receiving treatment. Employed and retired adults were less likely to be receiving mental health treatment than those who were unemployed or unable to work. In fact 41.5 percent of unemployed adults were receiving treatment. Heterosexual adults (9.8%) were less likely to be receiving treatment than homosexual, bisexual or other adults (27.3%).

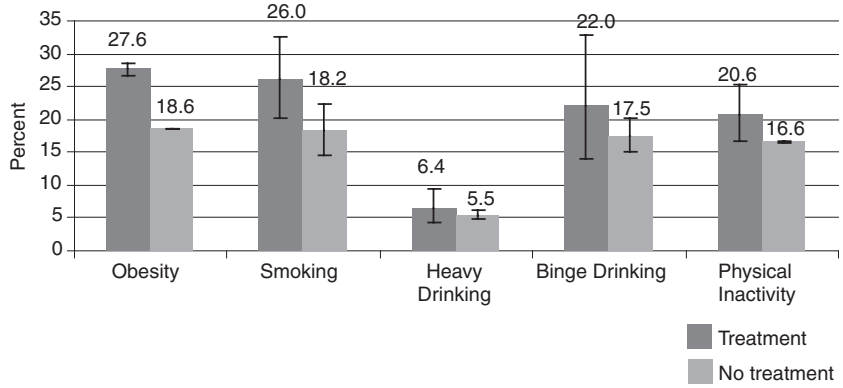
Although the prevalence of adverse health behaviors tended to be higher for those who were receiving mental health treatment than for those who weren't, the only significant difference was in the prevalence of obesity (Figure 4).

Table 2. Prevalence of mental health treatment among adults by select sociodemographic characteristics: Colorado BRFSS, 2007

	Percent	(95% CI)*
Sex		
Male	7.7	(7.4-8.0)
Female	12.7	(12.3-13.1)
Age Group		
18-29	8.7	(7.8-9.8)
30-49	10.8	(9.5-12.3)
50-69	11.0	(10.7-11.4)
70+	8.5	(6.3-11.4)
Race and Ethnicity		
White	10.6	(10.4-10.7)
Black	10.4	(8.0-13.4)
Hispanic	7.1	(6.1-8.4)
Education		
< HS	9.1	(8.4-10.0)
HS diploma	9.3	(8.7-10.0)
≥College	10.6	(10.3-11.0)
Marital Status		
Married/couple	9.4	(9.2-9.5)
Previously married	12.7	(11.9-13.7)
Never married	11.2	(10.7-11.8)
Employment Status		
Employed	8.7	(8.5-8.8)
Unemployed	18.1	(12.9-24.9)
Retired	7.8	(7.0-8.7)
Unable to work	41.5	(39.6-43.5)
Sexual Orientation		
Heterosexual	9.8	(9.8-9.9)
Homosexual, bisexual, other	27.3	(26.2-28.4)

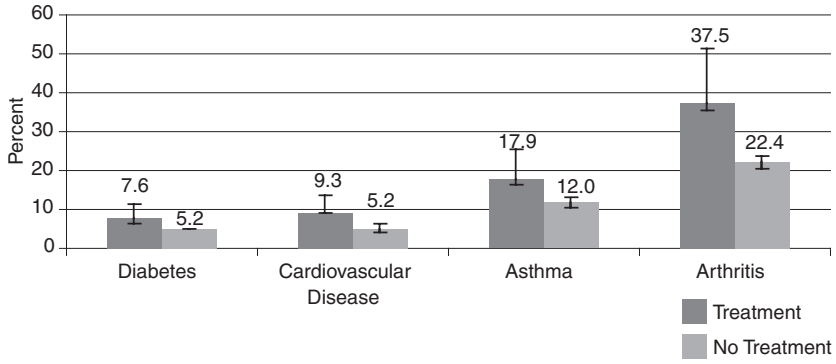
* Confidence interval

Figure 4. Adverse health behaviors and obesity by mental health treatment: Colorado BRFSS, 2007



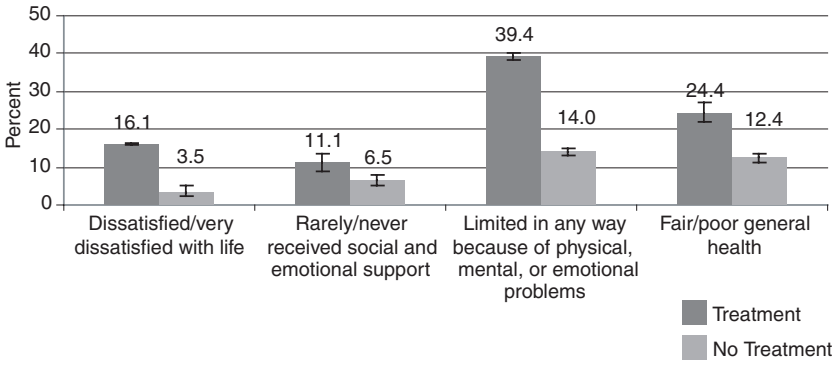
As shown in Figure 5, adults who were receiving mental health treatment had a higher prevalence of chronic disease than those adults not receiving treatment.

