

# How general practitioners view alcohol use

## *Clearing up the confusion*

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### SUMMARY

This paper reviews the findings of qualitative and quantitative research into family physicians' attitudes, beliefs, and experience with patients with alcohol problems. The implications of the findings are discussed in the context of the need for educational programs to improve physicians' work with these patients.

### RÉSUMÉ

Cet article passe en revue les résultats de la recherche qualitative et quantitative concernant les attitudes, les croyances et l'expérience des médecins de famille avec les patients qui présentent des problèmes d'alcool. Les auteurs discutent des implications de ces résultats dans le contexte du besoin de programmes éducatifs pour améliorer la performance des médecins exposés à ce type de patients.

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**F**AMILY PHYSICIANS HAVE BEEN called upon to fill a larger role in detecting, preventing, and managing patients with problems related to their use of alcohol.<sup>1,2</sup> There are a variety of reasons for looking to family physicians to act in this aspect of patients' care.

Most adults (70%) visit a family physician at least once yearly,<sup>3</sup> thus placing family physicians in a strategic position to provide accessibility and continuity of care within the health care system. Patients believe that family physicians have legitimate reasons for asking about lifestyle issues, such as their use of alcohol and other drugs.<sup>4,5</sup> In addition, these physicians are viewed as a credible source of health information. The prevalence of alcohol problems among patients attending family practice is high.<sup>6-8</sup>

Other factors supporting family physician involvement include the availability of low-cost detection maneuvers<sup>9-11</sup> and brief, effective interventions appropriate for the primary care setting.<sup>12,13</sup> Despite the strong

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rationale and the availability of appropriate and well-researched tools and techniques, screening and intervention for heavy drinking and alcohol-related problems are not routine practice.

This paper reviews the literature on the views (opinions, attitudes, beliefs, perspectives) of general practitioners toward alcohol and patients with alcohol problems. The focus is on studies collecting information from practising family physicians and on studies concerned with alcohol and alcohol-related problems. This excludes other related research that is concerned only with smoking<sup>14,15</sup> or licit and illicit drug use.<sup>16</sup> While integrating all these studies would be beneficial within a broader substance abuse framework, this is beyond the scope of our review.

The relevant research covers physicians' views on health promotion, alcoholism, problem drinking, safe levels of drinking, working with problem drinkers, the use of community treatment resources, and specific screening and intervention protocols. We made no deliberate attempt to limit the scope of the review across these various dimensions because most of the studies cut across many or all of these areas. Papers were selected on the basis of a computer search of relevant

bibliographic databases (eg, MEDLINE) and through manual search of relevant addiction journals and personal collections of papers on file by the authors or known colleagues. Papers were selected that cover both quantitative (eg, cross-sectional survey) and qualitative (eg, focus groups) approaches to data collection and analyses. In the end, 11 papers, all of which were published during the past 10 years, were reviewed in detail for this article.

### Review of the literature

We organized the relevant studies into two groups. The first group<sup>17,18</sup> encompassed studies in which alcohol is addressed as one of several risk factors within a broader health promotion context. The second group of studies<sup>19-26</sup> dealt specifically with alcohol-related issues (*Table 1*<sup>17-26</sup>).

**Alcohol as a risk factor.** It has been recognized for some time that alcohol is but one of many lifestyle risk factors responsible for a large proportion of the morbidity and premature deaths in developed countries. Lifestyle risk factors other than alcohol use include, for example, smoking, drug use, poor nutrition, lack of exercise, and stress. Rather than focus attention on only one such risk factor, two important surveys have examined physicians' knowledge of, attitudes toward, and beliefs about a range of factors. This allows for an assessment of the importance being placed on patients' alcohol use relative to other health behaviours. These studies also serve as a reminder that many lifestyle risk factors tend to cluster, and that alcohol use should not be considered in complete isolation from other factors, such as smoking, other drug use, and nutrition.

