



DOI: <https://doi.org/10.25040/aml2023.1-2.111>

ÓÃË: 613.97: 613.84

Ð²ÁÍ² Í²ÊÎ ÒÈÍ Í ÂÎ - ÇÀËÀÆÍ Í ÑÒ² ÓÑÎ Í ÆÈÂÀ×²Â Í Í Â²ÕÍ²Õ ÕÐ ÕÐ Í Í ÂËÕ ÂËÐÍ Â²Â

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Ëàò äàðà ãí ò³âëüí í çì ääèòèè, àêí í í ð³è òà í ðââí³çàò³çí òí ðí í è çâí ðí à'ý

Êëþ ÷í â³ ñèí àà: í³èí ò èíí àà çàèðàe í³ñò ü, äèðèò ðí í í³ ñèâððàð è ç í³èí ò èíí í, ò þ ò þ í í â³ àèðí àè üëý äèðèò ðè ÷í í ãí í àðð³ââí íý, ò þ ò þ í í èðð³í íý, çâí ðí à'ý, í ð èò óââí íý, ãí ò³ èí ð³-í à äí ñè³üàe áí íý, Ñí üèèàò í ðè ýèí ñò³, ýè³ñò ü í àââí íý í ääè ÷í í çâí í í í àè, ò í èðñ-âððí à

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DOI: <https://doi.org/10.25040/aml2023.1-2.111>

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LEVELS OF NICOTINE ADDICTION IN CONSUMERS OF THE LATEST TOBACCO PRODUCTS

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Keywords: nicotine addiction, electronic cigarettes with nicotine, tobacco products for electronic heating, tobacco smoking, health, survey, sociological research, quality indicators, medical care quality, focus group

For citation: Kozii-Bredeliava S, Kovalska I. Levels of nicotine addiction in consumers of the latest tobacco products. Acta Medica Leopoliensia. 2023;29(1-2):111-122. DOI: <https://doi.org/10.25040/aml2023.1-2.111>

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Received: June 2, 2023 **Accepted:** June 23, 2023

Ðâð àðàò

Ì àòà. Âèçí à÷âí íý ð³áí ý í³èí ò èíí áí çàèðàe í í ñò³ ó ñí í æ è äà÷â í í â³ ò í³õ ò þ ò þ í í àèò àèðí à³â.

Ì àðð³âè³ ì àòí àè. Í ð èò áí í 817 í ñ³á í í èí äí ãí àèò (â³â 18 äí 45 ðí è³â), ýè³ í ðí æ è àð þ ò ü ò Ëüâ³âñüêè è í á-èàñò³.²çííí³ æ í èò áðèí àèí èðâí èâí í äâ³ ò í èðñ-âððí è: 96 ðâñí í í äâí ò³â, ýè³ àèàçàèè, ù í àèèí ðèñò í àðþ ò ü üëý èðð³í íý äèðèò ðí í í³ ñèâððàð è ç í³èí ò èíí í (ÂÑÍ) ò à 93 ðâñí í í äâí ò è, ýè³ àèàçàèè, ù í àèèí ðèñò í àðþ ò ü ò þ ò þ í í â³ àèðí àè üëý äèðèò ðè ÷í í ãí í àðð³ââí íý (ÒÃÁÍ è). Äëý í ð èò óââí íý áðèí àèèí ðèñò áí í ò àñò Òââðñò ðâ-ì à í àèçí à÷âí íý í³èí ò èíí áí çàèðàe í í ñò³. Ó ðí áí ò³ àèèí ðèñò áí í ò àò í àè ñò ðèèò òðí í-èí³-í í ãí áí àè³çó, ñèñò àí í í ð³âðí áó ò à áí àè³çó, í á-èñèâí íý ñâðââí³õ ò à á³âí í íí èò ääèè-èí, êí ðäëýò³éí è è áí àè³ç.

Ðàçóéüòàðè è í áâí áí ðâí í ý. Ñâðââí í í è è ääè í³èí ò è-í í áí çàèðàe í í ñò³ üëý èðð³â ÒÃÁÍ (4,00 (2,00; 6,00) áàèè)° àèù èí (p>0,05), áí³æ ñâðââí èðð³â èèàñè-í èò ñèâððàð (3,00 (1,00; 6,00) áàèè) ò à èðð³â ÂÑÍ (3,00

Abstract

Aim. Determining the level of nicotine addiction in consumers of the latest tobacco products.

Materials and Methods. We have surveyed 817 young people (from 18 to 45 years of age) living in Lviv region. Among them, two focus groups were distinguished: 96 respondents who indicated that they use electronic cigarettes with nicotine (ECN) for smoking and 93 respondents who indicated that they use tobacco products for electric heating (TPEHs). The Fagerström test for determining nicotine addiction was used for the survey. The study uses the methods of structural-logical analysis, system approach and analysis, calculation of average and relative values, correlation analysis.

