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MENTAL HEALTH AND HEALTH LITERACY AMONG COLLEGE STUDENTS

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A Thesis

Presented to the

Faculty of

California State University,

San Bernardino

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In Partial Fulfillment

of the Requirements for the Degree

Master of Public Health

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by

Selam Walker

May 2021

MENTAL HEALTH AND HEALTH LITERACY AMONG COLLEGE STUDENTS

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May 2021

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ABSTRACT

Background: The study evaluates whether there is an association between mental health and health literacy among college students. Mental health refers to the emotional, psychological, and social wellbeing of an individual. "Health Literacy refers to the capacity of an individual to obtain, process and understand basic health information needed to make an informed health decision."

Methods: This was a secondary data analysis of an existing data on college students. Descriptive and bivariate analyses were conducted with p values less than .05 used to denote significance.

Results: In this study, 46.3% of the participants reported mild to moderate or serious psychological distress. According to the data analysis 27.4% reported to seeking help when reading medical instructions other materials from a doctor or pharmacy, while 23.8% reported occasionally. 71.5% reported to seeking help when asked how often doctors/clinic/hospital "appointment slips written in a way that is easy to read and understand". 13.6% individuals reported to feeling confident when following "instructions on the label of medication bottles". 33.2% individuals reported to somewhat confident when filling out medical forms by themselves. There is statistical significance association (P=0.005) between how confident the participants are when filling out medical forms by yourself and their mental health status.

Conclusion: Improving health literacy should be considered a major public health priority to ensure adequate mental health status of college students.

ACKNOWLEDGEMENTS

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CHAPTER ONE

INTRODUCTION

Problem Statement

Mental health is a psychological and social well-being and the impact it

has on behavior, thinking, as well as coping with various life stressors. The most

common mental illnesses are anxiety disorder, bipolar disorder, depression, and

schizophrenia, which ranges moderate to severe. According to the World Health

Organization (WHO), nearly one in four adults in the United States have mental

illness and around 450 million people globally are currently suffering from mental

disorders (The World Health Report 2001, n.d.).

Mental illness is a disease that causes disturbance in a person's behavior,

emotion, and well-being (Healthy People 2020, n.d.). Severe mental illness

including major depressive disorder, bipolar disorder, schizophrenia, anxiety,

Post Traumatic Stress Disorder (PTSD), ADHD, and substance use disorders

affects everyone (mainly young adults) and occur globally, including the United

States. Suicide, substance abuse is common in people with mental illness

(Manderscheid et al., 2010). According to the CDC, 50% of the populations in the

United States may experience mental illness in their lifetime (Learn About Mental

Health - Mental Health - CDC, 2018).

There are ways to categorize mental illness based on the severity of the

disease, any mental illness (AMI) and serious mental illness (SMI). AMI causes

mild or moderate impairment whereas serious mental illness causes severe

impairment and disability (NIMH » Mental Illness, 2017). In 2017 alone in the United States, there were 46.6 million people aged 18 and older who were diagnosed with AMI. Data shows that men have a higher rate of AMI than men) 22.3% vs 15.1%). There were 11.2 million people aged 18 and older who experienced serious mental illness. Serous mental illness is also more common among women as compared to men (5.7% vs 3.3%), as well as youth adults aged 18-25 years, when compared to 25-49 years old (7.5% vs 5.6%), (NIMH » Mental Illness, 2017).

Furthermore, people with poor mental health often lack the ability to keep their job, paying bills, unable to function daily routines, lack of social support and access to affordable housing, and unstable relationships with their loved ones. Mental illness undermines the ability they must live a normal life if the right treatment is not provided (Hodgkinson et al., 2017). Mental diseases such as schizophrenia and bipolar disorder, experience hallucinations and delusions. Such behavior can lead to living alone or living with the family difficult (NIMH » Mental Illness, 2017). In addition, two-thirds of people with known mental illness never seek treatment or help from a health profession often due to stigma, discrimination, and mistreatment (Henderson et al., 2013). Clearly, mental illness is a major public health issue and understanding the root factors associated with mental illness, barriers to seeking care, etc. are critical.

