



KNOWLEDGE, ATTITUDE AND PRACTICES OF FITNESS TRAINERS ABOUT NUTRITION AND RELATED ASPECTS

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ABSTRACT

Aim: To assess the knowledge, attitude and practices of fitness trainers about nutrition and related aspects in Delhi. **Methodology:** A total of 100 fitness trainers, males and females above the age of 20 years working as fitness trainers in the Delhi (4 zones) were enrolled for the study. A detailed questionnaire was developed specifically for this study and data was analyzed. **Results:** The mean \pm SD scores of the knowledge, attitude and practice among the trainers were 15.74 ± 3.5 ; 95.4 ± 12.7 and 7.88 ± 2.6 . The results depicted poor knowledge level, fair attitudes and poor practices among fitness trainers regarding nutrition and related aspects. **Summary:** There is a considerable need for providing sound nutritional education to fitness trainers which would improve their knowledge and encourage positive attitude and practices. Also it necessitates the need for regulatory control on the standards of local health clubs with particular emphasis on the quality of fitness trainers employed.

KEYWORDS : KAP, Fitness trainers, nutrition education, dietary practices, Fitness centers, weight loss, physical activity

INTRODUCTION

Chronic disease is one of the greatest challenges faced by healthcare systems worldwide. The growing epidemic of NCDs in the 21st century has severely impacted the national health systems, policies, and socioeconomic developments, thus increasing disparities and inequities between countries. Complications are either directly caused by obesity or indirectly related through mechanisms sharing a common cause such as a poor diet or a sedentary lifestyle (Gupta P et al, 2011). According to the World Health Statistics Report 2012, globally one in six adults are obese and nearly 2.8 million individuals die each year due to overweight or obesity (WHO, 2012).

Today with increasing awareness regarding the health hazards of being overweight and obesity more and more people are becoming conscious about their health and body image. Effective weight loss has been associated with significant health and economic benefits which has led to the emergence of fitness centers. These centers provide various classes like weight training, zumba, aerobics, exercises, tabata, yoga classes which are in trend and attract the various age groups to get enrolled in them. Their objectives include weight loss, increase of cardio-vascular training level, greater muscular strength, general wellness, improvement of body image, or a combination of the above (Schneider J, 2002; Brooks R, 2001). Fitness instructors are the main resources in the fitness centers for these clients to supervise and obtain guidance regarding exercise information and prescription. However today the trend of having a weight loss programme at the fitness centers are increasing since the clients demand quick weight loss in short span of time. In the absence of the dietary counselors at local fitness centers, fitness trainers are also expected to give nutritional advice under such programmes. This dietary information may be inadequate as accurate as up to date nutrition counseling requires a good level of expertise (Kruseman, Miserez, Kayse, 2008). Moreover, to work as a fitness trainer and instructor many countries along with India lack any mandatory requirement of standardized or minimal certification. Also, there are no regulations or recruitment rules for appointment of fitness trainers in most health clubs, which implies that almost anyone irrespective of graduation or an exercise science training degree can be employed (Kaur et al, 2010). Some studies earlier have concluded that the fitness industry lacks academic rigor and validity (Malek et al., 2002; Ives and Knudson, 2007; Abbott, 2009, Boone, 2010). So, there is a need to check upon fitness trainers as bad nutritional practices and faulty exercise pattern can have a negative impact on the health of an individual. Therefore, the present study was planned to assess the knowledge, attitude and practices of fitness trainers about nutrition and related aspects in Delhi.

METHODS

Locale of the study

An observational cross sectional study was carried out in 20 fitness centers from the four zones of Delhi i.e. east, west, north and south Delhi, India for data collection. Proper permissions from the concerned authorities of the fitness centre were obtained to carry out

the research work and collection of the data. The study protocol was approved by the Institutional Ethical Committee of Institute of Home Economics on 16th November 2016, Delhi University.

