

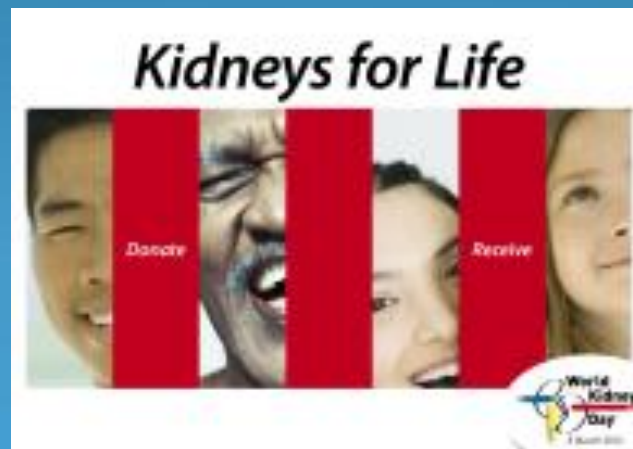
Kidneys for Life- Kidney Transplantation in Malaysia

Dr. Goh Heong Keong
Nephrologist and Physician

www.Passpaces.com/kidney.htm



Donate Kidneys for Life **Receive**



Outline of Lecture

Introduction

History of Kidney Transplantation

Prevalence and Incidence of Chronic kidney disease/dialysis/transplantation

Renal Replacement Therapy

Kidney Transplantation in Malaysia- Then, Now, Future

Statistics of Transplantation in Malaysia

Conclusion



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Introduction

- *Transplantation* an operation moving an organ/tissue from one organism (the donor) to another (the recipient).
- Autograft- transplant of tissue from one site to another in the same patient
- Isograft- transplant between genetically identical twins.
- Allograft-transplant between non-genetically identical individuals with same species
- Xenograft-transplant of tissue between different species.



For end stage organ disease patients, transplantation is the best available treatment. It may be the only available option treatment for certain patients.



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History of Transplantation

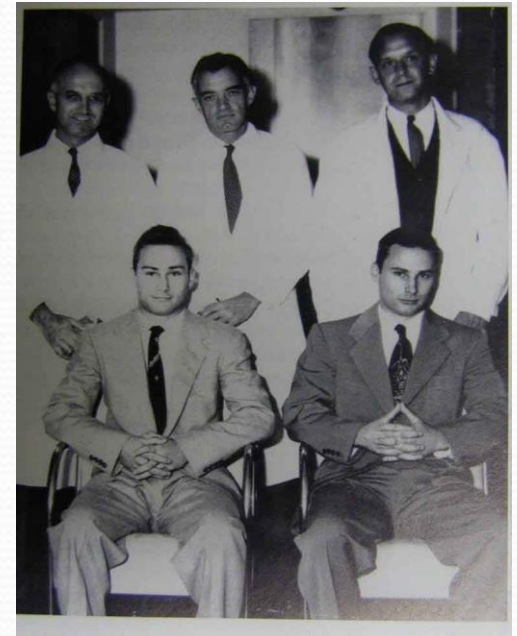
1954 - First Kidney
transplantation.
(Live donor- Twins)

1962 - First deceased
donor kidney
transplantation.
(Brain death)

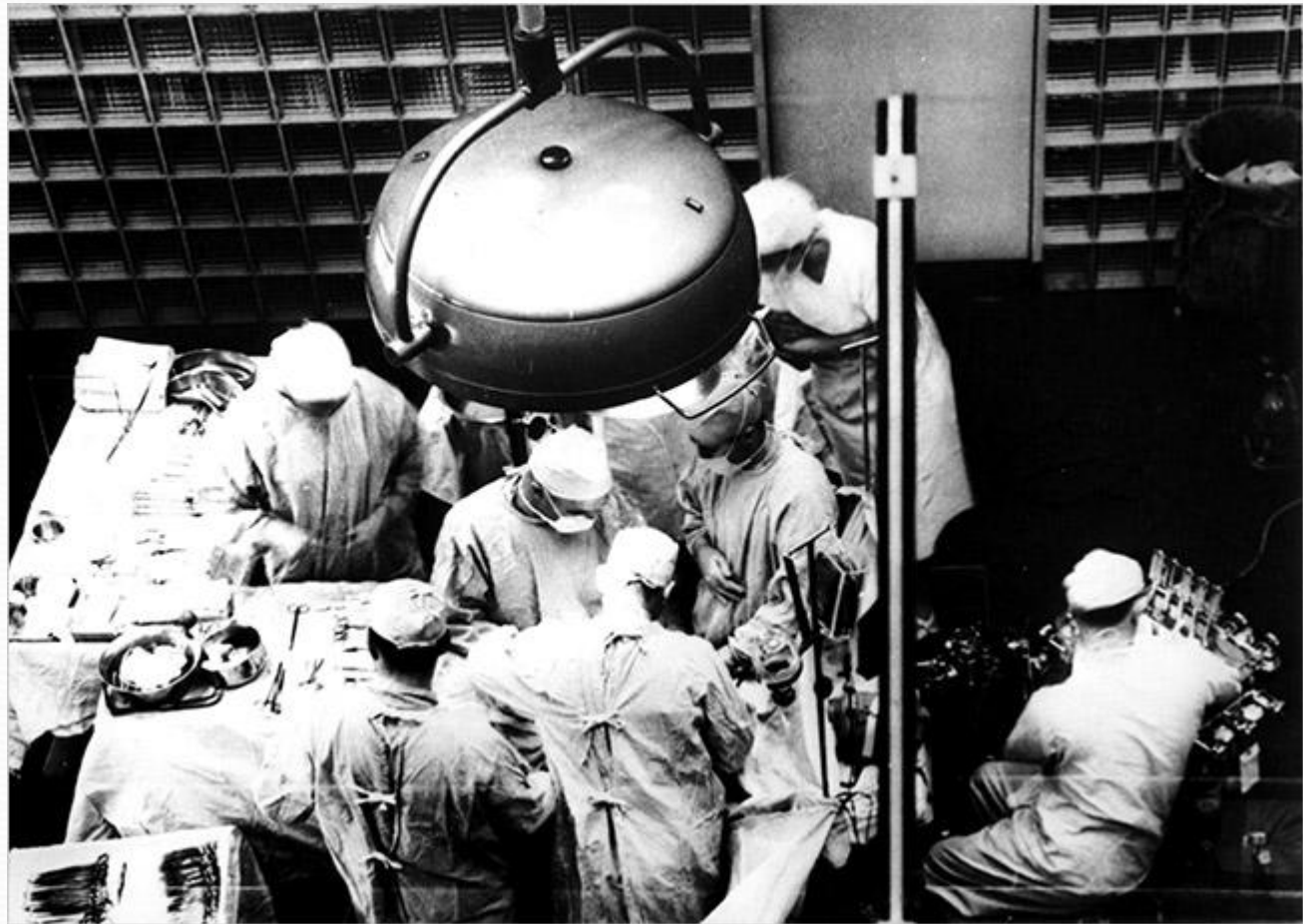
Richard Herrick
Ronald Herrick

MAN'S LIFE SAVED BY TWIN'S KIDNEY

Identical Brother Furnishes
Organ in First Successful
Transplanting Surgery



History of Kidney Transplantation



Outline of Lecture

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**Prevalence and Incidence of Chronic kidney
disease/dialysis/transplantation**

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Chronic Kidney Disease in Malaysia

The prevalence of CKD and end-stage renal disease (ESRD) is increasing worldwide.

