Student Prevention Paper: Nicotine (Vaping Included)

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A recent national survey estimated that over 2.5 million middle and high school students in the United States of America are currently using e-cigarettes. This is a major cause for concern due to the potential health risks and the vulnerability of adolescents to nicotine addiction (McCauley et al., 2023). This epidemic of adolescents' use of e-cigarettes is caused by many different factors. One of the major factors are adolescents' misperceptions about the benefits and the risks of e-cigarettes. While the second factor is the pressure from their social lives. One example of this is that there are many adolescents in either middle school or high school that have this misconception that e-cigarettes are a healthier alternative/option to normal cigarettes that contain tobacco. What these adolescents in either middle school or high school don't take into consideration when making that misconception is that there are still potential health risks, the nicotine content in e-cigarettes are incredibly high, and they are highly addictive. To put that into perspective, a typical cigarette contains around 10-12 milligrams of nicotine, but a high-nicotine vape like one that is 20mg/ml of liquid with 40mg of nicotine, is therefore equivalent of smoking one or two packs of 20 cigarettes (Marsh, 2023). Since 2020, 19.6% of high school students and 4.7% of middle school students across the United States have used an e-cigarette in the past 30 days. That directs to the fact that a large number of adolescents in the United States will become addicted to nicotine and are at a very high risk of becoming a regular tobacco user (*CATCH My Breath - Vape Education - Tobacco Youth Prevention*, 2024).

Even though e-cigarettes are most likely to be less harmful than regular cigarettes since they have less toxicants than regular cigarettes. At the same time, whole e-cigarettes may have fewer toxicants than regular cigarette smoke, studies looking at the long-term use of e-cigarettes and their health risks have not been looked at fully due to how young e-cigarettes are (Milicic et al., 2018). This is very alarming since there is such an upward trend of e-cigarette use by

adolescents in middle and high school across the country that is combined with their brains still being developed as they age. This can affect and potentially be incredibly harmful to their brain development (Milicic et al., 2018). In 2016, the U.S. Food and Drug Administration (FDA) created a rule that extended their regulatory authority over all tobacco products which includes e-cigarettes. So, since 2016, the FDA now regulates the manufacture, import, packaging, labeling, advertising, promotion, sale and distribution of all e-nicotine delivery systems. Schools are a very important place that represent a domain for advancing health policies among adolescents in schools across the country. There is a lot of studies and evidence that prove that a school policy environment has the capability to shape youth e-cigarette use as well as nicotine addiction in adolescents (Milicic et al., 2018). It is important to know that e-cigarettes can look very different from each other by the way they are shaped and the varying names they all can have. The most popular e-cigarette brands today are JUUL, Vapor Fi, Blu, PULSE, My Jet, PHIX, and Suorin Air. However, JUUL is the most popular e-cigarette brand here in the United States with owning about 75% of the market share (*CATCH My Breath - Vape Education - Tobacco Youth Prevention*, 2024).

Another factor is that adolescents might use an e-cigarette due to stress and therefore use it for stress relief. Even though many adolescents use e-cigarettes for stress relief, there is evidence that e-cigarette use actually negatively impacts your mental health (McCauley et al., 2023). Adolescents are also very susceptible to peer influence, with many young e-cigarette users contributing their e-cigarettes experimentation and starting to use to peer pressure and wanting to fit in with specific groups of peers. On top of all of this, these risk factors get blended with the promotion and advertisement of e-cigarette use on social media that is created and

targeted towards young people like kids in middle schools and high schools across the country (McCauley et al., 2023).

Everyone went through COVID-19, and most people have now either gotten it once or a few times. On top of that most people might know someone either close to them or through someone else who has sadly passed away from COVID-19 or is still suffering from long term COVID-19 effects. The COVID-19 pandemic resulted in influencing the use of e-cigarettes in adolescents that attend middle and high schools because of social distancing, remote learning, and impacts on their mental health. The influence of this "vaping culture" resulted in both positive and negative factors (Liu et al., 2023). A study was conducted and found that the COVID-19 pandemic negatively impacted students' mental health due to the isolation during that time. That resulted in many students/adolescents turning to use e-cigarettes as a coping mechanism. On top of that, schools weren't able to conduct their typical in-person vaping/e-cigarette/nicotine addiction programs, which also impacted students' mental health (Liu et al., 2023). This is just another reason why the district needs to implement an evidence-based program that will benefit every single student.

