



Gender Inequality in Kidney Transplantation in Asia

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National Medical Center





APCN x TSN 2025
23rd Asian Pacific Congress of Nephrology

Gene, Immunology, Vast, M^Etabolism at its Finest!

Outline

Nothing to disclose

- Secretary-General, **Asian Society of Transplantation**
- Steering Committee Member, **Women in Transplantation**
- President, **KOTRY** (the Korean Organ Transplantation Registry)
- Immediate Past President, **Vitallink**
- Past Councilor, **The Transplantation Society**
- Member, **WHO Task Force Team**



I. Global Gender Gap Index and Asia

II. Gender disparity in Kidney Donation

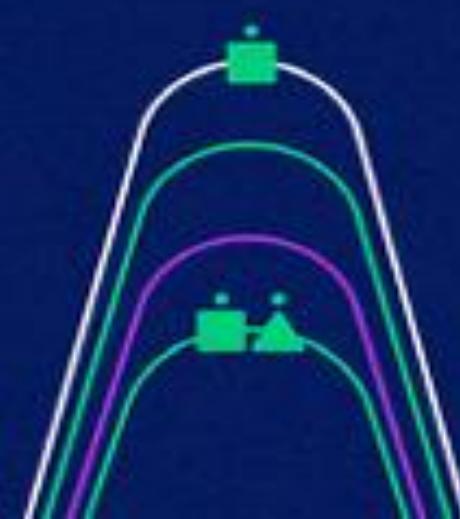
III. Vulnerability in Kidney Donation

IV. Gender disparity in Kidney Recipients

V. Summary

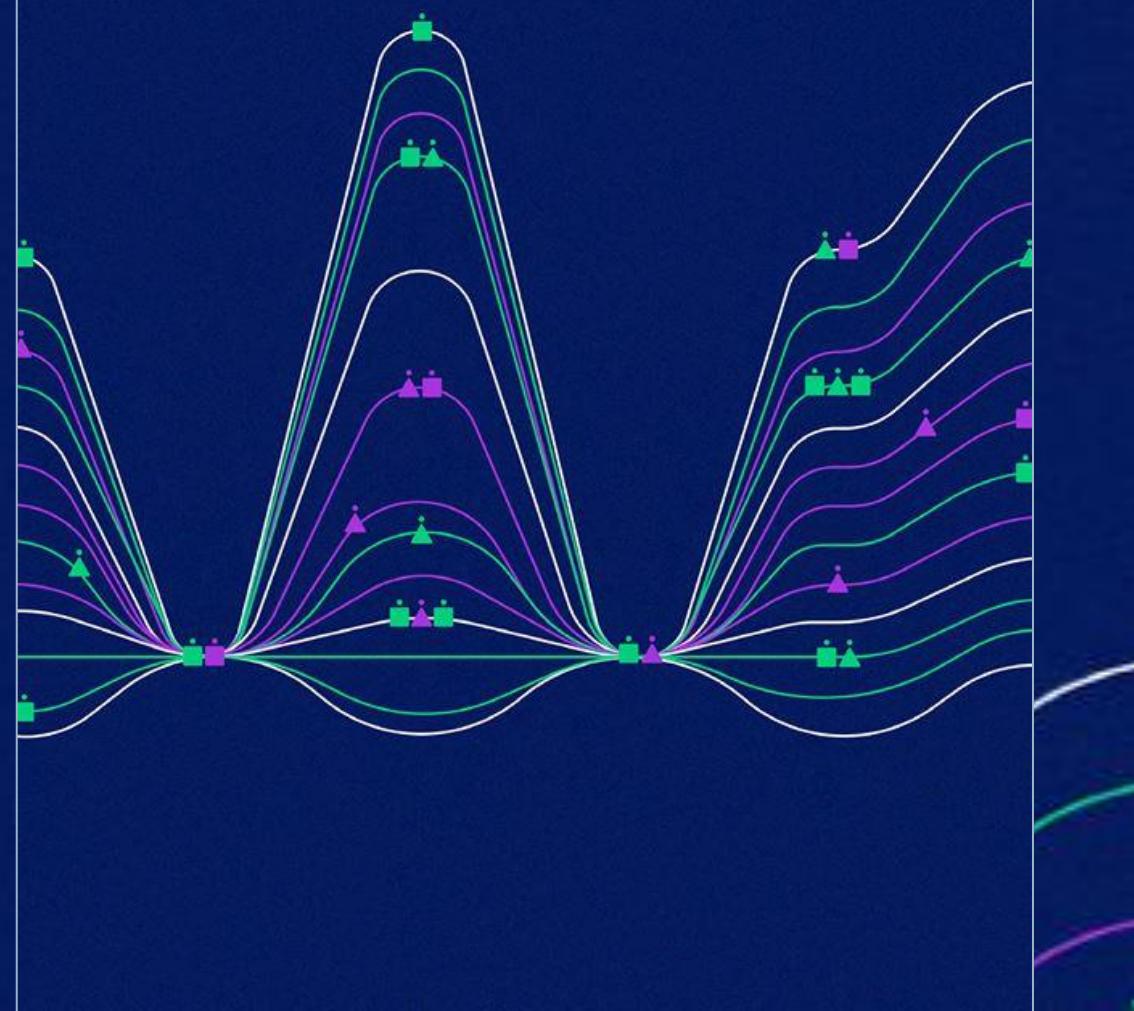
Global Gender Gap Report 2025

INSIGHT REPORT
JUNE 2025



Global Gender Gap Report 2025

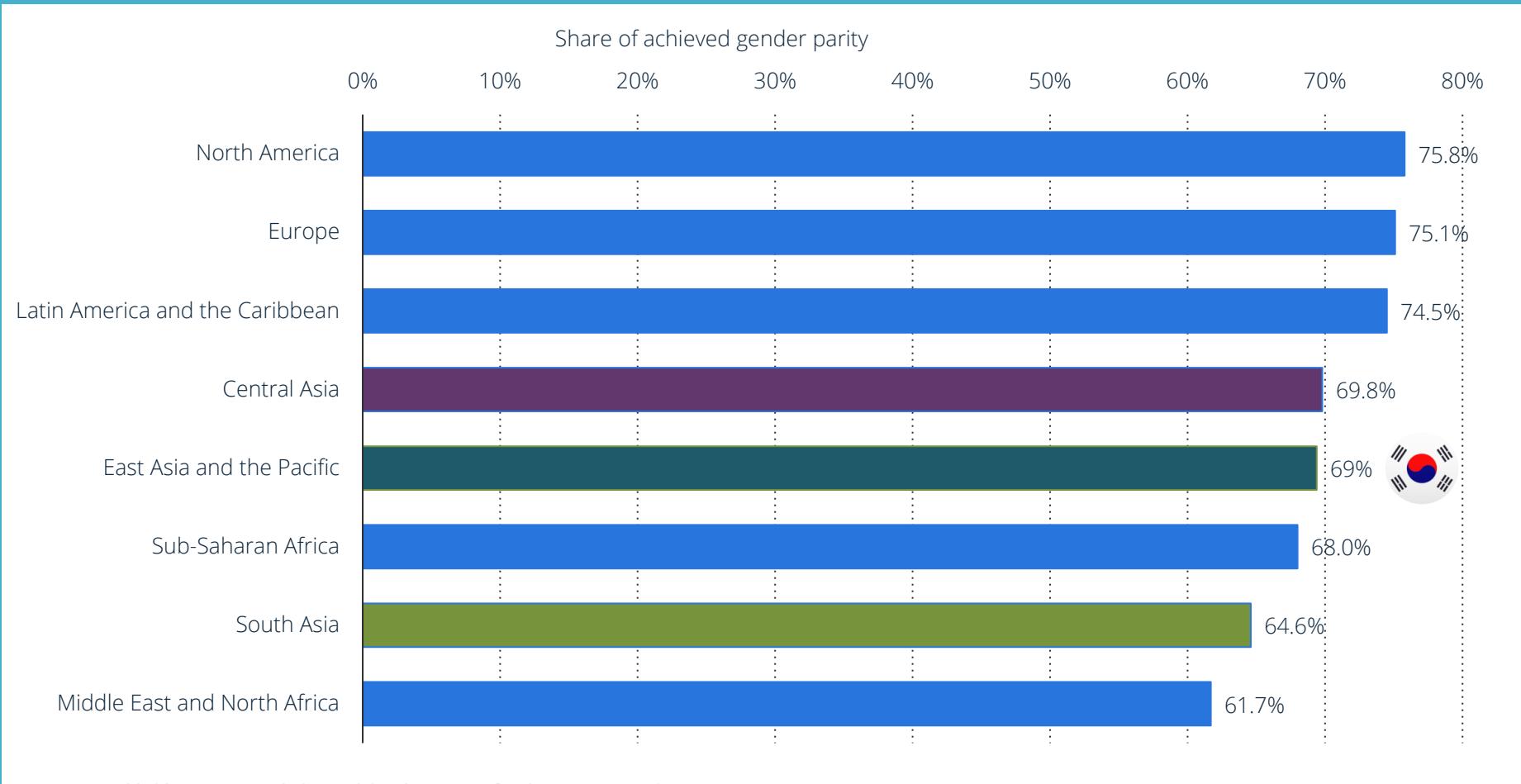
INSIGHT REPORT
JUNE 2025



Global Gender Gap Report 2025, World Economy Forum



Average gender gap closed worldwide 2025, by region(148 countries)



Note(s): Worldwide; 2022; population-weighted averages for the 156 economies

Further information regarding this statistic can be found on [page 8](#).

Source(s): World Economic Forum; [ID 1211887](#)

Top 10 Countries

GGGI by Region

Gender gap will worsen

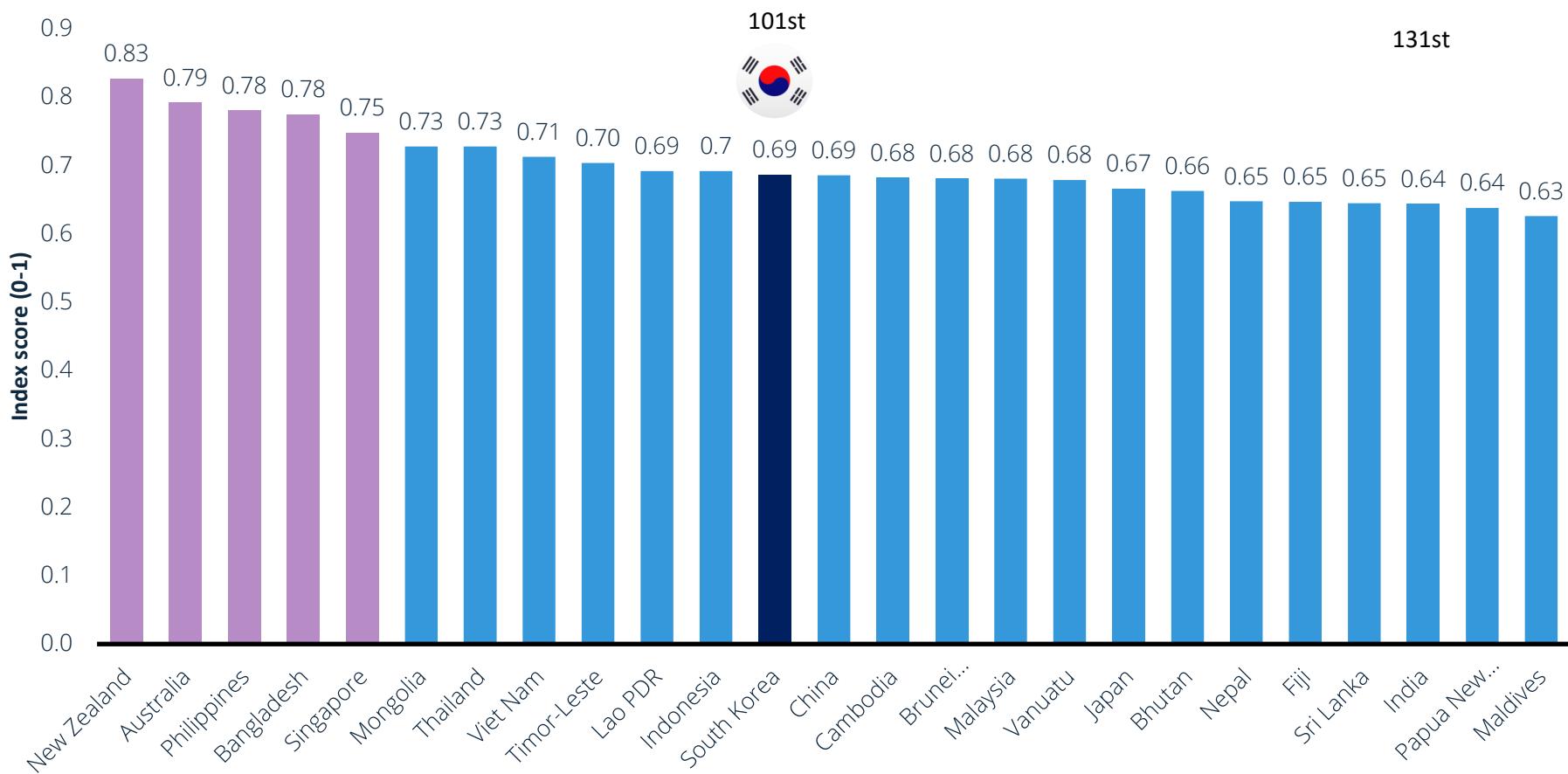
Impact of COVID-19

<https://www.statista.com/search/>

Global Gender Gap Report 2025, World Economic Forum



Average gender gap closed worldwide 2025, by region(148 countries)



Note(s): Asia, APAC; July 2022; 0 = inequality - 1 = equality

Further information regarding this statistic can be found on [page 8](#).

Source(s): World Economic Forum; [ID 1320934](#)

Top 50 Countries

GGGI by region

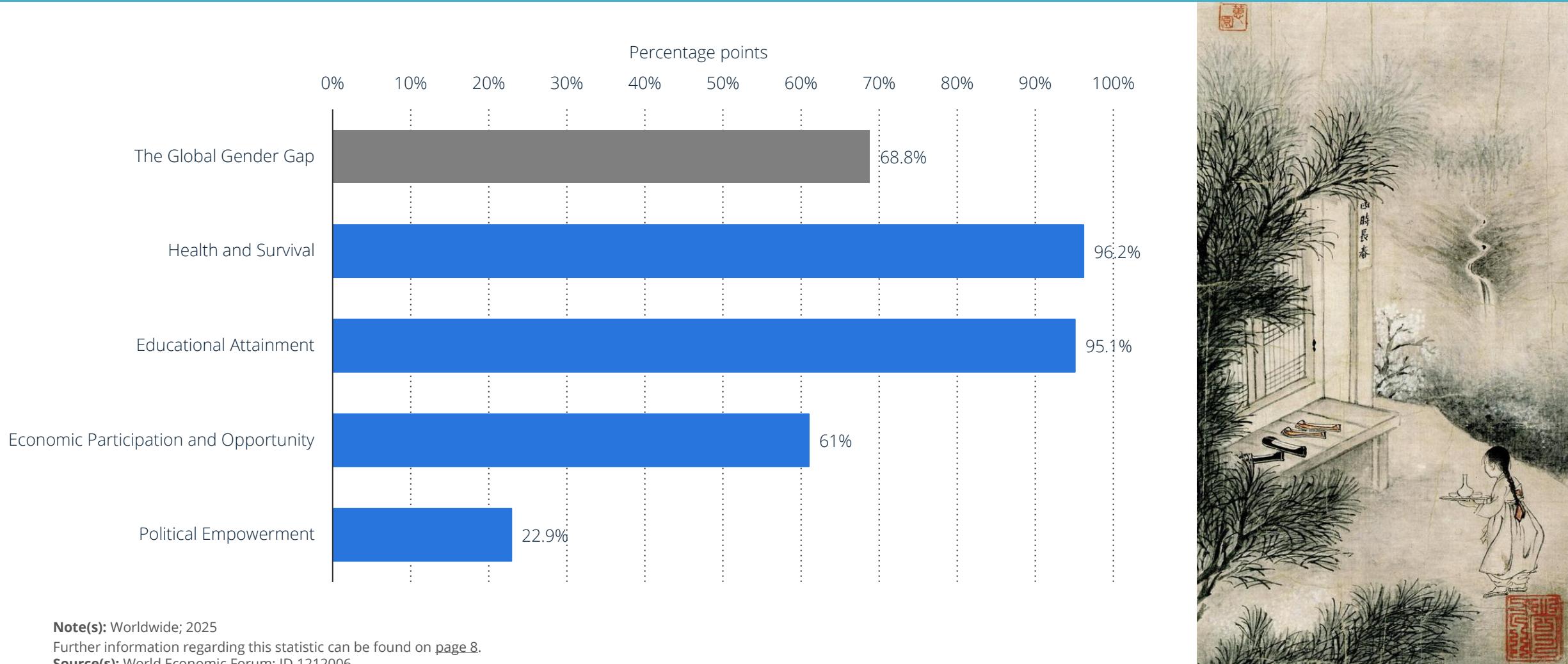
Gender gap will worsen

Impact of COVID-19

<https://www.statista.com/search/>

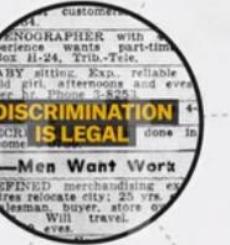
Percentage of Gender Gap Closed Worldwide as of 2025, by Dimension