The estimated prevalence of CKD in the US was 16.8% while in Asia the prevalence ranged from 12.1% to 17.5%.



Chronic Kidney Disease in Malaysia

In Malaysia, the incidence and prevalence of patients with ESRD on dialysis had increased from 88 and 325 per million population (pmp) respectively in 2001 to 170 and 762 pmp respectively in 2009.

Prevalence of ESRD

(per million population),

2005

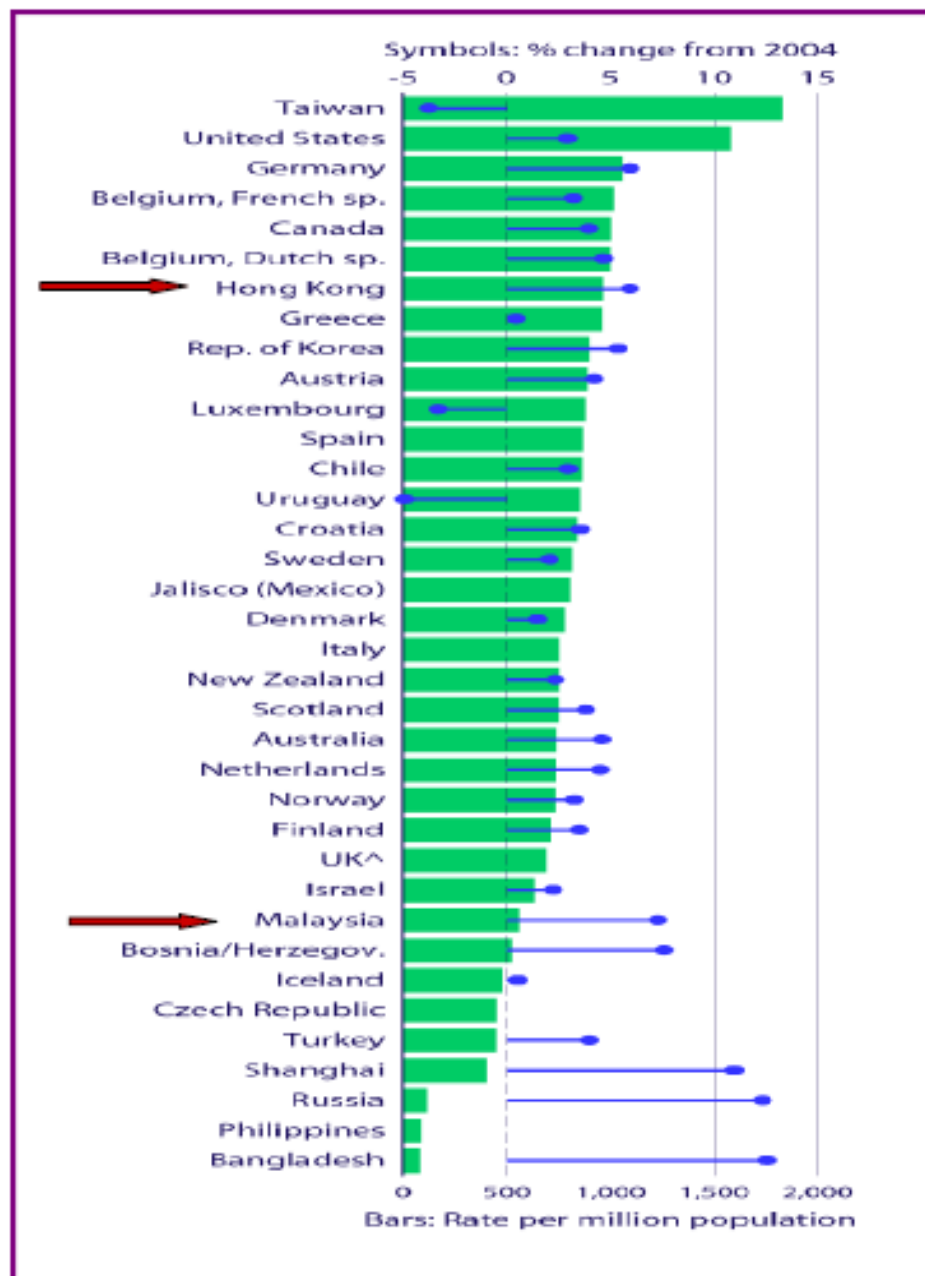
1. Taiwan 1,830
2. USA 1,585
3. Germany 1,057

7. HK 965

28. Malaysia 560

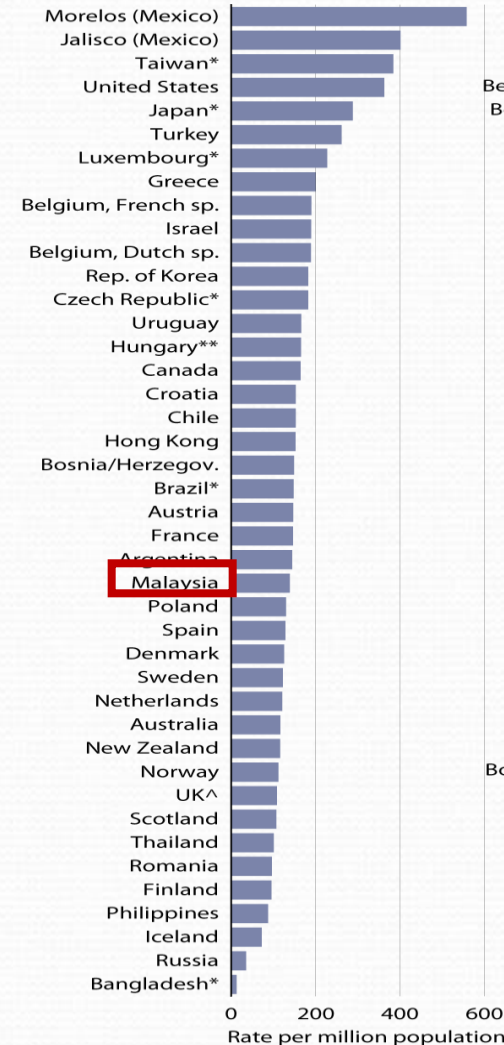
(Japan – no data
- No. 1 in 2003)

