ISRCTN55184289 https://doi.org/10.1186/ISRCTN55184289

Patterns of Adult Food Allergy (PAFA-Stage 3)

Submission date
02/09/2022

Recruitment status
No longer recruiting

Registration date
18/10/2022

Overall study status
Completed

Last Edited
21/08/2023

Condition category
Other

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
The prevalence of adult food allergy has not been studied systematically in the UK since the 1990s, and it is not clear whether the prevalence, patterns and phenotypes of adverse reactions to food in adults have changed over the last three decades, especially in relation to life-threatening IgE-mediated food allergy (reactions to food caused by the presence of specific antibodies called immunoglobulins E [IgEs]). The main aim of this study is to determine the prevalence of IgE-mediated food allergy in adults aged 18-70 in a UK-based population. The study also aims to describe the different trajectories of food allergy across the life course, to describe adult adverse reactions to foods that are not mediated by IgE, to identify potential risk factors for the development of food allergy , and finally to undertake molecular phenotyping of food allergic reaction. The project is being undertaken in three stages. In the first stage of the study the prevalence of self-reported adverse reactions to food was defined using a community-based survey. In stage 2, those with possible IgE and non-IgE-mediated food allergy identified in the stage 1 were invited for an allergy assessment (skin prick testing and/or a blood sample collection) to determine whether or not they are sensitised (have specific IgE in blood) to the food they had reported problems to. This is stage 3 of the study.

Who can participate?
Stage 3 participants will be selected from individuals who have a probable IgE-mediated to food identified from the PAFA community survey (PAFA -Stage 2) undertaken in adults in the UK aged 18-70 years registered with GP practices in Manchester, and the Manchester Asthma and Allergy Study (MAAS) and Isle of Wight 1989 Birth Cohort study.

What does the study involve?
In Stage 3, participants undergo a telephone consultation to assess their probable food allergy using a questionnaire to identify if they meet study criteria to undergo an oral food challenge to confirm their food allergy. Participants may be invited for additional testing (skin prick testing and/or specific IgE). Following an expert review those eligible for an oral food challenge will be invited for a pre-assessment visit to check their health status before undergoing an oral food challenge to selected priority allergenic foods such as peanut, hazelnut, Brazil nut, egg, milk, shrimp and molluscan shellfish. The initial consultation will be undertaken on the phone or virtual (e.g. video conferencing) at hospitals (Manchester University NHS Foundation Trust -

Wythenshawe Hospital, and Isle of Wight NHS Trust). Study visits relating to the oral food challenge will take place at Manchester University NHS Foundation Trust - Wythenshawe and Southampton University Hospital NHS Foundation Trust.

What are the possible benefits and risks of participating?
Those participants who report an adverse reaction to food will benefit from a clearer understanding of whether or not they have a food allergy with a more detailed clinical assessment with a medical doctor to confirm whether they have a food allergy or not. Participants who have a food challenge test which is positive will benefit from finding out more about the amount of an allergenic food that triggers their allergic reaction and will be shown how to treat their allergic reaction. Participants who do not have a food allergy but have other types of allergic or associated respiratory disease will also benefit from a clearer understanding of their allergies and associated respiratory disease such as asthma. The data gathered in this study will contribute to our understanding of the prevalence and trajectory of food allergy and identify potential risk factors, which in turn will facilitate updating current public health policies regarding food allergy including prevention and treatment. Risks associated with blood samples include localised infection (infection of the tissue around the extraction site), phlebitis (inflammation of the vein used for extraction) and haematoma (accumulation of blood within the tissue that clots, forming a swelling around the extraction site). Local anaesthetic cream /spray can be used to minimise any discomfort. When skin prick tests are positive a small wheal will develop surrounded by a flare. This can be itchy. It is expected that there will be at least one positive skin prick test in half of the participants in the study and this is not an adverse event. The itching goes away quickly but, if needed, the researchers will put some anti-histamine or steroid cream on the skin.
During an oral food challenge, it is expected that participants will develop symptoms and signs of an allergic reaction, as they are being given a substance to which they are allergic. These signs are as follows: wheeze, cough, stridor (noisy breathing), variable nasal symptoms, rhinorrhoea (runny nose), sneezing, difficulty breathing, drop in blood pressure, mouth/skin tingling, nausea, emesis (vomiting), stomach ache, diarrhoea, ocular symptoms, variable skin symptoms (e.g rash, urticaria, erythema, angioedema), headache, dizziness, drowsiness, and fainting. These signs will be recorded but will not be considered to be adverse reactions. None of these symptoms are expected to meet the requirements for a serious adverse events, and they will not be reported to the sponsor. Anaphylaxis is a rare but expected event during oral food challenges, therefore it will not be reported, unless it necessitates hospitalisation (i.e it is a severe adverse event). If anaphylaxis occurs late in the day, this may necessitate hospital admission for logistical reasons to ensure that the participant remains under observation for the period stated for the oral food challenge. If the participant is hospitalised this constitutes a severe adverse event and will be reported.

