The Global Fruit & Veg Newsletter

n° 23

July/August 2017

Social approaches to promote F&V consumption

There is a current consensus in the world today on the protective effect of fruit and vegetables consumption on most of the diseases that affect us, especially cardiovascular disease, cancer, obesity and diabetes. In spite of this knowledge, consumption remains low.

To address this situation, new strategies are required to encourage fruit and vegetables consumption since ¨knowledge¨ itself is not enough for a change in habit.

It has been proven that the best way to change habits is through activities and participatory approaches. That is the reason why the articles presented in this issue are so interesting, such as the one on chef Jamie Oliver's campaign with its Britain's Ministry of Food in which teaching to cook healthy foods proves to be effective as people who learn to cook healthy and inexpensive products manage to change their habits, increase consumption of fruit and vegetables and decrease consumption of processed foods.

Another interesting initiative is the one carried out by the University of Wisconsin with the prescription of fruit and vegetables consumption by health providers, along with the delivery of 10 dollars to buy from local producers, so that they get to know the local fruit and vegetable markets.

Finally, the evaluation of activities to promote the consumption of fruit and vegetables in eight member countries of the Global ¨5 a day¨ Alliance is a demonstration of the joint effort of more than 40 countries worldwide to promote a healthy diet, contribute to the local production of fruit and vegetables, but especially, to increase consumption as a way to prevent the major diseases that compromise humanity to date. To do this, strategies such as those mentioned in these articles, based on participatory, dynamic and innovative activities with the participation of families and community, are fundamental for a better health and quality of life.

Dr. Fernando Vio del Rio
President Corporación 5 a day Chile

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Acknowledgement to 250 contributors since 2006

December 2015 : MJ. Amiot, MN. Shashirekha; Ana F. Vinha and coll. K. Srinivasan; (Bioactive components in F&V)

January 2016: M. Caroli, JP. Redden; E. Van Kleef ; J. Cohen (Food options to increase vegetables consumption)

February 2016: DA. Greenaway. A. Reat. G. Machell. M. Pia Chaparro (Special WIC)

March 2016: A. Scalbert. R. Zamora-Ros. M. Rabassa, C. Andres-Lacueva. E. Combet (Polyphénols)

April 2016 : P. Scarborough; O. Mytton; C. Ni Mhurchu; A. Briggs (Food Taxes & Subsidies)

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Community based cooking courses have positive effects on fruit and vegetable intake and cooking confidence

Lessons from Jamie Oliver's Ministry of Food

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Although government policies often focus primarily on increasing consumer knowledge about healthy eating to improve national diets, individuals are likely to require practical skills to utilise this knowledge. Culinary nutrition is a new approach which combines aspects of nutritional principles with cooking and culinary knowledge in the form of 'hands on' cooking interventions often based in the community[1]. Lack of cooking skills have been associated with poor diet, and increased consumption of highly processed and energy dense convenience food of reduced nutritional quality[2,3]. Furthermore, households of lower-income often have poor diets and are at greater risks of diet-related diseases[4,5], and are least likely to be confident at cooking[6].

Jamie Oliver's Ministry of Food (MoF) campaign aims to reduce diet-related inequalities by teaching individuals how to prepare quick, healthy and low cost home cooked family meals, using fresh ingredients. The impact of the MoF cooking course has been evaluated in the UK in relation to changes in fruit and vegetable (F&V) and snack intake and confidence in cooking, in individuals who attended the Leeds Kirkgate Market centre from 2010 to 2014 (figure 1). In this pre-post intervention study, quantitative outcomes were measured prior to and immediately after the course, and at a six month follow-up. Self-administered questionnaires were used to record the number of portions of F&V consumed per day, number of snacks consumed per day, and participants' cooking confidence levels (highest score of 5). 795 adults (43% male) were evaluated before and immediately after the course out of 1210 who attended (a response rate of 66%); 462 completed questionnaires at all three time points (a follow-up response rate of 58%). More than double the national average level of deprived individuals were recruited. In addition 40 participants participated in structured telephone interviews providing details of their experiences of the course.

