

Nicotine dependence among the population of a big Polish city

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Summary

Determinants of nicotine dependence types among current and former tobacco smokers were assessed in a random sample of Łódź inhabitants (25–64 years of age), part of the WHO CINDI project. Among current smokers there were 46.3% people with strong nicotine dependence, while in the group of ex-smokers the corresponding proportion was 10.8%. It has been found that sex, age and education did not affect the distribution of degree of the nicotine dependence. Prevalence of strong nicotine dependence among Polish regular smokers is high compared to other CINDI countries.

Diagnosing the degree of nicotine dependence is an essential prerequisite for an efficient aid to a patient¹, which can be performed with simple diagnostic methods such as: the Fagerström Test for Nicotine Dependence (FTND) and the Heavy Smoking Index (HSI)². The aim of our study was to state the determinants of nicotine dependence among current and former tobacco smokers in selected CINDI Program demonstration areas.

Material and method

Poland, Finland, Russia, Germany, Hungary and Spain participated in the research project “Bridging East-West Health Gap”, intend-

ed to study health condition and health-related behaviours in Central and East Europe (CINDI 1996).

In Poland, questionnaires (see Appendix) were mailed to 1500 randomly selected inhabitants (aged 25–64 years) of the ca. 200000 inhabitants of a neighbourhood of Łódź people. A total of 775 people (ca. 52%) responded, of whom people smoking tobacco every day were classified as current (regular) smokers ($n = 216, 27.9\%$).

People who had smoked tobacco every day at least for one year and ceased smoking for as minimum six months before the onset of the study were said to be former smokers ($n = 139, 17.9\%$). The others were classified as never smokers.

The classification into the degrees of nicotine dependence was based on the results of FTND score. A score of 6 or more was interpreted as strong nicotine dependence. A score of 5 or less was classified as weak nicotine dependence.

Results

The highest smoking frequency was observed among current smokers at 35–44 years of age (43.5%), and the lowest one in the group of 55–64 year-old subjects (13%). The distribution of age was similar in men and women ($p > 0.05$).

Prevalence of current and former smoking was 30.4% and 14.7% in subjects with elementary education, 32.1% and 19.6% in those with college education, and 18.3% and 16.1% among subjects with university education. The difference in smoking frequency was statistically significant (U -test = 3.788, $p < 0.000152$).

The lowest prevalence of former smokers was observed among subjects aged 25–34 (10.1%) and among those with elementary education. The distribution of men and women of former smokers according to the age and education was similar.

Among current tobacco smokers, heavy smokers constituted 46.3% (40.0% women, 51.2% men), or 37.5% according to the HSI. A majority of smokers had a weak dependence in the youngest and oldest groups, while in the 35–54 age group the percentage of the people with strong and weak nicotine dependence was almost equal. No statistically significant differences were detected in the degree of nicotine dependence within the studied age groups.

The former tobacco smokers included primarily people (89.2%) who scored low on FTND. Strong nicotine dependence was twice as frequent in men than in women (14.1% vs 7.4%). Neither age nor education was found to significantly affect the degree of nicotine dependence among the studied people.

Mean FTND score of current smokers (4.93 ± 2.33) significantly differed from the corresponding value in former smokers (2.68 ± 2.07 , $p < 0.001$).

Among current smokers, mean number of smoked cigarettes per day was significantly higher among smokers with high than among those with low nicotine dependence (23.2 vs 14.6 at $p < 0.001$), irrespective of age. The mean was significantly higher in men than in women, irrespective of the type of nicotine dependence. Current smokers significantly differed from ex-smokers in the mean number of smoking years ($p < 0.05$). The mean duration of smoking was 15.5 years in the ex-smoker group, and 21 years in the current smoker group. Duration was longer in men than in women. In comparing the data from selected CINDI demonstration areas for the prevalence of the nicotine dependence types, it has been found that weak nicotine dependence prevailed among the subjects in all countries (smokers with low nicotine dependence constituted from 53.7% to 81.5% of all smokers, Table 1).

Country	Current smokers			
	FTND ≤ 5		FTND ≥ 6	
	n	%	n	%
Finland	167	75.2	55	24.8
Russia	108	65.5	57	34.5
Hungary	265	63.7	151	36.3
Spain	123	81.5	28	18.5
Poland	116	53.7	100	46.3

FTND – the Fagerström Test for Nicotine Dependence.
CINDI – Countrywide Integrated Non-Communicable Diseases Intervention Programme.

Table 1. Current smokers by type of nicotine dependence in selected CINDI demonstration areas (Source: National Public Health Institute, Helsinki, Finland).

The lowest percentage of the current smokers with weak nicotine dependence was recorded in Poland, and the highest in Spain; thus Poland had the highest percentage (46.3%) of the current with strong nicotine dependence.

Discussion

In 1996, current tobacco smokers in the CINDI demonstration area of Łódź constituted nearly 28% of the population at 25–64 years of age. In some other urban CINDI area, 34% of the population was found to be tobacco smokers³. Both figures may be said to represent considerable prevalence of the smoking habit prevailing in the Polish big cities.

