Figure 10.3. EXPERIMENTAL PLANS: Oat Bran and Serum Cholesterol Levels

EM9001: The Globe and Mail, January 18, 1990, page A12

Boston researchers chew up oat bran as cholesterol fighter

Reuter

NEW YORK

Oat bran, one of the biggest health food fads of the 1980s, does not lower cholesterol or blood pressure, a study released yesterday indicates.

The findings of a group of Boston researchers, reported in the current issue of *The New England Journal of Medicine*, are that a high-fibre diet does not reduce cholesterol levels any more than a low-fibre diet.

"Oat bran does not lower cholesterol," said Frank Sacks, a cholesterol expert at Brigham and Women's Hospital and one of the study's authors.

"There's nothing wrong with oat bran – it has little saturated fat and cholesterol – but there is nothing special about it."

Some studies have shown that a diet rich in oat bran, which contains a lot of soluble fibre, may lower cholesterol levels and prevent heart problems.

In the study, 20 subjects with normal levels of cholesterol were fed 87 grams a day of high-fibre oat bran, either in entrees or muffins, for six weeks, followed by six weeks of 87 grams a day of low-fibre wheat. Both diets contained the same amount of calories and nutrients. The mean age of the subjects was 30.

The results: the high-fibre diet and the low-fibre diet both reduced total cholesterol and low-density lipoproteins, the so-called bad cholesterol, by 7 to 8 per cent.

The researchers said the cholersterol-lowering effect of both diets was not because of any direct effect of fibre on cholesterol, but because the subjects ate less saturated fat and cholesterol and more polyunsaturated fat during both six-week periods.

Dr. David Jenkins, a nutrition expert at the University of Toronto, said the study was "very important," but he questioned whether the results would have been different if older people with higher levels of cholesterol had been tested.

EM9002: Kitchener-Waterloo Record, January 18, 1990, page A1

Eating oat bran doesn't lower cholesterol levels, study says

BOSTON (AP) – Contrary to cereal ads and popular belief, oat bran does not lower cholesterol levels, says a study that challenges one of the biggest food crazes of the 1980s.

Critics were skeptical of the findings.

The new research concluded that people who eat lots of oat bran do indeed have less cholesterol in their blood, not because of any special powers of oat bran but because they eat less saturated fat and cholesterol.

"There really isn't any cholesterol-lowering property in oat bran," said Dr. Frank Sacks, a co-author of the study. "Oat bran pretty much does the same as other cereal products."

Oat bran has been promoted as a health food largely because it is rich in soluble fibre. Several studies have suggested that this kind of fibre somehow removes cholesterol from the body.

But the latest study concluded that people's cholesterol levels dropped just as much when they ate food made with low-fibre white flour and Cream of Wheat as it did with heavy intake of oat bran, because fat consumption went down.

High amounts of saturated fat and cholesterol in the diet can raise blood cholesterol levels, leading to heart disease. But when people eat lots of grain products, they may be too full to eat their usual amounts of fatty food.

The researchers said the lower fat and cholesterol consumption, not high fibre intake, entirely explained the drop in cholesterol seen in their study.

The volunteers ate seemingly identical muffins, meat loaf and casseroles for two six-week periods. During one period, the food contained 100 grams of oat bran a day, while during the other it contained that much white flour or Cream of Wheat as a control.

The foods contained 800 to 1,000 calories a day. The volunteers could eat whatever else they wanted but had to keep track of what they ate and how much.

On both the oat and non-oat regimens, their cholesterol levels were about seven per cent lower than before they went on the diets.

REFERENCE: Swain, J.F., Rouse, I.L. Rouse, Curley, C.B. and F.M. Sacks: Comparison of the Effects of Oat Bran and Low-Fibre Wheat on Serum Lipoprotein Levels and Blood Pressure. *New Engl. J. Med.* **322**(#3): 147-152 (1990). [DC Library call number: PER R11.B7]

1. Is *The Globe and Mail* article a faithful *overall* presentation of the journal publication? Explain, with specific examples.
   - Why is the *name* of the medical journal, given in the second paragraph of the article, important?
     - What *other* useful information about the journal is also given in this paragraph?

2. Is the *K-W Record* article a faithful *overall* presentation of the journal publication? Explain, with specific examples.

3. Is one of the two newspaper articles clearly a 'better' presentation of the investigation? Explain briefly.
   - Do the two articles differ in the *facts* they present? Which of them is correct?
     - In light of the correct information in the *journal* article, suggest how such a mistake might have occurred?

(*continued overleaf*)

3 ● What matter(s) *other than content* may affect the impact of articles of this type on newspaper readers?
- How do you rate the two articles reprinted overleaf on page 10.5 with respect to these matter(s)? Explain briefly.

4 As both newspaper articles imply, oat bran had been extensively promoted as a health food on the basis of earlier investigations, yet the latest investigation yielded a different Answer.

- Describe the factor(s) which determine whether the Answer from this investigation is *generally* applicable.
- Describe the factor(s) which determine whether it is reasonable to answer that the dietary modifications made in the two six-week periods of the investigation are *causally* related to the observed reduction (*ca* 7%) in serum cholesterol levels.
  - How should the *order* of the two 'treatments' used in the two periods have been assigned among the 20 participants? Explain briefly.
    - Was the *actual* assignment made in this way? Cite the relevant part(s) of the journal article
- Suggest how the Plan for the investigation could be improved and/or extended to Answer, with fewer limitations, the Question being asked; indicate how your Plan is an improvement.
  - What practical difficulties might arise that would make more *imprecise* the Answer from your 'improved' Plan?