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Practice, attitude, and knowledge of nutrition and nutritional status of health and wellness instructors

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Abstract

Nutritional knowledge, attitude, and practice are critical components of an individual's total health and well-being. Assessing health trainers' nutritional KAP can assist in identifying areas for development and provide opportunities for further education and training. This, in turn, can improve their capacity to assist clients in making informed decisions regarding their nutrition and overall health. This study aimed to investigate the nutritional knowledge, attitude, and practices of health and wellness instructors and assess their nutritional status. A total of 60 instructors from gyms, yoga centers, and sports academies in Udaipur City, Rajasthan, were randomly selected. A structured questionnaire was used to collect data on their background information, nutritional knowledge, attitude, and practices. Anthropometric measurements were performed to assess their nutritional status. The results showed variations in demographic characteristics. The average age across occupations was 29.55 years, and all participants were males. Gym instructors had an average height of 1.72±0.10 meters and weight of 81.47±14.4 kilograms, while yoga instructors had the highest average height (1.94±1.07 meters) and the lowest average weight (68.37±11.30 kilograms). The assessment of nutritional knowledge revealed gym instructors had the highest mean score (17.67), while sports instructors had the lowest (14.47). Most instructors recognized the importance of micronutrients (76.6%) and macronutrients (70.0%). However, some provided incorrect answers, indicating the need for further education. Regarding nutritional practices, only 20.0% of instructors consumed the appropriate number of meals per day. Approximately 43.3% consumed water or fluids before sports activities, and 41.7% consumed water or fluids throughout the day. The intervention involved a nutritional booklet, and post-assessment showed improved nutritional knowledge among the instructors. They demonstrated enhanced understanding of macronutrients, micronutrients, and dietary guidelines. In conclusion, this study highlights the need for targeted interventions to improve the nutritional knowledge, attitudes, and practices of health and wellness instructors. Implementing interventions, such as the use of a nutritional booklet, can effectively enhance instructors' understanding and application of nutrition knowledge.

Keywords: Nutrition, KAP, intervention

1. Introduction

Nutrition plays a crucial role in promoting health and well-being, and individuals in the health and wellness industry are expected to have a comprehensive understanding of nutrition to guide others effectively. Health and wellness instructors, including gym trainers, fitness instructors, sports coaches, and yoga instructors, have the responsibility of imparting knowledge and promoting healthy lifestyles among their clients. However, the extent of their nutritional knowledge, attitude, and practice remains an area that warrants investigation. The aim of this research paper is to examine the practice, attitude, and knowledge of nutrition among health and wellness instructors. Additionally, the study seeks to assess their nutritional status and evaluate the effectiveness of a nutritional intervention program in enhancing their understanding of nutrition. By gaining insights into these factors, we can identify areas of improvement and develop strategies to enhance the nutritional education of health and wellness instructors. The research was conducted in Gyms, Wellness Studios, Yoga Centers, and Sports Academies in Udaipur City, Rajasthan. This choice of locale was deliberate, considering the researcher's familiarity with the area, which helped establish rapport with the respondents and ensure reliable data collection. A sample of 60 instructors was randomly selected, representing different occupational roles within the health and wellness industry. To gather data, a structured questionnaire was developed, consisting of sections to assess the respondents' nutritional knowledge, attitude, and practice. Anthropometric measurements were conducted to determine the nutritional status of the participants. Additionally, a nutritional booklet was developed, containing relevant information about macro and micro nutrients,

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nutrient requirements, dietary guidelines, and other essential aspects of nutrition. The intervention program involved providing this booklet to the respondents and evaluating the knowledge gained after 30 days. The findings of this research provide valuable insights into the current state of nutritional knowledge, attitude, and practice among health and wellness instructors. By understanding their strengths and areas of improvement, we can develop targeted interventions to enhance their nutritional education and ultimately improve the quality of guidance they provide to their clients. A well-informed and knowledgeable cadre of health and wellness instructors will contribute significantly to promoting healthy lifestyles and overall well-being. In the subsequent sections of this paper, we will present the methodology used, the results obtained, and discuss the implications of the findings. The research aims to contribute to the existing body of knowledge on nutrition education and provide recommendations for future interventions and research in this domain.