Classification of both the current and former smokers by dependence intensity served as the starting point for analysing their nicotine dependence. The assessment of the dependence intensity was based on the results of the FTND test, as the latter was related with the biochemical indices of the dependence². No works on representative samples of tobacco smokers have been heretofore available in relevant

Polish literature which would make it possible to assess the prevalence of nicotine dependence types from FTND test results. In many cases, strong nicotine dependence was approximately ascertained from the data on the duration of the smoking habit (above 20 years) and smoking intensity (over 20 cigarettes/day). The authors of the only available works on the frequency of nicotine dependence types used shorter tests. Assuming that smoking a cigarette during the first 30 minutes after wake-up constitutes the indicator of strong nicotine dependence, it was estimated that the frequency of such dependence in Poland in 1994 was 60% among men and 40% among women⁴.

In assessing the frequency of nicotine dependence by the FTND and HSI test, no significant differences were detected. Therefore, HSI can be used instead of the full-scale FTND to assess the dependence, particularly in cases when circumstances preclude using FTND. Although the results of studies performed heretofore show that the reliability of those tests in predicting smoking cessation is very limited⁵, they may be used as the basis and starting point for the

implementation of suitable treatment¹.

In conclusion, there is a high prevalence of strong nicotine dependence among the urban Polish

smokers, which should be taken into account in anti-smoking campaigns and nicotine withdrawal therapy programs.

Zusammenfassung

Nikotinabhängigkeit in einer polnischen Grosstadtpopulation

In der vorliegenden Arbeit wird die Häufigkeit des Auftretens von Nikotinabhängigkeitstypen in einer Gruppe von aktuellen und ehemaligen Rauchern dargestellt sowie der Einfluss der soziodemographischen Variablen auf die Verteilung des Abhängigkeitsgrads bestimmt. Als Forschungsinstrument wurde ein Fragebogen eingesetzt, der an die Bewohner (im Alter von 25 bis 64 Jahren) einer grossen Stadtagglomeration in Polen (Łódź) verschickt wurde. Im Lauf der durchgeführten Untersuchung von WHO-CINDI 1996 hat man festgestellt, dass in der Gruppe der aktuellen Raucher die stark nikotinabhängigen Personen 46,3% und in der Gruppe der ehemaligen Raucher 10,8% repräsentieren. Es wurde festgestellt, dass Geschlecht, Alter und Ausbildung keinen Einfluss auf die Verteilung des Abhängigkeitsgrads haben. Personen, die aufgehört haben zu rauchen, sind schwach nikotinabhängig mit einer mittleren Raucherzeit kürzer als 16 Jahre. Die Untersuchung zeigt, dass der grosse Teil der aktuellen Raucher in Polen im Vergleich zu anderen Ländern stark nikotinabhängig ist.

Résumé

La dépendance de la nicotine dans la population d'une grande ville polonaise

L'article présente la prévalence des types de la dépendance de la nicotine chez les fumeurs actuels et les ex-fumeurs et définit l'influence des variables sociodémographiques sur la distribution du degré de la dépendance. Les données ont été obtenues au moyen d'un questionnaire d'enquête expédié par la poste à la population randomisée (de 25 à 64 ans) de la grande ville polonaise (Łódź). Cette étude (OMS-CINDI 1996) a révélé que 46,3% de fumeurs réguliers représentent une dépendance forte de la nicotine alors que chez les ex-fumeurs la proportion correspondante est de 10,8%. Il a été constaté que les variables comme sexe, âge et éducation n'exercent aucune influence sur la distribution du degré de dépendance. Les personnes qui ont cessé de fumer représentent une dépendance faible, et une durée de tabagisme inférieure à 16 ans. Les résultats de cette étude montrent que la prévalence de la dépendance forte au tabac des fumeurs réguliers en Pologne est supérieure à celle de CINDI.

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Appendix

III Smoking

19. Have you ever smoked in your life?

- 1 no (proceed to question 42)
- 2 yes

20. Have you ever smoked at least 100 cigarettes, cigars or pipefuls in your lifetime?

- 1 no (go to question 42)
- 2 yes

21. Have you ever smoked daily (= practically every day for at least one year)? How many years altogether?

- 1 I have never smoked daily
- 2 I have smoked daily altogether _____ years

22. Do you smoke now (cigarettes, cigars, pipe)?

- 1 yes, daily
- 2 occasionally
- 3 not at all

23. When did you last smoke? If you smoke regularly, please circle alternative 1.

- 1 yesterday or today
- 2 2 days - 1 month ago
- 3 1 month - half a year ago
- 4 half a year to one year ago
- 5 one year to five years ago
- 6 five years to ten years ago
- 7 more than ten years ago

24. How much do you smoke or did you smoke before you stopped, on an average per day? Please give an answer to each items.

manufactured cigarette _____ cigarettes per day

hand-rolled cigarette _____ cigarettes per day

pipe _____ pipefuls a day

cigars _____ cigars a day