PRIMARY CARE ALCOHOL INFORMATION SERVICE

Factsheet

Screening tools for healthcare settings

This factsheet will compare screening tools in terms of their reliability and effectiveness at detecting problem drinking, the type of problem drinking they detect, ease of use and suitability for health care settings. It has been written in response to requests for information on alcohol screening tools from primary care professionals. It provides examples of screening tools alongside research evidence to support their efficacy and discusses the implementation of screening programmes in different health care settings. This factsheet contains a lot of information; the contents are set out below to help direct readers to relevant sections.

Contents

Why screen for alcohol problems in health care settings?

Alcohol consumption and alcohol problems exist as part of a continuum. Alcohol use can range from none or light to heavy consumption and dependence. Alcohol related health and social problems tend to increase as consumption rises (Anderson, 1993). It is possible to reduce the prevalence of alcohol related problems by intervening early in the continuum when people are beginning to drink hazardously and encouraging them to reduce consumption. Early interventions form part of a continuum of responses to alcohol problems that range from primary prevention, through brief intervention to specialised treatment.

PCAIS

The Primary Care Alcohol Information Service aims to support primary care professionals working with alcohol misuse.

PCAIS provides a telephone information line, a news bulletin, fact sheets and web pages all aimed at sharing good practice between primary care workers, who are often on the front line of prevention and treatment of alcohol related problems

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Alcohol Concern
Alcohol Concern is the national agency on alcohol misuse, working to reduce the level of alcohol misuse and to develop the range and quality of helping services available for problem drinkers and their families.

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ALCOHOL CONCERN

27% of men and 15% of women in the UK drink excessively, above the recommended weekly limits for sensible drinking[1], placing themselves at increased risk of future health or social problems (ONS, 1998). This is a large proportion of the population and it is therefore important to implement strategies to intervene in alcohol misuse early and prevent the onset of problems. The first step in any intervention strategy is to identify those at risk and this requires a good screening method.

'Hazardous alcohol consumption can be defined as a level of alcohol consumption or pattern of drinking that is likely to result in harm should present drinking habits persist. Harmful alcohol consumption is the consumption of alcohol which causes harm to the psychological or physical well-being of the individual' (Anderson, 1993 p 246, taken from WHO 1992).

Healthcare settings provide excellent opportunities for identifying alcohol misuse. Research has shown that up to 20% of patients presenting to general practice settings will be consuming alcohol at harmful or hazardous levels (Anderson, 1993). One in six people attending accident and emergency departments for treatment have alcohol-related injuries or problems, rising to 8 out of 10 at peak times (HEA, 1998). 1 in 16 hospital admissions are alcohol related (Pirmohamed, 2000).

Alcohol misuse creates a huge burden on the health system both in terms of the cost of treating alcohol related diseases and the impact on waiting times. Often patients continue to be treated for alcohol related problems such as high blood pressure, depression or anxiety without being treated for the underlying alcohol problem. If alcohol misuse is identified and treated it could lead to a reduction in future alcohol related health problems, which could save on treatment costs, and decrease waiting times through a reduction in repeat admissions and consultations.

Effective early intervention strategies are available. Brief interventions were created as a method of tackling alcohol misuse in the early stages by encouraging excessive/ hazardous drinkers to reduce consumption. A brief intervention can range from 5-10 minutes of information and advice given to an excessive drinker to 2-3 sessions of motivational interviewing or counselling. Research has shown them to be a very successful form of alcohol intervention. A brief intervention given to someone misusing alcohol can lead to a 24% reduction in alcohol consumption (Freemantle et al, 1993). These successful early interventions are reliant on screening to identify hazardous drinkers who often show no signs or symptoms of alcohol misuse. *(Alcohol Concern has a separate fact sheet on brief interventions).*

There are clinical pointers to alcohol misuse including trauma, gastro-intestinal symptoms, anxiety and depression, insomnia, erratic work performance, drink-driving, public disorder offences, family problems and drug overdose (Chick et al, 1993). However, research has found that medical professionals find it difficult to identify the majority of patients misusing alcohol. There are also laboratory indicators for identifying alcohol misuse such as blood alcohol concentration level, mean corpuscular volume or gamma-glutamyltransferase (GGT). However, in practice screening questionnaires are found to have greater sensitivity and specificity than laboratory indicators (Heather & Kaner, in press).

