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Women and Health Promotion: Implications for Obesity Prevention in the Family and Beyond

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Women and Health Promotion: Implications for Obesity Prevention in the Family and Beyond.

Giuseppina Cersosimo

Abstract: The paper analyses the increase in childhood obesity not only for biological causes as well as for factors inextricably bound up with a range of social and cultural elements, such as dietary habits, social and local backgrounds, family and gender customs. The work presents the results of a qualitative research. The research shows how can contribute to obesity prevention by identifying ways to pay greater attention to health education and health promotion to address the phenomenon of obesity. Our core argument is that these approaches to increasing options for healthy eating and physical activity should be linked to strategies that account for, or directly address, the role of women in the transfer of knowledge, and education about correct behaviours and practices in the family and school context.

Keywords: health education, health literacy, pregnancy mothers, children's lifestyle, unhealthy and healthy behavior

Old concepts, new opportunities: health education and health promotion

The conditions of individual health have been pursued institutionally and individually. These factors often do not coincide due to the distance between general health practices, possibilities, or the institutional will to intervene as well as conditions of inequality in which an individual is forced to seek, find, and address his or her own health needs. The hypothesis on the relationship and dialogue between medicine and society is often left far away: on one hand we invest in the character of prevention, promotion and the pre-eminence of public health, on the other we emphasize “greater personal responsibility for health”, assuming that society modifies the economic and social institutions that generate incorrect health conditions and habits (Callahan, 2000, p.39). In other words, we often continue to discuss forms of health, while forgetting the substance of the context in which the relationship between the health conditions of individuals and health organizations is determined.

Public health - increasingly recognized in individual countries and internationally as a universal and indispensable right of individuals - is where we have arrived by way of the process of the institutionalization of medicine in various countries through general education and information, alongside the essential tools for its promotion, realization and perpetuation (Cersosimo, 2005). For this reason, the idea of “health education” and individuals’ actions in response to it, binds - at least on a general level - its strategic success, to social behaviors and their essential role in determining a specific state of health. This focuses our attention on the lifestyle of individuals and shifts the social determinants of health, cultural and economic factors, family background, the contradictory contents of daily life, behaviors and lifestyles which increase the rate of obesity in the population. This consideration is essential because several times in the last half century, scholars and experts in health and health education have underlined the importance of everyday lives and how political, economic and social factors determine their health. Moreover, health education is interested not only in individuals and their families but also in institutions and social conditions that prevent or facilitate the attainment of high levels of health (Donati, 1987; Ardigò, 2006).

Although the promotion of health has been theorized in various declarations from 1960 onward, it was codified only in 1986 by The Ottawa Charter for Health Promotion on WHO. WHO has recently felt the need to reiterate three pillars of health: good government, healthy cities and health literacy; this last is necessary for increasing knowledge and social skills to help individuals make the healthiest choices for their families and themselves (Who, 2016). In individualizing its approach, it became increasingly necessary to carefully evaluate the influences that physical and social environments exert on hu-

man health, with particular attention to analyzing life and work environments and the role played by lifestyle factors such as heredity, personal habits (food, sugary drinks, smoking, alcohol, physical activity), motivations, adaptation to the environment and literacy on health issues. In this scenario, the need to differentiate health education from health promotion was determined. Health Education now aims to change individual knowledge and behaviors that can influence the character of health and the conditions of disease, while trying to enhance the effectiveness of the modalities of prevention used by health-care professionals. Health Promotion tends to intervene through the positive modification of physical and social environments, to improve their conditions. Furthermore, Health Education tends to increase awareness of the roles that cultural, social, political and environmental factors play in determining an individual's health conditions. On the other hand, the "educational" process, even in its autonomy, cannot be confined, or limited to individual efforts (or to their modification). In fact, together with activities aimed at modifying individuals behavior, "organizational efforts, specific policies, economic supports, environmental activities, media intervention and community programs" were questioned on the community level (Glanz, Rimer & Lewis, 2002, p.9). An intervention to contain one of the most worrying phenomena in the world - obesity - and its health and social implications, must be based on a transformation and modification of the contexts and environments in which individuals live and / or the elements with which they interact including: home, urban reality, work, income, nutrition, related lifestyles etc., so that the principles of health education can find places, circumstances and conditions (in most cases already structured) in which to be implemented. In general, these conditions are not easy to find, since institutions do not invest in primary prevention. This is why some health education / information interventions struggle to materialize as primary prevention and reduce the contexts that compromise citizens' good health, in favor of individual behavior. To this end, the elements to keep in mind are first, the internal inequalities in the population, and the way in which they affect the health condition of individuals; second, the externalist and fatalistic conceptions which have determined a reduction in the concept of health in favor of a merely external vision of the body.

Motivation for the research¹

Obesity is defined as an excess of body fat mass which induces adverse effects on health. In fact it is a risk factor in illnesses such as heart disease,

¹ This paragraph is a further elaboration of considerations that began in 2014 by the researcher.

diabetes and cancer, which has become a worldwide epidemic and it is also associated with nutritional deficiencies (Sánchez et al., 2015).

Today the concept of *Globesity* is increasingly central to health promotion debates. *Globesity* is a term that describes the ways in which obesity affects a large percentage of the world population. Obesity is increasingly understood as a worldwide social problem that represents a global public health crisis. It should be recognized that ‘halting and reversing current trends is (...) a broader societal challenge that has become an explicit goal of sustainability strategies worldwide’ (Reisch et al. 2013, p. 409). This is also true for Italy, which is second only to Greece in the number of overweight and obese children aged 5-17 (Kumanyika 2018). Given the escalating concern over obesity-related diseases, the *EU Action Plan on Childhood Obesity* underlines that this ‘issue threatens to have a highly negative impact on health and quality of life, and may overwhelm our healthcare systems in the near future’ (European Union 2014, p.3). In this sense, it is important to promote healthy lifestyles and behaviours among children, and – as the EU Action Plan suggests – ‘to address risk factors for chronic disease in order to reduce premature death and disability at all ages, and to tackle health inequalities’ (European Union, 2014, p.7).

