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Description of the Attitudes, Knowledge and Beliefs on Marijuana in Undergraduate Students

Compared to Nursing Undergraduate Students

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Abstract

Introduction: The use of marijuana has drastically increased over the years. Not only is marijuana being used to treat personal symptoms, but some women use marijuana to manage pregnancy-related symptoms.

Objective: To discover the knowledge, attitudes, and beliefs of marijuana in the undergraduate student population at the University of Connecticut.

Method: A cross sectional study conducted through Qualtrics using a 15-questions survey, including 5-point Likert scale questions and 5 yes/no questions.

Result: Forty-nine non-nursing students completed the survey. Non-nursing students in comparison to the population as a whole agreed that marijuana use was okay ($M = 3.959$, $SD = 1.39$), $t(48) = 19.813$, $p = .0001$, was okay for the general population ($M = 12.367$, $SD = 1.88$), $t(48) = 45.815$, $p = .0001$, and not appropriate for use during pregnancy ($M = 49$, $SD = 1.135$), $t(48) = 51.856$, $p = .0001$ with age being a significant contributing variable $X^2(25, N=49) = 40.013$, $p = .0029$. In comparison to nursing students, non-nursing students were significantly less supportive of general marijuana $t(111) = -2.03$, $p = .045$ and use during pregnancy $t(111) = -2.35$, $p = .020$ but not in their belief on the effect on the fetus.

Discussion: A takeaway remains that older undergraduate students understand the effect of marijuana on pregnancy and fetus development. However, there was limited knowledge of marijuana effects in the younger undergraduate population and how that affects parenting decisions in the future.

Description of the Attitudes, Knowledge and Beliefs on Marijuana in Undergraduate Students Compared to Nursing Undergraduate Students

The use of marijuana in the United States is at an all-time high, with 22.2 million people using the drug in one month according to the 2015 National Survey on Drug Use and Health (National Institute on Drug Abuse, 2019). Within this growing population using marijuana are women who are pregnant. The latest statistics estimate that approximately 6% of women report using marijuana (National Institute of Drug Abuse, 2019). The proposed study seeks to discover the attitudes, beliefs and knowledge of marijuana use in the undergraduate non-nursing student population at the University of Connecticut. This population was chosen specifically because they are of childbearing age, and it is possible that they will become pregnant (or have a partner who is pregnant) within the near future. Therefore, it is critical to identify their opinions on marijuana, and to identify how likely it would be for one of these participants to use marijuana for recreation or symptom management while pregnant.

What is Marijuana

According to the National Institute on Drug Abuse (2018), NIH, marijuana -- also known as pot, weed, herb, Mary jane – is a “greenish- gray mixture of the dried flowers of *Cannabis sativa*” (p. 1). Different forms of marijuana emphasize different ingredients. For example, resins contain high doses of honeylike oil, waxy budder, and hard amberlike shatter. These resins are used primarily for recreation and medication forms of marijuana. While on the other hand, the form of marijuana that is smoked recreationally to get high, contains mostly Tetrahydrocannabinol (THC). THC is the active chemical in cannabis and is one of the oldest hallucinogenic drugs known .

Short-term effects of Marijuana

Marijuana has both short and long-term effects on the brain. When someone is smoking marijuana the active ingredient, THC, rapidly passes from the lungs to the bloodstream and activates your brain cells to release dopamine; this is what gives people the “high.” This release then causes the blood to carry the chemical to make its way to the brain and throughout the body (Wu, Jew, & Lu., 2011). According to the National Institute on Drug Abuse (2020), people choose to use marijuana when seeking “the high” because it is more readily available than other drugs such as heroin and cocaine. Another reason that people use marijuana is to help with symptoms such as: anxiety, nausea, headaches, and pain. Even though marijuana is harmful for the body in general, smoking marijuana is even more harmful than eating or drinking it because the body absorbs THC more slowly when marijuana is eaten or drunk. For example, oral ingestion leads a person to feel the effect after 30 minutes to one hour (Wu et al., 2011).

