

**EXPECTATIONS OF POTENTIAL USERS
REGARDING A PAKISTANI DIET ANALYSIS
SOFTWARE**

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ABSTRACT

The purpose of this study was to identify the need for a food analysis software that will aid the professionals in their work. The study also aimed to assess the needs, and expectations of the people (dietitians, researchers, teachers and students) regarding the food analysis software.

The study was conducted in Karachi. The subjects were Dietitians, Researchers, Teachers and Students. The data was collected through interviews conducted with the help of a questionnaire.

The results showed that a very small percentage of respondents use software for Diet Analysis but all the respondents (100%) considered the need of Pakistani Diet Analysis Software. The respondents wanted it to be user friendly and preferred the software to work using both food composition tables (FCT) and food exchange list. They prefer to see comprehensive results that include values for calories, fuel nutrients, vitamins and minerals.

It can be concluded from the responses that Pakistani Diet Analysis Software is a much needed tool for the Dietitians, Students, Teachers and Researchers

Key words: Software, Diet analysis.

INTRODUCTION

Diet has been recognized as a primary determinant of health and disease at all ages as dietary analysis alongside other factors indicates the health status. (Johnson,2003) Now there are so many techniques for this, computerized analysis by the help of food analysis software being one of these methods. Many advanced software with extensive features are available worldwide. The use of various nutrition software have become frequent now (Miles,1994). Both commercial software and dedicated software that are created by researchers for specific purposes are available.

(Miles and Weitzman, 1996) the advantage of a Nutrition Software is that it saves time thus more time can be given to conceptual work. Experimenting with coding schemes and sharing the data with other members of a research team is made easier with the software (Miles,1994). It also facilitates file management. Moreover, data displayed in different desirable ways and forms can be achieved by the virtue of a good and intellectually designed nutrition software (Shepherd,2003). However, with such a great variety available, choosing Nutrition Software becomes a problem. The database in a software must be complete in terms of nutrients and foods.(Buzzard & Warren,1991) easy to use, up to date(Williams,1993).

These software are beneficial in a lot of areas. Like for dietitians, use of computer software in their tasks has been proved to be fruitful in making them more productive and visible in their profession.(Krabeck,1985; Sharp & Ahmed,1983) Intervention of Nutrition Software in the field of health care offer great advantages and it has been proven by various research studies conducted in various regions of the world.(Yasmin & Linda,2005; Bell,1985; Danford,1981) Teachers or academic nutrition also benefit from software in educating students in nutrition, food science and health courses. The software have been proved to be a valuable tool in education and research (Vanderveen & Groves, 1986). It helps the researchers getting the work done in much easier way. Students may also benefit from them in their tasks of Diet analysis.

Unfortunately there is no such software which is designed for use in Pakistan. This evolves a need to develop Pakistani Diet Analysis Software. So the purpose of my study is to identify the need of Pakistani Diet Analysis Software and people's expectations about such a product.

METHODS

The study was conducted in Karachi. Data was collected from the Dietitians (working and non-working but with previous experience), Students (studying Food and Nutrition, Teachers (teaching Food and Nutrition subjects), and Researchers (whose research work involved Diet Analysis) considering them as potential users of Diet

Analysis Software. The total sample size consisted of 107 subjects including 41 Dieticians, 47 Students, 11 Researchers and 8 Teachers. The data was collected through a specially designed Pretested Questionnaire. The subjects were approached at their workplaces for data collection. Data regarding the nature of Diet Analysis in their work, need of a Pakistani Diet Analysis Software, and preference in various factors about the software like language, form of results, working, features and price was collected through the questionnaire.

The data collected was then coded entered in SPSS (Statistical Package for Social Science) version 12.0. The data was then analyzed and the results were interpreted using simple percentage and frequency method.

RESULTS

The results revealed the various demands and expectations of the different people regarding the Pakistani Diet Analysis Software. Most of the respondents (81.3%) never used any Food Analysis Software, however a small percentage of them used it (18.7) . Percentage of use of Software among respondents is given in Table 1.