Wechsler and colleagues<sup>17</sup> published the first major survey of alcohol issues in this health promotion context. They surveyed general practitioners, family practitioners, and internists in Massachusetts. Most of these physicians agreed that they had a legitimate

role in promoting health behaviour. However, reducing alcohol use was seen as less important for promoting the health of the average person than, for example, seat belt use, reduced caloric intake, or eliminating cigarette smoking. Forty-six percent of all physicians, and only 33% of a subsample of general practitioners, believed that moderate (or no) alcohol use was very important for good health.

A second important finding was that physicians did not feel very well prepared to counsel patients on any of the risk factors, nor did they feel very successful in achieving behaviour change. Only 46% felt "very prepared" to counsel patients about alcohol use, and only 3% considered themselves currently "very successful" in helping these patients.<sup>17</sup> Roughly comparable results were obtained for all the risk factors. If physicians thought they might have appropriate support to help achieve behaviour change, such as referral information, education, literature for distribution, or risk-factor questionnaires, optimism regarding success was three to four times higher.

A survey by Valente and colleagues<sup>18</sup> sought to replicate and extend the findings of the Massachusetts study. Their survey was sent to a large number of physicians in Maryland with primary specialties in family medicine, general practice, internal medicine, and obstetrics and gynecology. Important findings from the Massachusetts study by Wechsler et al<sup>17</sup> were replicated. Most respondents (75%) stated that physicians should "definitely" try to modify patients' behaviour to minimize lifestyle risk factors, and they placed moderate alcohol use in the middle range of the various factors for its importance for good health. A smaller percentage reported being "very prepared" (about 32%) or "very successful" (3%) in achieving behaviour change concerning the use of alcohol.<sup>18</sup>

However, as in the Wechsler et al study,<sup>17</sup> if physicians were to be given appropriate support, a much higher percentage felt very optimistic about

**Table 1. Studies of physicians' views on alcohol and alcohol-related issues**

<b>AUTHOR (YEAR PUBLISHED)</b>	<b>GEOGRAPHIC SCOPE</b>	<b>NATURE AND COMPOSITION OF SAMPLE</b>	<b>METHOD</b>	<b>RESPONSE RATES*</b>	<b>POTENTIAL BIAS</b>
Wechsler et al (1983) <sup>17</sup>	Massachusetts	Physicians with specialties in family practice or internal medicine (n = 839); random sample	Self-administered postal questionnaire	76%	None reported
Valente et al (1986) <sup>18</sup>	Maryland	Physicians with specialties in family medicine, general practice, internal medicine, or obstetrics and gynecology (n = 1715); random sample	Self-administered postal questionnaire	65%	Lack of response associated with specialty in obstetrics and gynecology and graduation (after 1970)
Casswell and McPherson (1982) <sup>19</sup>	New Zealand	General practitioners (n = 988); systematic sample with a random start	Self-administered postal questionnaire	43.6%	Slightly lower response from recently qualified physicians; some geographic bias
Anderson (1985) <sup>20</sup>	Oxfordshire and West Berkshire, England	General practitioners (n = 467); random sample	Self-administered postal questionnaire	67%	No bias found for sex, age, or number of partners
Rohman et al (1987) <sup>21</sup>	Greater Boston area, Massachusetts	Physician with primary or secondary specialty in general medicine, family practice, internal medicine (n = 945); random sample	Self-administered postal questionnaire	67%	None found on the basis of early versus late responders
Weller et al (1992) <sup>22</sup>	Adelaide metropolitan area, Australia	Physicians in general practice, or in training for general practice (n = 1221); total population surveyed	Self-administered postal questionnaire	59.8%	Responders tended to be affiliated with the Royal Australian College of General Practitioners; small bias toward female respondents
Rush et al (1991) <sup>23</sup>	Canada	Canadian physicians in active family practice (n = 2883); random selection	Self-administered postal questionnaire	59.2%	Some evidence of bias toward female respondents and more recent graduation
Clement (1986) <sup>24</sup>	Boundaries of Salford Health Authority, England	General practitioners: postal questionnaire (n = 128); interview (n = 24)	Self-administered postal questionnaire and 1-hour, semistructured face-to-face interview with subsample	55%	Lack of response due primarily to participation in a survey the previous year
Thorn and Tellez (1986) <sup>25</sup>	London	General practitioners (n = 40); random selection	Semistructured face-to-face interview	82.5% (seven of those contacted declined)	Women and GPs with less than 10 y experience under-represented
Roche et al (1991) <sup>26</sup>	Metropolitan Sydney and a rural area of New South Wales, Australia	Practising general practitioners (n = 44)	Convergent focus groups (7) and postgroup questionnaire	N/A	N/A
Rush et al (1992)	London, Ont	Practising family physicians (n = 12)	Focus groups	N/A	N/A

