Supersensitivity in Food Sensitive People

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When I was growing up I suppose I was like most people. I thought the amount of light, noise, smell, touch, and taste that I find acceptable was much the same as everybody else's. Perhaps, with a dietitian's interest in food, I did acknowledge that there were people we described as having a "cast iron stomach" and at the other end of the spectrum those who were food gourmets.

However, when I began working with a low chemical diet I met people with a wide variety of sensitivity to all sensory input, and in a variety of body functions such as their tolerance of pain and temperature change. I began to reflect on phrases and words we use in normal conversation that took on a new meaning in this group. These include being "Driven to distraction!" "rubbed up the wrong way!" "left with a bad taste in my mouth", "thin skinned", and "touchy".

In this article I want to pull together ideas that together describe the picture I found: the phenomenon of food sensitivity and its interrelationship with supersensitivity.

Food sensitivity is the body's reaction to various chemicals in food such that an adverse reaction occurs. These reactions can include becoming hyperactive, getting a rash, migraine or irritable bowel pain. Reactions occur in a variety of parts of the body.

We can say that food sensitivity [like the closely related condition of allergy] is a multi-system disorder. This means that the symptoms can occur in any of the body systems: the skin, the lungs, the digestive system or others. This will be shown by the variety of distressing symptoms mentioned in the following discussion.

Target organ sensitivity is the way we describe which organ is targeted for sensitivity in a particular person. One person may have a sensitive brain and have attention deficit hyperactivity disorder [ADHD] or headaches, another may have a sensitive skin with eczema and yet another a sensitive gut with irritable bowel syndrome [IBS]. Just as allergy is said to be a hypersensitivity reaction to a food protein, food sensitivity is a hypersensitivity reaction to a variety of chemicals in food.

Food sensitive people are those whose various symptoms improve when they use a diet reducing a group of suspect food chemicals which include food additive colour and flavour, most preservatives, natural salicylates and amines, and natural and added monosodium glutamate, as well as smells. There is some variation in just which of these suspect chemicals each food sensitive person reacts to. We call this

target substance sensitivity. The process of diet investigation to determine each person's diet is described in my book "Are You Food Sensitive?"

Supersensitivity as I am using it in this discussion is the phenomenon whereby a person is more sensitive than normal to input into their various senses, to the extent that it often interferes with normal function. A child may be so sensitive to his mother's vacuum cleaner noise that he becomes very distressed, an infant may not get to sleep unless all forms of light entering the room are blocked, a child may find a particular garment so scratchy that he stays restless and irritable.

In food sensitive people this supersensitivity may also result in adverse physical symptoms such that particular smells produce migraine, particular noises result in distraction from work, or scratchy clothes produce a rash. The concept of supersensitivity grew from the word 'supertasters': a group who were being researched for their increased sensitivity to taste. This resulted in their being more discriminating about food than those in the normal range.

I realised that I had met them, in the very fussy eaters I was seeing, and I had also met supersmellers, and also children and adults who were supersensitive to touch, light and sound. Supersensitivity occurs in other groups such as those with autism. Of course there are also those whose supersensitivity is outside the normal range but is constructive rather than interfering, such as in wine tasters, musicians, gourmet chefs, or even teachers who seem to have "eyes in the back of their heads'! These are seen both in the food sensitive group and in the population generally.

Supersensitivity in the food sensitive people

In this chapter I am describing how supersensitivity shows up in the important but little known particular group who are food sensitive, as they are the group I have worked with and studied for over 30 years. Initially I worked with children with ADHD, some of whom would now also be described as having mild autism spectrum disorder [ASD]. Then as diet helped with other symptoms in their families, and other symptoms in other families, I found that the same sensory sensitivities occurred.

The first sensitivity noticed was fussy eaters

Food sensitive children were often reported to be very fussy eaters. When I investigated this further I found that they were supersensitive to various aspects of the food. They had a preferred range of tolerances in what they ate, and refused food if it moved out of that range.

The reason why this was important was that, unlike most children who will eat food if it is a bit different to the usual food, as long as they are very hungry, the food sensitive children would rather eat nothing than have the different food. And they were very vocal about why they would not eat saying things like "I won't eat that, it's too scratchy!!' or "I won't eat that, it smells yuk!"

This verbalisation was very helpful. I learned the various factors that they were fussy about and so could help parents realise that a child may be developing his eating well, for instance with regard to change in taste, temperature or thickness, but

may be slower with texture increase. I then learned to apply this information to those who could not verbalise the problem - babies.