Primary prevention strategies that aim to promote healthy dietary behaviours during a child’s academic career are often ineffective. The family however can be a highly productive space for early health promotion, and for combating children’s reluctance to accept healthy foods such as fruit and vegetables that are high in fibre and low in calories (Kontopodis, 2015). Health promotion among adolescents also represents a priority in education and health in terms of present and future health care cost reductions. Health education in schools or youth centers has the potential to be effective since it involves those actors of the educational process who are able to seize and embrace the idea of health promotion. The World Health Organization (WHO), for example, argues that being overweight or obese is preventable, and that ‘supportive environments and communities are fundamental in shaping people’s choices, making the healthier choice (...) the easiest choice’. This choice should be ‘accessible, available and affordable’ (WHO, 2015).

Some have suggested that children and young people should be encouraged to think of health as a part of economic and social development, to which they can and should contribute (Latouche, 2006). In this view, health promotion along with primary, secondary, and tertiary preventions are neither effective nor efficient if they are considered only in terms of physical health. In a post global financy crisis environment, we risk a further deterioration of prevention by way of reduced funding and personal engagement. The failure of various prevention programs related to food education in primary and secondary schools, may be due to their partial or untimely

implementation. Often children have already developed unhealthy lifestyles and eating habits at home or within their peer group (Cersosimo & Merico, 2017a).

Given the epidemic trend, obesity, even before it manifests in medical problems, is a real social and economic scourge with a significant impact on the national health system. Obesity in Italy has an impact on health expenditures in terms of direct and indirect costs due to its metabolic, cardiovascular, and systemic complications as well as the damage it causes to organs. In addition there are a myriad of social and relational consequences in childhood such as low levels of self-confidence, social exclusion and depression that cost the Italian National Health System about 8.3 billion euros, or 6.7% of the entire health expenditure (Ministero della Salute, 2014b).

In addition to the threat of mortality and reduced quality of life, obesity and its complications lead to a considerable consumption of resources by healthcare providers: the hospitalization rates of overweight and obese adults are significantly higher than those of general population (Finkelstein, 2003; Han, 2009) and another serious problem is that therapeutic strategies to treat obesity are limited. Although effective, lifestyle intervention is disappointing regarding the degree of weight loss (Cersosimo et al., 2017 b).

Our first studies showed a higher incidence of news of obesity in preschool age children (Cunningham et al, 2014), and this is a time when parents have greater control over the daily life of their children compared to later childhood (Lee, Macvarish, & Bristow, 2010; Kuhl et al., 2013). This age group therefore can represent an optimal target for preventative interventions (Rich, 2010; Elliot et al., 2012). Nonetheless, our research also considered the meta-analyses of 124 childhood obesity prevention interventions that highlighted (Wang et al., 2013): the moderate / high effectiveness of the interventions implemented in schools in terms of preventing body weight gain and / or reducing the prevalence of overweight and obese body mass; the greater effectiveness of multi-compartmental interventions involving the family and the community beyond the school; the best results were achieved by long-term interventions (52-156 weeks); the need for further studies to be implemented in environments outside the school.

Another previous research study has clearly demonstrated that the factors that have influenced the increase in childhood obesity are inextricably bound to a range of social and cultural factors including gender, age, social stratification, local contexts and so on (Cersosimo, Santonicola & Iovino, 2017b). In other words, Italian health promotion programmes targeting childhood obesity have been largely unsuccessful for a number of reasons. In the first instance, all Italian regions have different programs for prevention as well as nutrition education. Furthermore, primary and secondary schools have autonomy in terms of how they develop and deliver health promotion

programs. Finally, there is a very limited knowledge of the different actors involved in these projects because it has been a limited process of monitoring and evaluating the projects undertaken. Overall, this means that in Italy – in schools, in particular – there are few models for fostering the participation of various social actors in the health promotion process (Cersosimo & Merico, 2017a).

Our research focused precisely on the need for further these studies in environments outside the school such as the potential key role played by women (Benedict et al., 2007), pregnant mothers and those who are already mothers, in the primary prevention of childhood obesity and the potential to reduce the incidence and prevalence of excess weight and related pathologies through the promotion of health, maintenance of well-being, normal body weight and a Mediterranean diet. In order to offset the high costs resulting from the mis-management of the subject of obesity, the importance and the need for interventions to promote the health of young women is undisputed (Best et al., 2013; Dumas et al., 2013). Several studies have shown how much the unhealthy behavior of mothers during pregnancy, such as smoking and a bad diet, can have a negative impact on the health of their children (Atwater et al., 1898; Bayol et al., 2010; Carter, 2010; Riedel et al., 2014; Koletzko et al., 2019). Therefore, we wanted to test how some lifestyles could be counteracted by “*preventive-education*” interventions over the course of a person’s life.

As well as, many researchs have analysed that although mothers and pregnant women were at times mentioned as a determinant of health (Lupton, 2011), gender was never identified and integrated as a factor critical to successful health promotion (Gelb, Pederson, & Greaves, 2012). This superficial attention to the role of gender in health promotion is problematic as it limits our capacity to understand how gender influences health, health contexts and health promotion, as well as our ability to integrate gender into future comprehensive health promotion strategies. Indeed, Public health research often focuses on gender differences within certain diagnoses, but so far research has failed to explain these differences in a satisfactory way (Hammarström & Hensing, 2018).

The aim of this research is to analyse how gender perspective can be used in promotion health in relation to improving the public health.

These studies addressed primarily women who are wives, mothers or teachers, making them a means for health promotion in family and school settings. The research began in June 2016 and ended in September 2019.