In recent years, there has been substantial focus on health literacy as a factor associated with poor health outcomes. Department of Health and Human

Services (HHS) defines "health literacy as the degree to which people have the capacity to obtain, process and understand basic health information and services needed to make appropriate decisions," (Literacy et al., 2004); though it was updated in 2021 to align better with Health People 2030; in which health literacy is now two parts: individual and organizational.

Regardless, it is important for individuals to access and understand health information, independent of their socio-economic status. Research also shows that health literacy impacts people with low reading skills and those who have limited English proficiency (Koh et al., 2013). The reasons for limited health literacy include education, poverty, limited English proficiency, and disability such as cognitive decline (Jayasinghe et al., 2016).

People with low health literacy have been shown to have difficulty understanding instructions on various health-related matters such as prescription drugs, healthcare system navigation, and educational brochures understanding education brochures, and navigating through complex healthcare systems (McCray, 2005). Public health research shows that such populations are also more likely to visit the emergency room and be hospitalized for preventable cases (Koh et al., 2013). Individuals with poor health literacy have less knowledge about the diseases, prevention and treatment options, the importance of a healthy lifestyle, and they are more dependent on health and service providers but less likely to take early actions such as general checkup or screening, health assessment and being vaccinated (Literacy et al., 2004).

Purpose of Study

The purpose of the study is to evaluate, among college students, if there is an association between health literacy and mental illness. The result of this study can be used for further research on the relation between health literacy and mental health as well as created targeted interventions at college level.

Research Questions

1. What is the prevalence of health literacy among college students?

2. What is the prevalence of psychological distress among college students?

3. What is the association between health literacy and mental health?

Significance to Public Health

The purpose of the study is to evaluate, among college students, if there is an association between health literacy and mental illness. Understanding mental illness and how that is related to health literacy is critical to not only reducing stigma but also addressing the intersectionality of many factors that impact a population. Undoubtedly, mental illness is a major public health issue and understanding the root factors associated with mental illness, and barriers to seeking care are critical.

CHAPTER TWO

LITERATURE REVIEW

Overview

Mental Health is defined as a "disease that causes disturbance in a person's behavior, emotion, and well-being," (Healthy People 2020). Mental health disorders that are common among college students include depression/suicide, anxiety disorders, Attention Deficit Hyperactivity (ADHD), bipolar and eating disorder (Pedrelli et al., 2015). Although each mental disorder contains its own symptoms, some of the common signs mental illness include consistent mood change, social withdrawal, suicidal thoughts, extreme fear or sadness, substance abuse (Mental Health and Substance Use Disorders, n.d.). It has been shown that psychotherapeutic methods for mental illness have demonstrated 70 to 90 percent recovery rate through functional improvement and reducing symptoms. Nevertheless, society maintains to believe mental illness in nonrecoverable, especially individuals for one in seventeen cases with serious mental illness such as schizophrenia (Kessler et al., 2007).

Prevalence of Mental Illness

Mental health disorders have their peak onset during young adulthood (between 18-25 years of age). Among college students who enter college upon high school graduation, the issues related with attending college and the stress may increase the mental illness that was seen in the early childhood by

prompting the early on set. Similarly, non-traditional students who are students that work and attend school parttime may experience worsening symptoms due to the demands of work, economic hardship, school fees such as paying for tuition (Kessler et al., 2007).

