PATTERN OF NUTRIENT SELECTION AND PHYSICAL ACTIVITY STATUS IN FEMALES OF LOW INCOME STATUS BELONGED TO UNIVERSITY OF KARACHI

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خلاصہ

پوری دنیا میں غذائیت سے منسوب مسائل جیسا کہ غذائی اجزاء کا حد سے تجاوز کرنا over-nutrition اور غذائی قلت (under-nutrition) بہت سی طویل المعیاد جسمانی بیماریوں کی وجوہات ہیں۔ خواتین کی صحت اور متوازن غذا کسی بھی معاشرے کے نفسیاتی کردار اور آنے والی نسلوں کی اچھی نشوونما دونوں کے لیے ضروری ہے۔ اس لیے حالیہ تحقیق پاکستانی خواتین میں غذائی اجزاء کے انتخاب اور جسمانی سرگرمیوں کی جانچ کیلئے ڈیزائن کی گئی ہے۔

کراچی کے شہری علاقوں سے (۶۸-۲۰) سال تک کی عمر کی (۷۲) خواتین کو اس تحقیق کیلئے منتخب کیا گیا۔ محقق نے ان خواتین سے ایک سوالنامے کے ذریعے ذاتی، طبی اور خاندانی معلومات اکھٹی کی۔ حصہ لینے والی ہر خاتون کی طبی پیمائش ریکارڈ کی گئی۔ ہارورڈ سروس فوڈ فریکوینسی سوالنامے کے ذریعے ان خواتین کی ورکنگ ڈے اور ایک چھٹی کے دن کی غذائی معلومات درج کی گئیں۔

حالیہ تحقیق کے نتائج کے مطابق شامل کی گی خواتین میں دودھ اور دودھ سے بنی ہوی غذائی اشیاء اور سفید گوشت کا استعمال روزمرہ غذائی مقدار میں سب سے زیادہ نمایاں رہا۔ ان خواتین نے نشاستہ کا استعمال روزمرہ غذائی مقدار میں سب سے زیادہ کیا۔ اور فاسٹ فوڈ کھانوں کو سب سے زیادہ پسند کیا۔ ان خواتین میں روزمرہ جسمانی ورزش کا حساب تین سے چار گھنٹے آرام دہ سرگرمیوں کے ساتھ نمایاں رہا۔

تحقیقی خلاصہ کے مطابق خراب غذائی چناؤ، آرام دہ روزمرہ مصروفیات اور نامناسب آگاہی خواتین کی خراب صحت کے نمایاں ضامن ہیں خاص طور پر ان خواتین میں جو معاشرے کے کم کمائی والے حصے سے تعلق رکھتی ہیں۔

منتخب الفاظ

کیلوری پیمائش، غذا، غذائیت، طرز زندگی، جسمانی سرگرمی، خواتین

Abstract

Nutrition related problems like over and under-nutrition or selective nutrient deficiencies are the most common cause of long term systemic pathologies all over the world. Nutrition and health status of women are important both for the psychosocial behaviors of the society and for the healthy development of future generations. Present study is designed to assess the pattern of nutrient selection and sternness of daily physical activity in lower working or living in residential area of university of Karachi.

Total of seventy two females with age group of 20-68 years, were selected for the study. Participant's personal profile, medical and family history were collected by the investigators through a questionnaire. Physical measurements were recorded for every participant. 24hr daily dietary intake was recorded with Harvard service food frequency questionnaire for two working days and one holiday.

Results from studied females showed daily consumption of milk and dairy products with large amount of red meat in the daily diet as compared to fruits and vegetables. They were consuming more carbohydrate proportion in their diets together with various fast food items. Physical activity status also marked with 3-4 hours leisure time activity per day. This study highlights that unhealthy food selection, lack of proper physical activity and low awareness are the measure determinants of ill health in females of low income status.

Key Words: Calorie count, Diet, Nutrition, Life Style, Physical Activity, Females.

Introduction

Cultural Revolution and industrialization brought an era of easy life style (reduced physical work) with access to plentiful energy but nutrient poor food (Shobha, 2001; Rao *et al.*, 2009). Nutrition and health status of women is important both for the psychosocial behaviors of the society and for healthy development of future generations. Adequate nutrition is a basic human right which was ignored mostly for females and children in almost all socioeconomic groups in third world countries. Social and cultural inferiority of women make them deprived of everything like education, food and other resources (Dewan, 2008).

