Data Sharing의 개념과 실제

한국과학학술지편집인협의회
원고편집위원회
서 윤 주

Open Access, Clinical Trial Registration, Open Data, Open Source,

and other Open Scholarship Practices
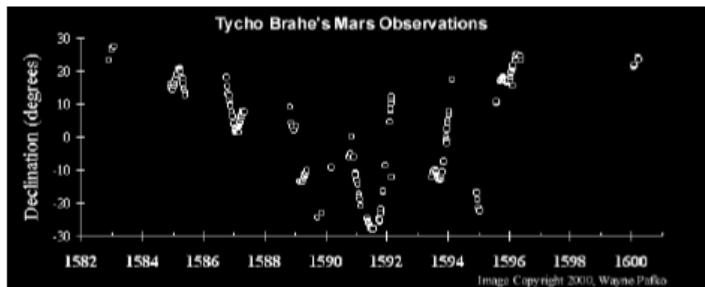
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At last, Open Science.

데이터 공유의 개념

- **데이터 공유(data sharing)**

- *Data sharing* means **making data available to people other than those who have generated them**. Examples of data sharing range from bilateral communications with colleagues to providing free, unrestricted access to the public through, for example, a Web-based platform. (U.S. Department of Energy, n.d.)

- **데이터 공유의 역사**

Tycho Brahe's Mars Observations

갈릴레이의 목성 위성 관찰 데이터

Night 1   Night 2

- 튀코 브라헤(덴마크의 천문학자)의 화성 관찰 데이터, 갈릴레이의 목성 위성 관찰 데이터

    = 케플러와 뉴튼의 이론에 토대가 됨 (Crosas 2008, 재인용).

  ☞ 1605년 케플러의 행성 운동 법칙은 브라헤의 화성 관찰 데이터에 기반

  ☞ 1687년 뉴튼은 브라헤와 갈릴레이의 관찰 데이터를 바탕으로 만유인력 법칙 제안

- **FAIR principles**

과학분야의 연구 데이터는

- Findable: 찾을 수 있어야 하고,

- Accessible: 접근할 수 있어야 하고,

- Interoperable: 상호 운영이 가능해야 하며,

- Reusable: 재사용이 가능해야 한다.

https://www.go-fair.org/fair-principles/

데이터 공유의 효과

<Elsevier - Sharing research data >

1) **For Researchers**

- 자신이 수행한 작업에 대한 credit 획득

- 더 많은 citation 견인

- 출판물 수 증대

- 노출률을 높여 새로운 collaboration 연구로 연결 가능성 증대

https://www.elsevier.com/authors/author-services/research-data

2) For Research Communities

- Data 재사용(reuse) 및 재해석(reinterpret) 용이

- 실험 중복 방지

- 새로운 시각을 통한 새로운 연구의 도화선

- Replication 강화

https://www.elsevier.com/authors/author-services/research-data

3) And Society at large…

- 투명성(transparency)을 통해 연구에 대한 공적 신뢰도 증대

- 정부 정책에 일조

- 보건 및 학문 외 분야로부터의 접근성 향상

- 반복 작업 비용 감소로 공적 자금(public purse) 낭비 방지

https://www.elsevier.com/authors/author-services/research-data

◆ **데이터 공유의 필요성**

재현 가능한 연구(reproducible research)

연구 결과의 검증(verification of results)

소규모 데이터로 해결할 수 없는 연구에 대해 대량의 데이터 분석 가능

<Others>

- Data의 조작, 위조, 왜곡 등(fabrication, falsification, or distortion)을 방지

- Data management를 통해 결과물의 효율성과 quality 제고

- 신뢰할 수 있는 repository에 data를 저장함으로써, 완료된 연구에 대해 자료를

  지속적으로 보관해야 하는 개인의 책임과 업무 절감

데이터 공유의 장벽

1) 연구자 불이익에 대한 우려

- Data open으로 인해 미완료 or 잠재적인 project가 손상될 가능성

- Data 소유권, 저작권 등 선점한 경쟁 우위의 포기

- Data open을 위한 준비에 별도의 시간과 노력 필요: 보다 중요한 내용에 집중되어야 할 자원의 분산

- Data에서 오류가 발견될 가능성에 대한 개인적, 정서적 불안감

2) 공개 제한의 장벽

- Confidential data

- Private/personal data

- Data with ethical issue

- Intellectual property rights (IPR, 지적 재산권)

