S.N.A.K.S. II.

2001

Peer-led education and nutrition knowledge levels in the Irish post-primary school setting.

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Executive Summary:

Introduction:

The dietary habits of adolescents have been a cause for concern for quite a number of years. Large-scale studies into adolescent eating habits have been carried out (Friel, 1999), but to date little work has focused on nutrition knowledge in this age group or the use of peer-led education to improve nutrition knowledge. The School Nutrition Action and Knowledge Survey (SNAKS) II initiative sought to look at his issue

School Nutrition Action and Knowledge Survey (SNAKS) was an initiative which was commenced in 2000, by the Midland Health Board (MHB), Ireland, through the Midland Schools Health Project and the Community Nutrition Service (CNS) with Bord Bia, Irish Food Board and post-primary schools.

It was initiated as a response to feedback from the Midland Schools' Health Project, which determined, through post-primary school contact, that there was an urgent need for nutritional intervention in this setting, with teachers expressing concern regarding the nutritional status and habits of their pupils.

Aim:

To raise the awareness of healthy food through peer-led education and to determine the level of nutritional knowledge amongst first year students in the post primary school setting.

Objectives:

- To harness peer-led education, with a view to raising nutrition knowledge.
- To assess nutritional knowledge levels of first year students.
- To challenge schools to encourage nutrition and healthy eating promotion in the post-primary setting.

Methods:

- Anonymous simple self-completion questionnaire development and pilot.
- Induction and negotiation with teachers on project hypothesis; relay of concept to transition year (TY) students by teachers.
- Survey of first year students by TY students, followed by their collation of results found, and the identification of areas where nutritional knowledge was lacking.

- Creation of innovative mechanisms to promote nutritional knowledge by TY students.
- Submission of survey results by each school to the Community Dietetic Department; Results were collated and analysed using SPSS (version 9).
- Display of all student projects at the Launch of National Healthy Eating Week 2001.

Results:

Innovative projects:

Transition year students created many varied innovative projects to promote nutrition messages.

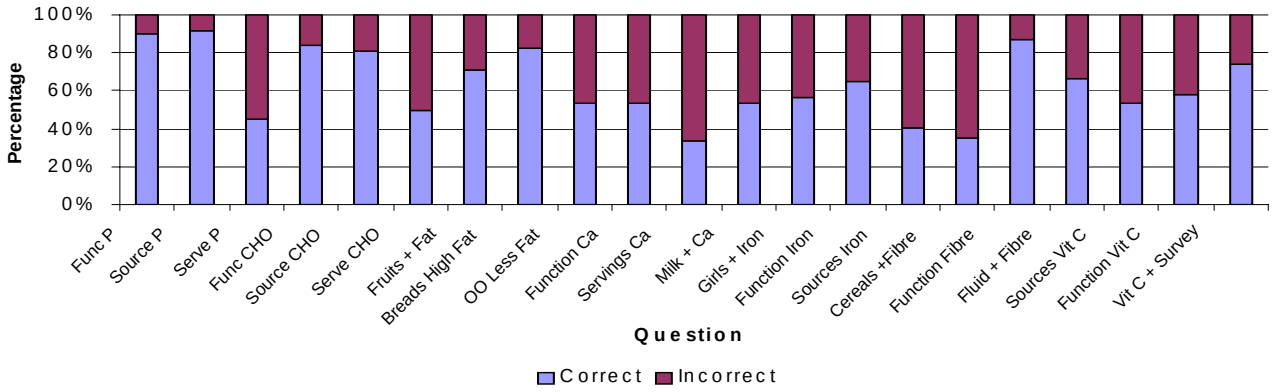
Table 1 Interventions by transition year students

▪ Website creation	▪ Tuckshop interventions
▪ Advertisement campaigns	▪ Video production
▪ Health days & health weeks	▪ Poster competitions
▪ Quizzes	▪ Guest speakers

Nutrition knowledge:

- From a population of 355, a 20% systematic sample (71) was taken.
- Out of 6 schools who commenced project, only 3 schools finished, this was attributed to time lost due to schools' industrial action and the outbreak of foot and mouth disease.
- Students were asked simple questions regarding basic nutrition; nutrition knowledge of recommended portions for protein, carbohydrate, iron and calcium seemed poor, and there seemed to be a lack of knowledge about iron sources and function; fibre sources, and difference between fat levels in foods.

- **Table 2 Profile of Responses for total sample**



X axis = questions asked on anonymous self-completion questionnaire

Y axis = Percentage number of students

P = protein	**CHO**	**= carbohydrate**	**Vit C**	**= vitamin C**
F = function	**OO**	**= olive oil**		
S = Serving	**Ca**	**= calcium**		

Conclusions:

The implementation of awareness raising projects by transition year students created much interest and action with regard to healthy food in the school setting, and on evaluation teachers, transition years and first year students found the project to be useful, and felt it should be continued in future years.

