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The Importance of Psychodiagnostic Evaluation to Structure Effective and Integrated Prevention Program: A Preliminary Sicilian Study

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Abstract

The present work is a preliminary study conducted in Sicily (Messina) that aims to evaluate obese children in different perspectives: individual, relational, medical and psychological. The study involved 31 families with overweight/obese children (16 fathers, 30 mothers and 31 children). Socio-demographic questionnaire, Questionnaire about eating and physical habits, Family Nutrition and Physical activity interview (Ihmels et al. 2009), Eating Disorder Inventory 2 (EDI-2; Rizzardi et al. 1995) and Parenting Styles Dimensions Questionnaire (PSDQ; Confalonieri et al. 2009) were administered to the parents; Socio-demographic questionnaire, Questionnaire about eating and physical habits were administered to the children. Descriptive statistical analysis (mean, standard deviation, frequency counts and percentages) revealed that there weren't any significant results because parents didn't showed pathological characteristics except for mothers' Maturity's fear scale (MF) of EDI 2 that measures fear of facing the demands of adult life. According to the parenting styles questionnaire, parents didn't show a specific parenting style; anyway mothers showed a tendency toward an authoritative parenting style (24.93 ± 4.37; Cut off =30). In general, even if familial nutritional and physical habits look healthy (FNPA 22.65 ± 2.73), answers from children are a bit worrying; children have unhealthy preferences about food (French fries, pizza, sweets), they usually eat in secret and they don't play sufficient physical activities. Author believes that other evaluations have to be conducted with parents because clinical group is really small and it can't be considered a sample; families could show pathological elements from a psychodynamic and systemic point of view but a complex, integrated and multidisciplinary approach has to be developed. Author believes that untold and hidden contents could be hand down on a trans generational level by \"weighting\" children without their awareness therefore the present work represents a preliminary study that Author is developing starting from the idea of working with familial stories collected with a semistructered interview (Buccheri, Lenzo in press).

Keywords: Childhood obesity; Psychodiagnostic evaluation; Familial dynamics; Sicilian study

Introduction

Childhood obesity is an increasingly common pathology that has already reached alarming levels in children and adolescents [1,2]. The phenomenon is worrying because childhood obesity is a predictor of obesity during adulthood [3,4] and it has also been associated with physical and psychological problems [1,2]. On the one hand childhood obesity has been linked to cardiovascular diseases [5], breathing problems and worsens pulmonary diseases [5,6], orthopedic diseases [7-9] and endocrine alterations. On the other hand weight problems seem to make children and adolescents more vulnerable to psychological diseases such as anxiety, depression, progressive withdrawal, expectation of rejection, low self-esteem, obsessive concern with body image [1,2]. Overweight and obese children usually feel ugly, sick and no capable because a fat body is a "wrong" body. They usually feel uncomfortable and embarrassed because of a society that rejects them considering slow and lazy children and they often become victim of various forms of peer aggression such as bullying [1,2].

Family is the first system that a person joins and it allows a personal identity be created; parents are models for children and familial environment influences habits, beliefs and behaviors. School system allows children to learn and improve habits and behaviors. Family and school constitute learning environment for people and working with them seems to be essential to promote healthy eating habits and physical activity, to fight negative conditioning by media and advertising.

Literature analysis suggests the importance of structuring a complex, integrated and multidisciplinary intervention targeting children [10] and linking different areas to achieve more effective treatments against obesity and overweight such as medical and psychological aspects, parental, scholar and public involvement. Moreover a prevention model seems to be the best way to fight against childhood overweight and the growing phenomenon rather than trying to cure obesity [1,2,11-13]. A new promising prevention approach could be change the environment (e.g., ban on sugar drinks in schools) and involve parents [14]. Parents, families, schools, teachers and society should cooperate and feel motivated to change unhealthy lifestyle habits. Psychodiagnostic evaluation could represent the first step to structure a prevention program following a multidisciplinary and integrated perspective.