Percentage of gender gap closed worldwide 2025, by dimension





CAUSES FOR THE PAY GAP IN THE 50s & 60s



*and then a slew of cultural norms
about gender roles and aptitudes.*



Placeholder

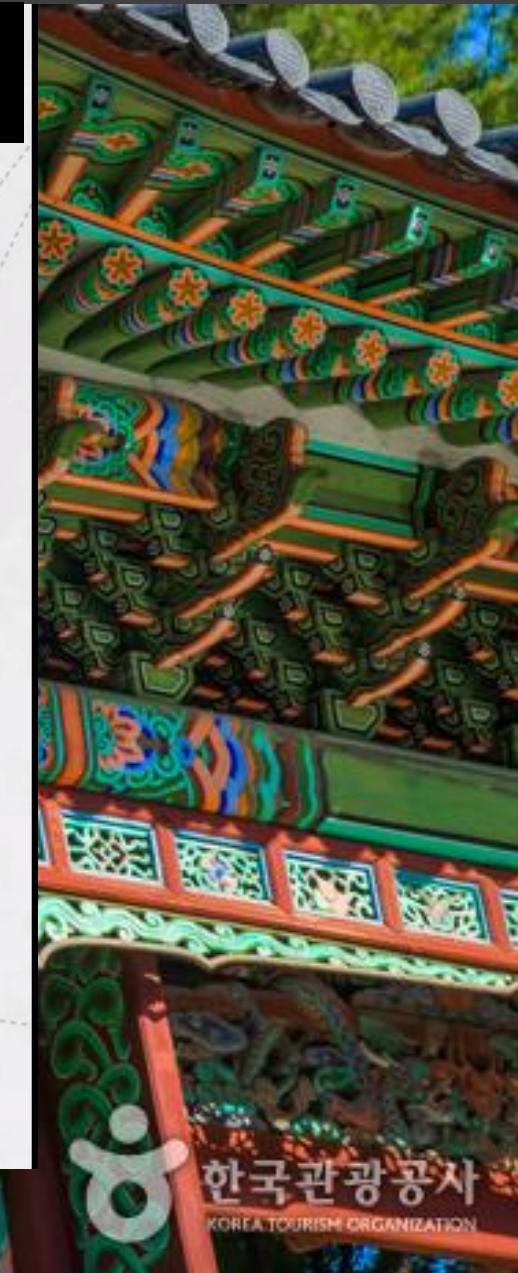
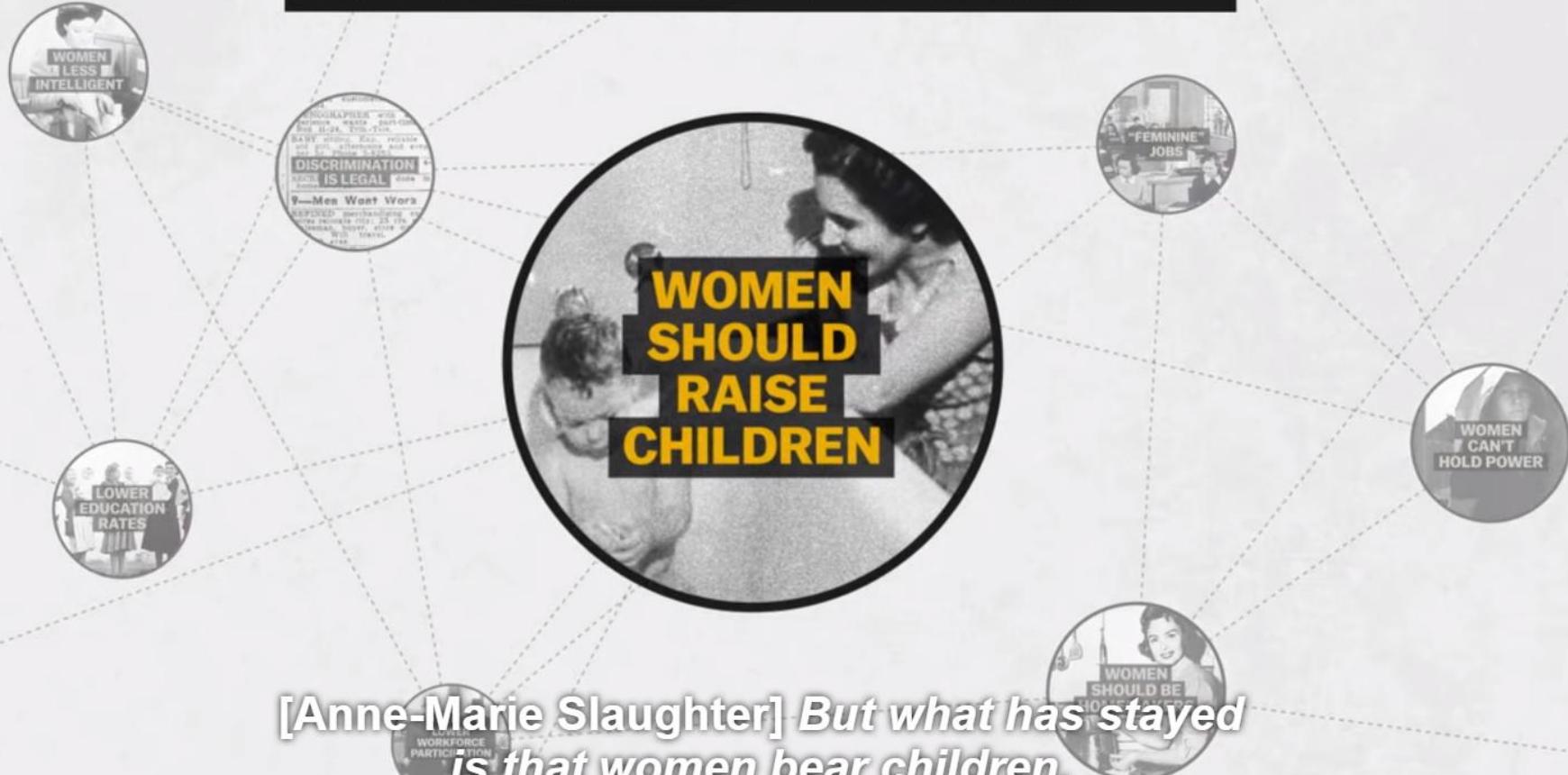
Childcare

Placeholder

Placeholder



CAUSES FOR THE PAY GAP IN THE 50s & 60s



Netflix, Explain, Why Women Pay Less?

Placeholder

Placeholder

Women Leader

Placeholder



MEMBER SPOTLIGHT

NANCY ASCHER



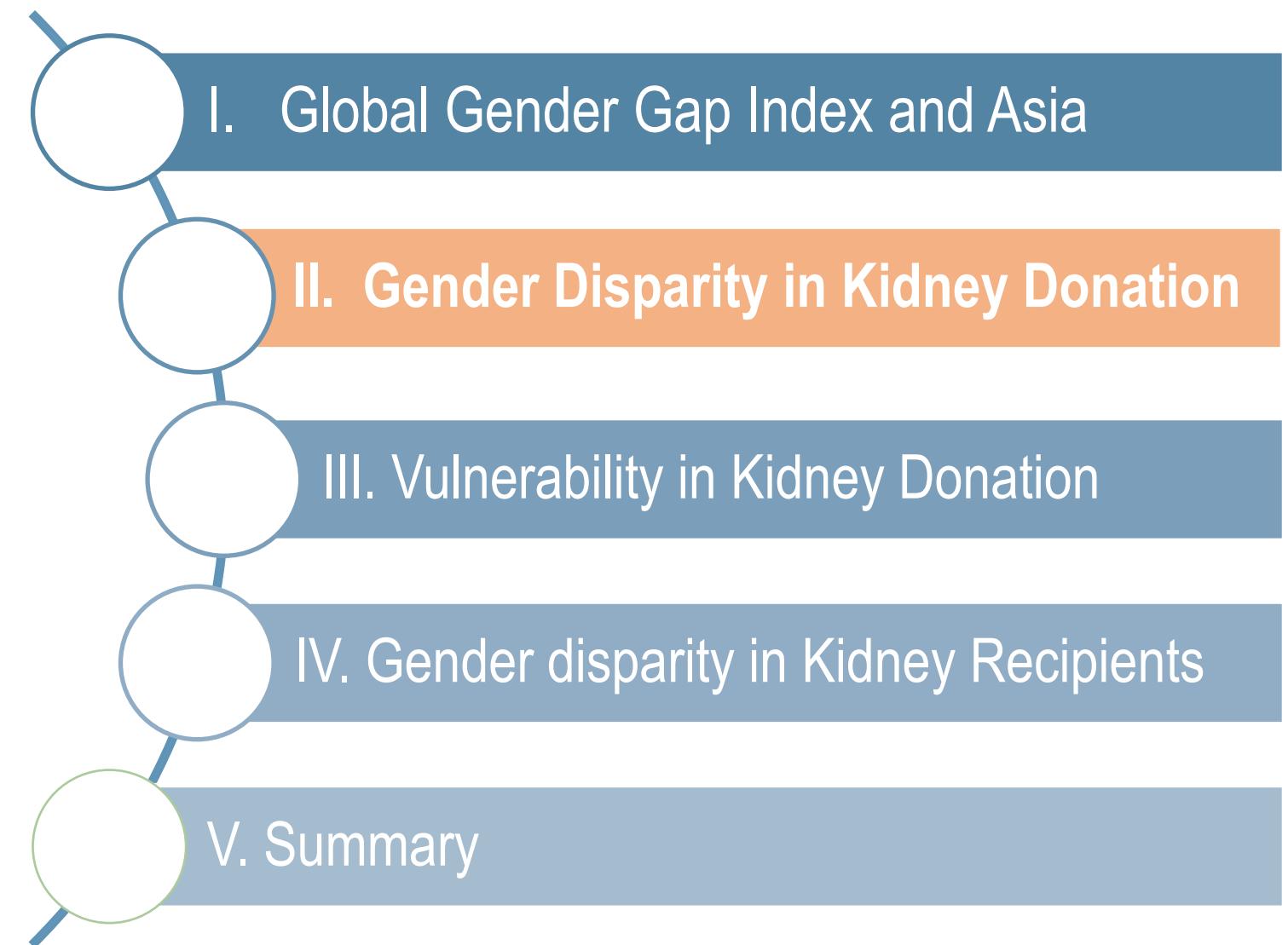
TTS Past President
2016-2018



Netflix, Surgeon's Cut,

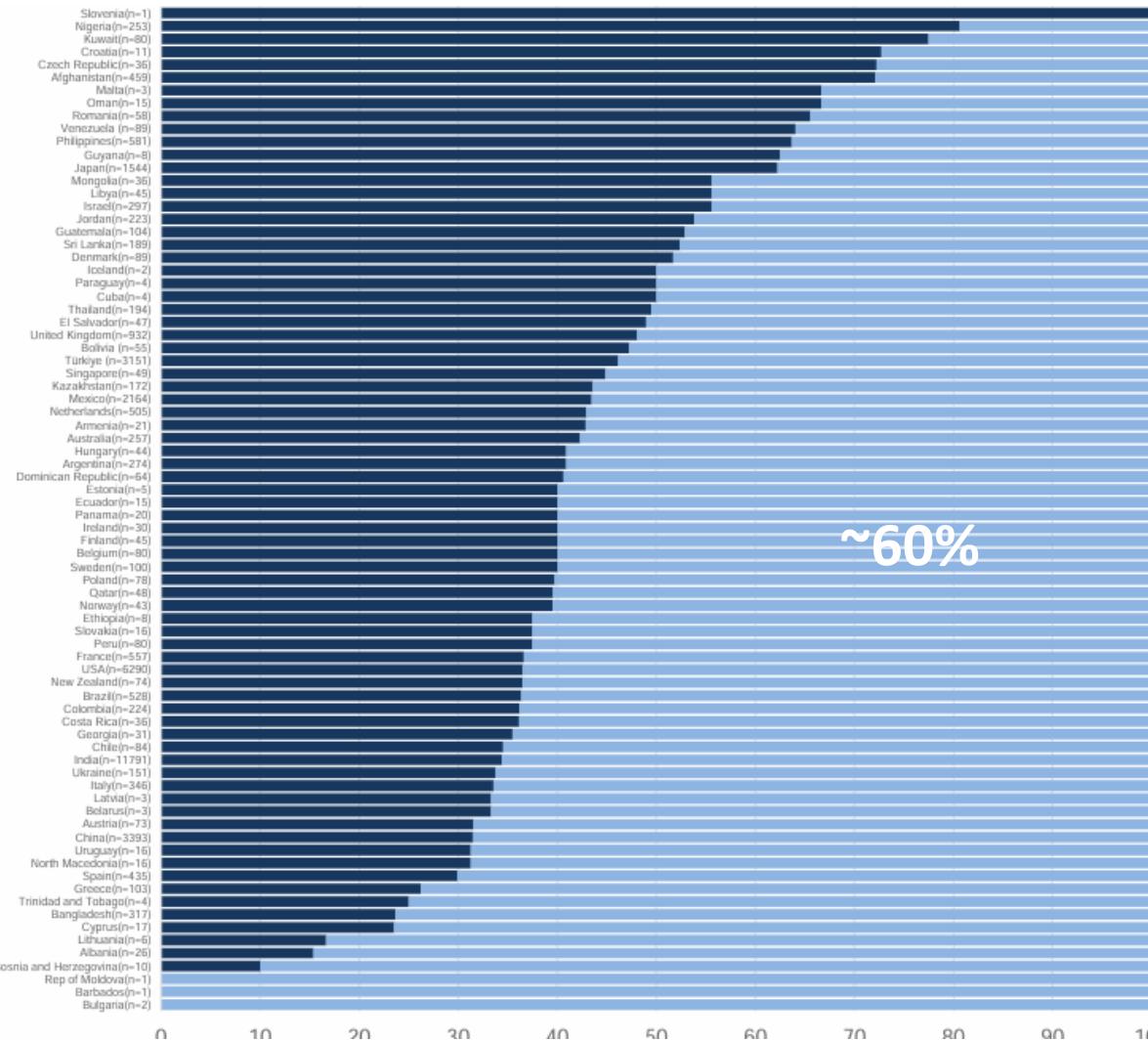


II. Gender Equality in Living Kidney Donation

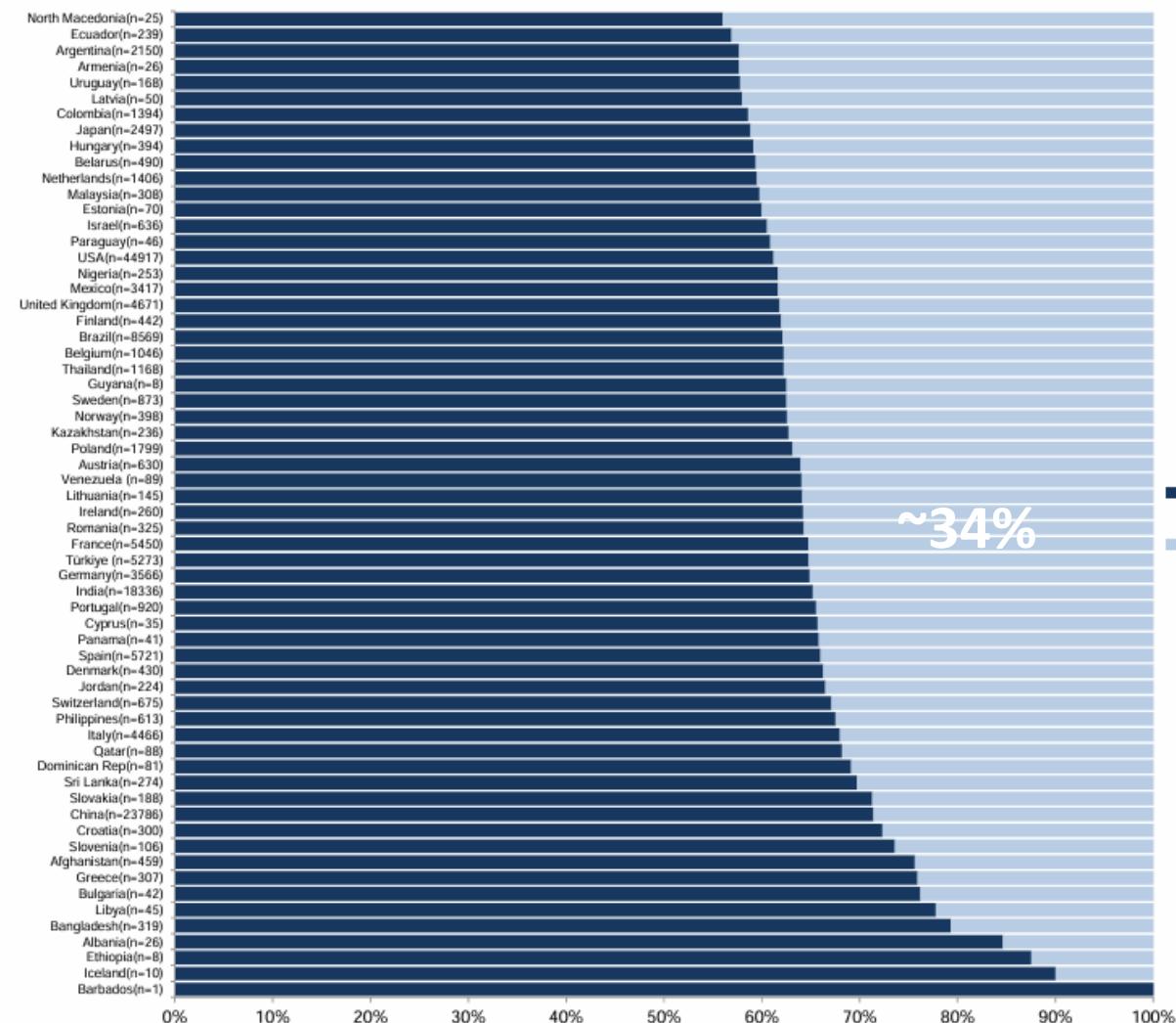


% Female Kidney Donors and Recipients(GODT2023)

