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Opioid Overdose Knowledge and Attitudes Among Undergraduate College Students

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Health 3950 - Honors Research Seminar

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Purpose:

The goal of this study was to investigate the knowledge and attitudes of opioid overdose among undergraduate college students.

Introduction:

In the past few decades, the rise of drug overdose has affected hundreds of thousands of Americans and caused the deaths of 91,799 people just in 2020 alone (*CDC Injury Center, 2020*). This issue has proliferated as the rate of deaths by overdose from 2019 to 2020 increased by 31 percent. Of those deaths in 2020, about 75 percent involved opioids, and within the opioid-driven deaths, 82.3 percent were due to synthetic opioids, the main culprit of drug overdose deaths (*CDC Injury Center, 2020*). In 2017, the National Survey on Drug Use and Health estimated that one in four young adults (age 18-25) were illicit drug users, including marijuana, and prescription drug misuse, most commonly opioids (Stover, 2019, p. 2).

College students present a high-risk population for a drug overdose, as shown by a study by Garnier-Dykstra (2012) that sampled 1,253 students at a large public university. 61.8 percent of students reported that by their senior year, they had been offered drugs for nonmedical use; of those, 31 percent misused prescription drugs (p. 1). However, many institutions fail to provide adequate education and resources for prevention. Instead, most focus on education and training the current law enforcement present on campus rather than the student population. However, it has been observed from a variety of studies that higher education levels of students on this topic are effective in the prevention of drug overdose (Stover, 2019). As the rates of death by drug overdose rise, the education of college students on how overdoses occur and the appropriate way

to help has the potential to both reduce the number of deaths and enable students with the ability and confidence to help in an emergency.

Despite the increase in deaths caused by drug overdose, many college students present a low perceived risk associated with this misuse of prescription drugs (Arria, 2008). A study interviewing 1,253 first year college students revealed that about one out of every four participants believed there is "no risk" or only a "slight risk" associated with the nonmedical use of prescription drugs (p. 8-9). Low perceived harmfulness was also revealed to be a risk factor for this kind of drug abuse. Upon follow-up with the participants, when comparing behaviors to those with a high perceived risk, those with a low perceived risk of harmfulness were ten times more likely to participate in the nonmedical use of prescription drugs (p. 9). Based on the findings, the authors proposed that an effective strategy for drug overdose prevention would be to educate students on the potential dangers of the misuse of prescription drugs (p. 10).

In an effort to raise awareness among college students of the dangers of drug misuse, a study in 2020 evaluated the effectiveness of an educational intervention on a sample of 242 students at an American University on the students' perspectives on opioids (Johnson, 2020, p. 1). After receiving the intervention, 95 percent of participants reported that their responses to the questions in the post-assessments were influenced by what they learned (p. 371). While the study provided statistically significant results that the intervention was effective, various subjects proved to be much more influential to the students' post assessment responses than others. Subjects considered to have the most negligible impact included the discussion of alternative methods for pain management, such as acupuncture and physical therapy, as well as the financial

toll that prescription opioid abuse has in the United States (p. 372). Conversely, the topics that were identified as most influential by the subjects in changing their attitudes towards opioids included the number of deaths each day they cause in the United States, the number of people treated in emergency rooms for their misuse, the risk of developing opioid dependence, and the adverse side effects they cause (p. 371-372). Overall it was concluded that while some subject matter may have a more substantial influence than others, educational intervention effectively changes college students' opinions regarding drug abuse risk and can potentially reduce their likelihood of participating in those risky behaviors.

An estimated two-fifths of college students in America meet the criteria for substance use disorder (SUD). However, very few seek treatment, and most referrals are initiated by law enforcement rather than the student choosing to admit themselves (Andraka-Christou, 2020, p. 589). In the United States, it is predicted that less than one-quarter of young adults with opioid use disorder undergo treatment with withdrawal-aiding drugs despite them being the most effective treatment with the lowest occurrence of relapse preventing relapse (p. 590). Previous research has determined that attitudes and knowledge toward treatment for substance use and addiction are significant predictors of their utilization (Andraka-Christou, 2020, p. 589). A study in 2020 surveyed United States undergraduate students from two large public universities to examine the relationship between perceived knowledge and attitudes toward differing treatments.

The results of the survey revealed that non-medication treatment methods had a much higher percentage of participants rate themselves as very knowledgeable, including individual counseling with 48.7 percent, group counseling with 45.2 percent, peer support groups with 42.3

percent, and residential, inpatient, and outpatient treatment ranging from 35.7 to 33.2 percent (Andraka-Christou, 2020, p. 593). However, treatments involving medications for opioid use disorder had much lower percentages of participants rating themselves as very knowledgeable such as administering methadone at 4.4 percent, extended-release naltrexone at 3.8 percent, and buprenorphine at 3.4 percent (p. 593). When comparing the perceived helpfulness ratings with the perceived knowledge ratings of the different treatments, the study revealed that a student's perceived knowledge of a specific type of treatment positively correlates with their perceived effectiveness (p. 597). The percentage of participants that rated treatments as "helpful" or "very helpful" was much higher for the non-medication treatments that had higher knowledge ratings, with 71 percent for individual counseling, 69 percent for group counseling, 65 percent for peer support groups, and residential, inpatient and outpatient treatment ranging from 65 to 57 percent (p. 593-594). By contrast, for the treatments involving medication for opioid use disorder and lower knowledge ratings, only 14 percent of the students rated methadone or naltrexone as "helpful" or "very helpful" and 11 percent for buprenorphine (p. 594). The researchers concluded from the data that intervention to educate college students to increase their knowledge of treatments for substance abuse disorders would have a positive effect on their attitudes towards them, therefore, making them more willing to participate.

