

Formation continue pour pharmaciennes et pharmaciens 2020

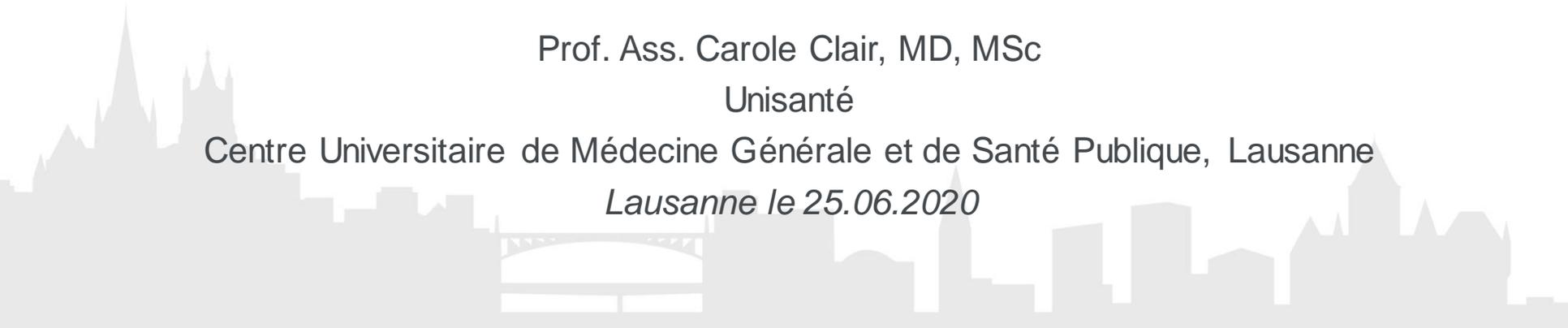
Sexe et genre en santé: quelles implications en pharmacie

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Unisanté

Centre Universitaire de Médecine Générale et de Santé Publique, Lausanne

Lausanne le 25.06.2020

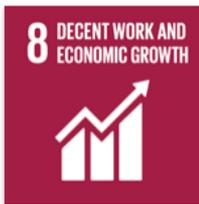
A light gray silhouette of the Lausanne skyline is visible at the bottom of the slide, featuring various buildings and a bridge.

Plan

- Sexe, genre et santé: introduction, définitions
- Impact du genre/sexe en recherche
- Impact du genre/sexe en clinique quelques exemples:
 - Pharmacologie
 - COVID-19
- Comment intégrer la dimension genre?
- Conclusion



SUSTAINABLE DEVELOPMENT GOALS



Définitions

«Le mot **genre** sert à évoquer les rôles qui sont déterminés socialement, les comportements, les activités et les attributs qu'une société considère comme appropriés pour les hommes et les femmes.»

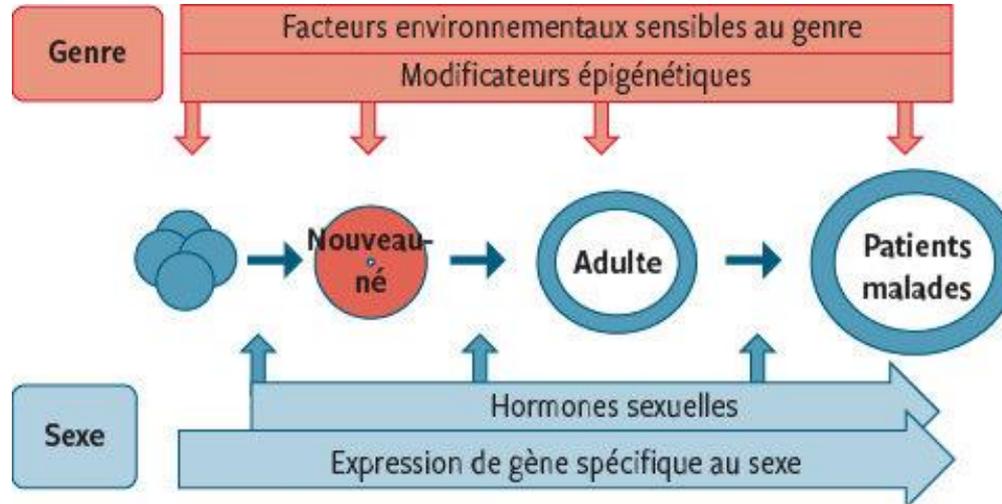


«Le mot **sexe** se réfère aux caractéristiques biologiques et physiologiques qui différencient les hommes des femmes.»

Déterminants sociaux de la santé

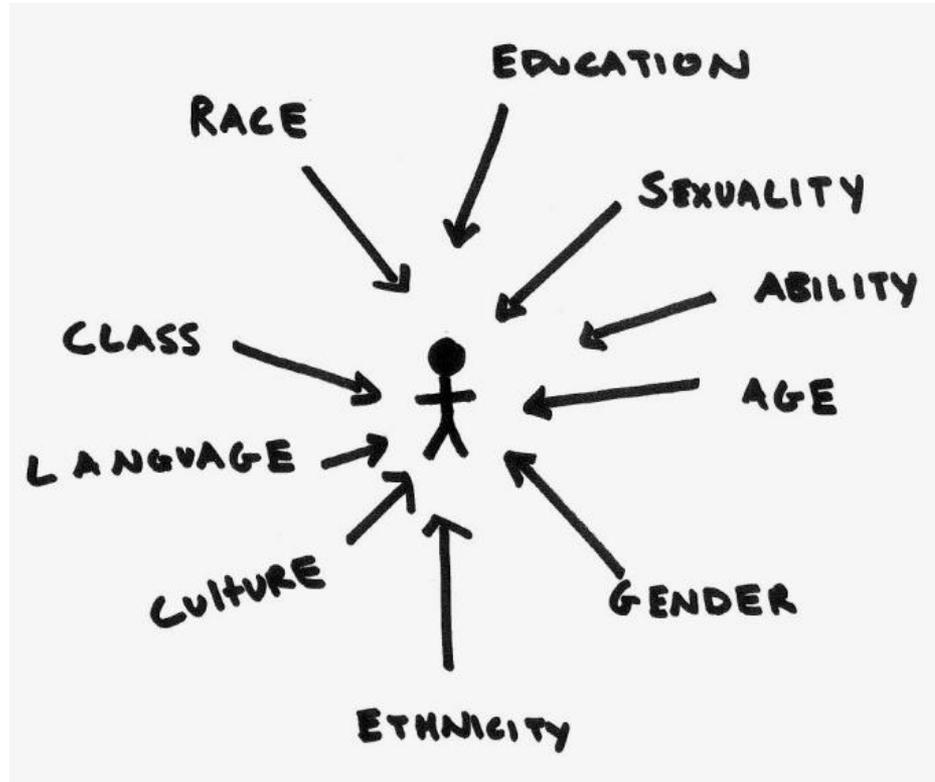


Santé et parcours de vie



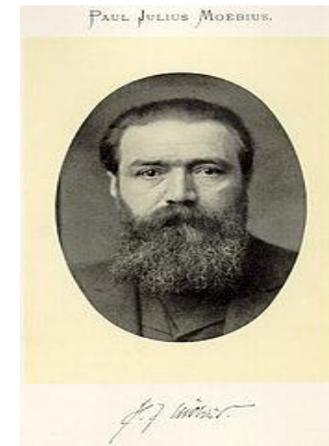
- Prévention & Prise en charge:
- Dépistage et tests
 - Diagnostic
 - Traitements
 - Pronostic

Intersectionnalité



Contexte socio-historique

- 19^{ème}: « Infériorité *naturelle* de la femme » légitimée par les discours médicaux
- Dr Julien-Joseph Virey (1776-1847):
« *Mulier propter uterum condita est* »
- Dr Paul Julius Möbius (1853-1907):
« *Über den physiologischen Schwachsinn des Weibes* »

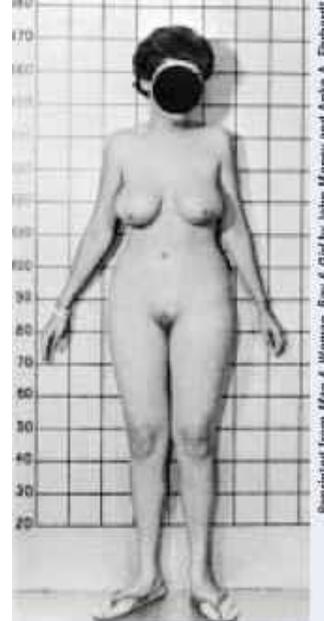


Sexe et genre en médecine

**Lawson Wilkins
(1894-1963)**



**John Money
(1921-2006)**

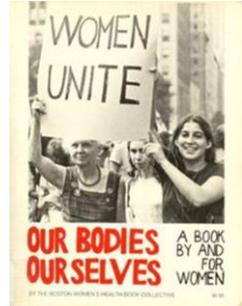
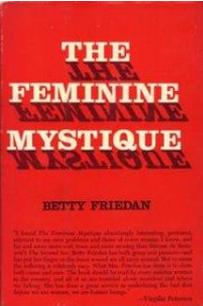
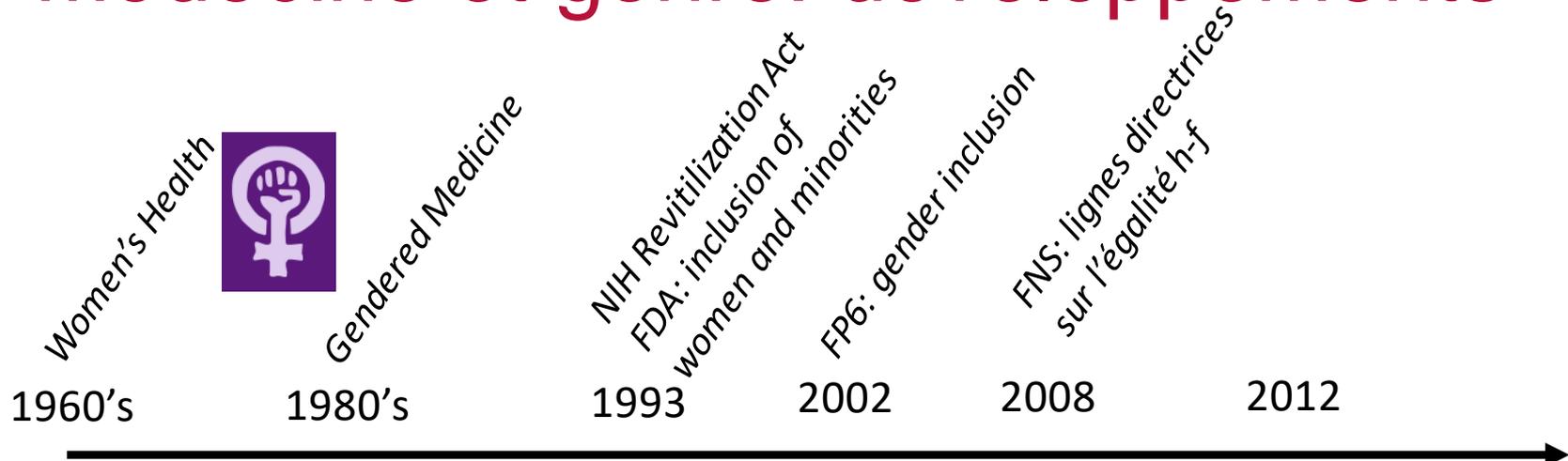


