



**Personality Risk Factors for Electronic  
Cigarette among Nurses and Its Consequences  
for Mental Health Status**

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# Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

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### Abstract:

**Background:** The prevalence of e-cigarettes is steadily increasing among nurses globally, leading to detrimental impacts on their mental well-being. The rising prevalence of vape (e-cigarette) utilization among nurses individuals is worrisome, given the scarcity of information about risk factors and health implications. This study examines the correlation between personality qualities and the usage of e-cigarettes among nurses, as well as the impact on their mental health. A descriptive cross-sectional design study was conducted at Baquba Teaching Hospital in Diyala Governorate. A non-probability purposive sample was used to include 200 nurses working at Baquba Teaching Hospital, Diyala. Data were collected using a self-administered questionnaire from January 10, 2024 to February 29, 2024. The study instruments consist of two parts. First, the demographic sheet included sociodemographic information about the participants. The second part includes a measure of the personality assessment questionnaire (PAQ). The collected data were analysed using SPSS version 26. The user of the electronic cigar demonstrated a significant level of moderation across all dimensions of personality traits. Electronic cigar users exhibited a notable positive correlation between their years of experience in nursing and personality attributes. These new findings improve our comprehension of the factors that may make nurses more susceptible to electronic cigar use and the possible consequences for their mental well-being and lifestyle. The findings indicate that certain cognitive and personality

# Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

qualities are associated with an increased risk of vaping. These findings can be used to develop targeted intervention techniques.

**Keywords:** Personality, Electronic Cigarette, Nurses, and Mental Health Status

## المستخلص:

الخلفية: يتزايد انتشار السجائر الإلكترونية بشكل كبير بين الممرضين على مستوى العالم، مما يؤدي إلى آثار ضارة على صحتهم العقلية. إن ارتفاع معدل استخدام السجائر الإلكترونية بين الممرضين أمر مثير للقلق، نظراً لندرة المعلومات حول عوامل الخطر والآثار الصحية. تتناول هذه الدراسة العلاقة بين الصفات الشخصية واستخدام السجائر الإلكترونية بين الممرضين، فضلاً عن تأثيرها على صحتهم العقلية. أجريت دراسة تصميمية وصفية مقطعية في مستشفى بعقوبة التعليمي في محافظة ديالى. تم استخدام العينة القصدية غير الاحتمالية لتشمل ٢٠٠ ممرض وممرضة يعملون في مستشفى بعقوبة التعليمي في ديالى. تم جمع البيانات باستخدام استبيان مُدار ذاتياً في الفترة من ١٠ يناير ٢٠٢٤ إلى ٢٩ فبراير ٢٠٢٤. وتتكون أدوات الدراسة من جزأين. أولاً، تضمنت الورقة الديموغرافية معلومات اجتماعية ديموغرافية عن المشاركين. أما الجزء الثاني فيشمل مقياس استبيان تقييم الشخصية (PAQ). تم تحليل البيانات المجمعة باستخدام برنامج SPSS الإصدار ٢٦. أظهر مستخدمي السجائر الإلكترونية مستوى كبير من الاعتدال في جميع أبعاد السمات الشخصية. أظهر مستخدمي السجائر الإلكترونية علاقة إيجابية ملحوظة بين سنوات خبرتهم في التمريض وسمات الشخصية. تعمل هذه النتائج الجديدة على تحسين فهمنا للعوامل التي قد تجعل الممرضين أكثر عرضة لاستخدام السجائر الإلكترونية والعواقب المحتملة على صحتهم العقلية وأسلوب حياتهم. وتشير النتائج إلى أن بعض الصفات المعرفية والشخصية ترتبط بزيادة خطر التدخين الإلكتروني. ويمكن استخدام هذه النتائج لتطوير تقنيات التدخل المستهدف.