USRDS 2007

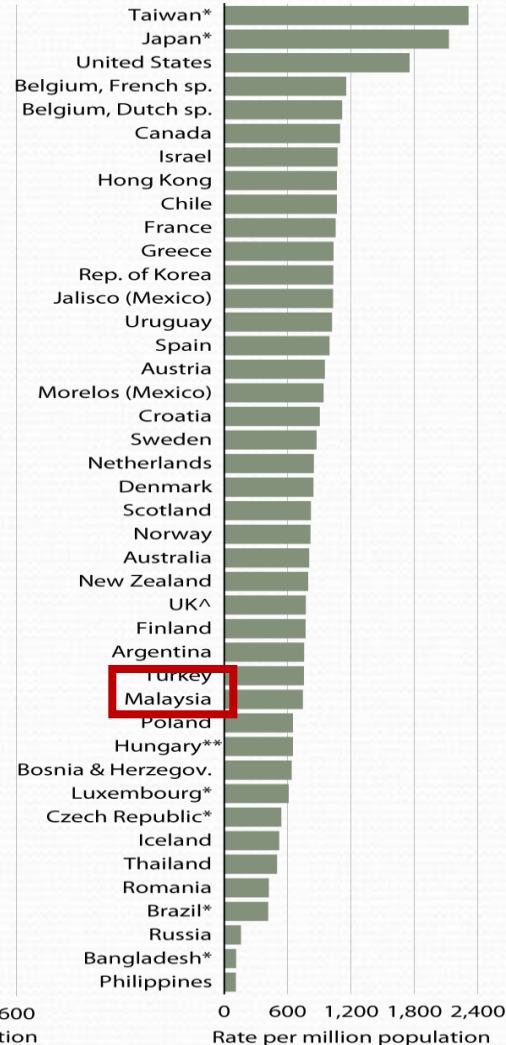


International comparisons on Incidence and prevalence, Transplantation of ESRD, 2008

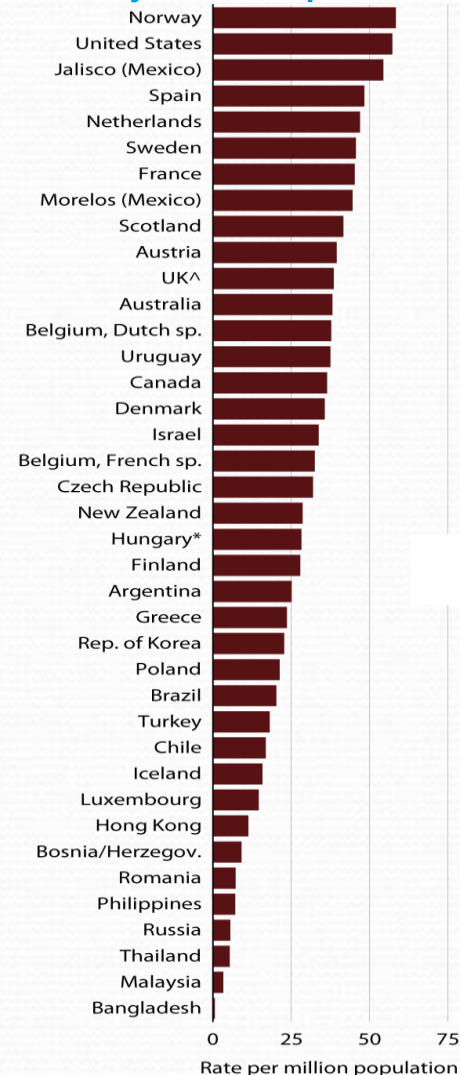
Incidence



Prevalence



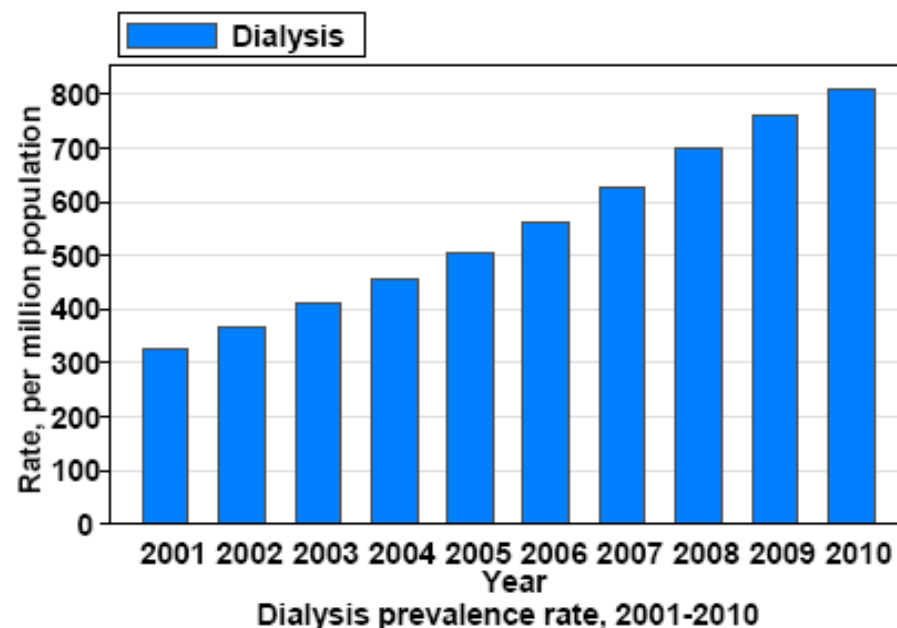
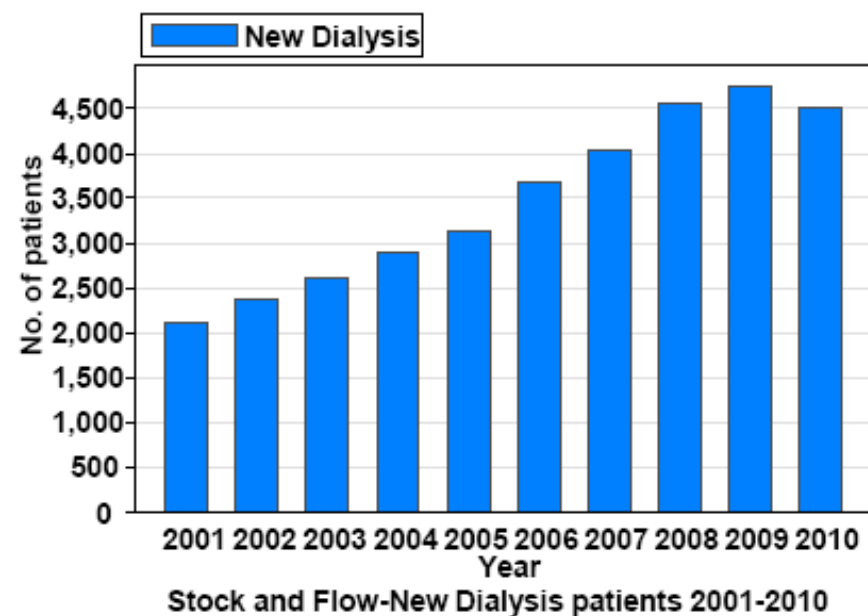
Kidney Transplantation



