Nutrition Education Intervention to Promote Food Label Knowledge, Attitude and Practice among Secondary School Students in Giza Governorate

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Abstract

Background: Increasing Nutritional knowledge among adolescence will prevent nutrition related health problems in adulthood. Food labels provide information about food and help to make a healthy decisions.

Objectives: To **measure** knowledge, attitude and practice(KAP) of secondary school students about food labels, to **implement** and evaluate a nutrition education program regarding food label KAP and to **assess** association between body mass index(BMI) and KAP about food label among secondary school students.

Subjects & Methods: Two phases study The first phase was cross sectional and the second phase was controlled nutrition education intervention. Sample size was 122 secondary school students who were assigned into two groups; 59 as the intervention arm and 63 as the control arm according to students' acceptance. Anthropometric measures were assessed for all participants and KAP questionnaires were collected.KAP questionnaire scores were 12 for knowledge, 30 for attitude and 20 for practice The intervention group received the nutrition education intervention in the form of interactive lecture. Post intervention questionnaires were collected from both groups after one month. Data were analyzed using Statistical Package for Social Science (SPSS).

Results: The cross sectional phase results of the study show that Students had little knowledge(2.4±2.3), negative attitude(18.9 ±3.3) and practice(14.5±3.3) about food labels. There was no association between BMI and nutrition knowledge score(P= 0.748), nutritional Attitude score(P= 0.681), practice score(P= 0.367) or nutrition information score(P= 0.637).The intervention phase results of the study shows that the post intervention KAP scores of the intervention group were significantly higher than pre intervention scores of themselves($P<0.001$) and the post intervention scores of the control group($P<0.001$). Moreover there was improvement by 53.1% in Knowledge,7.73% in Attitude and 13.3 % in Practice regarding food labels among the intervention group.

Recommendations: To conduct nutrition education intervention programs with random samples and in different school sectors this will help to generalize the results.

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List of Abbreviations

BMI	Body mass index
DSHEA	Dietary Supplement Health and Education Act
DV	Daily value
FALCPA	Food Allergen Labeling and Consumer Protection Act
FAO	Food and Agriculture organization
FDA	Food and Drug Administration
FD&C	Federal Food, Drug, and Cosmetic Act
FOP	Front of package
FPLA	Fair Packaging and Labeling Act
KAP	Knowledge, attitude and practice
NELA	Nutrition Labeling and Education Act
PDP	Principle displayed panel
SD	Standard deviation
USDA	United States Department of Agriculture
WHO	World Health Organization

CHAPTER (1)

INTRODUCTION

Introduction

Nutrition related health problems and diseases have become a major concern in recent years. Researchers have established associations between Nutrition Label use and positive dietary outcomes. Reading Nutrition Labels may enable healthy dietary practices and can contribute to healthful dietary intakes such as decreasing intake of fat, saturated fat, and cholesterol, higher intake of fiber and result in higher diet quality**(Chen, 2011)**.

Label means any tag, brand, mark, pictorial or other descriptive matter, written, marked, printed, embossed or impressed on, or attached to, a container of food. Labeling is any written, printed or graphic matter that is present on the food container or is displayed near the food for the purpose of promoting its sale or disposal**(WHO and FAO,2007).**

Food labeling is a community based approach providing information to consumers about the nutrient content of a food in order to make food selection more favorable to healthy choices. This information, along with a knowledge of basic nutrition principles leads to informed food purchase decisions **(Cowburn and Stockley, 2005).**

The nutrition facts label on a food product provides information on its per-serving calories and calories from fat. The label then lists the amount (in grams) of total fat, saturated fat, cholesterol, total carbohydrate, dietary fiber, sugar, protein and sodium. The label also shows the percentage of the daily value (DV) for most of these nutrients supplied by a serving **(Ghrayeb et al, 2013).**

The Food and Drug Administration(FDA) is proposing to update the nutrition label to make it easier for consumers to make informed decisions about the food they eat. The changes will include information about added sugars, sodium, potassium, dietary fiber and vitamin D. Also to provide a dual column format presenting information "per serving" and "per package,"**(FDA,2014).**

More over 91% of students in the United States reported using the Food Guide Pyramid to help guide choices, while only 26% used Nutrition Labels to assist choices **(Gores, 2008).**

Modern societies actively market unhealthy lifestyles and education organizations too often fail to provide people with adequate skills to understand, access, assess and use information to improve their health. **(WHO,2014).**

Higher nutrition literacy skills associated with more healthful eating practices. Most health literacy research does not explicitly focus on food or nutrition habits and dietetics practitioners often remain unaware of patients' health literacy level**(Carbone, 2012).**

Contributors to the development of obesity include lifestyle changes and nutritional habits such as irregular meal patterns, skipping breakfast, consumption of foods and beverages of low nutritional value, intake of refined carbohydrates such as sugar-sweetened soft drinks and sub-optimal intake of dairy products, vegetables and fruits. This nutritional patterns are common in adolescents and young age **(Bruening et al., 2011).**

A diet low in fruits and vegetables is associated with an increased risk of hypertension, stroke, coronary heart disease, type 2 diabetes mellitus, overweight and obesity **(Bazznao ,2006).**

Research has shown that poor nutrition or unhealthy dietary behaviors are often prevalent among adolescents, thus placing them at future risk for developing obesity and chronic diseases. Therefore, several studies recommend implementing nutrition interventions targeting adolescents to give them the necessary nutrition information that will help them develop good nutritional habits **(Velazquezm et al., 2011).**

Adolescents need nutrition education about proper nutrition, including limiting fast food intake, adding fruits, dairy products and salads to their diet. Many adolescents make their own food and beverage choices and often eat with friends who affect their decisions. Early nutrition education is very important to help teenagers to form healthy nutritional habits. Nutrition education as a means of prevention give some hope for combating obesity and thus preventing many chronic diseases**(Ball and Bindler, 2008).**

School-based interventions have shown success in promoting appropriate dietary behaviors in children and adolescents. Previous studies have shown that an increase in knowledge, intentions and self-efficacy had a powerful impact on healthy choices for food**(Abood et al., 2008).**

Nutrition education interventions have been implemented in past research. Researchers have shown that nutrition education positively affects label use and how well the adolescences understand the nutrition label **(Drichoutis et al, 2008).**

Despite the availability of large number of studies supporting the importance of food labels in health, results of previous studies reported a general lack of knowledge about food labels. According to **Malek et al 2012** study results, they found that 46 percent of the consumers usually or often read food labels and 53% of them read nutrition facts panel during their shopping **(Malek et al, 2012).**

Research Hypothesis

The nutrition education can improve the nutrition knowledge, attitude and practice of secondary school students. about food label.

Research Question

Can the nutrition education improve nutritional knowledge, attitude and practice about food labeling among secondary school students?

Goal of the study

To improve the nutrition literacy among young Egyptian population that will lead to healthy life style and less liability to chronic diseases later on in life.

Research Objectives

This study was conducted to:

- Measure knowledge, attitude and practice of secondary school students about food label use.
- Implement and evaluate a nutrition education program regarding food label knowledge, attitude and use.
- Assess association between body mass index(BMI) and knowledge, attitude and practice(KAP) about food label among secondary school students.

CHAPTER (2)

REVIEW OF LITERATURE