

THE piles of multicoloured packets, boxes and bags in Amanda Duddridge's weekly supermarket shop are typical of most modern families in the UK, with frozen pizzas, crisps, squash, flavoured yoghurts, breakfast cereals and cakes.

Like many parents, Amanda, 36, really wants her family to eat healthily — the teaching assistant from South Wales and her partner, Grafton, 38, a customer service adviser for British Gas, have two daughters, Esmee, eight, and Elvie, three.

So Amanda stocks up on rice cakes, brown rice and frozen peas and chooses Quorn nuggets in a bid to reduce their meat consumption. She also encourages the girls to snack on grapes, apples and bananas.

But she is conscious that the proportion of processed food in her shopping trolley seems to be continually growing.

'I used to be really good at cooking family meals from scratch but there comes a point in life where you lose enthusiasm to come up with new healthy recipes for two fussy children — one of whom eats hardly anything,' she says.

'I was ending up with enough waste to fill four food compost bags a week, so I stopped cooking stir fries, casseroles and soups. Now I buy food that I know the family will eat.'

And that invariably means convenience foods that have a long list of ingredients more familiar to a laboratory than a kitchen.

Known as ultra-processed foods (or UPFs), they're increasingly coming under the spotlight, with a growing body of evidence linking their high consumption with the rise in obesity, type 2 diabetes and other diseases.

Even if you think you eat healthily, UPFs might have crept into your diet in the form of 'low fat' or 'vegan' health foods.

A UPF is a manufactured food or drink that contains a number of highly processed (chemically modified) ingredients, plus chemicals in the form of flavourings, taste modifiers or texturising and colouring agents.

Many UPFs contain large amounts of added sugar, fat and/or salt in just the right combinations to make them irresistible, with the added appeal that they are convenient, often cheap and usually boast a long shelf life.

Unsurprisingly, families like Amanda's find more and more UPFs creeping into their shopping trolleys. A study by Imperial College London, published in the journal JAMA Pediatrics last June, found that British children now get on average 60 per cent of their calories from these foods.

If children are the worst 'offenders', adults aren't too far behind, with an estimated one in five British adults eating a diet that is 80 per cent UPF.

OCCASIONALLY consuming UPFs (one or two a day) is probably harmless, but health concerns can start to creep in the more UPFs you eat and the more regularly you eat them, according to Dr Anthony Fardet, a senior research scientist in preventive, sustainable and holistic diets and nutrition with the French National Institute for Agricultural Research.

'UPFs are less nutrient dense than "real" food,' he explains. 'They contain many additives which may have an as yet unknown cocktail of effects.'

'They are also generally too salty, too sweet and too fatty. Then you can add in the impact of industrial processing [such as puffing],' he says, referring to the way the processing breaks down the natural structure matrix of foods, effectively 'pre-chewing' them, which means many UPFs have a very high glycaemic index that can send blood sugars soaring.

'The heavy processing strips away the nutrients and fibre in food and imbalances the natural act of eating and the metabolic impact of any nutrients,' he adds.

And UPFs are difficult to resist. Pioneering research by Dr Kevin Hall, a nutritional scientist at the U.S. National Institutes of Health, found that we eat almost 60 per cent more calories per minute when eating a UPF-based diet (500 calories more per day). We also consume them 30 per cent faster compared with unprocessed food.

Why does this matter? Quite apart from the potential weight gain (a study published last year by Imperial College London showed that the higher the proportion of UPFs children consume,

Like so many, Amanda thought low-fat yoghurts and vegan sausages would benefit her children. But they are just some of the ultra-processed foods now being linked to obesity, diabetes and heart disease...

Why trying to provide your family with 'healthy' food could be BAD for them

By **LOUISE ATKINSON**

the greater their risk of becoming overweight or obese), UPFs are linked to serious disease.

Studies from the University of Sao Paulo in Brazil have found that excessive UPF intake (more than 56.8 per cent of the diet) increases the risk of type 2 diabetes, cardiovascular disease and cancer.

In 2019, a study published in The BMJ found that people who ate a lot of UPFs (more than four servings a day) were at a 62 per cent greater risk of premature death from all causes than those with a low consumption. For each individual serving of UPF, the risk of death increased by 18 per cent.

Dr Fardet points to work from the Aesku Kipp Institute in Wendeisheim, Germany, where researchers have suggested a link

between consumption of industrial food additives and the rise in autoimmune conditions such as coeliac disease.

There is also a potentially more immediate effect, Dr Fardet suggests, with studies (including one published in the journal European Psychiatry in 2015) showing that colouring agents can increase the risk of hyperactivity in children.

There is concern that UPFs might affect the brain, making us want them more, with researchers in Spain last year suggesting UPFs as 'a gateway to addiction'.

In a unique experiment in 2021, TV doctor Chris van Tulleken went on a UPF-only diet for a month, and even after this short time there were changes in his brain that meant he was effectively 'primed' to seek out UPFs.