Screening tools are basically questionnaires, but research evidence shows them to be very effective in detecting both hazardous drinking and alcohol dependence.

Types of screening tools

Screening tools vary in the type of alcohol misuse they are effective at detecting. Some tools only detect alcohol dependence, while others can be used to identify hazardous drinking.

Quantity frequency questionnaires ask questions about frequency of drinking and the usual amount of alcohol consumed on an average day or drinking occasion. They are useful for detecting hazardous drinking and provide helpful information about the pattern of consumption, which is useful for determining the type of advice to give. This type of questionnaire is easy to use and can be constructed as very brief questionnaires which can be embedded in lifestyle and health questionnaires. They can be used opportunistically when people consult health care settings or attend health checks (Anderson, 1993). Other questionnaires ask about lifetime drinking habits and are usually more useful for detecting cases of alcohol dependence.

[1] Current guidelines for sensible drinking are given in daily amounts. However, research studies often continue to use weekly units as a measure.

The best questionnaires consist of a combination of simple measures of quantity and frequency of alcohol consumption, one or more questions designed to identify bouts of heavy (binge) drinking, and a few short questions to elicit evidence of dependence and/or harmful effects from drinking (Wallace, 2001).

Below are examples of seven different screening tools. The AUDIT, AUDIT – PC, and five shot are useful for identifying hazardous and dependent drinking as they ask about quantity and frequency. The CAGE and MAST are useful as case finders, to detect people who already have serious alcohol problems as they focus on lifetime drinking habits. FAST and PAT were created to detect hazardous drinking in accident and emergency departments.

Most screening methods have some degree of error and it is important to be aware that some patients who screen positive will not be problem drinkers. The accuracy and reliability of screening tools is measured and compared in terms of sensitivity and specificity.

- **Sensitivity** measures the ability of a screening tool to identify hazardous or dependent drinkers in a population. For example if a test has 96% sensitivity it will correctly identify 96% of those people drinking hazardously.
- **Specificity** measures the ability of a screening tool to correctly identify people who are *not* drinking hazardously. 85% specificity means the test will wrongly identify 15% of people as drinking hazardously when in fact they do not drink above sensible limits.

The most accurate screening tools have both high sensitivity and specificity.

The fact that screening tools have a degree of error not prevent them from being an essential tool in detecting, preventing and treating alcohol misuse. If a person is identified as drinking excessively by a screening tool the next stage should be to ask about their quantity and pattern of consumption. This process will reveal anyone who has been incorrectly identified as drinking hazardously. The routine administration of a brief screening questionnaire should serve as a basis for discussing alcohol problems not a total diagnosis

At the end of the factsheet there is a table summarising the different attributes of each screening tool.

AUDIT – Alcohol use disorders identification test

In 1982 the World Health Organisation asked an international group of investigators to develop a simple screening instrument to identify persons who are at risk of developing alcohol problems. AUDIT therefore focuses on the preliminary signs of hazardous and harmful drinking and identifying mild dependence (Babor & Grant, 1989). It contains questions on quantity and frequency of alcohol consumption, drinking behaviour and alcohol-related problems or reactions. AUDIT was tested on a sample of 913 drinking patients to determine its accuracy in detecting harmful and hazardous alcohol consumption. AUDIT has 92% sensitivity and 94% specificity (Saunders et al, 1993).

AUDIT is designed to be used as a brief structured interview or self-report questionnaire. It can easily be incorporated into a general health interview, lifestyle questionnaire or medical history. When the questionnaire is presented in this context few patients are offended by the questions (Babor & Grant, 1989).