Anxiety disorders are the most common mental disorder among college students roughly affecting 11.9 of college students (Blanco, 2008). Anxiety disorder is defined as feeling unease to live normal life. From the types of anxiety disorder, social phobia occurs at an early stage between ages 7-14 years, whereas other types of anxiety disorders such as panic disorder, post-traumatic stress (PTSD) and generalized anxiety disorder occur later (Pedrelli et al., 2015). Giaconia et al., examined the age in which adolescents develop PTSD in the community sample of adolescents. In the study, it was found that the peak time for developing PTSD was from ages 16 to 17 years, with one third of the sample showing signs of the disorder by the age of 14 (Giaconia et al., 1994). According to the study conducted by examining 6,616 participants by Vaingankar et al., the onset age of obsessive-compulsive disorder is at 19 and 20 years of age. Therefore, a lot of traditional students with post-traumatic stress disorder may experience the symptoms before college while students with obsessive compulsive disorder may experience the symptoms while in college (Vaingankar et al., 2013).

Mental health crisis among college student is depression with incidence rate of 7 to 9 % (Pedrelli et al., 2015). According to the study Zisook et al., more

6

than half of the cases of depression occur during childhood and young

adulthood, Similarly, some individuals continue to show an increase in

developing a mood disorder at the early teen (Zisook et al., 2007). Kessler at al

examined a study using the National Comorbidity Replication Study and reported

that one in 5 individuals with depression will have their first experience

depression by the age 25 years. Individuals with bipolar disorder may experience

the symptoms at the age 25 years (Kessler et al., 2007). Nearly 3.2 % of college

students experience bipolar disorder. It was shown that the majority adults with

bipolar disorder that is considered bipolar disorder experience the disorder as a

child and adolescent year (Perlis et al., 2009). The major contributors of mental

health disorders such as bipolar disorder, depression and substance may lead to

suicide.

<div align="center">What is Health Literacy?</div>

Health literacy is defined as "the degree to which individuals have the

capacity to obtain, process, and understand basic health information and

services needed to make appropriate health decisions," (Healthy People 2020).

Low health literacy is known to be related to low self-reported health status

among minorities such as, Latino and Asian Americans, even when education

and other predictors of health status are accounted for (Berkman et al., 2011).

Low health literacy affects close to 80 million adults in the United States.

Although research exists of health literacy, little is known among minority

(Niguyen et al, 2015).

Prevalence of Low Health Literacy

In California, studies show that health literacy is related to poor health outcomes, especially among minorities. For example, Becerra et al. focused on factors that are related to low health literacy among immigrant Hispanic adults in California. The authors used ## study participants and found that low health literacy was related to living in poverty, having consistent health insurance, as well as having limited English language proficiency. Also, women, as compared to men, were less likely to report low health literacy, highlighting that targeted interventions may be needed for men (B. J. Becerra et al., 2017).

Limited English proficiency is the key barrier associated with poor health, health care affecting the Asian American, Latinos and other ethnic minority groups. Those with low health literacy are likely to have difficulty with reading medical information, including prescription, brochures, or even the healthcare facility navigation (IOM, 2014). Research shows that those with low health literacy also have higher healthcare utilization, such as emergency department visits and hospitalization (Koh et al., 2013).

Low Health Literacy and Health Outcomes

Several studies have highlighted the role of low health literacy on health and behavioral outcomes. For example, Becerra et al., using the California Health Interview Survey, evaluated the role of health literacy related to human papillomavirus (HPV) among 2,050 Asian American women aged 18-65 years. Results showed low HPV health literacy in the study sample. For instance, 45%

of the participants reported they never heard of HPV, 14% thought it caused AIDS, and 13% thought HPV will go away on its own. Of, Chinese, South Asian, and Korean Asian-American subgroups were less likely to have heard about HPV, when compared to Japanese subgroup. Similarly, foreign-born Asian-Americans were also less likely (31% less) to have heard about HPV, when compared to Asian-Americans who were born in the United States. Wrong information about HPV was also higher among foreign-born participants. For example, thinking HPV causes AIDS was 196% higher among those who were foreign-born (M. B. Becerra et al., 2020).

CHAPTER THREE

METHODS

STUDY DESIGN

This study is a secondary analysis of an existing cross-sectional study (data collected at one point in time). The data was collected from general education classes (to ensure a mix of majors) at California State University, San Bernardino, as is a federally designated Hispanic-service institution.