Dr Fardet argues that the impact of these products is generally worse for children.

'Children are highly targeted by aggressive TV marketing in a bid to make them lifelong customers

because that's where the profits lie,' he explains, warning that: 'The earlier they start to be consumers of UPFs, the more chance they've got of being affected by chronic diseases at a younger age.'

Just how easy it is for these foods to become a major part of our diet is highlighted by Amanda's typical weekly shop, which we asked Dr Fardet to analyse.

Dr Fardet estimates that she and Grafton are eating around five portions of UPFs a day and their children are nibbling away at around ten, with UPFs making up nearly 50 per cent of their diet.

THE DANGER IN 'HEALTHY' FOODS

AMANDA'S shopping trolley shows her well-intentioned efforts to eat healthily — low-fat cheese spread, diet drinks, rice cakes in place of biscuits and vegetarian meat alternatives to keep a lid on meat consumption.

But Dr Fardet warns foods with

'healthy' labels such as 'enriched with' or 'low fat' can be among the most heavily processed as manufacturers combine chemicals to replace fat, sugar or the nutrients stripped out whilst processing.

Vegan and vegetarian substitutes are increasingly popular as more people switch to a plant-based diet in the belief that it's healthier, choosing fake 'meat' pasties, bacon, burgers, chorizo sausages, ham and 'chicken' nuggets.

But Dr Fardet says many fake meats and plant milks rank among the worst UPF offenders, often containing highly processed protein and fibre compounds and many additives as well as stabilisers, sugar, salt, flavouring and added vitamins and minerals.

The majority of 'fake meats' are heavily processed, with many made from soya protein or wheat gluten, which goes through a complex manufacturing process involving heat, acid or solvents, to create a meat-like texture.

(Quorn meat alternatives are



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made from a double-fermentation process that creates a fungus which is structurally similar to animal protein). All this is before the chemical flavourings and preservatives are added. Amanda's Quorn nuggets, for instance, list 25 ingredients on the packet.

'I worry about the rise of ultra-processed foods such as fake meats,' says Dr Fardet.

It is too soon for epidemiological studies to link consumption with chronic disease risk but I have grave concerns about this "edible chemistry" and the effects of so drastically altering the food matrix. We don't yet know what regular consumption is doing to the body.'

HOW TO REDUCE RELIANCE ON UPFS

DR FARDET says the worst UPFs to watch out for (and avoid) are those which contain numerous markers of ultra-processing (a long list of additives and already-processed ingredients) and cites fizzy drinks, salty and fatty snacks, mass-market biscuits and bakery products, including breakfast cereals and sweets.

He points at the sweetened cereal, the white sliced bread, cakes, biscuits, crisps, pizzas, squash, diet cola and curly fries in Amanda's shopping.

The curly fries that Amanda's daughters love, for instance, might be made of 81 per cent potato, but Dr Fardet highlights the fact that they are 'artificialised' with five ultra-processed ingredients including potato starch, maize starch, yeast extract, disodium phosphate and dextrose.

The children's orange squash contains citric acid, sodium citrate, flavourings, cellulose gum, sucrose acetate isobutyrate,

glycerol esters of wood rosin and carotenes.

Grafton's 'meat feast' pizza contains more than 30 ingredients, including diphosphates and triphosphates (added to reduce acidity and improve texture).

And the Mexican fajita kit the family enjoy on special occasions contains a complex list of stabilisers, emulsifiers, firming agents, acidity regulators and flavourings.

The family regularly sits down to a dinner of fish fingers or chicken goujons (each with a long list of processed ingredients, though fewer chemical additives), and snack on prawn cocktail snacks (made from tapioca starch, sunflower oil, maize flour and 11 processed flavourings); flavoured rice cakes (rice, maize, oil and five additives, including potassium chloride); fromage frais pouches (12 ingredients); brioche buns (packed with emulsifiers and flavourings); and cake bars (22 processed ingredients on the pack).

Unsurprisingly, Amanda is shocked by Dr Fardet's analysis: 'Yes, I was concerned that we were eating too much industrially processed food, but I hadn't realised it could have such a dramatic impact on our health,' she says.

'I'm lucky that the children don't show any signs of hyperactivity, although they haven't always been great sleepers and they do seem to lack energy at times.

'I had gestational diabetes when I was pregnant with Elvie and I've been told that puts us both at greater risk of getting type 2 diabetes, so I am concerned about the impact of the food we eat on our health,' she adds.

'I know I must try to stop buying it, but it's so difficult when you've got fussy eaters. It is also difficult when real food is more expensive,

and it is heartbreaking when you cook from scratch only to see your food rejected. I hate food waste — sometimes it is just easier to give the children what they want.'