Living Kidney Donor by Sex

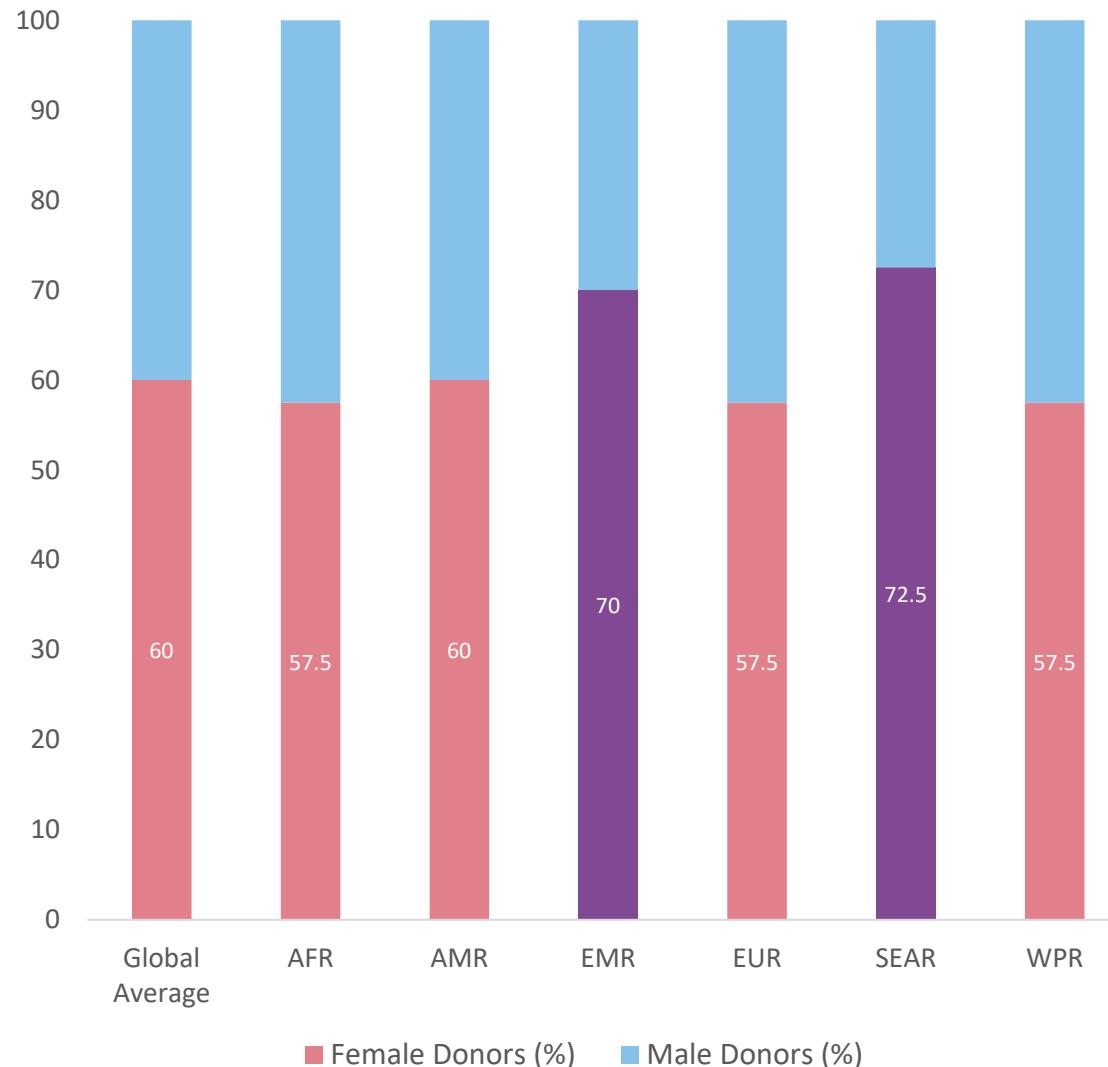


Patients Transplanted by sex

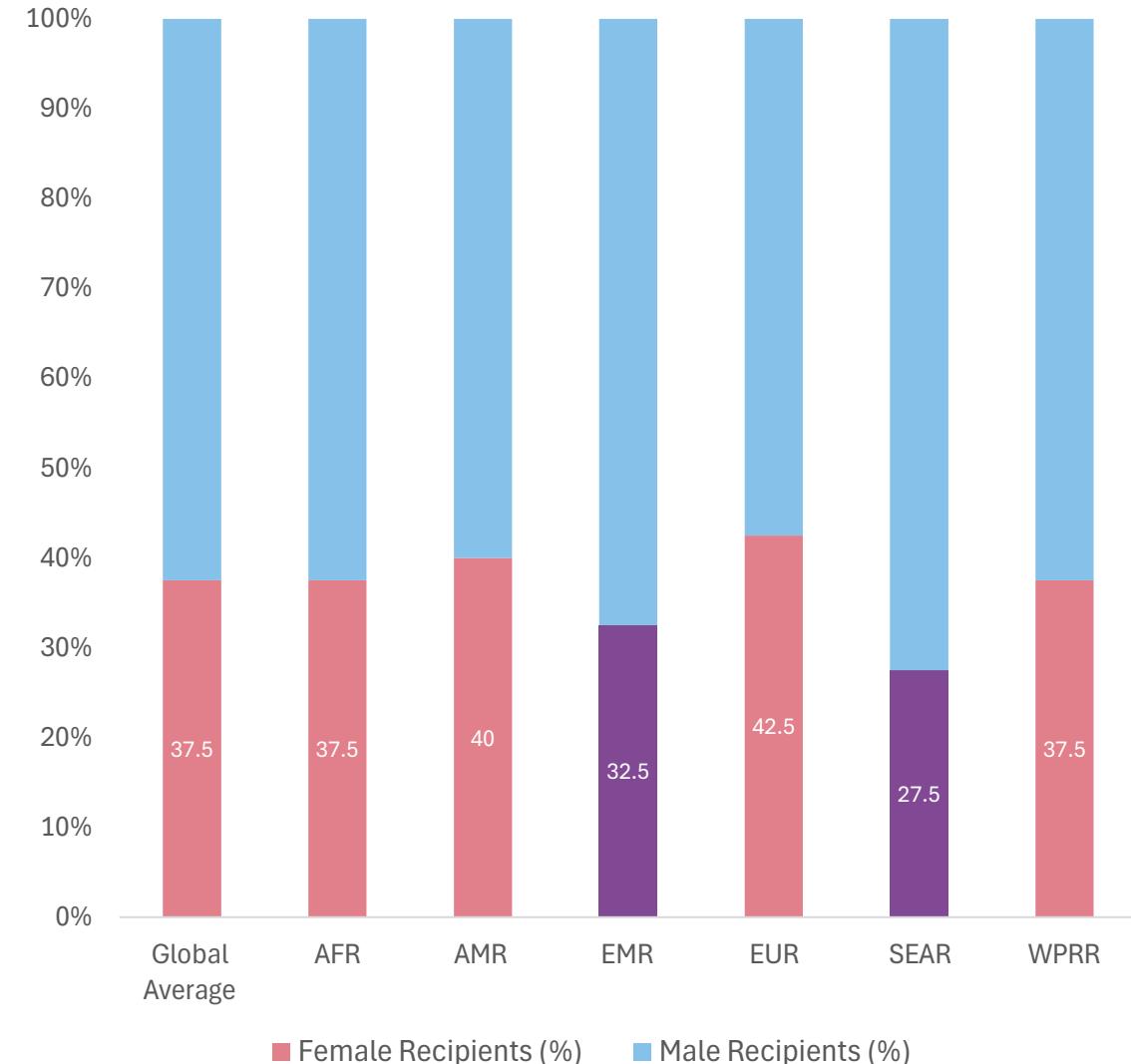


% Female Kidney Donors and Recipients by Region

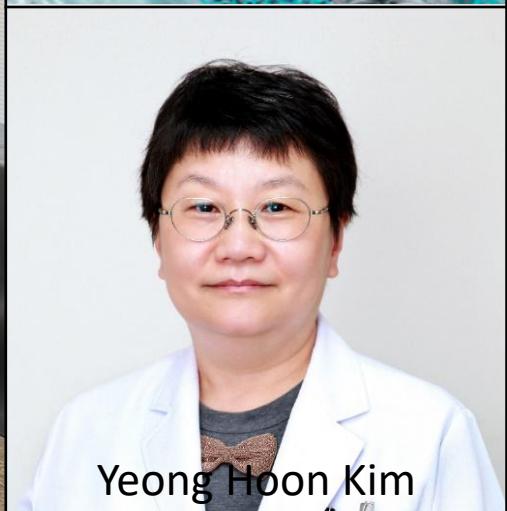
Living Kidney Donor by Sex



Patients Transplanted by sex



The Asian-WIT TF in Asian Society of Transplantation



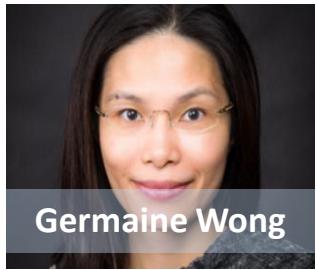
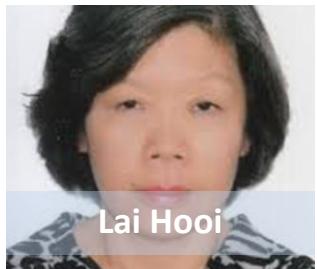
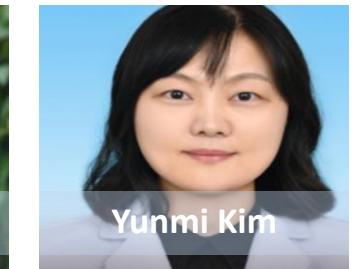
ASIAN-WIT

Web Seminars on Gender Disparity in Kidney Transplantation in Asia

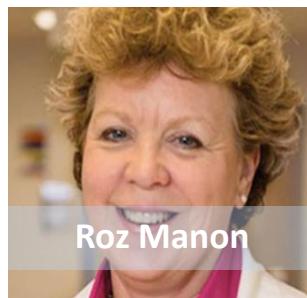
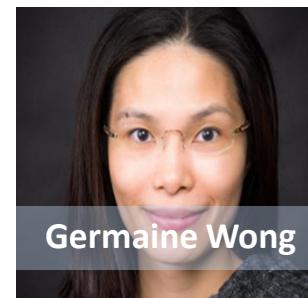


SPEAKERS AND CHAIRS

Speakers

**Germaine Wong****Harun Ur Rashid****Maggie Ma****Vivek Kute****Vasanthi Ramesh****Ni Made Hustrini****Yuki Nakagawa****Lai Hooi****Lkhaakhuu Od-Erdene****Khin Thida Thwin****Ejaz Ahmed****Rose Marie O. Rosete-liquete****Sobhana d/o Thangaraju****Yunmi Kim**

Chairs

**Nancy Asher****Lori West****Roz Manon****Germaine Wong****Vathsala A****Romina D****Curie Ahn**

DATA SOURCES

Special Article



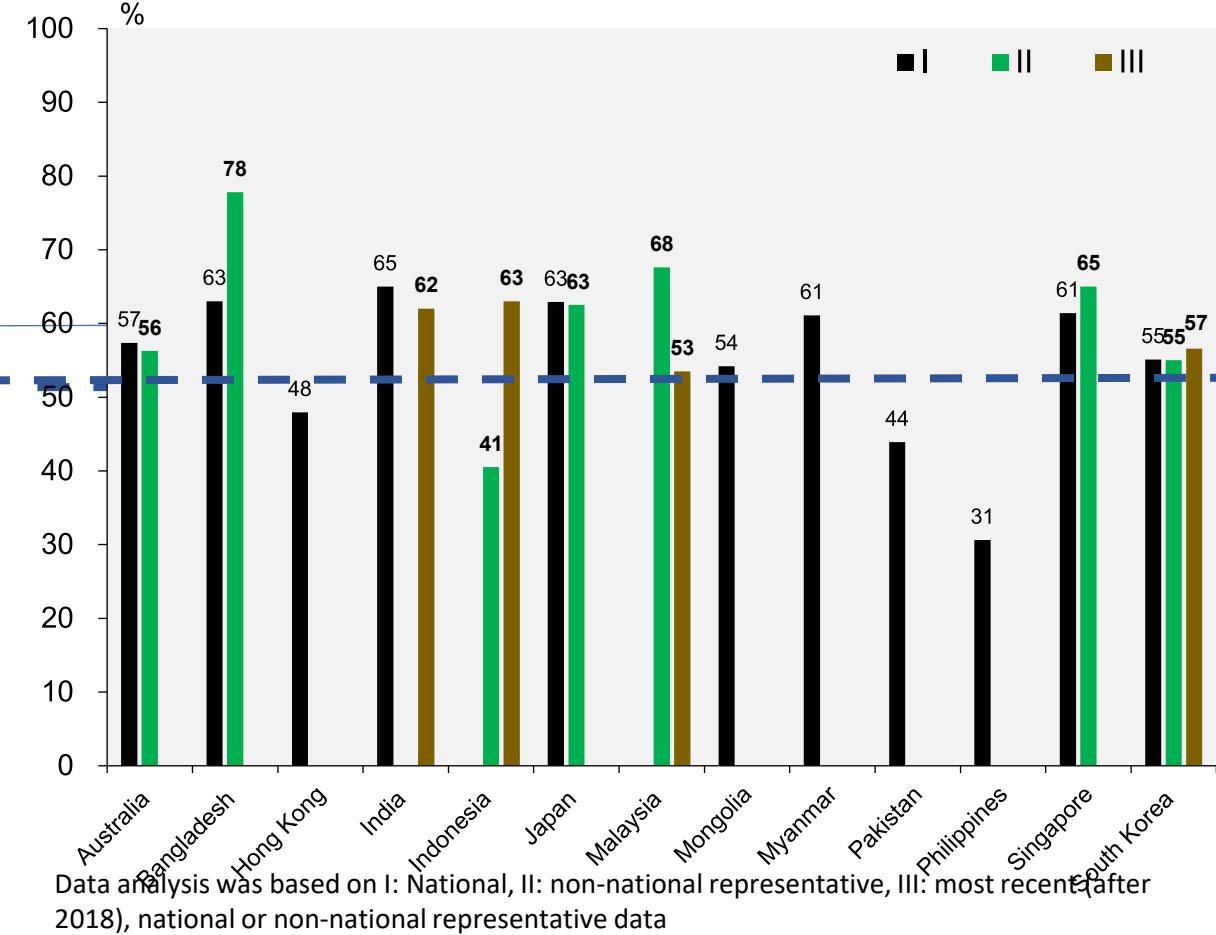
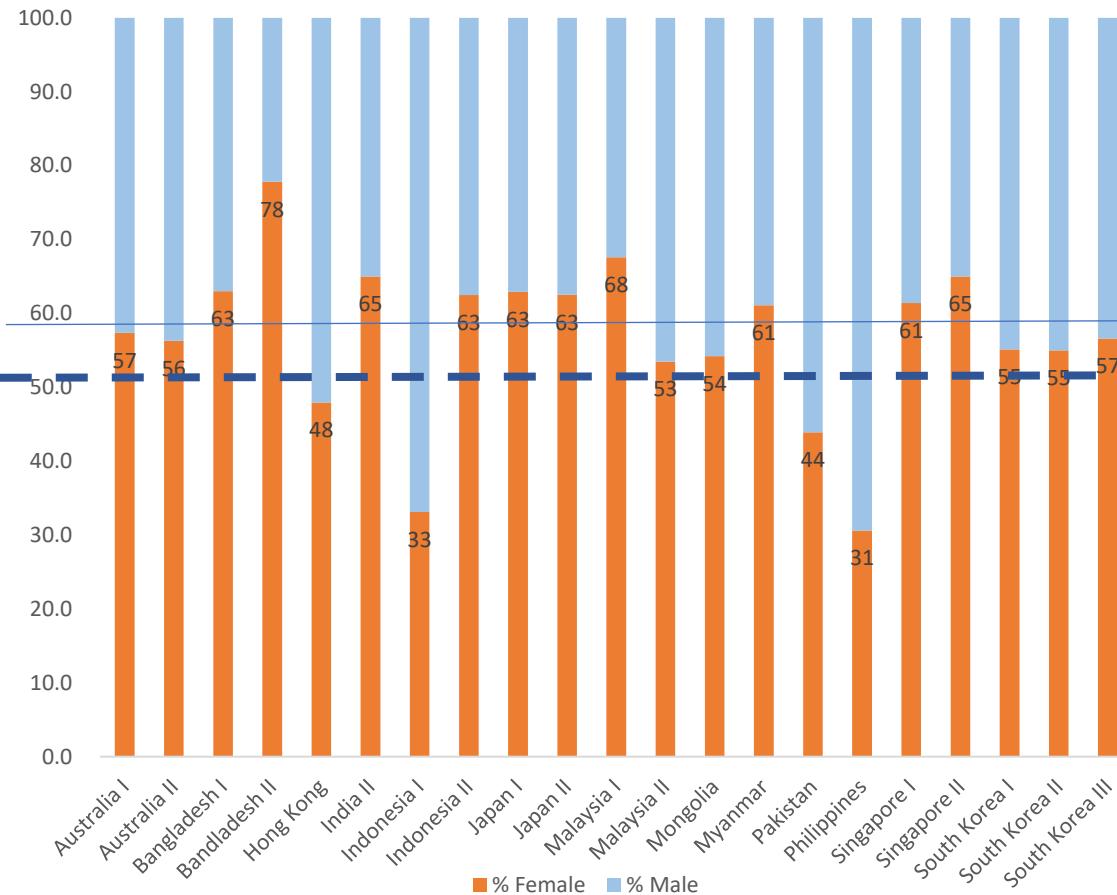
Meeting Report: First State of the Art Meeting on Gender Disparity in Kidney Transplantation in the Asia-Pacific

Australia	I 1988-2019(ANZ Data) II 2017-2019(ANZ Data)	Malaysia	I 2000-2020 II 2018-2020	cher, MD, PhD, ³ Romina Dangulan, MD, ⁴ MD, ⁶ Yeong Hoon Kim, MD, ⁷ Vivek Kute, MD, ⁸ Ma, MD, ¹⁰ Roslyn B. Mannon, MD, PhD, ¹¹ MD, ¹³ Vasanthi Ramesh, MD, ¹⁴ Harun Ur Rashid, MD, ¹⁵ MD, ¹⁷ Anantharaman Vathsala, BS, MD, ¹⁸ Curi Ahn, MD, PhD, ²¹ and Germaine Wong, MBBS, PhD ^{22,23}
Bangladesh	I 2006-2020 II 2018-2020	Mongolia	2020	To address the issue of global gender inequality in access to transplantation, the Asian Society of Transplantation in partnership with the Women in Transplantation (WIT) held 2 virtual meetings in January and February 2021 to discuss the pressing issues fueling gender inequality in transplantation in the Asia-Pacific and potential strategies to mitigate them. One of the key missions of WIT is to identify gaps and disparities in gender-specific health outcomes for both recipients and donors globally. Additionally, WIT is also driven to defend the welfare and justice of our transplant recipients and donors, with specific focus on addressing the issues of sex/gender disparity in disadvantaged settings. Fourteen speakers from 13 countries, including Australia, Bangladesh, Hong Kong, India, Indonesia, Japan, Malaysia, Mongolia, Myanmar, Pakistan, the Philippines, Singapore, and South Korea. Most of our speakers were
Hong Kong	2009-2019	Myanmar	2014-2020(YSH)	p iden- kidney cess to kidney Among r to be st, they logical ne and l techni- re also equal- gen- ences of down
India	I 2019 II NOTTO III Pediatric patients	Pakistan	1985-2018	
Indonesia	I 2011-2017 II 2020	Philippines	2008-2018	⁴ National Organ and Tissue Transplant Organisation, DGHS, Ministry of Health and Family Welfare, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi, India. ⁵ Department of Nephrology, Kidney Foundation Hospital and Research Institute, Dhaka, Bangladesh.
Japan	I 2010-2019 II 2019	Singapore	I 2015-2019 II 2019	⁶ Department of Renal Medicine, Singapore General Hospital, Singapore, Singapore. ⁷ Department of Renal Medicine, University of Medicine (i), Yangon, Myanmar. ⁸ Division of Nephrology, National University of Singapore, Singapore, Singapore. ⁹ Department of Pediatrics, University of Alberta, Edmonton, AB, Canada. ¹⁰ Department of Nephrology, Specialty Hospital, Yangon, Myanmar. ¹¹ Division of Nephrology, National Medical Center, Seoul, South Korea. ¹² Sydney School of Public Health, University of Sydney, Sydney, NSW, Australia. ¹³ Centre for Renal and Transplant Research, Westmead Hospital, Sydney, NSW, Australia. C.A. and G.W. share co-senior authorship to this article. The authors declare no funding and conflicts of interest. Y.K., C.A., and G.W. conceived the study and wrote the article. All authors have contributed data and revised the article.
		South Korea	I 2010-2020(KONOS) II 2014-2016(KOTRY) III 2019(KOTRY)	¹⁴ Division of Urology, Juntendo University, Tokyo, Japan. ¹⁵ Department of Nephrology, First Central Hospital of Mongolia, Organ Transplantation Center, Ulaanbaatar, Mongolia. Correspondence: Curi Ahn, Division of Nephrology, National Medical Center, Seoul, South Korea. joum@nmu.ac.kr Copyright © 2021 Wolters Kluwer Health, Inc. All rights reserved. ISSN: 0041-1337/20/000000-00 DOI: 10.1097/TP.0000000000000384



More ♀ Living Kidney Donors than ♂

% Female Living Donors in LDKT



SUMMARY

LD
% female

LD
Trends

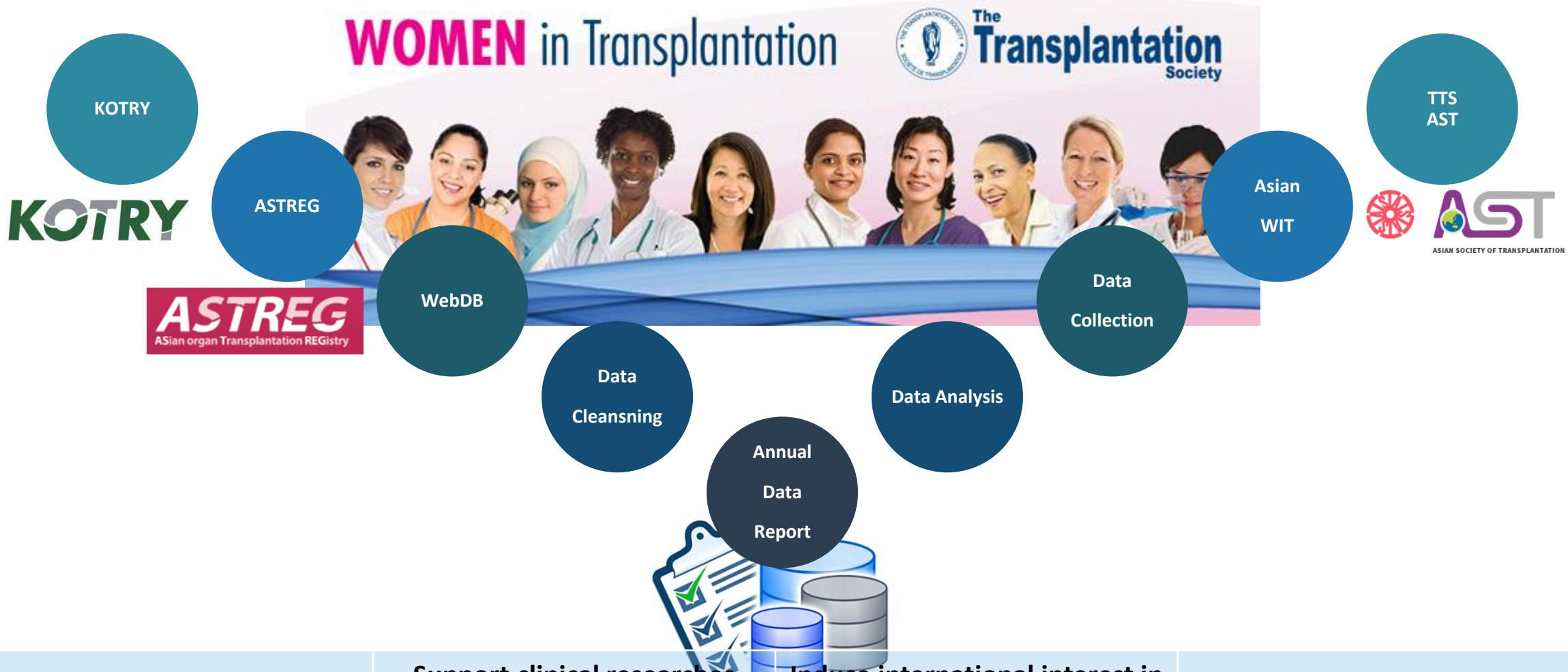
LD
Spouse Donor

LDKT
♀ Recipients

LDKT
Trends

DDKT
♀ Recipients

ASTREG-WIT-KT DATABASE



Annual data collection and report

Support clinical researches related to gender disparity in transplantation

Induce international interest in gender equity in transplantation

Find ways to improve gender equity in transplantation



Gender Disparity in Asian-Pacific Countries: An Analysis of the ASTREG-WIT-KT Registry

^{AQ1} Myeon Han, MD,¹ Germaine Wong, MPPS, PhD,² Vivek B. Kute, MD,³ Yuko Nakagawa, MD,⁴ Hsu-Han Wang, MD,⁵ Mel Hatra Arakawa, MD,⁶ Jong Cheol Jeon, MD,⁷ Yun Yung, BS,^{8,9} Khin Thida, MD,¹⁰ Jeremy Chapman, MD, FRCR,¹¹ Ruth Sapir-Pichhadze, MD,¹² Roslyn B. Mannon, MD,¹³ Curie Ahn, MD,¹ and Yeong Hoon Kim, MD¹⁴; Steering Committee Members of ASTREG-WIT-KT

INTRODUCTION

According to the Global Gender Gap Index (GGGI) report of the World Economic Forum 2021, only 67%–69% of the overall gender gap has been closed in East Asia, the Pacific, and South Asian regions. None of the Asia-Pacific countries have been ranked in the top 10 list of gender-equal countries except for New Zealand. There is also emerging data showing that the coronavirus disease 2019 pandemic has widened the gender gap in health and wages within the Asian-Pacific countries including Korea, Japan, and Australia.¹

Gender imbalances are noted for kidney donation and transplantation in most countries. The proportion of female living donors has been proportionally higher and adult women with end-stage kidney disease (ESKD) are less likely to receive kidneys.² Since the gender gap is in generally larger in Asia than in Western countries while living-donor kidney transplantation (KT) prevails in Asia,³ it can be assumed that the gender gap in organ transplantation in Asian countries is also larger than that in non-Asian countries. A disproportional increase in the representation of women among living spousal donors in Asia has been another concern.^{4,5} To delineate if this assumption

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⁴Division of Urology, Juntendo University, Tokyo, Japan.

