Research
442

Revised by
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Ethics in Human Research

Lecture No. 4

Objectives:

1. Learn the history of human subjects research regulation
2. List the three basic principles of ethical research
3. Identify the important aspects of research ethical consideration
4. Understand the conflict of interest and how it may occur
5. Understand and apply scientific integrity

~ This lecture was presented by **Dr. Noura Abouammoh**
~ It is included in the **Midterm Exam**
~ We highly recommended reading the **Ayah** in the first page

Slides

Color code

Original text
Dr. Notes
Important
Golden note
Extra

Editing file

Ethics

1

Research

"Research and experimental development comprise creative and systematic work undertaken in order to increase the stock of knowledge -including the knowledge of humankind, culture, and society- and to devise new applications of available knowledge.

- The *Frascati* definition of research

سورة لقمان

وَلَا تُصَعِّرْ خَدَّكَ لِلنَّاسِ وَلَا تَمْشِ فِي الْأَرْضِ
مَرَحًا ۖ إِنَّ اللَّهَ لَا يُحِبُّ كُلَّ مُخْتَالٍ فَخُورٍ ﴿١٨﴾ وَاقْصِدْ فِي مَشْيِكَ
وَاغْضُضْ مِن صَوْتِكَ ۚ إِنَّ أَنكَرَ الْأَصْوَاتِ لَصَوْتُ الْحَمِيرِ ﴿١٩﴾

المختصر في التفسير

ولا تُعْرِض بوجهك عن الناس تكبرًا، ولا تمش فوق الأرض فرحًا معجبًا بنفسك، إن الله لا يحبّ كل مُخْتال في مشيته، فخور بما أوتي من نعم يتكبر بها على الناس ولا يشكر الله عليها.
وتوسّط في مشيك بين الإسراع والدَّبيب مشيًا يظهر الوقار، واخفض من صوتك، لا ترفعه رفعًا يؤذي، إن أقبح الأصوات لصوت الحمير لارتفاع أصواتها.

Ethics

- Derived from the Greek word "*ethos*", which means "way of living", ethics is a branch of philosophy that is concerned with human conduct (سلوك), more specifically the behaviour of individuals in society
- Ethics are the set of rules that govern our **expectations** of our own and others' **behaviour**

Research ethics

- Research ethics are the **set of ethical guidelines** that guides us on how scientific research should be conducted and disseminated.
- Research ethics committee/Institutional Review Board (IRB) reviews whether the research is ethical enough or not to protect the rights, dignity and welfare of the respondents.
- We conduct research with or about people, using their data or tissues, with the sole **intention to do good.**
- All research has some sort of level of risk. Our job is to always weight the benefits and risks of research.

Important factors for IRB Approval: Methods, adding knowledge to the literature

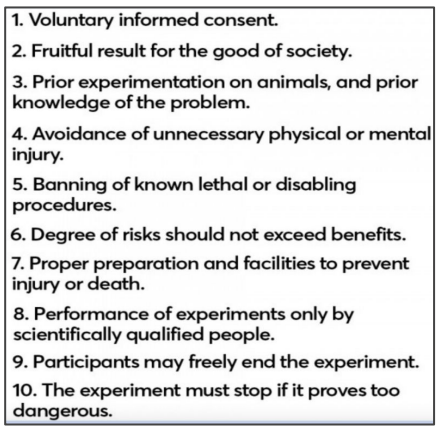
- ***Ethical conduct***: (السلوك البحثي)
  - Involves acting in the right spirit, out of an abiding respect and concern for one's fellow any creatures.

Evolution of human subjects' research ethical standards

Brief History of Research Ethics					
1906 FDA established	1948 Nuremberg Code	1950 Thalidomide incident (Kefauver Amendment)	1964 Declaration of Helsinki	1932-1972 Tuskegee Study	1979 The Belmont Report

Nuremberg Code (advocating voluntary consent)

- Formulated following the judgment of German Nazi doctors accused of conducting murderous and torturous human experiments in the concentration camps without consent (died or permanently crippled) "Doctors' trial"
- The Nuremberg Code serves as a **blueprint for** our **today's** principles that ensures the **rights** of subjects **in** medical **research**.
- Formulated in 1948 in Nuremberg, Germany, by American judges
- "Voluntary consent of human subjects is absolutely essential"
- First international document that advocated informed consent (but still did not enforce it)