USRDS, 2010

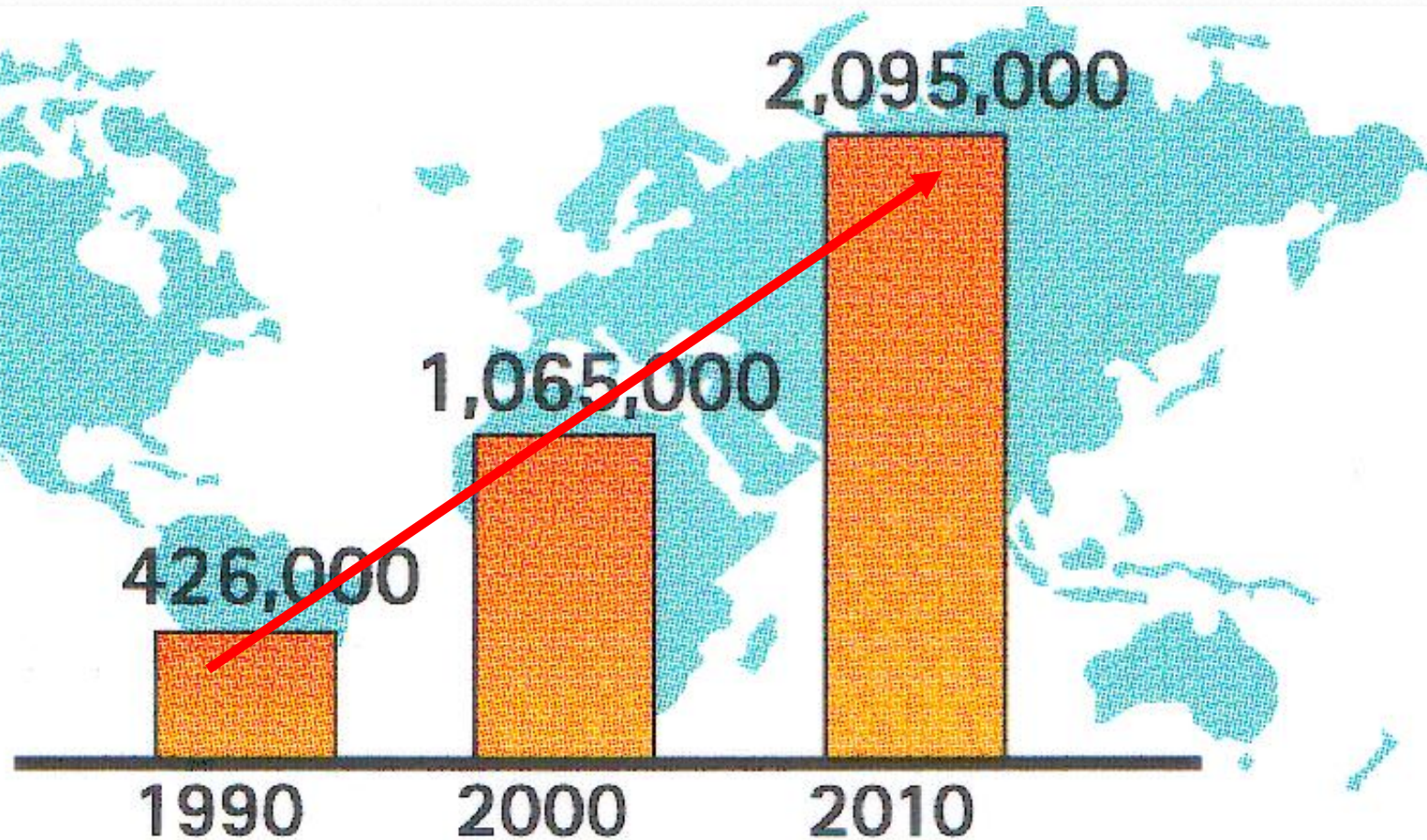
Figure 1.1: Stock and Flow of RRT, Malaysia 2001-2010