However, the positive effect of THC also has side effects. Some short-term effects of marijuana also include short-term problems with attention, memory and learning. Marijuana can also affect relationships and mood. (The Centers for Disease Control and Prevention [CDC], 2018)

Long-term effects of Marijuana

The long-term effects of marijuana that are of great concern is brain function. The earlier in life people begin using marijuana, the more it impairs their thinking, memory, and learning functions. It also affects how the brain builds connections between the areas necessary for these functions. For example, a study conducted by researchers at Duke University showed that individuals who started smoking marijuana at a young age and continue to use the drug on an everyday basis, lost an average of 8 IQ points (“Adolescent Pot Use Leaves Lasting Mental

Deficits,” 2012). The study also shown that even those who did quit smoking marijuana did not regain their mental abilities back. However, adults who started smoking marijuana in their older years and did not start as teens did not have any noticeable IQ declines.

Some other long-term effects of marijuana also include: poor school performance, impaired thinking and ability to complete tasks. In addition, users report an overall lower life satisfaction, increased risk of addiction, and risk for opiate abuse (The Centers for Disease Control and Prevention [CDC], 2018). Marijuana also has an effect on an individual’s social function and work status. Users report an increase in intimate partner violence and antisocial behavior. According to the National Institute on Drug Abuse, marijuana affects their livelihood with users having a greater risk of being unemployed, experiencing financial difficulties, increased welfare dependence, and marijuana use being a deterrent to not getting hired. Lastly, marijuana has a great impact in developing brains, like those in infants. The implications of marijuana use are that the earlier the use, the greater the impact marijuana has on cognitive function. This is significant implications for pregnant women who use marijuana because studies have shown that their children with have problems with attention, memory, behavior, and problem-solving (The Centers for Disease Control and Prevention [CDC], 2018).

Marijuana Used as a Teratogen

For women who are pregnant, there is emerging use of marijuana. Pregnant women claim that the use of marijuana helps with the nausea, morning sickness, or the anxiety about being pregnant. A study done in California found that use of marijuana in pregnant teens younger than 18, has risen from 12.5% to 21.8%. In comparison, pregnant women ages 18 to 42 had a rise in marijuana use from 9.8% to 19% (Howard, 2017).

Another national study found that women who reported using marijuana at least once this past month had a rise from 2.37% in 2002 to 3.85% in 2014 (Howard, 2017). However, there is no evidence-based research that shows that marijuana is effective in treating morning sickness.

On the other hand, there is evidence that marijuana use during pregnancy is not safe for the infant. When marijuana is smoked or eaten, an edible, the chemicals inside of it then reach the fetus by crossing the placenta. There isn't much research done on pregnant women using marijuana because it is not encouraged and has social stigma, making it a challenging topic to research. However, based on animal and retrospective studies, there are risks of babies being born smaller and/or stillbirth due to marijuana usage during pregnancy (Grant et al., 2018). If a woman is using marijuana during pregnancy it is encouraged that she tells her medical provider as soon as possible. The American College of Obstetricians and Gynecologists (ACOG) (2018) advises that pregnant women do not use marijuana. Instead, ACOG suggests women telling their provider of their morning sickness to discuss alternative management including diet or lifestyle changes. If these don't work, there are also many medications that are approved by the Food and Drug Administration, FDA, to treat nausea and/or vomiting during pregnancy.

Marijuana Policies and Regulations

To further complicate the legality of marijuana use are the gaps between state and national laws, recreational and medicinal use, and use in pregnant women. Under federal law, use of marijuana is illegal, however, there are no laws that prevent individuals and women who are pregnant from buying or using marijuana. In states that have legalized marijuana, all state-level criminal penalties involving marijuana have been removed. Therefore, there are no state penalties for marijuana use during pregnancy in any of the 24 states that have legalized either medical marijuana, recreational marijuana, or both (Chasnoff, 2017). However, in Connecticut

and other states, women who use marijuana and care for children are considered unfit care givers and are to be reported to the Department of Child and Family Services, DCFS.