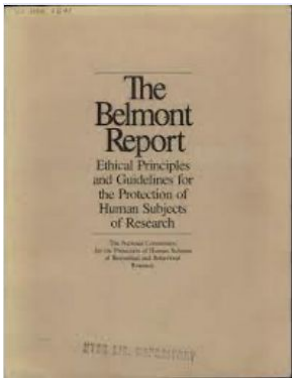

1. Voluntary informed consent.
2. Fruitful result for the good of society.
3. Prior experimentation on animals, and prior knowledge of the problem.
4. Avoidance of unnecessary physical or mental injury.
5. Banning of known lethal or disabling procedures.
6. Degree of risks should not exceed benefits.
7. Proper preparation and facilities to prevent injury or death.
8. Performance of experiments only by scientifically qualified people.
9. Participants may freely end the experiment.
10. The experiment must stop if it proves too dangerous.

Tuskegee Study

- 1932-1972, in Tuskegee, Alabama
- 400 low income African Americans with Syphilis (not told about their disease) followed up for 40 years without treatment
- No adequate treatment; not voluntary; not informed
- 1945: Penicillin discovered but was not given
- 1962: Concerned raised about the study
- 1972: News article condemns study
- 1973: lawsuit against investigators; the study was terminated

Evolution of human subjects' research ethical standards

Implications of Tuskegee study



- Establishing the National Commission for Protection of Human Subjects of Biomedical and Behavioral Research
- Basic ethical principles of human research were published in the Belmont Report in 1979

The Declaration of Helsinki

- 1964: recommendations guiding research on humans (Tuskegee study was still ongoing)
- The first version was adopted in 1964 and has been amended seven times since, most recently at the General Assembly in October 2013.
- It is the basis of Good Clinical Practice
- It addresses:
  - Research with humans should be **based on** the results from **laboratory and animal experimentation**
  - Research **protocols** should be **reviewed** by an independent committee prior to initiation
  - **Informed consent** from research participants is necessary
  - Research should be conducted by medically/scientifically **qualified individuals**
  - **Risks** should not exceed benefits

Belmont Report Principles

- Established in 1979
  a. Respect for persons
     - Autonomy
     - Consent for research
     - Anonymity
     - Confidentiality
  b. Beneficence
     - Assess risks/benefits
  c. Justice
     - In selection

Evolution of human subjects' research ethical standards

Respect for persons (autonomy)

- Individuals should have full **autonomy** for **participation** (voluntary participation)
- People cannot be coerced for participation
  - E.g. children, your employee, your patient is forced, institutionalized populations…
- persons with diminished autonomy are entitled to protection
- How is this applied:
  - **Informed consent**

Consent for research

- Every individual should have the free power of choice (voluntariness) to decide their participation in any research after having sufficient knowledge and information about all aspects of the research (**informed consent**)
- **They should know:**
  - Duration; **methods to be conducted**; biomedical samples to be collected; number of other people; any alternative to participation; any harms; how to minimize; any benefits; any legal or financial constraints on refusing to participate

Types of consent in clinical setting

Implied consent	Verbal consent	Written consent
When the patient **passively cooperates** without formal consent; do not need to be recorded in medical record	Patient states consent verbally but **not** on **sign** or **written** form; **diagnostic procedures**, prophylaxis; documented in medical record	Necessary for extensive interventions that involve risk. E.g. anesthesia, invasive procedure (CT, MRI, etc.), medication with high risk, blood sampling in research, genetic sampling

Evolution of human subjects' research ethical standards

Consent in research setting

- As a rule, informed consent should be obtained for any research, except in:
- Emergency research:
  - Emergency situation (life-threatening condition)
  - Cannot provide consent until after receives treatment
  - No possible way to identify eligibility of research beforehand

Informed consent form for research at KSU

King Saud University

Vice Rectorate for Graduate Studies & Scientific Research

Deanship of Scientific Research

Research Ethics Committee

نموذج موافقة مسبقة للمشاركة في دراسة قائمة على الاستبيان

رمز النموذج | KSU-REC 006Q5

جامعة الملك سعود، الرياض، المملكة العربية السعودية

عنوان مشروع البحث:

اسم الباحث الأساسي

اسم و عنوان الجامعة:

رقم الاتصال:

أعزائي المشاركين،

أود أن أنتهز هذه الفرصة و سؤالك إذا كنت ترغب المشاركة في هذه الدراسة القائمة على الاستبيان. يرجى الإجابة على الأسئلة إلى حد معرفتك. جميع المعلومات المطلوبة في استبيان هذه الدراسة سوف يتم التعامل معها بكل سرية. و اذا كنت ترغب في المشاركة تطوعياً في هذه الدراسة، يرجى التوقيع على هذا النموذج و سوف تحصل على نسخة و تحفظ في السجلات الخاصة بك.