New Dialysis



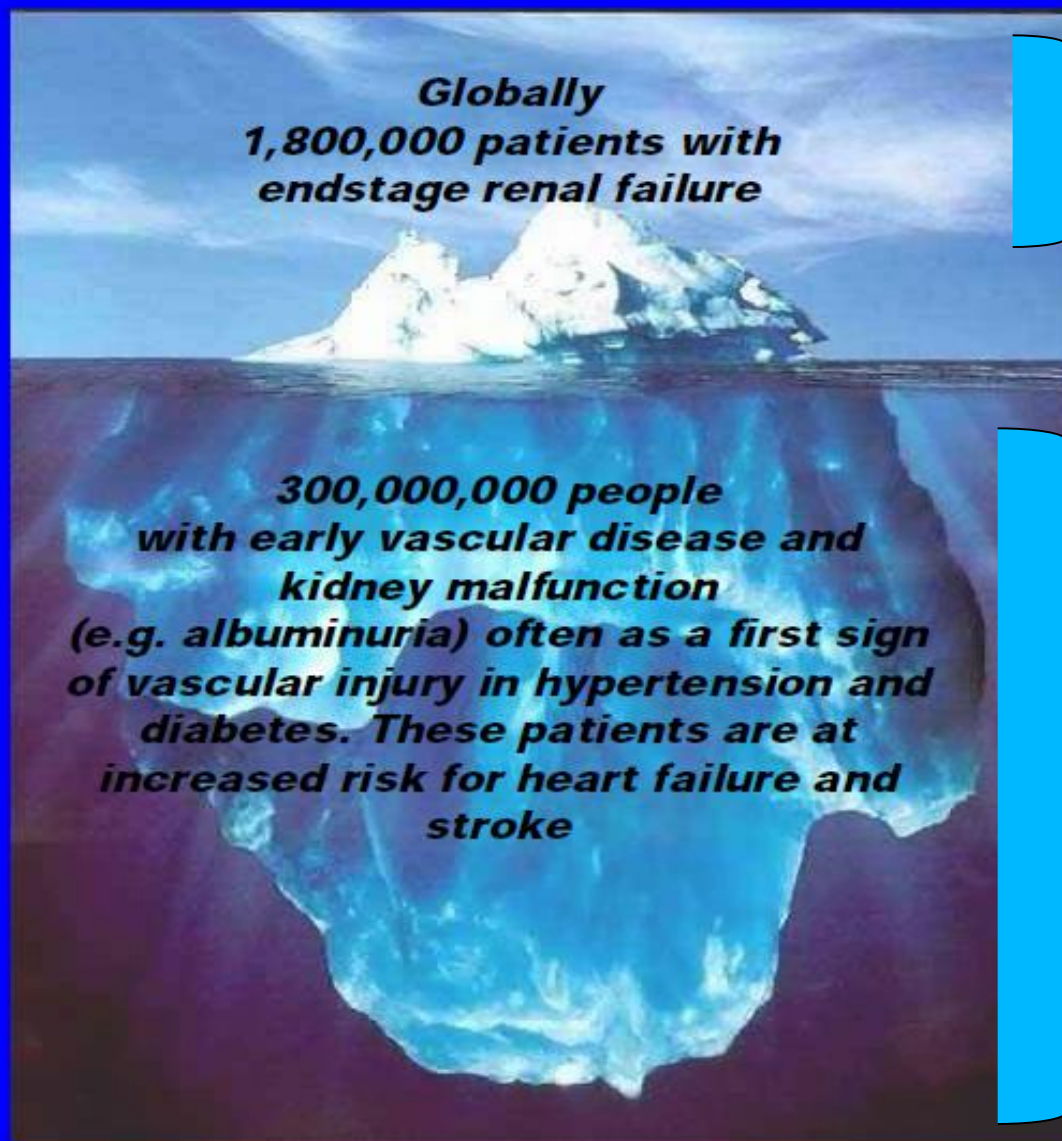
18th MDTR report 2010, Malaysia

Global maintenance dialysis population from 1990 to 2010



Lysaght, *J Am Soc Nephrol*, 2002

尿毒病患是冰山一角，慢性腎臟病者知多少？



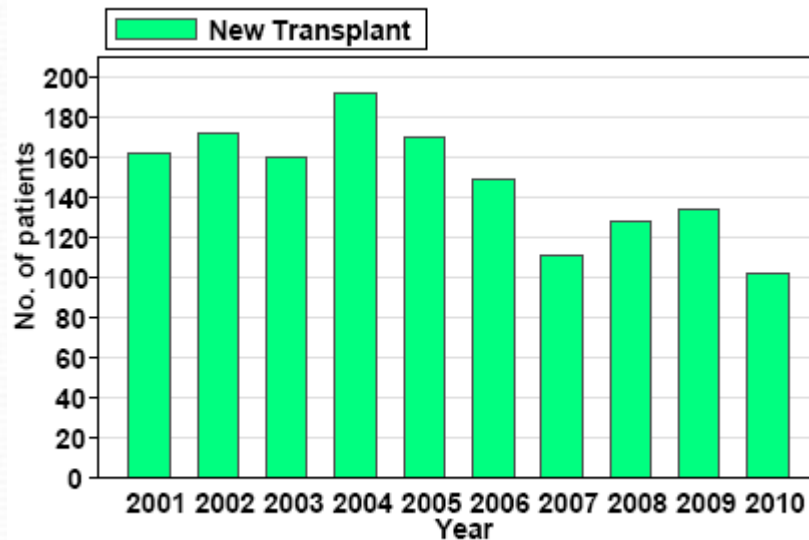
25000

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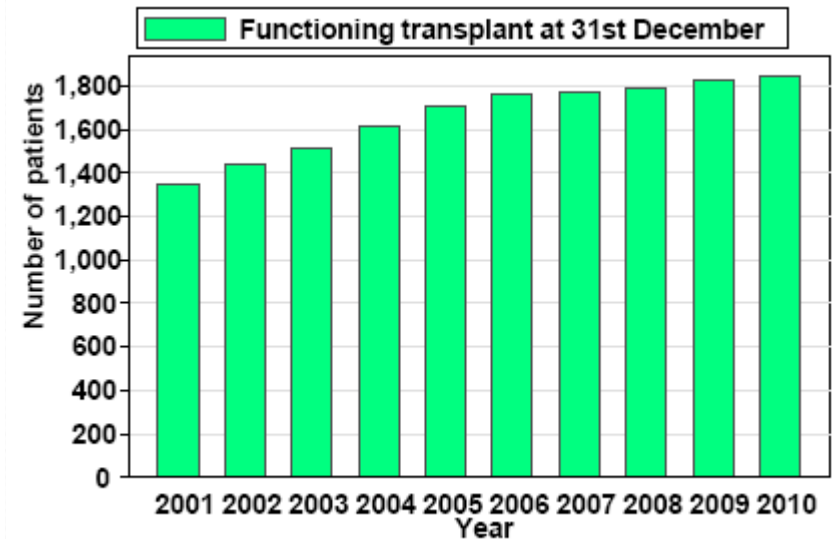
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Figure 1.1: Stock and Flow of RRT, Malaysia 2001-2010

Transplant patients



Stock and Flow-New Transplant patients 2001-2010



18th MDTR report 2010, Malaysia

Table 1.1: Stock and Flow of RRT, Malaysia 2001-2010

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
New Dialysis patients	2112	2373	2620	2891	3134	3669	4047	4548	4740	4522
New Transplants	163	172	160	192	170	149	111	128	135	102
Dialysis deaths	850	959	1211	1318	1513	1815	1984	2190	2578	2574
Transplant deaths	40	38	42	44	47	58	46	60	49	33
Dialyzing at 31st December	7837	9102	10399	11829	13332	15046	17022	19250	21245	22932
Functioning transplant at 31st December	1343	1440	1513	1612	1708	1759	1772	1787	1822	1841

Table 1.2: New Dialysis Acceptance rate and New Transplant Rate per million population 2001-2010

Acceptance rate	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
New Dialysis	88	96	103	112	118	137	149	165	170	160
New Transplant	7	7	6	7	6	6	4	5	5	4

Table 1.3: RRT Prevalence Rate per million population 2001-2010

Prevalence rate	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Dialysis	325	368	411	457	504	561	626	699	762	812
Transplant	56	58	60	62	65	66	65	65	65	65



