

# An Analysis of The Typical Diet of Selected Indian/Pakistani Adult Muslims in North America

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## Abstract

*This study documents the total calories, fiber and sodium content of food consumed by 12 participants in five states. Participants recorded the actual size of the servings for each meal consumed for a week. Incentives were offered for participating in the survey. Total calories, fiber and sodium content of food items were calculated from the recipes provided by the participants. The results of limited survey indicates a radical departure from the traditional diet and also incredibly huge portions were being consumed. Sixty-five percent of those surveyed were eating much more than the recommended intake of 2500 calories a day. But, the most astounding statistic to come from the survey shows that the sodium intake is 2400-6900 mg. Diet was generally low in fiber. More red meat is consumed than fish. Vegetables were generally over cooked. Traditional meals of boiled rice, meat dish with/without vegetables and homemade bread was only served by 60% and that, too, was usually for supper or evening meal. At least one meal was bought from the ubiquitous fast-food establishment offering such American cuisine as hamburger, fried chicken, donuts, pizza, hot dogs, pancakes and even Tex-Mex tacos.*

**Key Words:** Selected United State Immigrant Muslims, Calories, Fiber, Sodium Intake.

## Introduction

Surveys have shown that diets of a majority of the Indians/Pakistanis living in their native land are marginal in the protective nutrients.(1) But, in general, there is significant improvement in the nutritional status of Indians/Pakistanis who migrate to or are second or more generation American.(2) Many of their traditional food beliefs continue and some of these include the following of the Quran which forbids the eating of pork and other foods (except fish and locust) and that have not been properly slaughtered.(3)

This paper describes the calories, crude fiber and sodium intakes of free living, healthy Indian/Pakistani Muslim adults consuming self-selected diets during an entire week.

## Methods

In 1984, a dietary survey was conducted in five states. A call for volunteers to participate in the study was sent to different Muslim organizations. Of the 32 who volunteered, approximately half were selected on the basis of their answers to a questionnaire, as meeting the criteria of good health, with no extreme dietary habits, and no nutrient supplement. They were thoroughly informed verbally and in writing of the demands to be placed on them and 12 were accepted into the study. A letter of consent was obtained from each of the subjects. The participants were paid non-monetary incentives to participate in the

study.

The subjects were given written instructions in the keeping of diet records. Food records were kept on a specially designed dietary record form on a daily basis by the subject. Written instructions were also provided for use in describing the kind of food, the sizes of portions and the recording of the different foods used in mixed dishes. Each subject was instructed to use ruler, measuring cups and spoons, and a balance for weighing food. They were asked to record food brand names, method of food preparation, and recipes for mixed dishes. Each subject was asked to fill with known weight of salt in salt shaker and was instructed to record the amount of additional salt used. Amount of salt in the shaker was weighed each day by the subject and recorded. The subjects were instructed to continue their normal eating patterns at all times during the study. Diet records were returned to the researcher in a pre-paid envelope on a daily basis. These were examined and, if required, a telephone interview was conducted for completeness and accuracy of the diet record.

The mean daily intakes of calories, crude fiber and sodium were calculated from the diet records collected for the entire week. For each recipe, calories were calculated for all ingredients and then summed to obtain a total caloric value for the entire recipe. The same method was used for crude fiber and sodium calculations. Agriculture Handbook No. 454(4) provided basic caloric, fiber and sodium estimates, with supplemental data obtained from several other sources when necessary.(5-6)

## Results

The mean daily intakes for calories, crude fiber and sodium from one week dietary records by sex

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*Beatrice Refrigerated Food Group  
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and age are presented in Table 1\*. Males had significantly higher intakes of calories and sodium

TABLE 1\*

CALCULATED MEAN DAILY CALORIC, FIBER AND SODIUM INTAKES DURING 1 WEEK BY SEX AND AGE OF INDIVIDUAL SUBJECT

Subject No.	Sex/Age of Subject	Energy (Kcal)	Curde Fiber (g)	Sodium (mg)
1	M/27	4698	4.2	3910
2	M/34	2699	4.0	3304
3	M/47	3190	3.6	6367
4	M/41	4922	3.4	6907
5	M/26	3090	3.5	3120
6	F/18	2064	4.4	2593
7	F/24	1930	3.8	2498
8	F/24	2050	3.4	2578
9	F/38	2400	3.6	2450
10	F/25	1860	4.4	2575
11	F/20	1875	4.8	2420
12	F/38	2095	3.5	2440

than females. Actually, all males in the study consumed higher than the recommended 2600 calories per day. The males in the study had significantly higher intakes of total fat. The crude fiber intake for the week was calculated in the range of 3.4 to 4.8 g/day. The fiber containing foods consumed with the greatest frequency were vegetables (Table 2)\*\*.

TABLE 2\*\*

CONSUMPTION OF FIBER-CONTAINING FOODS IN 1 WEEK

Subjects	Vegetables	Cereals	Fruits	Legumes	Nuts
Males 26-34 years	6	5	3	7	1
Males 41-47 years	5	4	4	5	1
Females 18-24 years	5	2	3	6	1
Females 25-38 years	7	3	5	6	1

## Discussion

The results showed that the main meal of the day differed according to the country of origin but breakfast and between-meal snacks were similar for Indian/Pakistani subjects. Meal times varied, breakfast being from 06:00 to 10:30 hours. Evening meal was often served after dusk. Breakfast often included an egg, boiled or fried and eaten alone or with bread or cereal. Some subjects made tea with all milk. Indian subjects ate a main meal based on white rice with one or two additional curried foods with or without meat on the same plate. Pakistani subjects based the meal on chapatties (wheat bread), serving a cooked meat or vegetable dish in separate bowls and often including a side salad of vegetables or fresh fruit or both. One of the subjects in the group was a true vegetarian but her mean caloric, crude fiber and

sodium intake compared favorably with the other subjects during the survey period. Common snacks were typical "corner shop" items: sweet biscuits, cool drinks, ice cream. Back home lunch in India/Pakistan meant a traditional meal of chapatties (wheat bread) or rice with a small serving of meat. Eight of the twelve subjects bought their lunch from the ubiquitous fast-food establishment offering such American cuisine as hamburgers, fried chicken, donuts, pizza (beef), hot dogs (beef), pancakes and even Tex-Mex tacos.

The range of energy intake was wide with some subjects having 1860 Kcal to 4922 Kcal.

Due to an insufficient number of subjects, it is not possible to generalize the findings of this study to the Indian/Pakistani Muslim population at large, but it is becoming increasingly evident that with dietary changes have come increased risk of developing coronary heart disease, hypertension, gastro-intestinal tract (G.I.) disorders and, to a lesser degree, obesity. The overall diet of the subjects under study has 26% of total calories from fat sources as compared to the American national average of 40%.

Improvement in the diet needs to consider reduction in use of sweeteners and an increase in use of fresh fruits and vegetables, particularly the green leafy vegetables that are not overcooked. Recommendations can also include additional source of iron and more foods with complex carbohydrates and those high in B vitamins. The use of fresh fruits and salads should be encouraged to offset long cooking times. Brown rice should be used in preference to white rice.

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