Results and Discussion. The average score of nicotine addiction for TPEH smokers (4.00 (2.00; 6.00) points) is higher (p>0.05) than for classic cigarette smokers (3.00 (1.00; 6.00) points) and ECN smokers (3.00 (1.00; 5.00) points). Regarding classic cigarette smokers and ECN

(1,00; 5,00) ààèè). Ñāðāā éóðö³ā èèāñè ÷ í è ò ñèāðāð ò à éóðö³ā ĀŃĬ ñāðāāí í è é áàè í ³èí ò è í í āí ÷ çàèāā í í ñò³ ò àèù è ò ó ÷ í è í ā³è³ā, í àð í í ³ñò ù ó éóðö³ā ŌĀĀĬ ā³í ò í āí àèí àèí ÷ è äëý ÷ í è í ā³è³ā, ò àè³ äëý æ ³ í í è. Áëèçüèí ÷ āāðð³ í í è ò āí è ò éóðö³ā ŌĀĀĬ ³ā (23,66 ± 4,41 %) ò à-þ ò ù àèñí èèé ð³āāí ù í ³èí ò è í í āí ÷ çàèāā í í ñò³. Ñāðāā ÷ í è í ā³è³ā-éóðö³ā í àéá³ëüø à ÷ āñð è à í ñ³ā ç àèñí èèí ð³ā-í āí í ³èí ò è í í āí ÷ çàèāā í í ñò³ ñí í ñò āð³āā ò ùñý ó āðóí³ éóðö³ā ŌĀĀĬ ³ā - ÷ í í āā ò ðāð è í ó (36,36 ± 7,25%) ÷ í è í -ā³è³ā āāí í ÷ āðóí è. Í àéá³ëüø ā æ ³ í í è ç àèñí èèí ð³āí āí í ³èí ò è í í āí ÷ çàèāā í í ñò³ ñí í ñò āð³āā ò ùñý ñāðāā éóð-ö³ā ĀŃĬ, à ñàí ā ÷ āāðð ù í í è ò āí è ò ðāñí í í āāí ò ³ā āāí í ÷ āðóí è (25,93 ± 5,96%).

Àèñí í àèè. Í ò ðèí āí³ ðāçóèüð àð è āí ñè³āæ āí í ÷ áó-āóð ù àèèí ðèñð āí³ í ðè í í ðāðþ āāí í³ í í āāè³ í í ðāð-āæ āí í ÷ í í ø è ðāí í ñò³ í í ā³ð í³ ò ò ò í ā³ā ñí í æ è āāí í ÷ ò þ ò þ í ó ñāðāā í āñāèí í ÷ í í è í āí āí ā³èó.

Āñòóí

Í ³èí ðèí í āā çàèāāí ³ñòü ò í āí³ þ ç í àéí í ø è-ðāí³ ø è ò í ðí àéāí ñó ÷ āñí í āí ñóñí ³ëüñðāā [1,2]. Çā āāí è ò ĀĬ Í Ç ĭ í í āā 7 í ³ëüèí í³ā èþ āāé ñòðāæāāþ òü ā³ā òþ òþ í í āí ÷ çàèāāí í ñò³. 96% éóðö³ā í ā àèçí āþ òü ā ñāāā çàèāāí í ñò³ òā ā³ā-í í àèýþ òüñý ā³ā è³éóāāí í ÷ ³ èèø ā 4% ò í í æóðü èèí óðè í àèèðè áāç āí í í í àè ñí āð³āè³ñò³ā.

Í ñí àèèāí āí ñòðí í ðí àéāí ā í ³èí ðèí í āí ÷ çàèāāí í ñò³ àèðāæāí à ñāðāā í í è í āí āí í í è í è³í-í ÷, ÷ è³ ò í ðèèèüí èèāí è àèèí ðèñðāí í ÷ í í ā³ðí³ ò ò í ðí ñí í æèāāí í ÷ òþ òþ í ó [3,5]. Í áóèí āí āí āāāí í, ù í áóāü-÷ è³ ò í ðí è àæèāāí í ÷ òþ òþ í ó òā àèèí ðèñðāí í ÷ àèāèððí í í è ò ñèāðāð ò í í æóðü àèèèèèèèè çàèāāí ³ñòü [4,8]. Í èðñí òí āí, ò í èí ā³ èþ àè í í ððāáóþ òü ò í āí ø ó è³ëüè³ñòü ñèāðāðð³ ò í āí ø ā ÷ āñð äëý āñðāí í àèāí í ÷ í ³èí ðèí í āí ÷ çàèāāí í ñò³ ó í í ð³āí ÷ í í³ ç āí ðí ñèè ò è [6].

Òāèè ÷ è í í í, āí ñè³āæāí í ÷ í è ðāí í ÷ í ³èí ðèí í āí ÷ çàèāāí í ñò³ ñāðāā èí ðèñðāā ÷³ā í í ā³ðí³ òþ òþ í í àèð àèðí á³ā çàèèð ò ò òüñý àè-ðóāèüí è ò í āí ðýí èí í í áóèí àèð āí ñè³āæāí ù ā ñò āð³ āðí ò āññüèí āí çāí ðí ā'ý.

Í āðà - àèçí ÷ āí í ÷ í ð³āí ÷ í ³èí ðèí í āí ÷ çàèāāí í ñò³ ò ñí í æèāā ÷³ā í í ā³ðí³ òþ òþ í í àèð àèðí á³ā äëý í í í āðāāæāí í ÷ í í ø è ðāí í ñò³ í í-ā³ðí³ òþ òþ òþ í í āí ā³ā ñí í æèāāí í ÷ òþ òþ í ó ñāðāā í à-ñāèāí í ÷ í í è í āí āí ā³èó.

Ì ààðð³āè³ ò àòí àè

Ó òí ā³ āí ñè³āæāí í ÷ áóèí í í è ðāí í 817 í ñ³ā í í è í āí āí ā³èó (ā³ā 18 āí 45 ðí è³ā), ÷ è³ ò ðí -

smokers, the median nicotine addiction score is higher in men, whereas in TPEH smokers it is the same for both men and women. About a quarter of the surveyed TPEH smokers (23.66 ± 4.41%) have a high level of nicotine addiction. Regarding male smokers, the largest share of individuals with a high level of nicotine addiction is observed in the group of TPEH smokers - more than a third (36.36 ± 7.25%) of men in this group. The greatest number of women with a high level of nicotine dependence is observed among smokers of ECN, namely a quarter of the surveyed respondents of this group (25.93 ± 5.96%).