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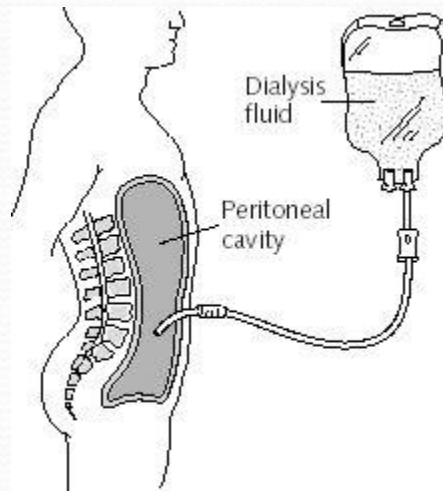
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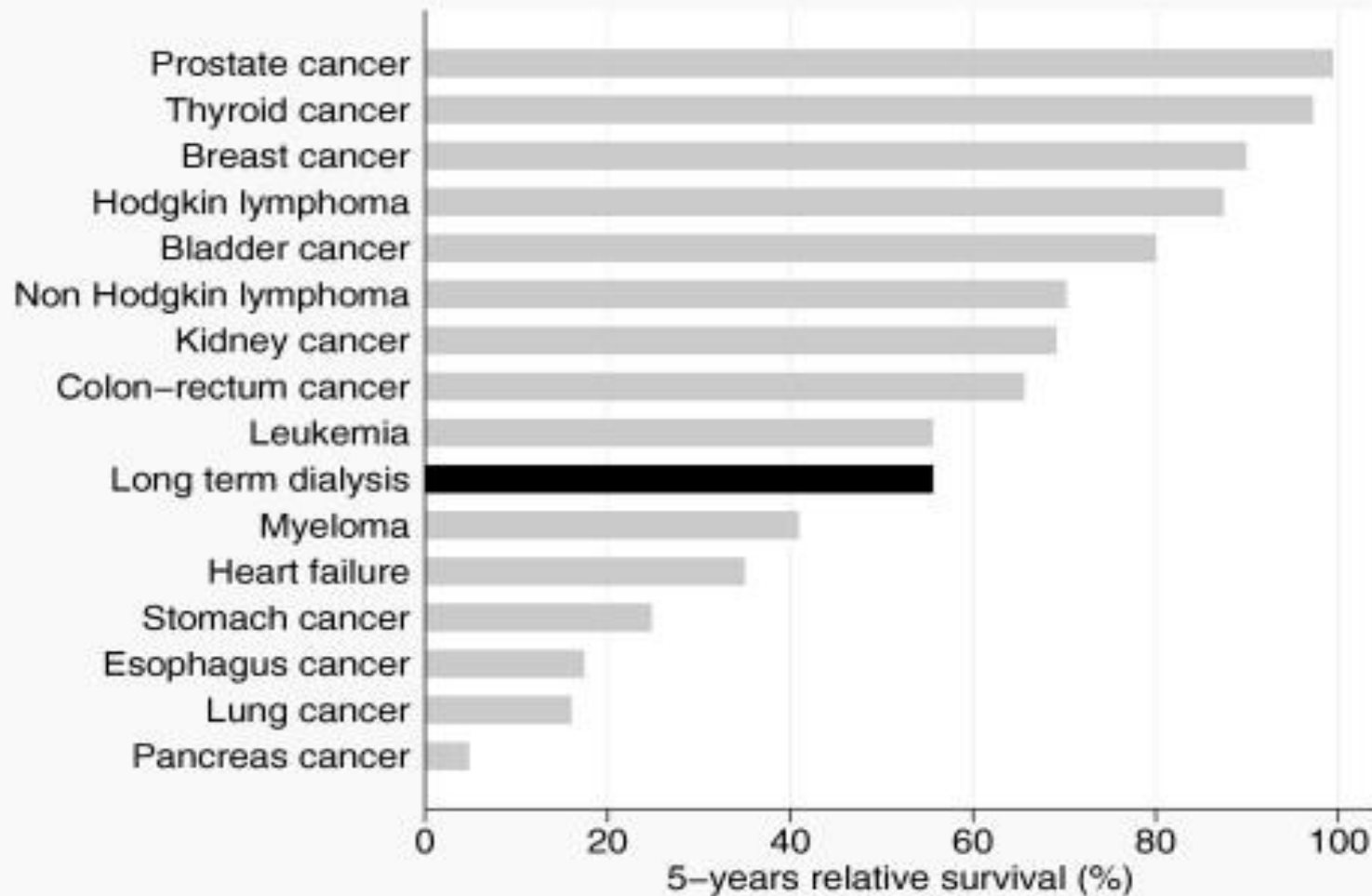
Renal Replacement Therapy

- A therapy that substitutes your kidney function, there are 3 options available-
- 1) haemeodialysis (HD),
- 2) peritoneal dialysis (PD) or
- 3) kidney transplantation.



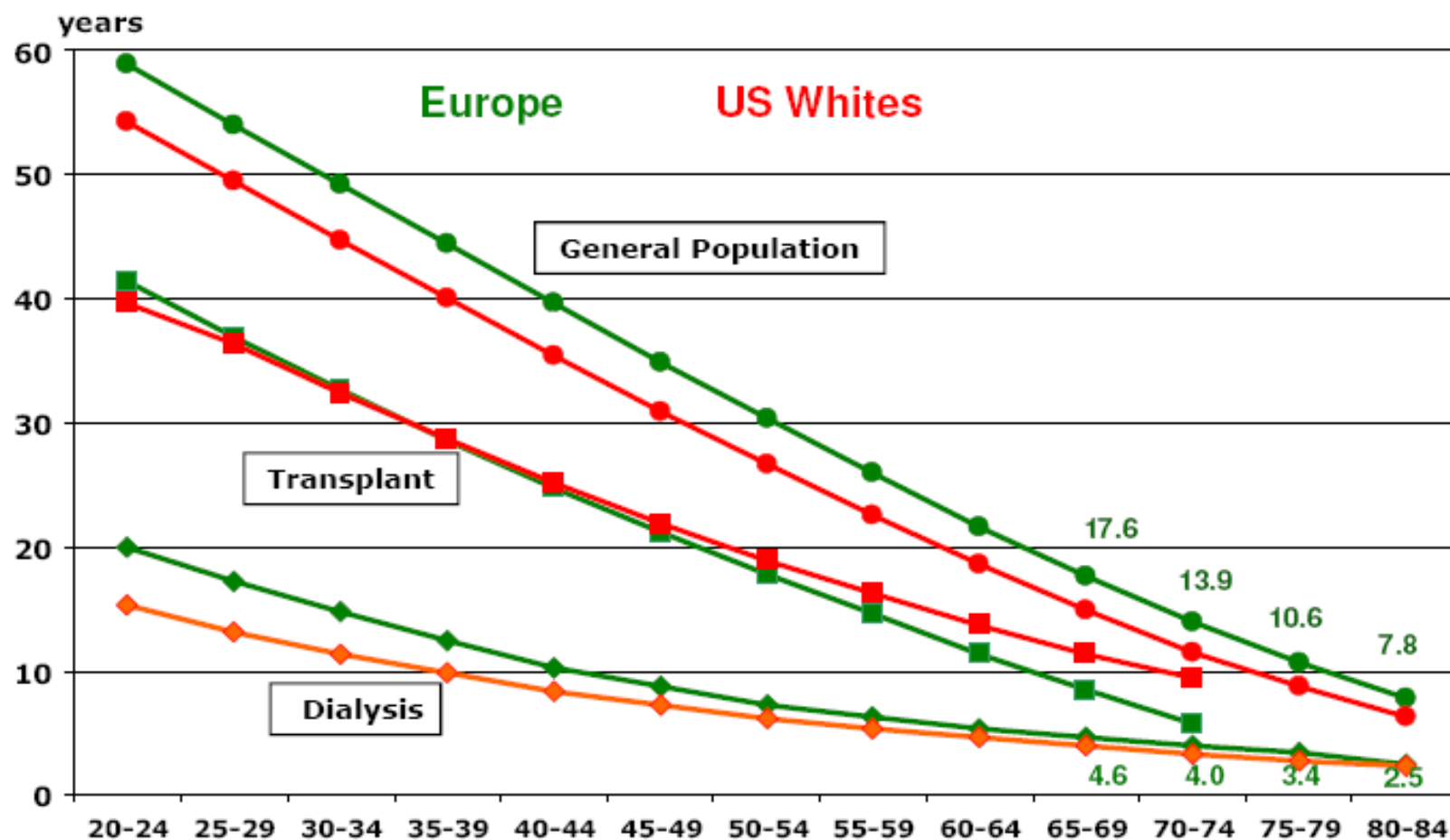
B33-544491 [RM] © www.visualphotos.com

But we know....