Deidentification 필수
Reidentification 방지 조치 필요

3) 이해관계의 충돌

- Data의 소유권과 저작권의 문제

- 정부, 대학, 기업을 비롯한 산업 파트너, 특허, 출판 및 유통 등과 관련된

  commercial/finacial conflicts of interests

- 새로운 임상시험을 위한 투자 감소/기존 자료를 활용한 이득 창출 우려

- 공유 Data에 대한 각 기업의 상업적 용도 활용 우려

- 타 연구자의 업적에 무임 승차자 발생 우려

4) Repository 확보 및 유지 관리의 문제

- 신뢰할 수 있는 repository 인프라 및 자금 확보 필요

- 방대한 데이터양(자료 누적 및 영상 자료 등)으로 인한 접속 지연 등

- Data access, 추출, 비교 등에 전문 지식 필요

- 사용자를 위한 interface 확보

데이터 공유 정책의 필요성

• **지원금으로 생산된 data의 공유 의무화**

- 미국 및 유럽에서 fund 수혜를 위한 연구단계에서의 data management plan (DMP) 제출은 이미 정착화

- U.S. NIH와 U.K Wellcome Trust는 출판 후 publication 미공개 시 보조금 일부 지급 보류(10%) 등으로

enforcement

* Wellcome Trust에서 위의 방법 채택 이후 open access 준수율 급증

  : 74% (2015)→ 91% (2016)

- 저널이 data sharing 의무화 시 데이터 온라인 availability가 1,000배 향상되었다는 연구

결과

   / 단순 recommendation 시 no policy인 저널에 비해 미미한 상승
   (Vines TH et al. doi:10.1096/fj.12-218164)

-    2019년 survey에서 일본 연구자의 95%가 data를 share한다고 응답(n=975)

    Top two reason: "To progress research in their field" (50%),

                       "For the transparency and re-use of data" (42%)

    (Allagnat L, et al. White paper published May 2019: Challenges and opportunities for data sharing in Japan.

    https://www.doi.org/10.6084/m9.figshare.7999451)

* Increase of Data Publishing

- "Pure" data journals: *Earth System Science Data, Journal of Open Archaeology Data, Open Health Data, Polar Data Journal,* and *Scientific Data.*

- "Mixed" journals publishing data papers: *Biodiversity Data Journal, F1000Research, GigaScience, GigaByte, PLOS ONE,* and *SpringerPlus.*

(https://en.wikipedia.org/wiki/Data_publishing)

scientific **data**

View all journals | Search 🔍 | Login ⊗

Explore content ⌄   About the journal ⌄   Publish with us ⌄   Sign up for alerts 🔔   RSS feed

nature > scientific data

Reef Cover, a coral reef classification for global habitat mapping from remote sensing

Emma V. Kennedy, Chris M. Roelfsema ... Paul Tudman

Data Descriptor | 02 August 2021

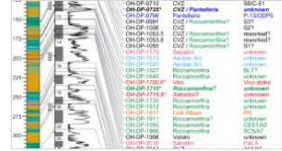Ishan @seefromthesky via Unsplash

Featured

Data Descriptor
Open Access
02 Sept 2021

Lake Ohrid's tephrochronological dataset reveals 1.36 Ma of Mediterranean explosive volcanic activity

Niklas Leicher, Biagio Giaccio ... Bernd Wagner

Elsevier 학술지 Data Sharing 정책

Research data

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

Data linking

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Mendeley Data

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to *Mendeley Data*. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data in Brief

You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for *Data in Brief* as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to *Data in Brief* where it will be editorially reviewed and published in the open access data journal, *Data in Brief*. Please note an open access fee of 600 USD is payable for publication in *Data in Brief*. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief.

