

Molecular basis of Alzheimer's disease: an informative approach

THE GEARS OF OBLIVION

INTRODUCTION

Every **4 seconds** someone in the world is diagnosed with Alzheimer's disease (AD), being the most prevalence dementia nowadays. Despite this fact, there is still no cure, but there are a lot of projects looking for it.

Most of the main symptoms are acquainted by everyone. However, there is a phase in this dementia that most people ignore. It is known that there is a **preclinical stage** in which there are no symptoms, but there are, indeed, changes in the brain leading to the pathology. This gives a possibility to open a window of action that allows us to stop the disease before it shows the main symptoms. The molecular basis of the dementia are more or less clear, but not as much as we would like. We know that there are two main proteins causing this disease (**β -amyloid and Tau**), other than a great deal of different factors that have a big influence in the physiopathology. But, what is the triggering?

METHODOLOGY

GATHERING INFORMATION

I first carried out an exhaustive **research** in all the facets of AD, so that I can totally understand it and have an extensive knowledge of the dementia. The main sources were:



ADAPTING THE INFORMATION

Examination of **different media**, such as newspapers, informative articles, documentaries (accessible for all society), YouTube... to know what information is reachable for them, and which concepts could they be acquainted with.

Examination through the biology subject programs until 3rd ESO (last year they do obligatory biology)

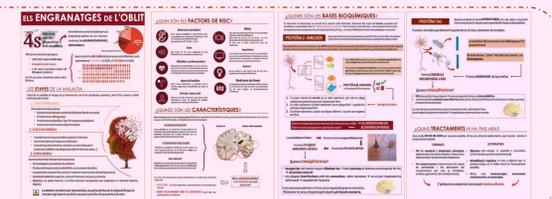
1. Introduction
(epidemiology, phases, risk factors)

2. Nervous system
(brain areas and neuron functioning)

3. AD foundation
(Tau and β -amyloid protein)

MATERIAL

4 posters A2 in which I attempted to put as much information as I could, but trying to be visual and not overdo with letter.



A presentation for the talk, done with **Prezi**. I made it with the idea that it would last 30-40 minutes, so I had time to explain everything, but no to long too bore the students:

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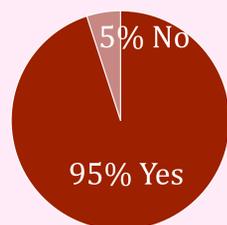
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RESULTS

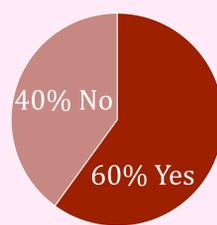
How? After each talk, they had time to ask any **question** they wanted. Moreover, I did a **survey** to reach all the opinions of the students. There were **87 students** from 1st Batx, 26 of them cursing the scientific field. In 2nd, there were **71**, 24 of them in the scientific area.

95% of the students claim to understand Alzheimer's disease, and 60% of them think they could explain it

Have you understood Alzheimer's Disease?

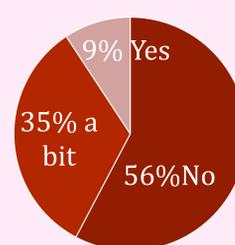


Could you explain it to someone who doesn't know about it?



For 35% of them, it was a little difficult to understand the most molecular part

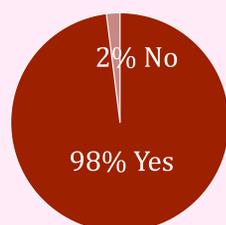
Did you find difficult to understand the molecular part?



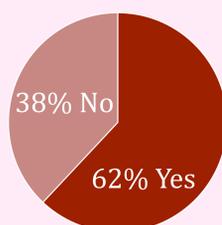
I talked to 2 of the ones who thought it was difficult and they assumed it was because these students had no idea of anything related with biology. They didn't remember anything of what they had studied in 3rd ESO, and said they didn't have any interest in biology, although they found the talk interesting.

98% of the students accept not being informed enough about medical issues, and 62% would like to have more informative talks

Do you think you are uninformed about medical issues and diseases?



Would you like to have more informative talks?



"How would you mark this talk?" The average mark was...



CONCLUSIONS

Regarding the results, we can draw two main conclusions:

- ❖ **They had understood Alzheimer's disease**, which was my most important aim; and more than a half of the students could explain it, which is a really positive result, since the ability of explaining something comes from the fact that you understand it properly.
- ❖ Teenagers, and society in general, **are uninformed about health and medical issues** and, as it concerns everyone, people should be aware about diseases and health problems. Not only because they might suffer from them, but because it would spare the world a lot problems that comes from ignorance. If people are informed, they would act according to what they know, and important issues like antibiotic resistance, might be smaller.

To conclude, this project has provided me of:

- **Acquaintance** with Alzheimer's disease, in all facets.
- **Ability** to adapt my knowledge of a subject, into a simpler explanation that fits my target.
- **Awareness** of the importance of informational work and its impact in society

WHAT SHOULD I IMPROVE?

- Although it wasn't difficult to follow, I should slow down so they have time to assimilate the information properly.
- I would have liked to put more emphasis on the phases and the physiopathology,
- I think it would have been better if I had used interactive material