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⁶Asian Kidney & Transplant Institute, Manila, Philippines.

⁷Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, South Korea.

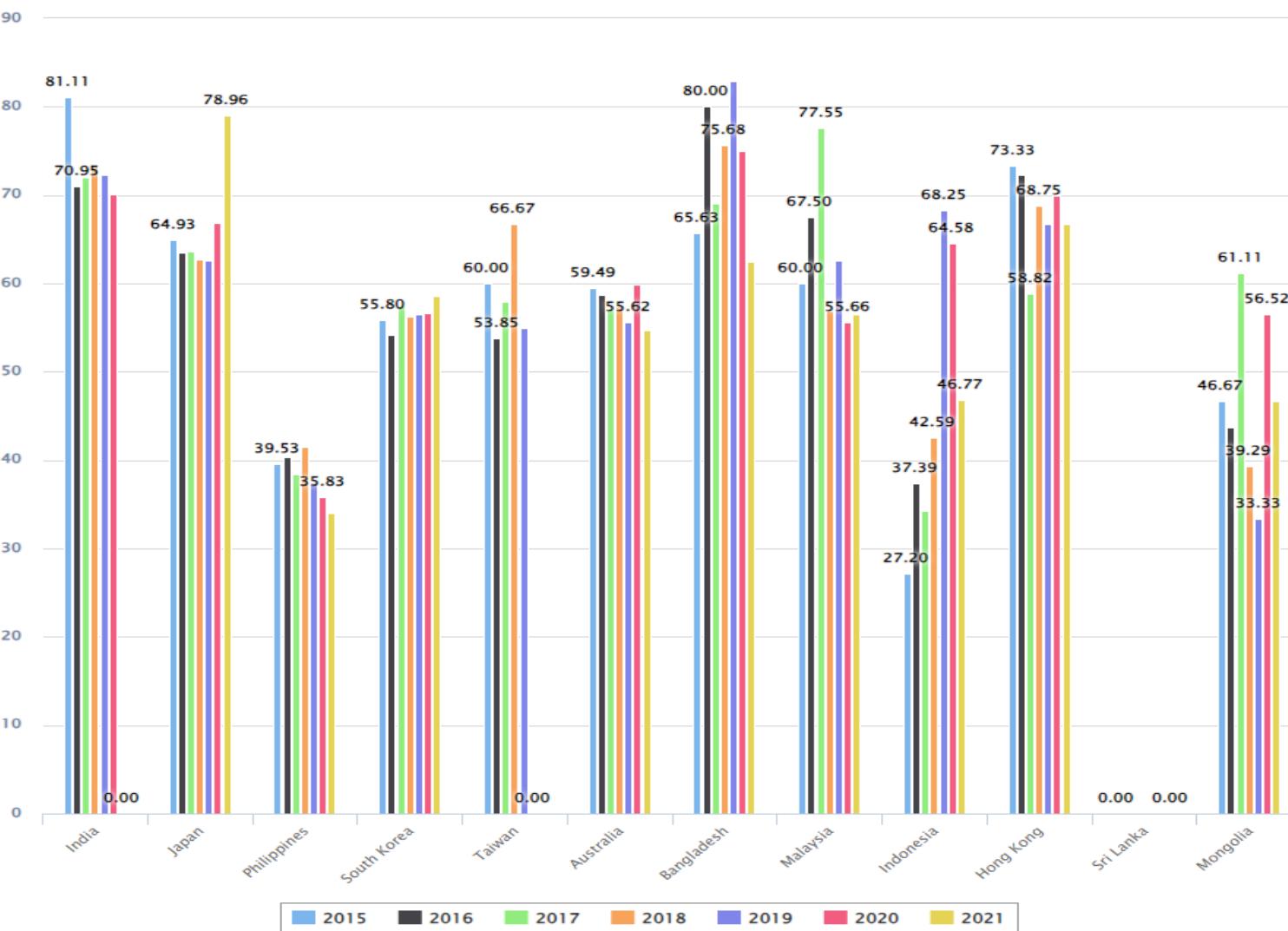
⁸Yonsei School of Public Health Yonsei University, Seoul, South Korea.
⁹RY Foundation, Seoul, South Korea.

¹⁰Department of Renal Medicine, University of Medicine (J), Yangon, Myanmar.
¹¹Armenia Institute for Medical Research, University of Sydney, Sydney, Australia.

¹²Department of Medicine, McGill University, Montreal, Canada.

¹³Division of Nephrology, Department of Medicine, University of Nebraska Medical Center, Omaha, NE.

Proportion of female living donors in LDKT, by Country

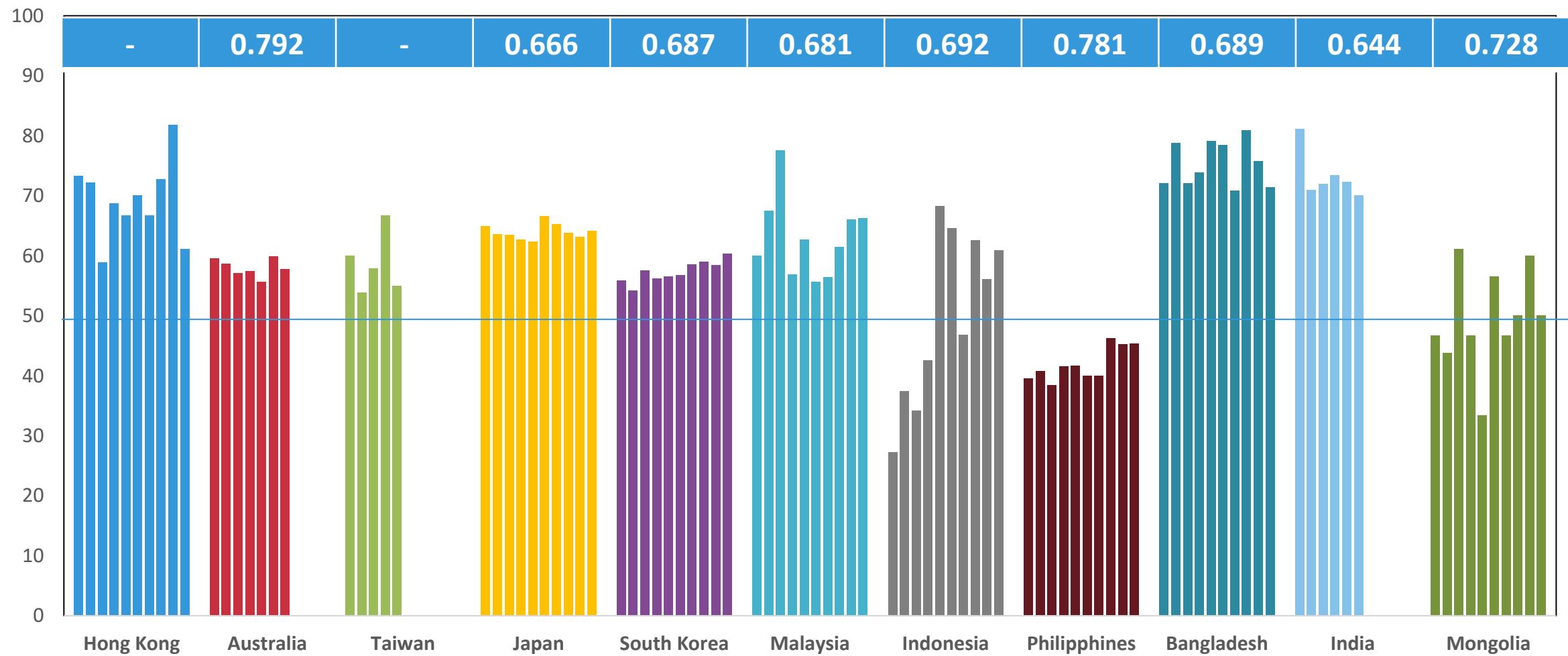


LD donor

Spouse

LDKT recipients

Proportion of female living donors in LDKT, by year (2015-2024)



Man Cannot
donate

Economic
Factor?

Social power
Factor?

Why do
women
donate
kidneys more
often than
men?

Sausal Donation

Other Factor?

Factors Related to Gender Inequity in Kidney Transplantation

Biological	Societal		
	Attitudinal	Financial	Power Imbalance
<ul style="list-style-type: none">• Less comorbidities of contraindication for kidney donation in male than female• Higher proportion of wife donation to husband	<ul style="list-style-type: none">• Female role in the family as a care giver• Higher volunteerism and altruism• Women generally have a self-sacrificing nature	<ul style="list-style-type: none">• Healthy husband is critical for wellbeing of the family → Fear of financial loss• Men may be the bread winner• Women are financially dependent on men	<ul style="list-style-type: none">• Patriarchism & Low self-esteem in woman• Coercion or indirect pressure from family and society• Societal stigma that the women have to give

Higher

Prevalence of

NCDs in male

Racial & Genetic
Differences

Regional
Differences

- NCD Control Policy

Man
cannot
donate
Kidney

#. of Potential
Donor

- Age
- % female Population

Socioeconomic
Factors

Biological Factors for Gender Disparity

More comorbidity in male

Prevalence of NCDs, Korea

Death from NCDs

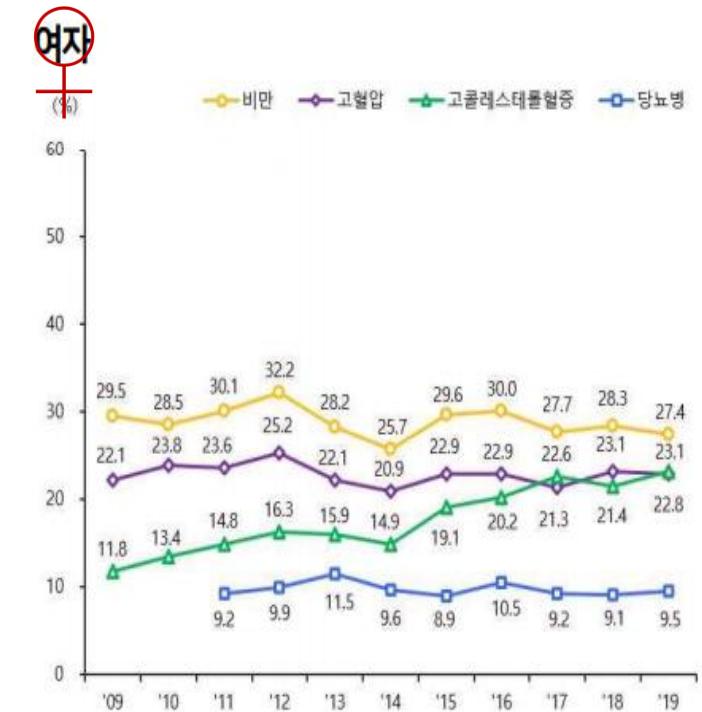
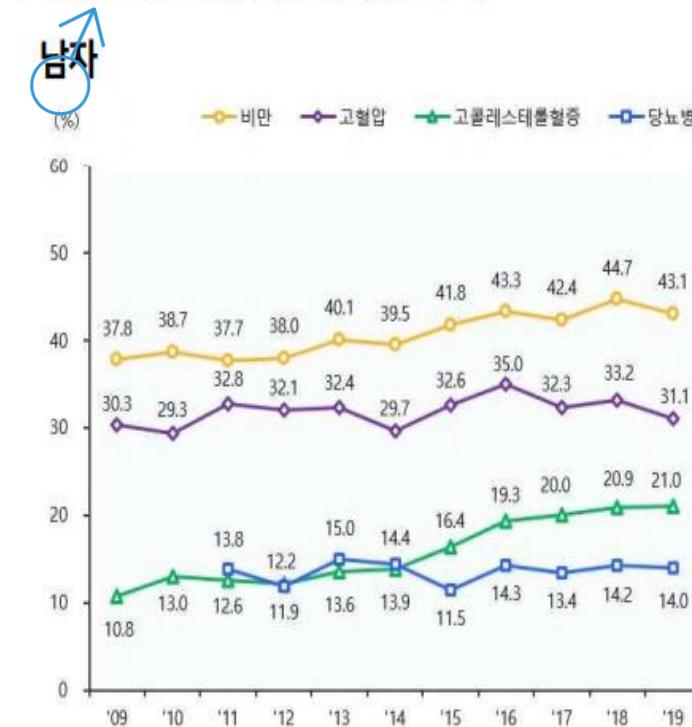
Higher %, Smoking

Higher %, DM HBP

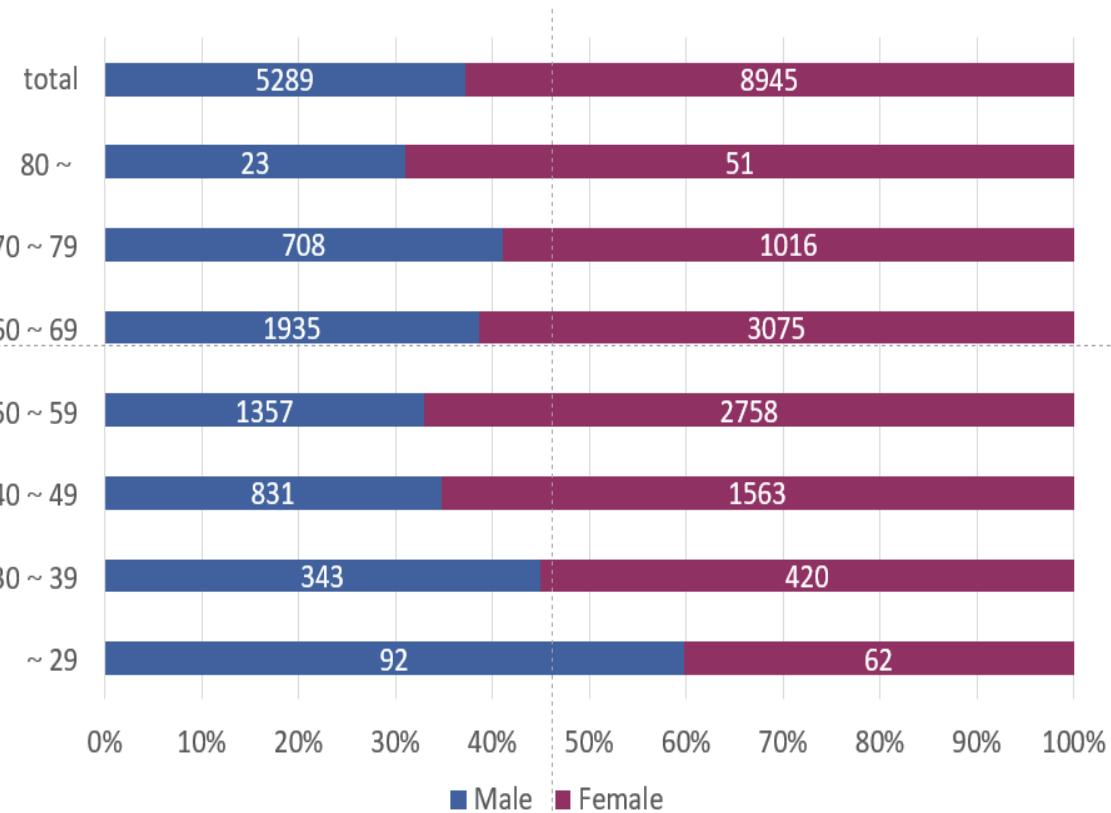
Men cannot donate kidney because of comorbid medical conditions

Prevalence of chronic non-communicable disease, KNHANES, 2019

그림 3-1. 만성질환 유병률 추이



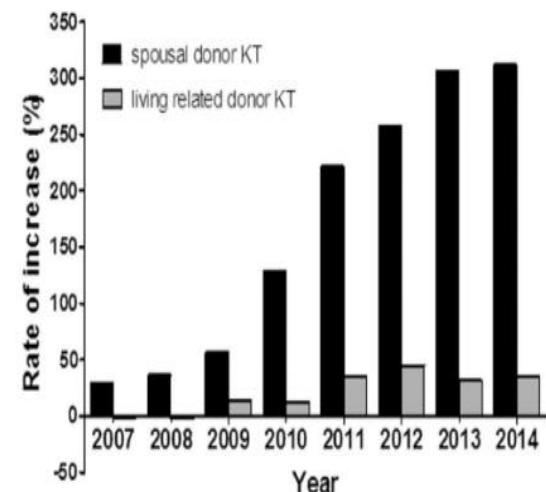
Gender % by Donor Age



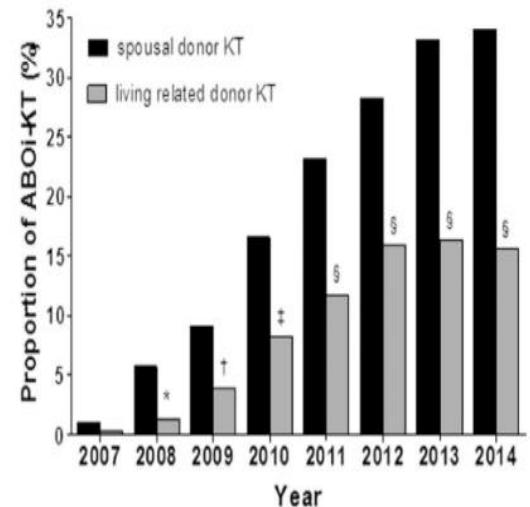
Yuki Nakagawa (Japan)