Reprinted from *Man & Woman, Boy & Girl* by John Money and Anke A. Ehrhardt



Reprinted from *Man & Woman, Boy & Girl* by John Money and Anke A. Ehrhardt

Médecine et genre: développements



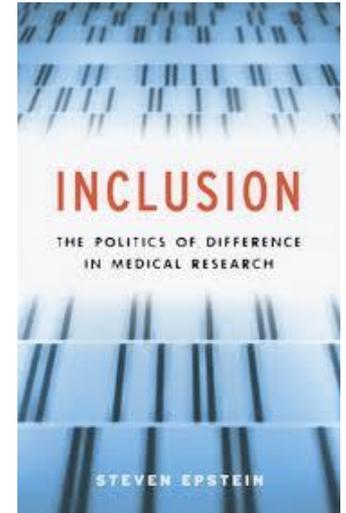
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Inclusion des femmes dans les études

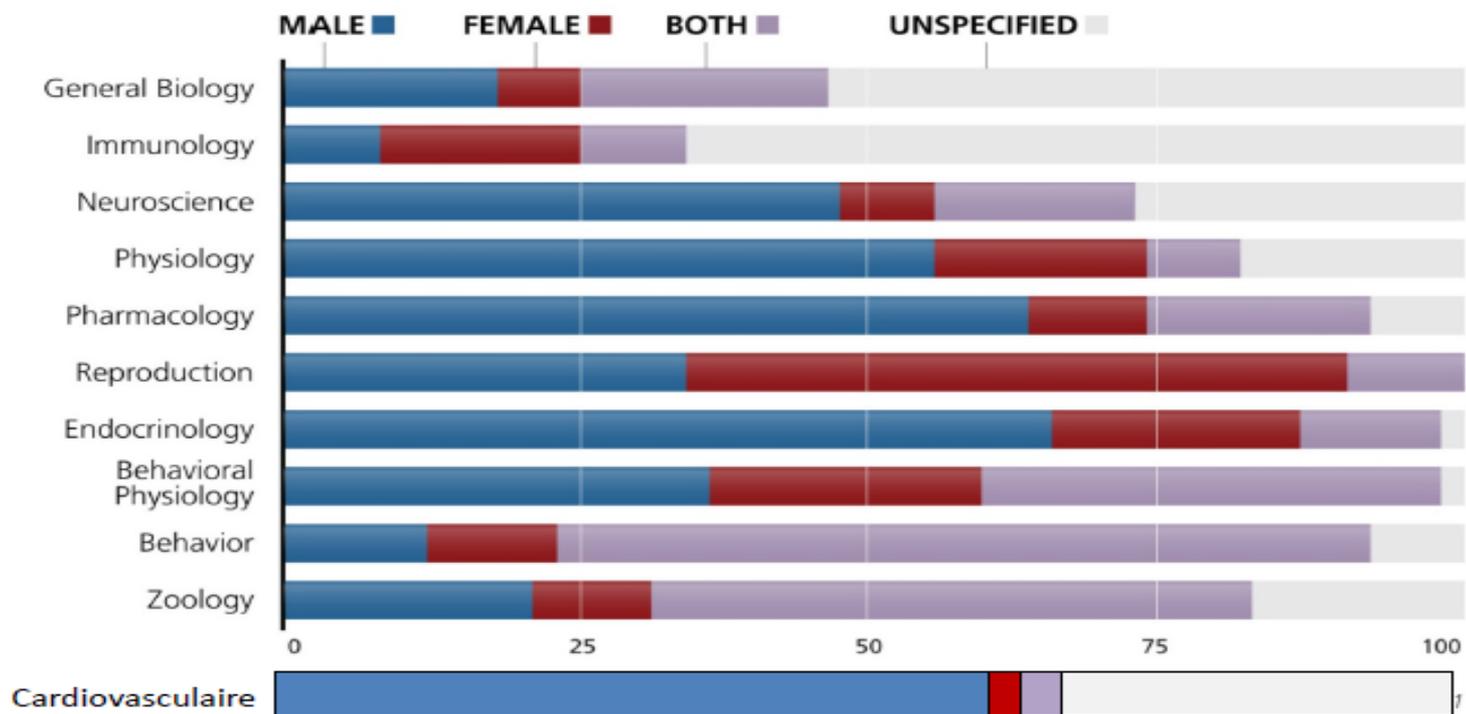
À partir des années 1960, la communauté scientifique commence à reconnaître l'inadéquation de l'utilisation du « standard normatif » de l'homme blanc d'âge moyen dans la recherche médicale (Epstein, 2007):

- Résultats non généralisables à l'entier de la population
- Connaissances scientifiques biaisées qui amènent à des pratiques potentiellement non adaptées voire dangereuses (Schiebinger, 2008)
- 1993: NIH Revitalization Act: loi pour inclusion femmes et autres «minorités» en recherche



Proportion of Research Studies Using Male and/or Female Animals

From published journal articles within specified biomedical subfield, 2009



Nature , Zucker, 2010; VRZ, 2015

Putting gender on the agenda

Biomedical research continues to use many more male subjects than females in both animal studies and human clinical trials. The unintended effect is to short-change women's health care.

Differences in the physiology of males and females, and in their response to disease, have been recognized for decades in many species — not least *Homo sapiens*. The literature on these differences now encompasses everything from variations in gene expression between male and female mice, to a higher susceptibility to adverse drug reactions in women compared with men. Moreover, hormones made by the ovaries are known to influence symptoms in human diseases ranging from multiple sclerosis to epilepsy.

And yet, despite the obvious relevance of these sex differences to experimental outcomes, three articles in this issue (see pages 688–690) document that male research subjects continue to dominate biomedical studies. Some 5.5 male animal models are used for every female in neuroscience, for example. And apart from a few large, all-female projects, such as the Women's Health Study on how aspirin and vitamin E affect cardiovascular disease and cancer, women subjects remain seriously under-represented in clinical cohorts. This is despite reforms undertaken in the 1990s, when sex discrimination in human trials was first widely recognized as a problem

whether to require the inclusion of such information. Funding agencies should demand that researchers justify sex inequities in grant proposals and, other factors being equal, should favour studies that are more equitable.

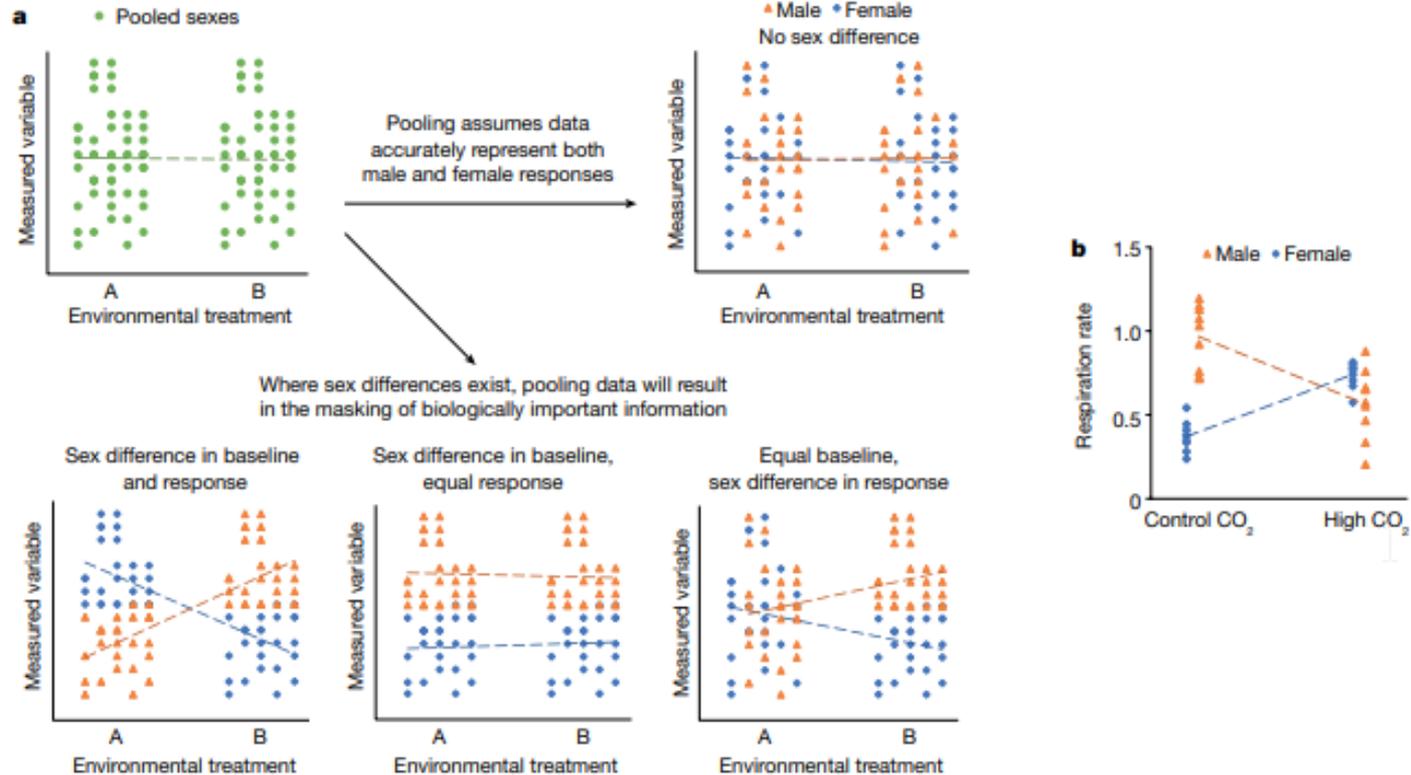
Funding agencies and researchers alike should also start thinking seriously about how to deal with the most fundamental sex difference: pregnancy. Pregnant women get ill, and sick women get pregnant. They need therapies, too, even though they are carrying a highly vulnerable fetus and their bodies are undergoing massive changes in hormonal balance, immune function and much else besides. Entering pregnant women in clinical trials is problematic in the extreme, for a host of ethical reasons. But ignoring the problem is not an answer either — the result is that physicians will prescribe drugs whose effects during pregnancy are poorly known. One possible solution is systematic retrospective data collection from