Since the legalization of marijuana, health care professionals and legislators have identified a need to add amendments to the existing laws to protect fetuses. In 2015, the first agency to advocate for a change, was the American Medical Association, AMA, when it announced their mission to caution the use of any type of marijuana in pregnant women. Following the AMA, the ACOG advised professionals against “the use of marijuana for medicinal purposes during preconception, pregnancy, and lactation” (Chasnoff, 2017, p. 3). The discussion of whether marijuana use during pregnancy should be illegal is heavily influenced by the ongoing issue of: is the drug use of a pregnant woman considered child abuse? Many of the decisions of past legal trials were based on the answer to a very controversial question: is a fetus considered a child?

The individual state of Connecticut does not currently have a law that defines marijuana use in pregnant women as child abuse. Instead, Connecticut’s Judicial Branch has a Child Abuse Law Library which contains 11 sections. These sections range from “duty to report child abuse” to “false reports of child abuse” (Connecticut Judicial Branch, 2017, p.1). However, there is one section that references protocols for women who are pregnant. Section 17a-710 of the Connecticut General Statute states (2017): “It shall be the policy of the Department of Mental Health and Addiction Services to develop and implement treatment programs for pregnant women of any age with substance use disorders and their children” (p. 45). The statute places the Department of Mental Health and Addiction Services itself and their case managers, to be responsible for developing parenting classes, outreach services, hospital care specific to addiction, home visitation, vocational training to aid in employment and a housing component,

all which should be programmed by a case manager (Connecticut General Statute, Section 17a-710, 2017, p. 45). While all of the initiatives listed in section 17a-710 of the Con. Gen. Statutes illustrate a thought-out plan to help mothers who are struggling with addiction, nothing is protecting the fetus from exposure by law.

The contradicting laws between different states in the United States have altered the way people view marijuana and its' risks. Colorado, being one of the first states to legalize marijuana for recreational use, provides good information as to these attitudes and beliefs. In 2015, Colorado residents were asked about their perceived risk of marijuana use, their access to marijuana and their perception of how acceptable marijuana use is, in comparison to states without legalization of medical marijuana. The results found that the perceived risk of smoking marijuana is significantly decreased for Coloradans compared to other states. In addition to this, participants from Colorado reported low rates of disapproval of marijuana use for adult individuals. All of this information was readily available, as it was found Coloradans were more willing to report their marijuana use (Scheumrmeyer et al., 2014).

Perception of Marijuana in Undergraduate Students

There was a study conducted by Page and Scanlan (1999) to determine the perception of the prevalence of using marijuana among students. The hypothesis was that students who normalized the perceptions of using marijuana on campus would be significantly more likely to use marijuana than those who perceive a lower prevalence. The study reported that 29.6% male students and 19.6 female students reported current marijuana usage even though 27.7% of females were estimated to use marijuana and 34.9% of males, a significant difference ($p > .0001$). This was the only study found on perception of marijuana in undergraduate students.

Because there is so minimal research on this controversial topic, it was important to conduct this study.

The purpose of this study will be to describe undergraduate's perception about marijuana use in the general populations, use of marijuana during pregnancy, and if they know anyone who uses marijuana in general and during pregnancy. A secondary purpose will be to compare the attitudes, beliefs, and knowledge between nursing and non-nursing majors.

Methods and Procedures

Design

This study is a cross-sectional survey study.

Sample and Setting

The target for this sample was 50 non-nursing undergraduate UConn students. The data was collection simultaneously with another honors student's thesis which explored undergraduate nursing students' attitudes, knowledge and beliefs about marijuana use and marijuana use during pregnancy.

Data Collection

After the survey was finalized and approved by IRB, the announcement for the study was posted on the UConn Daily Digest once a week and the School of Nursing list serv once a week for a total of 3 weeks. Interested participants were able to click on a link in the announcement to the survey questionnaire in Qualtrics. Once participants clicked on the Qualtrics link, participants had to provide consent before the survey began. The participants read the purpose, length of survey, time to complete the survey, and risk and benefit of the survey on the cover page. Participants checked yes or no to participate in the study and their participation was anonymous.

Measurement

The survey included questions about age, gender identity, class standing, whether participants believed that pain as well as other personal symptoms could be managed with marijuana, whether they agreed or disagreed with pregnant women using marijuana to manage pregnancy-related symptoms if they agreed or disagreed that marijuana has effects on the fetus, and the criminalization of marijuana during pregnancy.