It's perhaps unrealistic to expect busy families like Amanda's to abandon all processed food and to start cooking everything from scratch. However, Dr Fardet says a good place to start is by aiming for two portions a day — his 'maximum precautionary threshold', and ideally, not every day.

Next, he suggests hunting down convenient alternatives with a shorter ingredients list (ideally with recognisable real food ingredients rather than chemicals).

Dr Fardet says anything with five ingredients or more has a 75 per cent chance of being a UPF and should be avoided if possible.

Dietitian Sarah Schenker suggests picking your battles, first aiming to cut back on processed snacks — an additional UPF that only dulls the appetite, making it more likely that the children will refuse real food — such as crisps, sweets and biscuits and switching the whole family to wholemeal or seeded bread ('children are more likely to follow their parent's behaviour, so it is important to lead from the front').

She also recommends gradually adjusting the children's expectations for sweet foods by mixing their ultra-processed cereal 50:50 with less processed Weetabix.

She adds that getting the whole family involved in planning, shopping and cooking one meal (perhaps tacos or homemade pizza) each week helps to increase engagement and reduce reliance on UPFs, but adds, 'I appreciate it's a difficult balance.' See more diet tweaks from Sarah Schenker in the panel, right.

TRY POPCORN INSTEAD OF CRISPS AND SUBSTITUTE SQUASH FOR JUICE

SKIPS FOR POSH CRISPS OR POPCORN: Many UPF salty snacks are made from extruded potato or maize starch (extrusion is where the ingredients are pulped and forced through a matrix into certain shapes), which renders the starch more rapidly digestible, and then coated in a cocktail of chemical additives.

Choose instead 'natural' crisps with a minimal number of 'real' ingredients (Kettle Chips, £1.25 for 100g, contain potatoes, sunflower oil, sea salt) or popcorn (Metcalf's sea salt popcorn, £1 for 870g, contains popped corn, rapeseed oil, sea salt).

PLANT MILK FOR ORGANIC OR COW'S MILK: Unless you have a reason to avoid cow's milk (you are vegan or lactose intolerant) there should be room in your fridge for cow's milk as a non-UPF option. If you prefer plant milks, check the label, as some are highly processed.

Alpro soya (£1.65), for instance, contains sugar, salt, flavouring, stabilisers and acidity regulators in addition to soya beans and added calcium and vitamins, but the organic version of Alpro soya (£1.80) contains just soya beans and water.

FAKE MEAT BURGER FOR LENTIL BURGER: Vegan products which taste and look like meat will have been very highly processed and packed with chemical additives. Better to eat real meat or get your non-meat protein from natural plant-based sources such as chickpeas and lentils.

FLAVOURED YOGHURTS FOR PLAIN YOGHURT: Yoghurts aimed at children tend to be packed with sugar and chemical additives. Better to buy full-fat plain yoghurt (which naturally tastes sweeter than low-fat) and stir in fresh or frozen berries or a spoon of jam.

CHOCOLATE-BASED CEREALS FOR A 50:50 MIX: Most breakfast cereals are high in sugars and fat, and (usually) low in fibre and protein. They also have less demanding chewing

textures, which means they're easy to overeat and won't keep you feeling full for long. Instead, sprinkle a handful of sweetened cereal over minimally processed Shredded Wheat bitesize (£2.60 for 720g), or Weetabix (£4 for 48).

WHITE SLICED BREAD FOR ARTISAN BAKED: White sliced bread baked on an industrial scale is highly processed, with lots of additives to boost the taste and texture and to extend its shelf life. Be prepared to pay a little more for bread freshly made at an independent bakery (sourdough tends to be less processed) and check the labels.

Bread without preservatives might go stale more quickly, so slice and freeze it, then defrost slices when you need them.

WAFFLES/CURLY FRIES FOR OVEN CHIPS: One reason potato shapes are so appealing to children is because they are manufactured from cooked mashed potato which is moulded then coated in a cocktail of flavour-enhancing chemicals. Pick up a bag of old-fashioned oven chips (McCain 'naked'

oven chips are just potatoes and sunflower oil, £2 for 900g, from Sainsbury's), sprinkle them with salt and be prepared to wait a little longer for them to cook.

BIG BRAND BISCUITS FOR MORE NATURAL ALTERNATIVES: Most branded biscuits and cakes count as UPFs — check the ingredients list — and 'healthy' granola bars are no better. Instead, aim to pay a little more for something with 'real' (recognisable) ingredients.

Try Nairn's fruit and seed oatcakes (£1.45 for 6 pouches of 3 oatcakes) or shortbread (Sainsbury's Highland all-butter shortbread 65p for 200g) or eat nuts (almonds or walnuts) instead.

SQUASH FOR JUICE: There's nothing natural about 'fruit squash', and even if it says 50 per cent fruit juice on the label there will be added sugar, and chemical flavourings and preservatives. Better to buy plain juice and dilute it with water.