Impact ABOi-KT on Spousal Donor KT

■ The rate of increase in living KT



■ The proportion of ABOi-KT



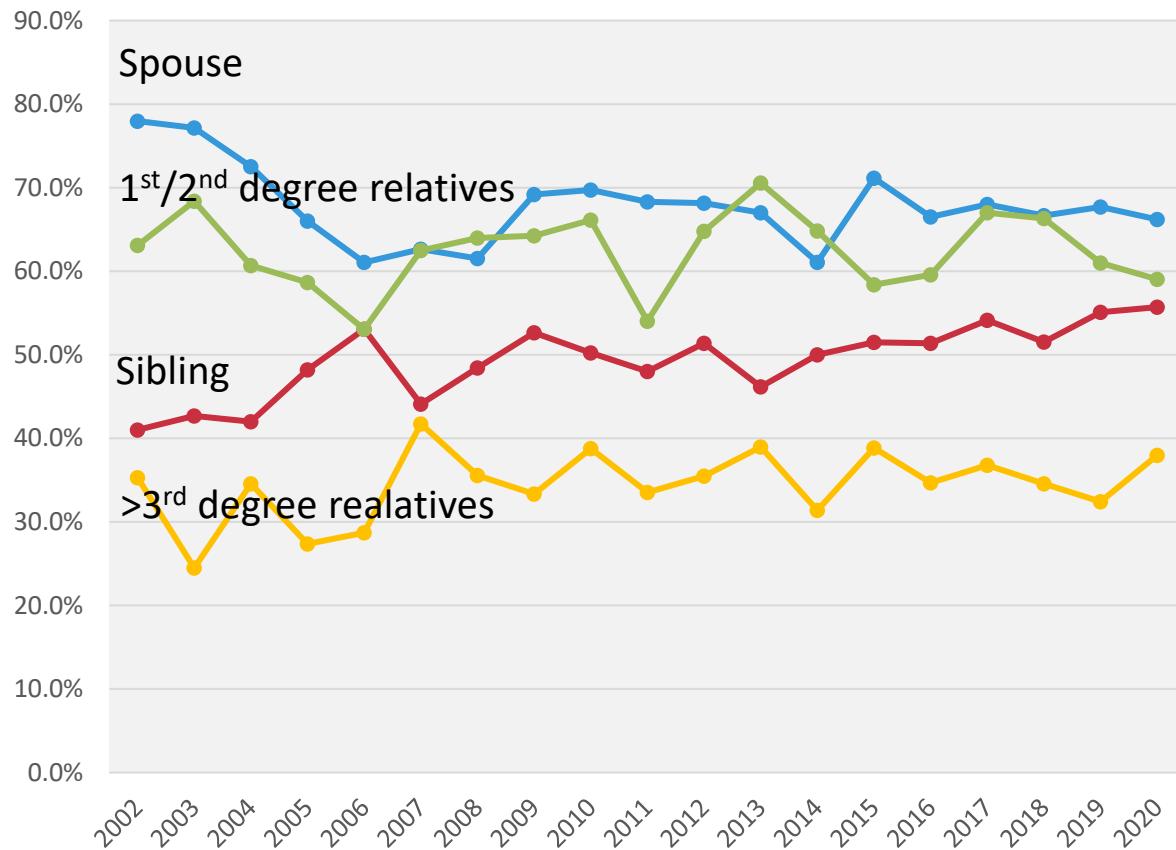
Yu et al, PLoS ONE 2017;1:

Yunmi Kim (Korea)



GENDER DISPARITY IN LIVING SPOUSAL DONORS IN KOREA

% Female Spousal Donors in LDKT



Courtesy: Prof. Miyeon Han

SUMMARY

LD
% female

LD
Trends

LD
Spouse Donor

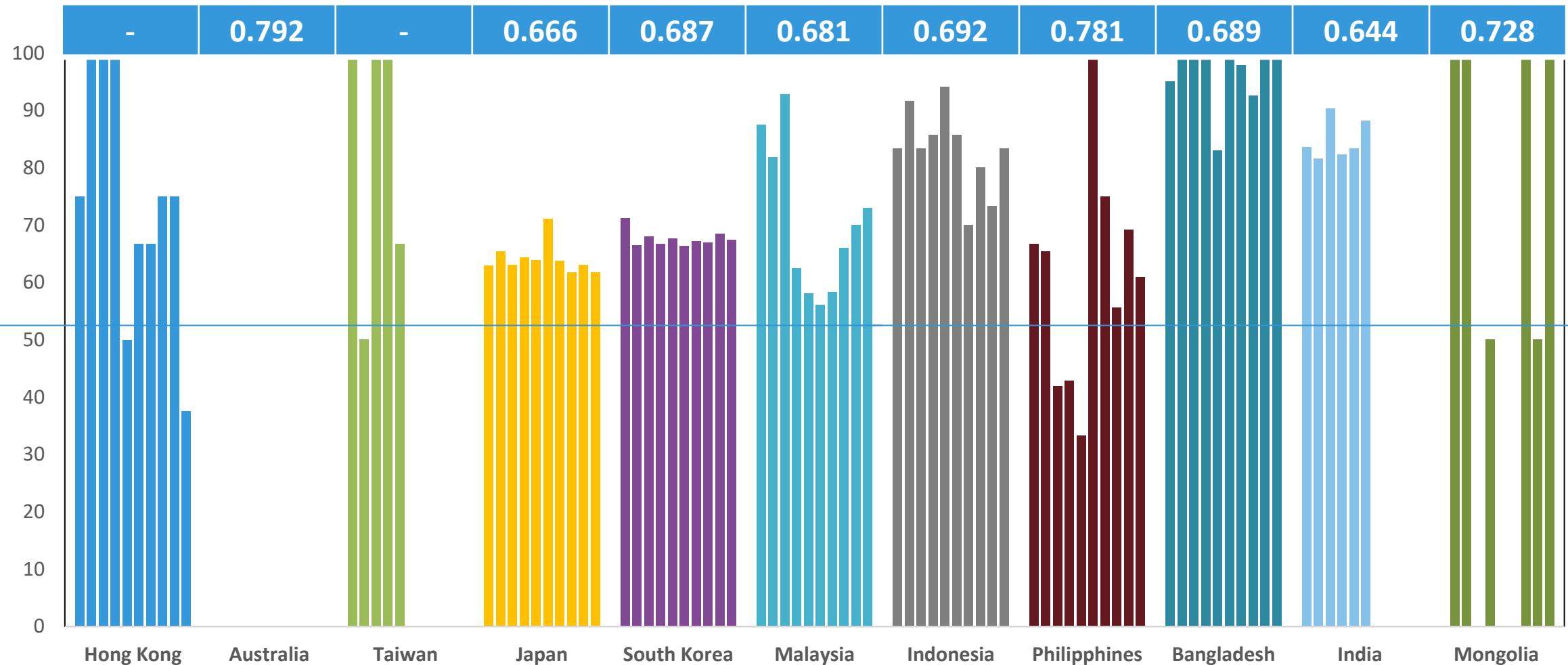
LDKT
♀ Recipients

LDKT
Trends

DDKT
♀ Recipients



% Female KT Spouse Donor

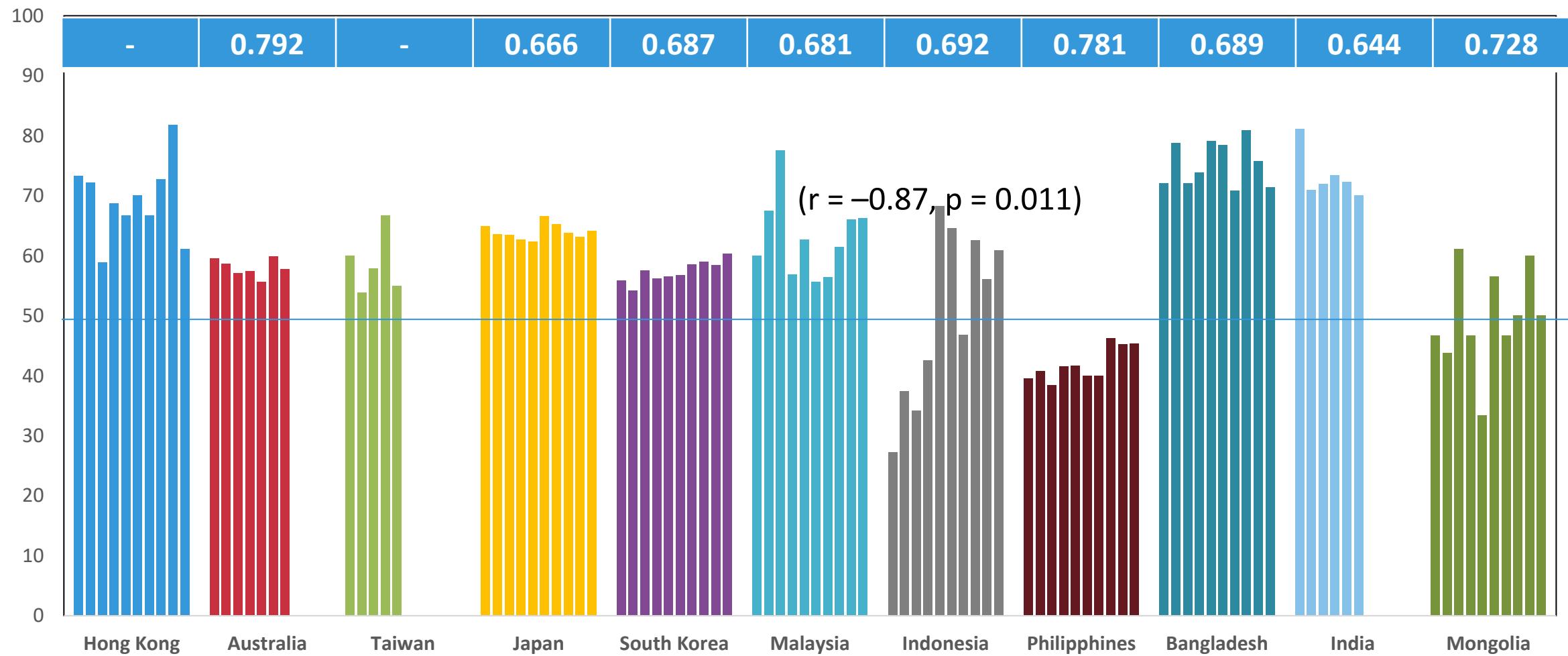


LD donor

Spouse

LDKT recipients

Proportion of female living donors in LDKT, by year (2015-2024)

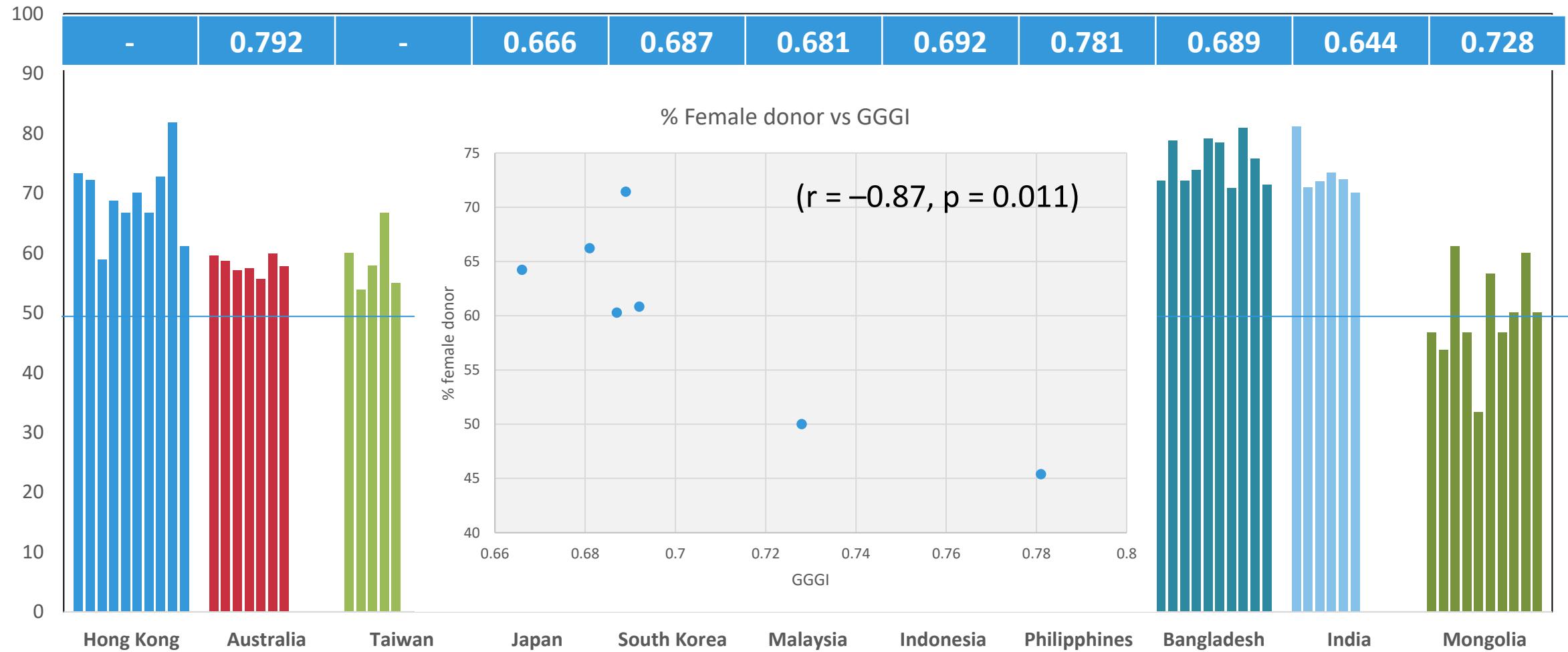


LD donor

Spouse

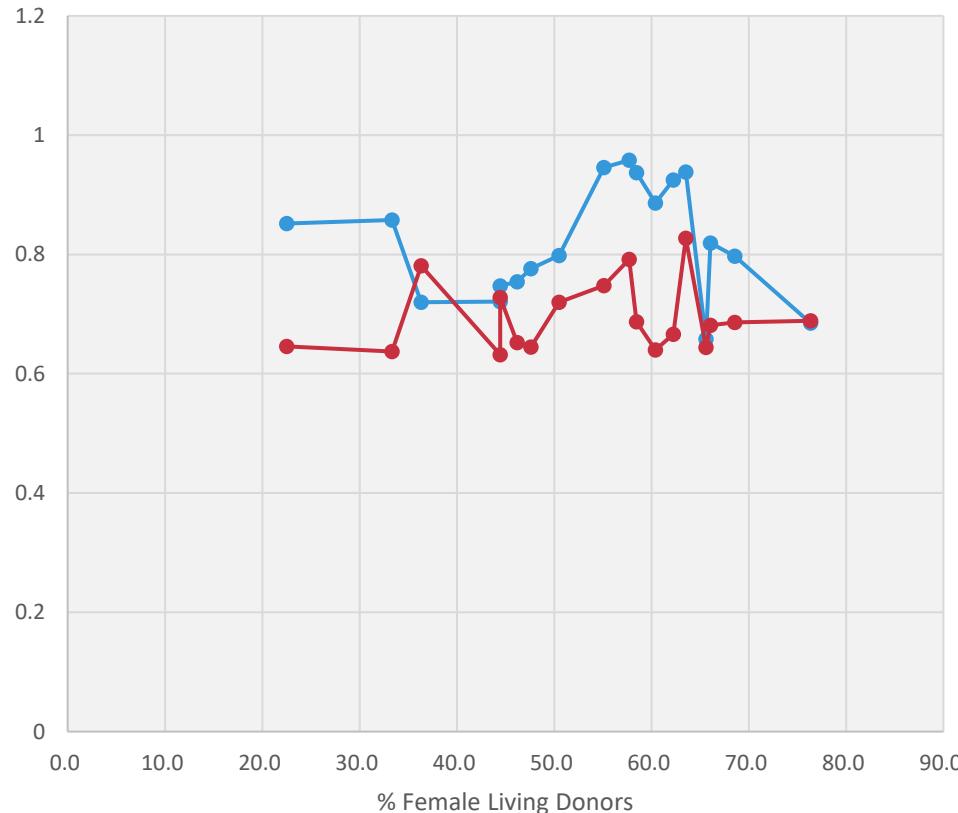
LDKT recipients

Proportion of female living donors in LDKT, by year (2015-2024)