Data statement

To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

- Data linking
- Mendeley Data
- Data in Brief
- Data statement

그 외 학술지 Data Sharing 정책

- **Springer (**Journal of Assisted Reproduction and Genetics): The journal encourages authors, where possible and applicable, to deposit data that support the findings of their research in a public repository. Authors and editors who do not have a preferred repository should consult Springer Nature's list of repositories and research data policy.

- **BMJ Sexual and Reproductive**: We strongly encourage that data generated by your research that supports your article be made available as soon as possible, wherever legally and ethically possible.

- **JGO** accepts the ICMJE Recommendations for data sharing statement policy (http://icmje.org/icmje-recommendations.pdf). All manuscripts reporting clinical trial results should submit a data sharing statement following the ICMJE guidelines from 1 Feb 2019

국내 학술지 Data Sharing 정책

대한의학학술지편집인협의회 소식

June 2018, Vol. 64

국제의학학술지편집인위원회(International Committee of Medical Journal Editors)의 임상시험자료 공유 정책에 대한 안내문

국제의학학술지편집인협의회(International Committee of Medical Journal Editors, ICMJE)는 2017년 7월, 중재적 임상시험(interventional clinical trial) 결과를 ICMJE 회원 학술지(13종)에 출간하고자 하는 경우 자료공유선언계획과 선언문을 제출하여야 한다는 요지의 Data Sharing Statement를 발표하였다.

이에 대한의학학술지편집인협의회는 국내 연구자들에게 이같은 ICMJE의 새로운 방침을 알리기 위해 지난 2월부터 한시적인 특별위원회를 구성하고 'ICMJE의 임상시험 자료 공유 정책에 대한 안내문'을 작성하였다.

2018년도 과총 학술지 평가결과와 내년도에 대비한 젠더 관련 규정 보완

한국과학기술단체총연합회(과총)는 590개 과학기술계 학회가 모...

Principles of Transparency and Best Practice in Scholarly Publishing

10. Publication Ethics A journal shall also have policies on publishing ethics. These should be clearly visible on its website, and should refer to: 1) Journal policies on authorship and contributorship; 2) How the journal will handle complaints and appeals; 3) Journal policies on conflicts of interest / competing interests; **4) Journal policies on data sharing and reproducibility**; 5) Journal's policy on ethical oversight; 6) Journal's policy on intellectual property; and 7) Journal's options for post-publication discussions and corrections.

☞ Scopus, DOAJ, PMC를 비롯한 국제 DB 및 KoreaMed 등

국내 DB, 학술지 지원사업의 학술지 평가 시

Best Practice 기술 및 적용 여부 평가

우리 학술지의 데이터 공유 정책 수립

Five essential factors for data sharing

To accelerate data sharing, we propose five essential factors:

1. Clear policy
From funders, institutions, journals/publishers and individual research communities. Setting out unambiguous and specific requirements for data management and sharing would lead to a shift in researcher behaviour.

2. Better credit
Data sharing needs to be worth a researcher's time. With more formal recognition through data citations, authorship, inclusion in research assessments and career advancement, data sharing will increase.

3. Explicit funding
For data management and data sharing, as well as data publishing. Policy without access to dedicated funding to enable compliance is unlikely to result in increased data sharing.

4. Practical help
For organising data, finding appropriate repositories, and provision of faster, easier routes to share data (infrastructure). The majority of researchers don't know how or where to make their research data available.

5. Training & education
To answer common questions from researchers on data sharing and to help build skills and knowledge. Communicating the benefits of best data practice, and addressing common areas of concern, would go a long way towards making data sharing the norm.

