

PROFILES IBSE Learning Module

Student Activities



Scenario:

Alina and Alexandru form a young couple, who are unable to conceive a child, despite attempts over a year. The young couple is truly concerned about the obstacles encountered in having a child. Let's run a project to find out the causes of couples' infertility and obtain a solution for them in order to conceive a child.

Tasks

To investigate the causes of the couple's infertility and give a solution to their problem, students will seek, select and analyze information from the websites listed. It will also be a group of experts who will argue and propose a solution to the couple. The expert group will consist of the following members: 1) a physician; 2) a biologist; 3) a priest; 4) a human rights lawyer.

Part 1: Studying the anatomy and physiology of the human reproductive system.

Groups of 4-5 students are formed. They will collect information from the indicated web sites and will also turn to the biology manual and human anatomy atlas. Also in this part, students will describe the female ovarian cycle stages and the role of male and female sex hormones. Each group must submit the results of their investigation to the whole class.

Part 2: How is created a new life? Studying the human development starting from the egg-cell to infant.

Students gather information about fecundation and intrauterine development while being guided by the following questions:

- In which period of the menstrual cycle Alina can conceive a child?
- What role do female sex hormones have in conception?
- What is the role of sex hormones in the pregnancy preparation?
- How do the couple's reproductive cells meet?
- Why is the vaginal pH important?
- Which are the stages of embryonic development if the reproductive cells meet?
- What rules must future parents comply to in order to have a healthy baby?

Part 3: Investigation of the couple's infertility possible causes.

Students are involved in the process of investigating the possible causes of the couple infertility while being guided by a set of questions:

- What part of the male reproductive system could be responsible for this problem?
- What part of the female reproductive system could be responsible for the infertility?
- What sperm characteristics can cause difficulties in conceiving a child?
- What are the possible problems that may Alina's ovules pose in a pregnancy?
- Did one of the partners have a strong infection during puberty?

Part 4: Final decision.

It appears that the two can not conceive a child due to male infertility. At this point, the couple is presented the possibility of assisted reproduction as a possible option. Students are divided into groups of four. Each assumes the role of an expert in trying to find as many pros and cons of assisted reproduction in order to offer the couple the widest vision on this option. After discussing the arguments put forward by the group, members must present a final decision as a poster. Group conclusions will be presented to the whole class.

The doctor:

- What investigations are required for this procedure?
- What health parameters should be achieved by prospective parents, in order to conceive a child?
- Can couples refer with confidence to health centers in Romania for such a procedure?
- What risks are assumed by the future mother with this procedure?

The biologist:

- What conditions must imposed the couple germinative cells, in order to obtain an embryo?
- What are the chances of success of this procedure for young couples?
- Will the development of the embryo and fetus be different from an in vivo pregnancy?
- Is this procedure associated with a higher risk of birth defects occurrence?

The priest:

- Does the Church accept such a procedure?
- Is it permitted to create human life outside the human body?
- Does the Church allow science interference in a natural human life process?
- Does IVF violate human dignity?

The human rights lawyer:

- Is it morally acceptable such a procedure?
- Is it permitted to keep embryos in the laboratory? But to transfer them to other couples?
- Who decides an unborn right to live?
- How a person is conceived through in vitro fertilization perceived in society?
- Does a legal framework (which protects people who use IVF) exist in Romania?

Other considerations

Please use, the following informative sources/links:

The doctor:

<http://www.romedic.ro/clasificare-lista-completa-de-cauze-de-infertilitate-feminina-0P19046>
<http://www.romedic.ro/cauzele-infertilitatii-la-barbati-0P782>
<http://www.copilul.ro/Centre-de-fertilizare-in-vitro-u68>
http://ro.wikipedia.org/wiki/Fertilizare_%C3%AEn_vitro

The biologist:

<http://www.romedic.ro/clasificare-lista-completa-de-cauze-de-infertilitate-feminina-0P19046>
<http://www.romedic.ro/cauzele-infertilitatii-la-barbati-0P782>
<http://www.csid.ro/family/fertilizarea-in-vitro-are-30-sanse-de-succes-4341346/>
http://ro.wikipedia.org/wiki/Fertilizare_%C3%AEn_vitro

The priest:

<http://think.hotnews.ro/voia-domnului-sau-voia-omului-despre-fertilizarea-in-vitro.html>
<http://www.contributors.ro/dezbateri/fertilizarea-in-vitro-%C8%99i-demnitatea-umana/>
<http://www.moldovacrestina.net/doctrina/ce-spune-biblia-despre-fecundarea-artificiala-in-vitro/>
http://www.romania-actualitati.ro/biserica_se_opune_fertilizarii_in_vitro-27654

The human rights lawyer:

<http://think.hotnews.ro/voia-domnului-sau-voia-omului-despre-fertilizarea-in-vitro.html>
<http://www.contributors.ro/dezbateri/fertilizarea-in-vitro-%C8%99i-demnitatea-umana/>
<http://www.financiarul.ro/tag/fertilizare-in-vitro/>
<http://www.adevaruldespreavort.ro/arhiva/cursuri/Dr.%20Christa%20Todea-Gross%20-%20FERTILIZAREA%20IN%20VITRO.pdf>