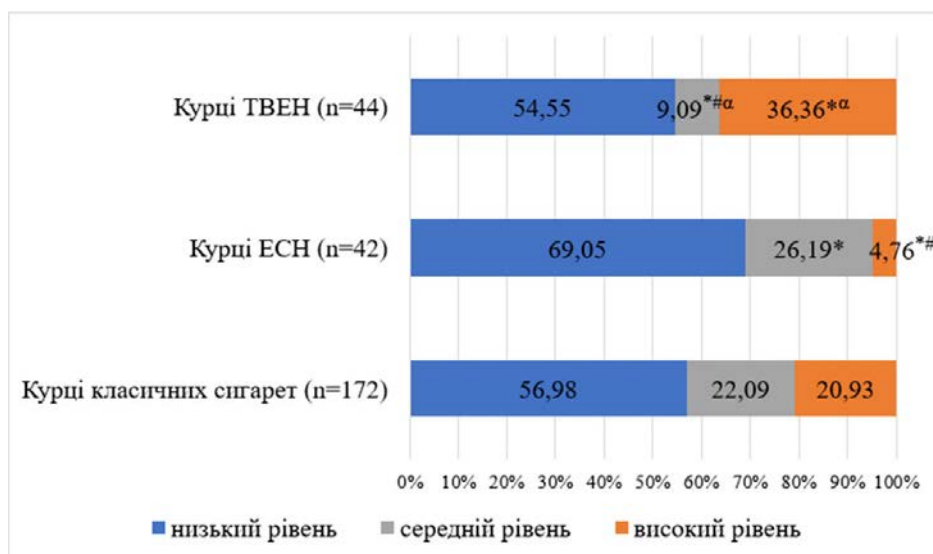
Conclusions. The findings of the study will be used in the development of a model for preventing the spread of the latest methods of tobacco consumption among the young population.

æèāāþ òü ó Ëüâ³ãñüê è é í àèāñð³. Ç ĭ í í í æ í è ò áóèí àèí èðāí èāí í āā³ ò í èóñ-āðóí è: 96 ðāñ-í í í āāí ð³ā (42 ÷ í è í ā³èè òā 54 æ³í èè), ÷ è³ àèà-çàèè, ù í àèèí ðèñðāí āóþ òü äëý éóð³í í ÷ àèāèð-ðí í í³ ñèāðāððè ç í ³èí ðèí í í (ĀŃĬ) òā 93 ðāñ-í í í āāí ðè (44 ÷ í è í ā³èè òā 49 æ³í í è), ÷ è³ àèà-çàèè, ù í àèèí ðèñðāí āóþ òü òþ òþ í í ā³ àèðí àè äëý àèāèððè ÷ í í āí í āāð³āāí í ÷ (ŌĀĀĬ è). Àè-ā³ðèā ò ðāí ðāçāí òāðèāí í þ ù í āí í í è í āí āí í à-ñāèāí í ÷ Ëüâ³ãñüê í ÷ í àèāñð³ (p<0,05). Í āí í í í-í āí óí āí, āí í í³ í āí í èðóāāí í ÷ áóèí í ðí āāāāí í ā ðāðí³ ç ĭ āāðāçí ÷ í í 30 ððāāí ÷ 2023 ðí èó.

Äëý í í èðóāāí í ÷ áóèí àèèí ðèñðāí í òāñð Ōāāāðñðāí à í à àèçí ÷ āí í ÷ í ³èí ðèí í āí ÷ çàèāāí í ñò³. Ōāé ðāñð ò á° ò ò³éí ā àèçí āí í ÷ Āñāñā³ðí üí ÷ í ðāāí³ çàð³; í òí ðí í è çāí ðí ā'ý [7], èí āí ðāçóèüðāðè āāāæāþ òüñý í āā³éí è ò è. Ōāñð ñèèāā³ òüñý ç 6 í è ðāí ù, ÷ è³ ò ò³í þ þ òü ðèí í ā³ çàè ÷ èè éóðö³ā òā āí çāí èýþ òü àèçí ÷ èèè ñòó-í³ í ò³ çè ÷ í í ÷ çàèāāí í ñò³ ā³ā ò àè³ í ÷:

- 0-4 áàèè - í èçüèèé ð³āāí ù í ³èí ðèí í āí ÷ çàèāāí í ñò³;
- 5-6 áàè³ā - ñāðāāí³ é ð³āāí ù çàèāāí í ñò³ ā³ā ò àè³ í ÷;
- 7-10 áàè³ā - àèñí èèé ð³āāí ù çàèāāí í ñò³ ā³ā òèāāðí è.

Í òðèí āí³ í āðāèí í³ āāí³ áóèè ñèñðāí à-ðèçí āāí³ ā àèāèððí í í ó áāçó āāí èð. Í ðè āí àè³ç³ ñāðāāí³ āāèè ÷ èí äëý àèçí ÷ āí í ÷ í í ðí àèü-í í ñò³ ðí çí í ā³èó àèèí ðèñðāí áóāāèè èðèðāð³é Ø āí³ðí-Ō³èèà, ÷ èèé çāñā³ā ÷ è á í āāāñ³ãñüê è é ðí çí í ā³è. ðāçóèüðāðè í āāāāāí í ó àèäëýā³ Ĭ ā



Діаг. 2

Діагностика рівня ризику розвитку захворювань у курців ТБЕН, ECH та класичних сигарет (%)

