

## ABSTRAK

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### HUBUNGAN KETERGANTUNGAN MENGHIRUP CAIRAN *PROTONATED NICOTINE ELECTRONIC CIGARETTES* DAN TINGKAT STRES AKADEMIK PADA MAHASISWA PELITA HARAPAN

**Latar Belakang:** Pada tahun 2022 prevalensi penggunaan *e-cigarettes* secara global adalah sebesar 11% dan prevalensi transisi dari penggunaan rokok tradisional menuju *e-cigarettes* adalah sebesar 43%. Walaupun sudah pernah diteliti mengenai hubungan rokok tradisional dengan stress, namun belum banyak diteliti mengenai hubungan ketergantungan menghirup cairan *protonated nicotine* pada *e-cigarettes* dengan tingkat stress akademik pada mahasiswa Universitas Pelita Harapan.

**Tujuan:** Mengetahui hubungan antara ketergantungan menghirup cairan *protonated nicotine e-cigarettes* dan stress akademik pada mahasiswa Universitas Pelita Harapan.

**Metodologi:** digunakan analitik komparatif kategorik tidak berpasangan dengan desain penelitian potong lintang. Sampel mahasiswa Universitas Pelita Harapan yang berjumlah 145 sampel. Data akan dianalisis dengan menggunakan SPSS versi 2023 dan metode statistik Pearson Chi-Square.

**Hasil dan Pembahasan:** Sebanyak 145 responden memenuhi kriteria inklusi, yang terdiri atas 77 (53,1%) laki laki dan 68 (46,6%) perempuan. Didapatkan ketergantungan menghirup cairan *protonated nicotine* berat sebanyak 42,1%, ketergantungan sedang 29%, ketergantungan ringan 16,6% dan tidak ketergantungan 12,4%. Sedangkan stress akademik terdiri dari berat 40,7%, sedang 28,3% dan ringan 31%. Pada hubungan ketergantungan menghirup cairan *protonated nicotine* terhadap stress akademik didapatkan kebermaknaan dengan  $p\text{-value} = 0,003$ ,  $odds\ ratio = 3,292$ . 95% CI = 1,543 - 7,024. Hal tersebut diduga karena nikotin pada *e-cigarettes* merangsang sekresi CRH yang menyebabkan kelenjar adrenal mensekresi kortisol, sehingga terjadi stress.

**Kesimpulan:** Hasil penelitian sesuai dengan hipotesa yaitu terdapat hubungan antara ketergantungan *protonated nicotine* terhadap stress akademik pada mahasiswa Universitas Pelita Harapan adalah signifikan.  $Odds\ ratio$  senilai 3,292 menunjukkan bahwa

kelompok mahasiswa yang ketergantungan menghirup cairan *protonated nicotine* pada *e-cigarettes* memiliki resiko 76,7% mengalami stress akademik dibandingkan kelompok mahasiswa yang tidak ketergantungan menghirup cairan *protonated nicotine* pada *e-cigarettes*.

**Kata Kunci:** *Protonated Nicotine, E-cigarettes, Stress Akademik, Penn state Nicotine Dependence Index, SSI*



## **ABSTRACT**

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### ***THE RELATIONSHIP BETWEEN THE DEPENDENCE OF INHALING PROTONATED NICOTINE E-CIGARETTES USE AND ACADEMIC STRESS LEVELS IN PELITA HARAPAN UNIVERSITY STUDENTS***

**Background:** In 2022, the prevalence of using e-cigarettes globally were 11% and the prevalence of transitioning from using traditional cigarettes to e-cigarettes were 43%. Although there has been research on the relationship between traditional cigarettes and stress, there has not been much research on the relationship between dependence on inhaling protonated nicotine liquid in e-cigarettes and academic stress levels among Pelita Harapan University students.

**Research Objectives:** To determine the relationship between dependence on inhaling protonated nicotine e-cigarettes and academic stress in Pelita Harapan University students.

**Methodology:** Unpaired categorical comparative analysis was used with a cross-sectional research design. The sample of Pelita Harapan University students was 145 samples. Data will be analysed using SPSS version 2023 and the Pearson Chi-Square statistical method.

**Result and Discussion:** A total of 145 respondents met the inclusion criteria, consisting of 77 (53,1%) men and 68 (46,6%) women. It was found that 42.1% were heavily dependent on inhaling protonated nicotine, 29% were moderately dependent, 16.6% were mildly dependent and 12.4% were not dependent. Meanwhile, academic stress consists of 40.7% severe, 28.3% moderate and 31% mild. The relationship between dependence on inhaling protonated nicotine liquid and academic stress was found to be significant with  $p\text{-value} = 0.003$ ,  $\text{odds ratio} = 3.292$ .  $95\% \text{ CI} = 1.543 - 7.024$ . This is thought to be because the nicotine in e-cigarettes stimulates CRH secretion which causes the adrenal glands to secrete cortisol, resulting in stress.

**Conclusion:** The results of the research are in accordance with the hypothesis, namely that there is a significant relationship between protonated nicotine dependence and academic stress in Pelita Harapan University students. An odds ratio of 3.292 shows that

*the group of students who are dependent on inhaling protonated nicotine liquid in e-cigarettes have a 76.7% risk of experiencing academic stress compared to the group of students who are not dependent on inhaling protonated nicotine liquid in e-cigarettes.*

**Keyword:** *Protonated Nicotine, E-cigarettes, Academic Stress, Penn state Nicotine Dependence Index, SSI*