Disorders related to nutrition falls in two categories i.e. malnutrition and over nutrition. According to World Health Organization, *malnutrition* is the imbalance between intake of nutrients and energy production and their need to maintain body's growth and development. Female's health during developmental years play crucial role in bearing reproductive burden. Low birth weight of infants is a consequence of growth retardation during fetal life and it is because of their mother's undernourished state. South Asian countries have high rates of malnutrition in context of gender discrimination (UNICEF, 1996). *Obesity* or *overnutrition* on the other hand is the excessive intake of nutrient and its usage in the body. Increasing industrialization, more civilization, better transportation facilities, consumption of energy rich but unhealthy foods and habitualization to more indoor pastime activities are some of the factors contributing for obese health trends in non-industrialized populations (Rao *et al.*, 2009) Abdominal obesity specifically in females has direct association with reproductive disturbances (Pasquali *et al.*, 2003) as irregular menstrual cycles and infertility (Sharpe *et al.*, 2002).

Considering the role of over-nutrition and malnutrition in the development of chronic pathologies and socioeconomic factors affecting dietary patterns, present study is undertaken with a task to identify the pattern of nutrient selection and level of physical activity present in females of low income status belonged to University of Karachi.

Materials and Methods

This survey based study was conducted on female subjects belonged to low class socioeconomic status living or working in residential area of University of Karachi. Total numbers of females participated was 72 in the age group of 20-68 yrs. Subjects were contacted at their homes or work places and those who were interested to participate, were explained the goal of the study and a written consent have been filled by all of them. Selected subjects were from different ethnicities and include both married and unmarried, working and non working subjects. Information regarding age, race, ethnicity, religion, marital status, years and age of marriage, number of children, education, socioeconomic status, physical activity, medical and family history of individuals have been collected through a questionnaire, administered by the researchers.

Inclusion Criterion: Healthy female subjects with age between 20-68 years and monthly family income of < Rs. 30,000/- were selected for the study.

Exclusion Criterion: Subjects suffering with pathological conditions, diet restrictions and those who were physically challenged were excluded.

Physical measurements and activity level information was collected by the interviewers themselves.

Collection of Three Days Diet Recall

To collect data regarding dietary intake a self evaluating questionnaire "Harvard Service Food Frequency Questionnaire (HSFFQ)" (Suitor *et al.*, 1989) was administered after its modification according to the diets of Pakistani population. HSFFQ contains a list of 87 different food items including all commonly consumed fruits, vegetables, beverages and dairy products with 9 questions related to use of food supplements and dietary habits. Every questionnaire was reassessed and all queries were solved before their entry. Total amount of energy consumed / day was assessed by measuring the amount of intake (as per cup, glass or plate).

Data And Statistical Analysis

Quantitative values of the data were presented as Mean ± Standard Error of Mean (SEM). Qualitative values and frequencies of occurrence were presented in percentages.

Results

Total of 72 females were selected for the study according to the defined criteria with mean age of 36.14 ± 2.94 yrs. Present study include female subjects from Hindku, Pashto, Punjabi, Sindhi and Urdu ethnicities but 56% of studied population belonged to Urdu speaking families. Most females (63%) were married with average four number of childrens. Majority of participants (60%) were literate with college and university level of education (Table I).

According to food frequency data 58% of female participants consume eggs daily in their diets, 70% consume yogurt daily and 57% were regularly drink milk. Rice consumption was very common (93%) in our studied population together with more selection of white meat (poultry 79%) and fresh fruits (82%) in the daily diets. Fast food consumption also was marked in the collected data with 36% of studied participants consuming chips and French fries on daily basis. For beverages, tea consumption was very common and 93% of participants was consuming it daily. Next most frequent beverage after tea was soft drink and 45% of participants point out its consumption in their diets (Table II).

According to the assessment of physical activity status only 40% female subjects were doing any additional physical activity like walking/cycling more than 10 minutes per day. Most of these females had a typical work day of 5-8 hrs. with up to 4 hrs./day leisure activity period (Table III).