AUDIT

1. How often do you have a drink containing alcohol?

Never ❑	Monthly or Less ❑	2 to 4 times a month ❑	2 to 3 times a week ❑	4 or more times a week ❑
(0)	(1)	(2)	(3)	(4)

2. How many standard drinks containing alcohol do you have on a typical day when you are drinking?

1 or 2 ❑	3 or 4 ❑	5 or 6 ❑	7 to 9 ❑	10 or more ❑
(0)	(1)	(2)	(3)	(4)

3. How often do you have 6 or more standard drinks on one occasion?

Never ❑	Less than monthly ❑	Monthly ❑	Weekly ❑	Daily or almost daily ❑
(0)	(1)	(2)	(3)	(4)

4. How often during the last year have you found that you were not able to stop drinking once you had started?

Never ❑	Less than monthly ❑	Monthly ❑	Weekly ❑	Daily or almost daily ❑
(0)	(1)	(2)	(3)	(4)

5. How often during the last year have you failed to do what was normally expected from you because of your drinking?

Never ❑	Less than monthly ❑	Monthly ❑	Weekly ❑	Daily or almost daily ❑
(0)	(1)	(2)	(3)	(4)

6. How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?

Never ❑	Less than monthly ❑	Monthly ❑	Weekly ❑	Daily or almost daily ❑
(0)	(1)	(2)	(3)	(4)

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

Never ❑	Less than monthly ❑	Monthly ❑	Weekly ❑	Daily or almost daily ❑
(0)	(1)	(2)	(3)	(4)

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

Never ❑	Less than monthly ❑	Monthly ❑	Weekly ❑	Daily or almost daily ❑
(0)	(1)	(2)	(3)	(4)

9. Have you or someone else been injured as a result of your drinking?

No ❑	Yes, but not in the last year ❑	Yes during the last year ❑
(0)	(2)	(4)

10. Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?

No ❑	Yes, but not in the last year ❑	Yes during the last year ❑
(0)	(2)	(4)

Scoring

The scores for each question are shown under each response.
The minimum score (for non-drinkers) is 0 and the maximum possible score is 40.
A score of 8 or more indicates a strong likelihood of hazardous or harmful alcohol consumption.

Shortened AUDIT questionnaires

In practice some people have found the AUDIT to be too long to use in health care settings and have shortened the questionnaire. For example Pincelli et al devised the AUDIT – PC, which is shown below. Another group of researchers, Bush et al, devised the AUDIT C. The AUDIT C contains only the first three questions from the AUDIT questionnaire (In Aertgeerts et al, 2000).

AUDIT - PC

ALCOHOL SCREENING QUESTIONS	0	1	SCORE 2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 or 8	10 or more
3. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year have you failed to do what was normally expected of you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the past year		Yes during the last year

If the total score is five or above it might be useful to discuss alcohol consumption further.

FAST

The FAST tool was developed from AUDIT as a shorter version to use in busy A&E and hospital environments to detect hazardous drinking.

F.A.S.T. Screening tool

For the following questions please circle the answer which best applies.
1 drink = ½ pint of beer or 1 glass of wine or 1 single spirit

1. How often do you have eight or more drinks on one occasion?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

2. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

3. How often during the last year have you failed to do what was normally expected of you because of your drinking?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

4. Has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?

No	Yes, but not in the last year	Yes, during the last year

(Hodgson et al 2001).

Scoring of FAST is quick and can be completed with just a glance at the pattern of responses.

Question 1: FAST negative if response is *never*.
FAST positive if response is *Weekly/Daily or almost daily*

Only consider Q 2, 3, 4 if response to Q1 is less than monthly or monthly.

Questions 2, 3, & 4: FAST is negative if responses to Q2 & Q3 are *Never* and Q4 is *No.*
FAST positive if any other response i.e. any hint of a problem.

Unlike other quick screening tests the main focus is upon the frequency of risky levels of consumption (defined in the screening tool as above 8 units on one occasion). The first question identifies up to 70% of respondents as either hazardous drinkers, (i.e. those who respond 'weekly' or 'daily or almost daily') or non-hazardous drinkers, (i.e. those who respond 'never'). The questionnaire is very quick to administer, about 12 seconds, because most respondents only have to answer the first question. FAST identifies 930 out of every thousand people misusing alcohol that AUDIT detects (Hodgson et al 2001).