## Introduction:

Electronic cigarettes, also known as "vapes," are battery-operated devices that deliver nicotine through an inhalable aerosol. However, it is worth noting that nicotine-free solutions are also accessible. The prevalence of vaping, especially among young people, has significantly increased during the past decade. According to data from the United States, Canada, and England in 2019, more than 30% of individuals aged 16–19 regularly use vaping devices (Hammond et

## **Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status**

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al., 2020). In the United Kingdom, the use of vape products is most common among young people, and it has been increasing steadily over the years. In 2022, the prevalence of vape use among young adults reached 15.5%, compared to 11.1% in 2021. This trend is particularly noticeable among females, as the use of vape products among young adult females has more than tripled between 2021 and 2022 (Office for National Statistic [ONS], 2022). This has sparked apprehension, given the limited knowledge regarding the health implications of prolonged usage. The presence of carcinogens and other chemicals in e-cigarettes has the potential to adversely affect physical health (Pisinger & Døssing, 2014). However, it is equally important to consider the potential influence on mental health. According to a recent systematic review, there is a correlation between vaping and the development of several severe mental health conditions (Becker & Rice, 2022). Therefore, due to the increasing popularity of vaping among nurses, it is critical that we acquire a more comprehensive understanding of the individual factors that can enhance the probability of a young person adopting vaping, as well as a more complete understanding of its effects on physical and mental well-being. Multiple studies have investigated the correlation between the use of vape devices and mental health. The research indicates that young adults who use vapes have an increased likelihood of experiencing anxiety, stress, depression, and substance abuse. Additionally, they tend to report higher levels of perceived stress (King et al., 2018). There are a limited number of studies that have investigated the psychological characteristics that can predict the use of vaping and susceptibility to it among young individuals. Therefore, in the present investigation, we direct our attention towards additional potentially significant characteristics. Research indicates that adolescents and adults may engage in smoking as a means of managing or controlling unpleasant emotions, such as stress, melancholy, and rage (Heinz et al., 2010). Undoubtedly, individuals in their early adulthood who

## **Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status**

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possess limited self-discipline and struggle with managing their emotions have a higher probability of engaging in vaping (Reff & Baschnagel, 2021). Nurses commonly experience mental health issues that significantly hinder their functioning. Within the COVID-19 epidemic, a minimum of 25% of nurses globally have encountered feelings of worry, despair, and burnout, forming a distinct crisis within the larger pandemic (Ghahramani et al., 2021). Nurses, being the most extensive cohort within the healthcare system, play a vital role in advancing health, averting illness, and delivering primary and community healthcare services (GBD 2019 Human Resources for Health Collaborators, 2022). Although personality risk factors and e-cigarette smoking have been consistently linked in previous research, little is known about this topic. Aiming to fill the previously mentioned knowledge gaps, the current study seeks to provide a more detailed understanding of the personal characteristics that contribute to e-cigarette use among nurses, as well as the impact of such use on their mental health.

### **Materials and Methods**

This A descriptive cross-sectional design study was used to assess the personality risk factors for electronic cigarettes among nurses and their consequences for mental health status. The study was conducted among nurses working in the Baquba Teaching Hospital in Diyala Governorate. Data was collected from January 10, 2024, to February 29, 2024. The sampling method was a non-probability purposive sample. The sample size was measured based on a single population proportion formula. The Rao Soft program was used with a specific confidence interval of 5% and a confidence level of 95% to determine the sample size. Included all permanent staff nurses in a hospital who work there. included being an adult nurse (18 years of age or older), working for all hospital departments and units, being a mix of male and female nurses,

## **Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status**

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working both morning and evening shifts, and agreeing to take part in the current study. We excluded nurses who declined to take part in the study and nurses who abstained from smoking while collecting data. Data was collected by using structured questionnaires consisting of two parts. The first part discusses socio-demographic characteristics, including age, sex, educational level, marital status, monthly income, residence, experience of years in nursing, and number of e-cigarettes. The second part included a personality assessment questionnaire scale. (PAQ) contains 53 items consisting of seven domains: hostility and aggression, dependence, negative self-esteem, negative self-adequacy, emotional unresponsiveness, emotional instability, and negative worldview. Each item of apparent personality was arranged according to the following scale: never (1), rare (2), sometime (3), and always (4). This scale was evaluated according to three levels: mild level = (1-1.99), moderate (2-2.99), and high (3-4). The Institutional Review Board (IRB) of the College of Nursing, University of Baghdad, with issue number (20144 / 5/11/2023), approved the study protocol. Permission was obtained in the form of written informed consent from the study participants and another concerned body of the hospital. To ensure confidentiality, any identifying information about the study participants was not indicated on the questionnaires, and they were informed that the collected data was used only for research purposes. The data were analyzed using Statistical Package for Social Science (SPSS) version 26. Descriptive statistics were used in this study (e.g., mean, standard deviation, frequency, and percentage). For quantitative data, the Pearson correlation test was used to determine the degree and direction of the association between nurses' personality characteristics regarding e-smoking and socio-demographic characteristics. The P-value was considered significant if it was equal to or less than 0.05.

## Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

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### Results:

The study included 200 nurse who smoking electronic cigar shows the study's findings that the average age of nurses who smoke is  $28.97 \pm 6.695$  years, with the highest percentage being in the age group (20–29) years, as 95 percent of the study samples were male and 5 percent were female. The marital status shows that 49.5 percent of them are married, 50.5 percent of them are single, and a high percentage of them hold diplomas (57%). With regard to residency, the majority of nurses reside in urban areas (81.5%). Regarding monthly income, 46% were barely receiving an insufficient monthly income, and 43% had high experience between 1-4 years working in the hospital. Regarding of electronic smoking, the percentage (84%) regarding nurses who use electronic cigarettes, where the percentage reached (67.5%) the number of times smoking daily at a rate of 3 times or more. shows the descriptive evaluation of specific personality traits among hospitalized smoking nurses (Table 1). The results showed that all areas were within a moderate personality level for: hostility and aggression, dependence, negative self-esteem, negative self-adequacy, emotional unresponsiveness, emotional instability, and negative worldview. The average scores for these areas are 2.33, 2.246, 2.47, 2.70, 2.59, 2.73, and 2.29, respectively (Table 2). Illustrated the correlation between sociodemographic characteristics and personality attributes. The findings demonstrated a robust and positive association between the number of years of experience in nursing and personality traits among nurses who smoke electronic cigar. However, the statistical analysis indicated that there was no significant correlation between sociodemographic factors and personality traits regarding of (age, gender, marital status, education level, monthly income, residence, and cigar smoking) (Table 3).



## Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

**Table (1): Distribution of the nurse according to their Socio-demographic Characteristics (N=200)**

Demographic variables	Characteristics	Frequency	Percentage
1. Age	20-29 Years	139	69.5
	30-39 Years	46	23.0
	40-49 Years	10	5.0
	50 Years & above	5	2.5
	MS±SD = 28.97±6.695		
2. Gender	Male	190	95.0
	Female	10	5.0
3. Marital status	Single	101	50.5
	Married	99	49.5
4. Educational level	Nursing school	15	7.5
	Diploma	114	57.0
	College	69	34.5
	Post-graduate	2	1.0
5. Monthly Income	Insufficient	92	46.0
	Somewhat sufficient	77	38.5
	Sufficient	31	15.5
6. Residence	Urban	163	81.5
	Rural	37	18.5
7. Experience of years	Less than one year	23	11.5
	1-4 Years	86	43.0
	5-9Years	55	27.5
	10Years & above	36	18.0
8. E-cigarrete	no smoking E-Cigarette	32	16.0

## Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

	Smoking E- Cigarette	168	84.0
9. Number of E-cigarette	no smoking	32	16.0
	1-2 per Day	33	16.5
	3 & above per Day	135	67.5

*F = Frequency, % = Percentage*

**Table (2): Mean of Score of Personality Traits Domains (N=200)**

Personality traits Domains	M.S	SD	Ass.
1. Hostility and Aggression.	2.33	0.563	Mo
2. Dependency	2.246	0.498	Mo
3. Negative Self-Esteem.	2.47	0.467	Mo
4. Negative Self- Adequacy.	2.70	0.539	Mo
5. Emotional Unresponsiveness.	2.59	0.532	Mo
6. Emotional Instability.	2.73	0.506	Mo
7. Negative World View.	2.29	0.589	Mo

*F = frequency, % = percentage, \*M.S. = mean of score, SD = standard deviation, \*Ass. = level of assessment, 1-1.99 = mild (M), 2-2.99 = moderate (Mo), 3-4 = high (H)*