N/A – not applicable for focus groups because purpose is not to generalize to broad population.  
 \* Response rates reported here were calculated after the exclusion of ineligible cases.

being able to influence patients in areas of lifestyle.<sup>18</sup> With respect to alcohol use, there was a sixfold difference between the perceptions of *current* versus *potential* success. This was the largest difference of all the risk factors under investigation in the study.

**Alcohol-related issues.** Unlike the two surveys described above,<sup>17,18</sup> other studies have focused specifically on alcohol and alcohol-related problems encountered in medical practice. Some of these studies are based on national probability samples<sup>19,23</sup> while others are more regional.<sup>20,22,27</sup>

*New Zealand:* Casswell and McPherson<sup>19</sup> conducted a national survey of 988 general practitioners in New Zealand focusing on different beliefs about alcoholism and the relationship between these beliefs and various aspects of patient care. Because the response rate in this survey was 43.6%, conclusions were drawn rather tentatively.

Respondents largely saw alcoholism (defined as "a unitary disease entity with progressive stages which are arrested only with complete abstinence") as a disease. When asked what factors indicate that a patient has an alcohol problem, the most common responses were social, family, or relationship problems. However, an important finding was that physicians adhering to the biological, disease view of alcoholism were less likely to report such social indicators and more likely to report physical indicators of chronic alcohol abuse (eg, liver disease). They were also less likely to engage the patient in counseling because they thought their advice was generally ineffective. This strongly suggests that physicians' attitudes and beliefs about alcoholism and patients with alcohol problems are closely associated with their routine office practices.<sup>19</sup>

Another important finding from this study was that the general practitioners' opinion about a "safe" level of alcohol consumption was about 20 to 40 mL of absolute alcohol daily and

well within the limit being advised in New Zealand as being hazardous to health. Despite this conservative view of a daily consumption limit, there was little optimism expressed about the ability of the general practitioner to influence drinking behaviour.<sup>19</sup>

*Oxfordshire, England:* Anderson<sup>20</sup> surveyed 467 general practitioners in Oxfordshire, England, with a heavy emphasis on factors associated with physicians' attitudes toward working with patients who have alcohol problems. The response rate in this survey was 67%. As in the broader health promotion survey by Wechsler et al<sup>17</sup> in the United States, nearly all physicians (93%) believed that they had a legitimate role concerning alcohol use among patients.<sup>20</sup> However, less than half felt *capable* of dealing with problem drinkers (44%), were *motivated* to work with such patients (39%), or were *satisfied* with their current efforts (29%).

One of the most important findings was that practitioners having more positive attitudes toward problem drinkers were more actively involved in starting discussions about alcohol with patients and giving advice to reduce consumption. Positive attitudes, in turn, were associated with the number of hours of postgraduate education about alcohol-related matters. These findings support hypotheses about the effectiveness of a potential chain of intervention; education of physicians could focus on changing their attitudes, which could then influence their behaviour vis-à-vis managing patients with alcohol problems.<sup>20</sup>

Another important finding concerned the level of alcohol consumption among general practitioners themselves. "Heavy" consumption was defined as 35 or more units of alcohol weekly for men, and 28 or more for women. In this particular study one unit of alcohol is equivalent to half a pint of beer, a single shot of spirits, or a glass of wine or sherry. Thirteen percent of male physicians and 5% of female physicians met this criterion for heavy drinking, a finding that stood in

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marked contrast to other research by Anderson and colleagues<sup>28</sup> in England showing the conservative views of physicians about safe levels of consumption. Although their own alcohol consumption was unrelated to their attitudes toward, or involvement with, patients with alcohol problems, the recommendation drawn from these findings was that general practitioners might set an example by consuming less alcohol.