Figure 1: Ministry of Food course in Leeds Kirkgate Market, UK
Courses provided by 'Zest Health for Life'

Significant increases in mean daily F&V consumption and cooking confidence levels

There were significant increases in mean daily F&V consumption and cooking confidence levels and a significant decrease in the frequency of snacks consumed immediately after the course (for those completing questionnaires at a) two time points, N=795 and b) at three time points, N=462). Furthermore, six months after the course self-reported F&V intake had significantly increased from the start of the course by 1.5 (95%CI 1.3, 1.6, p<0.001) portions per day, the number of snacks reported significantly decreased over the same period by -0.9 (95%CI: -1.0, -0.8, p<0.001) snacks per day, and cooking confidence increased over the same period by a score of 1.7 (95%CI 1.6, 1.9, p<0.001) out of five (figure 2).

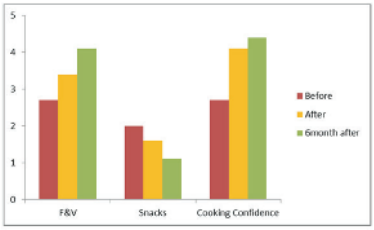

Figure 2: Changes in F&V intake, snack intake and cooking confidence before, immediately after and 6 months after the Leeds Ministry of Food cooking intervention (N=462)

Multivariate regression analyses showed that age and disability, but not deprivation or ethnicity, were associated with changes in self-reported F&V intake and cooking confidence scores between the start of the course and six months afterwards. Younger adults (16-19) had significantly smaller increases in F&V intake of around half a portion compared to the 20–64 year olds (difference between groups –0·60 (95% CI –1·10, –0·10) portions/d, P=0·02) and those with physical impairments had a smaller change than those with no disabilities (–0·69 (95% CI –1·32, –0·07) portions/d, P=0·03). Smaller increases in cooking confidence were reported for younger adults than older, and for those with learning disabilities than those with no disabilities. Furthermore, males reported a greater increase in cooking confidence scores at six months after the course than females (0·29 (95% CI 0·04, 0·55) increase, p=0·03).

The results of the telephone interview supported quantitative findings. Respondents said the course had improved their knife skills, use of seasoning and aspects of food hygiene as well as other core cooking skills. They also reported an increase in awareness of shopping costs, budgeting and a greater awareness of healthy food access within Leeds market. Many participants said they visited the market more, having an increased awareness of the healthy food available to them there. For participants from deprived areas of Leeds the most valuable aspect of the course seemed to be learning new recipes and ways to cook from scratch using basic ingredients, with most participants from these areas learning healthier ways to cook which included using less oil and fat, while just under half-gained knowledge about the value of fresh ingredients. Participants also reported eating less frozen, processed and takeaway foods high in fat. A key benefit for participants of the course was socialising with others on the course - for example, some participants with disabilities or living in deprived areas reported a clear decrease in social isolation.

MoF community based cooking interventions can have significant positive effects on cooking confidence and food choice, specifically F&V and snack intakes

They may encourage short-term changes in dietary behaviour which can be maintained and improved over longer periods of time. They can also produce a wider range of social outcomes, including an increase in self-efficacy, personal control and general confidence in adults. Community-based cooking interventions may present an effective mechanism to facilitate positive dietary changes without widening socio-economic inequalities.

Based on: Hutchinson J., Watt J. F., Strachan E. K., & Cade J. E. Evaluation of the effectiveness of the Ministry of Food cooking programme on self-reported food consumption and confidence with cooking. Public Health Nutrition, 19 (18), 3417-3427 (2016)

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Fruit and Vegetable Prescription (FVRx) Program in Central Wisconsin

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Inadequate consumption of fruit and vegetables is particularly concerning in children because significant growth and bone development occur during this time. Moreover, for many Americans, the dietary habits they develop as children continue throughout adulthood. Interventions during childhood, therefore, especially those related to parenting practices, which are related to children's dietary behaviors, can be particularly effective at improving health over the course of the child's lifetime. Fruit and Vegetable Prescription (FVRx) programs are a relatively new intervention designed to increase children's consumption of fruit and vegetables by changing the home food environment; that is, by reducing barriers to parents buying and consuming more fruit and vegetables.