• **Managing Confidentiality Issues**

- 데이터 수집 단계: 적절한 consent protocols 준수

- 데이터 가공 및 제출 단계의 deidenfication

   : 개인식별 정보 및 민감 정보의 분리

   : 익명화 변수 제거나 recoding

   : Firewall나 기타 disclosure risk 감지 소프트웨어 등 활용

- 신뢰할 만한 data repository의 선택

• Ethics, Possessions, Copyright, COI 관련

- Embargo의 적절한 활용

- 자료 공유 선언문(data sharing statements): 자료 공유 여부, 공유의 범위, 시점 및 지속 기간, 공유 대상, 방법, 목적 등을 논문에 제시

- Data 공개 불가 시에도 사유를 포함한 Statements를 제시

Research data for this article

Due to the sensitive nature of the questions asked in this study, survey respondents were assured raw data would remain confidential and would not be shared.

🔒 *Data not available / The data that has been used is confidential*

Statements examples of ICMJE Requirements

- Data를 사용 가능한가?

- 구체적으로 어떤 data인가?

- 다른 추가 문서가 있는가?

- 언제부터 사용할 수 있는가?

- 누가 사용할 수 있는가?

- 어떤 형태(목적)로 사용할 수 있는가?

- 어떤 방법으로 사용할 수 있는가?

Table. Examples of Data Sharing Statements That Fulfill These ICMJE Requirements*

	Example 1	Example 2	Example 3	Example 4
Will individual participant data be available (including data dictionaries)?	Yes	Yes	Yes	No
What data in particular will be shared?	All of the individual participant data collected during the trial, after deidentification.	Individual participant data that underlie the results reported in this article, after deidentification (text, tables, figures, and appendices).	Individual participant data that underlie the results reported in this article, after deidentification (text, tables, figures, and appendices).	Not available
What other documents will be available?	Study Protocol, Statistical Analysis Plan, Informed Consent Form, Clinical Study Report, Analytic Code	Study Protocol, Statistical Analysis Plan, Analytic Code	Study Protocol	Not available
When will data be available (start and end dates)?	Immediately following publication. No end date.	Beginning 3 months and ending 5 years following article publication.	Beginning 9 months and ending 36 months following article publication.	Not applicable
With whom?	Anyone who wishes to access the data.	Researchers who provide a methodologically sound proposal.	Investigators whose proposed use of the data has been approved by an independent review committee ("learned intermediary") identified for this purpose.	Not applicable
For what types of analyses?	Any purpose.	To achieve aims in the approved proposal.	For individual participant data meta-analysis.	Not applicable
By what mechanism will data be made available?	Data are available indefinitely at (*Link to be included*).	Proposals should be directed to xxx@yyy. To gain access, data requestors will need to sign a data access agreement. Data are available for 5 years at a third party website (*Link to be included*).	Proposals may be submitted up to 36 months following article publication. After 36 months the data will be available in our University's data warehouse but without investigator support other than deposited metadata. Information regarding submitting proposals and accessing data may be found at (*Link to be provided*).	Not applicable

* These examples are meant to illustrate a range of, but not all, data sharing options.

데이터 공유: 무엇을 저장할 것인가?

Raw data of ~

- 모든 논문?

- Systematic review and mata-analysis?

- Clinical trial 만 적용?

- 모든 원저?

데이터 공유: 어떻게 저장할 것인가?

- 논문에 포함하거나 Supplmentary 자료로 학술지 홈페이지에 업로드

- 공공의 Data 저장소에 저장 후 URL이나 DOI 등으로 연결

- Data 전문 학술지에 게재

  - Data in Brief (Elsevier; https://www.journals.elsevier.com/data-in-brief)

  - Scientific Data (Nature; http://www.nature.com/sdata/)

  - Data Science Journal (CODATA; http://www.codata.org/publications/data-science-journal)

데이터 공유: 어디에 저장할 것인가?

re3data.org
REGISTRY OF RESEARCH DATA REPOSITORIES

Search... | Search

PLOS ONE

advanced search

Repository Inclusion Criteria

Recommended Repositories

All data, software and code underlying reported findings should be deposited in appropriate public repositories, unless already provided as part of the article. Repositories may be either subject-specific repositories that accept specific types of structured data and/or software, or cross-disciplinary generalist repositories that accept multiple data and/or software types.