*Boston:* Rohman et al<sup>21</sup> undertook a mail survey of 945 physicians in the greater Boston area as part of a larger effort to develop an alcohol education program. Consistent with previous studies, attitudes toward alcoholics were frankly negative and few physicians were confident in managing such patients, especially long-term treatment. Despite questioning their role in long-term treatment, 85% endorsed the statement that routine screening for drinking problems was either a "major" or "moderate" responsibility. More recent graduates from medical school tended to have higher knowledge scores, greater confidence in their alcohol-related clinical skills, and fewer negative attitudes, perhaps resulting from their increased exposure to alcohol education and supervised clinical experience.

In a linear regression model, in which degrees of physician involvement in treating and referring problem drinkers were the dependent variables, a range of independent variables (such as perceived responsibility, alcohol education, knowledge, practical problems in implementation, attitudes, clinical experience, confidence, and year of graduation) accounted for only a small proportion of the variance in referral (15%) and self-treatment (25%).<sup>21</sup>

*Adelaide, Australia:* Weller and colleagues<sup>22</sup> conducted a large cross-sectional survey of general practitioners in the Adelaide metropolitan area in Australia. The survey covered knowledge, attitudes, and beliefs pertaining to drug- (including smoking) and alcohol-related problems. Alcohol

consumption was perceived to be a more difficult issue to raise during consultations than smoking. Respondents indicated that, although many of their patients (mean estimate was 13.8% of patients) were drinking at hazardous levels, only a third believed their effort in changing alcohol-related behaviour would be effective.

*Canada:* In a Canadian national survey, Rush et al<sup>23</sup> collected a range of data from 1707 of 2883 family physicians surveyed. As with the previous studies, respondents believed they had a legitimate role in detecting alcohol problems. This belief was tempered, however, by a perception that working with patients with alcohol problems was not very rewarding and had little impact on patient behaviour. Positive attitudes toward working with such patients were associated with a variety of factors, including the perceived effectiveness of the general practitioner in managing patients with alcohol problems, the number of hours of continuing medical education concerning alcohol issues, and the number of patient consultations for alcohol.

Several questionnaire items used in the Canadian study<sup>23</sup> were drawn from the survey of Anderson et al<sup>28</sup> in the United Kingdom, thus affording the opportunity for comparison. While this comparison is made with some caution given the difference in survey years, it is of considerable interest nonetheless. In attitudes toward working with problem drinkers, Canadian physicians generally expressed more positive views. For example, about twice as many respondents endorsed the statements "I want to work with problem drinkers" and "In general, it is rewarding to work with problem drinkers."

A comparison of the opinions of family physicians in Canada and the United Kingdom regarding the safe upper limit on alcohol consumption for men and women shows that Canadians hold quite conservative views concerning safe levels of drinking. An average of 6.4 drinks weekly for men and 5.6 drinks weekly for women was

reported. There was, however, considerable deviation around these averages. After adjusting for the difference in alcohol content of a "standard drink" between the two countries, the Canadian average was 40% lower for men and 30% lower for women. It is noteworthy that, in the Canadian study,<sup>23</sup> physicians' views on levels of safe drinking were unrelated to attitudes toward working with patients with alcohol problems or the extent of their involvement with these patients. Findings concerning this association in the British data<sup>28</sup> were not reported.

*Salford, England:* Clement<sup>24</sup> assessed the relationship between physicians' identification and counseling of problem drinkers and such factors as attitudes toward working with such patients, their perceived support in this task, and the amount of education in alcohol-related matters. A mail survey of 71 (128) physicians was undertaken in the Salford Health Authority, England, and a subsample of 24 physicians subsequently participated in an in-depth interview. Results showed that the number of alcohol-related problems that a physician identified was associated with a positive attitude toward working with problem drinkers. A statistical analysis testing possible causal associations in the data showed that the extent of patient identification was related to amount of alcohol education of the physician, the degree of support experienced by the physician, and the expectation that working with patients with alcohol-related problems would be rewarding.

