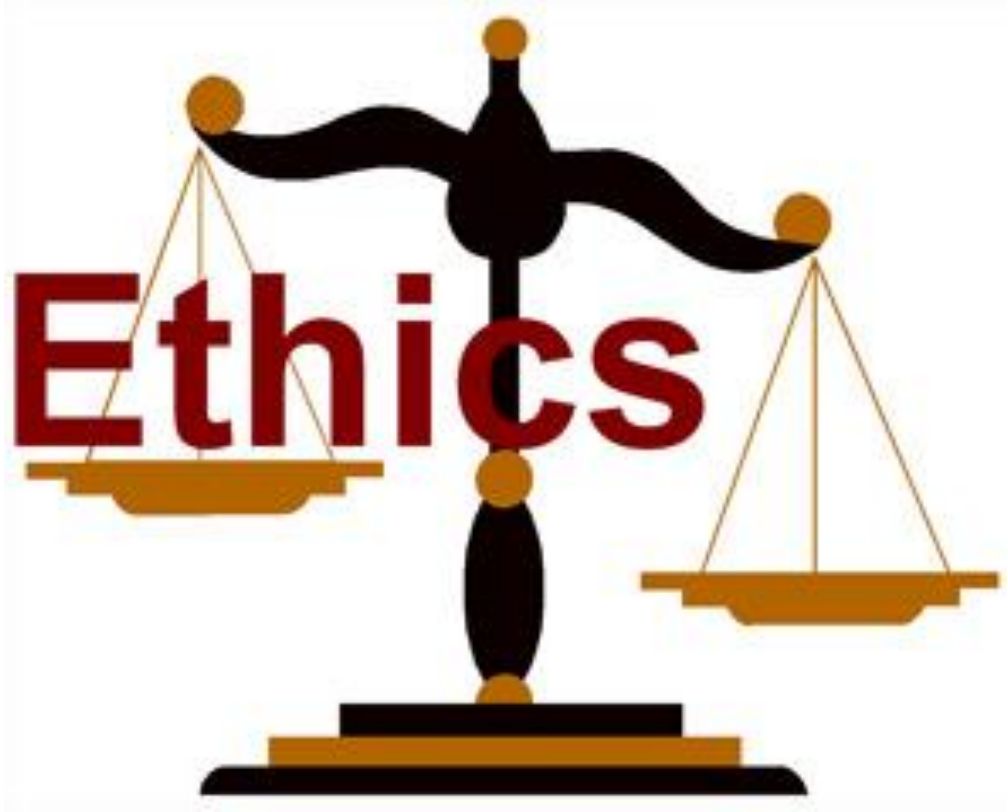
ETHICS IN BIOMEDICAL RESEARCH

LEARNING OBJECTIVES

- Define the term “ethics” in health research
- Recognize the need for adherence to ethical principles in health research
- Describe the general ethical principles in health research
- Justify the role of ethical committee in health research

PERFORMANCE OBJECTIVE

Follow the ethical principles while conducting research involving human subjects



ETHICS: DEFINITION

- Moral principles that govern a person's behavior or the conducting of an activity

- The branch of knowledge that deals with moral principles

Source: Oxford Dictionary

ETHICS IN HEALTH RESEARCH

The rules or standards (moral principles) governing the conduct of researchers during planning, implementation, data analysis, data interpretation and publication of health research.

GROWING INTEREST IN RESEARCH ETHICS

- Major expansion of health research
- Significant public & private investment in research
- Increasing need for experimentation on human subjects
- Increasing acceptance and appreciation of human rights
- New areas of research with considerable ethical concerns such as organ transplant, assisted reproduction, genomics etc….

GLOBALIZATION OF ETHICS

- Collaboration between researchers in developed and developing countries
- Multi-centre trials specially funded by drug companies
- Specimen and information move across borders
- International networks
- Risks may be endured by countries that do not enforce research ethics while benefits goes to countries enforcing it
- Health research as an engine to economic development may push research beyond ethical standards.

RESEARCH INVOLVING HUMAN SUBJECTS

- Research should consider a balance between potential risk of harm to participants and the possible benefits to society at large

- During research implementation reviews the ethics at least annually.