If field-specific standards for data or software deposition exist, PLOS requires authors to comply with these standards. Authors should select repositories appropriate to their field of study (for example, ArrayExpress or GEO for microarray data; GenBank, EMBL, or DDBJ for gene sequences). PLOS has identified a set of established repositories, listed below, that are recognized and trusted within their respective communities. PLOS does not dictate repository selection for the data availability policy.

For further information on environmental and biomedical science repositories and field standards, we suggest utilizing FAIRsharing; we have also created a FAIRsharing page of PLOS-recommended repositories. Additionally, the Registry of Research Data Repositories (Re3Data) is a full scale resource of registered data repositories across subject areas. Both FAIRsharing and Re3Data provide information on an array of criteria to help researchers identify the repositories most suitable for their needs (e.g., licensing, certificates and standards, policy, etc.).

If no specialized community-endorsed public repository exists, institutional repositories that use open licenses permitting free and unrestricted use or public domain, and that adhere to best practices pertaining to responsible sharing, sustainable digital preservation, proper citation, and openness are also suitable for deposition.

If authors use repositories with stated licensing policies, the policies should not be more restrictive than the Creative Commons Attribution (CC BY) license.

FAIRsharing.org
standards, databases, policies

Search all of FAIRsharing | Standards | Databases | Policies | Collections | Add/Claim Content | Stats | Log in or Register

related to *databases* and data *policies*.

HOW CAN WE HELP?

We guide consumers to discover, select and use these resources with confidence, and producers to make their resource more discoverable, more widely adopted and cited.

Researchers in academia, industry and government

Identify and cite the standards, databases or repositories that exist for your discipline when creating a data management plan, releasing data or submitting a manuscript to a journal...
[read more]

Researchers | Developers & Curators | Journal Publishers | Librarians & Trainers | Societies & Alliances | Funders

General
Depository

Repository Name	Information on fees/costs	Size limits	Integrated with *Scientific Data*'s manuscript submission system	Re3data / FAIRSharing entry
Dryad Digital Repository	$120 USD for first 20 GB, and $50 USD for each additional 10 GB	None stated	**Yes ✓**	view FAIRsharing entry
figshare	100 GB free per *Scientific Data* manuscript. Additional fees apply for larger datasets	1 TB per dataset	**Yes ✓** - To qualify for the 100 GB of free storage, data must be uploaded to figshare via our submission system. Download instructions.	view FAIRsharing entry
Harvard Dataverse	Contact repository for datasets over 1 TB	2.5 GB per file, 10 GB per dataset	No	view re3data entry
Open Science Framework	Free of charge	5 GB per file, multiple files can be uploaded	No	view FAIRsharing entry
Zenodo	Donations towards sustainability encouraged	50 GB per dataset	No	view re3data entry
Mendeley Data	Contact repository for datasets over 10 GB	10 GB per dataset	No	view FAIRsharing entry

https://www.nature.com/sdata/policies/repositories#general

Health sciences ⤴

Some of the repositories in this section are suitable for datasets requiring restricted data access, which may be required for the preservation of study participant anonymity in clinical datasets. We suggest contacting repositories directly to determine those with data access controls best suited to the specific requirements of your study.

National Addiction & HIV Data Archive Program (NAHDAP)	restricted data access possible	view FAIRshaing entry
National Database for Autism Research (NDAR)	restricted data access possible	view FAIRshaing entry
The Cancer Imaging Archive	restricted data access possible	view FAIRshaing entry
ClinicalTrials.gov		view FAIRshaing entry
SICAS Medical Image Repository (formally Virtual Skeleton Database)		view FAIRshaing entry
PhysioNet		view FAIRshaing entry
National Database for Clinical Trials related to Mental Illness (NDCT)	restricted data access possible	view FAIRshaing entry
Research Domain Criteria Database (RDoCdb)	restricted data access possible	view FAIRshaing entry
Synapse	restricted data access possible	view FAIRshaing entry
UK Data Service	restricted data access possible	view FAIRshaing entry