Selection of sample

A total of 100 fitness trainers (both males and females) above the age of 20 years constituted the study sample. The age limit of above 20 years was taken keeping in mind the age of completion of any diploma degrees and other eligibility criteria to work as a fitness trainer.

Questionnaire development

An eight- page questionnaire was developed specifically for this study. The questionnaire was developed by 2 investigators, based on the journals, text books and research papers related to the study. The questionnaire developed had sections which consisted of close ended questions, open ended questions and questions with responses on Likert scale. The validity and content included in the questionnaire was reviewed by three persons with different kind of expertise: one independent dietician, one assistant professor of the Department of Food and Nutrition, Institute of Home Economics, Delhi University and one post graduate student who was in its last year of post graduate training. The first part of the questionnaire censed general information regarding educational qualifications, marital status and year of experience working as a fitness trainer etc. The second part aimed at evaluating KAP of the fitness trainers.

KAP QUESTIONNAIRE:

Knowledge: This section assessed the nutritional knowledge of the fitness trainers. A total of forty questions were formulated in this part out of which thirty nine questions were close ended questions with 4-5 choices and one open ended question asking to specify the list the various food items which should be completely avoided to lose weight. To assess the knowledge of subjects, 40 questions were scored for their correctness, i.e. correct response was given a score of 1 and incorrect response was scored as 0 summing up to range of 0-40.

Attitude: For the assessment of the attitude of the subjects were asked to answer a series of statement on a likert scale. A total of twenty nine statements were designed which had the following responses- Strongly agree (score= 5), Agree (score=4), no opinion (score=3), Disagree (score=2) and strongly disagree (score=1). Responses were summed and the possible scoring range was between 0-145.

Practice: To determine the counseling practices of subjects they were asked to answer to the questions regarding the recommendations they provided to their clients. Nutrition and other related practices of the subjects were assessed using 17 questions mainly comprised of questions regarding diet counseling, diet planning, supplement recommendations, cyclic combination of various activities etc. Responses were summed and the possible scoring range was between 0-17. i.e. correct response was given a score of 1 and incorrect response was scored as 0. At the end of the questionnaire feedback section

regarding the importance of the questions to the subjects was also formulated. This portion also had an open box offering space for comments (if any) of the subjects.

Pre Testing of the questionnaire: Before collection of data the questionnaire was pretested on ten fitness trainers working in fitness centers which were not part of the present study. After analyzing the responses elicited during pretesting, the questionnaires were suitably modified and administered on subjects to collect the information required in the present study.

A detailed information sheet was formulated providing information regarding the purpose and procedure to be followed during the study. Further, consent of the fitness trainers was taken using a consent form before enrolling them for the study. Both these document were approved by the ethics committee.

Questionnaire administration

The information was collected from the fitness trainers at a time convenient to them. The questionnaires were handed out to the fitness trainers at second visit after explaining them the details of the study and taking their consent. Verbal instructions were given to the fitness trainers at the time of filling the questionnaire. It took on an average of 20-30 minutes by one subject to fill up the entire questionnaire. Filled questionnaire were handed to the investigator personally at the third visit in a sealed envelope (provided at the second visit along with the questionnaire) and was collected from the help desk of the fitness centers.

As an incentive, a document was formulated with all the correct answers and related explanations which was given and mailed to the fitness trainers at the end of the study so that they can assess their knowledge , attitude and practices score and this helped them in improving their knowledge and provide improved services to their clients.

STATISTICAL ANALYSIS

The data was entered into the excel sheet and a code sheet was formulated from the data for coding which was exported into the master coding sheet. The data was subjected to quantitative analysis using suitable statistical formulae. The frequency and percentages were calculated for general profile, knowledge, attitude and practices of the subjects about the various aspects. Mean and standard deviations were calculated for scores obtained by the subjects for their knowledge, attitudes and practices. SPSS (Statistical Package for Social Sciences) 22.0 was used for the data analysis.