Those respondents who used software used it usually when they had lesser workload but found it very helpful in their work. All of the respondents (100%) considered that there is a need to develop a Pakistani Diet Analysis Software for use in Pakistan. Figure 1 illustrates the preferences of the respondents regarding the working of software.

Most of the respondents (65.4%) preferred English for the language of the Software. A great majority of respondents (86%) prioritized to see a detailed

display of results including calories, fuel nutrients, vitamins and minerals.

Percentages of preferred features among the respondents is given in Table 2. The respondents were greatly willing (80.4%) to buy the software themselves, partially willing (59.8%) to buy the software for their institutions. The feasible price range according to most of the respondents was 1000-2000 Pakistani Rupees (PKR).

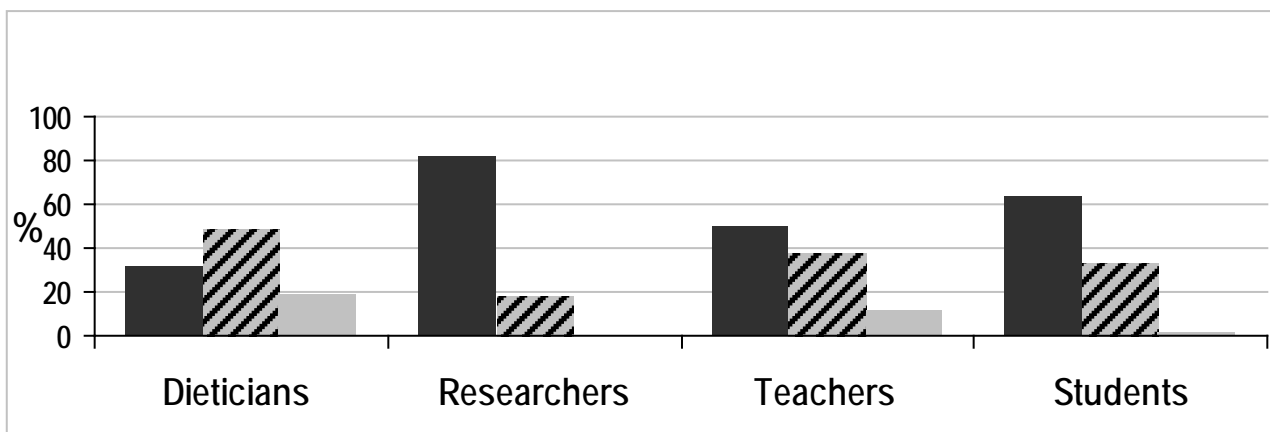
SUGGESTIONS LIKE USER FRIENDLINESS, ACCURACY AND PRECISION, EASY AND COMPLETE RECORD OF ALL FOODS AND RECIPES ACCORDING TO PAKISTAN WERE ALSO GIVEN BY THE RESPONDENTS.

DISCUSSION

The major purpose of this study was to identify the need of a Pakistani diet analysis software and people's expectations regarding that. In the field of nutrition people are now climbing the ladders of modernization and are looking for techniques of work simplification. This is seen from the interpretation of the data collected indicates that there's a great need for a Pakistani Diet Analysis Software. All the Dieticians, Researchers, Students and Teachers are interested in such a product, however not much of them have used them previously.

The respondents expect the working of the software through both FCT and Food Exchange Lists and give a detailed display of result including all the major and minor nutrients. Further studies exploring the expectations of the people of other cities will further widen the horizon. More work needs to be done in this area and a user-friendly and economic software with accurate information and all the features preferred by the respondents

Figure 1. Subjects preferences about preferred mode of working of software



must be made available soon so that more and more people and professionals may benefit from it and improve their performance in their respective tasks. The information gathered by this

study will help and facilitate in designing any such product in the future.

Table 1. Percentage of respondents whoever used Food Analysis Software

Use of software in work	Dieticians n=41		Researchers n=11		Teachers n=8		Students n=47		Total n=107	
	n	%	n	%	n	%	n	%	n	%
Yes	5	12	6	54	1	87	8	17	20	18
No	36	87	5	45	7	12	39	83	87	81

Table 2. Percentages of most preferred particulars to be included in the software.