Research Data Management and Sharing survey

Published: 18 Jun 2019 | **Version 1** | **DOI:** 10.17632/nv5msvp65g.1

Contributor(s): Gemma Deakin, Adrian Mulligan, Abigail Goodall

Description of this data   Data 요약

Latest version

Survey of 1029 researchers about the management, sharing and re-use of research data. Data collected in Autumn 2018. This is a repeat of a survey completed in Summer 2016. This survey was initiated by the European Commission and forms part of a global study being conducted under the 'Open Science Monitor'. The study is being carried out by Elsevier, together with the Lisbon Council think-tank, ESADE business school and the Centre for Science and Technology Studies of the University of Leiden (CWTS). The sample source was researchers that had published in a journal indexed in Scopus between 2014 and 2017.

Data is in SPSS format. Questionnaire is in MS Word.   Data 파일형식

Experiment data files

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Res_data_mgmt_EC_Elsevier_questionnaire.docx	57 KB	Cite

Version 1   2019-06-18

Published: 2019-06-18

DOI: 10.17632/nv5msvp65g.1

Cite this dataset

Deakin, Gemma; Mulligan, Adrian; Goodall, Abigail (2019), "Research Data Management and Sharing survey", Mendeley Data, v1

http://dx.doi.org/10.17632/nv5msvp65g.1

Statistics

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데이터 공유의 실제(Havard Dataverse의 예)

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Open data policy and Clinical data sharing policy

Posted on September 1, 2018

OPEN DATA POLICY

For clarification on result accuracy and reproducibility of the results, raw data or analysis data will be deposited to a public repository, for example, Harvard Dataverse (https://dataverse.harvard.edu/dataverse/wjmh) after acceptance of the manuscript. Therefore, submission of the raw data or analysis data is mandatory. If the data is already a public one, its URL site or sources should be disclosed. If data cannot be publicized, it can be negotiated with the editor. If there are any inquiries on depositing data, authors should contact the editorial office.

CLINICAL DATA SHARING POLICY

This journal follows the data sharing policy described in "Data Sharing Statements for Clinical Trials: A Requirement of the International Committee of Medical Journal Editors" (https://doi.org/10.3346/jkms.2017.32.7.1051). As of July 1, 2018 manuscripts submitted to ICMJE journals that report the results of interventional clinical trials must contain a data sharing statement as described below. Clinical trials that begin enrolling participants on or after January 1, 2019 must include a data sharing plan in the trial's registration. The ICMJE's policy regarding trial registration is explained at https://www.icmje.org/recommendations/browse/publishing-and-editorial-issues/clinical-trial-registration.html. If the data sharing plan changes after registration this should be reflected in the statement submitted and published with the manuscript, and updated in the registry record. All of the authors of research articles that deal with interventional clinical trials must submit data sharing plan of example 1 to 4 in Table 1. Based on the degree of sharing plan, authors should deposit their data after deidentification and report the DOI of the data and the registered site.

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1 Result

World Journal of Men's Health `Published` `Admin`
Sep 3, 2018 - Harvard Dataverse

The World Journal of Men's Health (print ISSN 2287-4208; online ISSN 2287-4690) is the official journal of the Korean Society for Sexual Medicine and Andrology, Asian Society for Men's Health and Aging, and the Korean Society for Men's Health and...

레터를 통해 저자 문의

- **영문**
- 국문

Dear Dr...

It is our pleasure to accept your above manuscript for publication in the next available issue of the World Journal of Men's Health.

May we ask you to provide the related data?

World J of Men's Health follows the data sharing policy described in "Data Sharing Statements for Clinical Trials: A Requirement of the International Committee of Medical Journal Editors" (https://doi.org/10.3346/jkms.2017.32.7.1051).