RESULTS

Demographic information

A total of 100 fitness trainers completed the survey among which 76% were male and 24% were female. As shown in Table 1, the age of respondents ranged mostly among 20 – 25 years (66%) followed by 25 –30 years (24%). About 68% were graduates in different streams whereas only 4(4%) subjects had done graduation in fitness related industry. Others (14%) were either diploma holders or had done a certificate course in the same. 50% of the subjects among the total study sample didn't had any fitness related qualification and were working as an instructor. Majority (80%) of the subjects were working as full time instructor.

Table1: Demographic information of the fitness trainers

Particulars	n = 100
Gender	
Male	76 (76%)
Female	24 (24%)
Age (Yrs.)	
20-25 Yrs.	66 (66%)
25-30 Yrs.	34 (34%)
Educational Qualification	
Undergraduate	72 (72%)
Post graduate	14 (14%)
Diploma course	14 (14%)
Time as fitness trainer	
3-6 months	18 (18%)
6-12 months	24 (24%)
1-3 years	44 (44%)
More than 4 years	14 (14%)

Fitness industry qualification	
Certificate course	32 (32%)
Diploma course	14 (14%)
Undergraduate degree/ graduate degree in exercise sciences	4 (4%)
None	50 (50%)
Fitness industry employment status	
Full- time	80 (80%)
Part- time	6(6%)
Casual	10 (10%)
Unpaid/ voluntary	4 (4%)
Fitness trainer role	
Personal trainer	10 (10%)
Gym instructor	64 (64%)
Group instructor	16 (16%)
All three types of instructor	10 (10%)

*Values depicted in the parentheses as n (%)

NUTRITION KNOWLEDGE, ATTITUDE AND PRACTICES OF FITNESS TRAINERS

Knowledge about Nutrition and related aspects:

Knowledge about nutrition and related aspects is an important aspect which can help to improve performance and fitness. The mean± SD knowledge score obtained by the subjects was 15.74±3.5 out of 40 (39.3%) showing the lack the adequate knowledge about nutrition and related aspects.

Data revealed that less than half of the fitness trainers knew the correct definitions of nutrition, balanced diet, fibre, omega 3 fatty acids, mono and poly unsaturated fatty acids, amino acid composition and balance etc. Also many of them were not aware about the richest sources of calories and alternate sources etc. in order to restrict the right sources while catering the clients for weight loss. About 34 fitness trainers had the concept of 1g fat providing 9kcal which is higher in comparison to protein and carbohydrates whereas, over 60% stated that proteins and carbohydrates as the richest source of calorie. Mostly fitness trainers were aware about the types of vitamins whereas more than half of them stated that best way to ensure adequate intake of vitamin is through the consumption of vitamin pill. The importance and functions of calcium, vitamin D and vitamin C etc. were not very clear among the trainers. Half to one kg weight loss in week as healthy and ideal was reported by only 11% of subjects. Also they reported that clients expect and pursue them to shed more weight in short span of time, in response to which they formulate weight loss lucrative packages. In addition though 16% of the subjects knew and answered correctly about fad diets, they mentioned that now a day's these diets are in trend and they do follow them too for fast and effective results. Dietary supplements and protein supplements were quite popular among the fitness trainers though less than one fourth of the total had the correct knowledge about the same. Importance of electrolytes, hydration was poorly known and was also not emphasized among the clients.

Table 2: Frequencies of the correct answers of nutrition knowledge among 50 fitness trainers in Delhi.