2. Methodology

2.1 Locale of Study

The present study was conducted in Gyms, Wellness Studios, Yoga Centers, and Sports Academies in Udaipur City, Rajasthan. This choice of locale was deliberate for several reasons. Firstly, the researcher belongs to Udaipur City, which facilitated efficient interaction and communication between the researcher and respondents by reducing linguistic, cultural, and social barriers. Secondly, the researcher's personal interest and involvement in fitness activities helped establish a good rapport with the respondents, ensuring reliable data collection.

2.2 Selection of Samples

A total of 60 health and wellness instructors were randomly selected from various Gyms, Yoga Centers, and Sports Academies in Udaipur City. The participants included trainers, instructors, sports coaches, and health and wellness coaches. The random selection ensured the representation of individuals from different occupational roles within the health and wellness industry.

2.3 Development of Research Tool

To fulfill the objectives of the study, a structured questionnaire was developed. The questionnaire was divided into two parts. The first part focused on collecting background information of the respondents, such as their name, age, sex, educational qualification, occupation, and annual income. The second part, referred to as the Nutritional KAP (Knowledge, Attitude, Practice) section, consisted of questions related to the respondents' nutritional knowledge, attitude, and practice. This section was further divided into three parts: Knowledge Section, Attitude Section, and Practice Section.

2.4 Assessment of Nutritional Status

To assess the nutritional status of the health and wellness instructors, anthropometric measurements were conducted. Height and weight measurements were taken to determine the body mass index (BMI) of the participants. These measurements provide insights into the participants' body composition and nutritional status.

2.5 Development of Nutritional Booklet

A Nutritional Booklet was developed to provide relevant information about nutrition to the respondents. The booklet included details about training and nutrition, the importance of nutrition in pre-training, during training, and post-training, macro and micro nutrients, and other essential information related to nutrition. The booklet aimed to enhance the nutritional education of the respondents and serve as a reference guide.

2.6 Procedure of Data Collection

The data collection process involved the following steps:

Step I: Collection of background information and assessment of the respondents' current knowledge, attitude, and practice using the structured questionnaire.

Step II: Development and distribution of the Nutritional Booklet to the respondents as an intervention package.

Step III: Post-assessment of the knowledge gained by the respondents after 30 days of receiving the Nutritional Booklet, using the same structured questionnaire.

The data collection was conducted personally by the researcher, who visited the Gyms, Yoga Centers, and Sports Academies to interact with the respondents and collect the required information.

The data obtained through the questionnaire and anthropometric measurements were analyzed using appropriate statistical methods to derive meaningful insights. The results of the study are presented in the subsequent sections of this research paper, followed by a discussion of the findings and their implications.

3. Results

The results of the study are presented below, providing insights into the demographic characteristics of the respondents, their nutritional status, and their levels of nutritional knowledge, attitude, and practice.

Demographic Characteristics:

- **Age:** The average age of the respondents varied across different occupations. Gym instructors had an average age of 29.27 years, physical fitness instructors had an average age of 27.80 years, sports instructors had an average age of 33.13 years, and yoga instructors had the highest average age of 28.00 years. The overall average age of all respondents was 29.55 years.
- **Gender:** All respondents in the study were male, comprising 100% of the sample population.
- **Educational Qualification:** The majority of respondents (41.7%) had a graduate degree, followed by post-graduate diploma (21.7%) and post-graduate qualifications (36.7%). These findings indicate a relatively high level of education among the health and wellness instructors.
- **Marital Status:** Among the respondents, 58.3% were unmarried, while 41.7% were married.
- **Annual Income:** The income distribution of the respondents revealed that 63.3% had an income of 4-5 lakh, 31.7% had an income of 6-8 lakh, and 5.0% had an income of 10 lakhs and above. None of the respondents fell into the income category of 8-10 lakh.

Table 1: Mean \pm SD values of BMI of respondents (n=60)

Variable	Respondents	F	Mean	SD
BMI	Gym Instructor	15	27.46	5.550
	Physical Fitness Instructor	15	24.42	4.30
	Sports Instructor	15	22.26	7.30
	Yoga Instructor	15	23.33	6.54
	Total	60	24.37	6.19

BMI (Body Mass Index): The BMI of the respondents provided insights into their body composition. Gym instructors had an average BMI of 27.46+5.55 kg/m², physical fitness instructors had an average BMI of 24.42+4.30 kg/m², sports instructors had an average BMI of 22.26+7.30 kg/m², and yoga instructors had an average BMI of 23.33+6.54 kg/m². The overall average BMI of all respondents was 24.37+6.19 kg/m².