SURVEY OF LOCAL POPULATION

- Local health authority approval
- Inform local health practitioners about the study
- Informed individual consent in physical or lab investigations. (e.g. IDA)
- Inform about any consequences
- Right to withdraw

ETHICS IN CLINICAL TRIALS (RCT)

- RCT is the gold standard in the chain of evidence in medical practice
- RCT have major ethical issues as it involve the deliberate application of an intervention.
- Investment in clinical trials is estimated to be $ 30 billion with annual growth of 12%
- A quarter of clinical trials is conducted in developing countries without strict ethical review

TUSKEGEE SYPHILIS EXPERIMENT (1931 – 1972)

To study the natural history of syphilis, 600 low-income African-American males, 400 of whom were infected with syphilis, were monitored for 40 years.

Free medical examinations were given; however, subjects were not told about their disease. Even though a proven cure (penicillin) became available in the 1950s, the study continued until 1972 with participants being denied treatment.

In some cases, when subjects were diagnosed as having syphilis by other physicians, researchers intervened to prevent treatment. Many subjects died of syphilis during the study.

The study was stopped in 1973 after its existence was publicized and it became a political embarrassment. In 1997, under mounting pressure, President Clinton apologized to the study subjects and their families.

CINCINNATI RADIATION EXPERIMENT (1960 – 1972)

Cancer patients – mostly black of below-average intelligence who were charity patients – were exposed to large doses of whole body radiation as part of an experiment sponsored by the U.S. military.

None of the subjects gave informed consent, they thought they were receiving treatment for their cancer. Subjects experienced nausea and vomiting from acute radiation sickness, pain from burns on their bodies, and some died prematurely as result of radiation exposure.

TROVAFLOXACIN MESYLATE TRIAL IN NIGERIA – 1996

- Pfizer, sought to gain the approval of the U.S. Food and Drug Administration for the use on children of its new antibiotic, Trovafloxacin Mesylate, marketed as "Trovan."
- In April 1996, with Nigerian partners, they recruited 200 sick children in Infectious Diseases Hospital and gave half of the children Trovan and the other half Ceftriaxone, FDA-approved antibiotic
- Pfizer knew that Trovan had never previously been tested on children in the form being used and that animal tests showed that Trovan had life-threatening side effects, including joint disease, abnormal cartilage growth, liver damage, and degenerative bone condition.
- Pfizer purportedly gave the children who were in the Ceftriaxone control group a deliberately low dose in order to misrepresent the effectiveness of Trovan in relation to Ceftriaxone. After approximately two weeks, Pfizer allegedly concluded the experiment and left without administering follow-up care.
- The tests caused the deaths of 11 children, five of whom had taken Trovan and six of whom had taken the lowered dose of Ceftriaxone, and left many others blind, deaf, paralyzed, or brain-damaged.

BREACHING ETHICS IN CLINICAL TRIAL IN INDIA

- India - 2001: Clinical trial of nordihydroguairetic acid; a chemical with anti-cancer properties was tested for a US-based researcher in 26 unsuspecting (not aware) cancer patients. Two died and a third one turned critical.

- India - 2003: More than 400 women who had been trying to conceive were enrolled without their knowledge or consent to take part in clinical trial to see if a drug called letrozole induces ovulation.

RESPONSIBILITIES OF IMPLEMENTATION OF RESEARCH ETHICS

- Investigators
- Research institutions
- National Drug Regulatory Agency
- Editors of scientific journal
- Funding agencies and organizations

HISTORY OF GUIELINES OF RESEARCH ETHICS

- Nuremberg Code (1947)
- Declaration of Helsinki (1964; revised 1975, 1983, 1989,1996,2000 & 2008
- Belmont Report (1979).
- Universal Declaration on the human Genome and Human Rights, UNESCO 1997.
- Operational guidelines for ethics committees reviewing biomedical research (WHO, 2000)
- Ethical and policy issues in International Research: Clinical trials in developing countries 2001.
- Universal Declaration on Bioethics & Human Rights, UNESCO (2005)
- Ethics of research related to health care in developing countries: a follow up discussion Report 2005

