جامعة الفيصل
Alfaisal University

Research Ethics Course

IRB Support Unit

Alfaisal University

Introduction

- This research ethics course was created for use by Alfaisal faculty, students, and staff
- In this course, you will learn the basic principles of ethical biomedical research
- This course is particularly useful for learners undertaking research with people using surveys and interviews

Introduction

- As an investigator of human subject's research, you must ensure your research is up to the highest ethical standards.
- Research ethics is vital when conducting research involving human subjects.
- Unethical research may put research subjects at risk and potentially affect the validity of the findings

Introduction

- By the end of the 1980s, the United States Institute of Medicine recommended that students be provided formal instruction in research practice
- The 1989 U.S. misconduct regulations stated that "Institutions should foster a research environment that discourages misconduct in all research and that deals forthrightly with possible misconduct associated with research for which PHS funds have been provided or requested." [1, 2]

Definitions

The following terms and phrases – wherever used in this course – shall have the meanings assigned to them, unless otherwise required by context.

- Law: Law of Ethics of Research on Living Creatures.
- Regulations: Implementing Regulations of the Law of Ethics of Research on Living Creatures.
- KACST: King Abdul Aziz City for Science and Technology.
- National Committee: National Committee of Biomedical Ethics.
- Monitoring Office: Research Ethics Monitoring Office.
- Local Committee: Committee for licensing research formed at an establishment in accordance with the provisions of this Law.
- Establishment: A public or private corporate entity engaged in research activities on Living Creatures.

Definitions

- Living Creatures: Human beings, animals and plants.
- Legal Capacity: Reaching the age of eighteen, with mental ability to enter into legal relation on his own.
- Informed Consent: A person giving his consent with his free will, without exploitation or coercion and upon full understanding of what is required from him and of the research objectives and potential risks as well as of rights and obligations arising out of his participation therein.
- Minor: A person under eighteen years of age.
- Guardian: A person having the right of legal authority over another person.

Definitions

- Human subject research is an investigation that involves the use of human subjects
- The word ethics is derived from the Greek word “ethos,” which means custom
- Ethics is a study of values, principles, and beliefs
- The ethical requirement of clinical research:
  - Minimize the risk to human subjects
  - Respect the rights and welfare of human subjects

Anonymity vs. Confidentiality

- Anonymity:
  - There are no identifying values that can link the information to the participant, i.e., no participants will be identified.
  - Online survey tools are typically conducted anonymously. However, the researcher needs to be certain the IP address is not stored.
  - In an anonymous study, the researcher needs to indicate how the participants will be kept anonymous.
- Confidentiality
  - The researcher can identify the subjects
  - The Researcher usually assign an identifying number or code to each participant
  - The Survey that takes place in face to face environment is automatically labeled as confidential, as the researcher will know who provided the data
  - When data is collected confidentially, the information needs to be kept in a secure location to protect participants' identities.

Development of Contemporary Research Ethics

- Guidelines, codes, and regulations have been created in recent decades to guide the conduct of research involving human participants.
- The development of some of these documents was driven by historical events, response to the increasing globalization of research, others were created to provide answers to new problems and challenges created by a dynamic research environment.
- Each reflects the principles of respect for persons, beneficence, and justice.

History of Research Ethics

- 1947: The Nuremberg code
- 1964: The Declaration of Helsinki
- 1974: The U.S. National Research Act & IRB System
- 1979: The Belmont Report

The Nuremberg Code

- In 1946-47, at the end of WW2, the Nuremberg Trials (court cases) were conducted in Nuremberg, Germany
- In these trials, Nazi doctors were convicted of the crimes committed during human experiments on concentration camp prisoners
- Several research ethics principles for human experimentation were established as a result of these Trials of War Criminals before the Nuremberg Military Courts
- As a result, the Nuremberg Code, the most important document in the history of the ethics of medical research, was introduced in August 1947
- The aim was to give clear rules about what was legal and what was not when conducting human experiments

The Nuremberg Code

- Informed consent is essential
- Qualified researchers use appropriate research design
- Favorable risk/benefit ratio
- Participants must be free to stop at any time

