

Exercise in the FOS course

The proposal



Write a proposal; on a novel topic apply what you have learned

Topic Ageing

Guided Self study with consultations

- ❖ Day one: what type of research in the field. What research question do you want to focus on (include the knowledge of the FOS course).
- ❖ Two : elaborate on research questions, hypothesis, measurements and designs
- ❖ Three: enrich your proposal by pilot studies (Moleipi data or data on the web)
- ❖ Four : Build results into proposal/prepare presentation
- ❖ Five: present and six write critical supplement

The 10 steps of doing research: Where to start?

1. What wonders you about a subject? Orientation regards to knowledge.
2. Formulate a useful research question which:
 - a. Can be answered with yes, no and/or a number
 - b. Is original;
 - c. Makes sense.
3. In who do you measure something? What will be your research object? Human / animal / tissue? Are you going to do research in literature? Are you going to design something?
4. How big are the groups? Who or what do you compare with whom? What do you measure? Is it allowed? Where do you track these groups? Are the group's representative? What's easy, what is nice but perhaps inconvenient (human behaviour).
5. Create a hypotheses after you've gone through steps 1-4 a couple of times.

The 10 steps of doing research

6. What data are you going to collect? What will your data look like?
Assume your hypotheses to be true, how will the graph look like?
Could you have predicted to be wrong? Best and worst case scenario.
7. Process the data, draw conclusions and reflections.
8. What does the outside world do? Are you the only one who came up with this? Compare your results and discussions with other studies.
9. Who can benefit from your research? Who are you going to tell about it?
10. Can the results of your inquiry be misused or misinterpreted?



A real research: Healthy ageing

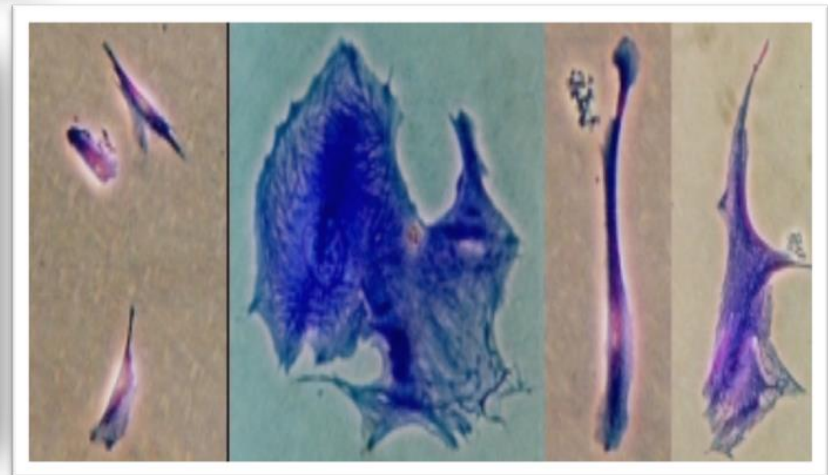
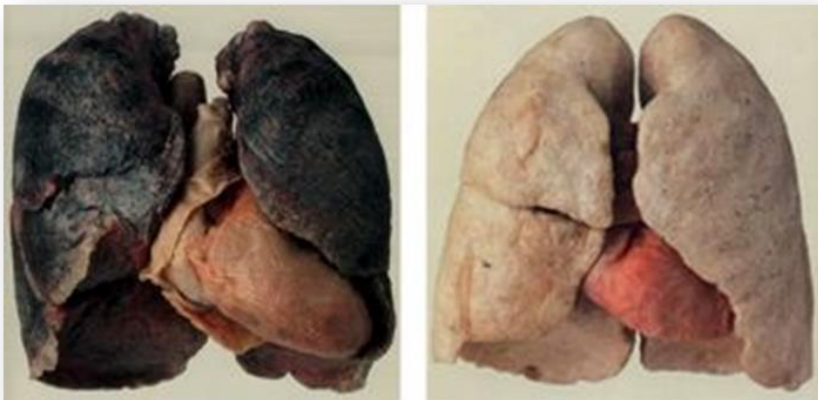
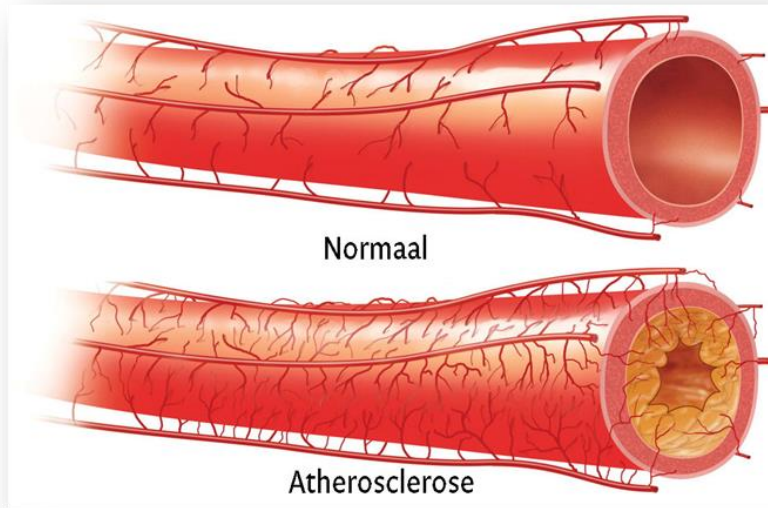
What's ageing?