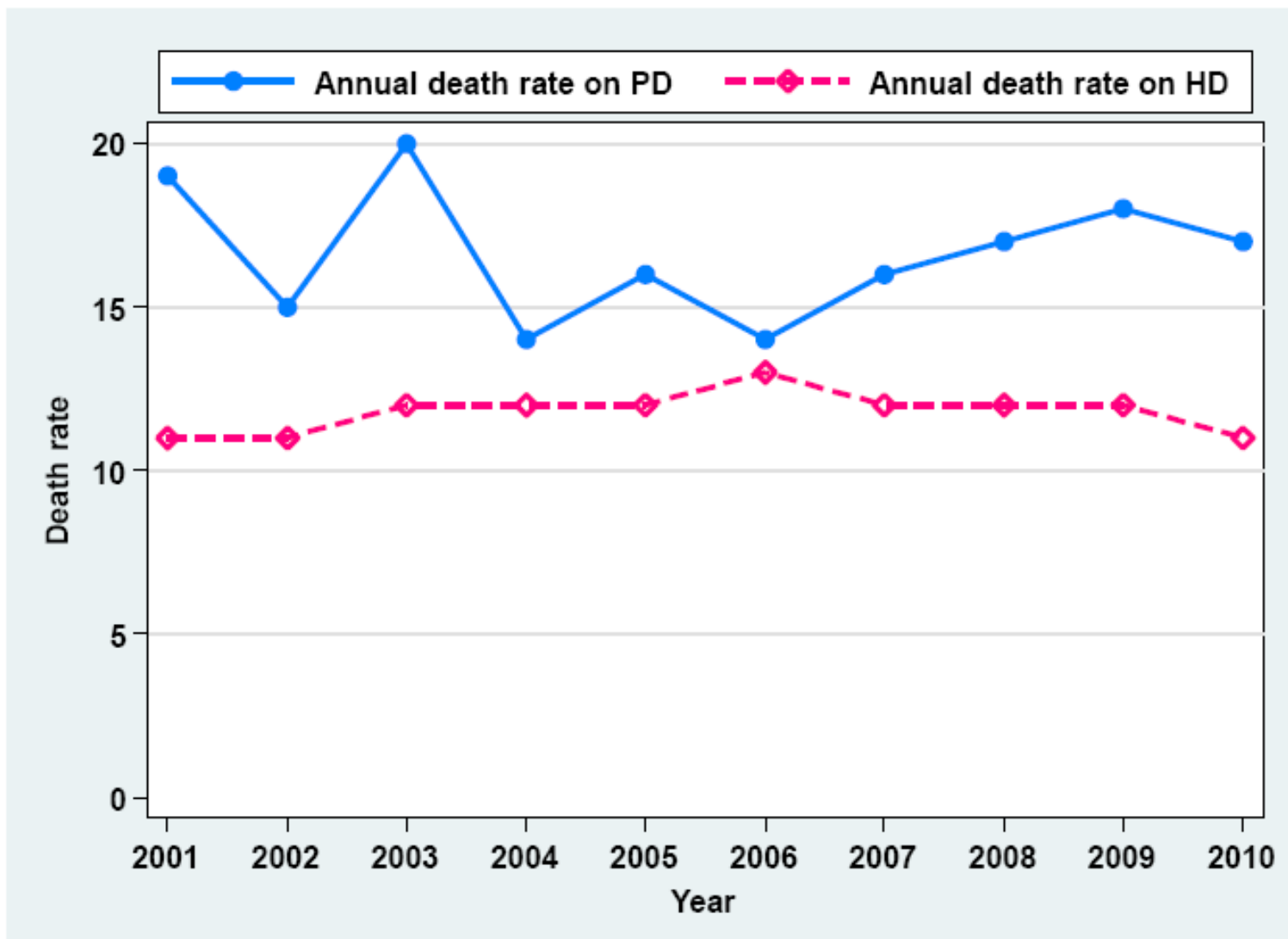
Maurizio Nordio et al 2012,AJKD

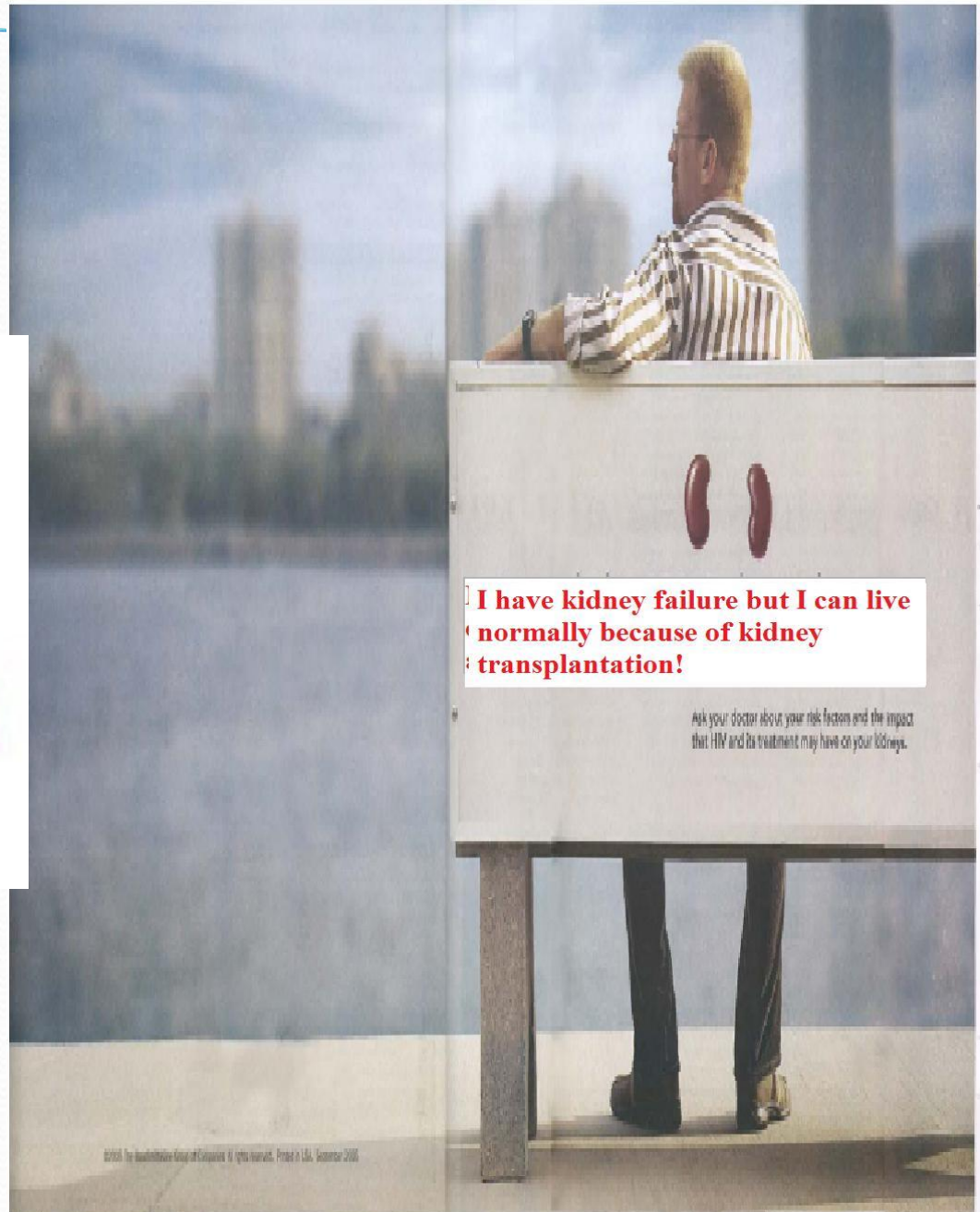
Expected remaining lifetimes in adult CKD Stage 5 as compared to the General Population



