
Influence of the menstrual cycle on muscle and liver glycogen and circulating substrates during exercise in healthy women

A Data Management Plan created using DMPonline

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Template: University of Nottingham generic Data Management Plan

Project abstract:

This study aims to investigate the effects of hormonal changes throughout the menstrual cycle on moderate exercise induced liver and muscle glycogen changes in healthy women.

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Data description

What data will you create?

Liver Glycogen (pre and post exercise, 4 visits per participant, 12 participants): jMRUI, Matlab and Excel Spreadsheet

Muscle Glycogen (pre and post exercise, 4 visits per participant, 12 participants): jMRUI, Matlab and Excel Spreadsheet

Blood samples: Excel spreadsheet

Data collection / generation

What are your methodologies for data collection / generation? How will you ensure data quality? What data standards will you use?

Data collected using MRS scanning on Philips Acheiva 3T scanner and exported as .sdat and .spar files

Data is quality checked on scanner and referenced for analysis offline

Semi-automated protocol used for analysis and values saved in excel spreadsheet

Blood samples are stored at -80 degrees and sent for analysis in lab. Results documented in excel spreadsheet

Data storage and security

Where and how will data will be stored, backed-up, transferred, and secured during the active phase (short to medium term) of research?

MRI data will be backed up on central server and DVDs periodically

MRI data and results will be stored on computer in SPMIC

Results will be stored on computer in SPMIC and circulated accordingly

We will use UoN-provided storage for our working data. UoN licenses Microsoft OneDrive,

an ISO 27001 information security management compliant service that allows secure and controlled sharing of data amongst the research team. University of Nottingham OneDrive encrypts data both in transit and at rest and is approved against the University's Handling Restricted Data Policy. The service provides continual failover support. This service provides up to 5TB free-at-point-of-use, and as we do not anticipate generating more than 5TB we will not require any additional costs for use of this service.

Data management, documentation, and curation

What are your principles, systems, and major standards for data management and creation? What metadata and documentation will you keep?

Data will be analysed and results used internally, providing pilot data for future grant proposals. Metadata is stored in source files. Data will not be shared externally until completion of study.

Ethics & Privacy

Are there any ethical or privacy related issues associated with your data?

Personal data will be collected during this project, and the project has considered ethical and legal implications in its data storage, as well as appropriate security of personal data. All participants will agree to data collection and to long-term retention, archiving, and sharing of their anonymised data. Research will follow standard ethical procedures of the Faculty of Arts and the University of Nottingham. Specific aspects will be considered by the Faculty ethics committee as appropriate. In particular, the creation of data from interviews and focus groups will require ethical approval, including consent forms outlining the storage and use for research purposes of data, including access to those data by project researchers and other researchers, both during and after the life of the project. Participants will be informed that they can withdraw their participation at any stage during or after the observations. As we will be working with personal data we will ensure that we comply with the Data Protection Act 2018, including GDPR requirements. This will include providing research participants with the relevant privacy information and ensuring appropriate safeguards for the storage and handling of data are in place.

Data preservation

How will you ensure the long term storage and preservation of data?

All research data created by the project will be deposited in the UoN research data archive, <https://rdmc.nottingham.ac.uk/> The UoN data archive is underpinned by commercial digital storage which is audited on a twice-yearly basis for compliance with the ISO 27001 standard. UoN will retain and preserve research data in line with BRC requirement for a minimum of 7 years, but data will be retained for longer periods of time where it is of continual value to users. No cost has been charged to this project for data archiving as we anticipate that the amount of data generated for long-term retention will not exceed 50GB (the capacity provided free by the University).

Data sharing and access

How will the data generated be shared and published?

Our dataset does not contain any personal or commercially sensitive information and thus will be shared via the University of Nottingham data archive under a CC-BY license. There will be no need to update the data past the project period.

Roles & responsibilities

Who will be responsible for managing data, data security, data quality, and data security both during the award and post-award?

Dr Stephen Bawden and Tomoka Matsuda will be responsible for managing data, security, data quality during and after the study completion.

Relevant policies

What are the relevant institutional, departmental or study policies on data sharing and data security?

We will ensure that our research aligns with the requirements of the University's Research Data Management Policy, Information Security Policy, Code of Research Conduct and Research Ethics. As we are working with personal data, we will abide by the Secure Data Handling Policy and Data Protection Policy. All third party commercial data or new data that may be suitable for commercial exploitation will be protected by the University's Intellectual Property policy.

IPR

Who will own the copyright and IPR of any data that you will collect or create? Will you create a licence(s) for its use and reuse? If you are planning to use existing data as part of your research, do any copyright or other restrictions determine its use?

No copyright or IPR is required for this study

Budgeting

What are the costs or funding required for capturing, processing, storing, and archiving your data?

Costs of data acquisition, processing, storing and archiving data are included within the general costs within the SPMIC.

Further Help

Would you like your plan to be reviewed by specialists in Libraries?

Saving this plan after checking the "Yes" box will immediately notify Libraries DMP review service, please only do this when you are ready for review.

- No