Therefore, the present work aimed to evaluate obese children in different perspectives: individual, relational, medical and psychological. It is a preliminary study conducted in Sicily (Messina) that Authors want to develop further.

Methods

Place of study

Sicily is the largest island in the Mediterranean Sea; it is located in the Southern part of Italy and along with surrounding minor islands, it constitutes an autonomous region of Italy.

Participants

Participants in this preliminary study consisted of 77 subjects;

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31 families with overweight/obese children from the Pediatric Unit Hospital "G. Martino" University of Messina were selected after an assessment by a pediatrician to confirm overweight and obesity diagnosis. Children meeting these criteria were recruited between September 2012 and June 2013 however the study is still in progress and Authors are recruiting other subjects. Children who had diseases such as diabetes, hypothyroidism and genetic syndromes were excluded. Pediatricians described the research and invited selected subjects and their families to participate in the study. The subjects who agreed to participate, were given an informative brochure and consent form about psychodiagnostic evaluation.

The study involved 31 families: (16 fathers, 30 mothers and 31 children), however only 15 families completed evaluation; 15 fathers and one mother didn't answer the questions for different reasons (absence, lack of will, contrasts with wife, lack of time).

Measures

Socio-demographic questionnaire, questionnaire about eating and physical habits, family nutrition and physical activity interview [15], eating disorder inventory 2 [16] and parenting styles dimensions questionnaire [17] were administered to the parents; socio-demographic questionnaire, questionnaire about eating and physical habits were administered to the children.

Socio-demographic questionnaire

Socio-demographic questionnaire provided information about sex, age, marital status, educational qualification, employment and anthropometric measurements such as weight, height and BMI of parents; sex, age, weight, height, BMI, percentiles and number of brothers and sisters were collected from children.

Questionnaire about eating and physical habits

Questionnaire about eating and physical habits is a self-report questionnaire constructed ad hoc for this study. The questionnaire was designed to collect information on favorite food; eating habits during breakfast, lunch, dinner and light meals; questions included those related to how many times per day the subjects consumed healthy food such as fruit, vegetables and unhealthy food such as snacks, sweets including cakes, candy and chocolate, sugar-sweetened drinks including soft beverages, fizzy drinks, bread, wine and other alcoholic drinks. In addition to the part about eating habits, questionnaire included a specific section about physical activities related to the typical weekly time spent on sport and sedentary activities, including time spent viewing TV, playing video games, and computer and Internet use.

Family nutrition and physical activity screening tool

Family nutrition and physical activity screening tool [15] is a short interview that evaluate family's home environment with regard to nutrition and physical activity. It was developed from an Academy of Nutrition and Dietetics Evidence Analysis (EA) that examined the factors related to childhood overweight. From this EA, the FNPA screening tool was created as a valid behaviorally based screening tool to identify family influences and behaviors that increase a child's likelihood of becoming overweight. The FNPA examines family diet, physical activity, screen time, sleep and family schedule to provide a comprehensive evaluation of a family environment. Author chose this validated behaviorally based screening tool because they did not find Italian instruments for evaluation of family environment.

Eating disorder inventory

Eating disorder inventory 2 [16] is a self-report questionnaire used to assess the presence of eating disorders such as Anorexia Nervosa, Bulimia Nervosa and Eating disorder not otherwise specified. It consisted of 91 items divided into 11 subscales: Drive for thinness (DT) that measures an excessive concern with dieting, preoccupation with weight, and fear of weight gain; Bulimia (B); Body dissatisfaction (BD); Ineffectiveness (I) that assesses feelings of inadequacy, insecurity, worthlessness and having no control over their lives; Perfectionism (P); Interpersonal distrust (ID); Interoceptive awareness (IA) that measures the ability of an individual to discriminate between sensations and feelings, and between the sensations of hunger and satiety; Maturity's fear that measures fear of facing the demands of adult life; Ascetism (A) that reflects the avoidance of sexual relationships; Impulse Regulation (IR) that shows the ability to regulate impulsive behavior, especially the binge behavior and Social Insecurity (SI) that estimates social fears and insecurity.