Features Preferred in the Software	Dieticians n=41		Researchers n=11		Teachers n=8		Students n=47		Total n=107	
	n	%	n	%	n	%	n	%	n	%
In terms of Analysis										
Adequacy of Food group's intake	19	46	6	55	5	63	18	38	48	45
Adequacy of nutrients intake	24	59	9	82	6	75	29	62	68	64
Adequacy of nutrients intake	6	15	7	64	2	25	6	13	21	20
In terms of diet planning										
Focusing energy nutrient needs	19	46	3	27	3	38	20	43	45	43
Focusing food Preferences	16	39	1	9	1	13	3	6	21	20
Focusing clinical conditions	27	66	7	64	5	63	27	57	66	63
Focusing cost level	18	44	2	18	1	13	7	15	28	26
In terms of estimation										
Health status of subjects	16	39	5	46	4	50	11	23	36	34
Weight status of subjects	17	42	3	27	2	25	5	11	27	25
Nutritional deficiency for clinical signs	19	46	3	27	1	13	11	23	34	32
Nutritional deficiency for food intake	18	44	5	46	3	38	26	55	52	49

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Views of teenage girls regarding readymade garments available in the market.

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ABSTRACT

The result obtained showed that majority of the respondents were not fully satisfied with the fitting, fabric, color and stitching of readymade garments. Some of the common complaints emerging through the study were that the fabric used in ready-made garments generally produced pilling after a some washing, used uneven or loose stitching, and displayed poor choice of color combinations. Insofar as the selection criteria for readymade garments was concerned, the results showed that majority of the respondents considered their personality, design and style as well as physical appearance of the garment while selecting and buying readymade garments.

INTRODUCTION

Readymade garments are outfits created by designers and manufactured for sales. These are made in standard shapes and sizes to suit the many types of persons. Before cutting clothes, patterns are made. Locally, readymade garments are available in large, medium and small sizes. The use of readymade garments is getting more and more popular. The need of stylish outfits makes the customers go to the market.(pubcd1, 2008) . Pakistan produces readymade garments of all patterns and styles of the latest fashion and quality.(Ahmed, M.N, 2008) . Teenage is the most crucial and self conscious age, it is the transitional stage of adulthood. Teenagers are more concerned about what they want and what they are wearing and buying . According to a study [Punke, Harold H. , 1943], the buying practices of teenagers are similar, irrespective of the family's income or location. Teenagers usually like their clothing and consider themselves as well dressed as their friends. The clothing of teenagers is, on the whole, purchased readymade. Teenagers are more concerned about the fashion aspect of a garment than its durability or quality. Teenagers prefer readymade garments due to the advantage

that they can see how a garment looks on them before investing any money. (Tate,M,T 1967) The present research is unique in that it focuses on understanding teenagers' preferences related to garments' satisfactory fit, fabric, color and stitching. The process of assessing fit appears to be straightforward but consumers list it as one of their major dissatisfaction. This research will generate interest among retailers and manufacturers as well as consumers.

METHODOLOGY

The study was based on a survey, in which questionnaires were used as a research tool. The purpose of the study was to find out the views of teenage girls with regards to fit, fabric, colors and stitching as well as common complaints about readymade garments available in different markets of Karachi Information was collected from XI and XII Grade students of Rana Liaquat Ali Khan Government College of Home Economics, Stadium Road, Karachi. The sample consisted of 100 subjects. A questionnaire was used to collect the data. A pilot study was done before starting the final data collection to sort out any mistake in the questionnaire and also to improve its quality. A sample of 6 students was taken for pre-testing. Completed questionnaires were checked to make sure that the information had been filled in accurately. Data Entry and analysis was done with Epidata version3.1 and Statistical Package for Social Science [SPSS version 11.5] respectively. The data was then transferred to Microsoft Word.