**Tables (3) :Association between socio-demographic variables and personality traits among nurse**

socio-demographic variables	Chi-Square	P value	Sig.
Age groups	.239	.059	N.S
Gender	.603	.550	N.S
Marital status	.672	.188	N.S
Educational level	.144	.648	N.S
Monthly Income	.672	.188	N.S
Residence	.536	.307	N.S

## Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

Experience years in nursing	.755	.032	H.S
Smoking Cigarette	.120	.232	N.S

\* Sig. = significance level  $\leq 0.05$  = significant, N.S: Not Significant, S: Significant, H.S: High Significant

### Discussion:

A total of 200 participants of nurse were included in this study. The majority of the study participants were male (95%), while females constituted 5%. These findings agree with many studies, which reported that participants were male (74.5%) of the total participants, while females constituted (25.5%) (Majeed et al.,2023; Al-Reda et al., 2023; Thumil & Mohammed, 2022; Hassan et al.,2024). A majority (69.5%) of the respondents were ages 20–29, with a mean (standard deviation) age of  $28.97 \pm 6.695$  years. A total of 57.5% of respondents had a diploma educational level, (50.5%) of the nurses were single, and the remainder were married. (43.0%) were employees (1–٤) years in nursing. the findings are in line with results obtained from a researcher who reported that the majority (40.7%) of the respondents were ages 20–29, institute graduates (42.1%) (Majeed et al.,2023; Ahmeed, 2022). 70.0% of the nurses were single, and the remainder were married (Saeed et al.,2023; Majeed et al.,2024; Abid et al.,2018), (٥٣.٣%) were employees (1–5) years of experience in nursing (Majeed et al., 2020). Regarding residence, the study reported that 81.5 % of the sample lived in an urban area. These results agreed with the findings of the study, which showed that 91.7 % of the study sample lived in the urban area (Mohammed, 2022; Majeed, & Atiyah, 2021). A high percentage of smokers (67%) have been smoking for 1–5 years, and 65% of smokers have been smoking 1-3 times in the hospital. Moreover, the present study results were in agreement with the demon statement that a high percentage of respondents (40.8%) were smoking since 25–34 years ago; 65% of them smoke 1-3 times a day (Obad & Majeed, 2024) (Table 1). This study examines the personality risk

## **Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status**

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factors that contribute to the use of vaping among nurses and their connection to mental health. We examined the relationship between vape use and several psychological factors, including trait hostility, aggression, dependence, negative self-esteem, negative self-adequacy, emotional unresponsiveness, emotional instability, and a negative worldview, which have not been previously investigated. With respect to risk variables related to traits, the nurses who smoked vape had average scores in all of the domains of personality traits. These correlations were anticipated, given the prior evidence in the literature on combustible cigarette usage. Although two prior studies have investigated the connections between e-cigarette usage and the Big Five personality traits (as mentioned in the literature on traditional cigarettes), the findings have been inconclusive (Hittner et al., 2020). Therefore, this study provides valuable new information about the characteristics linked to e-cigarette usage, indicating that these characteristics may serve as predisposing factors for nurses to use e-cigarette products at a trait-level. The results support the notion that e-cigarette usage, similar to cigarette smoking, can be a way for individuals to regulate their unpleasant emotions (Heinz et al., 2010). According to this concept of negative reinforcement, the primary incentive for chronic substance use is the desire to escape unwanted experiences by self-medicating (Baker et al., 1986). The findings of our research were conducted by a study investigating individual risk factors associated with e-cigarette usage among young individuals, as well as the resulting effects on sleep and mental well-being. This study revealed that e-cigarette users exhibited notably diminished sleep quality, heightened symptoms of anxiety, escalated alcohol consumption, and increased feelings of loneliness (Evans & Alkan, 2024) (Table 2). Regarding the association between socio-demographic variables and personality traits among nurse. This finding is consistent with the findings of a study, which revealed that 62.6% of participants had prior experience in critical care for a duration of 1 to 5 years.

## **Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status**

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Personality traits have a good impact on nursing care principles, which is an essential skill (Okumura et al., 2022) .Our results of this study contradict by study regarding the association between personality traits and health-related behaviour, With regard to smoking, they did not find any statistically significant relationship between some personality traits and cigarette smoking - regardless of gender, marital status, or socioeconomic status, as there was a positive relationship with some personality traits (Tokarek et al., 2023; Abid et al.,20;18; Majeed et al.,2023; Mohammed et al.,2020) (Table 3).