“Medicine as it is currently applied to women is less evidence-based than that being applied to men.”

Problèmes liés à la non prise en compte du sexe/genre en recherche

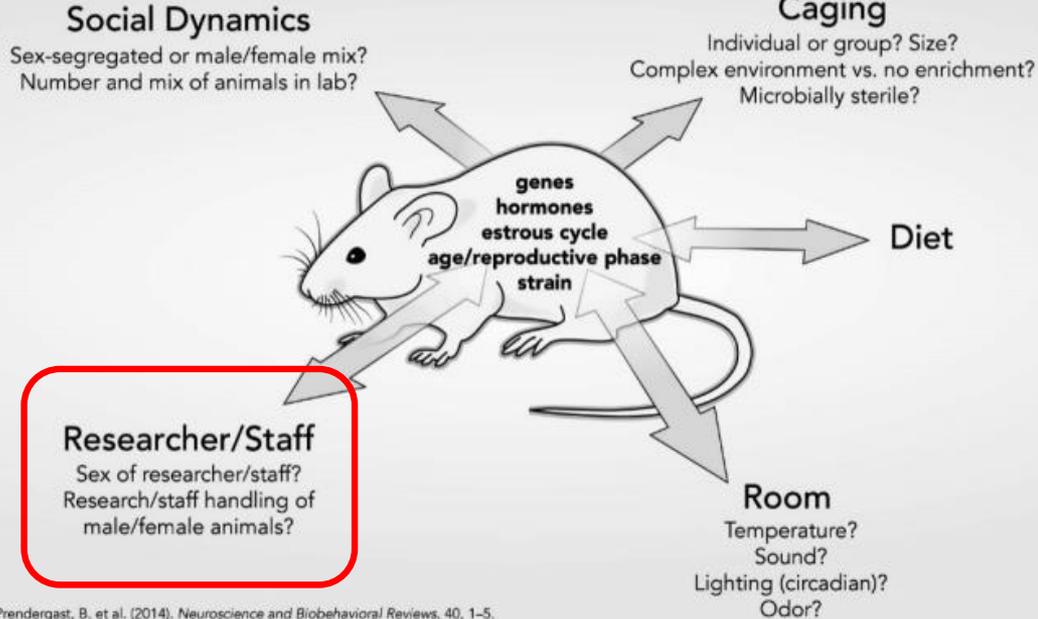
- Moins de connaissances sur les processus pathologiques chez la femme dû à la sous-utilisation de modèles animaux femelles.
- Impossibilité de comparer les sujets mâles et femelles → variable «sexe» ne peut pas être utilisée (importante dans certains processus par exemple régulation de la fonction immunitaire).
- Opportunité manquée d'évaluer des phénomènes spécifiques aux femelles/femmes: grossesse, ménopause (qui peuvent interagir avec progression de la maladie). Problèmes de la sécurité des médicaments lors de grossesses.

Importance de la stratification par sexe

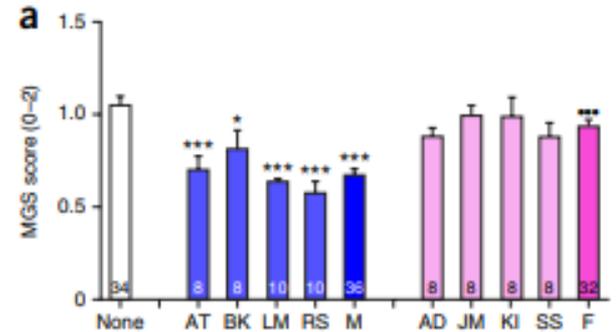


Influence du sexe du chercheur (Male observer effect)

Integrating Sex & Gender into Animal Research



Prendergast, B. et al. (2014). *Neuroscience and Biobehavioral Reviews*. 40, 1-5.
Ritz, S. et al., (2014). *FASEB J*, 28(1), 4-13.
Sorge, R. et al. (2014). *Nature Methods*.



Sorge et al. *Nature Methods* 2014

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Davantage d'effets secondaires chez les femmes

Table 1: Prescription Drugs Withdrawn From the United States Market, Jan. 1, 1997 Through Dec. 31, 2000

Drug	Type of Drug	Date Approved	Date Withdrawn	Primary Health Risk
Prescription Drugs With Evidence of Greater Health Risks in Women				
Pondimin (fenfluramine hydrochloride)	Appetite suppressant	6/14/1973	9/15/1997	Valvular heart disease
Redux (dexfenfluramine hydrochloride)	Appetite suppressant	4/29/1996	9/15/1997	Valvular heart disease
Seldane ^a (terfenadine)	Antihistamine	5/8/1985	2/27/1998	Torsades de Pointes (potentially fatal irregular heartbeat)
Posicor (mibefradil dihydrochloride)	Cardiovascular	6/20/1997	6/8/1998	Lowered heart rate in elderly women and adverse interactions with 26 other drugs
Hismanal (astemizole)	Antihistamine	12/19/1988	6/18/1999	Torsades de Pointes
Rezulin (troglitazone)	Diabetic	1/29/1997	3/21/2000	Liver failure
Propulsid ^b (cisapride monohydrate)	Gastrointestinal	7/29/1993	7/14/2000	Torsades de Pointes
Lotronex (alosetron hydrochloride)	Gastrointestinal	2/9/2000	11/28/2000	Ischemic colitis (intestinal inflammation due to lack of blood flow)
Prescription Drugs Without Evidence of Greater Health Risks in Women				
Raxar (grepafloxacin hydrochloride)	Antibiotic	11/6/1997	11/1/1999	Torsades de Pointes
Duract (bromfenac sodium)	Analgesic and anesthetic	7/15/1997	6/22/1998	Liver failure

SEX DIFFERENCES IN DRUG PROCESSING

IN WOMEN

- SLOWER PROCESSING OF MOST DRUGS
- MORE ACCUMULATION OF LIPOPHILIC DRUGS
- DIFFERENT CONCENTRATIONS OF HYDROPHILIC DRUGS (ALSO THROUGHOUT THE MENSTRUAL CYCLE)

- HIGHER RESTING HEART RATE
- LONGER QT INTERVALS
- HIGHER RISK OF ARRHYTHMIAS

- SLOWER ABSORPTION OF DRUGS

- DIFFERENT EXPRESSION OF CYTOCHROME P450 (E.G. CYP3A4 MORE IN WOMEN)
- ESTROGENS AND PROGESTERONE COMPETE WITH DRUGS FOR DEGRADATION BY CYP450

- SLOWER EXCRETION OF DRUGS

- SLOWER ELIMINATION OF DRUGS

PHYSIOLOGICAL DIFFERENCES

BODY COMPOSITION

- ↑ FAT MASS ↓
- ↓ LEAN MASS ↑
- ↑ FREE WATER ↓

- ↑ HEART RATE VARIATION ↓

- ↓ GASTRIC MOTILITY ↑

- ↓ STOMACH ACIDITY ↓

LIVER ENZYMES

- ↓ KIDNEY EXCRETION ↑

- ↓ COLON MOTILITY ↑

IN MEN

- FASTER PROCESSING OF MOST DRUGS
- LESS ACCUMULATION OF LIPOPHILIC DRUGS
- DIFFERENT CONCENTRATIONS OF HYDROPHILIC DRUGS

- LOWER RESTING HEART RATE
- SHORTER QT INTERVALS
- LOWER RISK OF ARRHYTHMIAS

- FASTER ABSORPTION OF DRUGS

- DIFFERENT EXPRESSION OF CYTOCHROMES p450 (CYP; E.G. CYP2D6 AND CYP2E1 MORE IN MEN)

- FASTER EXCRETION OF DRUGS

- FASTER ELIMINATION OF DRUGS

Différences hommes-femmes dans les effets secondaires des chimiothérapies

- Evaluation de l'association entre le sexe et l'incidence et la sévérité des effets toxiques liés aux chimiothérapies
- Analyse rétrospective de 2'974 patients avec cancer colorectal stage II et III (PETACC-3 Trial)
 - Traités avec fluorouracil et leucovorin ou FOLFIRI (combinaison leucovorin, fluorouracil et irinotecan hydrochloride)

Letters

RESEARCH LETTER

Association of Patient Sex With Chemotherapy-Related Toxic Effects: A Retrospective Analysis of the PETACC-3 Trial Conducted by the EORTC Gastrointestinal Group

Sex is one of several known factors responsible for the wide interpatient variability in the dose-effect relationship of drugs.¹ It affects both pharmacokinetics and pharmaco-

