blood agar plates? Did CNA stand for calcium nutrient agar or the more common colistin nalidixic acid agar?). Assuming that blood agar was the medium used, it is not well suited to the growth of commercial lactobacilli or bifidobacteria. It is a better choice for enterococci and pathogenic microbes. The media used are more suited to fecal analysis and are not specific for lactobacilli nor bifidobacteria. The preferred media for evaluation and enumeration of probiotic lactobacilli are de Man, Rogosa, Sharpe (MRS) agar or tomato juice agar. Also, the use of a "1:1000 loop" is not adequate for enumeration. To achieve a quantitative result, a defined quantity of powder (1 to 10 g) should have been weighed, reconstituted, and serially diluted.

We suspect that examination of a Gram stain would have revealed a high number of Gram-positive rods (comprising lactobacilli and bifidobacteria) in most of these samples. Although a Gram stain will not differentiate between live and dead cells, a dominance of these microbes would have called into question growth methods that did not determine their presence even at the lowest level of recovery. Finally, the method used to determine the genera of the microbes isolated was not described. It is therefore impossible for readers to assess the likelihood that correct identifications were reported. Molecular techniques are preferred for identification of probiotic microbes.

The author concludes from this study that probiotics should not be recommended at this time. This is clearly an irresponsible and damaging conclusion, indicting an entire industry on the basis of 10 samples evaluated using poor and outdated methods. This paper will likely discourage health care professionals from using perfectly good products that could provide clinical benefit to their patients. Further, the author's statement that "No current government regulations apply to over-the-counter probiotic products" is simply untrue. In Canada, these products fall under the jurisdiction of Health Canada's Natural Health Products Directorate, and some previously registered drug identification number products fall under the Therapeutic Products Directorate.

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1. Huff BA. Caveat emptor. "Probiotics" might not be what they seem. *Can Fam Physician* 2004;50:583-7.

Probiotics

I was surprised at the results obtained in the article "Caveat emptor. 'Probiotics' might not be what they seem."[1] My understanding is that manufacturers must follow good manufacturing practice (GMP) as outlined in the Natural Health Products regulations defined by Health Canada.

According to Health Canada, as of January 1, 2004, probiotics (and all other natural health products) are subject to the requirements of the Natural Health Products Regulations, which include GMP, site licensing, and product licensing requirements. Quality control must be built into *each batch* of the product during all stages of the manufacturing process, and constant testing is required to monitor this quality. All raw materials are required to conform to a standard and are tested to their specifications to ensure compliance. Suppliers must provide a Certificate of Analysis for each batch of raw material. In addition, a qualified quality assurance person should be checking throughout the manufacturing, packaging, labeling, testing, and releasing steps (personal communication from Health Canada, Natural Health Products Division; June 2004).

It is not entirely clear from Dr Huff's article whether she followed GMP guidelines when conducting her study. My understanding is that the culture and counting of bacterial flora in this situation needs to be quite specific and standardized. If the author used a different culture media and counting techniques, then these results are clearly neither valid nor comparable with GMP guidelines.

Could Dr Huff please clarify her methods? If her methods are different from the standardized GMP guidelines, I must wonder why this variance was not dealt with in peer review. Arbitrary methods would cast doubt on the results and therefore the conclusions.

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Early screening for diabetes mellitus: has it been overstated?

The article[1] by Dr Stewart Harris and Ms Cynthia Lank in the March issue and the subsequent letter to the editor by Dr Jayabarathan[2] raise some interesting concerns about the Canadian Diabetes Association's clinical practice guidelines for preventing and managing diabetes in Canada.

The Expert Committee recommends screening all Canadians older than 40; this recommendation appears largely based on a Canadian study completed in 1998.[3] This study arbitrarily chose to test glucose levels in patients older than 40; the study demonstrated a prevalence of 1.4% undiagnosed diabetes and 1.7% undiagnosed glucose intolerance in the 40 to 45 years age group. These numbers are smaller than in the older age groups and do not support the recommendation to push the screening age back 5 years. The position of the Expert Committee is certainly not shared by other groups: the American Diabetes Association in January 2004 maintains its recommendation to screen adults older than 45[4]; the US Preventive Services Task Force in 2003 concluded that there was insufficient evidence for screening asymptomatic adults at any age.[5]

In his response[6] to Dr Jayabarathan's letter, Dr Harris questions her interpretation of the UKPDS study; Dr Harris reaffirms his interpretation that this study confirmed the protective effects of intensive glycemic control. He fails to note that the results of the UKPDS have been questioned in a number of articles.[7-10] The UKPDS demonstrated that intensive glycemic control using various hypoglycemic agents did significantly reduce microvascular outcomes (chiefly retinopathy requiring photocoagulation) and, to a lesser degree, progression of microalbuminuria; there was no significant reduction in the incidence of blindness, of renal failure, or of macrovascular events. An isolated finding that metformin therapy in obese diabetic patients did significantly reduce cardiovascular events and overall mortality appears to have been generalized to the broader topic of glycemic control by any means. An observational study as part of the UKPDS demonstrated that patients with higher glycosylated hemoglobin (A_{Ic}) have a greater risk of microvascular and macrovascular events but did not demonstrate that lowering the levels altered the risk. The UKPDS did demonstrate that tight blood pressure control was of great importance in modifying outcomes.[11]

Dr Harris indicates that early detection and treatment of the prediabetic state will prevent development of overt diabetes and delay onset of target-organ damage. Two recent clinical trials have confirmed the effectiveness of lifestyle changes[12,13]; unfortunately, the intensive interventions (multiple diet education sessions, personal physical training supervision, regular follow-up visits and prompts) do not translate into a practical general population strategy, and the sad reality is that attempts to modify lifestyles in a family physician's office are frustrating and generally unsuccessful.[14] Three clinical trials have shown normalization of glycemic levels using metformin, acarbose, or troglitazone (which has since been removed from the market); one might question the wisdom of instituting pharmacotherapy at such an early stage, thereby increasing the cumulative risk of side effects and drug-related complications, without any evidence to support the hypothesis that this will alter anything but the glycemic level.

Finally, the Expert Committee overlooks the social, emotional, and economic impact of labeling patients. Attaching a "sick" label to patients is not without consequences. The question of false-positive results has also not been addressed: between 12.5% and 42% of men diagnosed with diabetes reverted to normoglycemia after 2.5 to 8 years.[15,16]

Dr Harris underplays the significance of clinical practice guidelines; they most certainly affect practice and standards of care; otherwise Expert Committees would not be expending such energy to develop them. Unfortunately, the Expert Committee of the Canadian Diabetes Association might have overstated the effectiveness of early

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