Supersensitivity producing "eating delay"

Babies in food sensitive families take much longer to progress from warm, smooth, thin milk to the variety of food tastes, textures, temperatures that we expect a small child to manage. The parents noted what foods the baby was managing and we could then see what was progressing more slowly in a particular child. The parents may have been frustrated because their baby's development in this area was much slower than their other children or those of friends.

I could help the parents see what to change and to begin change in only one small factor at a time. If they wished to introduce a new taste, they needed to do this very gradually while not changing the temperature, texture, or thickness of the food. I gradually realised that eating development is a progression, just as motor and speech are. In the normal population the progression is as we expect but in food sensitive people it can be slower, very much slower in some.

It is as if the *supersensitivity* is producing delay in normal eating development. So we needed to change our thinking from "My child won't eat that" to "my child is not ready to handle that food yet", just as we would say "My child is not ready to ride a bike yet".

Target sensory sensitivity

Initially I thought the supersensitivity applied only to eating, but gradually I realised that it applied more broadly. Food sensitive people were supersensitive to their environment in a variety of ways. One child may be very sensitive to one or two particular noises, another aversive to some particular smells. This variation in sensitivities also occurred in food sensitive adults. It is important to emphasise that food sensitive people are not supersensitive to every aspect of their environment nor in all their senses, nor to all input via one sense. The concept of *target sensory sensitivity* incorporates this idea.

Examples of supersensitivities

Following are some comments about the factors that food sensitive people are sensitive to, and some examples. Since beginning work in this area I am now more aware that there is a normal range of tolerance in the population, but that the supersensitivities in the food sensitive people are often well outside this range. This variation occurs in just how sensitive they are, and in what symptoms the sensitivity affects. While the sensitivities I describe are of interest as they are quite unusual, there are many others who are somewhere between these and the normal range.

Taste

In food, new tastes are not accepted unless any change is very gradual. Even changing to a different cows milk formula in a baby may take 10 days of gradual dilution of the current formula with addition of the new one. A change from one

brand of tomato sauce to another, or even a change in brand of jam have produced refusal.

Many parents who want to investigate diet for particular symptoms are often concerned at how it can be done. They say "He eats only a few foods now. I can't afford to cut any out!" The dietitian can find sufficient replacement foods. The core tastes are sweet, sour, salty and bitter.

You may have heard that a natural dislike of bitter tastes is probably protective for mankind as many poisonous plants are bitter. This natural dislike is more evident in the food sensitive, who often also balk at even sour foods.

There is a fifth taste not as well known. It is **umami**, the savoury taste in soups. It is naturally present in all milks and meats and in such foods as mushrooms, tomatoes and cheese. Commercially it is added as monosodium glutamate [MSG].

Many food sensitive people do notice the taste of this flavour enhancer. They may like it at low doses and report that at high doses they have adverse reactions to it.

However in writing this I am aware that the more extreme taste sensitivity is to the addition of smells. It is taste plus smell that gives food the flavour that we generally describe as taste. Flavour is discussed below with supersensitivity to smell.

When people describe their reaction to a confection they may say it is "Sickly sweet" or that they would never use cake mixes saying their taste "is enough to give you a headache!" [I remind those who complain of headaches or migraine what they have just said.] However patients describe taste and use words like "strong" to indicate what they see as *too much taste*.

Temperature

In food sensitive people the temperature range tolerated is smaller than average. Food that is just a little warmer than usual will be described as "too hot!" Food taken from the refrigerator may be refused until it has warmed to room temperature. Even the usually loved ice cream is refused by many children.

Environmental temperature also matters. For some a rise in temperature is a problem. Many hyperactive children are described as "always hot". Some are investigated [appropriately] in infancy for infections but are found to have no worrying medical reason for the higher than usual temperature. It is not unusual for them to keep discarding clothes, or to be playing with water from the garden hose in the middle of winter.

I remember a child who lived in a very hot climate reporting that he tipped his cap full of water from the school bubbler over his head when his activity and impulsive behaviour became hard to manage.

At the other end of the scale are those who complain about getting cold when the temperature has changed only slightly. We know that a drop in temperature in the late afternoon can produce asthma symptoms, but it can also produce irritable, distractible and active behaviour, or just feeling sick.