Five-shot Screening Tool

As mentioned previously some people feel the AUDIT tool is too long for use in primary care. This leads to people using the shorter CAGE tool but CAGE is not good for detecting hazardous drinking. To try and overcome this problem Seppa et al designed the 'Five-shot' questionnaire using two items from AUDIT and three items from CAGE. At a cut off score of 2.5 or greater the 'Five Shot' tool was found to have high sensitivity of 96-100% and specificity of 76%. This provides an accuracy rating of 78%. Anyone that is incorrectly identified as misusing alcohol can easily be detected by further interview with no harm to the patient.

Five-shot Questionnaire

1. How often do you have a drink containing alcohol?
   (0.0) Never
   (0.5) Monthly or less
   (1.0) Two to four times a month
   (1.5) Two to three times a week
   (2.0) Four or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   (0.0) 1 or 2
   (0.5) 3 or 4
   (1.0) 5 or 6
   (1.5) 7 to 9
   (2.0) 10 or more

3. Have people annoyed you by criticising your drinking?
   (0.0) No
   (1.0) Yes

4. Have you ever felt bad or guilty about your drinking?
   (0.0) No
   (1.0) Yes

5. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hang-over?
   (0.0) No
   (1.0) Yes

Scoring
Score of 2.5 or greater indicates possible alcohol misuse and the need for further investigation
Maximum Score = 7. (Seppa et al, 1998).

CAGE

Cage is an acronym for cut down, annoy, guilty and 'eye opener'. It is a 4-item self-report screening test designed to identify dependent drinkers and focuses on lifetime rather than current drinking. It was validated in 1974 and is the most widely used test in clinical practice (Smart et al, 1991). It takes one minute to complete and is easy to administer. Sensitivity ranges from 60-90% and specificity from 40-95%. The problem with using CAGE in health care settings is that it does not ask about the frequency of alcohol use, levels of consumption or episodes of heavy drinking, all factors that can identify patients in the earlier stages of problem drinking (Nilssen & Cone, 1994).

CAGE

C Have you ever felt you should **Cut down** on your drinking?
A Have people **Annoyed** you by criticising your drinking?
G Have you ever felt bad or **Guilty** about your drinking?
E Eye opener: Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover?

Two positive responses are considered a positive result and indicate that further assessment is warranted. (Nilssen & Cone, 1994 – taken from Mayfield et al 1974)

MAST – The Michigan Alcoholism Screening Test

MAST was developed by Selzer in 1971 and is useful for detecting dependent drinkers. The original tool has 25 questions that relate to respondents self-appraisal of drinking habits and to social, vocational and familial problems frequently associated with excessive drinking. There are several variations of MAST, including brief MAST, short MAST and self-administered MAST. The sensitivity of MAST is 86-98% and specificity 81-95%. The major drawback of MAST tests is that they focus on lifetime rather than current occurrence of alcohol-related problems which limits their ability to detect problem drinking at early stages (Nilssen & Cone, 1994).

The Brief Michigan Alcoholism Screening Test (MAST)

1.	Do you feel you are a normal drinker?	Yes (0)	No (2)
2.	Do friends or relatives think you are a normal drinker?	Yes (0)	No (2)
3.	Have you ever attended a meeting of Alcoholics Anonymous?	Yes (5)	No (0)
4.	Have you ever lost friends or girlfriends/ boyfriends because of drinking?	Yes (2)	No (0)
5.	Have you ever got into trouble at work because of drinking?	Yes (2)	No (0)
6.	Have you ever neglected your obligations, your family, or your work for 2 or more days in a row because you were drinking?	Yes (2)	No (0)
7.	Have you ever had delirium tremens, severe shaking, heard voices or hallucinated after heavy drinking?	Yes (2)	No (0)
8.	Have you ever gone to anyone for help about your drinking?	Yes (5)	No (0)
9.	Have you ever been in hospital because of drinking?	Yes (5)	No (0)
10.	Have you ever been arrested for drunk driving or driving after drinking?	Yes (2)	No (0)

Scoring
A score of six or more indicates a high probability of alcohol dependence.