For clarification on result accuracy and reproducibility of the results, raw data or analysis data will be deposited to a public repository, Harvard Dataverse after acceptance of the manuscript.

Therefore, submission of the raw data or analysis data is recommended since September 1, 2018. This policy is **not** intended to verify or validate your data or manuscript.

We are going to upload the data to our space in Harvard Dataverse. So, you don't need to upload the file yourself. If you agree, please just send your data to me via e-mail.

However, if your data cannot be publicized, you can choose one of the reasons below.

1 (____) *The data that support the findings of this study are available from the corresponding author upon reasonable request.*

2 (____) *The data required to reproduce these findings cannot be shared at this time due to legal and ethical reasons.*

3 (____) *The data required to reproduce these findings cannot be shared at this time due to technical and time limitations.*

4 (____) *The data required to reproduce these findings cannot be shared at this time as the data also forms part of an ongoing study.*

Thank you for your fine contribution.

We are looking forward to your submission to our journal in the future.

Best regards.

레터를 통해 저자 문의

- 영문
- **국문**

**** 교수님께,

교수님, WJMH 지에 교수님의 소중한 연구결과를 투고해 주신점 다시 한번
감사드립니다.

게재를 축하드립니다.

WJMH 는 국제의학학술지편집인 위원회 (ICMJE)의 권고에 따라 2018 년 9 월부터
논문의 data (형식은 자유. Exl, csv, 등)를 저자에게 받아 보관하고 있습니다.
(관련 규정: https://www.wjmh.org/index.php?body=opendata)

보관 장소는 하버드 대학의 데이터버스라는 저장소에 우리 저널의 공간을 할당 받아
보관중입니다.

"이는 교수님의 논문의 심사나 검증을 위한 것이 아닙니다. "

따라서 데이터는 개별 환자의 식별이 불가능하도록 수치로 되어 있는 엑셀이나 통계
프로그램용 파일 형태로 보내주시기 바랍니다.

아래 게재 예정 논문의 데이터를 (여러 개 파일이면 하나로 압축) 저에게 보내주시면
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due to technical and time limitations.

4) (___) The data required to reproduce these findings cannot be shared at this time as
the data also forms part of an ongoing study.

감사합니다. 박현준 올림.

Data sharing statement

①The data analyzed for this study have been deposited in HARVARD Dataverse and are available at https://doi.org/10.7910/DVN/NIYPJG.

②The data required to reproduce these findings cannot be shared at this time due to legal and ethical reasons.

③The data required to reproduce these findings cannot be shared at this time due to technical and time limitations.

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* Havard Dataverse에 자료 업로드

• Add Data > New Dataset (※ new dataverse가아님)

* Final proof에 저자 회신 내용에 맞는 data sharing statement
  (Havard dataverse의 data doi 추가)

Conflict of Interest

The authors have nothing to disclose.

Author Contribution

Conceptualization: JSL. Data curation: JHK. Formal analysis: JHK. Supervision: JHS, HJP. Visualization: YJJ. Writing – original draft: JSL, MHL. Writing – review & editing: JSL, YJJ, MHL.

Data Sharing Statement

The data analyzed for this study have been deposited in HARVARD Dataverse and are available at https://doi.org/10.7910/DVN/YP1PH1.

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우리 저널의 데이터 공유 정책 결정

* To do: "저널별로 해당 분야에 맞는 적절한 data sharing plan 수립과 적용"

   1. Data sharing 여부에 대한 결정

   2. Data sharing 수준에 대한 결정

   3. Data sharing 범위에 대한 결정

   4. Data availability statement template의 결정

   5. Appropriate data repository의 명시

+ 충분한 설명과 홍보를 통한

연구자들의 동의 및 이해, 자발적 합의

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Special Thanks to;
- 박현준. Data sharing: Havard Dataverse를 이용한 사례 공유. 2021. 10. 28. 과총 학술지 편집직원 역량강화 워크숍.

Open data fosters
a culture of creativity,
ingenuity and
innovation.

감사합니다