Research objectives

In this research, we argue for the adoption of a more comprehensive and holistic perspective to expand the discussion, connecting a social epidemio-

logical framework for obesity together with an analysis of transformations in the process of socialization - within programs for health promotion - for pregnant mothers, their children and their families.

Considering that the prevalence of obesity in the southern reality of Italy is constantly above the national average, and that the involvement of people of different genders and generations in most existing projects is insufficient or absent, and that the ineffectiveness of these preventions is probably attributable to their late implementation and the lack of action on the various risk factors involved, this work aims to show how pregnant women have - in the short and medium term - a greater impact on health and well-being for themselves and their children after following a prenatal course designed by health care professionals and aimed at: The promotion of a healthy diet during pregnancy, based on the knowledge and practice of the principles of the Mediterranean Diet (Morris, 2020); Increased consumption of fruit, vegetables and yogurt; Reduction of the consumption of obesogenic foods; Promotion of early physical activity and an active lifestyle; The implications and impacts that health education has on these women and on the healthy behaviors of their children, as well as in friendships and community relationships. In summary, the objectives of the research “Women Promote Health in the Family and at School” have tended to create favorable conditions for the development of *empowerment*², to direct and increase attention to the problems related to obesity and its consequent risks, increase physical activity and improve eating habits in subgroups of the population with which our interlocutors could get in touch, reduce morbidity in the long term for diseases related to obesity and the related socio-economic impact, support and promote policies and social networks oriented toward the facilitation of behavioral change and its consolidation over time.

Subject and Methods

This qualitative study, based on the direct content analysis approach, aimed to uncover the social process interactions among women and health educational stakeholders, the related influential factors, potential challenges associated with educational issues, and a complete theoretical description of health education - based on the experiences of the participants on the topic of the obesity and its reduction through health promotion initiatives.

² Recall that in 2007 this term was selected for health promotion and the Canadian Consortium for Health Promotion Research defined *empowerment* as a tool of great utility and effectiveness for improving health, to be considered as a public health goal. Health promotion programs are more successful if they are integrated into the daily life of the community and local traditions and conducted with members of the community itself.

The qualitative approach is based on analytical and explanatory methods in which emphasis is placed on deep understanding, complexity, details, and the context of the phenomena that the researcher actively engaged with to explain the research process (Coffey & Atkinson, 1996). Interviewing people in a direct content analysis framework, provides for deeper understanding and richer data collection based on the participants' experiences and perspectives. That is to say, "the advantage... is gaining direct information from study participants without imposing preconceived categories or theoretical perspectives....Knowledge generated from content analysis is based on participants' unique perspectives and grounded in the actual data" (Hsieh & Shannon, 2005, pp.1279-80).

The data were collected using semi-structured interviews, in-depth interviews from July 2016 to September 2019. The criteria for taking part in the study were: to be a woman in at least the fourth month of pregnancy; have an interest in the phenomenon of obesity and enjoy the interview process. The interviews were conducted in mutually agreed upon public and private spaces. Each interview lasted 40-60 minutes. At the beginning of each session, the objectives and ethical codes of the study, as well as privacy policies were described to the participants. All participants were allowed anonymity and the right to refuse a question or leave the session. With the participants' consent the interviews were recorded. Purposive sampling and maximum variation criteria were used, and there were initially 56 women in the study. They were contacted by the researcher after a visit to the health clinic³ for a gynecological appointment. Initially they had all given their willingness to participate in the research, however, during the first phase of the study, aimed at detecting the degree of knowledge of pregnant women on the theme of health and obesity for themselves and their offspring, 27 women decided to end the interview process for lack of interest in the research subject, lack of time or for other reasons. At this point, the number of participants was 29 women between the ages of 28 and 42 years old (see table No. 1).

³ The name of the clinic, among the best known in the Campania area, was not indicated, since the Health Director did not consider it useful or appropriate that the facility was mentioned for privacy reasons; for both the mothers, medical and health care employees, and because, while not hindering the presence of the researcher or the case study, he did not believe that what was being done affected the gynaecology division to any extent.

Table 1 - Research participant characteristics

| Participant | Age | Before Pregnancy | Previous Pregnancy | Educational Qualification | Occupation | Attended the course Yes-No |
|-------------|-----|------------------|--------------------|---------------------------|------------|----------------------------|
| No.1 | 31 | | Yes | Bachelor's degree | Unemployed | No |
| No.2 | 36 | | Yes | Academic degree | Employed | Yes |
| No. 3 | 40 | | Yes | High school degree | Employed | No |
| No. 4 | 34 | Yes | | Academic degree | Employed | Yes |
| No. 5 | 33 | | Yes | High school degree | Employed | Yes |
| No. 6 | 39 | | Yes | Academic degree | Employed | No |
| No. 7 | 38 | Yes | | Academic degree | Unemployed | Yes |
| No. 8 | 35 | | Yes | High school degree | Unemployed | No |
| No. 9 | 37 | | Yes | High school degree | Unemployed | No |
| No. 10 | 42 | | Yes | Academic degree | Employed | Yes |
| No. 11 | 41 | | Yes | High school degree | Employed | No |
| No. 12 | 31 | Yes | | High school degree | Unemployed | Yes |
| No. 13 | 37 | | Yes | High school degree | Employed | Yes |
| No. 14 | 28 | Yes | | High school degree | Unemployed | Yes |
| No. 15 | 31 | | Yes | Academic degree | Employed | No |
| No. 16 | 39 | | Yes | Academic degree | Employed | No |
| No. 17 | 38 | | Yes | Academic degree | Employed | Yes |
| No. 18 | 33 | | Yes | High school degree | Unemployed | No |
| No. 19 | 34 | Yes | | Academic degree | Employed | Yes |
| No. 20 | 37 | | Yes | High school degree | Unemployed | Yes |
| No. 21 | 40 | | Yes | Academic degree | Employed | Yes |
| No. 22 | 41 | | Yes | High school degree | Employed | No |
| No. 23 | 38 | | Yes | Academic degree | Employed | Yes |
| No. 24 | 28 | Yes | | High school degree | Unemployed | Yes |
| No. 25 | 31 | Yes | | Academic degree | Employed | No |
| No. 26 | 36 | | Yes | Academic degree | Employed | Yes |
| No. 27 | 39 | | Yes | Academic degree | Employed | Yes |
| No. 28 | 29 | Yes | | Academic degree | Unemployed | No |
| No. 29 | 40 | | Yes | High school degree | Employed | No |