Many food sensitive people wake at 2.00 or 3.00 am reporting that their symptoms, whether gut discomfort, migraine, asthma, insomnia or feeling anxious, occur then. It is of interest that this is the time of day when the body temperature drops most.

Air humidity

We all notice when the air is very dry or very humid. However this usually does not cause more than some annoyance. But in some food sensitive people the difference can mean symptoms are much worse or better, or even that they are absent or present. Symptoms affected may be headaches, migraine, asthma and hay fever [separate from an allergy to plants]. And it can work in either direction. I have patients whose symptoms were much better, or worse, when they lived in the hot dry climate of Mt Isa compared to Brisbane. The freshness of the air before a storm helps some think very clearly and gives others migraine.

Touch and texture

Many people report problems with constant scratching from labels on clothes, different textures of materials, and what is felt as tight elastic. This very annoying, interfering effect was best summed up by a boy who said to his mother "This jumper is too scratchy, my brain won't work!"

Benefits from understanding this are seen in children who feel happy in particular clothes, or when holding rugs or toys that have a softness that they find to their liking, or being calmed by massage. The brain irritability where children describe others as being "a pain or a jerk!" is probably the origin of the idea of being "rubbed up the wrong way" by another person.

Supersensitivity to touch in the mouth is very important. The tongue and mouth lining are very sensitive to the texture of food. This sensitivity is the main cause of fussiness in small children. In adults problem foods are described as causing a 'furry tongue' 'itchy in the mouth' or a 'swollen tongue'.

Many have a very sensitive gag reflex whereby a hair or peanut coating on the tongue, or even a larger or dryer mouthful of food produce a gag reaction. Licking a stamp can produce a gag reaction which continues until all the stickiness is wiped from the tongue.

I remember a mother who insisted that she was not going to put up with a child who gagged and then he brought up all the food she fed him. She remembered she had done that when she was small. Reducing the volume of each bite and having a small sip of water between bites can prevent this gagging.

Many will not eat food that has even a slightly different texture, thickness or stickiness. Getting the thickness just right in infants can make the difference between acceptance and rejection. Food companies spend much time and effort getting a product just right so people will continue to buy it. It is therefore no wonder that parents sometimes find that commercial products are more acceptable than their time consuming home cooking.

Those who make very gradual changes in food provided will be successful. Stickiness is also important where sensitivity interacts with reflux. It seems to relate to density such that people report managing for example, a plain biscuit, but not a higher fat shortbread, or cheesecake. Perhaps this is the origin of the feeling of someone's annoying idea "getting stuck in your throat!"

Light

My first example of light sensitivity occurred in a fussy child who wouldn't eat. Her mother said that all she did at meal times was to distract her with talk about the light being too bright. When the light was changed to a less bright indirect one, meals were better managed.

We have probably all heard of people who find fluorescent lights upsetting, but one adult described feeling very irritable, "even agro" under her fluorescent light. Patients needing sunglasses or car window tinting to avoid headaches or even migraines are not unusual.

These patients have to avoid going out in direct sun. Others comment on "having fatigue" when working in the direct sunlight. This is not a heat effect as these people are more than happy to work outside in hot but cloudy, usually humid, conditions.

Any light source at all seems to be important to those who are light sleepers. One chink in the curtains, or a pilot light on some electrical equipment is enough to have them wake up. They have found that they need to ensure that even a pin light in the room next door will wake them if they have not attended to it.

An interesting variation of this is those who, each month, despite closing curtains, find they wake when there is moonlight outside, even though they would forget that it was a month since the last period of wakefulness.

Another aspect of sensitivity to light is sensitivity to colour. As you would expect, red is the main culprit. One mother reported that her breast fed baby did not feed well whenever she wore her red jumper. The baby would begin to suck and then stop as if transfixed looking at the jumper, then get hungry and begin to suck, and the cycle continued. The wise mother stopped wearing the red jumper.

Orange comes a close second to red. One boy commented on a vivid orange container on a table. He said he just could not stop turning to look at it. He did not like it so he turned away but then felt he just must turn and look at it again.

A similar reaction is also probably happening in patients who comment on how they know they are going through a more sensitive phase, when they want to put away all the brightly coloured pens or paste-notes in their office. When going well, they do not get distracted by them. And there are those who report that they get a headache if they have to stay in a room with bright red, orange or yellow painted walls.

The colour of food is important too. When writing out all the other factors to take into account for babies, I did not consider this but realised it when small children commented on the change in colour in some food such as jam or egg yolk. When we put a plate of food in front of a child and wonder if it will be accepted we think of

acceptance in general terms, but babies and small children are aware of, and respond to, the taste, texture, and all other sensory inputs from the food.