Ageing on the outside



Ageing on the inside



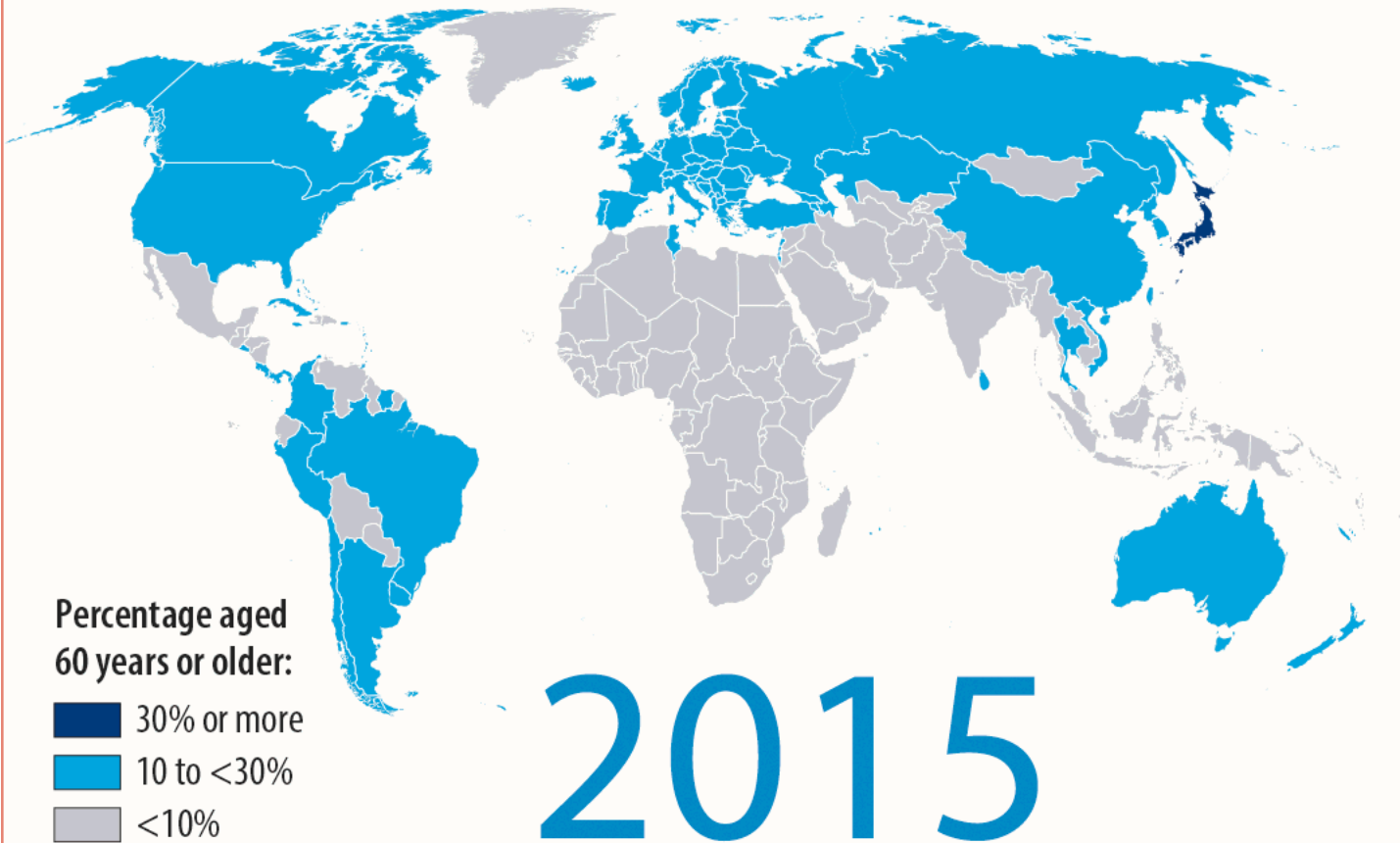
Individual people



Research: in populations

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Populations are getting older



World Health
Organization

Research: not only in humans

What kind of research can you find?

Species, humans, 1 human: you, tissues

Maximum lifespan of various types	
Human	124
Mouse	4
Dog	29
Parrot	73
Horse	62
Elephant	78
Turtle	175
Whale	210

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What is your question

What do you ask yourself about a topic?

Why do men have a shorter life than women?



Excercise: What do other people do?



Start by getting a feel for the field

Explore the field: what type of research (get a sense of the broadness and the possibilities) ; do not read too many details; this exercise is for scanning opportunities

- ❖ WHAT TYPE OF PROBLEMS ; What type of questions
 - ❖ What type of studies (human, animal, tissue, cells)
 - ❖ What type of study (observational or experimental)
 - ❖ What do hypotheses look like (How are they formulated)
 - ❖ What kind of measurements
-
- ❖ Plenary discussion



Structuring your findings

Categorize:

- ❖ Type of research question
- ❖ Type of research object
- ❖ Type of tissue
- ❖ Design of study
- ❖ Hypotheses
- ❖ The measurement
- ❖ The validation

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- ❖ Plenary discussion
- ❖ **Afternoon: Research question and hypothesis for your own project**

