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PREVIEW

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**Dietary fat and fiber in human diets: Impact on serum  
lipid profile, consumption patterns and food acceptability  
measurement**

Ganji, Vijay, Ph.D.

The University of Nebraska - Lincoln, 1991

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PREVIEW

DIETARY FAT AND FIBER IN HUMAN DIETS: IMPACT ON  
SERUM LIPID PROFILE, CONSUMPTION PATTERNS  
AND FOOD ACCEPTABILITY MEASUREMENT

By  
Vijay Ganji

A Dissertation  
Presented to the Faculty of the  
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Major: Interdepartmental Area of Nutrition

Under the Supervision of Professor Constance Kies

Lincoln, Nebraska

August, 1991

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DIETARY FAT AND FIBER IN HUMAN DIETS: IMPACT ON SERUM LIPID PROFILE,

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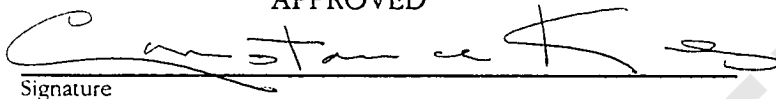
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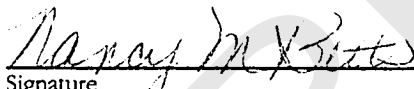


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GRADUATE COLLEGE  
UNIVERSITY OF NEBRASKA

**DIETARY FAT AND FIBER IN HUMAN DIETS: IMPACT ON  
SERUM LIPID PROFILE, CONSUMPTION PATTERNS  
AND FOOD ACCEPTABILITY MEASUREMENT**

**Vijay Ganji, Ph.D  
University of Nebraska-Lincoln, 1991**

**Advisor: Constance Kies**

A 28-day study was conducted in 10 normolipidemic adult subjects to investigate the effects of soybean and coconut oil rich diets with/without psyllium fiber on serum lipids and fecal fat excretion levels. Subjects were fed soybean oil, soybean oil plus fiber, coconut oil and coconut oil plus fiber diets. Soybean and coconut oil feeding with psyllium fiber significantly reduced serum cholesterol, LDL-cholesterol and apo-B levels in comparison to the values of soybean and coconut oil diets without psyllium fiber. Coconut oil feeding increased serum cholesterol, LDL-cholesterol and apo-B levels. Fiber feeding with soybean and coconut oil diets significantly increased wet and dry fecal weights, fecal fat and palmitic acid excretion, and decreased fecal transit times as compared to the levels of soybean and coconut oil diets alone. Addition of psyllium fiber to saturated and polyunsaturated fat diets may be beneficial in the dietary management of hypercholesterolemic subjects.

In the second project, the USDA's Nationwide Food Consumption Survey 1987-88 was used to assess the intakes of dietary fat, cholesterol and fiber in the U.S. population. Fat intakes were significantly higher in the younger age groups than in the intakes of older individuals. Percent fat calories for all individuals

were in the range of 37-38%. Mean intakes of cholesterol by all ages studied were below 300 mg/day, which matches the recommendations made by the American Heart Association. Mean dietary fiber intake ranged from 11-14 g/day across the age groups. These results indicate that the Americans are consuming higher calories from fat and lower amounts of dietary fiber than the levels recommended by health agencies.

In the third study, yeast breads containing soybean, coconut and canola oils were studied for sensory qualities and acceptability measurement. Yeast breads were prepared using automatic bread making machines and were evaluated by sixteen sensory judges. Sensory scores of soybean, coconut and canola oil breads for color and texture were similar. Soybean and canola oil breads received higher ratings for flavor, tenderness and overall acceptability than the scores of coconut oil bread. These results indicate that the yeast breads containing soybean and canola oils were better accepted than coconut oil breads.



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With love, I dedicate this dissertation to my wonderful parents, who always have shown me their love and trust. I also thank my sisters and brother for their support.

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