* - різниця між групами ТБЕН та ECH (p<0,05) за критерієм Манна-Уїтні

- різниця між групами ECH та класичних сигарет (p<0,05) за критерієм Манна-Уїтні

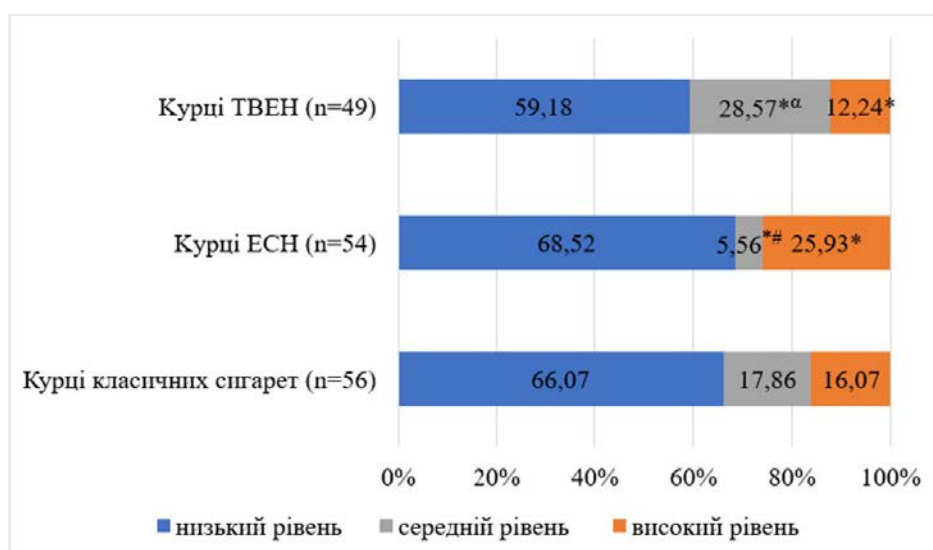
α - різниця між групами ТБЕН та класичних сигарет (p<0,05) за критерієм Манна-Уїтні

у курців ТБЕН та ECH порівняно з курцями класичних сигарет. Рівень ризику розвитку захворювань у курців ТБЕН та ECH був вищим, ніж у курців класичних сигарет.

Оцінювання рівня ризику розвитку захворювань у курців ТБЕН, ECH та класичних сигарет. Рівень ризику розвитку захворювань у курців ТБЕН та ECH був вищим, ніж у курців класичних сигарет.

Інші результати дослідження наведені в таблиці 1.

Рівень ризику розвитку захворювань у курців ТБЕН та ECH був вищим, ніж у курців класичних сигарет. Рівень ризику розвитку захворювань у курців ТБЕН та ECH був вищим, ніж у курців класичних сигарет.



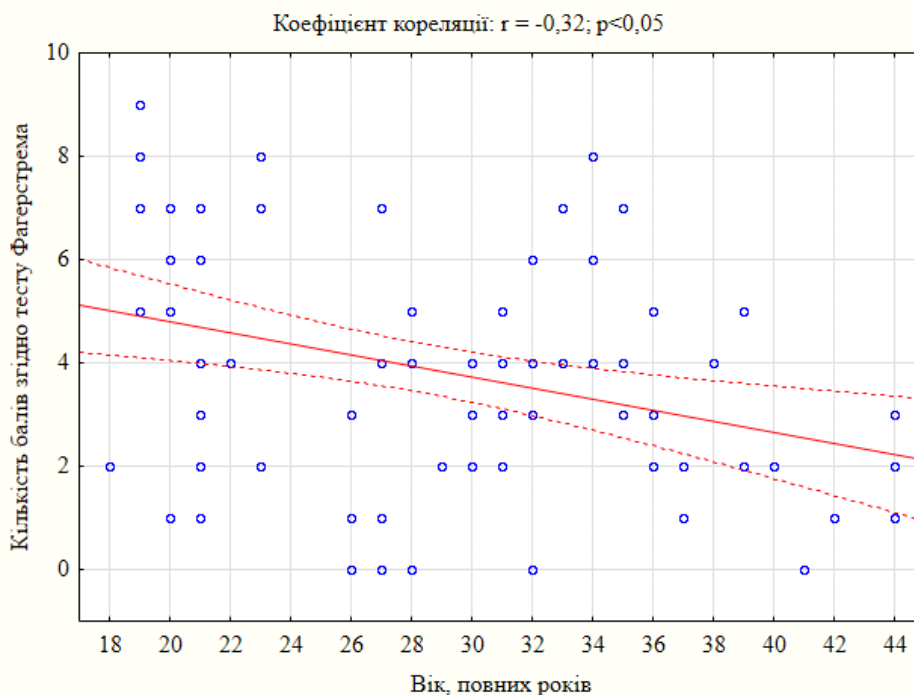
Діаг. 3

Діагностика рівня ризику розвитку захворювань у курців ТБЕН, ECH та класичних сигарет (%)

* - різниця між групами ТБЕН та ECH (p<0,05) за критерієм Манна-Уїтні

- різниця між групами ECH та класичних сигарет (p<0,05) за критерієм Манна-Уїтні

α - різниця між групами ТБЕН та класичних сигарет (p<0,05) за критерієм Манна-Уїтні



Деñ. 4

Àçà°ì í çà'yçí è ííì ³æ á³èíì éóðð³à äèäèð ðí í í è ð ñè äàððàð ç í ³èí ò è í í ò à ð è³èüè³ñð þ áàè³à çàññí í ò äñð ó Ò àäððð ðàí à

è³çí ààí èí è ÷àññèàí è í á àñðàí í àèáí í ($p > 0,05$).