Parenting styles dimensions questionnaire

Parenting styles dimensions questionnaire [17] is a self-report questionnaire that measures two parenting styles: authoritative and authoritarian. This version doesn't include the Permissive style subscale and contains only the items of the Authoritarian style and Authoritative style subscales because they are most used in the short versions present in the literature [17-19]. The procedure required parents to rate their own parenting behaviors. The authoritarian pattern consists of four stylistic dimensions: verbal hostility (3 items); physical coercion (4 items); no reasoning/punitive (5 items) and directedness (4 items). The authoritative pattern consists of three stylistic dimensions: connection-warmth/acceptance (7 items); regulation-reasoning (5 items) and autonomy granting-democratic participation (3 items).

Analysis

Data was analyzed using a Statistical Software R and Microsoft Excel 2007. Analyses were performed with descriptive statistical analysis (mean, standard deviation, frequency counts and percentages). Table 4 shows descriptive statistics.

Results

Socio-demographic characteristics of the clinical group

A total of 77 subjects (16 fathers, 30 mothers and 31 children) aged between 5 and 54 years old, provided valid answers to the questionnaires. 31 families constituted clinical group even if only 15 families completed evaluation because 15 fathers and one mother didn't answer the questions. Fathers' ages ranged from 28 to 54 with a mean of 43.69 ± 6.93; mothers' ages ranged from 22 to 50 with a mean of 38.18 ± 5.34, children's ages ranged from 5 to 11 with a mean of 8.6 ± 2.02. Sociodemographic characteristics of the clinical group are summarized in Table 1.

Anthropometric measurements

Anthropometric measurements such as weight, height and BMI of parents and children have been collected and analyzed to differentiate the group. Clinical group of parents has been divided into four groups through BMI measurement: normoweight (BMI=19.5-25), overweight (BMI=25-30), obesity I (BMI=30-40), obesity II (BMI>40). Clinical group of children has been divided into two groups through BMI (percentiles of growth): overweight (BMI=90°-95°) and obese (BMI>95°). Data are summarized in Table 2 and 3.

	Families (N=31)	
	Fathers (N=16)	**Mothers (N=30)**
Age	43.69 ± 6.93	38.18 ± 5.34
Marital status		
Unmarried	-	3
Married	12	23
Separated	4	4
Widow	-	-
Level of education		
Primary school	1	2
Junior high school	7	13
High school	6	11
University	2	4
Occupation		
Worker	7	9
Employee	4	7
Freelance	2	-
professional	3	4
Unemployed	-	10
Housewife		

Table 1: Socio-demographic characteristics.

	Male (N=16)	Female (N=15)	Children (N=31)
Age	9 ± 1.87	8 ± 2.03	8.6 ± 2.02
Overweight (BMI=90°-95°)	4	2	6
Obesity (BMI>95°)	12	13	25

Table 2: Anthropometric measurements.

	Fathers (N=16)			Mothers (N=30)		
	N	M	sd	N	M	sd
Normoweight (BMI=19.5-25)	4	23.72	1.36	15	22.31	2.41
Overweight (BMI=25-30)	4	26.16	1.08	10	26.93	0.88
Obesity I (BMI=30-40)	7	30.88	1.54	3	35.21	1.13
Obesity II (BMI>40)	1	/	/	2	46.95	8.72

Table 3: Anthropometric measurements.

Descriptive analysis

Descriptive statistical analysis (mean, standard deviation, frequency counts and percentages) revealed that there weren't any significant results because parents didn't showed pathological characteristics except for mothers' Maturity's fear scale (MF) of EDI 2 that measures fear of facing the demands of adult life. According to the parenting styles questionnaire, parents didn't show a specific parenting style; anyway mothers showed a tendency toward an authoritative parenting style (24.93 ± 4.37; Cut off=30) (Table 4).