Table I: Demographic Profile of Studied Subjects

	PARTICIPANTS (n=72)
Average Age (yrs.)	36.14±2.94
Ethnicity	
Hindku	12 (16.7)
Pashto	7 (9.73)
Punjabi	9 (12.5)
Sindhi	4 (5.5)
Urdu	40 (55.6)
Marital Status	
Married	45 (62.5)
Unmarried	27 (37.5)
Average age at marriage (yrs.)	20.72±1.6
Education Level	
Illiterate	9 (12.5)
Primary	8 (11.11)
Secondary	6 (8.33)
College	25 (34.7)
University	24 (33.33)
Dependent	59 (81.94)
Living in joint family	22 (30.6)
Average number of children	4
Family History	
Diabetes	41 (56.9)
CVD	32 (44.4)

Values in parenthesis are percentages.
* Values cannot be statistically analyzed

Table II: Frequency Of Use of Food Items In Studied Socioeconomic Groups

	PARTICIPANTS (n=72)
Diary Products	
Egg	42 (58.3)
Milk	41 (56.9)
Yogurt	51 (70.8)
Ice Cream	22 (30.6)
Rice	67 (93.05)
Meat (Beef)	8 (11.1)
Poultry	57 (79.16)
Fish	20 (27.8)
Fruits	59 (81.9)
Biscuits	38 (52.7)
Fast Food Items	
French Fries	23 (31.9)
Chips	26 (36.1)
Popcorn	15 (20.8)
Spaghetti	14 (19.4)
Macaroni	3 (4.16)
Pizza	2 (2.7)
Chocolates	17 (23.6)
Drinks	
Tea	67 (93.05)
Juices	24 (23.3)
Soft Drinks	32 (44.4)

Values in parenthesis are percentages.
*values cannot be statistically analyzed

Table III: Physical Activity Status in Participants

PARAMETERS	PARTICIPANTS (n=72)
Duration of a typical work day	
0	4 (5.6)
2-5 hrs.	23 (31.9)
5-8 hrs.	25 (34.7)
8-12 hrs.	16 (22.2)
>12 hrs.	4 (5.6)
Average Physical activity walking/cycling ≥ 10 min	29 (40.3)
Average Physical activity walking/cycling ≥ 10 min/day/week	11 (15.3)
Average Time spent on leisure activity (min/day)	238.76±75.85

Values are presented as mean±S.E.M. Values in parenthesis are percentages

Note: All the tables should be included with results before discussion in the given sequence.

Discussion

According to the results of our study health related awareness appeared quiet low in female belong to low socioeconomic status living I urban areas of Karachi city. Conceptual knowledge about calorie requirement and consumption was not present in the selected subjects. They tried to follow the statements hyped by the media regarding balanced diets or sometimes try to follow already set dietary patterns in their families. As most of these females belonged to low income group they were used to eat whatever is available healthy or unhealthy and mostly after fulfilling dietary needs of all other family members.

In our studied subjects carbohydrate intake was appeared to high compared to other food proportions mostly in form of potato and rice. Carbohydrate and fats are internationally considered as unhealthy foods as they contribute more in gaining weight. However, carbohydrates delivers delicious taste, develop craving and have easy availability.

Consumption of fast food is cultural norm now-a-days and in Pakistani social circles until unless you are not dinning out 3 to 4 times a week you were considered to be belonged to a backward/conservative family background. People especially from low income circles try to follow this pattern more keenly and together with limited resources they choose whatever is easy to follow. Soft drinks, snacks, french-fries were commonly used fast food items according to our observations in present study. Consumption of vegetables was very low in our selected females especially in raw or fresh forms. Cooked foods were the general forms of diet consumption in our study. Daily consumptions of dairy products was very common in these females together with very good awareness about white and red meat consumption.

Most females spend their time at homes doing household activities and their leisure time activities include sitting or lying watching T.V mostly. Most females were not aware of importance of mild exercises like walking or jogging even. Walking or jogging is very necessary for females to avoid many health related problems like arthritis and osteoporosis especially after menopause but unfortunately concept of exercise is not much supported by our females.

Study concludes that the main cause of ill health in Pakistani females after thirty years of age is lack of physical activity, more sitting type indoor activities and unhealthy food intake. Results of our study determining the need of proper assessment of Pakistani female's health, identification of health related issues in females and to spread awareness regarding intake of diet having good nutritional value and more physical activity as a healthy female is the foundation stone for a healthy society.

Acknowledgment

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ABBREVIATIONS

CHO	carbohydrates
HSFFQ	Harvard service food frequency questionnaire
Kcal	kilocalories
UNICEF	united nation's international children's emergency fund