The lack of overdose knowledge and education within the general public has led to the development of stereotypes and stigmas surrounding those who suffer an overdose. Opioid use disorder (OUD) is an extremely negatively stigmatized condition that commonly fails to receive empathy (Bascou, 2022, p. 2). Research has shown that these biases have many harmful effects on those suffering from OUD, including increased difficulty receiving help as individuals are

commonly viewed as untrustworthy, as well as social barriers and psychological distress. Another observation was that many of those suffering from OUD began to identify with the public stigma placed upon them due to their illness, significantly inhibiting their ability to recover (p. 9).

A recent study used a survey to measure the attitudes/biases of a group towards OUD before and after an implemented training program that included sessions on stigmatized factors of OUD and protocols for administering the opioid overdose drug naloxone (Bascou, 2022, p. 1). The study showed that after the training, there was a statistically significant improvement in the participants' understanding of the challenges and stigmatized treatment those with OUD face and the harm it has towards their recovery (p.7). Progress was also seen in participants' attitudes toward using naloxone to reverse an overdose. There was an observed increase in the confidence in the ability of those who went through the intervention to assist a person experiencing an overdose (p. 7). The researchers concluded that improving the participants' knowledge positively affected their attitudes and biases towards OUD and drug overdose, improving their willingness to help in a crisis.

Overall, the more education and exposure an individual has, the more confidence they will have in preventing, recognizing, and responding to an overdose crisis (Stover, 2019, p. 7). A study conducted by Amanda Stover (2019) at West Virginia University surveyed 214 students using the Opioid Overdose Knowledge Scale (OOKS). This validated instrument uses a score of 45 points to assess knowledge of overdose identification and what actions to take in such events based on various previous exposure factors (p. 1). The most statistically significant difference in

scores was observed between those in the sample that had previously undergone naloxone training (15.9%), with an average score of 36.4, and those that did not, with an average score of 29.9 (p. 5). Other participant experiences that correlated with a higher average OOKS score included students enrolled in a health-related program, participants that had previously received an opioid prescription, and participants who had previously witnessed an overdose which showed the second-greatest difference in average OOKS scores (pp. 11-14). The study concluded that the students with previous education or personal experience with drug overdose were significantly more knowledgeable in recognizing an overdose and how to help in an emergency than those without previous exposure. These research findings support the idea that implementing overdose educational training would greatly benefit students in improving knowledge and reactivity in a crisis.

Another common obstacle contributing to death by drug overdose is the bystander's fear of legal trouble if they call for help from emergency medical services. Lattimore and Bergstein (2017) performed a study that interviewed people involved in a needle exchange program and found that many participants hesitated to call 911 due to fear of arrest and other charges related to the incident. Commonly those that witness an overdose delay or entirely refrain from getting assistance, and estimates as to the percentage of individuals that do call for help vary from 21 to 68 percent (p. 1-2). Most states have implemented the Good Samaritan Laws (GSL) legislation to combat this issue, which provides legal immunity to bystanders of an overdose if they call 911. However, despite these efforts, two-thirds of the study participants were unaware of these laws (p. 1). Of the group that was initially uninformed on GSLs, after being educated on them, many reported that they felt these laws would be beneficial in encouraging people to seek emergency

help. Participants also reported feeling more comfortable and, therefore, more likely to call in a crisis after learning about GSLs (p. 4). This study observed that many perceived fears could prevent a person from receiving help in a life-or-death situation. While GSLs have been passed in order to alleviate those fears, the public must be aware in order for them to have an effect on reducing overdose deaths. Educating the public on GSLs and how they apply can encourage people to call for emergency services in life-threatening situations to provide life-saving care to those that require it.

The drug overdose problem has become a major public health crisis that needs intervention, as opioids have become the second most abused drug among college students (Johnson, 2020, p. 1). While some institutions of higher education, such as West Virginia University, have implemented interventions involving training programs and access to opioid overdose reversal kits, there is a need for more widespread intervention (*E-News | University Community Encouraged to Learn About Access to, Proper Use of Naloxone*, 2023). Based on the literature, a relationship can be established between increased education on drug overdose and increased prevention and willingness of others to help in the event of an overdose. Lack of public education on the rising issue has created an even more dangerous environment that has enabled the spread of harmful stereotypes and misinformation. In addition, it has left a large portion of the population unaware of the severity of the drug overdose problem and the harmful health outcomes that can arise from it. An intervention through colleges and universities to educate students on the risks of drug abuse, identification of and how to help a person suffering from an overdose can potentially prevent the increasing number of overdose deaths, which affects thousands of Americans every year.