These questions were determined and the survey was created based on the goal of researching attitudes and beliefs surrounding marijuana in undergraduate students and the lack of research that there was on this topic. Another goal was to see if there were any differences in the knowledge between nursing students and other majors.

Data analysis

Descriptive statistics and t-tests were used to determine the relationships for within the different majors. To better understand the overall knowledge of students, we combined the two knowledge questions related to general population: “I believe pain can be managed with marijuana” and “There is nothing wrong with using marijuana to treat symptoms one may be experiencing.” The three related to pregnancy: “I believe pregnant women can use marijuana to manage their pregnancy-related symptoms”, “I believe that marijuana has no effect on newborn infant after birth” and “marijuana has no effect on fetal development” and all five questions together.

Results

We recruited 143 undergraduate students at the University of Connecticut out of 18,847 total undergraduate students. The data was then cleaned and a total of twenty-three students had to be thrown out immediately because they did not answer 100% of the questionnaire. Out of these 23 students, nine responses (39.1%) only consented to the survey, without providing their

major, and 14 responses (60.8%), ten were nursing students, four were non-nursing but all science-related majors such as Physiology and Neurobiology, animal science, and biology, stopped at gender identity. Two students finished the survey without providing their major and age and three nursing did not provide their class rank. Overall, there were 113 students left from an original 143 students at the beginning of the data cleaning.

After analyzing the data of 113 students, the data was broken into 64 nursing and 49 non-nursing. The non-nursing population was analyzed further, with students ranging in age from 18 to 23 years old and identifying themselves as males (n=12), females (n=34), transgender male (n=1), genderqueer, (n=1), and unknown (n=1). For class standing there were 20.4% (10) freshman, 22.4% (11) sophomores, 22.4% (11) juniors, 38.8% (19) seniors and 2 % (1) super senior. Out of these 49 non-nursing students, 95.6% knew someone who had used marijuana and 2% knew someone who used marijuana while pregnant, while 3.5% declined to respond. The students who responded were from biological sciences, business, arts, education, and engineering. Each major was then classified into the different UConn colleges. There were 15 students from the College of Liberal Arts and Sciences, 3 students from the School of Business, 5 students from the College of Agriculture and Natural Resources, 4 students from the School of Engineering, 3 students from the School of Fine Arts, 2 from the NEAG (School of Education), and 2 from the School of Pharmacy.

The analysis will first address the responses from the undergraduate students and then compare their responses to the nursing students. The characteristics of the population and of the 64-nursing student population which were recruited by another honors nursing student will be described (Table 1).

Beliefs of Students About Marijuana Use

For undergraduate non-nursing students, 76% stated they think it is okay to use marijuana to treat personal symptoms, 93% agree that marijuana can be used to treat pain, and 95% know someone who has used marijuana (Table 2). For use in pregnancy, 68% of students agree that marijuana affects fetal development and 57% disagree that marijuana has no effect on newborn infant after birth (Table 2). Only 2% of students knew someone who used marijuana while pregnant and 61% of students do not agree that marijuana should be used during pregnancy to treat pregnancy related symptoms, such as nausea and vomiting (Table 2). However, if women use marijuana during pregnancy, only 12.2 % (n=6) of students believe women should be reported to DCFS while 49% (n=25) don't believe they should be reported, and 36.7% (n=18) gave no response (Table 2).

The answers to the survey questions of non-nursing students is presented in table 2. In order to increase our power for the analysis, we clustered the questions according to individual, Individual_MJ, and pregnancy topics, Pregnant_Fetus_MJ, and then as Total_MJ. In further analysis, all three of the clustered questions for the non-nursing were significant using t-tests. The t-test was run on a 95% confidence interval, which would make the alpha of this test 0.05. Non-nursing students in comparison to the population as a whole agreed that marijuana use was okay ($M = 3.959$, $SD = 1.39$), $t(48) = 19.813$, $p = .0001$, was okay for the general population ($M = 12.367$, $SD = 1.88$), $t(48) = 45.815$, $p = .0001$, and not appropriate for use during pregnancy ($M = 49$, $SD = 1.135$), $t(48) = 51.856$, $p = .0001$. Using Chi-square analysis, there was no significance for class standing, Total_MJ variable ($p=0.374$), Individual_MJ variable, ($p=0.809$), Pregnant_Fetus_MJ variable, ($p=0.768$), for gender identity, Total_MJ variable ($p=0.860$), Individual_MJ variable, ($p=0.491$), Pregnant_Fetus_MJ variable, ($p=0.965$), and different major, Total_MJ variable ($p=0.612$), Individual_MJ variable, ($p=0.301$), Pregnant_Fetus_MJ variable,