*London:* A more qualitative study by Thom and Tellez<sup>25</sup> involved a comprehensive personal interview with 33 general practitioners in southeast London. This study, using open-ended interviews, represents an important attempt to have physicians describe their role in responding to alcohol problems and the difficulties they experience. One of the most important observations made in this study was the difficulty the physicians experienced in defining "drinking problems."

The boundaries between social drinking, problem drinking, and "alcoholism" were unclear, and unless some evidence of harm was very clearly related to drinking, alcohol consumption was often not viewed as "any of the doctor's business."

An important observation, and one raised in all of the larger surveys, was the poor prognosis anticipated if the physician chose to become actively involved with patients experiencing drinking problems. Although some physicians did focus on their successes, they often felt that their personal contribution in such cases was negligible and that other factors out of their control were more directly responsible.

*Sydney and New South Wales, Australia:* Roche et al<sup>29</sup> report results obtained from seven focus groups involving 44 general practitioners from Sydney and New South Wales, Australia. Data were analyzed according to five themes:

- the physicians' perception of their training;
- their views regarding their skills in both forming and offering a diagnosis for a variety of different drugs;
- their relationships with patients with alcohol and drug problems;
- their referral patterns; and
- their expressed patient management style.

Without exception, participants believed that their training had poorly prepared them to respond to patients with drug and alcohol problems. Various approaches and cues were used when making a diagnosis, and there was considerable variability as to what constituted "safe" or "at-risk" drinking.

Participants differed about the best methods of having patients acknowledge their drinking problem, with some advocating confrontational scare tactics and others being reluctant to offer even counseling. Physicians also differed widely in the extent to which they referred patients, with some viewing themselves as part of community teams

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(including Alcoholics Anonymous), others referring almost exclusively to medical specialists or Alcoholics Anonymous, and still others in the middle ground dealing with a somewhat restricted referral network. Most participants were reluctant to relinquish control over "their" patients, often complaining about the lack of feedback from the professional agency or self-help group taking referrals, despite the fact that such feedback is incompatible with the principles of self-help and anonymity.

A range of positive and negative opinions was offered about the legitimacy of their role in either counseling patients or offering alternatives. In terms of organizational obstacles to taking on a larger role, lack of time was the major factor, in addition to financial disincentives and professional behaviour.<sup>29</sup>

*London, Ont:* Ellis conducted two focus groups with a sample of 12 physicians in London, Ont, to gather background information for a project intended to change how another group of physicians detect and manage patients who smoke or use alcohol (personal communication from Ellis K. A qualitative view of family physicians' role in identifying and managing substance abuse problems. London, Ont, 1992). The results confirmed many of the findings of the other qualitative studies reviewed above.<sup>25,26,29</sup> Physicians viewed their role in identifying patients with substance abuse problems as quite legitimate, although they were generally pessimistic about patient outcome following intervention by themselves or specialist agencies. Younger physicians were more optimistic about success than older physicians, many of whom adopted a defeatist attitude.

In Ellis's study, pessimism and perceived success seemed to be closely related to perceived motivation to change. While all the physicians considered it important to recognize patients' motivation for change, this seemed to be an excuse for some of the

physicians, particularly the older ones, to avoid discussing alcohol at all.

Providing intervention was complicated by many physician-related factors, including length of time in practice, the type and number of perceived successes, patient motivation for change, and physicians' own attitudes. One complicating factor was the apparent lack of knowledge, experience, and awareness of community resources; as also noted by Roche and Richard,<sup>26</sup> many expressed frustration over lack of feedback once a patient was referred to treatment.

There was a strong preference for treatment to be provided within a holistic family medicine approach, expressed behaviourally with heavy reliance on a local physician who was an addiction specialist. Finally, all of the physicians expressed frustration in dealing with the contradictory message society gives to patients about drinking and lifestyle. The more pessimistic of the group appeared to use these frustrations as support for their own negative attitudes and denial.