Smell

Smell is one of the most important sensory inputs in supersensitive food sensitive people. I often say that the likelihood of a person being food sensitive is greatest in those who are supersmellers [very sensitive to smell].

When I see a new patient I often ask if they have a problem with walking through the perfume department of a large department store, or down the supermarket isle with high-smell cleaning products. Often they will say "Yes I sneeze, doesn't everybody?" or "Yes I get a headache, doesn't everybody?"

If I ask who in the family thinks left over meats in the fridge should be thrown out as they smell "off", they usually reply that it is them. They make comments like "I just can't believe my mother can't smell the meat!" or "I am amazed at the people at work. They say 'The milk is OK until it curdles, isn't it?' They just can't smell it!"

Others are aware that their sense of smell is different and more sensitive than others. I remember a grandmother who thought her granddaughter had a "gift" as she knew children were there [around a corner] before they were visible, or could be heard.

I have lots of supersmeller stories. One was of a food sensitive family who had some second hand play clothes. They washed them again and again as they thought they had a bad smell but could not identify or remove it. The mother took the clothes to work to comment on them to a friend. The friend said they had no smell. Then the friend's son, a diet-responding migraine sufferer, commented that they did smell. They smelt of stale milk! This is a good example of the range of smell sensitivity in the population.

Food sensitive children are often reported to comment on the smell of people. Their parents say they have to teach them that it is not polite to say "You smell yuk", particularly to strangers. The best example of a supersmeller was the adopted child of a headmistress. She reported that this child could pick up a lost garment in the small school and by smelling it, identify who it belonged to.

As mentioned above smells can cause physical symptoms such as migraine. One patient chided her sister for wearing a perfume that gave her migraine. Her sister defended herself by saying she had put it on "yesterday morning". My patient told her "I can still smell it and it will give me a migraine!"

Patients have reported reactions to just about everything that smells. My advice now is "If you can smell it, it is probably a problem." I often have reports of hyperactive children becoming worse when jasmine flowers are in bloom, nightmares with mock orange blossom which is stronger at night.

If a house is cleaned, painted, or sprayed for insects, reactions are reported until the smell goes away. The same applies to carpets that smell and to plastic containers. Other environmental smells reported are petrol, cigarettes, smoke, and any perfumed products. Sometimes commercial companies state "no perfume" but have

added aromatic compounds such as *essential oils*, for example, citrus oil, and these still cause reactions. These, by the way, are not *essential* for health, but are *essences* extracted for flavours.

Apart from sweet, sour, salty, and bitter, the majority of our sense of taste is due to the flavour we smell. Young children notice smells and, if supersensitive, reject food with increased or different smells. As the temperature of food increases so does the smell. I have met many children who refuse eggs. When I suggest they try [chilled] hard boiled eggs the mothers often say "Actually he will eat hard boiled eggs".

Some adults report symptoms occurring when they cook spicy food for their family even if they themselves do not eat it. Another group of smells noticed in food sensitive people are those that make food smell "off". And it is not just that these smells are disliked. Much work has been done on compounds called amines which often are part of the suspect compounds that cause migraine in those who are susceptible. They are in such foods as chocolate. (See the discussion in *Are You Food Sensitive?* for more information about this.)

Disliked smells are usually avoided as they are known to produce some symptom if the dose is high enough. But it is important to realise that smells that are liked can add up and contribute to the total load of suspect chemicals. This is also why a smell that seems tolerated one day may noticed as a problem on another.

Sound

Supersensitivity to sound is mostly reported for its adverse effect on attention and sleep. That sound "drives me to distraction!" or "keeps me awake" is often said. And parents of ADHD children know that they must reduce all distracting sounds to provide an environment that allows the children to do their homework. Sound appears to be not just annoying but very distressing to very small supersensitive children who scream, or put their hands over their ears when they are old enough to do so, when loud noises occur.

One mother learned that ear muffs helped greatly. As the children grow their tolerance improves. And the supersensitivity reduces when they respond to diet investigation. The type of noise also matters. Parents report children who overreact to water running down the plug hole, the vacuum cleaner, or toys that make a particular noise.