($p=0.643$). However, there is in age for the Pregnant_Fetus_MJ, $X^2(25, N=49)=40.013$, $p=.0029$ (Figure 1) but not Total_MJ variable, $p=0.620$ or Individual_MJ variable, $p=0.864$. (Table 3).

Comparison of Beliefs Between Nursing and Non-Nursing Students

As stated above, three variables were created to cluster questions. However, this time they were to further analyze between both non-nursing and the nursing population in this study. There was no significant difference between groups when looking at the individual_MJ variable, $p=0.137$. In comparison to nursing students, non-nursing students were significantly less supportive of general marijuana use $t(111) = -2.03$, $p = .045$ and use during pregnancy $t(111) = -2.35$, $p = .020$ but shared the same belief on the effect on the fetus (Table 5).

Discussion

The general opinions of non-nursing students were that marijuana can be used to treat pain and personal symptoms. However, marijuana should not be used to treat pregnancy related symptoms because marijuana affects fetal development. But if a woman is using marijuana, more than half of the non-nursing students believes that these women should not be reported to DCFS. The only significant differences within the non-nursing students was age.

Shockingly, this means that courses or the culture for non-nursing majors are doing a better job at educating them about drugs and their effects. It might be because non-nursing majors have more science-based courses, whereas nursing majors have more classes concentrated on medications, body systems, disease processes, etc. In a future study, it should be analyzed further where the misconception that nursing students have is coming from.

These results show that there is still so much work to be done. All undergraduate students should be better educated in this topic. There are not many studies that talked about drug

education for undergraduate students, but there are some that talk about first-year students being the most at risk for substance abuse (Page & Scanlan, 1999). This means that not only should this population be targeted to be educated better but that there is a large gap of understanding about marijuana use in college students. As reflected in the data above, older students responded differently than younger students. Therefore, if first years can learn early what different drugs do and the resources that are available on campus, then maybe the number of students who use marijuana would decrease. At the same time, if students can be better educated in college, then they will make better life choices. An important life choice would be choosing not to use marijuana during pregnancy. Furthermore, these students will then be the kind of parents who educate their children on drugs and substance abuse.

Surprisingly, the non-nursing students universally understood marijuana's indirect effect on the fetus and infant during and after pregnancy. Fewer non-nursing students compared to nursing students believed marijuana was appropriate to manage pregnancy symptoms. The response the populations had to the pregnancy questions significantly shifted their total marijuana questions response, making it a significant different from the nursing students. Even more concerning, is that universally non-nursing students understood the adverse effect marijuana has on fetal development compared to 5% of the nursing students. There were also fewer non-nursing students compared to nursing students who believe that marijuana has no effect on newborn infants after birth (Table 4). In relation to the criminalization of marijuana use during pregnancy, fewer non-nursing students believed that women who use marijuana should be reported to DCFS or be criminally reprimanded.

Some challenges of conducting research on this topic was how little information was found on marijuana use and pregnancy. The research is really lacking and is something that

should be studied. Moving forward, there should be animal model research to help better address questions about brain development, affecting the growth and development of the fetus, and overall health for women using marijuana while pregnant.

Limitation

One of the limitations is the small sample size due to surveys being excluded because of incompleteness. If this study was repeated, a larger sample will provide additional clear and concise data. An additional limitation is that it was one university. It would be interesting to survey multiple populations of undergraduate students and see if the results end up being somewhat similar. Lastly, other limitations are that survey was developed by investigators and was previously untested. Additionally, social desirability is a possible issue.