Overall, little attention has been paid to the relationship between physician characteristics, such as sex and age, and their views concerning alcohol use and alcohol problems among patients. Only one study reports sex differences,<sup>22</sup> noting that male physicians generally have more positive attitudes to working with such patients. More data are available on age differences showing that younger physicians (ie, more recent graduates from medical school) are more knowledgeable about alcohol-related issues,<sup>17,21</sup> have more positive attitudes, are more willing to intervene, and have greater confidence in their skills and perceived outcome.<sup>18,21,26</sup> Roche and Richard<sup>26</sup> also found paradoxically that, while younger doctors were more willing to intervene (perhaps reflecting their higher levels of perceived self-efficacy), they would not intervene with patients drinking at a level as low as would older doctors.

**Implications for program planning and development**

The different types of investigations into the views of family physicians concerning alcohol and alcohol problems complement each other and provide a reasonably consistent set of observations and associations. The large-scale surveys conducted in the context of broader health promotion and lifestyle issues indicate physicians' acceptance of their role in dealing with a range of preventive health behaviour, including alcohol use.

**Physician attitudes.** Compared with advising on other risk factors, however, such as smoking, diet, seat belt use, and exercise, physicians perceive themselves as less well prepared and less successful in influencing patients regarding their use of alcohol. There was a strong belief, however, that they could be more successful if they had appropriate assistance, materials, and community support. These findings imply that alcohol abuse training and education programs for family physicians could be more successfully marketed if alcohol were positioned as but one of several risk factors to health, thereby capitalizing upon the more positive attitudes toward intervening in other areas, such as smoking.

Findings from the health promotion surveys are generally supported by the more alcohol-specific surveys and qualitative studies. Physicians believe they have a legitimate role in detecting alcohol problems, but this belief is tempered by a perception that working with patients experiencing such problems is not very rewarding, and has poor behavioural outcomes.

The extent of physicians' involvement with patients with drinking problems is associated with their attitudes and beliefs about problem drinking and working with such patients. Positive attitudes toward working with such patients are, in turn, associated with greater experience working with patients with alcohol problems and more recent

educational experience in this area. The richer, more contextual data derived from focus groups are generally consistent with these observations and highlight the important role of physicians' perceived self-efficacy in managing these patients.

The main implication of these attitudinal data for the development of training and educational programs is that these programs should be based on more than a didactic approach and should include a skill-oriented, practical component involving patients. Patients and cases used for training purposes must represent the spectrum of alcohol use and problems, including those who are drinking at hazardous levels, patients who are beginning to experience problems related to their alcohol consumption, and patients who are alcohol-dependent.

**Boundaries of safe drinking.** In addition to the consistency in these attitudinal data, an important observation across all the different types of studies is the difficulties physicians have in understanding the boundaries between safe (social) drinking, at-risk drinking, and alcohol dependence (alcoholism). The perception of these boundaries is clearly associated with the likelihood of a physicians' intervention at an early stage because the data suggest that alcohol is usually viewed as a taboo topic with patients unless there is some evidence of harm clearly related to drinking.

This confusion over boundaries of safe drinking is also related to physicians' beliefs about the protective health effects of moderate consumption. Physicians recognize that such a U-shaped association between the risk to health and alcohol consumption is inconsistent with the linear risk function inherent in the risk continuum that serves as much of the theoretical backdrop to the work in early intervention.

**Training and education.** Although the overall body of epidemiological evidence is not as strong and consistent



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as might be desired for program development (compared with, say, the smoking literature), it is important that training and educational programs clearly address the issue of protective effects and harm associated with alcohol use. A simple and direct response to questions about a safe level of alcohol consumption is probably preferable to a long treatise on the epidemiological data.

The language used in training and education materials to describe the risk continuum is also important because it should translate into a comfortable language for physicians to use with patients. Although this language will be culture-bound to a large extent, variations on the general theme of no risk, low risk, hazardous, harmful, and dependent are most common. To illustrate the potential for confusion in the language, other alternatives are no risk, low risk, high risk, and dependent – or no risk, low risk, moderate risk, and high risk. The language, and the associated consumption levels, must adequately represent the epidemiological data and be reasonably consistent with physicians' and patients' experiences and perceptions of risk.

Another common theme in many of the studies, particularly the more qualitative studies, concerns physicians' attitudes toward using outside community resources. While considerable variability exists in referring patients to specialist addiction agencies, physicians' views on the nature of their interaction with these agencies and their overall effectiveness seem to be predominantly negative.