Since their introduction in 2010, FVRx programs have only targeted low-income neighborhoods, and many of these programs limit enrollment to families with diet-related chronic disease risk. However, because national data show that all socioeconomic groups would benefit from an intervention that increases fruit and vegetable consumption, community partners located within Central WI designed a FVRx pilot program that did not target a specific socioeconomic group. The goal of this pilot was to identify whether this design could positively impact fruit and vegetable purchasing and intake among families with children, regardless of their socioeconomic or health statuses.

In 2015, two Central WI communities implemented and evaluated a social media enhanced, low-subsidy fruit and vegetable prescription (FVRx) program to influence fruit and vegetable (F&V) purchasing and consumption of families regardless of socioeconomic status. Because families from all socioeconomic groups do not meet F&V recommendations, our program did not specifically target low-income families. In partnership with community organizations and local healthcare providers, pediatricians provided families Rx's with F&V recommendations, a $10 voucher for produce at their local farmers' market along with access to online support materials designed using the social cognitive theory to reduce barriers to F&V consumption. The program ran 16 weeks during the farmers' market season.

Summary of program findings:

- Participation:
  - 36% of families (n=353) brought their FVRx from their pediatrician to the farmers' market and received tokens to spend on produce at the market.
  - this resulted in $1,215 spend on local produce from participating farmers' markets.
  - 10% of participating families had never attended a farmers' market prior to this program.
  - 40% of participants reported engaging in the online educational material.
- Evaluation:
  - For children of parents that participated in this program, reported fruit and vegetable (F&V) consumption increased by 18% and 28% respectively.
  - Parents reported increased confidence that they could handle their child's emotional response to dietary changes.
  - Parents reported that their child's preference for vegetables increased over the course of the 16-week program.
  - Parents who did not redeem their FVRx's were also less likely to agree that cost was a barrier to their F&V consumption.
  - The highest reported barriers to F&V consumption for participants were:
    - "my child [does not] choose vegetables when eating out" (with 31% agreeing to this statement) and
    - "my child [does not] like to try different fruit and vegetables" (24% agreed to this)
  - 49% of participants disagreed with a statement that cost was a barrier to their F&V consumption.

Parental behaviors surrounding F&V purchasing did not change significantly in survey respondents, however, there was significant pre- to post-program improvement in children's F&V consumption reported by parents. Rx redemption rates were low compared to other programs, this was likely due to logistical factors such as limited market days and distance between family's residence and market locations. Only two markets participated in this pilot program. Most (90%) of Rx's were redeemed by families already familiar with farmer's markets.

The evaluation component of this program revealed some limitations of using the same standard FVRx program design for families of different socioeconomic statuses. The model for FVRx programs would benefit from further research on effective design components specific to the resources within the community offering the program. The implementation of this program, however, was significant in the development of relationships between community organizations and healthcare systems.

Follow up:

Going into year three of this program, the design has been modified to reach "low risk" and "high risk" families differently. The high risk term used by the program is associated with food insecurity and health related complications, these families now receive a higher value voucher and more one on one support. Funding for this program primarily comes from partnering hospitals but would not function without the in-kind donations from partnering community organizations.

The two original communities that piloted this program together now use different designs due to the varying needs and resources of each despite their geographic proximity. For example, one community has a higher poverty rate so they focus solely on high risk families. One community has expanded partnerships to indoor markets that sell local produce throughout the week since the main farmers market is only open once per week. These changes have increased both program participation and support from the community.

Based on: Chrisinger, A. and Wetter, A. Fruit and Vegetable Prescription Program: Design and Evaluation of a Program for Families of Varying Socioeconomic Status. Journal of Nutrition Education and Behavior Volume 48, Number 7S, 2016

Activities promoting fruit and vegetables consumption in eight AIAM5's country members

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1. Association for the promotion of fruits and vegetables consumption "5 a day" - Spain; 2. "5 a day" Foundation. Venezuela. 3. "5 a day" Corporation. Chile; 4. Field, Education and Health A.C. Foundation. "5 per day" Mexico; 5. "5 a day" Colombia - Colombia International Corporation; 6. "5 a day" Network. Ministry of Health. Costa Rica.; 7. "5 a day" Nicaragua; 8. "5 a day" Bolivia.