This first phase led the researcher to form two groups, the researcher decided to interviewed two kinds of participants:

Research Participants that participated in a birth preparation course, from now on First Group, and Research participants that not participated in a birth preparation course – from now on Second Group

The First Group was composed of 16 women (see table no.2) who all participated in a birth preparation course, in which a large amount of time was aimed at nutritional considerations during pregnancy, breastfeeding and following stages of development. It was aimed at explaining how correct nutrition has a significant influence on the progress of pregnancy and on the correct growth and development of the unborn child.

Table 2 - Research Participants First Group

| Participant | Age | Before Pregnancy | Previous Pregnancy | Educational Qualification | Occupation | Partner or Spouse |
|-------------|-----|------------------|--------------------|---------------------------|------------|-------------------|
| No.1 | 36 | | Yes | Academic degree | Employed | Husband |
| No. 2 | 34 | Yes | | Academic degree | Employed | Sister |
| No. 3 | 33 | | Yes | High school degree | Employed | Female cousin |
| No. 4 | 38 | Yes | | Academic degree | Unemployed | Husband |
| No. 5 | 42 | | Yes | Academic degree | Employed | Friend |
| No. 6 | 31 | Yes | | High school degree | Unemployed | Husband |
| No. 7 | 37 | | Yes | High school degree | Employed | Mother |
| No. 8 | 28 | Yes | | High school degree | Unemployed | Husband |
| No. 9 | 38 | | Yes | Academic degree | Employed | Husband |
| No. 10 | 34 | Yes | | Academic degree | Employed | Husband |
| No. 11 | 37 | | Yes | High school degree | Unemployed | Husband |
| No. 12 | 40 | | Yes | Academic degree | Employed | Friend |
| No. 13 | 38 | | Yes | Academic degree | Employed | Husband |
| No. 14 | 28 | Yes | | High school degree | Unemployed | Friend |
| No. 15 | 36 | | Yes | Academic degree | Employed | Mother |
| No. 16 | 39 | | Yes | Academic degree | Employed | Husband |

Health education in the First Group was done through trained obstetrics during birthing classes. The researcher evaluated the training knowledge and attitude of 29 women in both groups on the topic of the research; afterwards the knowledge and attitude of the women were evaluated further in the first group.

The First Group was interviewed for the first time in the period of June - September 2016, and a second time after taking the course and having the baby between February - June 2017. The third interview took place two years after the birth of the child in the period from October 2018 - February 2019. The second group was composed of 13 women (see table no.3) was interviewed only twice: first from June - September 2016, and second from October 2018 - February 2019.

Table 3 - Research Participant Second Group

| Participant | Age | Before Pregnancy | Previous Pregnancy | Educational Qualification | Occupation | Attended the course |
|-------------|-----|------------------|--------------------|---------------------------|------------|---------------------|
| No.1 | 31 | | Yes | Bachelor's degree | Unemployed | No |
| No. 2 | 40 | | Yes | High school degree | Employed | No |
| No. 3 | 39 | | Yes | Academic degree | Employed | No |
| No. 4 | 35 | | Yes | High school degree | Unemployed | No |
| No. 5 | 37 | | Yes | High school degree | Unemployed | No |
| No. 6 | 41 | | Yes | High school degree | Employed | No |
| No. 7 | 31 | | Yes | Academic degree | Employed | No |
| No. 8 | 39 | | Yes | Academic degree | Employed | No |
| No. 9 | 33 | | Yes | High school degree | Unemployed | No |
| No. 10 | 41 | | Yes | High school degree | Employed | No |
| No. 11 | 31 | Yes | | Academic degree | Employed | No |
| No. 12 | 29 | Yes | | Academic degree | Unemployed | No |
| No. 13 | 40 | | Yes | High school degree | Employed | No |

The interview questions aimed first to determine if they (the interviewees) were in favor of following a health promotion course or not. Furthermore, in the first phase of the research, the women were asked if they already had children. Some of the guided questions used in the interviews were as follows: What is your perception of health for you and your future baby? What is your current knowledge of the theme of obesity? How do family members, friends, and society in general deal with obesity? What kind of problems do obese people have? Does obesity have consequences or create restrictions in children's lives? Under what conditions can obesity develop? What opportunities do we have to stop obesity? The second interview, which was carried out after the birth, between February and June 2017, aimed to verify the changes that occurred or did not occur after the women followed the course in relation to the type of nutrition provided and physical activity of their

children. The last interview (October 2018 - February 2019) verified the short and medium term effects of the course that the women of the intervention group followed. Some of the asked questions were: What is your opinion on health education? What are the strengths and weaknesses of health promotion? What do you think about health promotion?

At the end of each interview, the researcher asked the participants what was most necessary for them to develop an awareness that health education is important to reduce the rate of obesity.

