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Food allergy and attitudes to close interpersonal relationships: an exploratory study on attachment.

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Food allergy and attachment behaviour.

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Food allergy and attitudes to close interpersonal relationships: a study on attachment.

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Abstract

Background: Food allergy is a common immunological disease that includes potentially fatal reactions. It impacts considerably on patients' social life including close interpersonal relationships. Attachment theory provides a theoretical framework to evaluate the quality of close interpersonal relationships in chronic disorders. Attachment insecurity, mainly characterized by attachment avoidance, has been found in a variety of health conditions, but still needs to be investigated in food allergy. The study aimed to investigate attachment, as attitude to close interpersonal relationships, among food-allergic young patients, compared to healthy controls.

Methods: This is a cross-sectional study involving patients suffering from IgE-mediated food allergy sequentially recruited and matched to healthy controls for age and gender. The Attachment Style Questionnaire (ASQ) was used to assess five factors and two attachment dimensions (Anxiety-Avoidance). Associations with anaphylaxis and adrenaline prescription were explored among patients.

Results: 174 participants were assessed (female=45%; Mean age=17.51; SD=4.26). Food-allergic patients reported significantly higher levels of Discomfort with closeness ($p<0.05$), Relationships as secondary ($p<0.05$) and Attachment Avoidance ($p<0.0001$) compared to controls.

Conclusions: Clinicians should be aware of implications of insecure attachment for health and illness. They should support patients in limiting social impairment finding a balance between safety and psychological wellbeing.

Key Words

Anxiety; attachment; avoidance; close relationships; food allergy; psychosocial; social burden.

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Author Contributions

All the mentioned authors read and approved the manuscript and agree to the submission of the manuscript to the Journal.

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Introduction

Food allergy is an adverse reaction to food in which immunological mechanisms have been demonstrated. It can result in considerable morbidity and represents one of the most common causes of anaphylaxis (1). It affects nearly 5% of adults and 8% of children, with evidence of an increasing prevalence (2). Current management relies heavily on rigorous allergen avoidance and treatment in case of emergency (1).

The limits imposed by the strict diet and the constant risk of fatal reactions make food allergy a burden for patients, impacting considerably on quality of life and psychological wellbeing (3–8). In particular food allergy can affect social life including close interpersonal relationships. Intimate behaviour is increasingly described as a trigger of allergic reactions

(9). A study on the occurrence of kiss-induced allergic symptoms among patients with food allergy found that 12% experienced allergic symptoms when in close contact with a person who had eaten a not-tolerated food (10).

Attachment theory provides a theoretical framework to evaluate the quality of close interpersonal relationships in the context of chronic disorders (11–14). “Attachment behavioural system”, described as a species-universal, biologically evolved neural program, organizes behaviour in ways that increase the chances of an individual’s survival, despite inevitable environmental dangers and demands. Lifelong patterns of response to threat are learned in the interaction between infants and primary caregivers. Attachment behaviours are designed to protect individuals from physical harm but also to help emotional adjustment. They serve the evolutionary goal of helping infants survive and enable individuals of any age who feel threatened to re-establish emotional security through contact and comfort from an attachment figure (e.g. parents, partners) (15,16). Threats such as illness, pain or stressors, may activate attachment behaviours (17–19).

According to attachment theory, individual differences arise in how the attachment system operates. “Attachment style” is a person’s characteristic ways of relating in intimate caregiving and receiving relationships with close others. Measures of attachment either assign individuals to categories of attachment style or measure the degree to which various dimensions of attachment style are present. Taxometric analyses on multiple samples and measures suggest that variation in attachment is best modelled with dimensions rather than categories (20). Moreover, a dimensional approach avoids improper comparisons with psychopathological categories and places attachment differences in perspective, to understand how individual personality characteristics may influence regular functioning (21).

Dimensional models of attachment converge on two dimensions of insecurity: Attachment Anxiety (AA_n) and Attachment Avoidance (AA_v) (22). AA_n refers to a pattern of hyperactivation in the face of threat, including hypervigilance, worry about being abandoned, persistently seeking proximity and reassurance from others, dysfunctional stress and affect regulation. AA_v refers to a pattern of deactivation in response to danger including denying attachment needs, minimizing distress, turning attention away from threat, and being overly self-reliant. Attachment security refers to the combination of low AA_n and low AA_v. It reflects a sense of safety and effective regulation of affect and is characterized by feeling comfortable with closeness and trusting that a partner will be available and responsive when needed (15–17,23). Attachment styles may be depicted linearly on a spectrum with high emotional expression and poor affect regulation at one end (AA_n), and low emotional expression and over-regulation of affect at the other (AA_v). On this continuum, secure attachment is located at the midpoint and is related with high psychological functioning, effective coping strategies and resilience (18).