Table 2: Mean+ SD values of Assessment of nutritional knowledge of the respondents (n=60)

S. No.	Occupation	n	Mean	SD
1.	Gym Instructor	15	17.67	2.554
2.	Physical Fitness Instructor	15	15.73	5.311
3.	Sports Instructor	15	14.47	4.912
4.	Yoga Instructor	15	15.87	3.796
	Total	60	15.93	4.325

The highest mean nutritional knowledge score was observed among gym instructors (17.67), indicating a fair amount of expertise in the field of nutrition. Yoga and physical fitness instructors had equal mean scores (15.87 and 15.73,

respectively), suggesting a decent level of nutritional awareness. Sports instructors scored the lowest on average (14.47), indicating a comparatively lesser level of nutritional understanding.

Table 3: Frequency and percentage of respondents based on Nutritional Attitude and Behaviour (n=60)

Statements	Correct		Incorrect	
	F	Percentage	F	Percentage
Importance of micronutrients	46	76.6	14	23.3
Importance of macronutrients	42	70.0	18	30.0
Importance of nutrition	40	66.7	20	33.3
Importance of normal range of BMI	57	95.0	3	5.0
Attitude towards Importance of RDA	44	73.3	16	26.7
Attitude towards the functions of Protein	44	73.3	16	26.7
Attitude towards the functions of fat	46	76.7	14	23.3
Attitude towards diet is taken for weight loss	55	91.7	5	8.3
Attitude towards the diet is taken for weight gain	52	86.7	8	13.3
Attitude towards calories in 1gm of Carbohydrate	58	96.7	2	3.3
The RDA recommends a nutrient intake of essential nutrients:	52	86.7	8	13.3
Attitude towards the kind of fat that should recommend to consumed more	55	91.7	5	8.3
Attitude towards how many calories is there in 1gm of Protein	57	95.0	3	5.0
Attitude towards how many calories is there in 1gm of Fat	55	91.7	5	8.3
Attitude towards Rich Sources of iron	55	91.7	5	8.3
Attitude towards best sources of citrus fruits	23	38.3	37	61.7
Egg, milk, and meat are usually classified as good sources of	40	66.7	20	33.3
Fruits, vegetables, and cereals are potent sources of	51	85.0	9	15.0
Statement	Agree		Disagree	
fats healthy for the human body.	47	78.3	13	21.7
Excess calories can lead to increase in body weight.	12	20	48	80
Balanced diet is essential for avoiding malnutrition.	39	65	21	35
Meat and Meat Products are a rich source of protein	42	70	18	30
Milk and Milk products are a rich source of good fats	45	75	15	35
Calorie needs depends on your age, body weight and gender	53	88.3	7	11.7
Nutritional Supplements help in meeting your daily nutritional requirements	42	70	18	30
Food helps in strengthening the immune system and recovery of the body	45	75	15	25.0
Cereals, pulses, and legumes are a good source of all macronutrients	43	71.7	17	28.3
Certain food items have therapeutic properties and are very good for health.	13	27.1	47	78.3
Vitamin C and Vitamin E are also called antioxidants.	40	66.7	20	33.3
Minerals are important for functioning of the body	57	95.0	3	5.0
Variety of foods provides all nutrients in diet	50	80.3	10	16.7
It is good to consume 2-3 servings of fruit per day	39	65.0	21	35.0
It is essential to consume 1 cup of vegetables per day.	49	81.7	11	18.3
Animal protein is better than vegetable protein.	51	85	9	15
Consumption of fish is good for health.	56	93.3	4	6.7
It is good to drink at least 1 glass (150 ml) of milk per day for good health.	56	93.3	4	6.7

As per the study of the Attitude towards nutrition and their behaviour, 76.6% (46) of the total respondents knew about micronutrients and 70% (42) of them knew about

macronutrients as well as 66.7% (40) believed nutrition is sum of macro and micro nutrients. 95% of the respondents knew about the correct understanding of BMI. 73.3% of the

respondents, answered correctly by providing the full form of RDA (Recommended Dietary Allowance). Among 73.3%, correctly identified the functions of protein in response, 76.7% of the respondents, correctly identified the functions of fat. A majority of 91.7% of the respondents, correctly identified the appropriate diet for weight loss. The instructors knew about the calories in 1gm Carbohydrate, Fat and Protein, therefore, 96.7%, 91.7%, 95.0% of the total respondents chose the correct responses. 78.3% agreed that fats are healthy, however, it was surprising to see that 80% disagreed that excess calories can cause weight gain, which is a contradictory response. 65% agreed that a balanced diet is essential, 70% of the respondents agreed with this statement that meat and meat products are rich sources of protein. 75% agrees that milk is a good source of fat, 11.7 disagreed that calorie depends on calorie needs depends on age, body weight and gender which is contradictory as calorie needs depend on

type of activity.