( ) انا أوافق على المشاركة في هذه الدراسة وعلى استخدام المعلومات لأغراض البحث العلمي.

( ) إنا أوافق على السماح للباحثين بالوصول إلى سجلاتي الطبية الموجودة، سواء كانت إلكترونية أو ورقية لدراستهم، وجمع البيانات بأثر مستقبلي، واستخراجها من المدارسات والإجراءات الروتينية.

تم التوقيع بواسطة:

اسم الباحث بالكامل:	
اسم الدراسة:	
التوقيع:	
التاريخ [يوم/شهر/سنة]:	

تم التوقيع بواسطة:

اسم المشارك:	
التوقيع:	
التاريخ [يوم/شهر/سنة]:	

حقوق الطبع والنشر لجهة الملكية محفوظة لجامعة الملك سعود © - عام 2017. لا يمكن إضافة أي جزء في أي نموذج بأي شكل أو بأي وسيلة، أو نقله أو نشره دون موافقة خطية مسبقة من جامعة الملك سعود.

Form # KSU-IRB-006Q5-E, Version 2.0, Updated 02 Oct 2017

Informed Consent Form - Questionnaire-Based Survey

استبيان قائم على استبيان الموافقة على الاستبيان

Anonymity

- The information that you collect from the participants cannot be **traced back to them**
- There is no identifying information in your study report (or data) about the participants
- Sometimes you need to have personal identifiers in your data, but you need to "**de-identify**" these before analysis

Confidentiality

- The information you collect from the people in your study remains private and is not shared with others
- This also includes **data handling** (secure storage; only investigators in the study have access to it; using encrypted files; using locked cabinets)
- This is especially important for studies that examine sensitive information (e.g. illegal drug use). You cannot share the information about drug use with the authorities
- Everything you get from participants must be kept confidential
- Part of confidentiality is to safely **destroy the data after completing** the studying and writing the report

الخصوصية والسرية

You don't tell authority even if it break the law

Evolution of human subjects' research ethical standards

Beneficence (Do Good)

- The whole research experience should **provide benefit**
- One must **evaluate** the **necessity** of the research
- Researchers should **weigh** the **benefits** and risks of any kind of research
- Researchers should **minimize risks**
- **Nonmaleficence**, Individuals should not be harmed

Examples of harms in research

- **Psychological harm**: Sensitive questions or tasks may trigger negative emotions such as shame or anxiety.
- **Social harm**: Participation can involve social risks, public **embarrassment**, or **stigma**.
- **Physical harm**: Pain or injury can result from the study procedures.
- **Legal harm**: Reporting sensitive data could lead to legal risks or a breach of privacy.

Evaluating risk

- As a rule of thumb, the study benefits must always outweigh the risks
- If risks outweigh benefits → unethical and must not be conducted
- If risks and benefits are equal → unethical must not be conducted
- Minimal risk
  - Defined as discomfort that a person is exposed to in their daily life, or routine visit to physician
  - e.g. **Saliva**, excreta, **small sample of blood**
- More than minimal risk
  - Sensitive information; holds legal consequences
  - Any procedures more invasive than the ones above
- Important to point out to help in ethical review of the study when weighing benefits and risks

Evolution of human subjects' research ethical standards

Justice

- Fairness of subject selection
- Fair procedure for selection of subjects with scientific justification

It's for the sample recruitment

Applying justice in research

- Methodologically sound sample selection (random sample selection)
- Researcher should not influence inclusion of certain persons in the study
- Avoid vulnerable populations (children, elderly, pregnant, prisoners, institutionalized) unless the research involved studying these specific populations
- Minimize bias in your study

Belmont Report

Principle	Application
Respect for persons • Individuals should be treated as autonomous agents • Persons with diminished autonomy are entitled to protection	Informed consent • Subjects, to the degree that they are capable, must be given the opportunity to choose what shall or shall not happen to them • The consent process must include three elements: i) information, ii) comprehension, and iii) voluntariness
Beneficence • Human subjects should not be harmed • Research should maximize possible benefits and minimize possible harm	Assessment of risks and benefits • The nature and scope of risks and benefits must be assessed in a systematic manner
Justice • The benefits and risks of the research must be distributed fairly	Selection of subjects • There must be fair procedures and outcomes in the selection of research subjects

Scientific Integrity

What is scientific integrity?