The attachment style is believed to be a quite stable personality trait (15,16). Gender differences are also described: males tend to show higher AA_v and lower AA_n than females (24). Chronic disorders represent adverse conditions that may promote a shift towards attachment insecurity, since the persistent disease-related stress may induce patients to massively use affect regulation strategies either hyperactivating or deactivating the attachment system (14,18,25). Indeed, attachment insecurity, mainly characterized by AA_v, has been found in a variety of medical conditions, such as inflammatory bowel disease, diabetes, arthritis, Crohn's disease and lupus (11–14,18,25–27).

Attachment insecurity has been found to be related to patients' difficulties in symptom reporting, care-seeking, adherence to treatments and quality of life (11,25,27). In particular, AA_v was linked with emotional disengagement, maladaptive strategies of avoidant, self-

blame cognitive patterns and mistrust in others (25,28). Individuals with high levels of AAv tend to devalue close interpersonal relationships and to consider them irrelevant for support at times of stress. They are likely to underplay the consequences of illness, rebuke attempts at empathy and deny need to depend on others. They substitute compulsive self-reliance for social support and they can appear relatively unemotional or tightly controlled (16,18). This pattern of responses is potentially dysfunctional as far as it tends to perpetuate distress, increasing vulnerability (18).

Although some main psychosocial factors and health-related quality of life have been widely evaluated in patients with food allergy (3,6), attachment still needs to be investigated. The present study aimed to investigate attachment dimensions in a sample of young patients with food allergy compared to a matched healthy sample using a validated instrument. Additionally the influence of previous anaphylaxis and adrenaline prescription was explored in the patients group. No previous studies to our knowledge have addressed these issues. We chose an exploratory approach aimed to firstly verify if attachment could be a critical issue in food allergy, as demonstrated for other medical diseases previously assessed (11–13,17,25). We intend to assess if patients with food allergy, as many other patients with chronic diseases, could show an imbalance towards Aav.

Methods

Participants and procedure

This cross-sectional study compared attachment orientation in a sample of individuals with food allergy vs. a matched healthy sample. Patients (N=87) were recruited sequentially during clinical visits at the Food Allergy Centre in Padua-Italy. Inclusion criteria consisted of a diagnosis of IgE-mediated food allergy confirmed by an allergist on the basis of a clinical

history with positive skin prick test ($\geq 3\text{mm}$), in vitro specific IgE ($>0.35\text{kU/L}$) and a positive food challenge (29). Patients who suffered from concomitant non-allergic disease were excluded.

The healthy control group ($N=87$) was individually matched by age and sex and recruited through family physicians and community centres for youths. People with a clinical history of allergy or other diseases were excluded.

The whole sample came from Veneto Region (North-East Italy) and was white. Main characteristics are shown in Table 1.

Participants gave their oral consent or signed if 18 years old or older. Parents signed informed consents for younger participants.

The Ethics Committee of Psychology Research of Padua University approved the study.

Measures

The Attachment Style Questionnaire (30) is a self-report questionnaire designed to assess adult attachment orientation in close relationships in general rather than in romantic relationships exclusively. This made the ASQ more suitable for adolescents who had limited experience in romantic relationships.

Respondents are asked to rate (from 1=totally disagree to 6=totally agree) the extent to which each item describes their feelings and behaviour in close relationships. The 40 items formed five factor-based scales:

1. *Confidence* (in self and others) - C (8 items): e.g. “Overall, I am a worthwhile person”; “I feel confident that other people will be there for me when I need them”.
2. *Discomfort with closeness* - DC (10 items): e.g. “I prefer to keep to myself”.
3. *Relationships as secondary* - RS (7 items): e.g. “Achieving things is more important than building relationships”

4. *Need for approval* - NA (8 items): e.g. “It’s important to me to avoid doing things that others won’t like”.
5. *Preoccupation with relationships* - PR: e.g. “I find that others are reluctant to get as close as I would like”.

For each scale a higher score reflects a greater presence of the measured dimension.