Where is the study run from?
Manchester University NHS Foundation Trust (UK)

When is the study starting and how long is it expected to run for?
November 2018 to December 2024

Who is funding the study?
Food Standards Agency (UK)

Who is the main contact?
1. Prof. Angela Simpson, angela.simpson@manchester.ac.uk
2. Prof. Clare Mills, clare.mills@manchester.ac.uk

Study website
https://sites.manchester.ac.uk/pafa/

Contact information

Type(s)
Scientific

Contact name
Prof Angela Simpson

ORCID ID
http://orcid.org/0000-0003-2733-6666

Contact details
2nd Floor Education Research Centre
Southmoor Road
Wythenshawe
Manchester
United Kingdom
M23 9LT
+44 (0)161 291 5871
angela.simpson@manchester.ac.uk

Type(s)
Principal Investigator

Contact name
Prof Clare Mills

ORCID ID
http://orcid.org/0000-0001-7433-1740

Contact details
Room 2.021
Manchester Institute of Biotechnology
University of Manchester
131 Princess Street
Manchester
United Kingdom
M1 7DN
+44 (0)7920234062
clare.mills@manchester.ac.uk

Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number

305963

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
IRAS 305963, CPMS 53521

Study information

Scientific Title
Patterns and prevalence of adult food allergy in a UK population - PAFA-Stage 3

Acronym
PAFA-Stage 3

Study objectives
The main objective of the study is to determine the prevalence of IgE-mediated food allergy in adults aged 18-70 years in a UK-based population. The secondary objectives are:
1. To describe the different trajectories of food allergy across the life course
2. To describe adult adverse reactions to foods that are not mediated by IgE
3. To identify potential risk factors for development of food allergy
4. To undertake molecular phenotyping of food allergic reactions

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 18/08/2022, Yorkshire & The Humber - South Yorkshire Research Ethics Committee (NHSBT Newcastle Blood Donor Centre, Holland Drive, Newcastle upon Tyne, NE2 4NQ, UK; +44 (0)207 1048091; southyorks.rec@hra.nhs.uk), ref: 22/YH/0160

Study design
Observational nested case-control study

Primary study design
Observational

Secondary study design
Nested case-control study

Study setting(s)
Hospital

Study type(s)
Diagnostic

Participant information sheet
Not available in web format, please use contact details to request a participant information sheet

Health condition(s) or problem(s) studied
IgE-mediated food allergy in adults

Interventions
Individuals with a probable food allergy will be identified from the PAFA-Stage 2 study, and the Manchester Asthma and Allergy Study (MAAS) and Isle of Wight 1989 birth cohorts and invited for clinical confirmation of an IgE-mediated food allergy which may also include an oral food challenge.

Participants will initially undergo a telephone consultation to assess their probable food allergy using a structured clinical history questionnaire to identify if they meet the study criteria to undergo an oral food challenge to confirm their food allergy. Participants may be invited for additional testing (skin prick testing and/or specific IgE) to support the clinical assessment of their food allergy. Following an expert review, those eligible for an oral food challenge will be invited for a pre-assessment visit to check their health status prior to undergoing an oral food challenge to selected priority allergenic foods such as peanut, hazelnut, Brazil nut, egg, milk, shrimp and molluscan shellfish.

Intervention Type
Other

Primary outcome measure
1. Confirmed food allergy (IgE-mediated):
1.1. Clinician confirmed: defined as self-reported symptoms associated with consumption of a particular food which are typical of an IgE-mediated food allergy, with symptom onset within 2 hours measured by a detailed food allergy questionnaire and review of medical history and evidence of sensitization to the same food measured by a skin prick testing and/or venepuncture (a blood sample withdrawal) and serological analysis
1.2. Oral food challenge confirmed: measured by a double-blind placebo-controlled food challenge
2. Inconclusive: confirmed by a clinician as the reported (and measured by a questionnaire and review of medical history) signs/symptoms not clearly attributable to an IgE-mediated food allergy and oral food challenge not performed.
3. Tolerant:
3.1. Measured by a double-blind placebo-controlled food challenge that is rated negative
3.2. Clinician confirmed (measured by a detailed questionnaire and review of medical history) tolerance

Measured at up to five visits depending upon the clinical case and at times based on patient availability. The final outcome will be decided by the expert panel which will take account of information collected across visits 1-5 for PAFA Stage 3.