The main implication for the development of training and education materials is that the shift in emphasis to early intervention should not be at the expense of articulating the role of the physician in the overall community alcohol treatment system. Physicians need to be educated about the full range of treatment settings (eg, outpatient, day treatment, residential care) and the kinds of treatment methods and activities patients can expect to

experience there (eg, relapse prevention). Physicians also need to be educated on the concepts and methods of comprehensive assessment, case management, and continuing care because their role in the system is so closely associated with these aspects of the treatment continuum. ■

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### References

1. Babor TF, Ritson EB, Hodgson RJ. Alcohol related problems in the primary health care setting: a review of early intervention strategies. *Br J Addict* 1986;81:23-46.
2. Saunders JB, Conigrave KM. Early identification of alcohol problems. *Can Med Assoc J* 1990;143(10):1060-9.
3. Canada Health Survey. *The health of Canadians*. Ottawa: Health and Welfare Canada and Statistics Canada; 1981 Catalogue No. 82-538E.
4. Steiner Y, Rosenberg E. Psychosocial problems: what do patients want? What do physicians want to provide? *Fam Med* 1987; 19(5):346-50.
5. Sullivan D. Opportunistic health promotion: do patients like it? *J R Coll Gen Pract* 1988; 38:24-5.
6. Malla A, Merkey H. Screening for alcoholism in family practice. *Fam Pract Res J* 1987;6(3):138-47.
7. Skinner HA, Holt S, Schuller R, Roy J, Israel Y. Identification of alcohol abuse using laboratory tests and a history of trauma. *Ann Intern Med* 1984;101(6):847-51.
8. Redman S, Cockburn J, Reid AL, Sanson-Fisher RW. Alcohol consumption and alcohol related problems: prevalence amongst a general practice population. *Aust Drug Alcohol Rev* 1987;6:245-52.
9. Skinner HA, Holt S, Shew WJ, Israel Y. Clinical vs laboratory detection of alcohol abuse: the alcohol clinical index. *BMJ* 1986; 292:1703-8.
10. Bush B, Shaw S, Cleary P, Delbanco TL, Aronson M. Screening for alcohol abuse using the CAGE questionnaire. *Am J Med* 1987; 82:231-5.

11. Babor TF, Grant M. From clinical research to secondary prevention: international collaboration in the development of Alcohol Use Disorders Identification Test (AUDIT). *Alcohol Health Res World* 1989; 13(4):371-4.
12. Kristenson H, Olin H, Hulten-Nosslin M, Trell E, Hood B. Identification and intervention of heavy drinking in middle-aged men: results and follow-up of 24-60 months of long-term study with randomized controls. *Alcohol Clin Exp Res* 1983; 7(2):203-9.
13. Wallace PG, Cutler S, Haines A. Randomized control trial of general practitioner intervention in patients with excessive alcohol consumption. *BMJ* 1988;297:663-8.
14. Fortmann SP, Sallis JF, Magnus PM, Farguian JW. Attitudes and practices of physicians regarding hypertension and smoking: the Stanford Five City Project. *Prev Med* 1985;14:70-80.
15. Wells KB, Ware JE, Lewis CE. Physicians' attitudes in counselling patients about smoking. *Med Care* 1984; 22(4 April):360-5.
16. McKeaganey N. Shadowland: general practitioners and treatment of opiate abusing patients. *Br J Addict* 1988; 83:373-86.
17. Wechsler H, Levine S, Idelson R, Rohman M, Taylor JO. The physician's role in health promotion - survey of primary care practitioners. *N Engl J Med* 1983;308:97-100.
18. Valente CM, Sobal J, Muncie HL, Levine DM, Antlitz AM. Health promotion: physician's beliefs, attitudes, and practices. *Am J Prev Med* 1986;2(2):82-8.
19. Casswell S, McPherson M. The responses of a self-selected group of general practitioners to patients with alcohol-related problems. *N Z Med J* 1982; 95:462-6.
20. Anderson P. Managing alcohol problems in general practice. *BMJ* 1985; 290:1873-5.
21. Rohman ME, Clearly PD, Warburg M, Delbanco TL, Aronson MD. The response of primary care physicians to problem drinkers. *Am J Drug Alcohol Abuse* 1987;13(1 and 2):199-209.
22. Weller DP, Litt JCB, Pols RG, Ali RL, Southgate DO, Harris RD. Drug and alcohol related health problems in primary care - what do GPs think? *Med J Aust* 1992;156:43-8.
23. Rush B, Bass M, Stewart M, McCracken E, Labreque M, Bondy S. Detection, prevention, and management of patients' alcohol problems by Canadian family physicians. *Can Fam Physician*. In press.
24. Clement S. The identification of alcohol-related problems by general practitioners. *Br J Addict* 1986;81:257-64.
25. Thom B, Tellez C. A difficult business; detecting and managing alcohol problems in general practice. *Br J Addict* 1986; 81:405-18.
26. Roche AM, Richard GP. Doctors' willingness to intervene in patients drug and alcohol problems. *Soc Sci Med* 1991; 33(9):1053-61.
27. Saunders JB, Roche AM, Elvy GA. *Strategies to enhance the capacity of primary health care to respond to persons with harmful alcohol consumption: proposal for a collaborative study (ICP/ADA 035 A16)*. Copenhagen, Denmark: World Health Organization, Regional Office for Europe, 1992.
28. Anderson P, Cremona A, Wallace P. What are safe levels of alcohol consumption? *BMJ* 1984;289:1657-8.
29. Roche AM, Guray C, Saunders J. General practitioners' experiences of patients with drug and alcohol problem. *Br J Addict* 1991;86:263-75.