When it comes to the belief that nutritional supplements help in meeting daily nutritional requirements, 70% of the respondents agreed. 75.0% of the respondents, agreed with the statement, recognizing the role of food in strengthening the immune system and aiding in the body's recovery. 71.7%, agreed with the statement, acknowledging that cereals, pulses, and legumes provide a good source of all macronutrients. 27.1% of the respondents, agreed that certain food items have therapeutic properties and are beneficial for health. 66.7%, agreed that Vitamin C and Vitamin E are called antioxidants. 95.0% of the respondents, acknowledged the importance of minerals for the body's functioning. 65.0%, agreed that consuming 2-3 servings of fruits per day is beneficial. 93.3% of the respondents, agreed that the consumption of fish is beneficial. 93.3%, agreed that drinking at least 1 glass of milk per day (150 ml) is beneficial for good health.

Table 4: Frequency and Percentage Distribution of the Nutritional Practice of Respondents (n=60)

Questions	Correct		Incorrect	
	F	Percentage	F	Percentage
Consumption of the number of meals per day	12	20.0	48	80.0
Consumption of water/fluid before a sports activity	26	43.3	34	56.7
Consumption of water/fluid throughout the day	25	41.7	35	58.3
Best ways to meet your daily vitamin C needs.	48	80.0	12	20.0
Food usually avoided in a weight loss plan	46	76.7	14	23.3
Consumption of foods for gaining more weight	26	43.3	34	56.7
In Case of constipation, foods that are recommended more	34	56.7	26	43.3
Choice for low-fat, high-fiber light meal	28	46.7	32	53.3
Best choice to eat to reduce the amount of salt in your diet	27	45.0	33	55.0

The study of the nutritional practices of the health and wellness instructors concluded that only 20% of the total population consumed proper meals throughout the day, in response to fluid consumption 43.3% of the respondents, reported consuming the appropriate amount of water/fluid before a sports activity, 41.7%, reported consuming the recommended amount of water/fluid throughout the day, 80% of the respondents correctly identified the best ways to meet their daily vitamin C needs. 76.7%, correctly identified the food that should be avoided in a weight loss plan is sugar. 56.7%, correctly identified the foods that should be recommended more in case of constipation is green vegetables. 46.7% of the respondents, correctly identified the best choice for a low-fat, high-fibre light meal which was sweet potato and corn.

4. Discussion and Conclusion

The discussion of the findings focuses on the key results obtained from the study regarding the nutritional knowledge, attitude, and practice of health and wellness instructors. The results shed light on the strengths and areas for improvement in these aspects, providing insights into the potential implications for educational interventions and the overall impact on instructors' ability to guide their clients effectively. The study revealed variations in the nutritional knowledge of health and wellness instructors across different occupations. Gym instructors exhibited the highest mean nutritional knowledge score, indicating a fair amount of expertise in this field. This finding suggests that these instructors possess a solid understanding of various concepts of nutrition and the importance of nutrients. On the other hand, sports instructors scored the lowest on average, indicating a comparatively lesser level of nutritional understanding. It is essential to

address this knowledge gap through targeted educational interventions tailored to the specific needs of sports instructors, enhancing their understanding and knowledge base.

The attitudes of the instructors towards nutrition were generally positive, with a significant proportion recognizing the importance of micronutrients, macronutrients, and a balanced diet. This demonstrates their awareness of the role played by nutrition in maintaining optimal health and performance. However, there were instances of incorrect responses, suggesting the need for further education and clarification on certain topics. Addressing these misconceptions and providing accurate information can help instructors develop a more comprehensive understanding of nutrition and effectively communicate it to their clients.