Í àéá³èüø à ÷àññèà ðàññí í í àáí ð³à ç ñà-ðàáí ³ ð³áí àí í ³èí òèí í àí çàèááí í ñð³ ñí í ñòà-ð³ààèàññü ñàððàä éóðð³à èèàñè ÷í è ð ñè äàððàð - $21,05 \pm 2,70$ % í ñ³à, ààù í í áí ø á ó äðóí³ "Éóðð³ ÒÀÁÍ " - $19,35 \pm 4,10$ % ³ í àéí áí ø á í ñ³à ç³ ñà-ðàáí ³ ð³áí àí í ³èí òèí í àí çàèááí í ñð³ ñàððàä éóðð³à ÁÑÍ - èèø á $14,58 \pm 3,60$ %.

Í àéá³èüø èé á³àññ òí è í ñ³à ç í èçüèèì ð³áí àí í ³èí òèí í àí çàèááí í ñð³ òàððàèðððí èé äèý éóðð³à ÁÑÍ - $68,75 \pm 4,73$ % ðàññí í í àáí ð³à àáí í çàðóí è. Ñàððàä éóðð³à èèañè ÷í è ð ñè äàððàð í èçüèèè ñðóí³ ³í üí ³èí òèí í àí çàèááí í ñð³ í àèè $59,21 \pm 3,25$ % í ñ³à, à ñàððàä éóðð³à ÒÀÁÍ ³à - $56,99 \pm 5,13$ % ðàññí í í àáí ð³à.

Òàèí æ í àí è ç'yññ àáí í àáí àäðí³ í ñí á-èèáí ñð³ ñðóí³ áí ý í ³èí òèí í àí çàèááí í ñð³ ñàððàä éóðð³à ð³çí èð òí ðí ñí í æèàáí í ý ðþ ðþ í ó.

Ñàððàä ÷í èí á³è³à-éóðð³à í àéá³èüø à ÷àññ-èàí ñ³à ç àèññ èèì ð³áí àí í ³èí òèí í àí çàèááí í ñð³ ñí í ñòàðð³ààèaññü ó äðóí³ éóðð³à ÒÀÁÍ ³à - í í í àä òðàðèí ó ($36,36 \pm 7,25$ %) ÷í èí á³è³à àáí í çàðóí è. Äèý í í ð³áí ýí í ý, ó äðóí³ éóðð³à ÁÑÍ àèññ èèé ð³àáí ü í ³èí òèí í àí çàèááí í ñð³ í àèè èèø á $4,76 \pm 1,29$ % ÷í èí á³è³à, $p < 0,05$ (Деñ. 2).

Ñàððàäí æ ð³àáí ü í ³èí òèí í àí çàèááí í ñð³

äèý ÷í èí á³è³à-éóðð³à èèañè ÷í è ð ñè äàððàð òà ÷í èí á³è³à-éóðð³à ÁÑÍ áóá í ðèáèèçí í í áí à-èí àèí³ ñòàí í àèà $22,09 \pm 3,16$ % òà $26,19 \pm 6,78$ % á³áí í á³áí í. Í àðí³ ñòü, ó äðóí³ éóðð³à ÒÀÁÍ ³à í áí ø á 10 % ($9,09 \pm 2,33$ %) í ñ³à àáí í çàðóí è í àèè ñàððàäí æ ð³àáí ü í ³èí òèí í àí çàèááí í ñð³, ù í ° áí ñòí á³ðí³ í ($p < 0,05$) í áí ø á í í ð³áí ýí í ç àèü àçàçí à-áí èí è äðóí³ àí è.

Í èçüèèè ð³áí ü í ³èí òèí í àí çàèááí í ñð³ áóá òàððàèðððí èé äèý $69,05 \pm 7,13$ % ÷í èí á³è³à - éóðð³à ÁÑÍ , $56,98 \pm 3,78$ % éóðð³à èèañè ÷í è ð ñè äàððàð òà $54,55 \pm 7,51$ % éóðð³à ÒÀÁÍ ³à.

Ü í ñòí ñó°òüññ æ³í í ÷í áí í àñàèáí í ý, òí í àéá³èüø á æ³í í è ç àèññ èèì ð³áí àí í ³èí òèí í - áí çàèááí í ñð³ ñí í ñòàðð³ààèí ññ ñàððàä éóðð³à ÁÑÍ , à ñàí á ÷àððòü í í èðàí èð ðàññí í í àáí ð³à àáí í çàðóí è ($25,93 \pm 5,96$ %). À äèý éóðð³à èèañè ÷í è ð ñè äàððàð òà éóðð³à ÒÀÁÍ ³à ÷àññèà æ³-í í è ç àèññ èèì ð³áí àí í ³èí òèí í àí çàèááí í ñð³ áóèà çí ÷í í í áí ø í þ ñòàí í àèèà $16,07 \pm 4,91$ % òà $12,24 \pm 3,68$ % á³áí í á³áí í (Деñ. 3).

Í í í àä ÷àððòü æ³í í è-éóðð³à ÒÀÁÍ ³à ($28,57 \pm 6,45$ %) í àèè ñàððàäí æ ð³àáí ü í ³èí òè-í í àí çàèááí í ñð³. Í àðí³ ñòü, ó æ³í í è-éóðð³à ÁÑÍ ñàððàäí æ ð³àáí ü í ³èí òèí í àí çàèááí í ñð³ í àèè èèø á $5,56 \pm 1,12$ % í í èðàí èð.

6. Í äéá³ëüø å æ³í î ê ç âèñîèè ð³áí àí í³êí - òèí î âí çäèåáí î ñò³ ñí î ñòâð³ää°òüñý ñâðää èóðò³â ÄÑÍ , à ñàí å ÷ääðòüîî èòàí èò ðâñí î í - äáí ò³â äáí î çäðóí è (25,93±5,96%).