Nutrition knowledge results seem to indicate a lack of basic nutrition knowledge amongst first-year post-primary school students, particularly in relation to recommended intakes. Further work in this area would be useful, especially in terms of the resources that are being used to teach young people basic nutrition messages.

Introduction

School Nutrition Action and Knowledge Survey (SNAKS) was an initiative which was commenced in 2000, by the Midland Health Board (MHB), Ireland, through the Midland Schools Health Project and the Community Nutrition Service (CNS) with Bord Bia, Irish Food Board and post-primary schools.

It was initiated as a response to feedback from the Midland Schools' Health Project, which determined, through post-primary school contact, that there was an urgent need for nutritional intervention in this setting, with teachers expressing concern regarding the nutritional status and habits of their pupils.

In the academic year 1999-2000 the SNAKS project was carried out in ten Midland Post-primary schools. Transition year students carried out research into foods eaten, weight related issues, and smoking levels in their schools and they then carried out peer led education in order to promote healthy eating and positive behaviour change. Results obtained were favourable.

SNAKS II sought to follow on with the peer-led education concept but to focus the transition year students' attention purely on first year students, the reason being that on evaluation of the previous year's project, both students and teachers had felt that this would be more appropriate.

Methodology

Questionnaire development

To investigate nutrition knowledge levels of first year students a simple self-completion questionnaire was developed and revised. The questionnaire was developed in association with a research officer in the department of Public Health, midland Health Board. The questionnaire was piloted on a group of 25 first year students, and necessary adjustments made.

Teacher and student induction

Schools were invited to participate in the project and all teachers who agreed to take part attended an induction day in Laois Education Centre. Teachers were introduced to the project outline and asked to give their comments and suggestions on the format in general and the questionnaire specifically. All comments and suggestions were discussed and changes to project format and questionnaire content were made accordingly.
Teachers relayed project outline to transition year students on return to their schools.

Students' role

Transition year students in each school undertook a survey of their first year class using the questionnaire provided. Results of the surveys were then collated and students identified areas where nutritional knowledge was lacking. Students then created methods to tackle lack of nutrition knowledge by innovative promotion methods. Each school and class group was visited by a Community Dietitian to assess progress and offer support if needed.

Collation of results

All schools submitted survey results together with a written report of the project work they had carried out. All results were collated and analysed using SPSS (version 9), in association with a Research Officer from the Department of Clinical Audit.

Presentation day

The schools who participated and finished their projects were invited to present their projects at the Launch of National Healthy Eating Week 2001, at Belvedere House. The method chosen by students to present their projects was at their own discretion, with video, Internet projection and interactive verbal displays being used.

Results

Innovative projects

Transition year students created many interesting and varied projects to promote healthy eating and nutrition knowledge amongst first years.

Table 3 gives us an indication of the type of projects that were carried out in the schools by the transition year students.

Table 3 Interventions by transition year students

▪ Website creation	▪ Tuckshop interventions
▪ Advertisement campaigns	▪ Video production
▪ Health days & health weeks	▪ Poster competitions
▪ Quizzes	▪ Guest speakers
▪ Dental service audit	▪ Blind tasting sessions

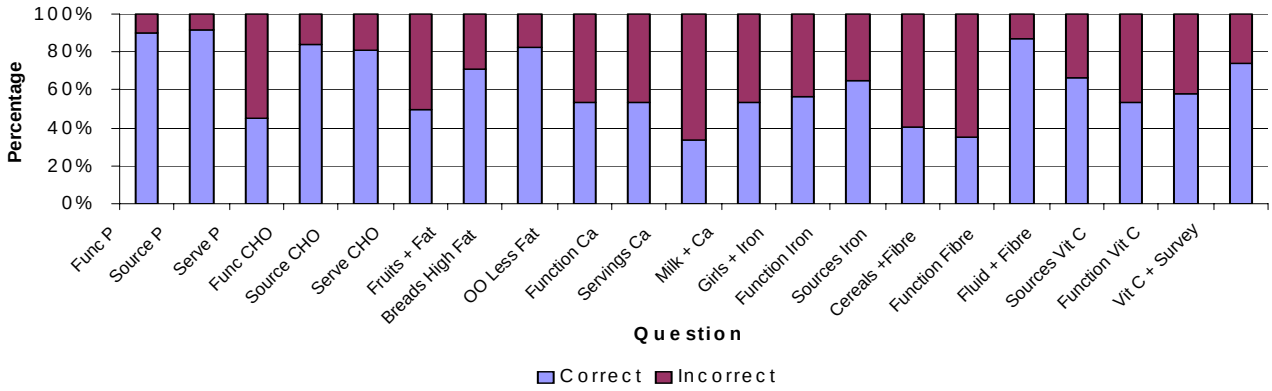
Each school identified certain knowledge that was lacking amongst their first year group and initiated activities to promote nutrition knowledge and healthy eating behaviour.

