

Milk Availability

in the Lower Mississippi Delta

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Abstract # 3396

A 2004 Surgeon General's report states that bone health status for Americans, especially for minority, underserved and rural populations, is in jeopardy. The Lower Mississippi Delta (LMD) is highly representative of at-risk populations for osteoporosis and for obesity. Consumption of reduced-fat milk (RF) (1-2%) or non-fat milk (NF) (skim or ½%) is thought to be inversely related to obesity. This study examined the availability of various types of milk in a 36-county area in the LMD by an in-store survey of a representative sample of small to medium size grocery stores (n=77), convenience stores (n=86), and supermarkets (n=62). Less than one-fourth (21%) had NF milk and approximately one-half (54%) of stores (n=225) had RF milk. Whole milk was available at 94% of total stores. NF was available in 29% (n= 58) of Louisiana stores but only in 18% (n= 77) and 19% (n=90) in Arkansas and Mississippi, respectively. Without a change in availability, the likelihood of rural community shoppers purchasing NF or RF milk may be small. These findings are consistent with other milk surveys in rural central Arkansas. Bone health is ideally suited to a public health promotion, but increased availability of low-fat milk products will need to be part of any LMD campaign to promote better bone health and healthy weights. Supported by USDA, ARS Project #6251-53000-004-00D.

Table 1. Dietary Calcium from Milk for LMD Adults

	Ca from Milk Consumption	Mean Dietary Calcium Intakes
White Adults (n=842)	26%	735 ± 20
African American Adults (n=857)	15%	554 ± 15

Table 2. FOODS 2000: Dietary Calcium Sources in Order of Contribution to Intake

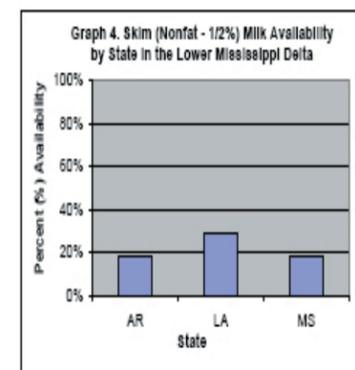
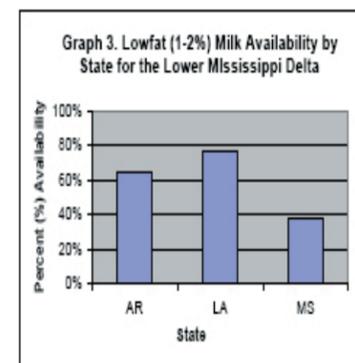
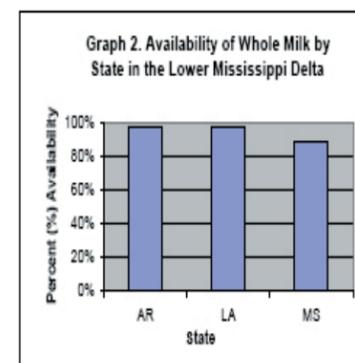
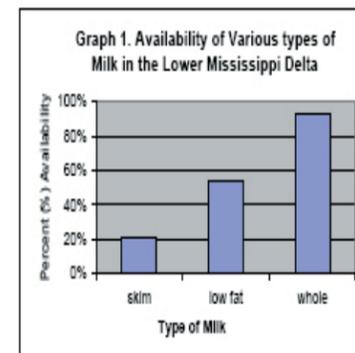
White Adults	African American Adults
1. 2% Milk	1. Cheese
2. Cheese	2. Whole Milk
3. Whole Milk	3. White Bread, rolls
4. White Bread, rolls	4. 2% Milk
5. Nonfat Milk	5. Cornbread

Introduction

Osteoporosis currently affects more than 10 million Americans. Calcium and vitamin D as well as physical activity are the major contributors to bone health status. Studies show that adequate intake of vitamin D and calcium in the diet are strongly associated with less bone loss. Following a bone healthy diet can improve bone health throughout the life span. Meeting calcium needs with foods is an important priority as American's low dietary Ca intake has reached catastrophic levels. Vitamin D intake in elders not regularly exposed to sunlight is also a critical need.

The Surgeon General's report emphasizes that bone health status for Americans, especially for minority, underserved and rural populations, is in jeopardy. The Lower Mississippi Delta (LMD) is a predominantly rural region with high percentages of minorities and households with incomes below the poverty level and at increased risk for osteoporosis and for obesity. Seventy percent of nonwhite women in the LMD with less than a high school education and older than 35 years of age were overweight. A key informant study of perceptions of community nutrition and health needs in the LMD revealed that food choices were an important concern. Cited as the problem was eating too many non-nutritious foods, e.g., fast foods, high fat food, and not enough of the foods recommended for health, e.g. fruits and vegetables.

Consumption of reduced-fat milk (RF) (1-2%) or non-fat milk (NF) is thought to be inversely related to obesity. The Foods Of Our Delta Survey (FOODS 2000) confirmed that a major contributor of dietary calcium from food sources for white LMD adults was milk (Table 1). Table 2 provides the five major contributors of calcium in FOODS 2000.



Methods

The LMD Food Store Survey (FSS) is a cross-sectional survey used to describe food store characteristics, food availability, style and package type, food quality, and food prices. The FSS includes 106 foods that were surveyed for availability. Availability was recorded for each food item as available or not available. For this study, only milk type and variety were closely examined.

Of the 557 stores located in 18 counties, 225 (AR=77, LA=58, MS=90) were randomly selected. Stores were classified as supermarkets (n=62), small to medium grocery stores (n=77), or convenience stores (n=86). The variety of milk [whole, reduced-fat (2% or 1%), or non-fat milk (skim or ½%)], and availability were recorded. The total number of each type and variety of milk were determined for each state and for each store classification.

Discussion

Previous research revealed that stores in higher income or metropolitan regions offer a higher percentage of low-fat milk compared to their lower income area counterparts (p<0.05) and a strong, positive correlation existed between the proportion of low-fat milk in stores and the prevalence of low-fat milk consumption in households (r=0.81). These statements offer further support for increasing the availability of low fat milk and low fat milk products, especially in low income, rural areas such as the LMD.

These findings are consistent with other milk surveys in rural central Arkansas. Without a change in availability, the likelihood of rural community shoppers purchasing NF or RF milk is small. As low-fat milk is more available, the more likely that it will be more readily consumed. Bone health is ideally suited to a public health promotion, but increased availability of low-fat milk products will need to be part of any LMD campaign to promote better bone health.