Table 1. Adverse Events With Statistically Significant Sex Differences in Pooled Treatment Arms in 2974 Patients^a

Characteristic	No. (%)		Asymptotic Difference, % (95% Confidence Limits)	P Value ^b
	Female (n = 1318)	Male (n = 1656)		
Nonhematological Adverse Events				
Diarrhea				
All grade	705 (53.5)	809 (48.9)	4.6 (1.0 to 8.3)	.01
Grade 3-4	131 (9.9)	122 (7.4)	2.6 (0.5 to 4.6)	.01
Constipation				
All grade	149 (11.3)	123 (7.4)	3.9 (1.8 to 6.0)	<.001
Grade 3-4	4 (0.3)	8 (0.5)	-0.2 (-0.6 to 0.3)	.57
Nausea				
All grade	814 (61.8)	889 (53.7)	8.1 (4.5 to 11.6)	<.001
Grade 3-4	54 (4.1)	44 (2.7)	1.4 (0.1 to 2.8)	.03
Vomiting				
All grade	429 (32.5)	405 (24.5)	8.1 (4.8 to 11.4)	<.001
Grade 3-4	47 (3.6)	42 (2.5)	1.0 (-0.2 to 2.3)	.11
Cramping				
All grade	251 (19.0)	224 (13.5)	5.5 (2.8 to 8.2)	<.001
Grade 3-4	16 (1.2)	9 (0.5)	0.7 (0.0 to 1.4)	.07
Stomatitis				
All grade	480 (36.4)	501 (30.3)	6.2 (2.8 to 9.6)	<.001
Grade 3-4	34 (2.6)	20 (1.2)	1.4 (0.4 to 2.4)	.01
Cholinergic syndrome				
All grade	123 (9.3)	106 (6.4)	2.9 (1.0 to 4.9)	.004
Grade 3-4	1 (0.1)	4 (0.2)	-0.2 (-0.4 to 0.1)	.39
Lethargy				
All grade	556 (42.2)	612 (37.0)	5.2 (1.7 to 8.8)	.004
Grade 3-4	36 (2.7)	31 (1.9)	0.9 (-0.2 to 2.0)	.14
Alopecia				
All grade	549 (41.7)	431 (26.0)	15.6 (12.2 to 19.0)	<.001
Grade 3-4	18 (1.4)	6 (0.4)	1.0 (0.3 to 1.7)	.003
Hematological Adverse Events				
Leukopenia				
All grade	654 (49.6)	645 (38.9)	10.7 (7.1 to 14.3)	<.001
Grade 3-4	53 (4.0)	40 (2.4)	1.6 (0.3 to 2.9)	.01
Neutropenia				
All grade	818 (62.1)	886 (53.5)	8.6 (5.0 to 12.1)	<.001
Grade 3-4	293 (22.2)	215 (13.0)	9.3 (6.5 to 12.0)	<.001
Anemia				
All grade	1056 (80.1)	820 (49.5)	30.6 (27.4 to 33.8)	<.001
Grade 3-4	20 (1.5)	8 (0.5)	1.0 (0.3 to 1.8)	.01

Médicaments- exemple du Zolpidem

- Tests sur simulateurs de conduite avec des personnes ayant pris du zolpidem.
 - 10 à 15% des femmes avaient des taux de médicament dans le sang encore assez élevé pour nuire à leur vigilance 8 h après prise pour 3 % des hommes.
- FDA approuve Zolpidem tartrate 5 mg pour femmes et 5-10 mg pour hommes (Ambien® aux US)

THE CONSUMER

The Drug-Dose Gender Gap

BY RONI CARYN RABIN JANUARY 28, 2013 6:02 PM 30



Influence du marketing

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[effets secondaires](#)
[lumière blanche](#)
[femme enceinte](#)



Antidépresseurs: ni surconsommation, ni di...
planetesante.ch



Les effets des antidépresseurs sont encore...
planetesante.ch



Boîte De Médicaments Antid...
istockphoto.com



La luminothérapie plutôt que le...
24heures.ch



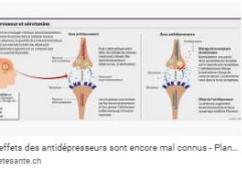
Traitement: Les antidépresseurs sont encore...
lematin.ch



La luminothérapie plutôt que les antiép...
24heures.ch



Les antidépresseurs plus efficaces que le pl...
planetesante.ch



Des médocs qui rende...
agoravoix.fr



Effet nocebo: le patient qui en savait trop - Te...
letemps.ch



La luminothérapie serait aussi efficace que L...
letemps.ch



L'impact des antidépresseurs sur les «sentim...
planetesante.ch



Les antidépresseurs n'aident pas à dormir | 2...
24heures.ch



Antidépresseurs inefficaces chez les enfants |...
tdg.ch



Faut-il avoir peur des antidépresseurs? | GH...
ghi.ch



Etats-Unis: autorisation d'un antidépresseur dérivé...
letemps.ch



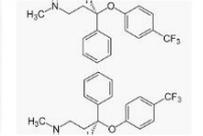
Dépression et libido | Lausanne Cité...
lausanncites.ch



Risque de suicide accru avec les antidépresseurs |...
24heures.ch



Qu'est-ce qui nous rend dépressifs? - Le Temps
letemps.ch



A quelle heure faut-il prendre ses...
creapharma.ch



Apnoëne : causes, sympt...
creapharma.ch



Les antidépresseurs affectent la santé mentale des poissons - Le...
letemps.ch



Plantes : des antidépresseurs et anxiolytiques...
vivre-sa-vie.net

Recherches associées

- antidépresseur naturel
- antidépresseur boîte
- antidépresseur serotonine



Les antidépresseurs pendant la grossesse augmenteraient...
planetesante.ch



INSOLITE. Pub. | l'adultère ne coûte rien à...
planetesante.ch



Risque de suicide accru avec les antiép...
planetesante.ch



Antidépresseurs inefficaces chez les enf...
planetesante.ch



Beaucoup de gens qui prennent des antiép...
planetesante.ch



Les antidépresseurs
planetesante.ch



Les antidépresseurs, conséquence ou cause de la cr...
planetesante.ch



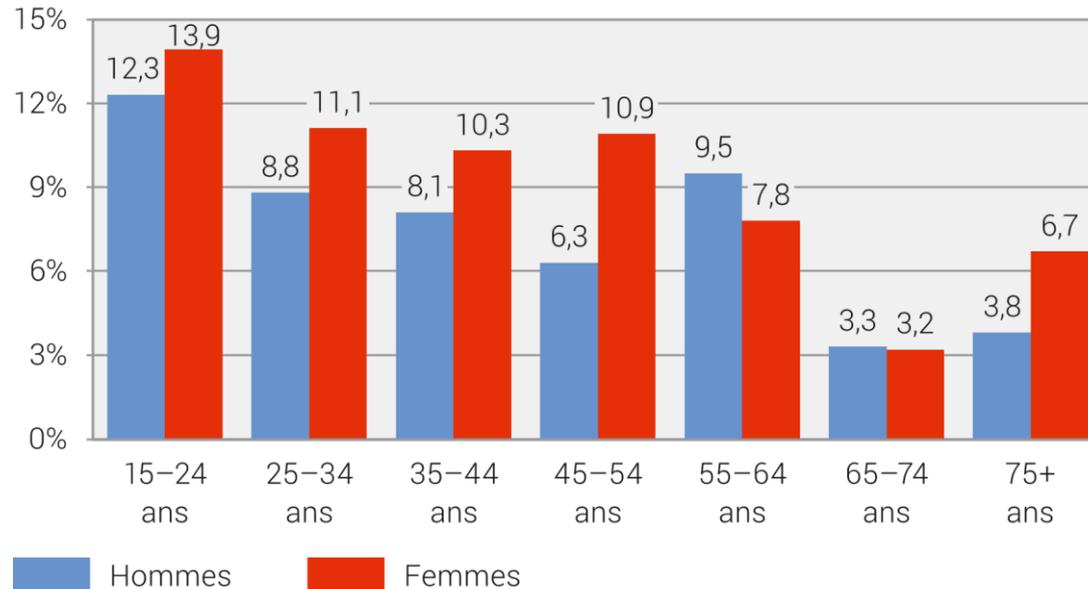
Quel mal y a-t-il à prendre des antidépresseurs ? -...
planetesante.ch



Davantage de dépression chez les femmes?

Dépression majeure, en 2017

Personnes avec une dépression modérée à grave;
population de 15 ans et plus vivant en ménage privé

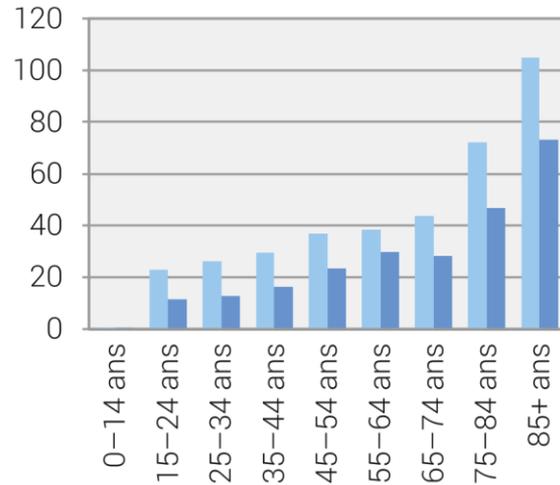


Taux de suicide plus élevés chez les hommes

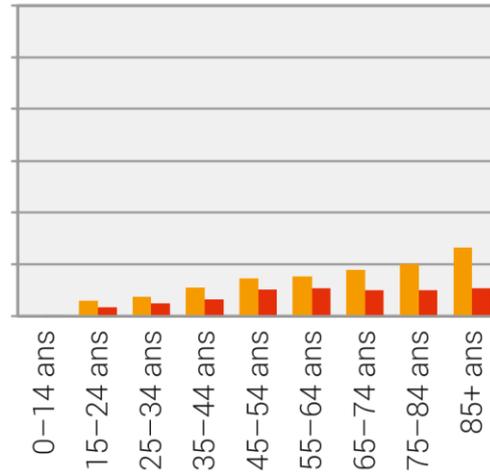
Suicide selon l'âge et le sexe (suicide assisté exclu)