7. Í òðèè áí à³ î î ðí äò³ý áóää âèè ðèñòàí à ï ðè î ï ðàòð äáí í³î äðñí í³ò³êí äáí î çí î ääè³î î - ï äðääæáí í³ý í î ä³òí³ò ï äò ä³â ñí î æèääí í³ý òð -

òð í î âèò âèðí á³â ñâðää í äñæáí í³ý î î èí äí äí â³éò â Ëüâ³âñüê³é î äèñò³ òà ï î èðàü áí í³ý èí ñò³ í äääí í³ý î ääè ÷ í î ç äí î î î âè äèý èóðò³â.

Ëí î è³èò³ ÿ ò äðâñ³â. Êí î è³èò³ ÿ òâðâñ³â â³âñòóí³ é.

LEVELS OF NICOTINE ADDICTION IN CONSUMERS OF THE LATEST TOBACCO PRODUCTS

Introduction

Nicotine addiction is one of the most widespread problems of modern society [1,2]. According to WHO, more than 7 million people suffer from tobacco addiction. 96% of smokers do not recognize their addiction and refuse treatment, and only 4% can quit smoking without the help of specialists.

The problem of nicotine addiction is particularly acute among the younger generation, who are supporters of using the latest forms of tobacco consumption [3,5]. It has been scientifically proven that any form of tobacco use and the use of electronic cigarettes can cause addiction [4,8]. In addition, young people need fewer cigarettes and less time to develop nicotine addiction compared to adults [6].

Thus, the study of the issue of nicotine addiction among consumers of the latest tobacco products remains an actual direction of scientific research in the field of public health.

Aim. Determining the level of nicotine addiction among consumers of the latest tobacco products to prevent the spread of the latest methods of tobacco consumption among the young population.

Materials and Methods

In the course of the study, 817 young people (from 18 to 45 years of age) living in the Lviv region were surveyed. Among them, two focus groups were distinguished: 96 respondents (42 men and 54 women) who indicated that they use electronic cigarettes with nicotine (ECN) for smoking and 93 respondents (44 men and 49 women) who indicated that they use tobacco products for electronic heating (TPEHs). The

sample is representative of the young population of the Lviv region ($p < 0.05$). A single anonymous survey was conducted between March 1 and May 30, 2023.

The Fagerstrom test for determining nicotine dependence was used for the survey. This test is officially recognized by the World Health Organization [7], and its results are considered reliable. The test consists of 6 questions that assess the typical habits of smokers and allow to determine the degree of physical addiction to smoking:

- 0-4 points - low level of nicotine addiction;
- 5-6 points - average level of smoking addiction;
- 7-10 points - high level of addiction to cigarettes.

The obtained primary data were systematized in an electronic database. In the analysis of average values, the Shapiro-Wilk test was used to determine the normality of the distribution, which confirmed the non-Gaussian distribution. The results are presented as Me (25%; 75%), where Me is the median, 25% is the first quartile, and 75% is the third quartile. Comparisons between results were made using the Mann-Whitney test.

The results of the analysis of relative values were presented in the form of intensive indicators and their errors, which were calculated by the Wald method or Fisher's angular transformation. The reliability of the difference between the relative values was established using the chi-square method. The difference between the samples was considered significant at $p < 0.05$.

Correlation analysis was performed by calculating Spearman's correlation coefficients. All statistical calculations were performed using the software RStudio v. 1.2.5042.

Results and Discussion

According to the results of the conducted research, it was established that the surveyed respondents generally have a low level of nicotine addiction (Table 1), regardless of the form of tobacco product they consume. The average nicotine dependence score for classic cigarette smokers and ECN smokers amounted to 3.00 (1.00; 6.00) points and 3.00 (1.00; 5.00) points, respectively, and for TPEH smokers it was slightly higher - 4.00 (2.00; 6.00) points.

The average score among male smokers of classic cigarettes amounted to 4.00 (1.50; 6.00) points and was significantly ($p<0.05$) higher compared to the result among female smokers of classic cigarettes, where the analyzed indicator equaled 2.00 (0.75; 5.25) points, $p>0.05$. The situation is similar among ECN smokers - 4.00 (3.75; 4.25) points in men and 2.00 (0.50; 6.00) points in women. In contrast, the median nicotine dependence score in TPEH smokers was similar for both men (4.00 (3.00; 7.00) points) and women (4.00 (1.00; 5.00) points).

The average score among female smokers of TPEH was 4.00 (1.00, 5.00) points and was significantly ($p<0.05$) higher compared to the result among female smokers of classic cigarettes, where the analyzed indicator amounted to 2.00 (0.75; 5.25) points.

Further, we divided respondents who are smokers of various forms of tobacco consumption according to the degree of nicotine addiction.

The fact that about a quarter of the surveyed TPEH smokers ($23.66 \pm 4.41\%$) had a high level of nicotine addiction is alarming. For comparison, among smokers of classic cigarettes, a high degree of nicotine addiction was observed in $19.74 \pm 2.64\%$ of respondents, and among smokers of ECN - in $16.67 \pm 3.80\%$ of this group (Fig. 1). No significant

differences were found between the analyzed fractions ($p>0.05$).

The largest share of respondents with an average level of nicotine addiction was observed among smokers of classic cigarettes - $21.05 \pm 2.70\%$ of individuals, slightly less in the group of "TPEH smokers" - $19.35 \pm 4.10\%$, and the least number of individuals with an average level of nicotine addiction was observed among ECN smokers - only $14.58 \pm 3.60\%$.

The highest percentage of individuals with a low level of nicotine addiction is characteristic of ECN smokers - $68.75 \pm 4.73\%$ of respondents of this group. Among smokers of classic cigarettes, $59.21 \pm 3.25\%$ of individuals had a low degree of nicotine dependence, and among smokers of TPEH - $56.99 \pm 5.13\%$ of respondents.