Data Source and Collection

Per Institutional Review Board approval guidelines, all students aged 18 years or older in GE classes from psychology, health science, business, etc. were given 5 points extra credit to participate in the study. Data was collected with a removal second page with student's name. This was page was kept by the instructor for extra credit, but researchers did not have access to it; thus, making the data anonymous.

Measures

Mental health was measured as presence of psychological distress. Health literacy was evaluated using the following questions: participants reporting frequency of someone helping them read instructions, pamphlets or other written material from your doctor or pharmacy; participants reporting the frequency doctor/hospital/clinic appointment slips written in a way that is easy to read and understand; participants reporting how confident they are following instructions

on the label of medication bottles; and participants reporting their confidence when filling out medical forms by themselves. Each of these health literacy variables were assessed independently.

Data Analysis

All collected data were inputted in excel by one student researcher and transferred to SPSS for analysis. All descriptive and bivariate statistical analyses were conducted in SPSS using frequencies and chi-square, respectively. All missing data were excluded from analysis. Significance was set at p less than .05.

Ethics

The study was reviewed and approved by the California State University – San Bernardino Institutional Review Board. This is a secondary analysis of already approved study.

CHAPTER FOUR

RESULTS

According to the data analysis results shown in Table 1, 48.9% of the people answered never to seeking help when reading medical instructions other materials from a doctor or pharmacy, while 23.8% individuals seek help occasionally and 7.8% always seek help and 14.7% reported sometimes.

Table 1: Participants Reporting Frequency of Someone Helping Them Read Instructions, Pamphlets or Other Written Material from your Doctor or Pharmacy.

	Count (n)	Percent (%)
Never	150	48.9
Occasionally	73	23.8
Sometimes	45	14.7
Often	15	4.9
Always	24	7.8
Total	307	100
Missing value	7	
	314	

According to the data analysis result shown in Table 2, 10% individuals answered never to seeking help when asked how often doctors/clinic/hospital appointment slips written in a way that is easy to read and understand, while 19.7% individuals seek help always, Additionally, 18.4% reported occasionally, while 23% reported sometimes and another 28.8% reported often.

Table 2: Participants Reporting the Frequency Doctor/Hospital/Clinic

Appointment Slips Written in a Way that is Easy to Read and Understand.

	Count (n)	Percent (%)
Never	31	10
Occasionally	57	18.4
Sometimes	71	23
Often	89	28.8
Always	61	19.7
Total	309	100
Missing Value	5	
	314	

According to the data analysis result shown in Table 3, 6.8% individuals

answered never to feeling confident when following instructions on the label of

medication bottles, while 56.6 % individuals seek help always. Additionally, 5.8%

while reported occasionally, 7.8% reported sometimes and another 23% reported

often.

Table 3: Participants Reporting How Confident They are Following Instructions on the Label of Medication Bottles.

	Count (n)	Percent (%)
Never	21	6.8
Occasionally	18	5.8
Sometimes	24	7.8
Often	71	23
Always	175	56.6
Total	309	100
Missing Value	5	
	314	

According to the data analysis result shown in Table 4, 8.1% individuals answered never to How confident are you with filling out medical forms by yourself while 11.4% individuals seek help occasionally. Additionally, 21.8% reported sometimes, while 23.7% reported often and another 35.1% reported always.

Table 4: Participants Reporting Their Confidence When Filling Out Medical

Forms by Themselves.

	Count (n)	Percent (%)
Never	25	8.1
Occasionally	35	11.4
Sometimes	67	21.8
Often	73	23.7
Always	108	35.1
Total	308	100
Missing Value	6	
	314	

According to the descriptive analyses the result shown in Table 5, 46.3%of

college students reported no psychological distress while 53.7%reported mild to

moderate or serious psychological distress.

