INTRODUCTION

Alcohol abuse is common among emergency clinic patients (Holt et al., 1980; Antti-Poika and Karaharju, 1986; Dowey, 1993; Seppä and Mäkelä, 1993; Cherpetil et al., 1996; Forsberg et al., 2002; Sillanaukee et al., 2002; Rockett et al., 2003). Especially traumas related to heavy episodic drinking are often seen in this setting (Antti-Poika and Karaharju, 1986). Brief interventions among these patients have been successful (Antti-Poika et al., 1989; Gentilello et al., 1999a; Forsberg et al., 2000). This is why screening and intervention for alcohol abuse should be a routine at emergency settings.

The problems, however, are manifold. First, to detect alcohol abuse in this busy surrounding is difficult and time-consuming. Secondly, even if the problem is recognised, it may not be documented. This may be due to confidentiality and fear for denial of insurance coverage (Rivara et al., 2000; Sillanaukee et al., 1994). Due to the above facts, alcohol abuse seems to be seldom screened and detected at emergency clinics (Cherpetil et al., 1996; Gentilello et al., 1999b; Sillanaukee et al., 2002).

Alcometer (alcohol breath analysis) is easy, non-invasive and rapid to perform (Walsh and Macleod, 1983). It would be more feasible for screening than time-consuming self-report in the busy surroundings and could thus facilitate the detection of patients’ heavy alcohol use. Among emergency patients, even if its specificity may be hampered by the fact that it sometimes only measures recent alcohol consumption not related to regular heavy use, it has been reported to be an equally sensitive indicator of heavy alcohol use as patients’ self-reports (Cherpetil, 1989, 1993, 1995) and better than laboratory markers (Ryb et al., 1999) and could serve as a first-line screen. It is also an objective measure, which has a good correlation with blood alcohol concentration (Antti-Poika and Karaharju, 1986). Thus, even though it is less sensitive compared to structured questionnaires (Redmond et al., 1987; Cherpetil, 1995) it is a better method than the present practice, where documentation is often based on smell or appearance of the patient.

Alcohol consumption is seldom reported as an etiological factor for acute traumas. In one study, among all the university hospital patients having an alcohol-related diagnosis during a six-year period (n= 6666), there were only 32 (0.5%) who had a trauma. When a special effort was made to document alcohol abuse the percentage of trauma patients with alcohol abuse was 28% (Sillanaukee et al., 1994). In primary health care, reports of the patient’s alcohol use were found in patients’ records only in 7% during a one-year period; most of the documentation happened during emergency visits (Aira, 2000). These records were mostly inexact or contained only the alcometer result. Alcohol use was documented exactly only if the patient had filled in a structured questionnaire before the consultation (Aira and Kotilainen, 1998). Education on the alcohol-related issues increased the documentation (Aira and Kotilainen, 1998). In a recent study Rockett et al. (2003) found that 31% of seven general hospital emergency patients during a half-year period had positive tests for substance abuse but only 1% had a recorded diagnosis of substance use (Rockett et al., 2003).

As part of a project aimed at promoting alcohol-related skills among the personnel the present study aimed at finding out the present emergency clinic physicians’ use of the alcometer and the extent to which they documented alcohol-related findings in their patients.

MATERIALS AND METHODS

The study was approved by the Ethics Committee of Pirkanmaa Hospital District.

During one weekend in May 1999, 100 consecutive patients over 15 years-old coming to Tampere University Hospital,
Finland, central emergency clinic (including surgical, internal medicine, psychiatric or neurology departments) were screened for their alcohol use. All patients whose somatic or psychiatric condition allowed filling in the questionnaire were included in screening. The written version of the Five-Shot questionnaire (Seppä et al., 1998; Aertgeerts et al., 2001) was filled in by 96/100 of these patients. The physicians were informed that this study was part of the project ongoing at the hospital aimed at increasing staffs’ skills to detect and treat patients’ alcohol- and drug related problems. The information did not include details of the study protocol (e.g. searching for patients’ medical records and analysing alcometer use). All diagnostic instruments (including alcometers) were easily available. The physician treating the patient did not know the results of the patient’s questionnaire.

The physician treating the patient filled in another questionnaire which inquired whether the reason for the patient’s consultation was disease, injury, accident or attempted suicide and whether alcohol abuse might contribute to the consultation. The physician’s questionnaire was filled for 99/100 of the patients. During the weekend altogether 13 physicians were on call. Seven of them were female and six were male; five internists, four surgeons, three neurologists and one psychiatrist. Of the patients 46 were treated by a female and 52 by a male physician.

The researchers (T.L., S.A.), who were present at the emergency unit for the whole weekend, collected and merged the patients’ and doctors’ answers. After the study weekend the researchers screened the patients’ medical records for information on alcohol consumption and for diagnostic use of alcometer. Altogether 98/100 of the medical records could be traced. The whole set of answers (patient’s questionnaire, physician’s questionnaire and medical records) was achieved from 94/100 patients. Both physicians’ questionnaire and patients’ medical records were available from 97 patients.

The material was divided into three groups based on the reason for consultation: trauma (including accident, injury and attempted suicide) / disease / both. Also, it was divided in two groups based on alcohol consumption measured by the Five-Shot questionnaire: non-heavy drinkers (Five-Shot total score <3 points or <7 drinks per one occasion) or heavy drinkers (Five-Shot total score ≥3 points or ≥7 drinks per one occasion).