Paddington Alcohol Test (PAT)

The A&E department at St Mary's Hospital in Paddington attempted to find a way to tackle the problem of alcohol misuse through the development of a strategy for detecting and treating alcohol misuse in A&E. Originally a combination of the BMAST and CAGE tools was used to screen patients, however, neither of these tools questions daily alcohol intake or binge drinking and the A&E department wanted to detect hazardous drinking. St Mary's also needed a tool that was quick to use so that it did not increase waiting times and therefore the department decided to develop a new screening tool.

In 1994, the hospital began work to develop a brief alcohol misuse questionnaire to be used by A&E staff and two pilot studies led to the development of the one-minute Paddington Alcohol Test (PAT). The pilots found it was too lengthy to screen all A&E attendees as this increases waiting times and therefore PAT is designed for selective use with adult patients where there is suspicion of alcohol misuse. Suspicious criteria are listed below in the PAT questionnaire. Before the trials began in 1990 the referral rate for alcohol problems to a psychiatrist was 1 in 1205 A&E attendees. The study found that screening using PAT provided 335 appropriate referrals and 202 subsequent attendances for counselling out of 53,090 new adult A&E patients a year. This justifies the employment of a part time Alcohol Health Worker within the A&E department to accept referrals.

The 1 minute Paddington Alcohol Test (P.A.T)

Please complete for all A&E patients where there is any suspicion of alcohol abuse e.g. falls, assaults, head injuries, gastrointestinal problems, 'unwell', fits, blackouts, collapse, insomnia, sweating, palpitations, chest pain, gout, rashes, depression, overdoses and especially REPEAT ATTENDANCE perhaps with unexplained symptoms and DELAYED ATTENDANCE, perhaps as intoxicated at the time of incident.

Remember the ELDERLY presenting with: falls, confusion, incontinence and self-neglect.

1. Quite a number of people have times when they drink more than usual; what is the most you will drink in any one day?

(Note: 1 unit = 8g alcohol. Pub measures, in units, are given in brackets; home measures of 'singles' for example are often x3):

Beer/lager/cider	❑ Pints (2)	❑ Cans (1.5)	Total units/day =
Strong Beer/lager/cider	❑ Pints (5)	❑ Cans (4)	
Wine	❑ Glasses (1.5)	❑ Bottles (9)	
Fortified Wine (Sherry, Martini)	❑ Glasses (1)	❑ Bottles (12)	
Spirits (Gin, Whisky, Vodka)	❑ Singles (1)	❑ Bottles (30)	

2. If you drink more than 8 units/day (for men), or 6 units/day (for women), is this at least once a week?

Yes = PAT +ve
No = Go to question 3

3. Do you feel your current attendance at A&E is related to alcohol?

Yes = PAT +ve
No = PAT –ve

Patients who are PAT +ve should be offered specific alcohol advice and managed according to a local protocol.

(Smith et al 1996).

Comparison table of screening tools

Screening Tool	Setting developed for	Type of drinking detects	Effectiveness/ Accuracy	Length of time to complete	Ease of use	Ease of scoring
AUDIT	Primary Care	Hazardous, harmful and mild dependence.	High 92% sensitivity 94% specificity	Long 2-4 minutes	High	Moderate
AUDIT PC	Primary Care	Hazardous, harmful and mild dependence.	Medium *Men* 68% sensitivity 84% specificity *Women* 56% sensitivity 95% specificity	Short 1-2 minutes	High	Easy
AUDIT – C	Primary Care	Hazardous, harmful and mild dependence.	Medium *Men* 78% sensitivity 75% specificity *Women* 50% sensitivity 93% specificity	Short 1 minute	High	Easy
FAST	A&E and general hospital	Hazardous, harmful and mild dependence.	Medium Detects 90% of those AUDIT detects.	Very short 12 seconds to 1 minute.	High	Easy
Five-shot	Primary care	Hazardous, harmful, and mild dependence.	Medium 96-100% sensitivity 76% specificity.	Short 1-2 minutes	High	Easy
CAGE	General	Dependency - focuses on lifetime drinking.	Medium 60-90% sensitivity. 40-95% specificity.	Short 1 minute	High	Easy
Brief MAST	General	Dependency - focuses on lifetime drinking.	Medium 86-98% sensitivity 81-95% specificity	Long 2-4 minutes	High	Easy
PAT	A&E	Hazardous, harmful & mild dependence.	Unknown.	Short 1 minute	Moderate	Moderate