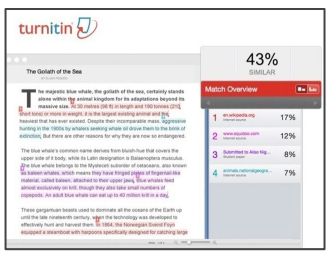
- "**Acting according** to the relevant **research guidelines, journal criteria,** and **relevant expectations** considered appropriate within a particular discipline"
- "It not only involves doing the right thing because the agent is concerned about external sanctions or punishment, but because it is the right thing to do."
- "Integrity is not just about knowing and following the 'rules' in relation to publication ethics or the relevant regulations or law covering research ethics, but it is about taking ownership of one's participation in the scientific enterprise and accepting responsibility for one's actions."

النزاهة العلمية

Comes from the person, and can be implanted by **guidelines** and **protocols**

Plagiarism

from Latin word "Plagiare" meaning kidnap.
It is the use of someone else's ideas or work without giving **credit to them**, whether intentionally or unintentionally.



❑ **Types of plagiarism based on intention:**

1. Intentional:
   - Copying and pasting; using other's work without credit
2. Unintentional:
   - Wrong paraphrasing or improper citation

❑ **Forms of plagiarism based on scope or extent**

1. Plagiarism of ideas
   - Using ideas without giving credit (e.g. student thesis)
2. Plagiarism of text (direct plagiarism)
   - Copying portions of text verbatim without putting quotation marks
3. Mosaic plagiarism (patchwork plagiarism)
   - Put sentences from different articles together without paraphrasing
4. Self-plagiarism
   - Borrowing some amount of work from one's own previously published work

Coming up with a new idea, but citing a different idea from different paper

Evolution of human subjects' research ethical standards

Conflict of interest

When a researcher has interests or biases that may interfere with ethical or legal performance

- Some scenarios:
  - Scientist is asked to review a paper for a study that refutes hypotheses that he has spent his whole life trying to prove
  - An IRB member is asked to review a study written by friend
  - If a researcher is related to the editor of the journal to which they submit a paper
  - Get funding from a drug company for research on that drug
  - Examine the drug for a company that you work for
  - Accepting a paid consultancy with a company having an interest in your research
  - Providing or receiving financial bonuses for meeting subject recruitment targets or achieving stated results
  - Accepting gifts from a student whom you must evaluate
  - Have received funds a few years ago from a drug company (or was sponsored for conference) and then conduct research on one of their drugs a few years later

Consequences of conflict of interest

1. Breaches the integrity of the researcher
2. Makes the public question the validity and honesty of research (lose trust in science)
3. **Damages the reputation of the researcher**

How to deal with conflict of interest

- Disclose it (mention it to the reviewer).
- This allows others to learn about the interest and evaluate the validity of the findings

You tell the journal that you have a relationship in this research

Evolution of human subjects' research ethical standards

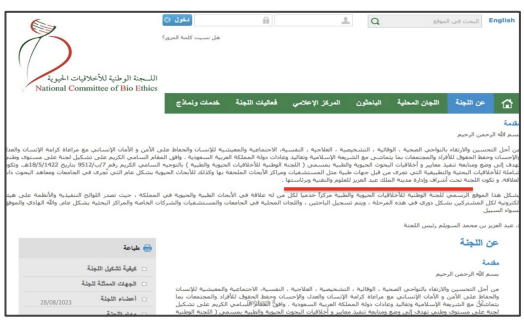
Research misconduct

- Research misconduct involves breaches in scientific integrity at any stage of your research (e.g. coercion (اكراه), no consent, no justice, plagiarism, etc.)
  - Data fabrication → manipulating data (Like what the president of Stanford did)
  - Data falsification → making up data
  - Misrepresenting results in a report (e.g. only reporting positive findings and omitting negative findings)
  - Submitting the same manuscript to two journals at the same time (article duplication)
- When journals discover this, they retract your published work and inform your institution.
- In some institutions, students are punished for this by expulsion.
- All these are serious and can ruin your reputation and credibility as a scientist for the rest of your life.