Results

The results showed that the knowledge and attitude toward the dimensions of health education and health promotion in the First Group were significantly higher after the women followed the course. In addition, there was a significant difference between the knowledge and approach toward all the aspects of health education in both of the groups studied (see table no.4 and table no. 5)

Table 4 - Participants Research First Group and their knowledge about health promotion and obesity before and after birth and the course of classes

| Participant | Age | Before Pregnancy | Previous pregnancy | Educational Qualification | Occupation | Partner/ Spouse | Womens' knowledge about the topic of health promotion and obesity before the course | Womens' knowledge about the topic of health promotion and obesity after birth and the course Children's Children's snacks physical activity | |
|-------------|-----|------------------|--------------------|---------------------------|------------|------------------|--|--|--|
| No.1 | 36 | | Yes | Academic degree | Employed | Husband | I don't know much | Sometimes fruit some- times yogurt | I take them outside everyday |
| No. 2 | 34 | Yes | | Academic degree | Employed | Sister | Just chatter | Yogurt | He/she Plays with the cat |
| No. 3 | 33 | | Yes | High school degree | Employed | Female cousin | I am not sure the relation | Snack | We play all the time |
| No. 4 | 38 | Yes | | Academic degree | Unemployed | Husband | Obesity is genetic | Homemade snack of lemon cake and carrot | All day he rolls on the ground with his toys |
| No. 5 | 42 | | Yes | Academic degree | Employed | Friend | Obesity is only a dysfunction | Banana, peach and honey Yogurt | He gets play with brothers all day |
| No. 6 | 31 | Yes | | High school degree | Unemployed | Husband | Very important | Fruit and cake | He is a very restless child, other than with his motorbike |
| No. 7 | 37 | | Yes | High school degree | Employed | Mother | It is a great problem, I don't believe there is a solution with health promotion | Fruit juice Yogurt Homemade bread and marmalade | He/ she is an explorer |

| Participant | Age | Before Pregnancy | Previous pregnancy | Educational Qualification | Occupation | Partner/ Spouse | Womens' knowledge about the topic of health promotion and obesity before the course | Women' knowledge about the topic of health promotion and obesity after birth and the course Children's Children's snacks physical activity | |
|-------------|-----|------------------|--------------------|---------------------------|------------|-----------------|---|---|--|
| No. 8 | 28 | Yes | | High school degree | Unemployed | Husband | I understand the relationship between food and obesity | Yogurt | We are always moving |
| No. 9 | 38 | | Yes | Academic degree | Employed | Husband | I know people who eat crap and are thin as a nail. The problem is hereditary | Fruit | I like to take him/ her to the beach to stay in the water |
| No. 10 | 34 | Yes | | Academic degree | Employed | Husband | Obesity is genetic | Homemade lemon cake with honey | He/she plays with grandpa and the dog |
| No. 11 | 37 | | Yes | High school degree | Unemployed | Husband | A hormonal problem | Organic fruit juice | Slowly he/ she started to walk |
| No. 12 | 40 | | Yes | Academic degrees | Employed | Friend | I don't believe it anymore | Homemade cookies without sugar and milk | Enjoys all his/ her toys |
| No. 13 | 38 | | Yes | Academic degree | Employed | Husband | I think that obesity is an illness | Homemade bread and marmalade | A perpetual motion, he would already like to do what his sister does |
| No. 14 | 28 | Yes | | High school degree | Unemployed | Friend | A genetic problem | Fruit and yogurt | Calm baby for now |
| No. 15 | 36 | | Yes | Academic degree | Employed | Mother | I heard something | Bananas and fruit | He is crawling for hours, he's making me lose weight |
| No. 16 | 39 | | Yes | Academic degree | Employed | Husband | Obesity can be controlled with health promotion: maybe | Fruit and yogurt | Always playing with his brothers |

Table 5 - Partecipants Research Second Group - 24 months after birth

| Participant | Age | Before birth | Previous pregnancy | Educational Qualification | Occupation | Attended the course | Children's snacks | Children's physical activity |
|-------------|-----|--------------|--------------------|---------------------------|------------|---------------------|-------------------|--|
| No.1 | 31 | | Yes | Bachelor's degree | Unemployed | No | Snacks | He is a quiet child for now, he is already watching TV |
| No. 2 | 40 | | Yes | High school degree | Employed | No | Fruits | Plays with his/her siblings on the playstation |
| No. 3 | 39 | | Yes | Academic degree | Employed | No | Fruits | He is still little he watches tv with his sister |
| No. 4 | 35 | | Yes | High school degree | Unemployed | No | Milk and cookies | Plays with his/her siblings on the playstation |
| No. 5 | 37 | | Yes | High school degree | Unemployed | No | Milk and cookies | Crawls behind the dog to catch him |
| No. 6 | 41 | | Yes | High school degree | Employed | No | Fruit | He is still little, he loves to watch tv |
| No. 7 | 31 | | Yes | Academic degree | Employed | No | Baby food | No he is calm |
| No. 8 | 39 | | Yes | Academic degree | Employed | No | Milk and cookies | He/ she likes to watch tv with his/ her siblings |
| No. 9 | 33 | | Yes | High school degree | Unemployed | No | Fruit | He is attracted to TV |
| No. 10 | 41 | | Yes | High school degree | Employed | No | Fruit | He likes to play with his toys in the box |
| No. 11 | 31 | Yes | | Academic degree | Employed | No | Milk | He has now started crawling |
| No. 12 | 29 | Yes | | Academic degree | Unemployed | No | Milk | He is always on the move when he is awake |
| No. 13 | 40 | | Yes | High school degree | Employed | No | Fruit | Very attracted to his brother's playstation |

From the opinions of the participants who followed the course before giving birth - with a large portion of time dedicated to health promotion for the prevention of obesity - a series of concerns emerged in relation to the previous siblings and those to come, in terms of bad eating habits and sedentary lifestyles with relative consequences for their social relations and health. The effectiveness of this intervention of health promotion is further verified by statement of participant no. 2 (see table no. 6).