Figure 5. Prevalence of chronic disease by mental health treatment: Colorado BRFSS, 2007



Adults who were receiving mental health treatment were also more likely to have diminished quality of life as measured by life satisfaction, social and emotional support, activity limitations, and general health status (Figure 6).

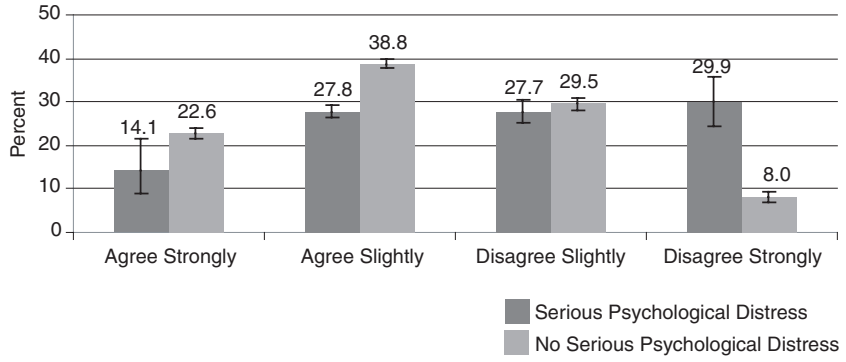
Figure 6. Quality of life by mental health treatment: Colorado BRFSS, 2007



Stigma associated with mental illness

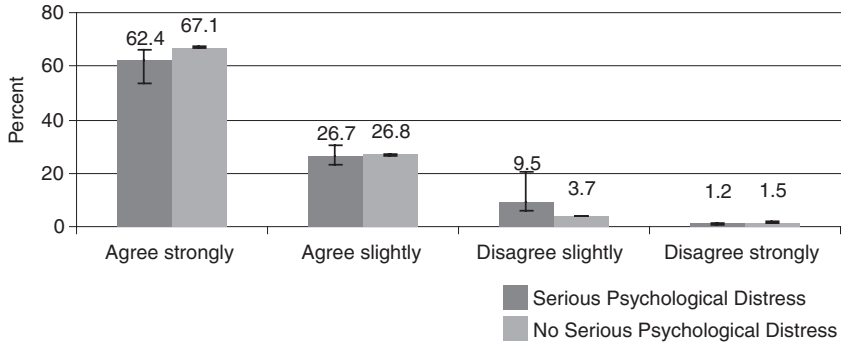
Two questions were asked about the stigma associated with mental illness. Figure 7 depicts the responses to the statement "people are generally caring and sympathetic to people with mental illness" for those with and without SPD. Those with SPD were less likely to strongly or slightly agree and more likely to strongly disagree with this statement than those without SPD. More than one in four (29.9%) of those with SPD strongly disagreed that people are generally caring and sympathetic to those with mental illness.

Figure 7. People are generally caring and sympathetic to people with mental illness by serious psychological distress status: Colorado BRFSS, 2007



The survey also asked level of agreement with this statement: "Treatment can help people with mental illness lead normal lives." Those with SPD were less likely to agree strongly and more likely to disagree slightly with this statement than those without SPD (Figure 8).

Figure 8. Treatment can help people with mental illness lead normal lives by serious psychological distress status: Colorado BRFSS, 2007



Discussion

The survey module offers an exciting opportunity to link important public health topics with mental health issues and could lead to collaborative efforts to address shared concerns. The survey results clearly indicate that significant physical health disparities exist between those with SPD and those without. This is not surprising, since those who receive inadequate mental health treatment are unlikely to receive a timely diagnosis, which can result in poorer treatment outcomes (DHHS 1999). In Colorado, two-thirds of those identified with SPD are not receiving any type of mental health treatment. In addition, it appears that those with SPD are more likely to engage in adverse health behaviors (e.g., smoking, heavy alcohol consumption, etc.). These results suggest that public and mental health interventions focusing on prevention/education and increased access to services could be beneficial to adults having SPD.

For those with SPD, the stigma associated with mental illness is clear and present. Nearly 30 percent of those surveyed with SPD disagreed strongly with the statement that people are caring and sympathetic to those with mental illness. This points to the need for increased anti-stigma training and educational efforts.

Overall, these results suggest that a significant relationship exists between physical and mental health. This information could be utilized to affect the approach towards identification, prevention, and treatment. Future research should continue to examine this relationship and note whether the increased efforts towards utilizing an interdisciplinary approach to health care in fact decreases overall prevalence of both physical and mental health concerns over time.

REFERENCES

1 Kessler R, Barker P, Colpe L, Epstein J, Gfroerer C, Hiripi E, Howes M, Normand S, Manderscheid R, Walters E, Zaslavsky A. Screening for Serious Mental Illness in the General Population. Arch Gen Psychiatry. 2003;60:184-189.