In addition, ASQ items can be used to form scores for AAv and AAn, computed by averaging the items that are most related to each dimension (16,30). Researchers have used the ASQ in many samples of adolescents and adults, providing evidence of its reliability and validity (21,22,30–32). Feeney et al. reported α coefficients for the scales that ranged 0.76-0.84 in a large sample of undergraduates, and stability coefficients ranging 0.67-0.78 across a 10-week period (30). Fossati et al. (21) supported the five-factor structure of the Italian version of the ASQ in both clinical and nonclinical samples, while also confirming that the five scales can be collected in the two dimensions of AAn and AAv. Considering the dimensional nature of attachment construct, the categorical use of the scores is not recommended (20–22).

Statistical analysis

The five subscales of the ASQ and the two derived attachment dimensions were analysed with a series of factorial ANOVAs, with the group (allergic patients vs. controls), gender, and age (adolescents: 14-18 years vs. young adults: 19-31 years) as between-subject variables.

To evaluate possible differences in attachment scores between individuals who had anaphylaxis and adrenaline prescription and patients who did not, two t-tests for independent groups were computed including only allergic patients.

The level of significance was set at .05.

Results

A total of 174 participants (female=45%; Mean age=17.51; SD=4.26; Age range=14-31) agreed to take part in the study. Five allergic patients (5.4%) and eight healthy controls (8.4%) refused.

Characteristics are reported in Table 1. Among allergic participants, 44% have previously experienced anaphylaxis, and 81% were provided with self-injectable adrenaline based on current guidelines (1).

As showed in Table 2, the ANOVAs revealed significant differences between groups for Discomfort with Closeness ($p<0.05$) and Relationships as Secondary ($p<0.05$). Furthermore, a significant difference between groups was found for Attachment Avoidance ($p<0.0001$).

For all these variables patients with food allergy showed higher scores than healthy participants.

Analyses did not reveal any interaction between group, gender and/or age factors. However main effects of gender were detected for RS ($p=0.002$), PR ($p=0.016$), AAn ($p=0.03$), and AAv ($p=0.04$) as showed in Table 3. Male reported higher scores in AAv and in RS, while female had higher scores in AAn and in PR.

The t-tests applied on the ASQ scores, considering previous anaphylaxis and adrenaline prescription did not reveal any significant differences.

Discussion

Findings showed that young people with food allergy reported significantly higher levels of Discomfort with Closeness, Relationships as Secondary and Attachment Avoidance compared to healthy controls. This is in line with previous studies finding attachment insecurity in a variety of chronic diseases (11–13). Individuals with food allergy seem to

share with other chronic patients the tendency to use avoidant strategies to cope with disease-related repeated stressors (11,18,25,33). Avoidance is characterised by appearance of confident self-reliance, minimal self-disclosure, mistrust in others and cognitive distancing from emotions, denial, and distraction in the face of stress (11,18).

Although this cross-sectional study does not allow addressing the direction of the association between food allergy and levels of AAv, it adds to an emerging evidence base around the hypothesis that distress and psychosocial burden imposed by allergic disorders might adversely impact on attitudes to close interpersonal relationships in patients. We suppose that AAv and food allergy are mainly linked through deficits in emotion regulation and/or reduced ability to cope effectively with stress (33), but alternative pathways should be explored. Mechanisms underlying these associations need to be further investigated. The majority of our patients developed food allergy in early childhood and it would be crucial to investigate how diseases-related pathways might cross developmental trajectories.

At the same time AAv could interfere with food allergy management and intensify stress and psychosocial impairment. Low quality of life found in patients with food allergy by previous research (3,6) might be related to attachment insecurity, although further research is needed to confirm such hypothesis.

Higher levels of AAv found among patients have particular meanings and concerns for food allergy. Patients with food allergy are educated very early to manage their disease (e.g. checking foods, reading labels, carrying drugs) probably relying on themselves more than others (3). Patients and parents often have difficulties in trusting other caregivers (e.g. relatives, teachers) and in some cases this can result in overprotection and/or social isolation (3).

Another critical issue in food allergy is related to the need to avoid contamination, that sometimes implies being careful in physical interpersonal contact (9,10). Wüthrich et al. described cases of allergic reactions among both adults and children, concluding that kissing can constitute a severe danger for patients with food allergy (34). It is reasonable to suppose that all these factors could have effects in the way in which individuals with food allergy feel interpersonal relationships and closeness.

AAv in participants with food allergy stems from an affective detachment (RS) and a defensive attitude centred on difficulty in sharing feelings and intimacy with others (DC). Withdrawal and cold/distant social functioning described in AAv have been linked to alexithymia (a multifaceted personality construct described as “a lack of words to express emotions”) (35). This is consistent with our previous studies finding higher levels of alexithymia in youth with food allergy (33,36).