Other Screening Methods

Some primary care professionals do not like to ask sensitive alcohol-related questions because they are concerned about offending their patients. A study in the USA tried to find a way to overcome this problem. There is a strong association between alcohol intoxication and trauma and therefore they designed an alcohol-screening tool based on asking questions about trauma. When patients arrived at the physician's office the receptionist asked them to complete a form containing the first four questions of the trauma questionnaire.

In the past 5 years:
1) Have you had any fractures or dislocations to your bones or joints?
2) Have you been injured in a road traffic accident?
3) Have you injured your head?
4) Have you been injured in a fight or assault?

If a patient answered yes to one or more of the questions the receptionist placed the 'second stage' of the questionnaire that addressed alcohol use and alcohol problems in their file. This alerted the physician to ask about alcohol use. The physician then asked:

5) Have you been injured while or after consuming alcoholic beverages?

If the patient answered positively to 2 or more trauma questions the physician asked about alcohol consumption in terms of frequency and quantity to calculate alcohol use. If consumption was high the physician then asked the CAGE questions.

The questionnaire reduced to 1 in 7 the number of patients who were asked about alcohol consumption and 1 in 4 trauma positive patients was subsequently identified as a problem drinker. This screening system identified approximately 70% of problem drinkers in the population. Physicians liked the tool because it was an unobtrusive method for screening for problem drinking and meant that alcohol sensitive questions only needed to be asked if there was a good chance that there was an alcohol problem (Israel et al, 1996).

Use of screening tools in health care settings

Primary Care

Primary care provides an ideal opportunity to detect hazardous drinkers and intervene in the early stages of alcohol misuse, as well as detect dependency. Research evidence suggests approximately 20% of patients presenting to primary care are likely to be hazardous drinkers, which means on average each GP will see 364 excessive drinkers a year (Anderson, 1993). Problem drinkers are also known to consult their GPs twice as often as the average patient, the most common complaints are gastrointestinal, psychiatric and accidents (Heather & Kaner, in press). However, a survey of GPs in the English Midlands found that 65% of GPs had only managed 1-6 patients for excessive drinking in the last year. When this figure is compared to the average list size for GPs this suggests that as many as 98% of excessive drinkers presenting to primary care are being missed (Kaner et al, 1999a).

Clearly a wide scale programme of screening and brief interventions for alcohol misuse should be implemented. The success primary care professionals can have in screening for alcohol misuse has been demonstrated. In one trial 73 GPs implemented a programme called 'Drink less' in England. They screened 11,007 patients, of whom 32% were 'at risk' drinkers in a 3-month period. Of the 'at risk' drinkers 58% were given alcohol related advice, and 29% a booklet (Kaner et al, 1999b). In a similar study 128 practice nurses in England screened 5531 patients in three months (range 0-332). 27% of those screened were 'at risk' and 89% of these received some form of brief advice (Kaner et al 2000). These trials only focused on the implementation of screening and brief intervention programmes and did not study the outcome of the brief interventions.

