TITLE: Tools for Assessing Tobacco Dependence: Clinical Effectiveness and Guidelines

DATE: 04 June 2010

RESEARCH QUESTIONS:

1. What is the reliability and validity of tools to assess tobacco dependence in adults?

2. What is the reliability and validity of the Fagerstrom Test for Nicotine Dependence versus the Heavy Smoking Index to assess tobacco dependence in adults?

3. What are the guidelines for tools to use to assess tobacco dependence in adults?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 5, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between January 1, 2005 and May 26, 2010. For research questions 1 and 2, no filters were applied to limit the retrieval by study type, and for research question 3 filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, and guidelines. Internet links were provided, where available.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, controlled clinical trials, observational studies, and evidence-based guidelines.

One systematic review and 19 observational studies were identified in the literature search. No relevant health technology assessments, systematic reviews, meta-analyses, randomized
controlled trials, controlled clinical trials, or evidence-based guidelines were identified. Additional potentially relevant articles are located in the appendix.

OVERALL SUMMARY OF FINDINGS:

The Fagerström Test for Nicotine Dependence (FTND) was more reliable when screening populations with low nicotine dependence than the Heaviness of Smoking Index (HSI), but less effective at identifying high nicotine dependence, particularly in those who smoked daily. Others concluded that the FTND, Cigarette Dependence Scale (CDS), and Nicotine Dependence Syndrome Scale (NDSS) had adequate reliability when assessing a medium level of cigarette dependence. Both the FTND and HSI were able to predict cravings in those who had quit smoking and, compared to the Fagerström Tolerance Questionnaire (FTQ), both were superior when assessing nicotine dependence.

FTND has been found to show similar properties to the 12-item Cigarette Dependence Scale (CDS-12) and HSI and to be reliable in assessing nicotine dependence in different populations including psychiatric and nonpsychiatric smokers. The first item in the FTND questionnaire (time to first cigarette in the morning) is a valid predictor of nicotine dependence.

In adult current and ex-heavy smokers, both the Brief form of the Smoking Consequences Questionnaire-Adult (BSCQ-A) and the full Smoking Consequences Questionnaire-Adult (SCQ-A) could distinguish between current and ex-smokers in terms of smoking outcome expectancies. The Diagnostic and Statistical Manual, Fourth Edition (DSM-IV) diagnostic criteria can be combined with the semi-structured assessment for drug dependence and alcoholism (SSADDA) to assess nicotine dependence. Compared to FTND, the Hooked on Nicotine Checklist (HONC) may be more suited to assessing nicotine dependence in adult smokers whose cigarette consumption is low. In treatment-seeking populations, using the seven and 10-item Questionnaire on Smoking Urges-Brief (QSU-Brief) can reliably assess smoking urges. A 100-point scale can be used to evaluate perceived tobacco dependence; however, results require verification using other questionnaires (i.e. Tobacco Dependence Screener and FTND) and biological marker levels.

CDS-12 was somewhat better than the FTND and HSI at predicting withdrawal symptoms and could predict subsequent smoking cessation. The CDS was better able to predict smoking abstinence after eight days when compared to the HSI and NDSS. The Tobacco Craving Questionnaire (TCQ) and the 12-item TCQ Short Form (TCQ-SF) were both found to be valid and reliable in measuring tobacco craving.

There were no evidence-based guidelines identified regarding tools to use to assess tobacco dependence in adults.
REFERENCES SUMMARIZED:

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses


Randomized controlled trials
No literature identified.

Controlled clinical trials
No literature identified.

Observational studies


Guidelines and recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Observational studies


Review articles