Effect of Nutritional Health Education Program on Elderly Nutritional Knowledge, Attitude and Practice in Abu Khalifa Primary Health Care Center, Ismailia Governorate

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Abstract

Introduction: Old age is the greatest challenge that an individual faces. It is a continuous process that begins with conception and ends with death. Malnutrition among the aged is caused by a number of factors such as condition of the family, illiteracy, poverty, ignorance, superstition, lack of food, frequent infections etc. In the era of population aging, understanding the dynamic needs along with social psychological dynamics of help-seeking behavior among elderly persons is fundamental to assessing the impact of food programs.

Aim of the Study: The aim of this study was to improve elderly nutritional knowledge, attitude, and practice.

Subjects and Methods: An interventional study design with pre-post assessment was used. It involved (115) elderly who were selected through a consecutive sample. An interview questionnaire form was designed by the researcher to collect the data pertaining to the study objectives.

Results: The pre-post changes in the intake of the main food groups according to recommended daily requirements showed significant decrease of cereals (p<0.001), and increase of dairy products (p=0.03). The total knowledge increased from a pre-intervention level of 26.1% to a post-level of 82.6% (p<0.001). The percentage of elderly with total positive attitude increased from a pre-intervention level of 28.7% to a post-level of 60.0% (p<0.001). The percentage of elderly taking balanced diet increased from 7.8% at the pre-intervention phase to 11.3% at the post-phase. The statistically significant independent predictors of the knowledge scores were the intervention and the level of education, income, and health perception, all being positive.

Conclusion: The counseling intervention was effective in improving their knowledge and changing their attitudes to more positive, which led to improvements in their dietary practices.

Key Words: Knowledge — Practice — Attitude — Nutrition — Elderly.

Introduction

NUTRITION counseling is important for bringing a permanent and favorable solution to the problem of malnutrition. It is an effective tool of changing the food habits of the people without affecting their sentiments. It is a process by which knowledge, attitudes and beliefs about food and health are channelized into actual practices which are sound and consistent with the individual needs, purchasing power, food availability, health and socio-cultural background [2]. This signifies that nutrition counseling is needed to evaluate the effect on knowledge, attitudes and practices of the elderly.

In the era of population aging, understanding the dynamic needs along with social psychological dynamics of help-seeking behavior among elderly persons is fundamental to assessing the impact of food programs. Theory and knowledge to understand what, how and why nutritional needs are manifested within the context of food program delivery and to develop study designs are required to examine the impact of food programs and to make food programs a more effective and beneficial intervention for elderly persons [3]. It is estimated that the number of over 65-year-olds will increase by 82% over the next 25 years in Europe and life span is increasing. Therefore maintaining health, improving the quality of life and preventing the onset of diet-related illnesses through the promotion of healthier eating in old age is an increasing challenge [4].

Subjects and Methods

An interventional study design with pre-post assessment was used. This study was conducted in Abu Khalifa Village, Ismailia from 2011-2012.
The aim of this study was to improve elderly nutritional knowledge, attitude, and practice.

The study sample consisted of 115 elderly 65 years old or more and living in Abu-Khalifa, who were selected through a consecutive sampling, excluding those with severe chronic diseases or disabilities. An interview questionnaire form was used to collect the data pertaining knowledge, attitudes, and dietary practices. Knowledge was presented in form of individual counseling and written material. Participants were encouraged to ask questions, share views and readiness for being active in care based on own needs. Messages were simple and specific, limiting nutrition information to just one or two practical, to-the-point messages.

It was pilot-tested on 10 patients who were not included in the main study sample. A health education program about nutrition was designed and implemented to improve elderly nutritional knowledge, attitude, and practice through counseling sessions. The program effectiveness was assessed using the same data collection of the pre-test. The program was organized so that the elder attends regularly over the period of intervention three times, one visit every month. The session duration was 30 minutes.