Research studies have tried to determine which screening tools are best for identifying hazardous and dependent drinking in primary care. A recent study was carried out by Aertgeerts et al in general practice, in which 1992 patients were used to assess the screening properties of several short questionnaires, and some

conventional laboratory tests. CAGE was found to be an insufficient screening instrument for detecting alcohol misuse or dependence among primary care patients with only 62% sensitivity for males and 54% for females. The AUDIT was found to be more effective with a sensitivity of 83% among males and 65% among females. However, this was using a cut off point of 5 rather than the usual 8. The AUDIT can be a lengthy tool for use in primary care and shorter tools can be easier to use and more efficient in this setting. The AUDIT-C, which uses only the first three questions of AUDIT, had good validity among males with sensitivity of 78% (cut off point of 5 or greater). Among females an effective and short questionnaire was the 'Five-shot'; at a cut off point of 2.5 it had a sensitivity of 63% and specificity of 95%. The findings of the study led the authors to agree with previous researchers that conventional laboratory tests are of no use for detecting alcohol abuse or dependence in a primary care setting. Overall the study recommended use of Five-shot in a male and female GP population. At a cut-off point of 2.5 and greater the Five-shot detects more than twice as many patients with alcohol abuse or dependence as the GP, based on his previous encounters (Aertgeerts et al, 2001).

For detecting hazardous and dependent drinking in primary care the AUDIT, AUDIT – PC, and Five Shot questionnaires appear to be the best tools to use.

Accident and Emergency Departments

Alcohol use is associated with many different A&E attendances. Pirmohamed et al carried out a two-month prospective survey at the Royal Liverpool University Hospital, in which every admission was assessed to see if it was alcohol related. Overall the study found that alcohol-related attendances accounted for 12% of all A&E attendances, and 6.8% of this group attended more than once. 28% of people with alcohol-related problems were admitted to the hospital, which represented 6% of the total admissions to the hospital. These figures are probably only the tip of the iceberg because the study only detected overt alcohol problems and therefore missed the larger proportion with covert problems requiring detection by alcohol screening tools. The research also suggests that for every 100 patients attending A&E with an alcohol related problem, at least 31 new patients will be seen in outpatients attending 144 appointments over 18 months. These figures demonstrate that alcohol misuse relates to a potentially avoidable use of resources (Pirmohamed et al, 2000). Identification, prevention and treatment of alcohol misuse could significantly reduce this burden.

Emergency departments are often the first point of contact patients have with a hospital. This makes them a good location in which to identify patients misusing alcohol early in their admission or to provide some form of brief intervention to those who leave. However, in a survey of 216 A&E departments it was found that only 12% of nurses and 7% of doctors routinely enquire about alcohol consumption. The most common screening procedures were to note if the attendance was observed to be alcohol related, judging by the smell of alcohol on a patient's breath, or by a patient's behaviour. If a problem was suspected they then enquired about consumption (Waller et al 1998).

During trials of the PAT tool at St Mary's Hospital in Paddington almost half of those patients identified as having an alcohol problem kept an appointment to be screened in a review clinic, this suggests that A&E departments are an appropriate place for detection and referral. Attendance at an A&E department may help someone accept they have a problem with alcohol misuse that they would otherwise deny. 202 patients were seen by an alcohol health worker and assessed or counselled. 71 of the patients seen were followed up after 6 months, 65% of these reported a reduction in alcohol intake and the mean reduction was 43% (Wright et al 1998). St Mary's also found that A&E staff liked being able to refer to an alcohol worker within the department; this made them more willing to identify patients as they could see that treatment was given and were provided with feedback (Smith, 1996, p312).

Few A&E departments currently offer an alcohol screening or intervention service (Pirmohamed et al, 2000).

General Hospitals

Estimates suggest that 20% of all adult in-patients admitted to general hospital settings may be classified as harmful or hazardous drinkers (Canning et al, 1999). This means that general hospitals provide an ideal environment to detect and treat a large number of excessive drinkers who show, or may be at risk of developing, alcohol related problems. However, a large proportion will not be detected unless medical and nursing staff on general wards take thorough alcohol histories or screen patients.

A research study by MacKenzie et al assessed the abilities of AUDIT, CAGE, brief MAST and clinical diagnosis to discriminate between safe and hazardous/harmful drinking among 240 new general medical admissions. 5% of the women and 18% of the men reported drinking above 14 and 21 units respectively and 3% of women and 10% of men drank above 21 and 28 units. These were similar to prevalence levels found in other studies of general medical wards. The study found that AUDIT was sensitive to those drinking above 14 and 21units, but CAGE and brief MAST were not. The relative sensitivities were AUDIT 93%, CAGE 79% and BMAST 35%. Routine clinical assessment alone only led to 12% of unsafe drinkers receiving an alcohol related diagnosis on admission. (MacKenzie et al, 1996). The study authors suggested that nurses should ask patients to complete the AUDIT as part of the routine admission procedure in order to identify hazardous drinkers.