Table 6 - Opinions of the participants- Group First

| Participant | A short part taken from an interview |
|-------------|--|
| No. 1 | <i>Although I have never paid much attention to health issues or what obesity could mean, today I realize that many problems can develop in relation to it such as diabetes. I also see the risk of my children being unable to eat, taste and enjoy different foods, being made fun of for their weight, or even being considered the children of careless parents.</i> |
| No. 2 | <i>During childhood, eating habits are acquired which will then be maintained throughout life. The variety of foods introduced at a young age can predict the adult diet later in life. I never thought that being overweight as an adult can be determined in the very first months of a child's life. The prevention of obesity and the promotion of healthy eating habits should be targeted at both adults and children, including institutional interventions, planned with the support of local and / or national authorities. Intersectoral collaboration and community participation are essential for the success of these interventions.</i> |
| No. 12 | <i>...with the second pregnancy I decided to enjoy the preparation for childbirth and incorporate all the information that I did not have or follow with the first pregnancy. My first child is 6 years old, does not eat fruit or vegetables and tends to be a few pounds overweight.... Today I realized that the responsibility is mine and my husband's. This course helped me a lot. A friend and I started to let our children play while preparing meals. Through playing, we began to introduce them to foods like peas and fava beans. Let's face it these foods take time to prepare... so much so that we do not always consider the problems that may arise in development when a child is unaccustomed to proper nutrition.</i> |
| No. 15 | <i>...I really enjoyed the course. I managed to lose weight during pregnancy and I promised myself to do everything I could to involve the families of my students in the education and promotion of the correct health knowledge. When I go back to school, I will have a meeting with the mothers of my students to share my experience, and create health education courses for them... I don't know how to do it, but I want to try.</i> |

Therefore, children adhere easier to new and healthier lifestyles when they are first supported by their family and school, as part of a preventive intervention that stresses the importance of physical activity (in the form of play) and proper nutrition (Kuhl et al., 2012). Research has also shown that at least in the short and medium term (12-24 months), we are able to change the eating habits of families whose mothers had been part of our study - acting first of all with future mothers, and then involving siblings, co-parents and teachers.

Kindergarten teachers as well as parents, play a key role in promoting health. Their weight, which may or may not be associated with low levels of

physical activity, can influence the weight and motor development of their students (Hoffmann et al., 2014).

Our research has recorded an increase in knowledge around nutrition and physical activity preferences for those who attended a pre-birth course. The study also confirms that an increase in the consumption of fruit and vegetables, foods with high nutritional value and few calories, can be gained through an awareness campaign implemented among women early in pregnancy. This knowledge can accompany them into their children's kindergarten years.

An increase in fruit consumption was facilitated by meetings the women themselves organized around the topic of snacks. Among the participants, 7 had other women to share playtime and the preparation of snacks. Of the 16 participants, 10 were already in their second or third pregnancy and 12 - 24 months after giving birth, reported that it was not difficult for their babies to enjoy fruit and yogurt based snacks. The first time, parents used a game which allowed the youngest to taste the food of their siblings in order to socialize them to foods that they had not previously encountered. In the Second Group of 13 women who did not take the course, we had difficulty introducing fruit and yogurt into their children's snacks (see table no. 7).

Table 7 – Opinion of the participants - Second Group

| Participant | A short part taken from an interview |
|-------------|---|
| No. 2 | <i>No, the baby is 18 months old, but refuses to eat fruit: the oldest was the same up to four years old when he started eating it with a cousin...</i> |

Therefore it seems that this difficulty can be overcome through repeated encounters and practices with peers who consume healthy foods such as fruit and yogurt. This was true for all the children of the 29 women who participated in the research, and this confirms that children can overcome food neophobia through consistent training and experience (Laureati et al, 2014). Thanks to the information provided in these interventions, the mothers were able to introduce a number of foods into their children's diets through games and / or emulations (Mead, 1896, 1898).

Finally, our study also examined improvement in the physical activity levels of participants and their children, including the assessment not only of sports but also sedentary activities, and those that are not practiced often. From this overall assessment, a greater propensity to motor activities emerged in the children of women who followed the health promotion course, since 8 out of 10 of them, who already had children, reported that when they encouraged their children to stay outdoors, run or ride a bicycle, the children would pursue these activities instead of playing with a videogame or a tablet.

This study has shown that women who promote health in the family and at school not only improve their own and their children's eating habits, but they also improve their children's lifestyle. It was also noted that the women who attended the course with their husbands, acquired a key role in understanding notions related to being overweight or obese. What emerged was that the quantitative and qualitative aspects of nutrition are significantly influenced by the environment, in particular in the family context, which is important to the development of healthy habits as well as in the prevention of weight problems. The data relating to the mothers' level of education and age was also particularly interesting. Those who were older, those with a higher education and a better socio-economic-cultural status, were more attentive to healthy nutritional and lifestyle choices, and the assumption is that these choices would transfer to other family members; however the relationship between the mothers' training and consequent implications in the south are widely known (Licursi & Pascuzzi, 2019).

In the Second Group it emerged that a lack of awareness in the efficacy of promoting health as a tool for the prevention of obesity through healthy lifestyle choices and, the consequent absent or insufficient motivation by parents to change the overweight condition of their children, are further determining factors to bear in mind so that prevention programs can be effective. Finally, in the third and final phase of the study, in addition to understanding what was learned, what changed and what participants would like to change, some reflections emerged from the First Group that showed concerns regarding the more or less obvious causes of childhood obesity, for children's future development and concerns about the social exclusion and the stigma that overweight bodies can evoke (see table no. 8).