Results

The mean age was 66.2 years, with slightly more women (53%), 26.1% were illiterate and 32.2% just could read and write, and 40.9% were smokers. The majority (70.4%) considered their health as fair. The pre-post changes in the intake of the main food groups according to recommended daily requirements showed significant decrease of cereals (p=0.001), and increase of dairy products (p=0.03). The percentage of elderly taking balanced diet increased from 7.8% at the pre-intervention phase to 11.3% at the post-phase. However, the difference was not statistically significant (p=0.37) as illustrated in Fig. (3).

The total knowledge increased from a pre-intervention level of 26.1% to a post-level of 82.6% (p<0.001) as illustrated in Fig. (1).

The percentage of elderly with total positive attitude increased from a pre-intervention level of 28.7% to a post-level of 60.0% (p<0.001) after 3 months as illustrated in Fig. (2).

The changes in food frequency among the elderly before and after the study intervention shows statistically significant decreases in the frequency of intake of cereals (p=0.03) and potatoes (p=0.007). On the other hand, statistically significant increases were demonstrated in the intake of vegetables (p<0.001), fruits (p=0.009), and dairy products (p<0.001). Meanwhile, the mean frequency of intake of fluids decreased from 2.3 to 1.9 (p=0.01).

The percentage of elderly taking balanced diet increased from 7.8% at the pre-intervention phase to 11.3% at the post-phase. However, the difference was not statistically significant (p=0.37) as illustrated in Fig. (3).
The statistically significant independent predictors of the knowledge scores were the intervention and the level of education, income, and health perception, all being positive (Table 1).

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>.011</td>
<td>3.490</td>
<td>.003</td>
</tr>
<tr>
<td>Intervention</td>
<td>22.671</td>
<td>1.712</td>
<td>13.243</td>
</tr>
<tr>
<td>Education</td>
<td>1.793</td>
<td>.834</td>
<td>2.149</td>
</tr>
<tr>
<td>Income</td>
<td>16.558</td>
<td>2.433</td>
<td>6.807</td>
</tr>
<tr>
<td>Health</td>
<td>10.576</td>
<td>1.650</td>
<td>6.408</td>
</tr>
</tbody>
</table>

r-square = 0.64. Model ANOVA: F = 101.42, p<0.001.

Variables entered and excluded by model: Age, sex, marital status, job, crowding index, number of chronic diseases, physical activity.

The statistically significant independent predictors of the attitude score were the income, number of chronic diseases, physical activity, and knowledge score, all being negative except for the knowledge score.

Discussion

The present study demonstrated a major deficiency in the knowledge of the elderly regarding the aging process and related nutritional aspects. This was particularly evident in their knowledge about food composition and healthy dietary habits. Overall, only less than one-fifth of them had satisfactory nutritional knowledge before the study intervention (26.1%). Similar results were reported among the elderly in Malaysia where more than half of the sample had poor or very unsatisfactory knowledge [5].

The implementation of the counseling intervention to the elderly of the present study led to significant improvement in their knowledge. This was noticed in all the areas assessed as well as in total knowledge. The percentage of those with total satisfactory knowledge increased more than three-fold. Jacy and Wade [6] noticed a similar improvement in the nutritional knowledge of African, although the posttest percentage of satisfactory knowledge was much lower (41%) compared to ours (82.6%). This difference might be explained by the fact that our posttest was administered a short time after the intervention program, which might reflect short recall. On the same line, Norimah et al. [7] emphasized that appropriate nutrition education interventions need to be implemented to improve the shortcomings of nutrition knowledge among elderly. Therefore, Millen et al. [8] recommended that facilities with Elderly Nutrition Programs are ideal settings for nutrition and health promotion interventions in the older adult population. However, most research on Elderly Nutrition Program clients is focused on documenting poor nutritional status and nutritional risk factors.