Conclusion

All things considered; this study is definitely the start of the conversation, but it is not the whole conversation. There is so much work to be done on both sides. Undergraduate nursing and non-nursing students should both be better educated on such a controversial topic. Universities should do a better job at educating their students potentially by offering more classes that focus on the different drugs and how they affect a person's health. Also, education about marijuana should be a priority with nursing majors because these are the future healthcare workers who are going to be educating their patients on marijuana and substance abuse.

Appendix: Survey that was sent through the UConn nursing list serv and the Daily digest

Attitudes, Knowledge and Beliefs on Marijuana in Undergraduate Students Questionnaire

1. What is your age? (provide a value in the space below), you may also fill in “no response”
2. Are you currently an undergraduate student? (choose one)
 - a. Yes
 - b. No
 - c. No response
3. What is your major? (fill in), you may also fill in “no response”
4. What is your class standing? (choose one)
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. Super senior and up
 - f. No response
5. What is your gender identity? (choose one)
 - a. Male
 - b. Female
 - c. Transgender man / transman
 - d. Transgender woman / transwoman
 - e. Genderqueer / gender non-conforming
 - f. Decline to state
 - g. Additional Identity: (fill in)

Please fill in the following scale based off of your opinions of the statements below: LIKERT SCALE

6. I believe pain can be managed with marijuana.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

7. There is nothing wrong with using marijuana to treat symptoms one may be experiencing.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

8. Do you know someone who has used marijuana?

- a. Yes
- b. No
- c. No response

8a: If you answered yes to the question above, what reasons did they use it for? (check all that apply)

- a. Nausea/Vomiting
- d. Pain management
- e. Recreation/Pleasure
- f. Prescription
- g. Stress
- h. I do not know anyone who has used marijuana
- i. No response

9. Women who are pregnant may experience nausea and other pregnancy related symptoms.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

10. Women who are pregnant may experience aches and pains.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

11. I believe pregnant women can use marijuana to manage their pregnancy-related symptoms (pain, nausea/vomiting, discomfort, etc).

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

12. Marijuana has no effect on fetal development.

- a. True
- b. False
- c. No response

13. I believe that marijuana has no effect on newborn infant after birth (e.g., no withdrawal symptoms)

- a. True
- b. False
- c. No response

14. Do you think women who use marijuana should be reported to the Department of Children and Family Services or criminally reprimanded?

- a. Yes
- b. No
- c. No response

15. Do you know someone who has used marijuana while they were pregnant?

- a. Yes
- b. No
- c. No response

15a: If you answered yes to the question above, what reasons did they use it for? (check all that apply)

- b. Nausea/Vomiting
- d. Pain management
- e. Recreation/Pleasure
- f. Prescription
- g. Stress
- h. I do not know anyone who has used marijuana while pregnant
- i. No response

Table 1:

Description of Characteristics

Question	Total N	Non-Nursing Students	Nursing Students
Class standing			
Freshman	23	10	13
Sophomore	19	8	11
Junior	24	11	13
Senior	37	19	18
Super senior	10	1	9
Gender			
Male	26	12	14
Female	84	34	50
Transgender/Transqueer	1	1	0
Other	1	2	0
School of Engineering	4	4	N/A
College of Liberal Arts and Sciences	15	15	
School of Business	3	3	
College of Agriculture and Natural Resources	5	5	
School of Fine Arts	3	3	
School of Education (NEAG)	2	2	
School of Pharmacy	2	2	
School of Nursing	64	0	
Total	113	49	64

Table 1.

Non-Nursing Students Response to the Question

Non-Nursing Students (N=49)					
Average Scores for Each Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Nothing Wrong with Using Marijuana to Treat General Symptoms	31.9	44.2	16.8	7.1	0
I believe pain can be managed with marijuana	32.7	60.2	6.2	0.9	0
Belief that Women May Experience Pregnancy Related Symptoms	81.6	16.3	2.0		