Table 8 - Opinions of the participants- Group First

| Participant | A short part taken from an interview |
|-------------|---|
| No. 5 | <i>People need to be aware of what it means to advertise healthy foods. They explained that some precooked foods are unhealthy and also make you fat. Even fruit which is vitally important, should not be given in excess, because it also contains sugars.</i> |
| No. 9 | <i>One day we talked among ourselves, the women in the course, [...] one of our midwives was late, it was nice... those who already had children complained... it is easy to tell your son or daughter to eat fruit or yogurt not processed snacks. But how do you do this when you go to pick them up at school and at the exit you find a fried food take out, rotisseries, kiosks and vending machines with chips and snacks and sugary drinks. We found that right in front of the schools there are a lot of shops that sell junk food, and only a few yogurterias or other shops that sell smoothies, healthy snacks or simple fruit. Maybe it takes an intervention by the local government in some countries, to say that in front of the school there should be no fry shops or carbonated drinks with sugar allowed (smiles).</i> |

We know that the triggers of obesity to which children and adults are exposed, including food and/or 'lifestyle' advertisements and physical inactiv-

ity, are often underestimated. Some suggest that this has already translated into the failure of several strategies to reduce child and adolescent obesity (Reisch et al., 2013). For example, some studies suggest that students attending schools with fast-food establishments within 1km, consume fewer fruit and vegetables, and drink more sugary drinks. They register a 6% increase in overweight body types and a 7% increase in obesity compared to students attending schools located further from fast-food restaurants (Davis, Carpenter 2009; Asirvatham et al. 2019).

Furthermore, these concerns reveal reflections regarding inequalities in access to basic information to limit obesity, which translates into the need for real actions and more information on the topic of health promotion so that citizens can develop a self-empowered view of health and health promotion beyond primary school (see table no. 9).

Table 9 - Opinions of the participants - Group First

| Participant | A short part taken from an interview |
|-------------|--|
| No. 5 | <i>I believe that not everyone can pay for a course to get information about our children and their health. I did the course for my second child, because at the time of my first - I say it serenely [looks down] - I was not in a position to pay for it. I am concerned that there are indications from health organizations to educate people about healthy behaviors and yet no one makes them available to citizens.</i> |
| No. 6 | <i>Something needs to be done for institutions to educate us on a, b, c to prevent us from getting sick and making our children sick.</i> |
| No. 4 | <i>I did not know that carbohydrates are important, or that if eaten in a certain way they do not make you fat. Yet I graduated (laughs). I also had no idea that there are proteins in some vegetables and legumes (repeats I graduated). I mention my degree, because if we have this type of qualification it means that we can understand and follow a course designed to inform us on daily nutrition and some elementary considerations to use to reduce our consumption of unhealthy foods.</i> |

Furthermore, among the participants' concerns there was a request for assistance in sharing this knowledge with other members of the family and the school in the early years of their children's lives, to limit the possibility that they develop bad lifestyle behaviors based on other influences (see table no. 10).

Table 10 - Opinions of the participants - Group First

| Participant | A short part taken from an interview |
|-------------|--|
| No. 3 | <i>I took the course with my cousin, and it was certainly positive because she also learned things to teach her own son. It would not have been bad, if my husband had come... if I say no to my son when he asks for a snack and his father says yes, it won't go well... These courses should also be taken by our husbands.</i> |

| | |
|--------|--|
| No. 7 | <i>...I am lucky I had my mother... from the beginning of the course, she immediately started to say no to unhealthy snacks and fruit juice all day long with my other daughter [5 years old who grew up with a few extra pounds]. She started giving her orange juice, homemade pear and apple juice... It is important that family members, especially grandparents, are informed that if children - who are sponges - learn to eat and drink everything without complaint, they will be happier and healthier even as adults.</i> |
| No. 15 | <i>... as a teacher I think the course has served me. I say it calmly... not to criticize any of my colleagues. I am not attentive to their pupils with respect to food and physical activity. I believe that a good health promotion action requires the collaboration of all teachers and schools of all levels.</i> |

Finally, all or almost all of the interviewees agree on some indications for the development of a more widespread diffusion of information to reduce the phenomenon of obesity in future generations with synergistic actions between citizens and local institutions (see table no.11).

Table 11 - Opinions of the participants - Group First

| Participant | A short part taken from an interview |
|-------------|---|
| No. 2 | <i>I believe that if there is no action aimed at training citizens on issues related to health and the quality of life... we will raise our children badly and we will get sick from our food.</i> |
| No. 16 | <i>... it's not that all people can eat everything always. In this course I learned that when you are pregnant you follow a specific diet for nine months, and you change it when the baby is born. Now I understand that children, adolescents, adults and the elderly, must also know how their eating, drinking, etc. behavior should change with age.</i> |

These reflections through the encoding, classification and summarization of interviews in the final phase of the work, suggested three categories related to mothers' health promotion to prevent childhood obesity. First of all, a sense of concern and the need for quick action of the educational interventions concerning health promotion, obesity, and health education (see Table no. 12).

Table 12 - Codes, Sub-Categories, Categories, Concerning Health Promotion, Obesity, and Health Education

| Codes | Subcategories | Categories |
|--|--|------------|
| Recognizing incorrect eating behaviours Recognizing the reasons for a child's refusal of a food Recognizing incorrect eating behaviours in adults as models for children's behaviors Recognizing serious signs necessitating a correction in diet and physical activity | Concerns over the causes of obesity Concerns over child's obesity and relation to development Concerns of social exclusion | Concern |

| | | |
|--|---|---------------|
| <p>Acquire information from: Programs that control, assess and document the dissemination and transfer of health promotion materials and help limit childhood obesity experiences. All people along the course of life, not only the healthy and motivated population or those with an immediate problem must be reached</p> | <p>More information provided on the topic of health promotion and obesity Self - empowerment for all citizens on the correlation between health and health promotion Health education and health promotion to last at least from primary school until high school</p> | <p>Action</p> |
| <p>Educational interventions that are integrated with environmental and social interventions National well-being and health initiatives adapted locally to the needs and expectations of the local community.</p> | <p>Need for husband or partner's support Need for family support Need for teacher support</p> | <p>Need</p> |

The third and final phase of our study showed that informally introducing health education to pregnant mothers could enhance their knowledge and approach toward many aspects of physical health and behaviors around food. These social and mental changes taking place in the family could then be applied in school along the course of her and her children's lives. With due attention to the unfavorable consequences of extreme obesity such as health problems, illness, social issues and healthcare costs; simultaneously with the adoption of preventive approaches to obesity through targeted policies in education, health literacy, cultural promotion of physical activities, improvement of recreational facilities, etc.; appropriate planning and interventions should be designed and applied to change behaviors, cultures, and community beliefs, to find solutions to the phenomenon of obesity.