Taux pour 100 000 habitants

Hommes



Femmes



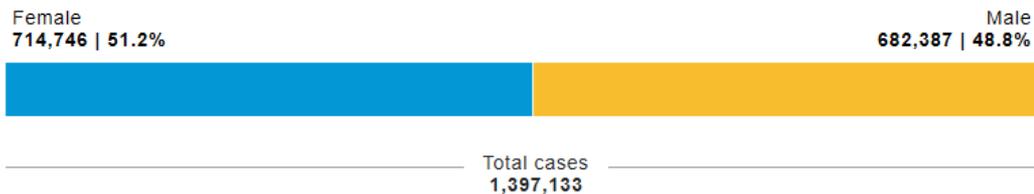
■ 1995-1999 ■ 2012-2016

Plan

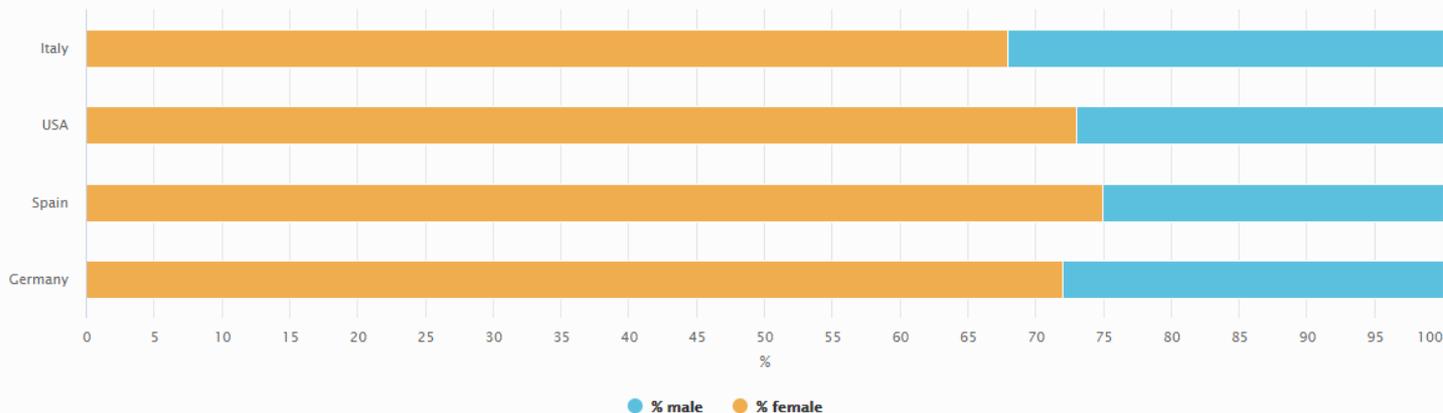
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Exemple de la COVID-19

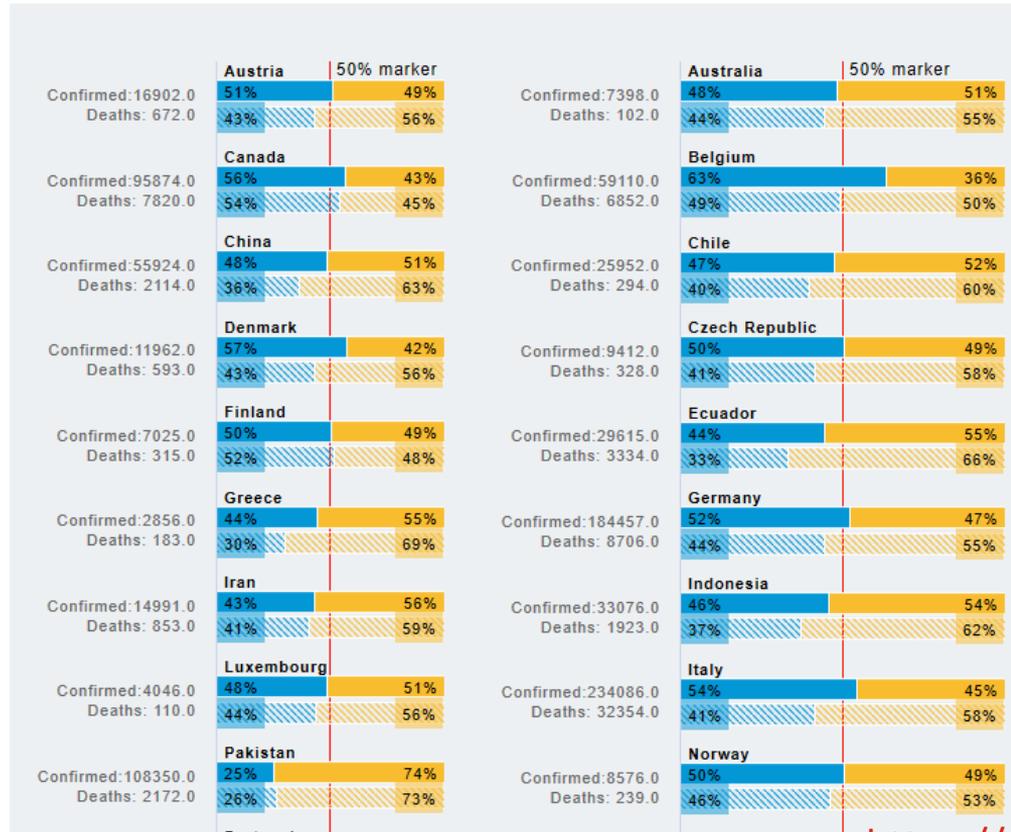
COVID-19: Sex-disaggregated case data (provisional analysis)



Confirmed cases among healthcare workers, by sex



Proportion de décès plus élevée chez les hommes



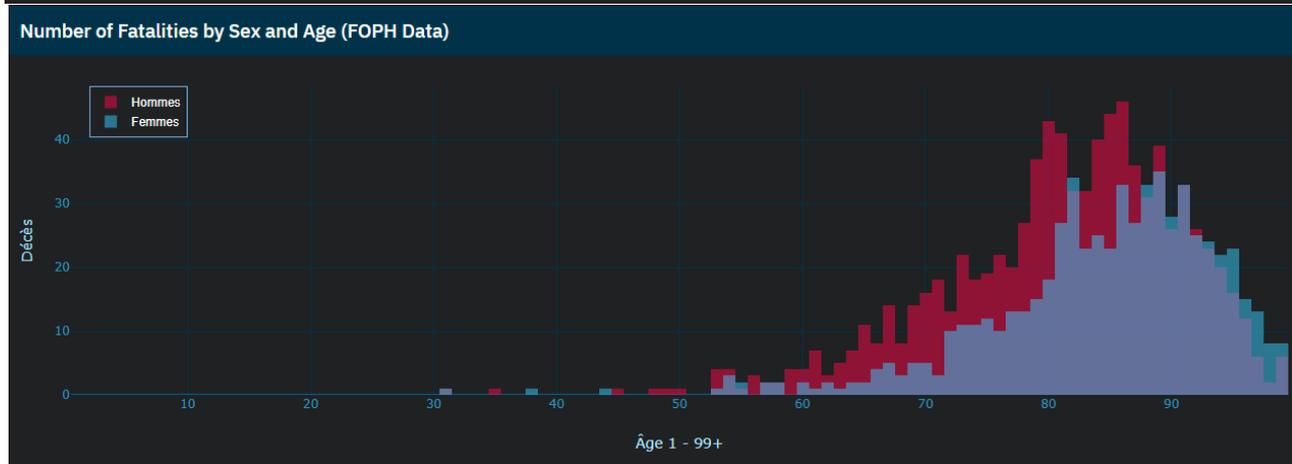
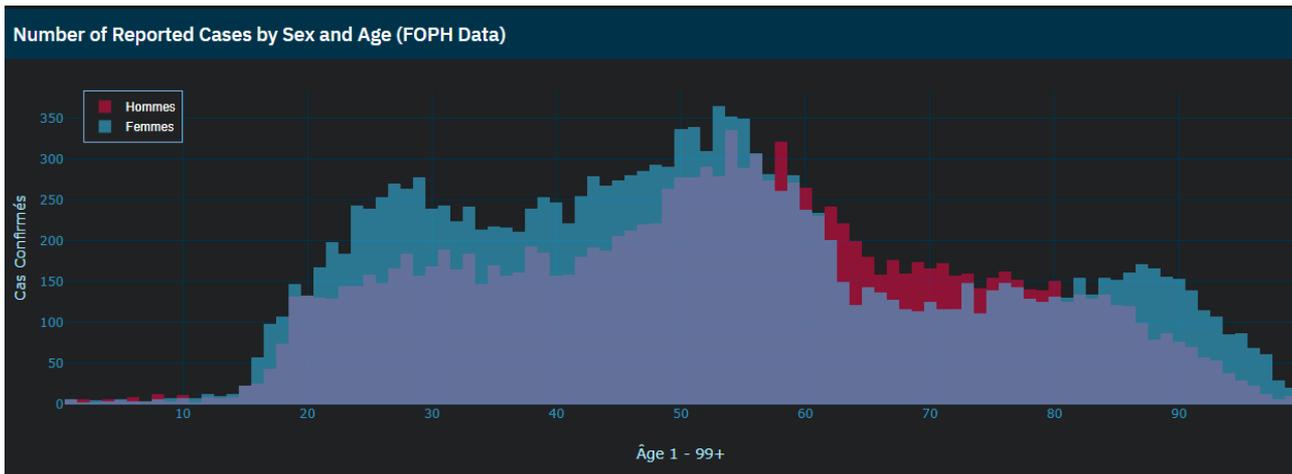
Proportion de décès plus élevée chez les hommes