In further confirmation of the positive effect of the intervention program on the knowledge of the elderly in the current study, multivariate analysis demonstrated that the intervention was the strongest independent predictor of the elderly' scores of knowledge. Nonetheless, other contributing factors included higher education, more income and higher health perception. This means that the elderly possessing these characteristics got more benefits from the intervention program. This might be explained by their better intellectual abilities to grasp knowledge, and better resources to implement it. At the post-intervention phase of the present study, significant improvement were demonstrated in elderly' attitudes towards aging and nutrition. This has been shown in almost all attitude statements. However, the attitudes towards home activities being seen as sufficient exercise and towards reducing sugars in diet did not improve significantly. This might be explained by the nature of the rural community in which sporting and exercising is not thought of given the type of work done at home and or in the filed. As for the reduction of sugar, the use of large quantity of sugar in tea is a common practice that is deeply rooted, and is rather difficult to change. Similar post-intervention improvements in the nutritional attitudes such as the avoidance of fat and readiness to increase fiber intake were reported by Taylor-Davis et al., in a study in the United States (US) [9].

Regarding practice the current study found a positive effect of the implementation of the health education nutritional program on the self-reported intake for most categories of food items such as the intake of vegetables, fruits, and dairy products. However, the intake of other items as cereals, potatoes, and fluids decreased.

The present study demonstrated a significant decrease in the daily consumption of cereals after the intervention program. This might be explained by the attempts to avoid weight gain, considering cereals mainly as sugars although the program stressed the importance of cereal fiber consumption late in life as it is associated with lower risk of incidence of cardiovascular diseases, in addition to their benefits for avoidance of constipation, and positive effect on plasma LDL-cholesterol and
glucose [in Unfortunately, the implementation of the present study intervention did not lead to significant increase in the daily intake of animal proteins. This could be linked to dental health and mastication problems arising due to missing teeth, denture wearing and decreased biting forces. It could also be attributed to the high cost of this type of food. The finding is in agreement with Shin-Jivan jii who found that the elderly Taiwanese consumed less poultry and meat than their younger counterparts.

Nevertheless, our study intervention led to improvement in the consumption of dietary fruits and vegetables although they still need more improvement. The findings are in congruence with previous studies that demonstrated the effectiveness of dietary interventions in increasing the intake of these food items [12-14]. Meanwhile, the program developed by Park et al. [18] indicated that stage-tailored nutrition education produced positive shift in several indicators and mediators of vegetables but not for fruits intake, which is near to our findings where the improvement was more marked in the vegetables compared to fruits. The improvement in the mean daily dairy products consumption at the post-intervention phase is in congruence with previous studies [16,17] which reported increases in the intake of calcium, vitamin D, and a number of other nutrients in the intervention group between the baseline and the end of the intervention. Thus, the dairy products may be the easiest to change given the availability, cost, and readiness to consume with no preparation, as compared with proteins. Hence, while there were gains in knowledge and changes in attitudes, not all of these resulted in corresponding improvements in behavior as knowledge and attitude can be changed faster than behavior, and also behavior need resources so that it could be improved.

Conclusion and recommendations: The counseling intervention was effective in improving their knowledge and changing their attitudes to be more positive, which led to improvements in elderly dietary practices. The study recommends more efforts in the provision of nutritional counseling to the elderly through similar interventions, with more community service programs. The family medicine department should organize of training courses for family physicians in comprehensive geriatric assessment and management, with shared training courses for nurses and family physicians to improve their knowledge and skills in the provision of nutritional counseling, and establish a specialized clinic in the Family Practice Centers to provide all-inclusive Care for the Elderly.

Limitations of the study: The reliability of depending on self-reported dietary intake is questionable in the study population due to factors such as low literacy and education levels, low socioeconomic status, and age-related declines in sensory functions. Further adaptations remain necessary in order to facilitate the most effective teaching and learning methods for this population. Measurable behavior change may have been limited because of the short span of weeks in which the intervention took place. The health status and motivational levels of participants were not assessed.

References
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