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Five drops will hydrolyze approximately 70% of the lactose in 1 L of milk at refrigerator temperature (6°C) in 24 hours or in 2 hours at 30°C. Additional time and/or enzyme is required for 100% lactose conversion. 1 L of any type of milk will contain approximately 50 g lactose prior to lactose hydrolysis and will contain 15 g or less, after.

**Indications:** Lactase insufficiency either suspected because of gastrointestinal disturbances (bloating, distension, flatulence, diarrhea) after consumption of milk or milk products or identified by a lactose tolerance test, or lactose-breath hydrogen test.

**Precautions:** Diabetics should be aware that the milk sugar will now be metabolically available and must be taken into account (25 g glucose and 25 g galactose/L). No diabetics' reactions reported.

Galactosemics may not have milk in any form, lactase enzyme modified or not.

No drug interactions reported.

**Adverse Effects:** The most frequently reported adverse effects to the tablets are gastrointestinal in nature, sometimes mimicking the symptoms of lactose intolerance. No reactions of any kind were observed from the liquid drops. Total reactions were estimated at under 0.1% of users.

**Overdose: Symptoms:** Overdose toxicity has not been reported with this drug.

**Dosage: Drops:** Add 5 drops to each L of milk to convert 70% of lactose; 15 drops will convert 99%+ of the lactose.

**Tablets:** One-half to 3 tablets to be taken just before eating a meal or food which contains lactose.

**Supplied: Drops:** Each 5 drop dose contains: not less than 1,250 Neutral Lactase Units of β-D-galactosidase derived from *Kluyveromyces fragilis* yeast. Also contains glycerol 50%, water 30% and inert yeast dry matter 20%. Dropper bottles of 2.5mL, 6.5mL, and 15.5 mL (sufficient to treat 12, 30 and 75 litres with doses of 5 drops respectively). Bulk institutional sizes also available.

**Tablets:** Each tablet contains: at least 3,300 FCC lactase units of β-D-galactosidase from *Aspergillus oryzae*. Also contains, dicalcium phosphate, dextrose, cellulose, modified cornstarch and hydrogenated vegetable oil. Lactaid® is available in packages of 15, 50 or 100 tablets.

**References:** 1. Mishkin, S, MD., What's Causing The Patient's Bloating? The Canadian Journal of Diagnosis, June 1991: 672-674. 2. Conn's Current Therapy, Philadelphia, PA, W.B. Saunders Company, 1990: 468-469.

(Shown in Product Recognition Section)



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