ETHICAL PRINCIPLES: RESPECT OF PERSONS

1. Respect for autonomy

- An "autonomous person" is an individual capable of deliberation about personal goals and of acting under the direction of such deliberation
- People capable of deliberation about their personal choices should be treated with respect for their capacity for self determination
- People with impaired or diminished autonomy are protected against harm or abuse

ETHICAL PRINCIPLES: RESPECT OF PERSONS

2. Respect of privacy

Privacy of participants is respected by ensuring confidentiality of information obtained during all phases of the research

3. Respect of culture

Respect of the values of the community and having their approval for the implementation of the research

ETHICAL PRINCIPLES: BENEFICENCE

- Beneficence goes beyond act of kindness to strict obligations
- Beneficence includes
  - Don't harm (physical, psychological, loss of a job)
  - Maximize benefits and minimize harms
- Competency of the researchers ensure the welfare of participants

ETHICAL PRINCIPLES: JUSTICE

- Justice is used in the sense of “fairness”
- It is related to who will receive the benefits and who will bear the burden?
- The principle is the equitable distribution of the benefits and the burden (distributive justice)
- Each person is treated according to what is morally right and proper to him or her
- Research project should not be limited to under-privileged communities; who are likely to bear more the burden

INFORMED CONSENT

The process of providing research participants with information that enables them to make an informed decision regarding their participation. It includes

- Purpose of the research and procedures to be followed.
- Potential risks or discomforts involved and obligations of the research team
- Potential benefits from participation
- Anonymity of participation
- Means of maintaining confidentiality of information
- Autonomy; voluntary participation and withdrawal without adverse consequences
- Names and contact details of member of the research team the participants may contact for questions

ASSENT: CONSENT FROM MINORS

- It is obtained from minors (≥ 12 years)
- It is obtained following the consenting of parents; not a substitute
- It contains the same information included in the consent form but in simpler terms
- Minors should be intellectually capable to comprehend and take decision accordingly

RIGHTS OF PARTICIPANTS ADDRESSED IN INFORMED CONSENT

Knowledge of

- The researcher
- Sponsoring institution
- Purpose of the research
- Risks and benefits
- Method of selecting participants
- What is expected from participants
- Obligation of researchers in case of adverse events
- Guarantee for confidentiality
- Voluntary participation
- Right to withdraw at any stage
- Names of person to contact for question

INFORMED CONSENT

Principles:

1. No deception; Information stated should be accurate and complete
2. No coercion; consent should be without any pressure or threat
3. No motivation through financial reward, gifts or special services; only payment of out of pocket expenses as transportation is allowed
4. Written consent from illiterate persons should be taken in the presence of a literate witness not related to the research team
5. Consent from legal guardian is sought for those who are legally incompetent; unable to comprehend and to take an informed decision

INSTITUTIONAL REVIEW BOARD (IRB)

Board consisting of professionals and lay people who review research proposals to ensure that it follows the ethical standards of scientific research

Categories of review

- Exempt studies
- Expedited review (Fast track)
- Full board review

ROLE OF RESEARCH ETHICS COMMITTEE (REC)

Make sure that the presented research meets ethical standards by providing answers to the following:

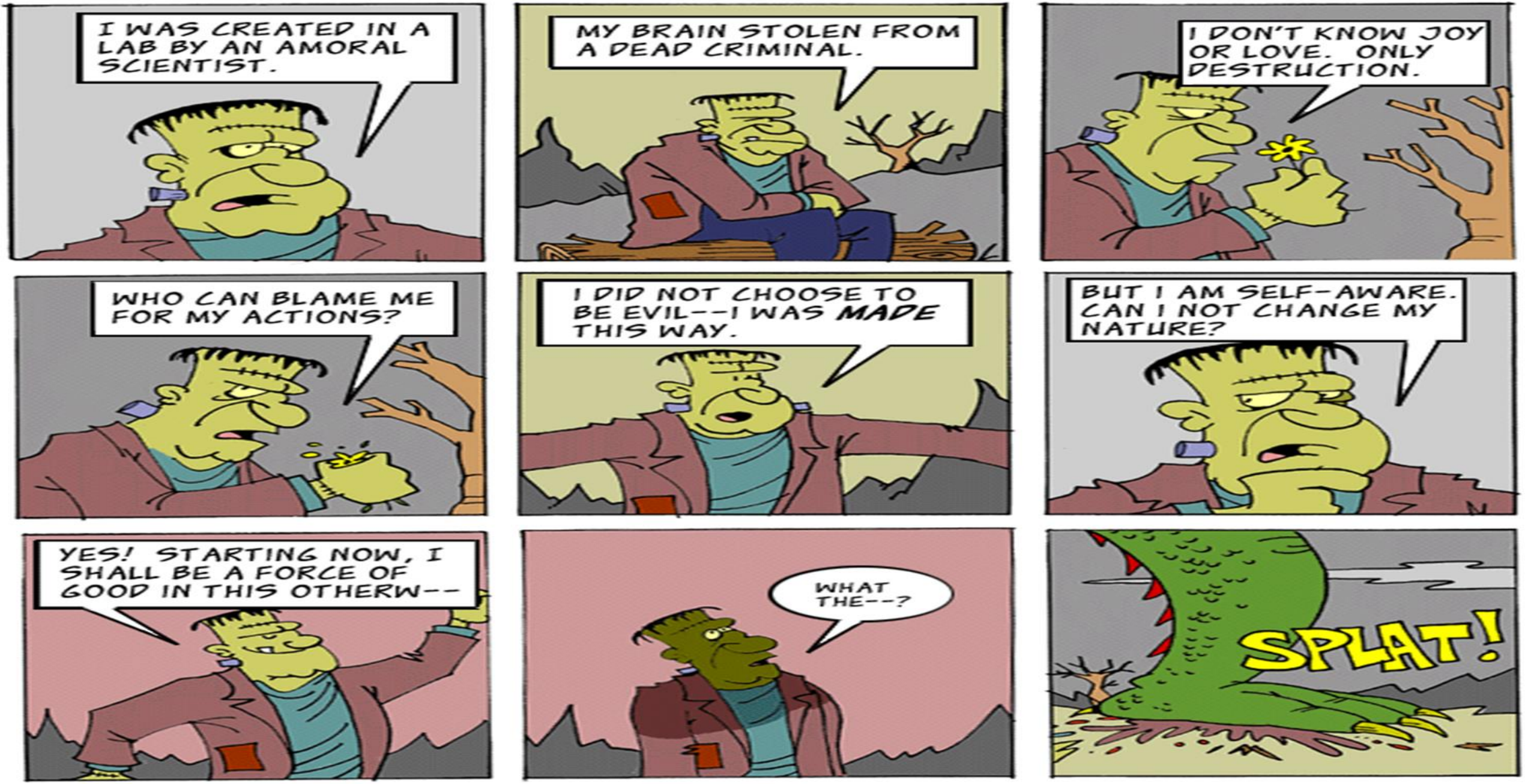
- Is the research justified?
- Have risks to the participants been minimized?
- Have benefits to participants been maximized?
- Has the process of informed consent been optimized?
- Would I allow my mother, my child, myself to participate in this research?

COMPOSITION OF NATIONAL ETHICS COMMITTEE IN EMRO

Human Rights Council	13% (2/15)
Bioethicist	13% (2/15)
Journalist	13% (2/15)
Community Member	13% (2/15)
Religious	33% (5/15)
Legal Expert	60% (9/15)
Pharmacy	13% (2/15)
Nurse	20% (3/15)
Epidemiologist	13% (2/15)
Public Health	13% (2/15)
Social Scientist	27% (4/15)
Scientist	33% (5/15)
Medical Doctor	100% (15/15)
National Ministry	40% (6/15)

MONSTER ETHICS

by Pat Lewis



RESOURCES

1. http://www.who.int/ethics/research/en/

2. Abou-Zaid A ,Afzal M , Silverman HJ. Capacity mapping of national ethics committees in EMR. BMC Medical Ethics 2009;10:8

3. Creswell JW. Research Design. Quantitative , Qualitative, and Mixed Methods. 3rd edition. Chapter 3. Writing Strategies and Ethical Considerations. Pages 64-65. Sage Publishers 2003