The Declaration of Helsinki

- The well-being of the research subject should take precedence over the interests of science and society
- Consent should be in writing
- Use caution if participant is in a dependent relationship with researchers
- Limited use of placebo
- Greater access to the benefits

The Belmont Report

- Ethical principles and guidelines for the protection of human subject of research:
  - Respect for persons
  - Beneficence
  - Justice

Principles of Human Research Ethics

- Human research ethics is built on three main principles. These principles are the foundation of all regulations or guidelines for research ethics. They are:
  I. Respect for autonomy
  II. Beneficence
  III. Justice
- These principles are used all over the world regardless of the cultural, economic, or political differences

Principles of Human Research Ethics

- Researchers, institutions, and Research Ethics Committees (RECs) or Institutional Review Boards (IRBs) have the responsibility to assure that these principles are followed whenever research on humans is conducted.
- However, the principles by themselves do not protect the research participants; it is necessary to create systems that would directly protect participants.
- Although these principles are universal, the availability of the resources needed to maintain these principles is not universal.
- Regardless of limitations, these principles must guide the behavior of all individuals involved in sponsoring, planning, reviewing, implementing, and monitoring human research.

Respect for Autonomy

- Research participants should be treated as autonomous
- Respect the decisions made by other people concerning their lives
- Respect for the dignity of individuals
- Respect for the community and local culture
- Protect the study participants with diminished autonomy

Beneficence

- Do no harm
- The researcher is responsible for the participant's physical, mental, and social well-being
- Maximize benefits for participants
- Minimize risks for participants
- Maximize benefits for the communities where the research is conducted

Justice

- Treat all participants fairly
- The researchers should distribute the risk and benefits equitably for both potential participants and communities
- Special protection for vulnerable groups
- People who are included in research should not be included merely because they are a population that is easy to access, available, or perhaps vulnerable and less able to decline participating
- The questions being asked in trials should be of relevance to the communities participating in the study

Vulnerable Research Participants

- The need to provide additional protections to some special groups, such as pregnant women or fetuses, neonates, children, or prisoners, is considered in many regulations.
- The informed consent process is designed to empower the potential participant to make a voluntary informed decision, free of coercion, on whether to participate or not in a research study.

The Saudi National Committee of BioEthics

- To maintain the ethical guidelines in the kingdom, the National Committee of BioEthics (NCBE) was formed by a Royal Decree
- The NCBE has created the “Law of Ethics of Research on Living Creatures” This Law aims at setting the general principles and controls necessary for dealing with Living Creatures, parts thereof or their genetic material in research considering applicable professional ethics not conflicting with Sharia
- Pursuant to this Law, an office for monitoring research ethics was established, and it reports to the National Committee. The office is headed by a specialist with experience in medical and scientific research and research ethics
- The Monitoring Office oversees the following:
  - Register and oversee IRBs in accordance with the provisions of this Law
  - Monitor the implementation of research ethics subject to this Law through IRBs
  - Any other tasks assigned thereto by the National Committee

Institutional Review Board (IRB)

- Before conducting research on human subjects, an institution must either form its own local ethics committee, called the institutional review board (IRB), and register it with the NCBE, or designate an already registered IRB operated by another organization, (an “external” IRB), after establishing a written agreement with that organization
- Alfaisal University (AU) is committed to conducting research in compliance with all Saudi applicable laws and regulations
- The IRB is responsible for reviewing research submissions that involve human subjects and assess that it adequately meets the criteria for approval set forth by the Saudi Law of Ethics of Research on Living Creatures, NCBE’s regulations, and AU policies and procedures

Institutional Review Board (IRB)

- Each establishment shall form a local ethics committee or IRB consisting of at least five members. The committee shall especially, but not exclusively, undertake the following:

1. Verify that the research conforms to applicable Saudi laws
2. Verify the validity of the informed consent procedures
3. Issue approval to conduct research from an ethical aspect
4. Monitor research implementation periodically
5. Monitor the health condition of the human subject during the study
6. Coordinate with the monitoring office as regards its activities