Information from all three sources (patients’ questionnaire, physicians’ questionnaire and patients’ medical records) was compared. Analysis was performed on SPSS statistical software 10.1.

RESULTS

The mean age of the patients was 55 years (range 16–94); 63 were men and 36 were women. The reason for consultation was trauma in 31 patients, disease in 55 patients or both for 13 patients. Of the patients, 26 (one woman and 25 men; 27%) were heavy and 70 (73%) non-heavy drinkers. Heavy drinking was most prevalent in age-groups 35–44 and 45–54-year olds, where six (54.6%) and eight (57.1%), respectively, were heavy drinkers. Of the trauma patients, 13 (42%) were heavy drinkers.

Seven patients were tested by alcometer for alcohol concentration; the value ranged between 0.95 and 2.60‰. All the tested were men and five of them were heavy drinkers based on the Five-Shot questionnaire. The reason for consultation was trauma in six and disease in one. Altogether, alcometer was studied from 5/26 (19%) of the heavy drinkers.

Documentation

Information on alcohol consumption was written in 17/98 (17%) patients’ medical records. Information on alcohol consumption (Five-Shot questionnaire result) was available from 16 of these patients. The written information mainly included a simple mention of alcohol use; no exact amounts or no detailed information of the consumption pattern. Of the alcohol use information, 12/16 (75%) was in heavy drinkers’ medical records and 4/16 (25%) in non-heavy drinkers’ medical records (indicating that they were heavy drinkers). Only 12/26 (46%) heavy drinkers had written information on their alcohol use in their medical records.

The information in the physicians’ questionnaire (about the relation of alcohol use and the consultation) and in patient medical records coincided in 89/97 (92%) cases (Table 1). The 6/20 patients whose visit was primarily considered by the physician to be alcohol-related but whose medical records did not show any information on this were all men and the reason for the visit was trauma. All patients who were tested by alcometer had alcohol abuse documented in their patient medical records.

Presentations to the emergency department based on trauma, disease or both were compared in relation to the uniformity of patient medical record information and physicians’ opinion on the relation of alcohol use and the emergency visit. It emerged (Table 2) that physicians tended to document

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<th>Table 1. Physicians’ opinion and documentation on patients’ alcohol use (n = 97)</th>
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<th>Table 2. Uniformity between patients’ medical records and physicians’ opinion concerning the relation of patient’s alcohol use and the reason for emergency visit</th>
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patients' alcohol use in medical records less frequently for trauma presentations even if, according to the questionnaire they completed, they had considered that the visit was alcohol-related.

DISCUSSION

The number of both patients and physicians in the present study is small, but the high participation percentage and choice of a study period of a usual weekend helps provide a reliable profile of reality. Due to the fact that only one of the heavy drinkers was female this study cannot give answers to the possible differences in physicians’ activity between the genders. One bias may be that the study weekend in May was reported to be less busy than an average one at the emergency department. This means, that during a busier weekend even fewer alcometer analyses might be done and that the documentation might even be less frequent. Also, the presence of the researchers at the emergency clinic may have improved the activity of the personnel to concentrate on alcohol-related topics. Although the physicians were not informed that patients’ medical records were to be studied, using a substance-use related questionnaire might have increased their activity in documenting the diagnoses. Even if there is the possibility that some of the physicians may have tried to avoid copying information already written on the questionnaire to patient records, the activity in non-research situations is probably lower in taking alcometer test and documenting alcohol use.

To avoid false-positive results we used one of the best questionnaires to detect heavy drinkers (Aertgeerts et al., 2001) and a relatively high limit for heavy episodic drinking (>7 drinks). The prevalence of heavy drinkers (26/96; 27%) and alcohol-related traumas (13/31; 42%) is similar to earlier reports, the latter ranging from 24 to 45% (Holt et al., 2003; Antti-Poika and Karaharju, 1986). Using a different screening tool, the CAGE questionnaire performed more than ten years earlier (Antti-Poika and Karaharju, 1986). Using a different screening tool, the CAGE questionnaire might have increased their activity in alcohol-related problems in the emergency department. Annals of Emergency Medicine 26, 158–166.

Alcometer testing was seldom done during our study. Reports of this practice elsewhere are rare. We did not ask the physicians’ reasons for not using the alcometer. It can be speculated that this may be due to work-load, a trust in one’s own diagnostic skills (including smell of the patient), fear for disturbing the patient–physician relationship, fear of not knowing what to do if the test is positive or thinking that this is not their responsibility.

Documentation of alcohol abuse in the present study was infrequent and thus in agreement with earlier studies (Aira and Kotilainen, 1998; Rockett et al., 2003). Also the fact that the documentation when done was scarce and included no figures of the drinking amounts is similar to that reported earlier (Aira and Kotilainen, 1998).

The challenge now is to increase the emergency clinic staff’s activity in detection and documenting substance abuse. Even if an intervention may not be feasible in emergency settings, alcohol-related information could be given to the patient and/or referral made to the family practice. This activity could lead to a big improvement in public health and also to a decrease in use of emergency services.

REFERENCES


tests to detect current alcohol dependence in trauma center patients. *Journal of Trauma-injury* 47, 879–880.