What we did?

AIAM5 - *Global Alliance for the Promotion of Fruit and Vegetable Consumption "5 a day"* - brings together 28 national organizations from 27 countries that, under the motto "more fruits and vegetables, the best option for your health", collaborate so global and national health promotion policies, include the daily fruit and vegetables consumption as a priority for the prevention and control of nutrition related diseases. Given that promotion of fruit and vegetable (F&V) consumption is the main goal of AIAM5 partners, it was proposed to collect their promotional activities to identify good practices in strategies, programs and activities to promote F&V consumption.

How did we do it?

A questionnaire for a systematically data collection was developed in order to categorize and identify strengths, weaknesses, opportunities, cost-effectiveness and feasibility, as well as the practices with the greatest potential adaptability to national health promotion policies in every country. Questionnaires from Mexico, Chile, Costa Rica, Venezuela, Colombia, Bolivia, Nicaragua and Spain, were assessed.

What results did we get?

Although the diversity of partners legal nature was highlighted, all of them did share the support of F&V professional sector, health, education and agriculture government departments and scientific societies, as well as consumer groups. Differences were observed between campaigns, as a consequence of the different national environments and partner profiles. The actions were framed in social marketing programs for health promotion and were classified into four major groups:

a. Communication, information and/or dissemination of the benefits of F&V consumption in different settings: fairs, sports events, markets, outlets, congresses, scientific and technical conferences, etc. The tools were diverse, although social networks and digital and traditional media, were predominant.

b. Research, scientific projects and positions, which helped entities and their partners to solve problems regarding messages understanding, allowed publication of scientific bulletins, consumption barriers identification surveys, good agricultural practices, etc.

c. Formal and informal education and/or training, through educational programs, lectures, workshops, etc., addressed to consumers, especially children and their families, either at school or community settings.

d. Corporate Social Responsibility (CSR) for companies' competitive differentiation and improvement of their reputation, through preventing nutrition related diseases in their workforce or at community level.

What were the main conclusions?

In general, the activities carried out by the entities themselves, their partners and other collaborating entities that receive services during the campaigns were based on principles that have already shown a relevant impact on health promotion programs in the community scope. However, there were very few actions taken to evaluate changes in consumer awareness or attitudes toward changes in fruit and vegetable consumption, probably due to the limited financial and human resources, as well as to the limited and irregular supports by national governments.

What could be the keys to improve F&V promotional practices?

- Making every effort to run impact assessment measures by establishing performance indicators to evaluate the extent of the programs and their influence on F&V consumption patterns.
- Collecting systematically the added value achieved and/or perceived by the collaborating companies, those who use the campaign logo or receive services from the entity in the framework of CSR actions.
- Studying the payment of annual fees by the partners that form the "5 a day" type entities, to ensure the continuity of actions.
- Ratting the niche of opportunities offered by companies' CSR to obtain resources and contribute to the dissemination and campaigns impact contributing to a healthier workforce, improving the food environments and the accessibility to fruit and vegetables at the community level.
- Adapting the visual materials already made by some AIAM5 partners as resources for social networks, promoting being active in these platforms because of their potential impact on the community.
- Keeping working to bring together the greatest possible support in the public and private sectors, civil society and entities such as "5 a day" organizations to facilitate coherence between national agricultural and health policies with the promotion of fruit and vegetable consumption.

Adapted from M.Moñino, E.Rodríguez, M.S.Tapia et al. "Evaluation of activities promoting fruits and vegetables consumption in 8 countries members of the Global Alliance for Promoting Fruit and Vegetable Consumption "5 a day" – AIAM5. Rev Esp Nutr Hum Diet. 2016; 20(4): 281-297