We also found out the gender characteristics of the degree of nicotine addiction among smokers of various forms of tobacco consumption.

Among male smokers, the highest proportion of individuals with a high level of nicotine addiction was observed in the group of TPEH smokers - more than a third ($36.36 \pm 7.25\%$) of men in this group. For comparison, only $4.76 \pm 1.29\%$ of men had a high level of nicotine addiction in the group of ECN smokers, $p<0.05$ (Fig. 2).

The average level of nicotine addiction for male smokers of classic cigarettes and male smokers of ECN was approximately the same and amounted to $22.09 \pm 3.16\%$ and $26.19 \pm 6.78\%$, respectively. On the other hand, in the group of TPEH smokers, less than 10% ($9.09 \pm 2.33\%$) of individuals in this group had an average level of nicotine addiction, which is significantly ($p<0.05$) less compared to the above groups.

A low level of nicotine addiction was characteristic of $69.05 \pm 7.13\%$ of men who smoked ECN, $56.98 \pm 3.78\%$ of smokers of classic

Table 1

The degree of nicotine addiction among young smokers, Me points (25%; 75%)

	Classic cigarettes smokers (n=228)	ECN smokers (n=96)	TPEH smokers (n=93)
Total	3.00 (1.00; 6.00)	3.00 (1.00; 5.00)	4.00 (2.00; 6.00)
Men	4.00 (1.50; 6.00)	4.00 (3.75; 4.25)	4.00 (3.00; 7.00)
Women	2.00 (0.75; 5.25)*	2.00 (0.50; 6.00)	4.00 (1.00; 5.00) #

* - significant difference compared to men ($p<0.05$)

- a significant difference compared to classic cigarettes smokers ($p<0.05$)



cigarettes, and $54.55 \pm 7.51\%$ of TPEH smokers.

smokers (28.57±6.45%) had an average level of nicotine dependence. On the other hand, only 5.56±1.12% of respondents had an average level of nicotine addiction among female ECN smokers.

A low level of nicotine dependence was characteristic of 68.52±6.32% of ECN smokers, 66.07±6.33% of classic cigarette smokers and 59.18±7.02% of TPEH smokers.

The research established that there is a reliable correlation between the age of ECN smokers and the total number of points according

More than a quarter of female TPEH



Distribution of male smokers of various forms of tobacco consumption according to the degree of nicotine addiction (%)

* - significant difference ($p<0.05$) compared to female smokers

- significant difference ($p < 0.05$) compared to the "Classic cigarettes smokers" group

α - significant difference ($p<0.05$) compared to the "ECNsmokers" group

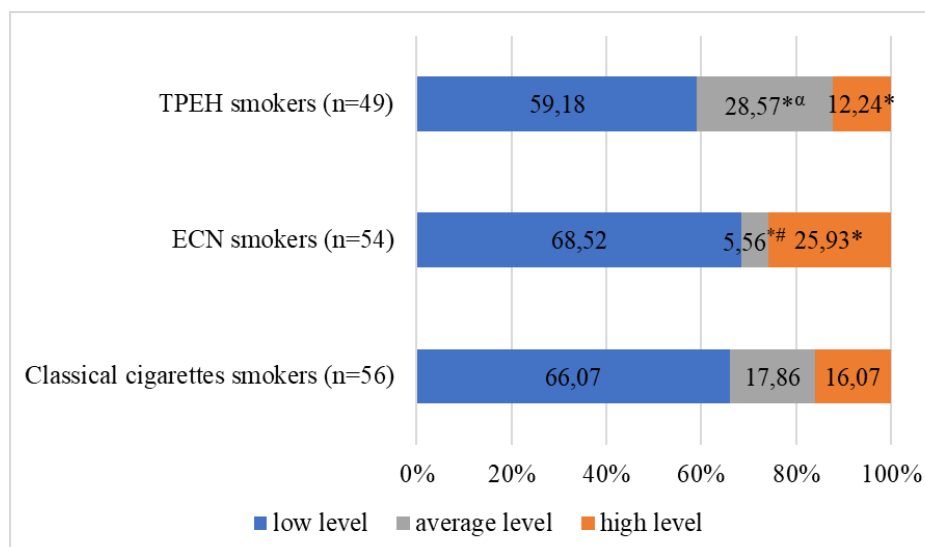


Fig. 3

Distribution of female smokers of various forms of tobacco consumption according to the degree of nicotine addiction (%)

* - significant difference ($p < 0.05$) compared to male smokers

- significant difference ($p < 0.05$) compared to the "Classic cigarettes smokers" group

α - significant difference ($p < 0.05$) compared to the "ECN smokers" group

to the Fagerstrom test (Fig. 4) ($r = -0.32$; $p < 0.05$). That is, larger sums of points according to the Fagerstrom test were observed in younger respondents. This once again supports the hypothesis that young ECN smokers need less time to establish a strong nicotine addiction.