IRB Members

- IRB members must have various characteristics that will allow them to assess the many facets of the proposal
- IRB members should have basic training in research ethics. This is very different from professional ethics or medical ethics; even members with training in those areas will need to receive training in the application of research ethics
- An IRB member must be willing to volunteer time and effort, as all IRB work is done voluntarily
- The IRB must be diverse in culture and gender so that sensitivities to social issues are not overlooked or underestimated. Diversity will promote a balanced review of the research
- The IRB must be a multidisciplinary group that can understand different types of research. In cases where a research proposal is beyond the expertise of an IRB, it may consider using a consultant to assist in the review. All members and consultants must disclose any potential conflict of interest
- To avoid any possible conflict of interest, IRBs have at least one member who is not staff of the organization to which the IRB is affiliated

IRB Responsibilities

Before consenting to conduct a research project, the IRB shall confirm the following:

- **The research does not violate Sharia rules or laws, or regulations observed in the Kingdom**
- Potential risk for the human subject is reduced to the minimum level through the following
  - Adopting standard operating procedures and scientific methods for research design which do not expose research human subjects to risks
  - Adopting standard and established procedures for therapeutic or diagnostic purposes as much as possible
- Evaluating benefits and risks that might ensue from the research
- Ensuring that research subjects have been selected based on their understanding of research objectives, place, time and method of conducting research, with special additional attention in the cases in which the participation of persons requiring additional protection is requested, such as (vulnerable groups)
- Ensuring that the "Informed Consent" of the human subject contains all the required elements
- Ensuring that the research plan includes periodic monitoring of results to maintain the safety of the human subject
- Ensuring that the research plan includes management measures to protect the human subject and the human subject's rights
- Ensuring that enough measures are taken to protect the privacy of the human subject and maintain the confidentiality of data
- **Conducting periodic monitoring of the research**
- In the case of clinical research involving testing drugs or equipment on humans, the authorization of the Saudi Food and Drug Authority must be obtained according to observed laws and regulations
- Every clinical research project must be registered first with the Saudi Food and Drug Authority before human subjects are invited to participate
- The Saudi Food and Drug Authority clinical studies database must be checked first to avoid conducting duplicate research

Types of IRB Reviews: I. Full Reviews

- A review of an application for research involving human subjects that is carried out by the IRB at one of the meetings
- It includes mild, moderate, or high-risk studies, i.e., more risk than that we're exposed to in regular life situations.
- Studies that include protected (vulnerable) populations, e.g., prisoners, mentally or physically challenged, minors or younger than 18, pregnant

Types of IRB Reviews: II. Expedited Reviews

- The IRB can in some cases review studies via expedited review if the research does not involve more than minimal risk to the participates
  - It is carried out by the Chairman or an IRB member designee
  - It involves minimal risk or entails minor changes to a previously approved protocol
  - The reviewer (s) may exercise all the authority of the IRB, except disapproving the study
  - Only a majority of the IRB members can disapprove of a research application
- The expedited review procedure may not be used for approving research if the objectives of such research include the following:
  - Addition of a new medication
  - Addition of new medical equipment
  - Addition of a new invasive or interventional procedure
  - Increase or decrease of a medication dose, which may lead to increased harms
  - The research is conducted to identify new potential risks

Minimum Risk

- Minimum risk is defined as the risk that we are exposed to in our daily living
- Examples of minimum risk studies that only require expedited review:
  - Retrospective chart review
  - Non-invasive collection of tissue
  - Minor revision to an already approved research proposal

Exempted Studies

- The IRB may exempt the following research projects from the periodic follow-up:

1. Research involving the study of information and data previously collected, provided one of the two following terms are fulfilled:
   - If the information is generally and publicly available
   - If the information is recorded in a manner that does not reveal the identity of the source person
2. Research including educational tests, surveys, interviews or public behavior monitoring, except in the two following cases:
   - If the information is recorded in a manner that reveals the identity of the source person
   - If participation in the research should bring a person outside the scope of research to be subject to criminal or civil liability or jeopardize his financial position or career
3. Research conducted for educational, or quality control, purposes

Exempted Studies

- Discuss your project with the IRB Coordinator to determine whether the project is exempted from Review.