Secondary outcome measures
Possible non-IgE-mediated adverse reactions to food, defined as self-reported adverse reactions to food that are characteristic of non-IgE-mediated food allergy and develop after 2 hours of the food consumption (measured by a detailed questionnaire) and a negative skin prick test and or no presence of specific IgEs as (measured by venepuncture and serological analysis). Measured at up to five visits depending upon the clinical case and at times based on patient availability. The final outcome will be decided by the expert panel which will take account of information collected across visits 1-5 for PAFA Stage 3.

Overall study start date
01/11/2018

Completion date
31/12/2024

Eligibility

Key inclusion criteria
Current participant inclusion criteria as of 09/12/2022:
1. Have probable (or suggestive symptoms for cohort members) IgE-mediated food allergy or those in whom further clinical evaluation is deemed necessary to exclude a food allergy and either be respondents to PAFA-Stage 2 who agreed to be recontacted about PAFA Stage 3 or be members of the MAAS and Isle of Wight 1989 cohorts
2. Be capable of giving informed consent

Previous participant inclusion criteria:
All must be either respondents to the PAFA-Stage 2 community survey aged 18-70 years and consent to be invited to take part in PAFA-Stage 3, or members of either the MAAS or Isle of Wight 1989 birth cohorts with a probable food allergy

Participant type(s)
Patient

Age group
Adult

Lower age limit
18 Years

Upper age limit
70 Years

Sex
Both

Target number of participants
(1) PAFA Community survey: ~150 individuals identified in PAFA - Stage 2 of whom up to ~40 may undergo double-blind placebo-controlled food challenge (DBPCFC); (2) Birth cohorts: a. MAAS cohort : ~14 individuals of whom ~3 may undergo DBPCFC; Isle of Wight 1989 cohort: ~26 individuals of whom ~5 may undergo DBPCFC

Key exclusion criteria
Adults who have dementia, Alzheimer’s disease, or are receiving palliative care

Date of first enrolment
19/09/2022

Date of final enrolment
31/10/2023

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
Wythenshawe Hospital
Southmoor Road
Wythenshawe
Manchester
United Kingdom
M23 9LT

Study participating centre
Southampton General Hospital
Tremona Road
Southampton
United Kingdom
SO16 6YD

Study participating centre
St. Marys Hospital
Parkhurst Road
Newport
United Kingdom
PO30 5TG

Sponsor information

Organisation
Manchester University NHS Foundation Trust

Sponsor details
Cobbett House
Oxford Road
Manchester
England
United Kingdom
M13 9WL

+44 (0)300 3309444
nana-nyarko.asare-anokye@mft.nhs.uk

Sponsor type
Hospital/treatment centre

Website
https://mft.nhs.uk/

ROR
https://ror.org/00he80998

Funder(s)

Funder type
Government

Funder Name
Food Standards Agency

Alternative Name(s)
The Food Standards Agency, FSA

Funding Body Type
Private sector organisation

Funding Body Subtype
Other non-profit organizations

Location
United Kingdom

Results and Publications

Publication and dissemination plan
It is planned to publish the study results via the following:
1. Papers appearing in refereed journals
2. Book chapters, annual reviews, etc edited externally
3. Edited contributions to conferences or learned societies
4. Invited keynote lecture at a major international conference
5. Poster sessions, abstracts and other non-edited contributions to conferences
6. Books edited or written by project member, alone or with others
7. Theses

8. Articles in popular magazines and other technical publications (for the scientific community)
9. Publicity, media and science communication (for the general public) including interviews for television or radio

Intention to publish date
31/12/2025

Individual participant data (IPD) sharing plan
At the end of the project, the generated and analysed datasets will be stored in a publically available repository. The fully anonymised dataset will be placed in the public domain by the funder, Food Standards Agency, who in line with government policies on Open Data will publish the anonymised dataset via their website https://data.food.gov.uk/catalog. Consent for publishing the data will be obtained from the study participants.

IPD sharing plan summary
Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No