On the other hand, AAv could represent a risk for patients. Minimizing distress, turning attention away from threat, and being overly self-reliant could interfere with an effective management of food allergy, which requires cooperating with others, monitoring health conditions, expressing possible discomfort and seeking care in case of acute reactions (33).

With regard to gender differences, main effects of gender with males showing higher AAv and lower AAn than females can be considered as common. According to Del Giudice's model, AAv is seen as a male-biased strategy, while AAn is seen as a female-biased strategy to maximize closeness with kin and partners, whereas highly stressful conditions would prompt attachment AAv in both genders (24).

In addition to the cross-sectional design, the present research is also limited by the fact that a single self-report instrument was used. Narrative or interview measures could be considered for further investigations.

The sample size was relatively small; though comparable to other studies within the same field (11,26). Further longitudinal, multidimensional studies, in larger samples could address those limitations and investigate attachment in relation with other psychological and clinical factors in patients with food allergy.

To our knowledge, this is the first study assessing attachment among patients with food allergy vs. healthy controls. Despite the exploratory nature of the study, results offer significant issues both theoretically and practically, from a clinical perspective. Health professionals should be aware of the characteristics and implications of insecure attachment for patterns of health and illness. Addressing this could translate into better adherence and health behaviours and, potentially, higher quality of life (18). Clinicians should help and support patients and their caregivers in limiting social impairment, finding a balance between safety and psychosocial wellbeing. They may promote better health outcomes in insecure patients by focusing on positive coping strategies, and stimulating effective use of support systems (25). Young patients and families should be encouraged to involve other caregivers in food allergy management and in empowering social networks for the care of allergic pathology (33). In conclusion, findings suggest the potential usefulness of attachment dimensions assessment in patients with food allergy and propose reasonable insights for psycho-educational interventions in patients with troubles in managing food allergy outcomes.

Competing interest

No financial support was awarded in relation to this paper. Conflict of interest: nothing to declare.

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Table 1. Characteristics of participants. The two samples are matched for age and gender.

	<i>Food-allergic (N=87)</i>	<i>Healthy (N=87)</i>
<i>Female</i>	45% (39)	45% (39)
<i>Age</i>	M 17.51; SD 4.26	M 17.51; SD 4.26
<i>Age range: Adolescents (14-18)</i>	68% (59)	68% (59)
<i>Young adults (19-31)</i>	32% (28)	32% (28)
<i>Previous anaphylaxis</i>	44% (38)	-
<i>Adrenaline prescription</i>	82% (71)	-

Table 2. Differences between groups at ASQ subscales and dimensions

ANOVA Group effects	Patients with food allergy (N=87)	Healthy controls (N=87)	F	p-value
<i>Confidence</i>	33.28 (4.92)	33.94 (4.5)	1.04	0.31
<i>Discomfort with closeness</i>	33.83 (4.91)	32.1 (5.64)	4.52	0.04
<i>Relationships as secondary</i>	19.05 (4.86)	16.75 (4.88)	6.13	0.02
<i>Need for Approval</i>	22.24 (5.26)	22.4 (4.93)	<1	0.88
<i>Preoccupation with relationships</i>	26.32 (5.97)	27.87 (5.44)	1.83	0.18
<i>Attachment Anxiety</i>	3.04 (0.62)	3.13 (0.62)	< 1	0.5
<i>Attachment Avoidance</i>	3.2 (0.38)	2.94 (0.37)	16.34	0.0001

Mean (SD).

Table 3. Main effects of gender at ASQ subscales and dimensions

	Male (N=96)	Female (N=78)	F	p-value
<i>Confidence</i>	34.01(4.51)	33.14 (4.93)	0.24	0.62
<i>Discomfort with closeness</i>	33.42 (5.19)	32.42 (5.51)	1.60	0.207
<i>Relationships as secondary</i>	19 (5.05)	16.57 (4.62)	10.13	0.002
<i>Need for Approval</i>	21.59 (4.62)	23.20 (5.50)	3.29	0.071
<i>Preoccupation with relationships</i>	25.78 (5.18)	28.68 (6.02)	5.93	0.016
<i>Attachment Anxiety</i>	2.96 (0.55)	3.24 (0.67)	4.82	0.03
<i>Attachment Avoidance</i>	3.12 (0.39)	2.94 (0.37)	4.16	0.04

Mean (SD).