Table 5: Prevalence of Psychological Distress

	Count (n)	Percent (%)
No psychological distress	159	53.7
Mild to moderate distress or SPD	137	46.3
Total	296	100
Missing Value	18	
	314	

According to the bivariate analysis shown in Table 6, among those who reported no psychological distress, 56.30% reported never to seeking help when reading medical instructions other materials from a doctor or pharmacy, while 21.50% reported occasionally and 10.80% reported sometimes and 5.10% reported often, and 6.30% reported always. Among those who reported any psychological distress (mild/moderate or SPD), 49.70% reported never to mild/moderate or SPD to seeking help when reading medical instructions other materials from a doctor or pharmacy, while 25.0% reported occasionally and 19.10% reported sometimes and 5.10% reported often, and 8.80% reported always. These are statistically significant at p less than .05.

Table 6: Results of Chi-square Analysis Between Psychological Distress and How Frequently Someone Helps Participant Read Instructions, Pamphlets or Other Written Material from Their Doctor or Pharmacy.

	Never	Occasionally	Sometimes	Often	Always
No psychological distress	89	34	17	8	10
	56.30%	21.50%	10.80%	5.10%	6.30%
Mild/moderate or SPD	57	34	26	7	12
	49.70%	25.00%	19.10%	5.10%	8.80%

According to the Chi-Square Tests, there is no statistical significance association (p = .11) between how often somebody feels they need help when

reading instructions pamphlets or other written material from their doctor or pharmacy and mental health status. The reason there is no statistical significance is because the p value is greater than .05. It must be less than .05 to be significant.

According to the bivariate analysis shown in Table 7, among those who reported no psychological distress, 9.4% reported never to seeking help when asked how often doctors/clinic/hospital appointment slips written in a way that is easy to read and understand while 19.5% reported occasionally. Additionally, 18.9% reported sometimes and 27.7% reported often, and 24.5% reported always.

Among those who reported any psychological distress (mild/moderate or SPD), 10.2% reported never to mild/moderate or SPD to seeking help when asked how often doctors/clinic/hospital appointment slips written in a way that is easy to read and understand, while 16.1% reported occasionally and 28.5% reported sometimes and 29.9% reported often, and 15.3% reported always. These are statistically significant at p less than .05.

Table 7: Participants Reporting the Frequency of Doctor/Hospital/Clinic

Appointment Slips Written in a Way that is Easy to Read and Understand

	Never	Occasionally	Sometimes	Often	Always
No psychological distress	15	31	30	44	39
	9.40%	19.50%	18.90%	27.70%	24.50%
Mild/moderate or SPD	14	22	39	41	21
	10.20%	16.10%	28.50%	29.90%	15.30%

According to the Chi-Square Tests, there is no statistical significance association (p=0.156) between how often doctor/hospital/clinic appointment slips are written in a way that is easy to read and understand and mental health status. The reason there is no statistical significance is because the p value is greater than .05. It must be less than .05 to be significant.

According to the bivariate analysis shown in Table 8, among those who reported no psychological distress, 5.0%% reported never to feeling confident when following instructions on the label of medication bottles, while 3.8% reported occasionally. Additionally, 6.3% reported sometimes and 21.4 % reported often, and 63.5% reported always.

Among those who reported any psychological distress (mild/moderate or SPD), 8.0 % reported never to mild/moderate or SPD to feeling confident when following instructions on the label of medication bottles, while 8.8% reported occasionally and 9.9% reported sometimes. Additionally, 24.8 % reported often, and 48.9% reported always. These are statistically significant at p less than .05.

Table 8: Participants Reporting How Confident that They are to Follow

Instructions on the Label of Medication Bottles.

	Never	Occasionally	Sometimes	Often	Always
No psychological distress	8	6	10	34	101
	5.00%	3.80%	6.30%	21.40%	63.50%
Mild/moderate or SPD	11	12	13	34	67
	8.00%	8.80%	9.50%	24.80%	48.90%

According to the Chi-Square Tests, there is no statistical significance association (p=0.086) between how confident someone to be able to follow instructions on the label of medication bottles and their mental health status. The reason there is no statistical significance is because the p value is greater than .05. It must be less than .05 to be significant.