Country	Sex-disaggregated?	Date	Total cases	Cases (% male)	Cases (% female)	Total deaths	deaths (% male)	deaths (% female)	Proportion of deaths in confirmed cases (total)	Proportion of deaths in confirmed cases (male)	Proportion of deaths in confirmed cases (female)	Proportion of deaths in confirmed cases (Male:female ratio)	Sources
Costa Rica	Yes	08.06.20	1,342	53%	47%	9	90%	10%	0.8%	1.3%	0.2%	7.9	Source
Haiti	Yes	07.06.20	3,662	60%	41%	45	80%	20%	1.5%	2.1%	0.8%	2.8	Source

Country	Sex-disaggregated?	Date	Total cases	Cases (% male)	Cases (% female)	Total deaths	deaths (% male)	deaths (% female)	Proportion of deaths in confirmed cases (total)	Proportion of deaths in confirmed cases (male)	Proportion of deaths in confirmed cases (female)	Proportion of deaths in confirmed cases (Male:female ratio)	Sources
Switzerland	Yes	09.06.20	30,963	46%	54%	1,663	58%	42%	5.4%	6.8%	4.2%	1.6	Source

Denmark	Yes	10.06.20	11,962	42%	58%	593	56%	44%	5.0%	6.6%	3.7%	1.8	Source
Romania	Yes	07.06.20	20,578	44%	56%	1,333	59%	41%	6.5%	8.6%	4.8%	1.8	Source
Spain	Yes	21.05.20	248,335	43%	57%	20,527	57%	43%	8.3%	10.9%	6.3%	1.8	Source
Sweden	Yes	09.06.20	45,924	40%	60%	4,717	55%	45%	10.3%	14.1%	7.7%	1.8	Source
Northern Ireland	Yes	09.06.20	4,796	38%	62%	536	52%	48%	11.2%	15.3%	8.7%	1.8	Source
Bosnia and Herzegovina	Yes	13.05.20	994	45%	55%	37	59%	40%	3.7%	4.9%	2.8%	1.8	Source
England	Yes	03.06.20	214,191	43%	57%	35,430	57%	42%	16.5%	22.1%	12.3%	1.8	Source
China	Yes	28.02.20	55,924	51%	49%	2,114	64%	36%	3.8%	4.7%	2.8%	1.7	Source

Données suisses



Sexe et/ou genre?

Biais lié aux tests effectués

- Le taux de létalité est calculé sur le nombre de personnes testées.
- Plus le nombre de personnes testées est élevé, plus ce rapport diminue.
- En suisse la politique de test a été de privilégier les personnes ayant de facteurs de risque et les soignant-e-s.
- Or les femmes constituent 70% des forces soignantes.
- On peut imaginer que la proportion de personnes jeunes et en bonne santé était donc plus élevée parmi les femmes testées ce qui pourrait expliquer un taux de mortalité plus bas.

Différence biologiques dans la réponse immunitaire

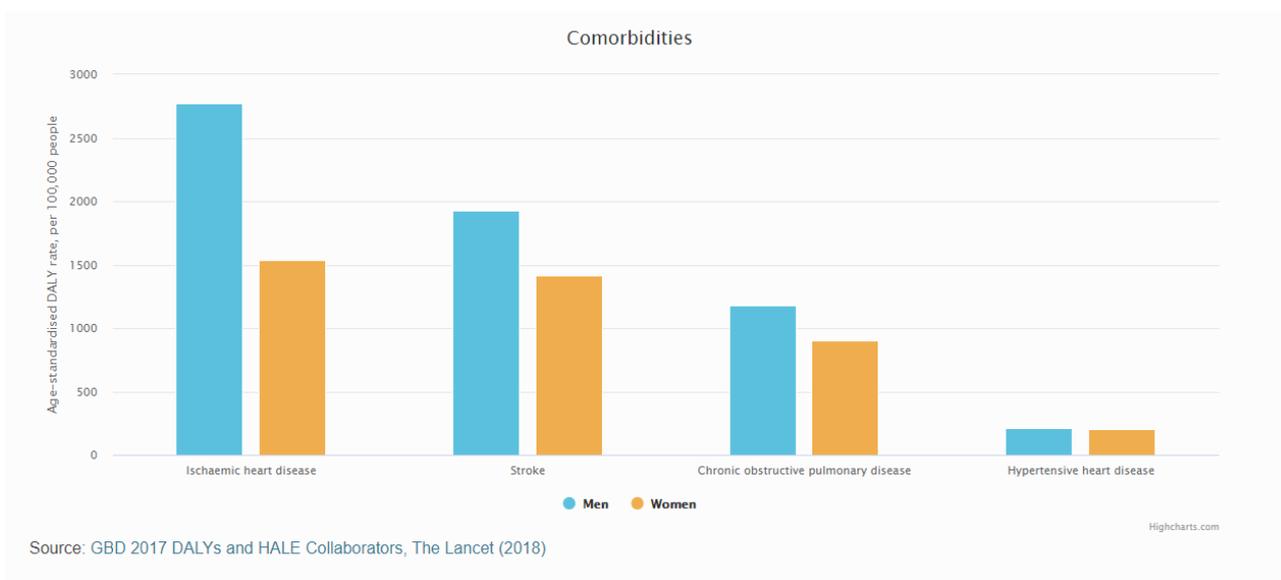
- Taux plasmatiques d'ACE2 plus élevés chez les hommes.
- Les femmes ont de façon générale un système immunitaire plus réactif et donc plus performant pour répondre à une attaque virale.
- C'est ce qui semble avoir été observé lors d'expositions à d'autres virus ou bactéries et également lors de vaccination auxquelles les femmes répondent mieux en produisant davantage d'anticorps.

Différences de comportement

- Meilleure adhésion aux recommandations sanitaires par les femmes
- Exposition à des charges virales moins importantes et donc moins dangereuses.

Prévalence de comorbidités

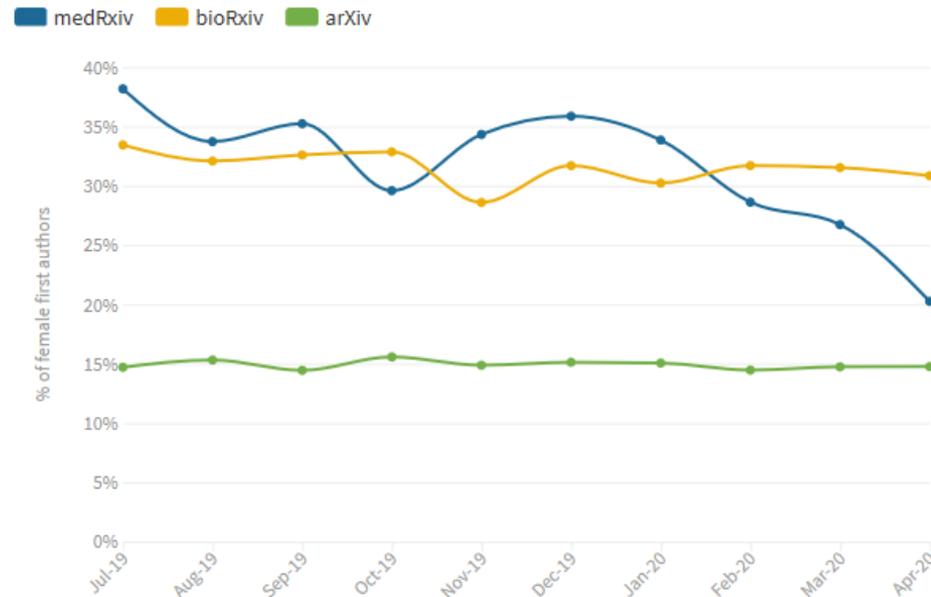
- La prévalence de nombreuses maladies chroniques comme les maladies cardiovasculaires, pulmonaires, le diabète de type 2 et certains cancers semblent plus élevées chez les hommes.



Et du côté des chercheuses et chercheurs?

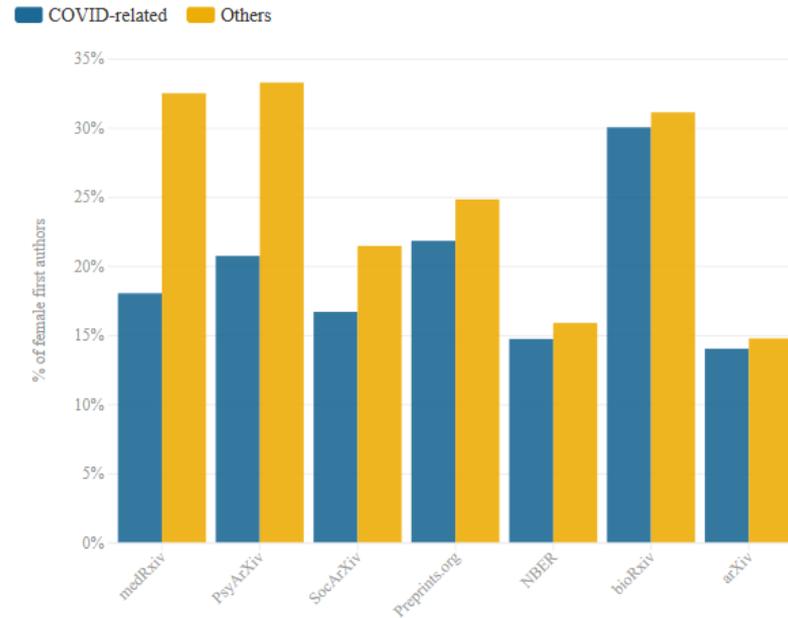
How much are women posting on medRxiv, bioRxiv, and arXiv?

While the proportion of submissions by female first authors has remained steady for arXiv and bioRxiv, their submissions to medRxiv dropped from February 2020.



Source: Vincent-Lamarre et al.

Female first authors contribute less to COVID-19 studies than research in other areas



Source: Vincent-Lamarre et al.

Plan

- Sexe, genre et santé: introduction, définitions
- Impact du genre/sexe en recherche
- Impact du genre/sexe en clinique quelques exemples:
 - Pharmacologie
 - COVID-19
- Comment intégrer la dimension genre?

Comment prévenir les biais de genre?