Further evidence to support screening

Conigrave et al carried out research to examine whether AUDIT has the ability to predict a number of endpoints, including alcohol related medical disorders, health care utilization, social problems and hazardous alcohol intake. Participants in the study were interviewed using AUDIT and re-interviewed 2-3 years later. The results showed that those who scored 8 or more on AUDIT at initial interview were more likely to experience social problems from drinking (60.9%) compared with those scoring under 8. Those scoring 8 or more were also more likely to suffer from medical disorders that could be related to alcohol such as liver disease, gastrointestinal bleeding, trauma, and elevated blood pressure (73% compared with 41.6% among those scoring under 8). People scoring over 8 or more were also more likely to have been hospitalised over the follow-up period. AUDIT proved to be a better predictor of alcohol-related problems at the time of follow up than blood tests or assessment of alcohol intake. This study demonstrates the huge potential that screening has for reducing future alcohol related problems. Clearly, AUDIT has considerable potential in identifying drinkers at risk of harm from their drinking. (Conigrave et al, 1995).

Conclusion

The evidence is clear that screening tools can be very effective in detecting both hazardous drinking and dependence. It is also clear that health care settings provide ideal opportunities to carry out screening. For example, screening tools can lead to an 80% increase in the number of excessive drinkers identified in one practice (Freemantle, 1993). Excessive drinkers identified through screening can then be given a brief intervention, which are proven to be effective at encouraging people to reduce their alcohol consumption.

In order to prevent future alcohol related problems it is important to try to introduce a system for detecting excessive drinking in the early stages and this requires the widespread use of screening tools. It is important to consider which type of screening tool to use, some tools are useful for detecting hazardous drinking and others for dependency.

Practitioners must remember that the score on a screening test does not provide definitive information about a person's risk from alcohol consumption nor whether they are simply misusing or actually addicted to alcohol. If there is an indication of a possible problem, a more detailed alcohol history should be obtained to explore the role of alcohol in the patient's personal, social, and professional life, accompanied by a proper physical examination (Wallace, 2001). It is important to establish the pattern of consumption as well as how much someone consumes as the type of advice given will vary for different types of drinkers such as 'binge' drinkers or daily drinkers.

Once alcohol misuse has been identified and the pattern of consumption established a practitioner must then decide the appropriate intervention to provide. If a patient is identified as a hazardous drinker either through quantity or binge drinking but is not dependent a brief intervention can be offered. This involves an assessment of alcohol intake, discussion of patient's consumption level, information about potential health problems and helping the patient set goals for reducing intake (for further information see Alcohol Concern's Brief Intervention Factsheet). If the patient is identified as a dependent drinker or drinking at levels that are

causing harmful health or social effects referral to a local alcohol service and detoxification should be considered.

One final benefit of screening for alcohol misuse is that screening in itself can help people think about their alcohol consumption and increase awareness about the possible risks and consequences of excessive drinking. Screening is itself an effective prevention strategy.

Sensible Drinking Limits

The Department of Health guidelines for safe drinking state that:

- For men, drinking between 3 and 4 units a day or less indicates no significant risk to health. Regularly drinking 4 or more units of alcohol a day indicates an increased risk to health.
- For women, drinking between 2 and 3 units a day or less indicates no significant risk to health. Regularly drinking 3 or more units a day signifies an increased risk to health.

It is recommended that people do not drink up to the recommended limits every day.

Drinking above these levels is described as excessive or hazardous drinking and could lead to alcohol related problems. If someone is drinking more than 35 units per week (women) or 50 units per week (men) they are likely to develop physical and/or mental problems, and have a higher risk of becoming alcohol dependent.

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