Discussion

Present psychodiagnostic evaluation seems to underline that parents and children with pathological BMI didn't show unhealthy nutritional and physical behaviors as family nutrition and physical activity screening tool [15] evaluated (22.65 ± 2.73) and only 15.6% of the sample gave a low FNPA total score showing unhealthy lifestyles and habits. Moreover descriptive statistical analysis of eating disorder inventory 2 and parenting styles dimensions questionnaire [17] revealed no pathological answers from parents. Mothers seem to be worried from adult life and maybe from their role in the society but data aren't totally reliable because of small clinical group.

	Fathers (N=14)	Mothers (N=17)
EDI 2-Drive for thinnes (DT) Cut off ≥ 12	2.78 (3.07)	7.06 (6.48)
EDI 2-Bulimia (B) Cut off ≥ 5	1.5 (2.31)	1.35 (1.97)
EDI 2-Body dissatisfaction (BD) Cut off ≥ 13	5.14 (3.79)	10.06 (5.68)
EDI 2-Ineffectiveness (I) Cut off ≥ 9	3.07 (4.61)	4.53 (4.18)
EDI 2-Perfectionism (P) Cut off ≥ 6,5	3.78 (2.15)	3.88 (2.73)
EDI 2-Interpersonal Distrust (ID) Cut off ≥ 6	4.36 (3.75)	4.06 (3.59)
EDI 2-Interocpetive Awareness (IA) Cut off ≥ 10,5	2.28 (2.46)	3.59 (4.47)
EDI 2-Maturity's fear (MF) Cut off ≥ 6	4.28 (4.89)	6.47 (3.29)
EDI 2-Ascetism (ASC) Cut off ≥ 8,5	2.64 (2.59)	5.23 (3.21)
EDI 2-Impulse Regulation (IR) Cut off ≥ 8	3.14 (5.04)	3 (3.97)
EDI 2-Social Insecurity (SI) Cut off ≥ 7,5	5.57 (5.39)	4.23 (2.93)
	Fathers (N=16)	**Mothers (N=30)**
PSDQ-Authoritarian pattern Cut off > 50	20.93 (5.13)	22.11 (5.93)
PSDQ-Authoritative pattern Cut off > 30	20.87 (6.94)	24.93 (4.37)

Table 4: Descriptive analysis.

Authors worked on questionnaire about eating and physical habits of children and data revealed that 25.8% of children indicated French fries and sweets as favorite food, 22.6% pizza and only 9.7% indicated fruits and vegetables as favorite food. 25.8% of children usually eat snacks and sweets in secret and 70.9% eat something far from the main courses. Children plays with parents 8.84 hours per week, they watch TV and play with personal computers 15.08 hours per week, they go for a walk 2.45 hours per week and they play sport 1.9 hours per week. Only 6.4% of children are involved in other extra activities (playing piano and clarinet).

In general, even if familial nutritional and physical habits look healthy (FNPA 22.65 ± 2.73), answers from children are a bit worrying; children have unhealthy preferences about food, they usually eat in secret and they don't play sufficient physical activities.

Why are data so opposing? Why did paper find anything "wrong" in parents? Author believes that other evaluations have to be conducted with parents because clinical group is really small and it can't be considered a sample; families could show pathological elements from a psychodynamic and systemic point of view but a complex, integrated and multidisciplinary approach has to be developed. The present work represents a preliminary study that Author is developing starting from the idea of working with familial stories collected with a semi structured interview [20]. Author believes that untold and hidden contents could be hand down on a trans generational level by "weighting" children without their awareness. The interviews could allow to grasp the presence of critical events (=change crisis) such as grief, illness, job loss and separation that seem to be too painful to be processed [20].

The clinical importance of these findings is the idea of developing

family analysis to find something more than nutritional and physical habits. Therefore, future researches are going to work with body and mind because they are linked in a dysfunctional "dance" with a specific familial contexts [20].

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