RESULT

Majority of the respondents (79%) were only sometimes satisfied with readymade garments. (figure 1). One third of the respondents (33%) have complaints about poor fitting, whereas other respondents (30%) complained that they need alteration, while some of the respondents complained about improper size and a few (9%) complained about poor stitching. more than half of the respondents (62%) said that the fitting problem is related to both tightness and looseness of garment, while others (30%) said that the problem is related to the looseness of garment, and a few respondents (4%) said that the problem is related to the tightness of garment. Details of problems regarding fitting are given in table 1.

Only 10% of respondents were completely satisfied with the fabric of readymade garments. Reasons for dissatisfaction with fabric were poor pilling (39%) poor quality (24%) and lack of comfort (22%).

Only 23% of respondents were satisfied with the colors of readymade garments. Reasons for dissatisfaction with colors were 'color combination not according to taste' (43%) 'available colors did not suit their personality. (20%) said that

More than half of the respondents (56%) were not always satisfied with stitching. Reasons for dissatisfaction with stitching were uneven or loose stitching (37%) poor quality thread (22%), accessories not properly stitched (16%) and seams not finished properly (11%). Main factor considered by respondents while buying clothes was personality (43%) fashion. (39%) budget (16%) and peer group's opinion (2%) .

Table 1. Percentage of subjects reporting problems with fitting of readymade garments

Areas	Too tight %	Too loose %
at armhole	23%	25%
at bust	17%	17%
at waist	12%	30%
at hip	5%	5%
Any other	10%	16%
Total	67%	93%

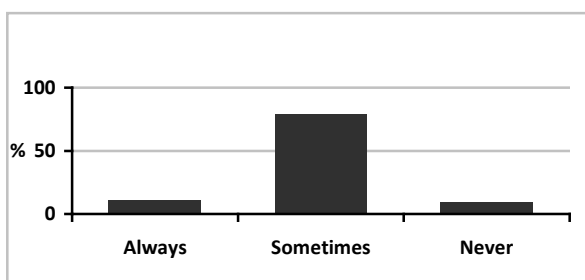


Figure 1. Satisfaction regarding readymade garments

DISCUSSION

The research study shows that many of the respondents were not fully satisfied with readymade garments. As regards fitting, the

common complaint was about the looseness of the garment at waist and armhole and the improper size of the garment. Majority of the respondents were not satisfied with the fabric used in readymade garments. According to the respondents the fabric produced pilling after some washing. There was another complaint about the color combination of readymade garments that was usually not according to their taste. Answers regarding the stitching quality of readymade garments show that many of the teenagers were not satisfied with it due to the uneven or loose stitching and loose hooks and buttons. It was observed that the selection criteria of the teenage girls was that they considered their personality more than fashion. Secondly they preferred design and style rather than comfort and most of the respondents bought readymade garments after checking its physical appearance in order to get a quality garment.

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Identification of Problems, Encountered By Researchers in Using the Existing Food Composition Table and Development of New Food Composition Table.

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ABSTRACT

The purpose of the research study was to identify the problems faced by researchers in using existing Food Composition Table and their expectations from an upcoming Food Composition Table of Pakistan. The research was conducted through a sample of 25 researchers of different Professions and Organizations. The results revealed that researchers facing major problems while using current Food Composition Table of Pakistan and they expected that upcoming Food Composition Table of Pakistan will be authentic, completed and as proper as Food Composition Table of Developed Countries.

Keywords: Food, Researcher, Epidemiologist

INTRODUCTION

Availability of food composition is crucial both for public health and for nutritional care of patients. (Holden, M.J., Bhagwat, A.S. and Patterson, Y.K. 2002) Development of food composition data requires assessment of needs (Seven, H.G., (1994) Food Composition tables are used in "epidemiological research disease patterns, governments regulations and enforcement; but most importantly, health assessment of individuals, populations national and international trade in foods". (More, P., Wood, E.A., 1986). Food compositor tables should be able to fulfill the needs of the users. There is need to update and enhance Pakistani Food Composition Table. The current study was planned with the terms of reference being the determination of views of researchers about the currently Food Composition Table and their expectations in relation to the upcoming Food Composition Table.