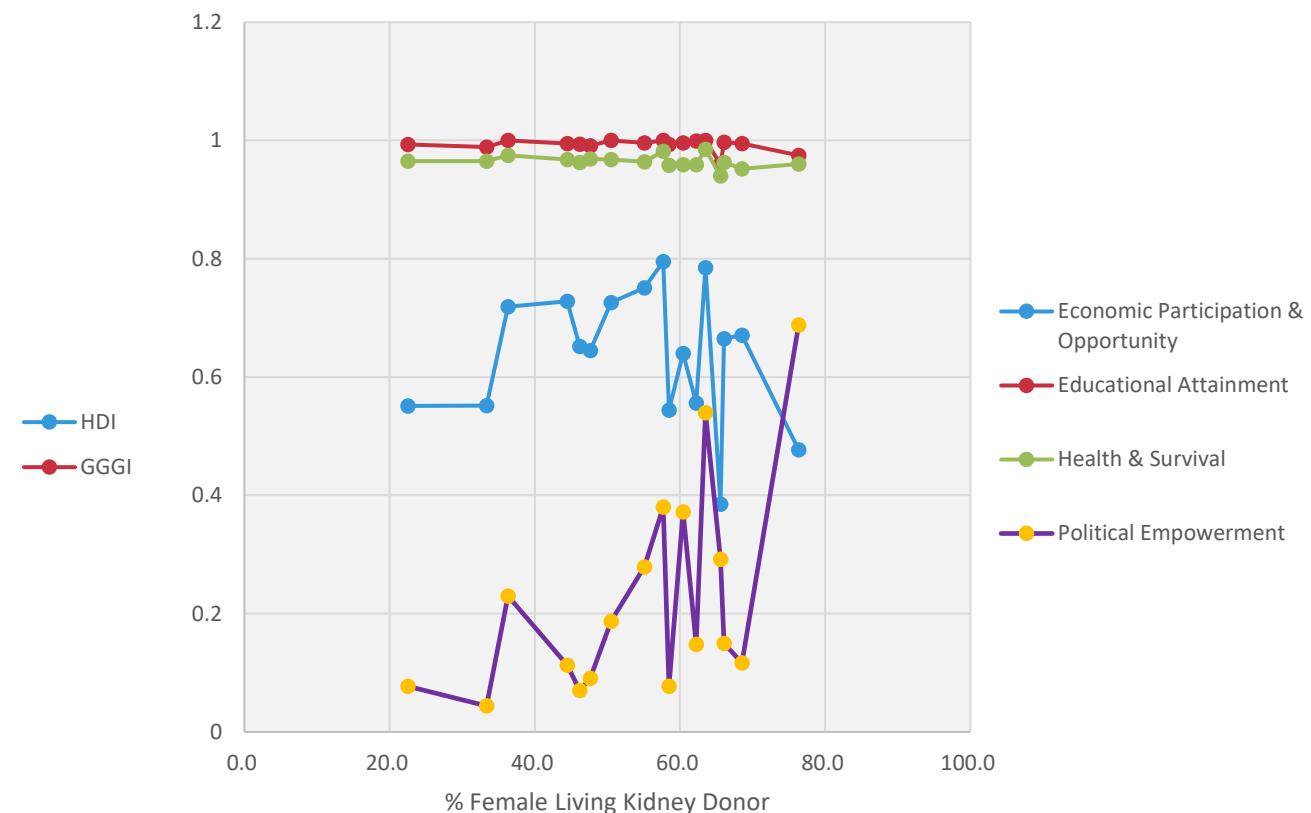


% Female Living Donor (KT) vs HDI & GGGI

HDI/GGGI



GGGI Subindexes



Factors Related to Gender Inequity in Kidney Transplantation

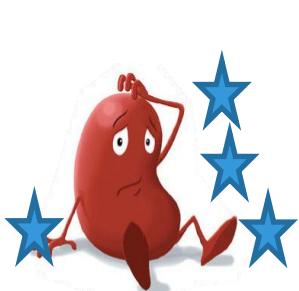
LD

Recipient

Biological Factors



Less
Comorbidity



Hypersensitization



Female
Obesity



Higher incidence of
ESRD(?) & dialysis in
male

Social Factors



Attitudinal
Factors



Patriarchism



Economical
Factors



Coercion



Lack of
motivation



Lower social status

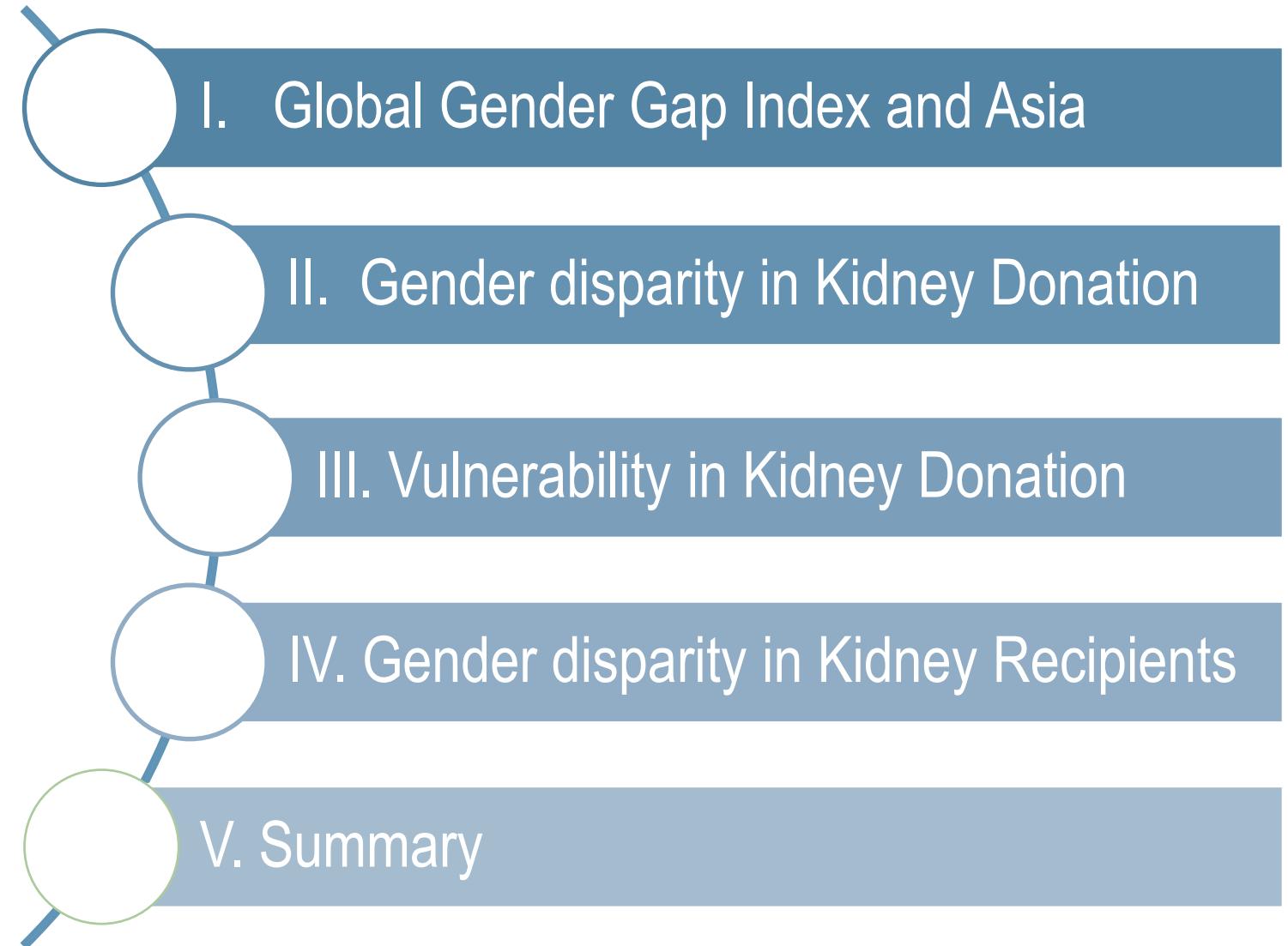


Preponderance
of man over
women

Possible Solutions

- Promote gender-equal culture through educations and workshops lead by a gender-specific supportive groups.
- Introduction of independent decision program such as "donor advocation coordinators.
- Decrease financial burden in organ transplantation including to remove financial disincentives as barriers to living donation by men.
- Provision of National legislation for reducing work-care imbalance and the gender pay gap.
- Empower women in the familial, academical, social and national decision process.

III. Vulnerability in Kidney Donation

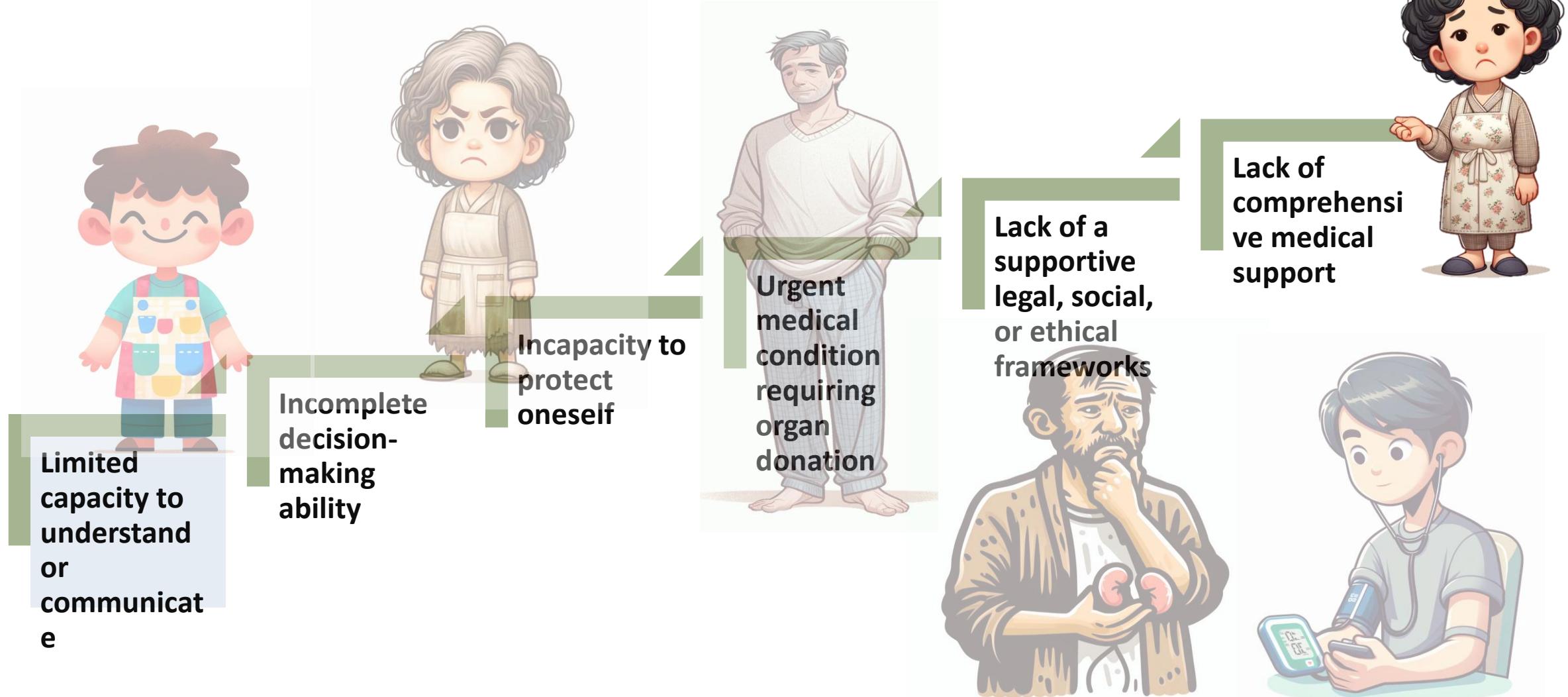


Vulnerable Person



- **Definition:** Refers to individuals at increased risk of harm
- **Reasons for Vulnerability:**
 - ✓ Limited capacity to understand or communicate consent
 - ✓ Inability to protect oneself
 - ✓ Lack of medical, social, ethical, or legal frameworks that define and address vulnerabilities

Profile of Vulnerable Living Donors



Vulnerability Analysis in Living Organ Donors

Special Section: Open Forum

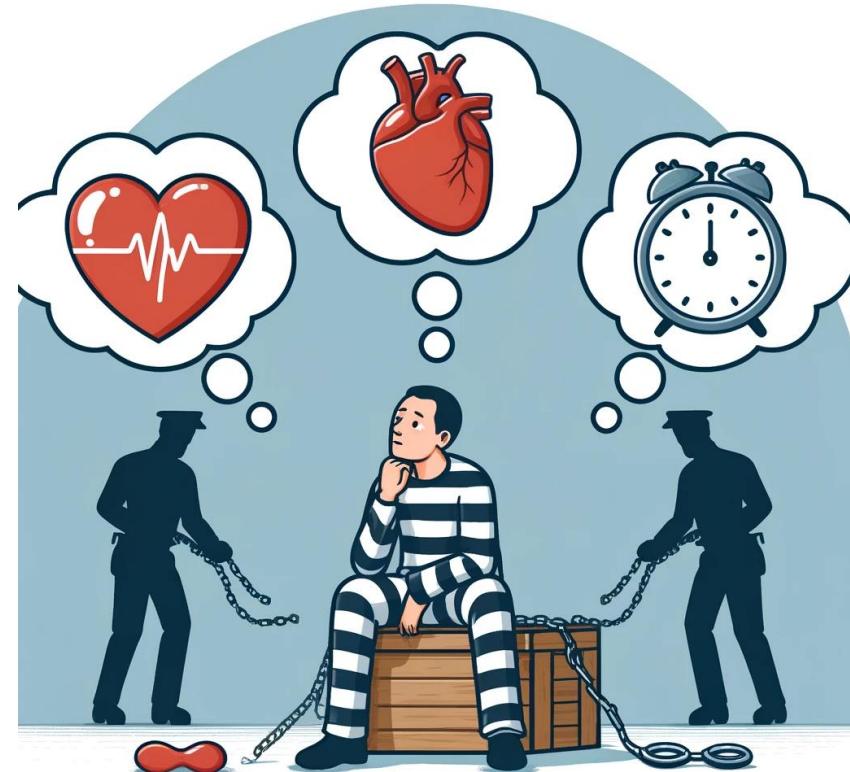
Prisoners as Living Donors

A Vulnerabilities Analysis

LAINIE FRIEDMAN ROSS and J. RICHARD THISTLETHWAITE

Vulnerabilities of Prisoners as Potential Organ Donors

- Challenges in ensuring voluntary and informed consent
- Potential coercion and exploitation due to their status
- Protective Measures : Enforce safeguards similar to those in human subject research



Ross LF, Thistlethwaite JR Camb Q Health Ethics, 2018: 27:93-108
adopted from Kipnis's Research Candidate-Subject (C-S) Vulnerabilities

Vulnerability Analysis in Living Donors

Table 1 Eight vulnerabilities of potential living donors*

Trait	Research	Living donor transplantation
Cognitive (aka incapacitational)	Does the candidate-subject (C-S) have the capacity to deliberate about and decide whether or not to participate in the study?	Does the potential living donor have the capacity to deliberate about and decide whether or not to participate as a living donor?
Juridic	Is the C-S liable to the authority of others who may have an independent interest in that participation?	Is the potential living donor liable to the authority of others who may have an independent interest in that donation?
Deferential	Is the C-S given to patterns of deferential behaviour that may mask an underlying unwillingness to participate?	Is the potential living donor given to patterns of deferential behaviour that may mask an underlying unwillingness to participate?
Social	Does the C-S belong to a group whose rights and interests have been socially disvalued?	Does the potential living donor belong to a group whose rights and interests have been socially disvalued?
Medical	Has the C-S been selected, in part, because of the presence of a serious health-related condition for which there are no satisfactory remedies?	Has the potential living donor been selected, in part, because of the presence of a serious health-related condition in the intended recipient for which there are only less satisfactory alternative remedies?
Situational	Is the C-S in a situation in which medical exigency prevents the education and deliberation needed to decide whether to participate in the study?	Is the potential living donor in a situation in which medical exigency of the intended recipient prevents the education and deliberation needed by the potential living donor to decide whether to participate as a living donor?
Allocational	Is the C-S or proxy lacking in subjectively important social goods that will be provided as a consequence of participation in research?	Is the potential living donor lacking in subjectively important social goods that will be provided as a consequence of participation as a donor?
Infrastructural	Does the political, organisational, economic, and social context of the research setting possess the integrity and resources needed to manage the study?	Does the political, organisational, economic, and social context of the donor care setting possess the integrity and resources needed to manage living donation process and follow-up?

*This table was first published in Ross LF (reference 20, page 97).

Ross LF, Thistlethwaite JR Camb Q Health Ethics, 2018: 27:93-108
adopted from Kipnis's Research Candidate-Subject (C-S) Vulnerabilities



CAUSES FOR THE PAY GAP IN THE 50s & 60s



*and then a slew of cultural norms
about gender roles and aptitudes.*



Eight Elements of Vulnerabilities of Potential Living Donors

Ross LF, 2018	Vitallink, Ahn, 2025
Cognitive	Cognitive
Juridic	Juridic
Deferential	Psychological
Social	Socio-cultural
Medical	Situational
Situational	Allocational
Allocational	Health-Related
Infrastructural	Financial

Eight Elements of Vulnerabilities of Potential Living Donors

1



Cognitive Vulnerability

- Does the potential living donor have the capacity to deliberate about and decide whether or not to participate as a living donor?

2



Juridic Vulnerability

- Is the potential living donor liable to the authority of others who may have an independent interest in that donation?



Vitallink

Eight Elements of Vulnerabilities of Potential Living Donors

3



Psychological Vulnerability

- Is the potential living donor showing deferential or unconditionally compliant behavior because they lack the freedom or courage to say “no”?

4



Sociocultural Vulnerability

- Does the potential living donor belong to a group whose rights and interests have been socially and/or culturally disvalued?

Eight Elements of Vulnerabilities of Potential Living Donors

5



Situational Vulnerability

- Is the potential living donor in a situation where the recipient's medical urgency limits the time for proper education and deliberation before deciding to donate?

6



Financial Vulnerability

- Is a living organ donor experiencing financial difficulties due to lack of access to healthcare, education, social support systems or other factors?

Eight Elements of Vulnerabilities of Potential Living Donors

7



Health- related Vulnerability

- Does the donor care system — including government, institutions, and community — have the trustworthiness and resources to properly and equally manage the donation process and follow-up care?

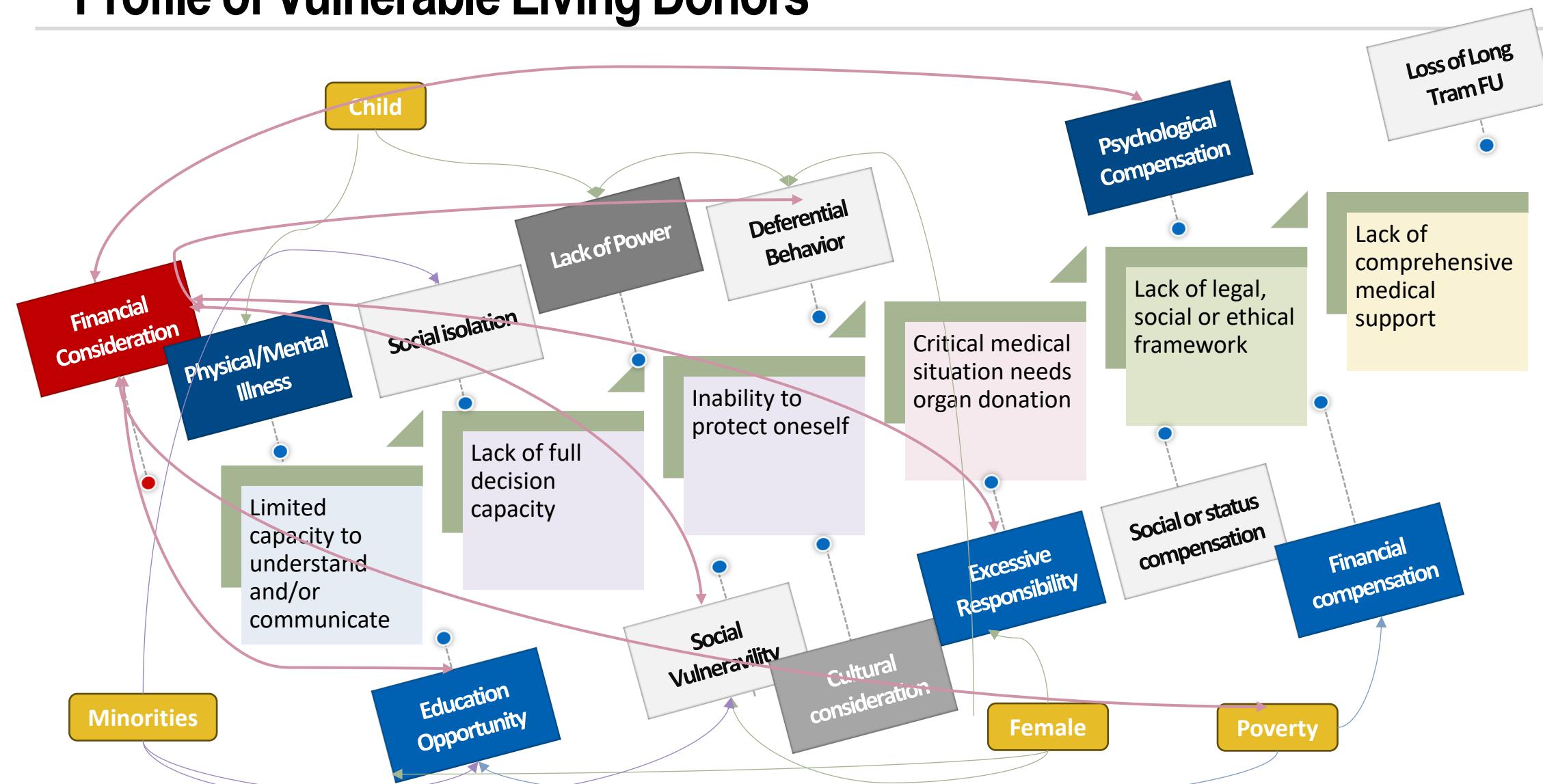
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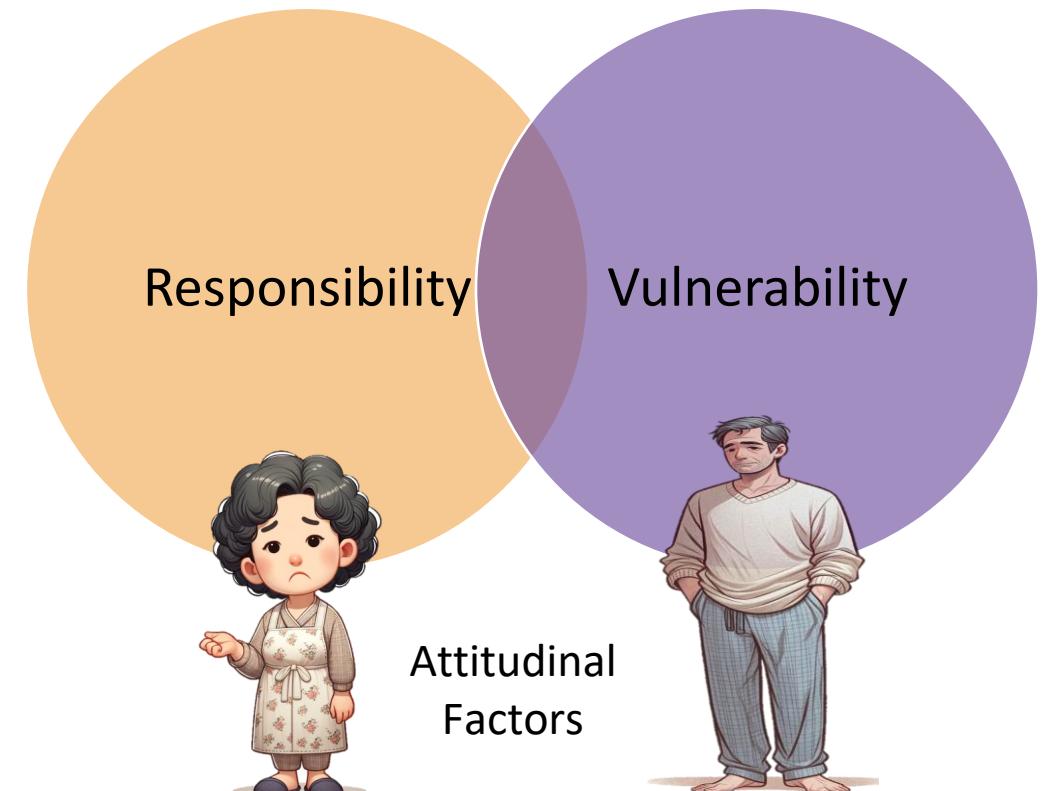
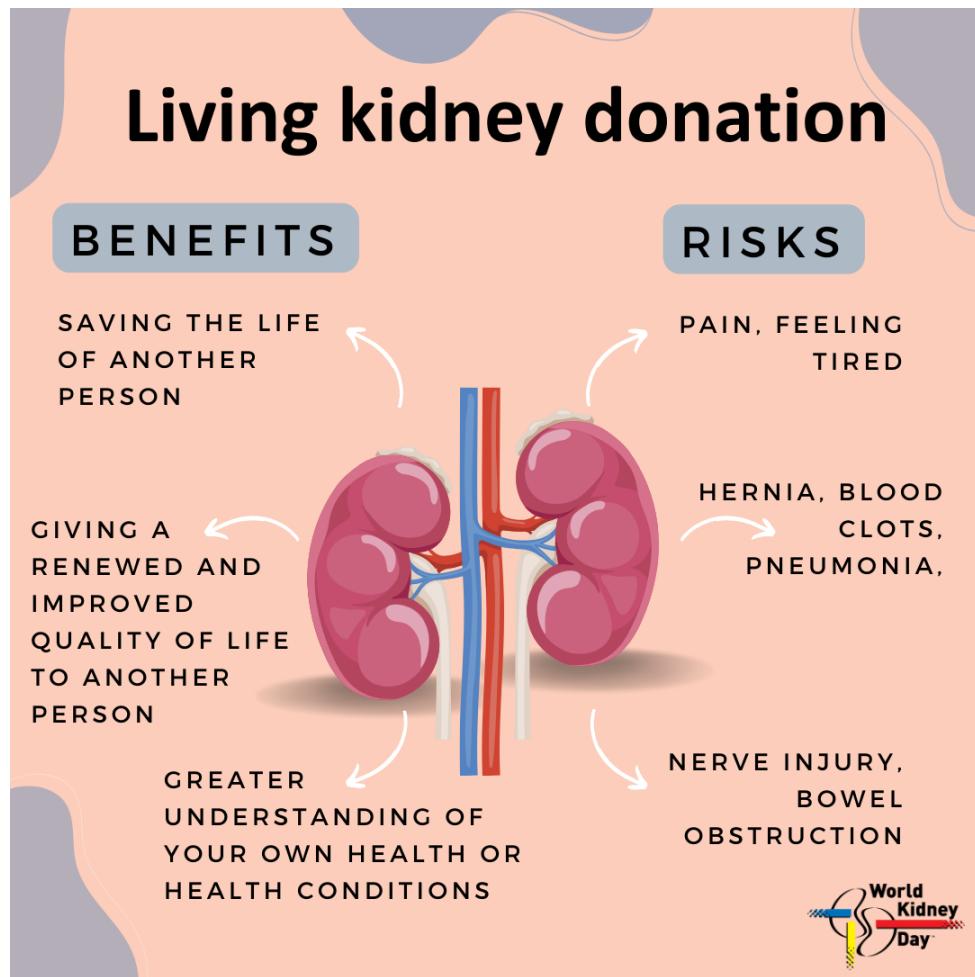
Financial Vulnerability