Belief that Women Can Use Marijuana to Manage their Pregnancy-Related Symptoms	2.7	5.3	31.0	38.9	22.1
	Yes	No	No response		
Do you know someone who uses marijuana	95.9	2.0			
Marijuana has no effect on fetal development	0	63.3	36.7		
Marijuana has no effect on newborn infant after birth	6.1	57.1	36.7		
Should Women Using Marijuana be Reported to the Department of Children and Family Services	12.2	51.0	36.7		
Know someone who has used marijuana who is pregnant	2	93.9	4.1		

Table 3.
Non-Nursing Students Response to Clustered Questions

Clustered questions	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Individual_MJ						
Total	49	3.959	1.39	19.813	48	.000+
Class						0.809
Gender						0.491
Age						0.854
All majors						0.301
Pregnancy_MJ						
Total	49	8.408	1.135	51.856	48	.000+
Class						0.786
Gender						0.965
Age	49			40.13	25	0.029*
All majors						0.643
Total_MJ						
Total	49	12.367	1.88	45.815	48	.000+
Gender						0.374
Class						0.860
Age						0.620
All majors						0.612

Note: * χ , +*t*-test

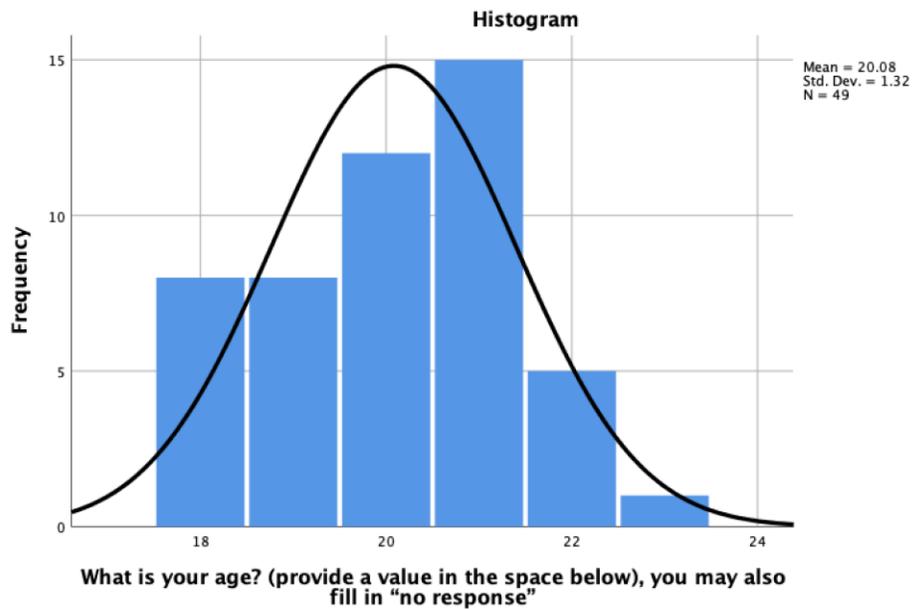
Table 4.
Comparison between Nursing and Non-Nursing Students for Clustered Study Variables Questions

Question	Measurement				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Belief that Women Can Use Marijuana to Manage their Pregnancy-Related Symptoms					
Non-Nursing Students (n = 49)	2.0	4.1	36.7	32.7	24.5
Nursing Students (n = 64)	3.1	6.3	26.6	43.8	20.3
	Yes	No	No Response		
Marijuana has No Effect on Fetal Development					
Non-nursing	0	63.3	36.7		
Nursing	4.7	71.9	23.4		
Marijuana has no Effect on Newborn Infant After Birth					
Non-nursing	6.1	57.1	36.7		
Nursing	15.6	65.6	18.8		
Women who use marijuana should be reported to the Department of Family Services or criminally reprimanded					
Non-nursing	12.2	51.0	36.7		
Nursing	18.8	46.9	34.4		

Table 5.
Comparison between Nursing and Non-Nursing Students for Clustered Study Variables

<i>Logistic Parameter</i>	Non-Nursing Students N=49		Nursing Students N=64		T-value	p
	M	SD	M	SD		
Individual_MJ	3.96	1.40	3.58	1.26	-1.50	0.137
Pregnant_Fetus_MJ	8.41	0.16	7.94	1.33	-2.03	0.045
Total_MJ	12.37	0.27	11.52	1.93	-2.35	0.020

Figure 1:



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