METHODOLOGY

In this study a list of raw and cooked cereal food items (which has to be included in upcoming Food Composition Table) were identified and compiled from USDA and INDIAN Food Composition Tables, with their reference codes and all compiled data fed on Microsoft Excel. The study was conducted through 25 research-workers from different Organizations for example (Aga Khan University, Baqai, National Institute Of Cardio-Vascular Diseases, Ra'ana Liaquat Ali Khan Govt. College Of Home-Economics, University Of California etc) and Professions for example (Dietitians, Dental Surgeons, Epidemiologist, Food Technologist, Professors, Students etc).The data collected through Questionnaire specially designed for this research study and analysis of data is carried through Software SPSS 11.0 Version.

RESULTS

According to the results respondents (researchers) most frequently referred USDA NDB (96%) followed by PAK FCT (72%) on daily, weekly, monthly and yearly basis.

Most of the respondents (52%) viewed that current Food Composition Table contains commonly consumed dishes. Most of them (68%) also viewed that nutritive value not reported according to portion size. Nutritive value of infants foods is not present viewed by (52%) respondents. Some of the (48%) also viewed that it has inaccurate nutritive values and more raw foods are given than cooked. Only (8%) respondents preferred PAK FCT in aspects of easily understand, use and market availability. Other (8%) preferred PAK FCT as it contains more number of nutrients and presents authentic data.

Overall most of the respondents viewed that existing Food Composition Table of Pakistan is available with so, many shortcomings.

The respondents also viewed their expectations from an upcoming Food Composition Table as (44%) respondents expected that it will available with scientific names and with Urdu names viewed by (17%) Majority of the respondents (88%) viewed their expectations that upcoming Food Composition Table will available with online access and (72%) expected that nutritive values will be accurate with inclusion of ethnic and regional dishes. (15%) respondents expected that

in upcoming PAK FCT nutritive values will available in portion sizes and average serving.

Expectations about specifications of forms of food items as chopped, blanched and roasted, expected by(76%).(60%)respondents expected that upcoming Pakistani Food Composition Table will available in hard copy form .

(44%)respondents expected that upcoming Pakistani Food Composition Table contains the calculation of fatty acid content of food and other(28%)expected that calculation of amino acid content of food in food will also available in upcoming Pakistani Food Composition Table.

They are of views that nutrients to be included in upcoming Food Composition Table1. Percentages of respondents who expected that all macro-nutrients (protein, fats, carbohydrates), micro-nutrients (minerals) for example (sodium, chloride, potassium, iodine) and micro-nutrients (vitamins) for example (Vitamin K,D,A,E,B 1,B9) with these particular nutrients (oxalate(4%), phytic acid (4%), soluble and insoluble fiber (8%), should be included in upcoming Food Composition Table.

DISCUSSION

Availability of food composition is crucial both for public health and for nutritional care of patients. (Holden, M.J., Bhagwat, A.S. and Patterson, Y.K. 2002) Development of food composition data requires assessment of needs (Seven, H.G., (1994) The research study determined the problems of research-workers while using the existing Food Composition Table in their Research work. Need to develop authentic; updated and complete Pakistani Food Composition Table is identified. The results also give idea about limitations of the research studies conducted in Pakistan and problems faced by dietitians in assessing subjects dietary intakes. Private and public support in updating food composition tables can make great contributions in food and nutrition situation in Pakistan.

Table 1. Percentage of respondents who expected about Nutrients to be included in upcoming Food Composition table.

Nutrients In Upcoming Food Composition Table	Percentages Of Respondents
Carbohydrates	100%
Fats	100%
Sodium	100%
Iron	100%
Vitamin K	100%
Protein	96%
Vitamin C	96%
Vitamin A	92%
Vitamin D	92%
Vitamin E	92%
Potassium	92%
Calcium	92%
Iodine	88%
Vitamin B 1	88%
Vitamin B 9	76%
Chloride	72%
Vitamin B 2	72%
Vitamin B 6	68%
Phosphorous	68%
Copper	64%
Biotin	56%
Lipoic acid	40%
Inositol	40%

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