Theme of the question	Correct answers (n =100)
Macronutrients i.e. energy, proteins and fats	44 (44%)
Micronutrients, vitamins and minerals	24 (24%)
Weight loss	11 (11%)
Fad diet	16 (16%)
Dietary supplement	12 (12%)
Protein supplements: importance and utility	28 (28%)
Pre and post- workout meal importance	26 (26%)
Electrolyte balance and hydration during physical activity	10 (10%)
Meal replacers/ substitutes	39 (39%)
Physical activity: exercises, techniques	30 (30%)

Figures in parenthesis denote n (percentages)

Attitude about Nutrition and related aspects:

The mean attitude score about nutrition and related aspects of the total study sample was 95.4 ± 12.7 out of 145 (65.7%) showcasing a fair attitude about various nutrition and related aspects. Fitness trainer's attitude towards nutrition and related aspects plays an important role as their beliefs will influence their practice and ultimately affecting the clients. Table 3 reveals the attitudes of the subjects suggesting positive

attitude towards eating late at night, high fat consumption, excessive use of supplements, and calorie deficit for weight reduction. However most of them didn't believed in healthy weight loss, fluid and electrolyte intake thereby propagating diet pills, dieting, skipping meals, mono diets, low carbohydrate diets.

Table 3: Distribution of Fitness trainers' responses according to their attitude towards nutrition and related aspects.

S. NO	STATEMENT	Responses		
		Strongly agree	No opinion	Strongly disagree
1.	Skipping meals is an appropriate way to lose weight.	28 (28)	4 (4)	68 (68)
2.	Eating after 8 pm causes weight gain.	74 (74)	10 (10)	16 (16)
3.	For weight loss if you exercise, it doesn't matter what you eat.	22 (22)	4 (4)	74 (74)
4.	Supplements and high protein shakes should be incorporated in the diets to promote weight loss.	62 (62)	38 (38)	0 (0)
5.	Mono diets are a good means to promote weight loss.	44 (44)	26 (26)	30 (30)
6.	Eating breakfast is very important for weight loss.	72 (72)	12 (12)	6 (6)
7.	In healthy eating pattern, every single food must be low in fat	64 (64)	4 (4)	32 (32)
8.	Fluids should be available to the person before, during and after workout.	42 (42)	10 (10)	48 (48)
9.	Dieting usually results in permanent weight loss.	36 (36)	5 (5)	54 (54)
10.	Body weight is a good indicator of fitness	68 (68)	2 (2)	28 (28)
11.	Diet pills are a great way to speed up your metabolism and shed pounds with little effort.	46 (46)	50 (50)	4 (4)
12.	The only way to achieve long-lasting results is to burn more calories through exercise than you intake.	86 (86)	10 (10)	4 (4)
13.	Regularly exceeding a supplement recommended dose may increase strain on kidneys.	46 (46)	64 (64)	0 (0)
14.	Foods with a low glycemic index are healthier than foods with a high glycemic index.	34 (34)	48 (48)	18 (18)
15.	Should have 8 to 10 glasses of water every day to keep body well hydrated.	98 (98)	2 (2)	0 (0)
16.	High protein low carbohydrate diets are a healthy way to lose weight.	78 (78)	0 (0)	22 (22)
17.	Low or reduced fat dairy products have less calcium content than their full fat versions.	48 (48)	32 (32)	20 (20)

Figures in parenthesis denote n (percentages)

Practices about Nutrition and related aspects

The practices of trainers play the most pivot role as it directly have an impact on the client. The mean score for practices related to nutrition aspects of the total study sample was 7.88 ± 2.1 (45.8%) indicating poor nutrition and related practices. Data revealed that none of the fitness centers had appointed a dietitian and the instructors were prescribing diet plan which were set plans to all the clients irrespective of any considerations like medical concerns or any other. Almost all the fitness trainers recommend pre workout drinks; in contrast to the fact that most of them were not aware about their importance in training. They mentioned that as far as nutritional advice to the clients are concerned they are usually recommending the set diet plan provided to them or current trending fad diets which give good results to their clients. Supplements were recommended by fitness trainers to their clients out of which over 70% of them recommended creatine based supplements. Majority of them (80%) recommended high protein

intake for weight loss among which over 34% recommended protein supplements. Almost half of the fitness trainers reported that they recommended 45 minutes or more physical activity to their clients. Majority of them (88%) kept a check upon their client's workout. This check mainly concerned their position (56%) as a bad posture may lead to injury. Majority of the fitness trainers (94%) took different precautions while attending their clients, like restricting their clients with lower back problem to perform exercises with heavy weights. Subjects mentioned that they occasionally monitors clients workout because of time shortage and more no of clients that they attends.