At the same time, between the age of TPEH smokers and their total number of points according to the Fagerstrom test (Fig. 5), there is a direct correlation of moderate strength ($r = 0.36$; $p < 0.05$). That is, larger sums of points according to the Fagerstrom test are observed in

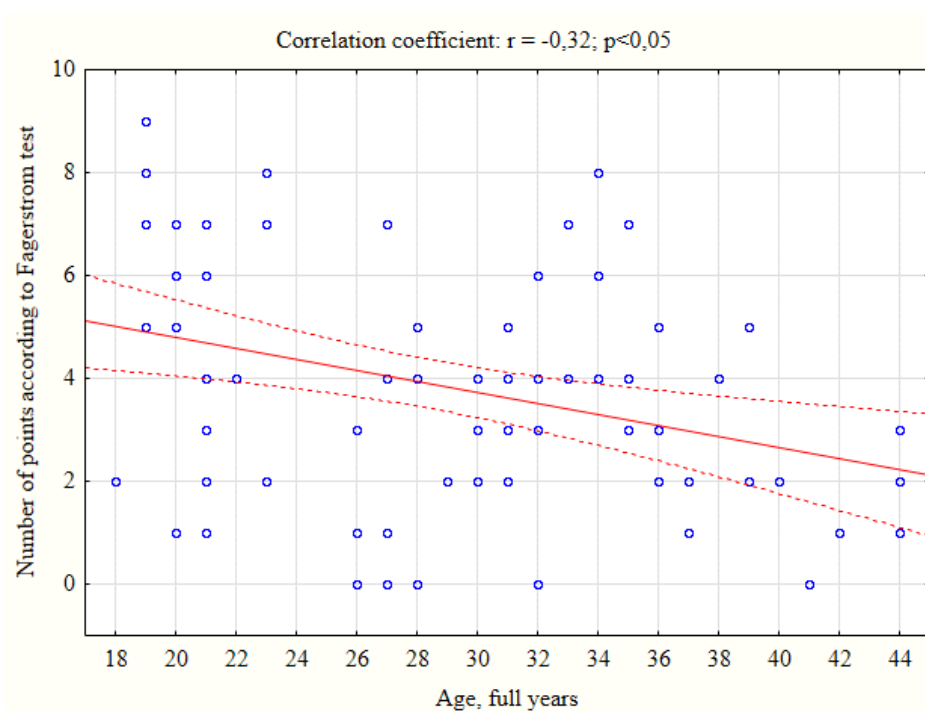


Fig. 4

The relationship between the age of smokers of electronic cigarettes with nicotine and their number of points according to Fagerstrom test

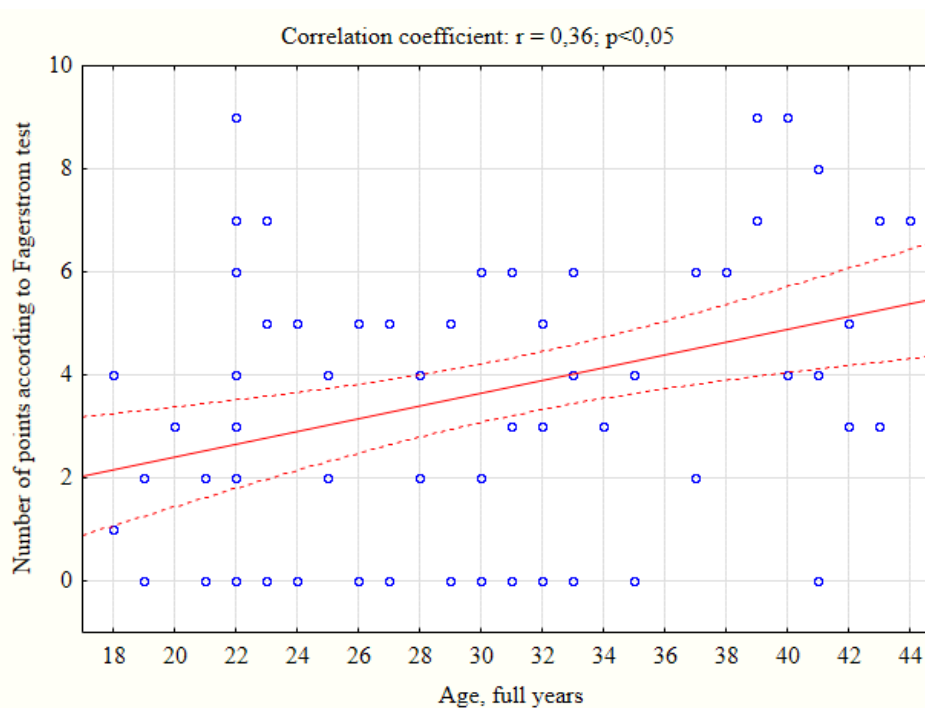


Fig. 5

The relationship between the age of smokers of tobacco products for electronic heating and their number of points according to Fagerstrom test

older respondents, which is typical for smokers of ordinary cigarettes.

Conclusions

1. The latest tobacco products cause addiction in the youth. In particular, the median nicotine addiction score for TPEH smokers (4.00 (2.00; 6.00) points) is even higher ($p > 0.05$) than among classic cigarette smokers (3.00 (1.00; 6.00) points) and ECN smokers (3.00 (1.00; 5.00) points).
2. It was found that higher sums of points according to the Fagerstrom test were observed in younger ECN smokers ($r = -0.32$; $p < 0.05$). On the other hand, higher sums of points according to the Fagerstrom test are observed in older TPEH smokers ($r = 0.36$; $p < 0.05$), which is typical for smokers of classic cigarettes.
3. Among classic cigarette smokers ($p < 0.05$) and ECN smokers ($p > 0.05$), the median nicotine dependence score is higher in men, whereas in TPEH smokers, it is the same for both men and women.
4. About a quarter of the surveyed TPEH smokers ($23.66 \pm 4.41\%$) have a high level of nicotine addiction.

5. Among male smokers, the largest share of individuals with a high level of nicotine addiction is observed in the group of TPEH smokers - more than a third ($36.36 \pm 7.25\%$) of men in this group.
6. The largest number of women with a high level of nicotine addiction is observed among ECN smokers, namely a quarter of the surveyed respondents of this group ($25.93 \pm 5.96\%$).
7. The information obtained will be used in the development of a personalized model of prevention of the latest methods of tobacco consumption among the young population in the Lviv region and improvement of medical care quality for smokers.

Conflict of interests. There is no conflict of interests.

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