- Les agences de régulations doivent **exiger** que les résultats d'essais médicamenteux soient désagrégés par sexe et que ces informations soient disponibles pour les personnes qui prescrivent et les patient·e·s.
- Les études de surveillance post-marketing doivent viser la détection des effets secondaires et les différences de réponses aux traitements spécifiques au sexe
- Les normes et biais de genre doivent être questionnés lors de la communication (publicité) et de la prescription médicamenteuse

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> [Recherche avancée multicritères](#)

AGENDA

31 MAI

Réunion d'information les S.H.S. dans
Horizon 2020

TOULOUSE

04 JUIN

Journée régionale d'information sur les
financements européens pour la

Le Genre dans Horizon 2020

GENRE



Le genre est présent dans Horizon 2020, à la fois dans les contenus et méthodes de la recherche, qui sont plus efficaces quand ils incluent la dimension du genre, et dans l'équilibre à atteindre entre femmes et hommes dans les équipes de recherche.

LIENS UTILES

- > [Le Genre dans H2020](#)
- > [Présentation du Vademecum](#)
- [Guide de la parité dans Horizon 2020](#)

CONTACT

[Alina TOADER](#)



What is **Gendered Innovations**?

SEX & GENDER ANALYSIS

Methods

Terms

Checklists

CASE STUDIES

Science

Health & Medicine

Engineering

Environment

DESIGN THINKING

POLICY
RECOMMENDATIONS

Health & Medicine Checklist

This checklist is intended as an aid for researchers, grant writers, project directors and evaluators, and funding organizations addressing health and medicine. It presents key steps for incorporating sex and gender analyses into health and biomedical research. As such, it complements and should be read in conjunction with the methodology described in [Designing Health & Biomedical Research](#). Important resources when considering research design include: Oertelt-Prigione, S. et al., *Sex and Gender Aspects in Clinical Medicine*; Schenck-Gustafsson et al., *Handbook of Clinical Gender Medicine*; and Regitz-Zagrosek, *Sex and Gender Differences in Pharmacology*. Additional resources: U.S. National Institutes of Health online course: The Science of Sex and Gender in Human Health; the European Curriculum in Gender Medicine online course.

Step 1: Determining Relevance (see [Rethinking Research Priorities and Outcomes](#))

- Understand the analytical distinctions between "[sex](#)" and "[gender](#)."

Checklist en 7 étapes

- **Step 1: Determining Relevance**
- **Step 2: Literature Search**
- **Step 3: Establishing Research Questions and Hypotheses**
- **Step 4: Establishing Research Methods and Planning Data Analysis**
- **Step 4: Establishing Research Methods and Planning Data Analysis**
- **Step 6: Reporting Findings**
- **Step 7: Establishing Conclusions and Making Recommendations**

Intégration du sexe/genre dans les guidelines



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CONSORT-Equity 2017 extension and elaboration for better reporting of health equity in randomised trials

Reporting guideline provided for? (i.e. exactly what the authors state in the paper)	Reporting of intervention effects in randomised trials where health equity is relevant.
Full bibliographic reference	Welch VA, Norheim OF, Jull J, Cookson R, Sommerfelt H, Tugwell P; CONSORT-Equity and Boston Equity Symposium. CONSORT-Equity 2017 extension and elaboration for better reporting of health equity in randomised trials. <i>BMJ</i> . 2017;359:j5085.
Language	English
PubMed ID	29170161
Relevant URLs (full-text if available)	The reporting guideline abstract is available at: http://www.bmj.com/content/359/bmj.j5085
Reporting guideline acronym	CONSORT-Equity
Study design	Clinical trials, Experimental studies
Applies to the whole report or to individual sections of the report?	Whole report



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PRISMA-Equity 2012 Extension: Reporting Guidelines for Systematic Reviews with a Focus on Health Equity

Reporting guideline provided for? (i.e. exactly what the authors state in the paper)	Systematic reviews with a focus on health equity
Full bibliographic reference	Welch V, Petticrew M, Tugwell P, Moher D, O'Neill J, Waters E, White H; PRISMA-Equity Bellagio group. PRISMA-Equity 2012 Extension: Reporting Guidelines for Systematic Reviews with a Focus on Health Equity. <i>PLoS Med</i> . 2012;9(10):e1001333.
Language	English
PubMed ID	23222917
Explanation and elaboration papers	Welch V, Petticrew M, Petkovic J, Moher D, Waters E, White H, Tugwell P; PRISMA-Equity Bellagio group. Extending the PRISMA statement to equity-focused systematic reviews (PRISMA-E 2012): explanation and elaboration. The explanation and elaboration paper for this guideline was published simultaneously in 2 journals. You can read the explanation and elaboration paper in either of these journals using the links below. Int J Equity Health . 2015;14(1):92. PMID: 26450828 J Clin Epidemiol . 2015. PMID: 26348799

REVIEW

Open Access



Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use

Shirin Heidari¹, Thomas F. Babor^{2*}, Paola De Castro³, Sera Tort⁴ and Mirjam Curro⁵

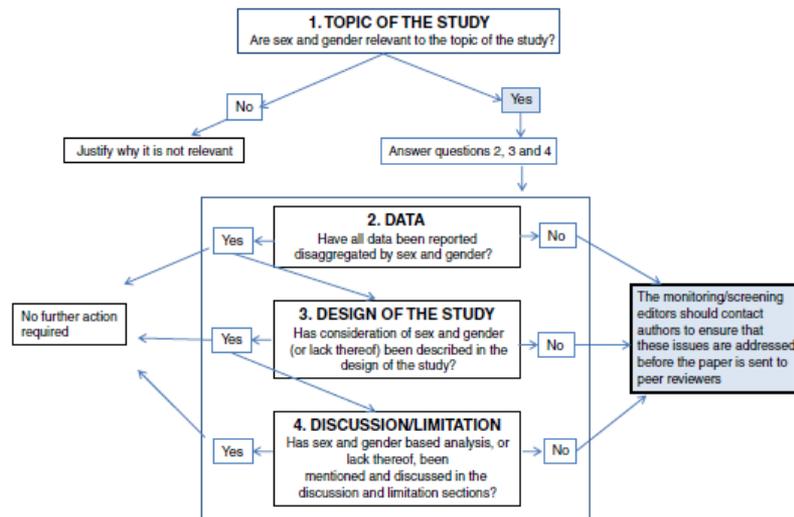


Table 1 Sex and Gender Equity in Research (SAGER) guidelines

General principles

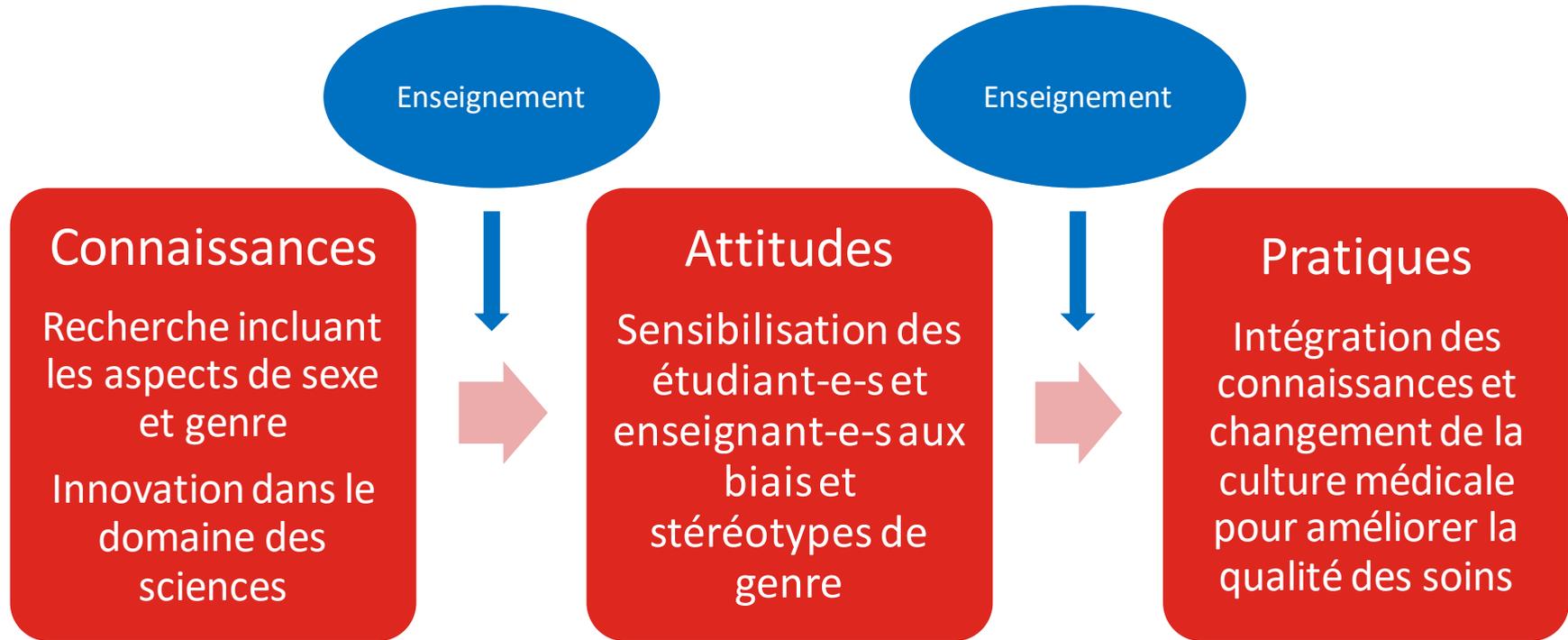
- Authors should use the terms *sex* and *gender* carefully in order to avoid confusing both terms.
- Where the subjects of research comprise organisms capable of differentiation by sex, the research should be designed and conducted in a way that can reveal sex-related differences in the results, even if these were not initially expected.
- Where subjects can also be differentiated by gender (shaped by social and cultural circumstances), the research should be conducted similarly at this additional level of distinction.