All of these potential health factors and known incredibly high rates of e-cigarette use by middle and high school adolescents here in the United States, stresses the utmost importance of creating and implementing programs that are aimed at preventing e-cigarette use. The one evidence-based program I want to bring to our district is called CATCH My Breath. CATCH My Breath is a youth e-cigarette prevention program that was created by the Michael & Susan Dell Center for Healthy Living at the University of Texas Health School of Public Health. The main goal of the program is to prevent the use of e-cigarettes by students 10-18 years old who are in 5^{th}-12^{th} grade (*CATCH My Breath - Vape Education - Tobacco Youth Prevention*, 2024). CATCH

My Breath will teach the students to understand that e-cigarettes are very addictive because of the high nicotine count, super unhealthy, and not as popular as they think they are. The prevention program will also have students understand how advertising agencies will trick and use certain techniques that are aimed at adolescents in middle and high schools. Also, the program will teach students to learn how to resist their curiosity to experiment with e-cigarettes and how to not give into peer pressure. The final thing that the CATCH My Breath prevention program will teach the students is how to spread and influence others to not use e-cigarettes. This program will benefit everyone in this school district because of how effective it has become.
A pilot study was recently conducted on CATCH My Breath and it showed positive results in improving youth knowledge on vaping and preventing e-cigarette use (Dai et al., 2021). Also peer-reviewed knowledge and behavior outcomes associated with CATCH My Breath have concluded that 7 out of 8 middle schoolers say they're less likely to smoke e-cigarettes because they participated in CATCH My Breath (Kelder et al., 2020). As well as reductions in nicotine vaping use, overall tobacco use, increasing nicotine vaping knowledge, and creating positive perceptions of a vape-free lifestyle (Kelder et al., 2020). This prevention program is implemented annually in more than 5,500 schools across all 50 states with over 2 million students participating as well as the prevention program mainly being student-led and adult moderated.

I strongly urge that our district implements this prevention program because of how successful it has been and how simplistic the program is as well. The CATCH My Breath program will have 4 very unique lessons for each grade group (5-8 and 9-12), that are around 35 minutes each. This is something that can be done by the health teachers in each school that comes with a full lesson plan and all the materials that the teacher and each student would need

for each lesson. For example, the four sessions for grades 5-8 would be (1) consequences of using e-cigarettes, (2) making our own choices, (3) don't let them lie and win, and lastly (4) your life, your choice. On top of that CATCH My Breath will provide printable posters, school signs, and other media to display throughout the school. What makes this program so convincing to so many schools across the country and what should make our district implement it is that it is the only recommended school-level youth intervention that is recognized by the Substance Abuse and Mental Health Services Administration (SAMHSA). The Substance Abuse and Mental Health Services Administration (SAMHSA) says that getting training on CATCH My Breath was "vital" for successful implementation of the prevention program and to build program capacity (*EVIDENCE-BASED RESOURCE GUIDE SERIES Reducing Vaping among Youth and Young Adults Reducing Vaping among Youth and Young Adults Acknowledgments*, n.d.).

To show that this program is very effective, a study was conducted on the implementation and effectiveness of the CATCH My Breath program at a high school in North Carolina. After these students went through this prevention program, they all took a post-survey in which 96% of the students reported that the CATCH My Breath program increased their knowledge on what they knew about e-cigarette use, 92% said that they are less likely to use an e-cigarette after participating in the program, and around 92% of students said if they were offered to try an e-cigarette that they felt confident in using a refusal skill that they learned how to use during the prevention program. Also, 86% of these students said that they now understand e-cigarette advertising better because of the CATCH My Breath program and 62% said they have shared all the information they have learned in the program with their friends and family. Lastly, which is the most convincing statistic that I believe will convince everyone in our district to use this prevention program is that 96% of the participants think that all middle and high school students

should go through the CATCH My Breath program (Ballance, 2022). All in all, this is why I believe our district should implement the CATCH My Breath program because it has been proven to be effective towards almost every student involved in the program. If we use this prevention program, I know that our students will greatly benefit from it.

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