Methods:**Sample and Design:**

An anonymous cross sectional survey was developed and distributed to Clemson University undergraduate students. Participants were asked to complete a 29 question survey that was estimated to take approximately 25 minutes to complete. The survey was conducted through Qualtrics, a secure web based software that enables users to create surveys, store data, and form reports on the information collected. To distribute the survey, the university college of health sciences email list was used. In addition, the survey was distributed to various clubs and Greek organizations on campus. Other methods were also used including encouraging professors to share the survey with their students and other snowballing techniques to increase participation.

To be eligible for the study, participants were required to be at least 18 years of age, and a Clemson University undergraduate student at the time they took the survey. Subjects were presented with information regarding the confidentiality of their responses before agreeing to participate in the study, and ethical approval was granted by the Clemson University Institutional Review Board.

Measures:**Sociodemographic Information:**

Participants were asked to self report various socio demographic information including gender identity, race, ethnicity, marital status, and class standing. Participants were also asked to disclose if their major of study was in the health sciences or they were on a pre medical track

with a yes or no. If they selected yes, they were asked to elaborate on what specific major of study or pre professional track they are participating in.

Opioid Overdose Knowledge Scale (OOKS) and Opioid Overdose Attitudes Scale (OOAS):

The Opioid Overdose Knowledge Scale (OOKS) 45 item measurement tool used to assess opioid overdose and naloxone distribution education among participants. It is a survey that is structured for self completion and set up in a multiple choice select all that apply format. The OOKS investigates participants knowledge regarding factors that increase the risk of opioid overdose, indicators of opioid overdose, what one should do to manage an opioid overdose, when it is appropriate to use naloxone, the proper protocol for administering naloxone, and how naloxone works when administered.

The Opioid Overdose Attitudes Scale (OOAS) is a 28 item questionnaire designed to evaluate the participants attitudes in regards to opioid overdose. The self report survey is broken down into three major categories including competencies to manage an opioid overdose, concerns about managing an opioid overdose, and readiness to intervene in an opioid overdose. The survey asks participants to rate how much they agree or disagree with statements in regards to each category on a scale of 1 to 5. 1 representing “completely disagree” and 5 representing “completely agree”.

Both assessment tools were designed together by the same researchers and are widely used to assess both knowledge and attitudes towards opioid overdose. Originally, both scales were administered to two distinct groups to assess their effectiveness. These groups included friends

and family members of heroin users with a sample size of $n = 42$ as well as healthcare professionals with a sample size of $n = 56$. After assessing both scales, they were both determined to be internally reliable (Cronbach's $\alpha = 0.83$ and 0.90 , respectively). In conclusion, the scales were found to be reliable in measuring both knowledge and attitudes in regards to opioid overdose.

Additional Questions:

In addition to the socio demographic questions and the use of the OOKS and OOAS scales. This study added several questions to further investigate the participants' exposure with opioid overdose and naloxone training. Participants were asked, "Do you know someone who has experienced an overdose?" as well as if they had witnessed an overdose before. Questions surrounding experience with misuse of opioids were also included such as "Do you know someone who has misused opioids?", and more questions elaborate the topic asking participants if they had ever had an opioid prescription or misused opioids themselves. Lastly participants were asked if they had experience with naloxone training. If they responded no, they were asked if they would be interested in receiving naloxone training.

Results:

The sample was 87% female ($n=66$) and consisted of mostly upperclassmen (33% juniors, $n=25$ and 42% seniors, $n=32$). Additionally 82% ($n=62$) of the participants were involved in Greek life on campus and 62% ($n=47$) are majoring in a study of public health sciences.

In regards to experience with opioid overdose, 25% (n=19) disclosed that they know someone who has experienced an overdose, 13% (n=10) reported that they have witnessed an overdose, 39% (n=29) have had a previous opioid prescription, and 43% (n=32) know somebody who has misused opioids.

When investigating experience with naloxone, 15% (n=11) disclosed that they have received naloxone training and 71% (n=53) reported that they would be interested in receiving naloxone training.

The OOKS is scored on a scale of 0 to 45. The average score of the participants was 29.5. The OOAS is scored on a range from 28 to 140 and the average score among the participants was 67.5.

Conclusions:

From the results of the study, it can be concluded that there is a large discrepancy between opioid overdose knowledge and opioid overdose attitudes among the undergraduate population. This can be seen as participants scored relatively well on the OOKS scale, the OOAS average score was very low, indicating that improvements can be made on the attitudes this population has towards opioid overdose and this topic would be a good area to target with intervention. After discussing with Dr. Stover, we both concluded that it would be in the study's best interest to redistribute the sample in the spring to gain more participants in order to make more valid conclusions as to why certain demographics may or may not score differently and have applied with the Clemson University Institutional Review Board to extend the study.

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