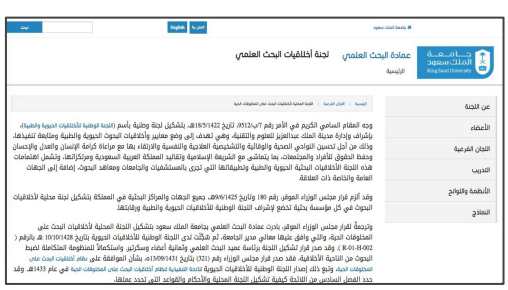
Ethical committees in Saudi Arabia that oversee ethical rules and regulations for human subjects' research

- All research protocols and proposals should be evaluated by a research ethical committee before the investigators start their research.
- This committee is the institutional review board (IRB).
- The IRB checks all the elements and materials in your proposal and make sure they meet the ethical standards.

National Committee of Bio Ethics



Many regional committees that report to King Abdulaziz City for Science and Technology (KACST)



Functions of KSU committee

- Ensures the research is in line with KSA regulations
- Ensures that informed consent was obtained
- Approves the research project from ethical standpoint
- Follows up on research activities and evaluate breaches in ethics
- Follows up on human subjects safety (clinical trials)
- Coordinates with KACST's central committee

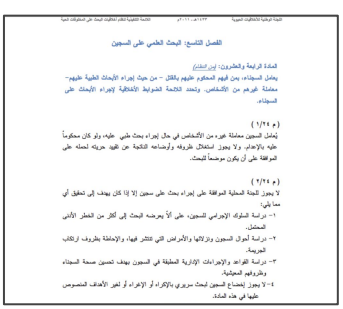
Websites for human subject research training

All principal investigators (PIs) need to have certification

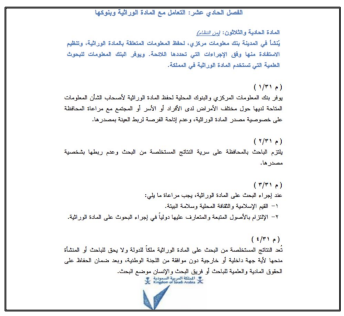
Website to get the training	Fees required?
1-US NIH site (https://phrp.nihtraining.com/users/login.php)	Yes
2- KACST (http://bioethics.kacst.edu.sa/Register/register-resercher.aspx)	No
3- NIDA GCP Training (https://gcp.nidatraining.org/)	No
4- CITI Program (https://about.citiprogram.org/en/homepage/)	Yes

اللائحة التنفيذية لنظام أخلاقيات البحث على المخلوقات الحية

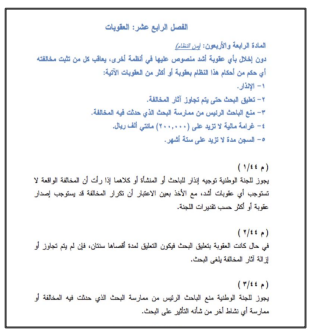
البحث العلمي على السجين



التعامل مع المادة الوراثية و بنوكها



العقوبات



القادة:

نواف التركي — عبدالله الشهري — لمتحمي

ريان الغنامي — وهى ا

الأعضاء:

عبدالله التركي — عبدالله المياح

محمد الزير — عبدالله النجرس

عثمان الدريهم — تركي العتيبي

عبدالعزيز القحطاني — عبدالله القرني

ناصر الغيث — عامر الغامدي

سعد السهلي — سعد الاحمري

رائد الماضي — معاذ آل صلام

سعود الشعلان — محمد الحصيني

رغد الظفيف

ريما الجريبة

شهد البخاري

نوف الضلعان

أثير الاحمري

وعد ابو نخاع

ثراء الهويش

في الدوسري

منار الزهراني

Answer: Q1:D |Q2:D |Q3:A |Q4:D

MCQ:

Q1: which of the following is one of the importance of ethics?

A. Protection of participants
B. ensure dignity
C. discovering new drugs
D. A & B

Q2: which of the following is an example of intentional plagiarism?

A. Using someone else idea
B. Rephrasing sentences from own work
C. Rephrasing sentences from other work
D. Copying and pasting from other work

MCQ:

Q3: which of the following is a major islamic principle in research ?

A. warding off of harm
B. custom is true
C. intent in all-important in action
D. hardship engenders facilitation

Q4: which of the following is an ethical requirement?

A. scientific validity
B. Scientific Value
C. Favourable risk-benefit ratio
D. all of the above