The relation between the scores of knowledge, attitude and practices of trainers was also assessed.

DISCUSSION

The aim of our study was to assess that the level of knowledge, attitude and practices about nutrition and related aspects among fitness trainers in Delhi. Our finding stated that the level of nutritional knowledge and practices of trainers was poor, while they had a fair attitude regarding the nutrition and related aspects. Similar findings were documented by Battalwar and colleagues (2016) in their study with inadequate nutrition and health knowledge of fitness trainers in Mumbai city. Also, Jessri et al (2016) stated that most Iranian coaches were misinformed about nutrition science and showed a wide gap in the nutrition knowledge among Tehrani college athletes. Misconceptions about nutrition are common among coaches, trainers and other sports instructors (Rockwell et al, 2001). In addition to this, study by Jazayeri and Amani, 2004 reported that there is a considerable need for providing sound nutritional education to male and female body building trainers with respect to use of vitamin supplementation, hormones and the links between adequate and appropriate diet, good health and physical performance. In addition it was found that most of the knowledge which the trainers had was through internet and unreliable sources or was provided to them by the concerned authorities of the fitness trainers in set format.

The present study also showcased that they had fair attitude but followed poor nutrition practices. Almost all of the subjects counseled their clients but mentioned that they had not done their graduation or post-graduation in nutrition or related field and were using the set planners for providing the diet plans. In addition to this, study by Kaur and Kalra, 2010 reported that the major problem with the new fitness training industry lies in that there were few trainers who were certified to provide reliable information on fitness goals and nutrition needs. However, there are no regulations or recruitment rules for appointment of fitness trainers in most health clubs, which implies that almost anyone who manages to build a few muscles, irrespective of graduation or an exercise science training degree are being employed.

The weakness of nutritional counseling in the fitness industry in Geneva was underlined by the Kruseman and his colleagues, 2008. They concluded that it would be necessary to raise the standards for professionals working in health and wellness settings such as fitness centers. Arora and Siddiqui, 2012 stated that the lack of standardization of pre-requisite educational qualifications amongst trainers employed in local gymnasiums has led to variability as well as inadequate following of fitness principles and hence less than optimum outcomes of exercises among the clients.

From the findings of the present study, it could be concluded that the fitness trainers working in fitness centers lack knowledge regarding the nutrition and related aspects while had a fair attitude and poor practices regarding the nutrition and related aspects such as nutrition and related aspects, nutrition supplements, weight management, nutrients and food groups related which plays an important in providing services to the client. This is because the clients and individuals at the fitness centers look for the fitness trainers for the nutrition and related aspects advice. Therefore, it is critical that the fitness trainers gain more knowledge on nutrition aspects, have more positive and correct attitudes towards the improvement in health and also have appropriate nutrition related behavior. In contrast, for nutrition related information proper nutritionist or dietician should be hired as they specialize in this field and can cater to the individualist needs of the clients with their scientific knowledge.

Though knowledge does not seem to play an important role in influencing the attitudes; if both knowledge and attitudes of the fitness trainers are good, they do help in improving the nutrition and related aspects practices. Therefore, we support the urgent need for regulatory

control on the standards of local health clubs, gymnasium and fitness centers with a particular emphasis on the quality and education of fitness trainers employed.

CONCLUSION

It can be concluded that there is a considerable need for providing sound nutritional education to fitness trainers with respect to adequate and appropriate diet, good health and physical performance. The result of this study necessitates the need for regulatory control over the standards of local fitness centers with particularly emphasizing on the quality of fitness trainers that they employ and also a future research is required to understand that only the qualified trainers should be employed in the fitness industry profession and their knowledge should be updated time to time by organizing the seminars or training sessions.

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