Nutritional knowledge

Although 6 schools commenced the project, only 3 schools completed it. The inability to finish was attributed to time lost due to schools' industrial action and the outbreak of foot and mouth disease. Therefore from a population of 355 first year students, a 20% systematic sample (71) was taken to analyse the results.

On the questionnaire students were asked simple questions regarding basic nutrition Table 4 gives an outline of the responses made by students.

Table 4 Profile of Responses for total sample



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Nutrition knowledge of recommended portions for protein, carbohydrate, iron and calcium seemed poor, and there seemed to be a lack of knowledge about iron sources and function; fibre sources, and difference between fat levels in foods.

Evaluation comments

Transition year students were asked to comment via a self-completion questionnaire, on what they had learned from the SNAKS project. Table 21 outlines some of the comments made by students, the full list can be seen in appendix I.

Table 5 Comments made by Transition year students when asked by questionnaire what they had learned from partaking in SNAKS 2001

I have learned how important it is to have a balanced diet, and I have also made changes in my own diet as a result of taking part in this project
I learned that organisational skills and research are very important in the project. I learned you have to lead young students, in that, games helped in teaching them
I learned that there is a lot more nutrition in some things that I didn't know about, I also learned that it is hard to teach nutrition to young people.
I learned how to be efficient; I learned more about nutrition myself; I learned to control difficult situations
As well as learning about nutritional information myself such as calcium, vitamins and how to cook healthy foods, I also learned how to organise an event and carry out the different jobs as well
I feel I learned more about nutrition because I learned what types of food I should be eating and how important calcium is to keep us healthy. I also learned nutrition was important for all teenagers

Discussion

Questions asked and responses given

If one is to look at the statements that were asked, in more detail, one can see that there was disparity between knowledge of nutrients.

Protein:

Whilst students seemed to have good knowledge with regard to protein function and source, knowledge seemed to be lacking regarding recommended portions per day.

Carbohydrate:

As with protein, students seemed to have a good knowledge of carbohydrate function and source but were less likely to get the recommended daily portion sizes correct.

Fat

Whilst the majority of students seemed to know that bread, cereals, potatoes and fruit were low fat foods, it can be seen that most students were confused as to fat levels in butter versus olive oil and margarines.

Calcium

Most students seemed to be aware of the function and source of calcium, however, when it came to the amount of calcium that teenagers need everyday, the majority did not seem to know the answer.

Iron

When it came to the function of iron and who needs the most, the majority of students seemed to have a good knowledge. However, students did not seem to be aware of the best source of absorbable iron, with the majority thinking that this was spinach.

Fibre

The majority of students did not realise that not all breakfast cereals give fibre. However, a majority did seem to have good knowledge about fibre function and the need for adequate fluid.

Vitamin C

Students seemed to have a good knowledge of vitamin C function, however less students seemed to know the best source of vitamin C.

Questionnaire validity

The questionnaire that was used in the SNAKS II project was a simple one that had been piloted on first year school children, however it lacked basic questions such as age, and sex. It also lacked a 'don't know/unsure' box to tick, so it could be said that students who were unsure answered at random.

When developing a questionnaire such as this, one must consider at all times the wishes and requests of those who shall be using them, i.e. teachers and students; in this instance the questionnaire that was developed was a simple true/false sheet as this was felt to be the easiest for first-year students to answer.

Student workload

Students participated well in the project and comments on what they learned seemed favourable. Teachers felt that the workload was less than in SNAKS 2000, but that it would be important to commence the project in September as students were less busy at this time of year.

Innovative Projects

The work carried out by students was creative and exciting; from an interactive website aimed at primary school children to the blind tasting sessions of low fat versus full fat cheese and yoghurt and full sugar versus no sugar soft drinks.

Students learned many skills from the project on top of the obvious nutrition facts. TY students learned organisation and research skills, marketing, business and interpersonal skills to name but a few.

Conclusions and recommendations:

The implementation of awareness raising projects by transition year students created much interest and action with regard to healthy food in the school setting, and on evaluation teachers, and transition year students found the project to be useful, and felt it should be continued in future years.

Nutrition knowledge results seem to indicate a lack of basic nutrition knowledge amongst first-year post-primary school students, particularly in relation to recommended intakes. With this in mind one must consider how and where young people are getting their nutrition messages, and work must be done in the primary school setting to ensure that children are attaining a good level of nutrition knowledge on which they can base their nutrition choices.

Concentrating on first year students in the post-primary school setting seemed ideal as it ensured that workload on students and teachers was minimised. Although first year students were targeted all school students would have come across messages.

In the future, work in the post-primary school setting must commence in September of the academic year, and should be planned in association with teachers, students and a research officer.