Principal Investigator (PI)

- The PI is responsible for the overall administrative, fiscal, scientific, and ethical aspects of a research project and supervises research team
- The PI holds the major responsibility to the study and must abide by all the rules and regulations set by the IRB and by the NCBE

PI Responsibilities

- Communicating with the IRB regarding the submitted application
- Obtaining the IRB approval for the research study
- Obtaining the IRB approval of all types of advertisements
- Using scientifically and technically appropriate research protocols
- Avoiding deceptive practices
- Obtaining informed consent
- Minimizing the risk of harm to study participants
- Protecting the confidentiality of the participants
- Providing the right to withdraw from the study at any time
- Conducting the study according to the approved protocol, and may only make changes with prior IRB approval
- Obtaining IRB approval to publish the research results

Students as Principal Investigator (PI)

- The term “student research” refers to either research conducted by students or to students involvement as subjects in research
- Except for exempted research, students are not allowed to serve as the PI for studies involving human subjects at most universities
- Students may be listed as co-investigators, and they are asked to enlist their academic advisor or other faculty as PI
- If students conduct exempt research (for a thesis/dissertation, etc.) they may be listed as PI. However, a faculty member must be identified and sign a form to confirm his/her willingness to serve as a sponsor
- Reference: https://couhes.mit.edu/guidelines/students-investigators

Periodic Monitoring of Research: IRB Responsibilities

- The IRB shall conduct the periodic monitoring of the research as follows:

1. Review research progress regularly based on the periodic reports submitted by the principal investigator, provided the periodic follow-up period does not exceed one year
2. Examine research records to ensure their consistency with the approved research proposal and the submitted research reports or to guarantee documentation of “Informed Consent” procedures. The IRB may assign specialists as it deems fit to perform this task on its behalf
3. The IRB shall set necessary procedures for carrying out the periodic follow-up process and shall furnish the Monitoring office with a copy of said procedures

Periodic Monitoring of the Research: PI Responsibilities

- The PI shall provide the IRB with a periodic report of the research every three months in case of conducting clinical research and every six months or one year in case of conducting other types of research.
- The periodic report shall contain all the details of the research and its phases. The investigator shall attach to this report proof of his commitment to the procedures and controls outlined in this Law and its Regulations
- If the PI fails to submit the periodic report on time, the IRB shall take the following measures:
    1. Notify the researcher in writing that he must submit the periodic report within the period set by the committee
    2. If the principal investigator fails to submit the research within set period, the IRB may suspend the research project until the report is submitted and shall notify the principal investigator thereof
    3. In case the research project is suspended, the committee shall thoroughly review it and examine all required documents to ensure that no violations have been committed; otherwise, it shall carry out whatever it deems fit
    4. If the principal investigator submits the periodic report during IRB review of research, the IRB may end the suspension of the research project, and notify the investigator not to be remiss in submitting reports in the future
    5. If the principal investigator persists in ignoring to submit the periodic report, the IRB shall refer the whole matter to the Monitoring Office to submit it to the Violations Committee to suspend the research project and decide appropriate penalties

Informed Consent

Informed Consent

- It is the study subject’s approval to participate, after explaining all the information related to the study
- It is a consent given by a competent individual who:
  - has received the necessary information
  - has adequately understood the information
  - after considering the information, has decided without having been subjected to coercion, undue influence or inducement, or intimidation

Informed Consent

According to Article 11 in the Saudi Law of Ethics of Research on Living Creatures:

“No investigator may conduct research on any human subject prior to obtaining informed consent from him or his guardian in accordance with procedures specified by the Regulations.”