According to the bivariate analysis shown in Table 9, among those who reported no psychological distress, 8.20% reported never having confidence with filling out medical forms by themselves, 10.70% reported occasionally having confidence when completing medical forms by themselves. Among those who reported any psychological distress (mild/moderate or SPD), 8.80% reported mild/moderate or SPD when completing medical forms by themselves. These are statistically significant at p less than .05.

Table 9: Participants Reporting Their Confidence on with Filling out Medical

Forms by Themselves.

	Never	Occasionally	Sometimes	Often	Always
No psychological distress	13	17	24	36	69
	8.20%	10.70%	15.10%	22.60%	43.40%
Mild/moderate or SPD	12	15	41	34	34
	8.80%	11.00%	30.10%	25.00%	25.00%

According to chi-square tests, there is statistical significance association

(P=0.005) between how confident the participants are when filling out medical

forms by yourself and their mental health status. The reason there is statistical

significance is because the p value is less than .05. It must be less than .05 to be

significant.

CHAPTER FIVE

DISCUSSION

According to study results, half of the participants reported seeking

assistance when reading instructions, pamphlets or other written material from

your doctor or pharmacy when the other half of the participants reported

occasionally, sometimes, and always, thus indicative of low health literacy.

Similar trends were noted for other health literacy variables, noting that there

remains a portion of college students who have low health literacy. Such studies

show that education level may not directly related to health literacy, the latter is a

unique measure that may contribute to population well-being. Thus, to ensure

positive healthcare experiences, college campuses may consider targeted

programs for improving health literacy among college students.

Likewise, a large portion of the population also reported mild-moderate or

serious psychological distress, demonstrating a need for mental health care.

Furthermore, results also show a significant association between low confidence

filling out medical forms and poor mental health; indicative of the potential role of

low adherence or even seeking care among those with poor mental health status.

Strengths and Limitations

This is one of the first studies done on the relationship between mental

health and health literacy among college students. The study also used validated

measures (Kessler-6 scale) for mental health, and thus provides foundation for

evidence-based practice. The study also focuses on primarily racial/ethnic

minority students, due to the campus being a Hispanic-serving institute, and thus

serves to provide the experiences of minority students, since most of the

literature is primarily focused on non-racial/ethnic minorities. Nevertheless, the

cross-sectional nature of this study makes it difficult to say cause-and-effect.

Thus, more research is needed to understand what leads low health literacy to

low mental health status or vice versa. The research is limited to college students

thus not generalizable to other populations.

Recommendations for Research and Practice

The lack of health literacy can drastically and negatively affect the health

and wellness of an individual including the community (Healthy People 2020).

There are several recommendations from the results of this study to research

and practice. First, long-term studies that are cohort based maybe valuable to

assess how the two variables are connected to each other in a causal

relationship. Likewise, expanding the definition of health literacy to how

organizational health literacy impacts mental health or vice versa would be of

value. While we did not assess the relation, understanding how education level is

related to health literacy may provide insight into how to target and whom to

target for such initiatives.

Furthermore, there are several recommendations for practice. First,

college-level classes that target health literacy, independent of just literacy, is

needed, to ensure college students are empowered to understand health

information and make informed-decisions of their health. Likewise, the high

percent of those with any psychological distress remains alarming and thus targeted mental health care, such as improving stress level, coping skills, etc. continue to be needed among college students. Finally, given the importance of health and well-being as a major factor to overall academic performance, it is important that college campuses take the importance of health literacy as a priority to improve overall student success.

Conclusion

The study evaluates whether there is an association between mental health and health literacy among college students. Health literacy refers to the skills needed to make appropriate health decisions as well as navigating the health care system. Mental health is an emotional cognitive well-being. This was a secondary data analysis of an existing data on college students. Descriptive and bivariate analyses were conducted with p values less than .05 used to denote significance. There is an association between some facents of health literacy and mental health among college students. Improving health literacy should be considered a major public health priority in college campuses to ensure adequate mental health status of college students as well as student success.

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