- Is the potential living donor lacking in subjectively important social goods that will be provided because of participation as a donor?

Profile of Vulnerable Living Donors



Risk-Benefit Diagram for Living Kidney Donation



“Lovers under the moon”



Painted by Shin Yoon-Bok, Early 18th C
KOREA (Chosun, 1758 - 1813)

“Lovers under the moon”



*Painted by Shin Yoon-Bok, Early 18th C
KOREA (Chosun, 1758 - 1813)*



Eight Elements of Vulnerabilities of Potential Living Donors

Vitallink, Ahn, 2025

Cognitive

Juridic

Psychological

Socio-cultural

Situational

Allocational

Health-Related

Financial

**Evidence Based
Approach
For
Gender Inequality**

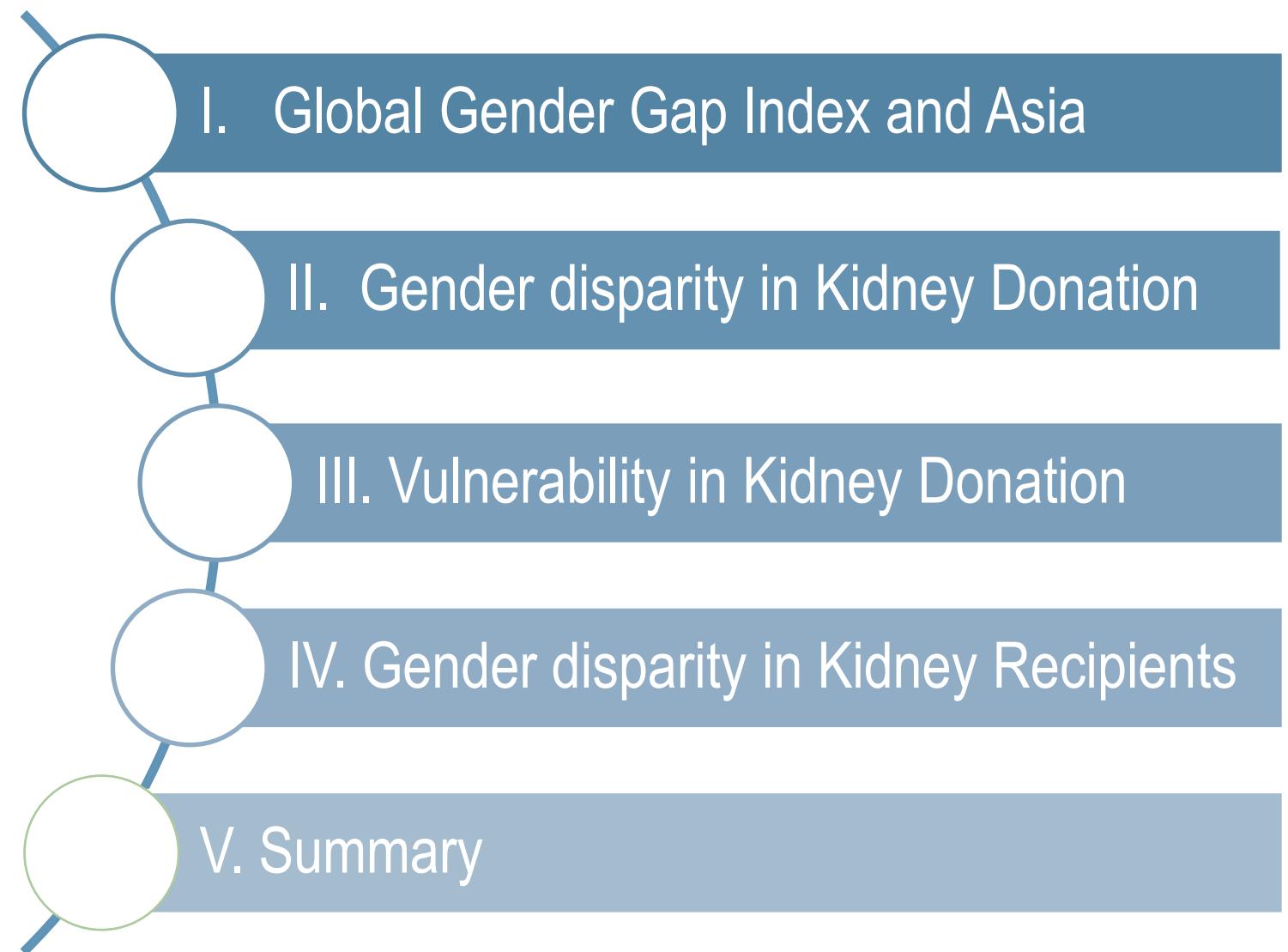
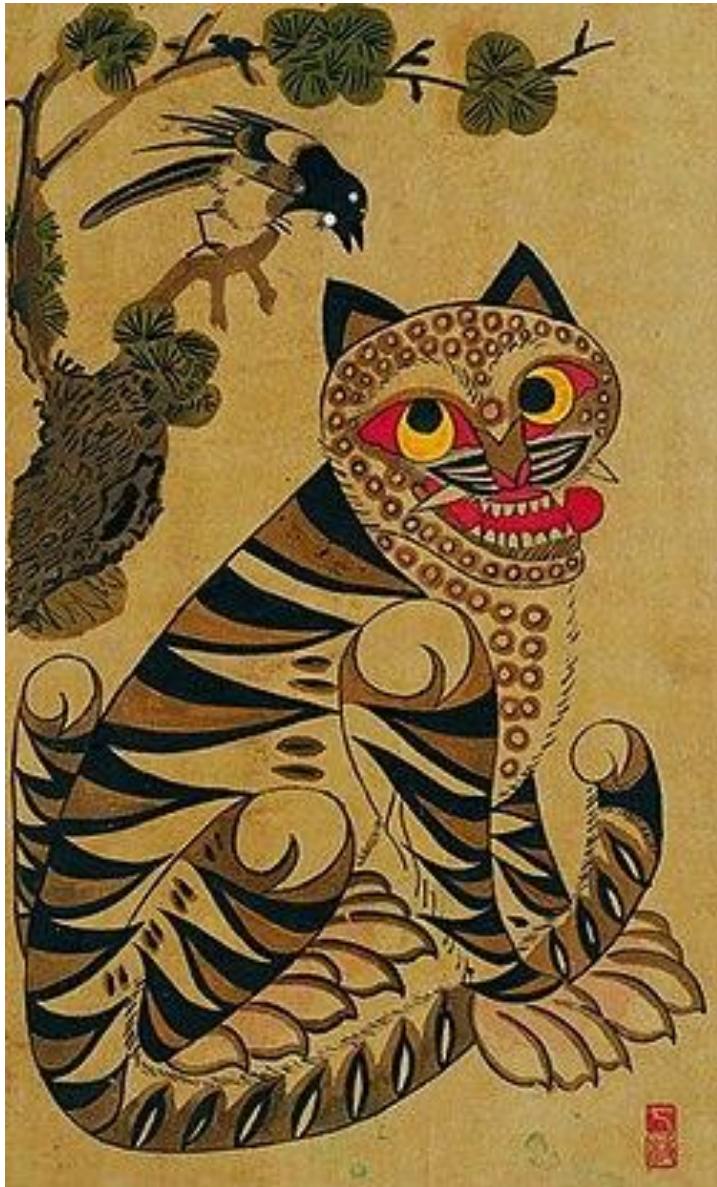


curie@snu.ac.kr: cuiekt@gmail.com

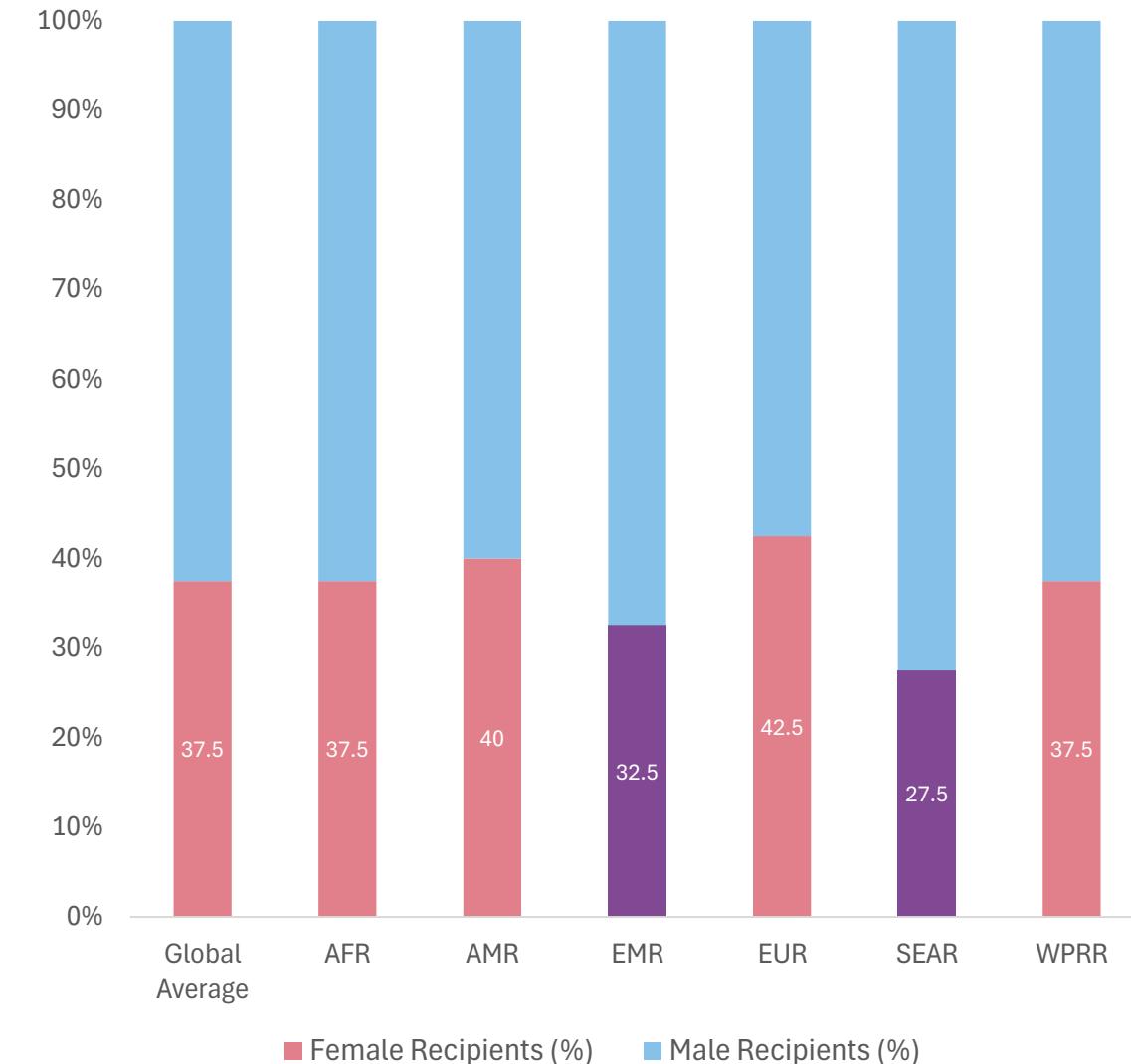
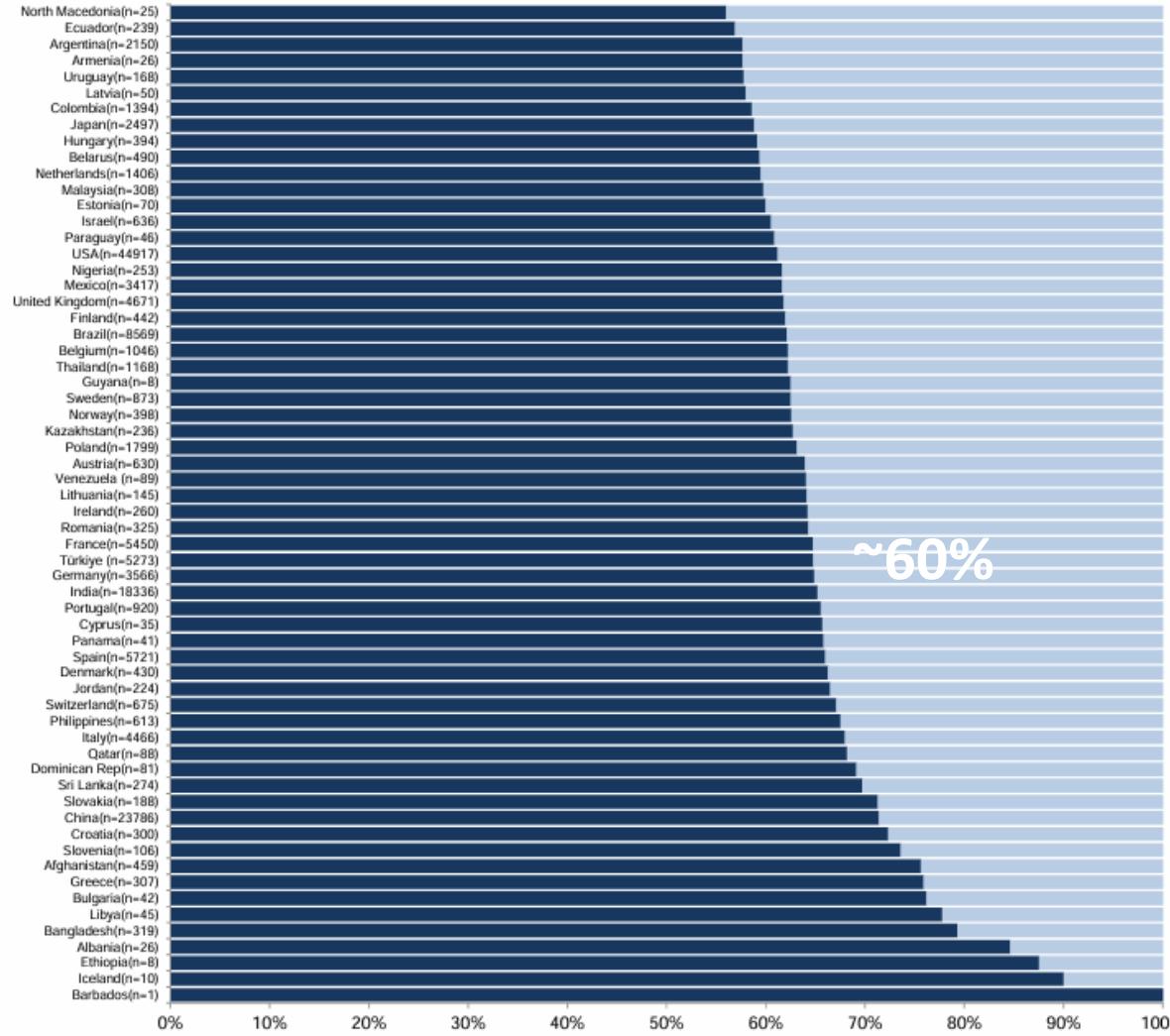


Vitallink

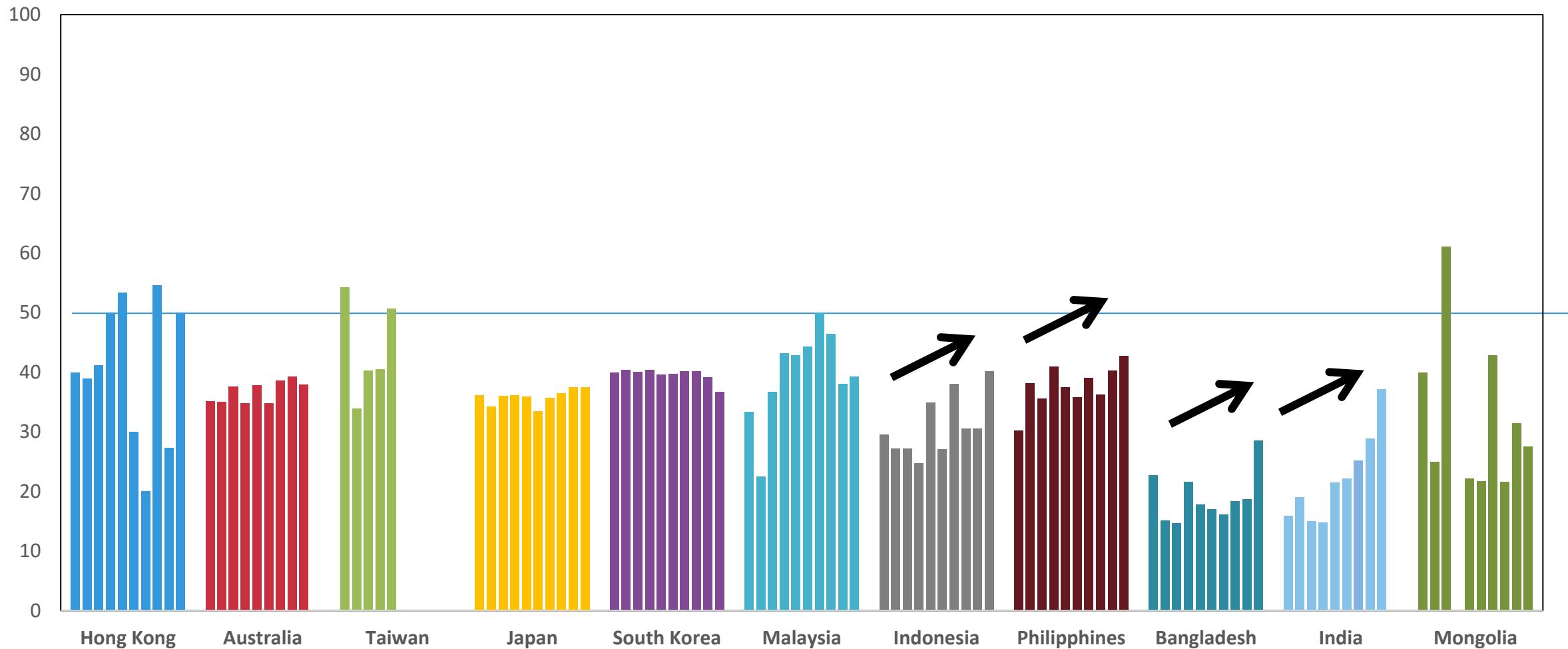
IV. Gender Equality in Kidney Recipients



% Female Kidney Donors and Recipients(GODT2023)



Proportion of female Recipient in LDKT, by year (2015-2024)



SUMMARY II. Less ♀ Recipients than ♂ in Kidney Transplant

Biological Factors	Social Factors
<ul style="list-style-type: none"> LD- and DDKT <ul style="list-style-type: none"> Lower prevalence of female ESRD and dialysis than female Lower prevalence of female on waiting list than male Higher rate of hypersensitization of female due to pregnancy in female Higher prevalence of female >75 years on dialysis Higher incidence of female obesity(AUS): Obese women are less likely to be listed 	<ul style="list-style-type: none"> Poor accessibility to dialysis and waiting list in female <ul style="list-style-type: none"> Lower social status lack of education in women Higher rate of giving up aggressive treatment in women <ul style="list-style-type: none"> Attitudinal and economical reasons (Pediatric) lack of parents' and physicians' motivation to treat girls w ESRD

Sex Differences Throughout the Continuum of CKD Care

Gender differences in access to medical care and data lacking to evaluate extent of differences.