Recommendations per section of the article

Title and abstract	If only one sex is included in the study, or if the results of the study are to be applied to only one sex or gender, the title and the abstract should specify the sex of animals or any cells, tissues and other material derived from these and the sex and gender of human participants.
Introduction	Authors should report, where relevant, whether sex and/or gender differences may be expected.
Methods	Authors should report how sex and gender were taken into account in the design of the study, whether they ensued adequate representation of males and females, and justify the reasons for any exclusion of males or females.
Results	Where appropriate, data should be routinely presented disaggregated by sex and gender. Sex- and gender-based analyses should be reported regardless of positive or negative outcome. In clinical trials, data on withdrawals and dropouts should also be reported disaggregated by sex.
Discussion	The potential implications of sex and gender on the study results and analyses should be discussed. If a sex and gender analysis was not conducted, the rationale should be given. Authors should further discuss the implications of the lack of such analysis on the interpretation of the results.

Fig. 1 SAGER flowchart guiding editors' initial screening of submitted manuscripts

Inclure le genre dans l'enseignement

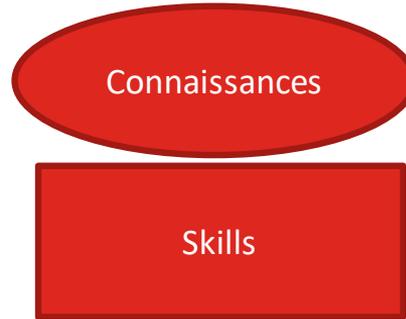


Approche genre: 2 niveaux

- Contenu:

Prise en compte des différences et similarités entre hommes et femmes (sexe/genre)

- Etiologie
- Pathogénèse
- Présentation clinique
- Diagnostic
- Traitement
- Communication



Cours spécifiques
Médecine et
Genre

Intégration du
genre dans le
cursus

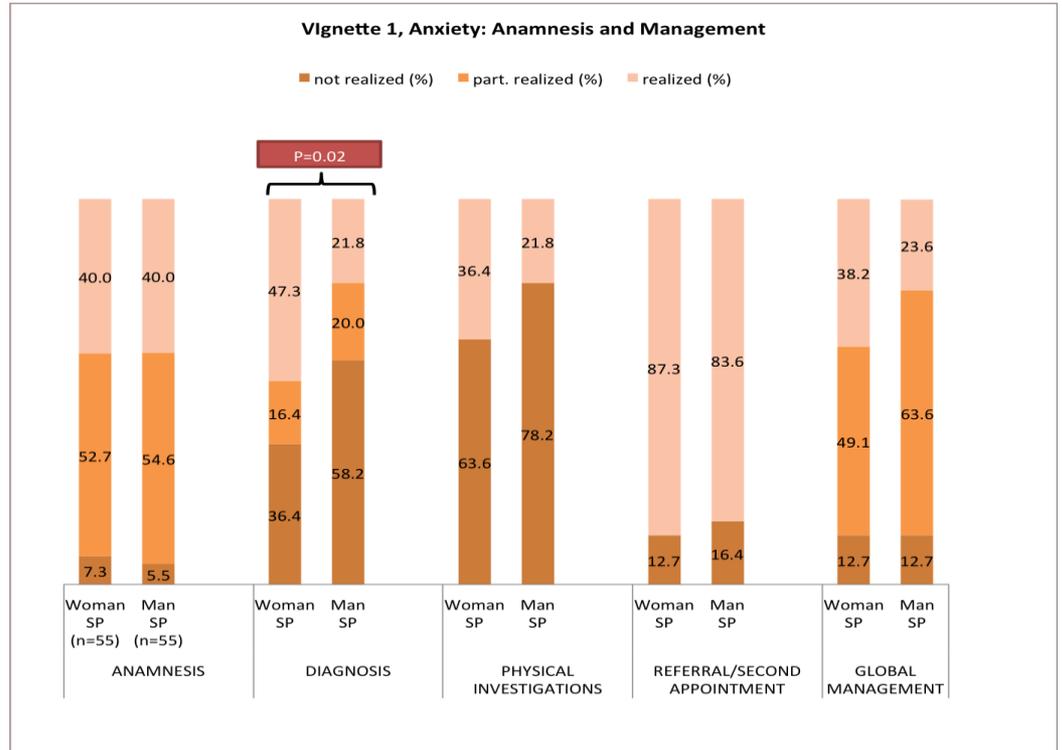
- Forme:

Langage égalitaire (épicène)

Vignettes et outils pédagogiques neutres/égalitaires

Trouble anxieux généralisé – étude pilote

Examens de compétences cliniques (ECOS) des étudiant-e-s en M1 médecine de Lausanne



Plan

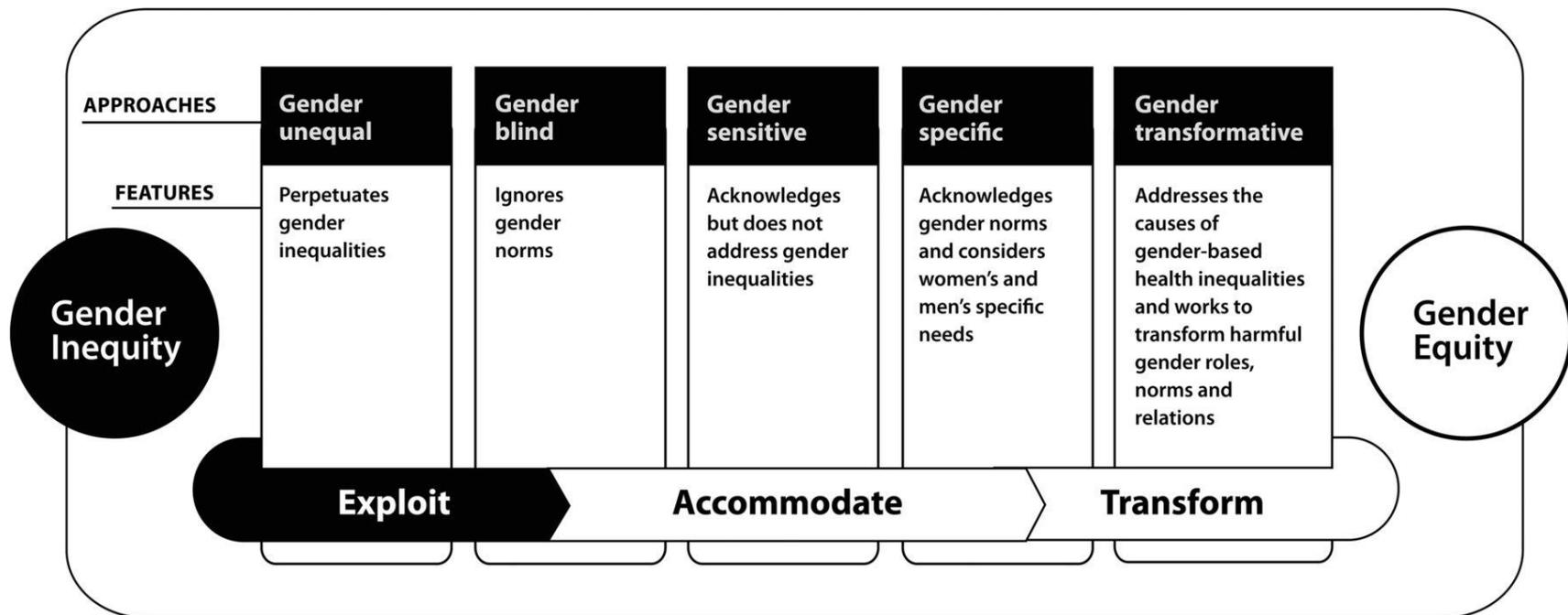
- Sexe, genre et santé: introduction, définitions
- Impact du genre/sexe en recherche
- Impact du genre/sexe en clinique quelques exemples:
 - Pharmacologie
 - COVID-19
- Comment intégrer la dimension genre?

En conclusion

- Sortir du paradigme scientifique androcentrique
→ ~~Gender blind~~
- Comprendre la différence entre sexe et genre
→ *Gender sensitive*
- Intégrer la différence et les interactions sexe et genre
→ *Gender specific or gender transformative*

Améliorer la qualité des soins pour toutes et tous

A continuum of approaches to action on gender and health.



Ann Pederson et al. *Health Promot. Int.* 2015;30:140-150

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Health Promotion International

Quelques liens et ressources utiles

E-Gender medicine Berlin

<http://egender.charite.de/en/course/>

**Gender and Health
collaborative curriculum**

<http://www.genderandhealth.ca/>

**A to Z Guide: Sex and Gender
Influences on Health**

<http://orwh.od.nih.gov/resources/sexgenderhealth/>

**Gender and Health:
Knowledge agenda**

https://www.zonmw.nl/uploads/tx_vipublicaties/ZonMw_170x240_GenderHealthKnowledgeAgenda_def2.pdf

**Site Gendered Innovations de
Stanford University**

<https://genderedinnovations.stanford.edu/>

**Canadian Institutes of Health
research**

<https://cihr-irsc.gc.ca/e/49347.html>

Merci pour votre attention !



Biais implicites

<https://implicit.harvard.edu>



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Gender-Career IAT

Gender - Career. This IAT often reveals a relative link between family and females and between career and males.

Gender-Science IAT

Gender - Science. This IAT often reveals a relative link between liberal arts and females and between science and males.

Arab-Muslim IAT

Dark faces, and images of weapons or harmful objects.

Arab-Muslim ('Arab Muslim - Other People' IAT). This IAT requires the ability to distinguish names that are likely to belong to Arab-Muslims versus people of other nationalities or religions.

Sexuality IAT

Sexuality ('Gay - Straight' IAT). This IAT requires the ability to distinguish words and symbols representing gay and straight people. It often reveals an automatic preference for straight relative to gay people.

Skin-tone IAT

Skin-tone ('Light Skin - Dark Skin' IAT). This IAT requires the ability to recognize light and dark-skinned faces. It often reveals an automatic preference for light-skin relative to dark-skin.

Biais implicites

Your result:

Your data suggest a moderate automatic association for Male with Career and Female with Family.