Essential Elements of Informed Consent

- A clear statement at the top of the first page that reads “You are invited by (Name of principal investigator) to participate in scientific research”
- Research title
- Name of institution approving the research
- Research objectives
- A description of any expected benefit for the human subject
- A description of any expected risk or harm that may affect the human subject or society
- A description of alternative treatments available outside the scope of the research, if any
- A statement of the level of respect accorded to the confidentiality of information that may reveal the identity of the subject, along with a commitment by the investigator to secure such confidentiality
- A description of all medical procedures and treatments related to the research or carried out only as a result of conducting the research, if any
- Duration of the research project

Cont., Essential Elements of Informed Consent

- A description of requirements to be fulfilled by the human subject
- A description of type, quantity, and method of use of samples taken from the human subject, if any, with a commitment to dispose of with excess or leftover samples through recognized scientific methods
- A statement that explicitly reads as follows: “Participation in the research is voluntary. Refusal to participate shall not entail penalty or loss of benefits to which the human subject would otherwise be entitled. The human subject may withdraw from the research at any phase without loss of benefits to which he is otherwise entitled”
- Indication of risks or harms, if any, that might ensue due to withdrawal from research
- The investigator’s pledge that the human subject (participant or volunteer) shall be notified of all information that may emerge during the research period, the knowledge of which may affect his decision for continued participation in the research, such as harms or complications not stated in the “Informed Consent”
- Contact numbers and addresses to enable the human subject to obtain information related to the research or his rights or to report any harm sustained. Said numbers and addresses shall include the contact numbers and e-mail addresses of the IRB and researcher
- Signature of the human subject (male or female) or guardian, the researcher, and any other person whose signature on the form is required following the provisions of the Law and Regulations;
- Date and place of the “Informed Consent”
- Method of compensating of the human subject in case the subject sustains any harm resulting from the research.

Informed Consent

- Upon obtaining the informed consent, the investigator shall clearly explain to the human subject or his guardian all potential outcomes of the research including harmful ones, if any, which result from the withdrawal of the informed consent
- The informed consent shall be documented in accordance with conditions and procedures specified by the Regulations
- The IRB may approve conducting the research without obtaining the informed consent if it is not possible to relate the information obtained by the researcher from the records or pathological samples to the source person or if the results related to individuals are available to the public

The IRB Review Process

- The PI or designee must submit the following:
  - The research proposal (proposal components are listed in the following page)
  - An updated, signed and dated CVs of the principal investigator and co- investigators
  - Methods used for inviting human subjects, including advertisements
  - “Informed Consent” form, if required
  - Proof of passing a valid research ethics course
- After submission
  - You will receive a confirmation once the application has been submitted to the IRB.
  - If there are any changes required to the application, you will receive a notification.
- After Approval
  - Once the application has been approved, applicants will receive a Letter of Approval
  - An on-going/progress report is required to be submitted annually to the IRB. Also, a final/end of project report must be submitted. You will receive a notification when the annual or final reports are due
  - No research can take place until the new protocols have IRB approval.
  - All revisions to approved protocols must be also approved by the IRB.

Proposal Components

According to Article 10.14 in the NCBE guidelines, the research proposal shall comprise the following:

1. An abstract of the research within one page
2. Research objectives
3. Statistical methodology, including sample size calculations
4. The rationale for introducing any procedure, tool or device that has not been used before
5. The rationale for using any harmful substances and methods of disposal afterward
6. Plan for dealing with risky cases (if any)
7. A clear description of the duties and responsibilities of the research team
8. Time schedule of research activities
9. A list of expected results and ways to benefit therefrom
10. Ethical consideration section
11. A list of references

Consenting Minors (children)

- Declaration of Helsinki (2000)
  - Obtain informed consent from parents
  - If a child is capable, obtain the assent
- Consent vs. assent?
  - Consent may only be given by individuals who have reached the legal age of consent (in the U.S., this is typically 18 years old).
  - Assent is the agreement of someone not able to give legal consent to participate in an activity (research).

Research Misconduct

- “Research misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.”
  - (a) **Fabrication** is making up data or results and publishing them
  - (b**) Falsification** is manipulating research materials or changing or omitting data or results such that the research is not accurately represented in the research records
  - (c) **Plagiarism** is the adoption of another person's ideas, words, or research results without giving proper credit
- Research misconduct does not include honest error or differences of opinion. http://ori.hhs.gov/definition-misconduct

Assessment

- After completion of the course material, press on the link below to access the assessment
  - https://forms.gle/XtPYYjB1ZpNyKqRR7
- You must score at least 80% to get the certificate of completion
- If you face any issue, email us at irb@alfaisal.edu

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