Incidence of specific autoimmune diseases (SLE, RA, SS) more prevalent in women; pregnancy is unique challenge for women with risks of AKI, CKD, and flare of AI diseases

Fewer women than men on dialysis; less AVF in women than men on HD; reasons not well studied.

Women less likely to be kidney transplant recipients (living or deceased donor); women more likely to donate for living KT.



Access to medical care



Chronic kidney disease



Chronic dialysis



Kidney transplantation

Piccoli *et al.* *Kidney Int Rep* (2018) 3, 225–235

Prevalence of Chronic Kidney Disease

U.S. 2001-2016, by gender

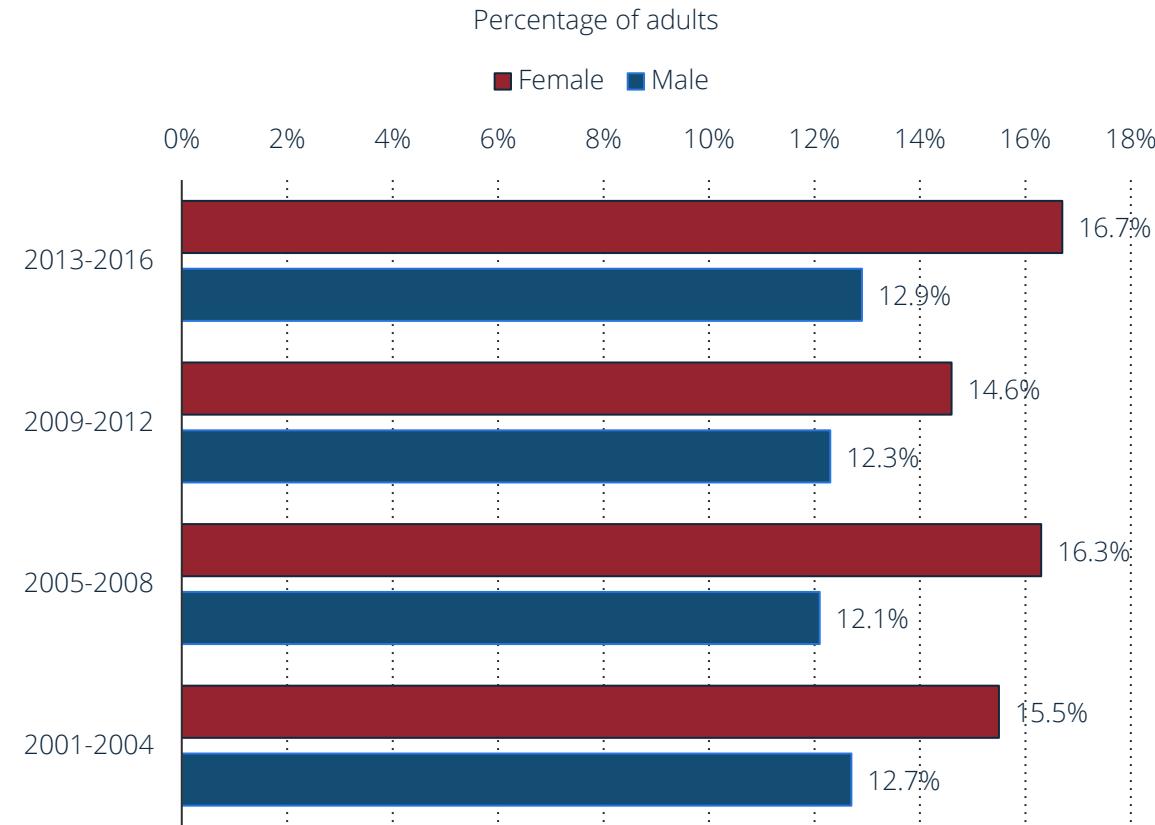
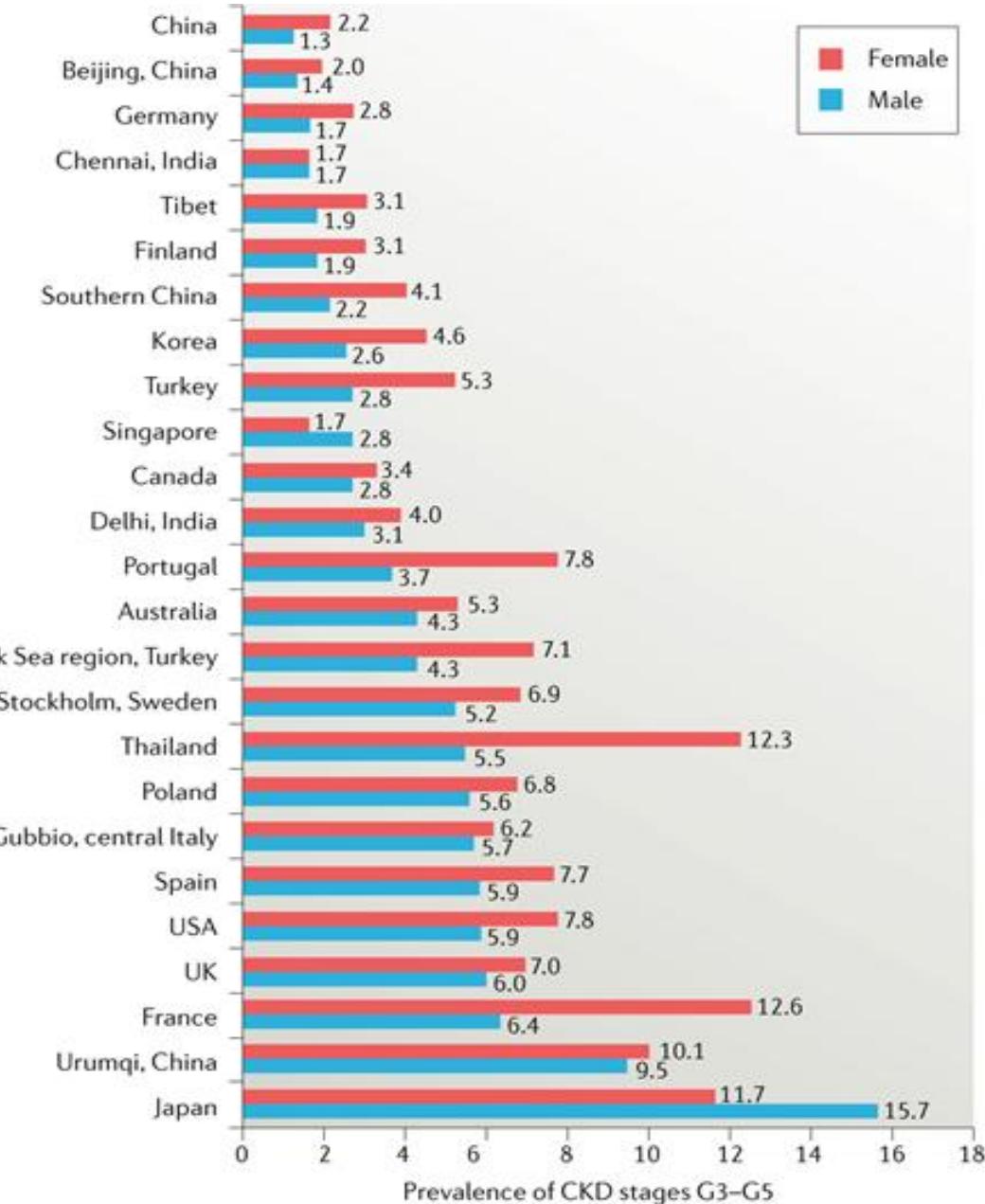
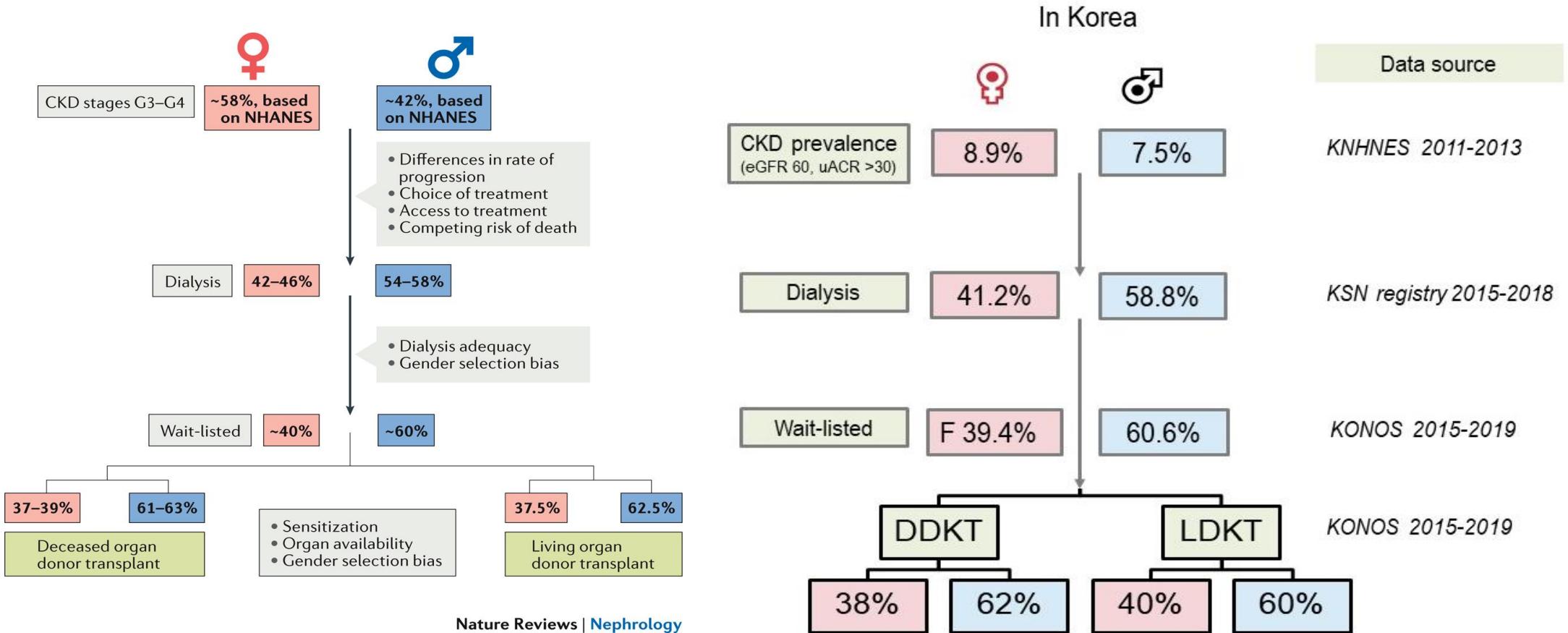


Figure 1 Sex differences in the prevalence of CKD

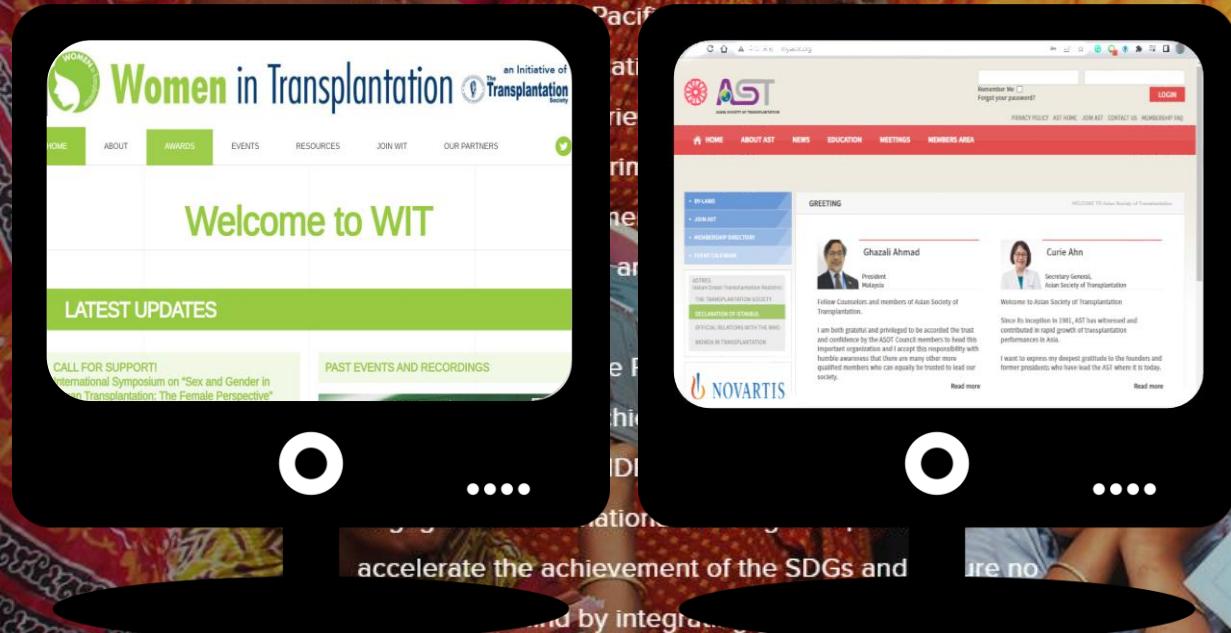


Sex and Gender Disparities in the Epidemiology and Outcomes of CKD



Carrero, J. J. et al. (2018) *Nat. Rev. Nephrol.* doi:10.1038/nrneph.2017.181

Gender equality in Asia and the Pacific



UNDP's Gender Equality Strategy 2018-2021,

Equal Rights Equal Contributions In Organ Transplantation

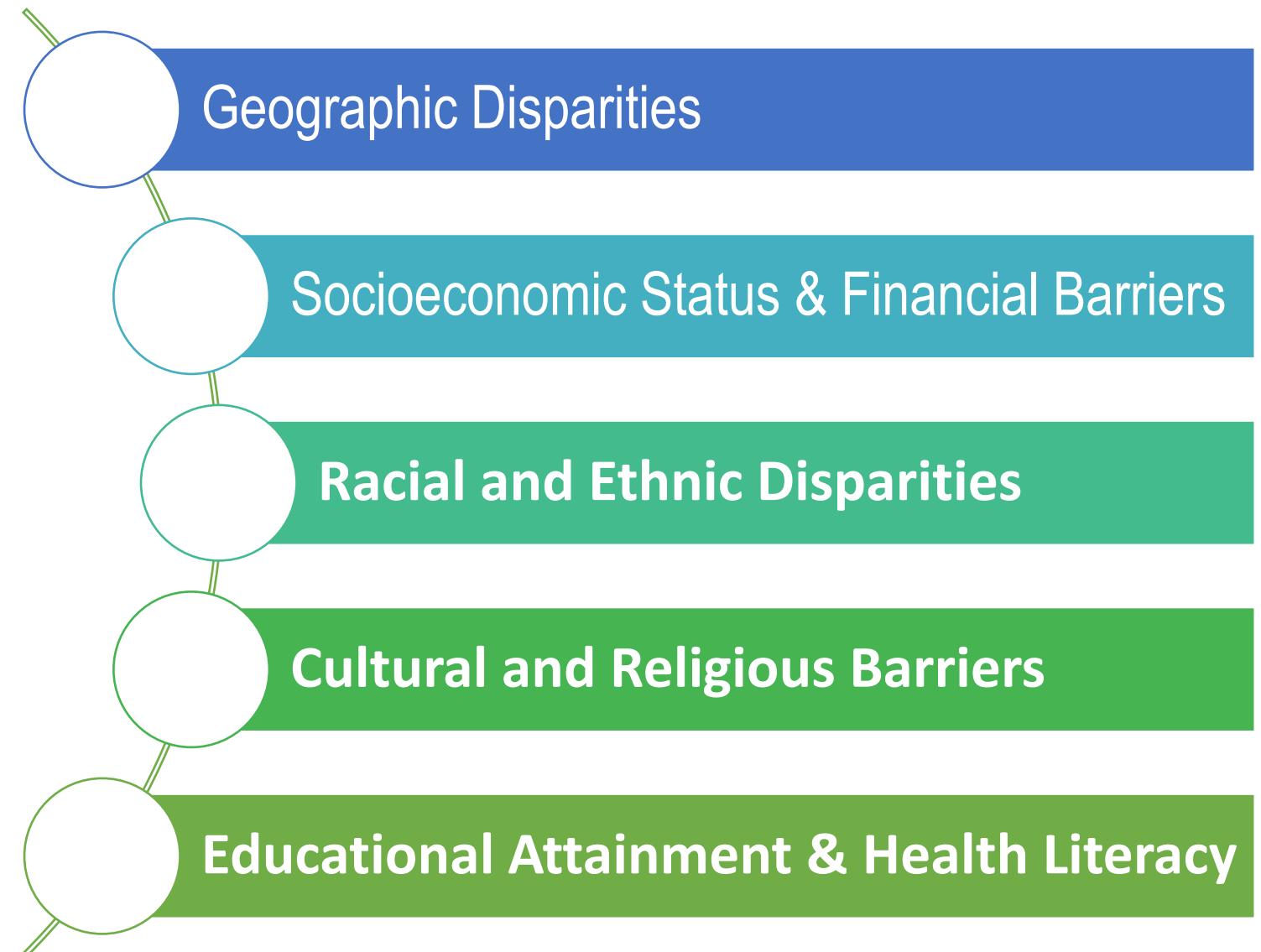
Join Us!

**Evidence Based
Approach
Using
Database**

<https://www.asia-pacific.undp.org/content/rbap/en/home/gender-equality.html>



Summary



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Gene, Immunology, Vast, M^Etabolism at its Finest!



Do You Have
Any Questions?