### **Conclusions**

Due to the significant prevalence of vape usage among nurses, it is crucial to investigate the factors that contribute to the increased risk of usage and ascertain the relationship between vape usage and mental health. This study is the first to examine and demonstrate that nurses who use vaping devices have moderate levels of traits related to hostility and aggression, dependence, poor self-esteem, negative self-adequacy, emotional unresponsiveness, emotional instability, and negative worldview. Additionally, it was discovered that those who use vape products exhibited a notably stronger correlation between the duration of their nursing experience and the personality features commonly observed among nurses. These new discoveries offer valuable understanding into the distinct cognitive styles and personality traits that operate as risk factors for vape use among nurses, as well as the effects of vape use on mental health and work. The findings have significant implications for the development and focus of programs aimed at decreasing the prevalence of vape use and its associated consequences.

### **Acknowledgment**

The authors would like to thank all the patients who participated in this study for their support of our study.

# Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

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## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

## References:

Majeed, H. M., Hassan, A. F., & Mousa, A. M. (2024). Students' knowledge and attitude concerning organ donation at Iraqi nursing colleges. *Journal of Education and HealthPromotion*, 13(1), 60;13(2):472-476. [https://doi.org/10.4103/jehp.jehp\\_845\\_23](https://doi.org/10.4103/jehp.jehp_845_23).

Abed, O. A., & Majeed, H. M. (2024). Patient Knowledge and Attitude Concerning Contributing Factors And Early Diagnosis Of Prostate Cancer. *Obstetrics and Gynaecology Forum* .34( 3s), 200-206.

Abid, R. I., Majeed, H. M., & Mohammed, T. R. (2018). Assessment of nurses documentation for nursing care at surgical wards in baghdad teaching hospitals. *Journal of Pharmaceutical Sciences and Research*, 10(10), 2568-2571.

Al-Reda, J. J. A., Majeed, H. M., & Hassan, A. F. (2023). Effectiveness of Instructional Program on Nurses' Knowledge Concerning Palliative and Supportive Care for old Adults with Heart Failure. *Bahrain Medical Bulletin*, 45(4). 45:1826-3.

Baker, T. B., Morse, E., & Sherman, J. E. (1986). The motivation to use drugs: a psychobiological analysis of urges. In *Nebraska Symposium on Motivation. Nebraska Symposium on Motivation* (Vol. 34, pp. 257-323).

Becker, T. D., & Rice, T. R. (2022). Youth vaping: a review and update on global epidemiology, physical and behavioral health risks, and clinical considerations. *European journal of pediatrics*, 1-10.

Evans, S. L., & Alkan, E. (2024). Personality Risk Factors for Vape Use amongst Young Adults and Its Consequences for Sleep and Mental Health. *Healthcare*, 12(4), 423. <https://doi.org/10.3390/healthcare12040423>.

GBD 2019 Human Resources for Health Collaborators. (2022) Measuring the availability of human resources for health and its relationship to universal health coverage for 204 countries and territories from 1990 to 2019: a systematic analysis for the Global Burden of Disease Study

## Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

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2019. *Lancet*, **399**(10341), 2129–2154. [https://doi.org/10.1016/S0140-6736\(22\)00532-3](https://doi.org/10.1016/S0140-6736(22)00532-3).

Ghahramani, S., Lankarani, K. B., Yousefi, M., Heydari, K., Shahabi, S., & Azmand, S. (2021). A systematic review and meta-analysis of burnout among healthcare workers during COVID-19. *Frontiers in psychiatry*, *12*, 758849. <https://doi.org/10.3389/fpsyt.2021.758849>.

Hammond, D., Rynard, V. L., & Reid, J. L. (2020). Changes in prevalence of vaping among youths in the United States, Canada, and England from 2017 to 2019. *JAMA pediatrics*, *174*(8), 797-800.