Acknowledgements:

The Midland Health Board would like to acknowledge and gratefully thank the Bord Bia, Irish Food Board for their support and association with the SNAKS project, and the hard work and enthusiasm of all students and schools involved in the project.

References:

Friel, S., Nic Gabhainn, S., & Kelleher, C. (1999) The National Health & Lifestyle Surveys. Regional results from SLÁN (Survey of Lifestyle, Attitudes and Nutrition) and HBSC (Health Behaviour in School-aged Children). Dublin/Galway.

Midland Health Board (2001) School Nutrition Action and Knowledge Survey 2000

Appendix I

Comments of transition year students when asked what they felt they had learned from SNAKS project

how to analyse the surveys and the importance of healthy eating in teenagers
I learned that organisational skills and research are very important in the project. I learned you have to lead young students in that the games helped in teaching them
I learned how to motivate younger students. Also I learned how to communicate with them as a leader
the importance of a healthy nutritious diet, compiled of fruit, veg, dairy products
I learned to be more organised and I also learned to be responsible
I learned that it is important to know about healthy eating and it should be taught to everybody at secondary school
more about nutrition; how to organise a healthy eating day - organisational skills
more about healthy eating; more about how to eat healthy; more about how to cook healthy food
it isn't easy to teach nutrition knowledge to first years, you need patience and you've to be organised
I have learned more about healthy nutrition and that its important to have a balanced diet
I learned how to be efficient; I learned more about nutrition myself; I learned to control difficult situations
I learned all about the Bord Bia website, and I learned how disgusting some diseases can make you look
I learned that it is very important for our lives and bodies in the future

I learned that there is a lot more nutrition in some things that I didn't know about, I also learned that it is hard to teach nutrition to young people.
As well as learning about nutritional information myself such as calcium, vitamins and how to cook healthy foods, I also learned how to organise an event and carry out the different jobs as well
I feel I learned more about nutrition because I learned what types of food I should be eating and how important calcium is to keep us healthy. I also learned nutrition was important for all teenagers
Yes I learned how important nutrition was to the secondary school student. I also learned how important team work is.
How important it is to lead a healthy life, not just with eating habits but exercise and everything that comes with a healthy life style.
Yes, we learned how to run and organise an event. We learned how important it is to teach students and what it involves
I learned that a lot of children prefer junk food to healthy food
Learned that nutrition is a very important factor in our everyday lives. A lot of students don't eat healthily
Lack of nutrition in young people. Important to start early when teaching young people about nutrition
how to set up a website
People do have some knowledge, but healthy eating isn't really carried out. Work as a team
that not many first years have a good knowledge of nutrition
I learned that there is a lack of knowledge among first years in the school about nutrition
I learned that children of every age should be told about nutrition
The importance of nutrition. How unhealthy some people's lunches are. How to

eat healthily
many people are aware of the importance of nutrition but find it hard to put it into practice
that nutrition is very important, and that if we need to provide it, then we will have to do it cleverly, e.g. setting up a website
We learned that all the foods you eat effect your body. How important it is to eat healthy
I learned that not a lot of people understood about nutrition. I also learned somethings I didn't know about nutrition
How to approach the younger students about their eating habits. We revised all the sections we had learned about nutrition for Junior Cert. I learned that it is hard to make people aware of healthy eating, but the subject was highlighted, people took notice.
I learned that people don't eat enough healthy foods and they don't know what foods they need to eat to stay healthy
that you should eat healthily
I have learned the importance of eating good healthy foods to help you lead a long healthy active life
how important nutrition is to you, to keep you healthy and fit and to get through the day
I learned that diet food and full fat foods taste the same
that not everybody knows what to eat when they are on a good diet
I have learned that chips that are crinkle cut contain more fat than normal chips because they have more surface area
The advantages of eating healthily and how it can help you grow stronger and prevent diseases. I learned people should show more interest in what they eat
from doing the surveys I learned that a majority of the young girls and boys,

especially girls, were not taking in as much calcium
I have learned how important it is to have a balanced diet, and I have also made changes in my own diet as a result of taking part in this project
that people don't include enough protein, calcium, nutrition and iron (especially girls) in their diet
I learned just how important it is to keep your diet healthy and that the majority of us don't. Instead of eating fruit, we'd eat junk food
I wasn't a healthy eater before this project but now I eat more healthier foods without thinking about it

Appendix II

Schools that participated in SNAKS II:

- Sacred Heart School, Tullamore, Co.Offaly.
- Scoil Chriost Ri, Portlaoise, Co.Laois.
- Mercy Secondary School, Kilbeggan, Co.Westmeath.
- Brigidine Convent, Mountrath, Co.Laois.
- Athlone Community College, Retreat Road, Athlone, Co.Westmeath.
- Loreto Convent Secondary School, Mullingar, Co.Westmeath.