Reliability and limits of the project

The researcher carefully described the studies' design to participants to enhance transferability. To ensure proper credibility, the researcher used prolonged engagement and allocated sufficient time to becoming familiar with the mothers while practicing good communication, accurate data collection and peer debriefing. The researcher was involved in the data analysis process and consensus was reached in relation to the selection of examples, the coding process, codes, subcategories and categories.

The limitations of the study may be attributable to various factors including; the small number of women followed in the period between June 2016 - September 2019; the short period between the first interviews and follow-up (perhaps the women are not followed over a long enough period of time); and the sector-based nature of the interventions (some were based only on physical activity or nutrition, there was not always involvement of both parents, and the involvement of institutions such as schools was not consistent).

Preventive intervention should always be multifactorial (acting on various risk factors), and multisectoral (involving in addition to mothers, families, schools, the community and related institutions). Intervention started too late for some of the participants as their eating habits had already developed. For this reason some of the women who had previously agreed to participate became unavailable. An intervention that begins very early on in pregnancy could prove more effective in conditioning the food choices of the children in later periods. In the case of younger mothers, these interventions could help children overcome neophobia (a repulsion for certain foods). This study could be rethought and redesigned as well with a follow-up period in which the group's experiences can be observed, explained and interpreted through the life course method.

Concluding Remarks

In relation to the central role of the cognitive process with respect to health, nutrition and socialization, it must be restated that only part of the current population has knowledge of the food risks our children encounter. We perceive this through the advertising of fast food chains that in addition to their traditional fatty foods, have added an array of "healthier" foods for those clientele who are more attentive to their health and the fattening effects of their traditional menu. This is a positive step, and an innovation for chains like these that were previously unaware of dietary factors and health concerns. Sadly, they still remain partial and these movements are to date, incomplete.

Something similar to the digital divide is at work here, and we find a real risk for part of the population - culturally and monetarily less wealthy, physically and socially transversal - because of their vulnerability through a lack of knowledge about the negative effects on their their health and on the health of their children, their well-being and their life expectancy as well as the healthcare costs associated with the mismanagement of their diet. The solution to this problem cannot be political, it must be scientific. It must manifest in an articulation of adequate information about the prospects of poor nutrition for our youngest. A careful reading of the interviews helps us perceive the centrality of the maternal role in this process, even before children enter school. From kindergarten onwards, and even before the mimetic level, the behavior of the child is based on the sensitivity of the parental relationship, which we assume is based on common sense, caring and knowledge. The mother therefore has the leading role with respect to the health principles that their spouse and other relatives (grandparents in particular) practice with their children. In fact, on the whole, almost everyone finds it difficult to detach from the idea that a fat, fleshy child is not a healthy

child. It is important however to bear in mind how an apparently limited story from days past takes on a very extensive dimension over time. As in the past, there is a connection between knowledge and intervention which arises again, as recommended by increasingly committed international organizations, aware of the apparently, only cultural dimensions of the problem, while decisively investing everyday life - from fashion to mobility - in the process. Those not immediately mentioned are still objectively present.

An extension of this research would entail taking into consideration a life course and constructivist approach.

The first approach would allow, through the life course perspective, a consideration of the assumptions that could explain the permanent validity of health education over time: the need to evaluate the changes taking place in peoples' lives (in personal character or transitions) in the period from childhood to old age, because individuals, together with their own changes, contribute to transforming societies and their context of life (Phillips, 2017); the opportunity to study those changes in relation to various cohorts rather than transversal data, to grasp the links between lifetime and historical time in relation to the actions taken on individuals; the possibility of analyzing the development of a life course, the result of the co-presence of personal characteristics and individual actions, as well as cultural reference frameworks and institutional contexts, in the relationship between agency and structure at the micro, meso and macro social levels; the need to consider life courses and cohorts as essential tools for preparing public policies that are active in a preventive and dispositive way, rather than merely restorative; logic with respect to social inequalities, in the awareness that often change and mobility accentuate and multiply inequalities. For this reason, the life course perspective has developed some particularly significant key concepts in an interdisciplinary logic: trajectory, phase, transition and event in the obesity (Newton et al., 2017), and also related to the detection of gender and generational inequality in obesity phenomenon (Harding, 2019).

The second, constructivist approach would allow – in regards to themes, environment and the inherent self - awareness of the subjects themselves – to understand how perception towards certain interrogatives, such as concepts of obesity and well-being from both a personal and general perspectives, are individually constructed in parallel with a myriad of information and experience (Mandlik et al., 2020). Regarding any consideration of the possible understanding that the participants may have towards the subject of obesity and its problems, it depends upon the importance that each individual attributes to the argument - not forgetting those factors which can influence the construction (or non-construction) of that importance (social-demographic variables such as age; the presence of both parents during health education; the schooling of the mother, etc.) – in other words, precisely that

importance motivated both from within the subject and from individual external experience (Habermas & Luhmann, 1971; Gómez, 2017). Nevertheless, it can be safely assumed that any person will have acquired an understanding of health promotion and the relevance of health education in relation to obesity, not only with regards to their potential efficacy relative to health and illness but also in terms of subjective analysis and active response to such themes. In other words this paper aims to eventually represent the beginning of an important and enduring research for the structuring of a large action research network in relation to the first results, codes, subcategories and categories of main actions that study produced. During the study and looking forward to its future completion, the authors are aware that “the choice of research practices depends upon the questions that are asked, and questions depend on the context” (Nelson et al., 1992, p. 2); the future prospects for continued study will depend greatly on financial considerations.

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