Hassan, A. F., Majeed, H. M., & Isam, S. R. (2024). Nurses' knowledge and protective health behaviors about prevention of COVID-19 pandemic complications at Baghdad Teaching Hospitals. *Journal of Education and Health Promotion*, *13*(1), 107. DOI: 10.4103/jehp.jehp\_844\_23

Heinz, A. J., Kassel, J. D., Berbaum, M., & Mermelstein, R. (2010). Adolescents' expectancies for smoking to regulate affect predict smoking behavior and nicotine dependence over time. *Drug and alcohol dependence*, *111*(1-2), 128-135.

Hittner, J. B., Penmetsa, N., Bianculli, V., & Swickert, R. (2020). Personality and substance use correlates of e-cigarette use in college students. *Personality and Individual Differences*, *152*, 109605.

Jasim, A. H., Majeed, H. M., & Mohammed, T. R. (2020). Knowledge and protective health behaviors concerning risk factors for coronary heart disease among Baghdad University students. *Medico Legal Update*, *20*(2), 234-239.

King, J. L., Reboussin, B. A., Spangler, J., Ross, J. C., & Sutfin, E. L. (2018). Tobacco product use and mental health status among young adults. *Addictive behaviors*, *77*, 67-72.

Majeed, H. M., & Atiyah, H. H. (2021). Assessment of employees' knowledge concerning contributing factors and early detection for Prostate Cancer in Baghdad University Colleges in Bab-Almudam. *Indian Journal of Forensic Medicine & Toxicology*, *15*(1), 1712-1717.

Majeed, H. M., Hassan, A. F., Jasim, A. H., & Al-Ganmi, A. H. (2023). Protective Health Behaviors among Critical Care Nurses Concerning Pressure Ulcer Prevention for Hospitalized Patients at Baghdad Teaching Hospitals. *Al-Rafidain Journal of Medical Sciences (ISSN 2789-3219)*, *5*, 205-210. <https://ajms.iq/index.php/ALRAFIDAIN/article/view/211>

## Personality Risk Factors for Electronic Cigarette among Nurses and Its Consequences for Mental Health Status

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- Majeed, H. M., Hassan, A. F., Jasim, A. H., & Al-Ganmi, A. H. A. (2023). Evaluation of Nurses' Practices and Perceived Barriers Related to Pain Assessment in Critically Ill Patients at Baghdad Teaching Hospitals. *Azerbaijan Pharmaceutical and Pharmacotherapy Journal*, 22(1), 64-69.[DOI <https://doi.org/10.61336/appj/22-1-14>].
- Mohammed, T. R., Majeed, H. M., & Jasim, A. H. (2020). Evaluation of Quality of Nursing Documentation in Surgical Wards at Baghdad Teaching Hospitals. *Medico Legal Update*, 20(2), 292-297.
- Office for National Statistic. Adult Smoking Habits in the UK: 2022; Office for National Statistic: Newport, UK, 2022.
- Okumura, M., Ishigaki, T., Mori, K., & Fujiwara, Y. (2022). Personality traits affect critical care nursing competence: A multicentre cross-sectional study. *Intensive and Critical Care Nursing*, 68, 103128.
- Pisinger, C., & Døssing, M. (2014). A systematic review of health effects of electronic cigarettes. *Preventive medicine*, 69, 248-260.
- Reff, J., & Baschnagel, J. S. (2021). The role of affective urgency and emotion regulation in vaping susceptibility. *Addictive behaviors reports*, 14, 100355.
- Saeed, A. E., -Alreda, J. J. a. A., & Majeed, H. M. (2023). Determination of coronary care unit nurses' knowledge regarding patient rehabilitation after myocardial infarction. *Journal of Pioneering Medical Sciences*, 12(3), 32-35. <https://doi.org/10.61091/jpms20231237>
- Tokarek, J., Kapuścik, A., Kućmierz, J., Kowalczyk, E., & Karbownik, M. S. (2023). Personality traits and health-related behaviors in medical students facing a stressful event. *Frontiers in Public Health*, 11, 1256883.
- Yasir, A., & Hassan, H. B. H. (2021). Prevalence of Smoking among Health Workers and Effectiveness of Instructional Booklet concerning Risks of Smoking on Health Workers' Knowledge in Baghdad Teaching Hospital. *Iraqi National Journal of Nursing Specialties*, 34(1), 38-49