The assessment of nutritional practice revealed variations among the health and wellness instructors. While some instructors demonstrated positive practices, such as regular consumption of fruits and vegetables, others showed room for improvement in areas such as meal frequency and hydration. Promoting consistent and balanced dietary practices among health and wellness instructors is crucial, as they serve as role models for their clients. By adopting healthy nutritional practices themselves, instructors can effectively convey the importance of nutrition and inspire their clients to make healthier choices.

The study also evaluated the impact of the intervention program, which involved the distribution of a developed nutritional booklet. The findings showed a significant increase in the participants' understanding of nutrition-related subjects after the intervention. This indicates that the booklet served as an effective tool for enhancing their nutritional education. The intervention program played a valuable role in bridging the

knowledge gap and equipping the instructors with the necessary information to guide their clients towards better nutritional practices.

In conclusion, the study provides valuable insights into the nutritional knowledge, attitude, and practice of health and wellness instructors. While there are areas of strength, such as the fair level of nutritional knowledge and positive attitudes towards nutrition, there are also areas for improvement in terms of practice. Addressing these gaps through targeted educational interventions, including the provision of accurate and up-to-date nutritional information, can enhance the instructors' ability to guide their clients effectively. By promoting consistent and balanced nutritional practices among health and wellness instructors, they can serve as effective role models and advocates for healthy living. These findings have implications for the development of educational programs and interventions aimed at improving the nutritional status and practices of health and wellness instructors, ultimately benefiting their clients and the wider community.

5. References

1. Ajaero IE, Okolo SN, Eze IC. Assessment of the nutritional knowledge, attitude and practice of physical education teachers and sports coaches in a Nigerian university. *Journal of Physical Education and Sport*. 2019;19(1):228-236.
2. Avison EJ, Smith L, D'Angelo S. Nutrition knowledge, attitudes, and behaviors among a sample of college students. *Journal of Nutrition Education and Behavior*. 2020;52(1):66-71.
3. Batool S, Manzoor MH, Dar AA. Assessment of nutritional knowledge, attitude and practice among personal trainers in urban areas of Lahore, Pakistan. *Pakistan Journal of Nutrition*. 2018;17(2):87-94.
4. Chukwu A, Nwanze CE, Okeke CE, Nwakaudu AA, Ezenwaka CE. Nutritional knowledge, attitudes and practices among adult women attending a tertiary hospital in Southeast Nigeria. *Annals of Medical and Health Sciences Research*. 2019;9(6):370-376.
5. Ghosh S, Kabir MR, Alam MR, Chowdhury AI, Al Mamun MA. Balanced diet related knowledge, attitude and practices (KAP) among adolescent school girls in Noakhali district, Bangladesh: a cross sectional study. *International Journal of Adolescent Medicine and Health*. 2022;34(5):319-325.
6. Hammouh F, Abdullah M, Al-Bakheit A, Al-Awwad NJ, Dabbour I, Al-Jawaldeh A. Nutrition Knowledge, Attitudes, and Practices (KAPs) among Jordanian Elderly-A Cross-Sectional Study. *Nutrients*. 2023;15(9). <https://doi.org/10.3390/nu15092220>
7. Heikkilä M, Valve R, Lehtovirta M, Fogelholm M. Nutrition Knowledge Among Young Finnish Endurance Athletes and Their Coaches. *International Journal of Sport Nutrition and Exercise Metabolism*. 2018;28(5):522-527.
8. Kolodinsky J, Harvey-Berino JR, Berlin L, Johnson RK, Reynolds TW. Knowledge, attitudes, and behaviors associated with college students' consumption of dairy products. *Journal of Nutrition Education and Behavior*. 2019;51(4):448-455.
9. Sari HN, Ghavamzadeh S, Asgari S, Khosravi A. The effect of nutrition education program on nutritional knowledge and practice of female physical fitness trainers. *Journal of Health Research in Community*. 2019;5(3):67-75.
10. Turğut M, Bozkuş T, Özmekik M, Kocakulak K. Examination of Nutritional Knowledge Levels and Nutritional Attitudes of Badminton Athletes. *Pakistan Journal of Medical and Health Sciences*. 2021;15(12):3550-3552.
11. Yau YHC, Pot GK, Almoosawi S. Diet quality, nutrition knowledge and attitudes of adolescents in a southern state of Malaysia: A cross-sectional study. *BMC Public Health*. 2019;19(1):883.