Sound is one sense that we can identify as a possible irritant in those who cannot tell us what is distressing: babies and children with Autism Spectrum Disorder. We see them react and we suspect the noise that we also hear, and so can reduce it. Many parents who are somewhat supersensitive themselves learn to watch all types of sensory input to learn which may be upsetting their child.

Emotional sensitivity

Supersensitive people are not only sensitive via their senses. It affects mood as well. Many supersensitive children overreact emotionally in one of two directions. One group prefers to withdraw saying things like "I'm no good, I'll never be able to do it", "I'll never have any friends", "I'm not good looking", "No one wants to play

with me". After responding to diet investigation the parents say the child's self confidence has greatly improved.

The other group are those who do not withdraw. They are often irritable and say things like "He started it! It is his fault!" "Why do I have to do more than others!" "That teacher always picks on me!" "He is a pain and a jerk!" "What the hell anyway, I couldn't give a stuff!"

Here we can note that the behaviour that researchers report as changing the most with diet investigation is "irritable, touchy, and cranky". Many parents say the child is "happier" on the diet. I remember one ten year old when asked what it felt like on the diet, relaxed back in his chair and said "I just don't feel angry any more". The feeling or idea can be summed up by one perceptive diet responder saying "When I break the diet or when I react to some food, not only do I feel more annoyed, I feel I have good reason!"

Imagine how the three year old child who feels like this is liable to react when someone picks up his teddy. Much more could be written on the role of diet in behaviour and the other topics touched on below but space does not allow.

Gut sensitivity

People suffering from irritable bowel syndrome often report a feeling of urgency to go to the toilet after taking only one or two mouthfuls of food, or just when they wake [rather like those who sneeze when they are waking].

Lung sensitivity

Wheezing can be caused by changes in temperature, rate of air flow, and humidity.

The whole system

It seems to take much less change in the environment to produce nausea, feeling faint, hung over, chronically fatigued, or motion sick in food sensitive people. These responses are all said to decrease in those who respond to diet.

Pain sensitivity

At first I noticed how many hyperactive children were reported to have a very high pain tolerance. Many of them would sustain injuries severe enough to cause bleeding, but the child would just get up and run on. Some hyperactive children suffer from severe ear infections, but the only sign of this might be a child pulling at his ear.

I heard a story where a mother who presumed her child was not hurt after a fall, changed her mind when bathing him that evening, when she discovered a fracture by the looseness of his arm. Of course she had him attended to immediately.

Gradually I noticed comments about those at the other end of the spectrum: those who seemed to be over-sensitive to pain. They were often commented on because they were siblings of the high pain tolerance children. They would go pale and want to stop for longer to recover and cry more. This group tended to be those who had physical symptoms as well: tummy aches, headaches, eczema. They tended to be those who were the inward looking children described previously.

It seemed logical that as well as people who have an increased tolerance of pain there could be people who have decreased pain tolerance. Many adults had such severe pain with an irritable bowel syndrome or painful menstrual periods or migraine that they were going into shock. Fortunately the diet investigation reduced their symptoms.

It is important to realise that in those who respond to diet both the symptoms and the sensitivities decrease by shifting further towards the normal range when diet response occurs. They say things like "now on the diet I feel better and can cope with the noise of the motor mower next door", "my supersensitive teeth are no longer bothering me" or "petrol or cigarette fumes do not make me feel sick like they used to."

The Total Body Load

There is one more concept that helps us understand some of the variation in tolerance of different suspect substances. It is called the Total Body Load. The idea is that each food sensitive person will only get interference with function, or symptoms, if the total load of suspect chemicals and sensory input reaches their particular threshold.

This includes the suspect food chemicals, suspect whole foods, all sensory inputs, particularly smells, allergens [whether food or inhalant], and other reported factors such as significant stress, infections or hormone changes.

This concept allows us to appreciate why what is causing problems may not be immediately clear. There may be the layer of obvious foods or smells that clearly show a connection to symptoms. But it is by investigating diet for the layer of suspect substances underneath, which collectively bring the body closer to the threshold, that maximum diet benefit is obtained.

There is much yet to learn about the interaction of supersensitivities and food sensitivity. My aim is to show that there is a connection. People who are supersensitive to the extent that it is interfering with their enjoyment of life, or they have any of the symptoms mentioned above, should consider getting help with a diet investigation, preferably with an experienced dietitian.

See my review article, and articles including "Diet and mood" and What's smell got to do with it?" on my home pages www.ozemail.com.au/~breakey and www.dietinvestigation.com and my book "Are You Food Sensitive?"