ERA-EDTA Registry data and USRDS data

Figure 3.1.1: Death Rates on Dialysis 2001-2010





I have kidney failure but I can live normally because of kidney transplantation!

Ask your doctor about your risk factors and the impact that HIV and its treatment may have on your kidneys.

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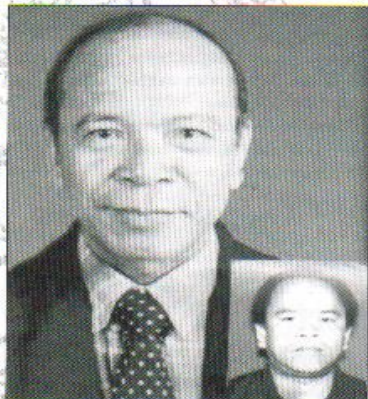
THEN

First Kidney Transplantation in Malaysia (Live Donor)

15th Dec 1975

On this occasion of the 25th Anniversary we should all pay tribute to the patients, doctor and staff who had the confidence and courage to undergo a relatively new treatment. The willingness on the part of the doctors to embark on the first kidney transplantation despite incomplete facilities, their dedication and sound clinical judgements were inspirational and shall always be remembered.

Zaki Morad



Martin Rinyeb, the first renal transplant recipient in Malaysia.
(Insert: Augustin Sittin, the renal donor)

SARAWAK MAN MAKES MEDICAL HISTORY

Martin steps out with a new kidney

24 DEC 1975

KUALA LUMPUR, Tuesday.

A 30-YEAR-OLD Land Dayak from Sarawak made local medical history when he became the first person to receive a new kidney in Malaysia.

Mr. Martin Rinyeb, 30, who lives in the Bau district, told newsmen today that he was feeling fine — eight days after receiving the kidney from his younger brother at the General Hospital here.

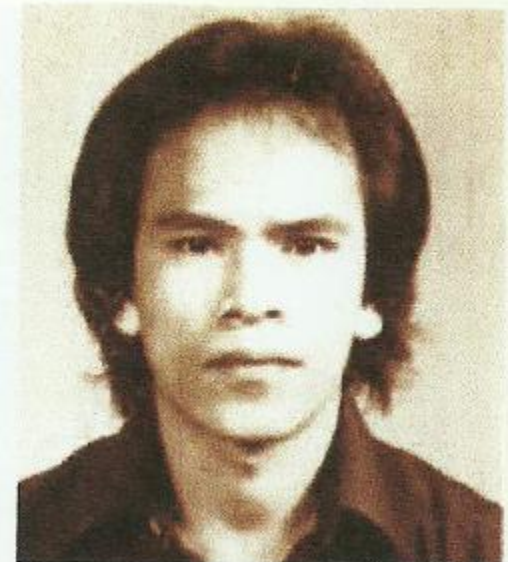
The five-hour operation was performed on Dec. 15 by a seven-member team of doctors led by Dr. Hussein Awang, head of the hospital's Institute of Urology and Nephrology.

Mr. Rinyeb, whose kidneys failed early this year, was referred to the

By LIM THOW



First live donor kidney transplant recipient, Martin Rinyeb



First live kidney donor, Augustin Rinyeb

THEN



Press Conference after 1st Renal Transplant in 1975 - Dr. Hussein Awang and Hanip with reporters

SARAWAK MAN MAKES
MEDICAL HISTORY

Martin
steps
out with
a new
kidney



THEN

Kidney Transplantation



Flushed and maintained with preservative fluid (Eurocolins) and packed in ice

Type of Donor

Live Donors

- (Living Related)
- (Living non-related)

Deceased Donor

- Brain death
- Non heart beating

At this moment, only heart beating deceased donor's organ is harvested.

(End Stage Renal Failure-ESRF)

Facts

- 4000-4500 newly diagnosed end stage renal failure patients every year.
- About 24,000 patients undergoing haemodialysis and half of them is suitable for kidney transplantation.



Dialysis Cost

Private dialysis centre
- RM 150 - 250 /
session
- 3 session / week
=> RM 1560 - 3250 /
month

Low quality of life



\$\$\$\$\$\$\$\$\$\$



Now.....

- National Transplant Registry
- Tissue and Organ Procurement Team (TOP team)- Nephrologist/Neurologist/ SN/ Anesthesiologist
- E-MOSS (electronic Malaysian Organ Sharing System)

Transplant Centres

Kidneys	:Hospital Kuala Lumpur Pusat Perubatan Universiti Malaya Hospital Selayang, Prince court Medical Centre
Heart	: Institut Jantung Negara (IJN)
Liver	: SJMC (Live donor) Hospital Selayang (Deceased Donor)
Hand	: Hospital Selayang



Malaysian Organ Sharing System

NRR
National Renal Registry



CRC
Cybernetics Research Centre

[Home](#)[About MOSS](#)[Registered Users](#)[Nephrologist](#)[MSN](#)[NRR](#)[CRC](#)[Contact Us](#)

WELCOME to e-MOSS

This is an online application to enable doctors to manage and update patients in the Malaysian Organ Sharing System (Renal) Waiting List

Please enter your
username and password

Username:

Password:

Submit

[Forgot Your Password?](#)
[First time login](#)



This site chose VeriSign [SSL](#)
for secure e-commerce and

General Instruction and Helpdesk information

To access this system, please enter your username and password in the text boxes provided and click on "Submit".
If you have forgotten your password, please click the "Forgot Your Password?" link for further instruction.

For assistance in completing your application or if you experience technical difficulties while using this site, including problems related to data entry, please contact the NRR - Administrator at:

Tel: 603-4045 8636

e-mail: moos@msn.org.my

Monday - Friday 8.30am - 5.00pm

Across ABO Transplant

In 1982, the first living-donor, ABO-incompatible renal transplantation program was established in Belgium.

Between 1982 and 1989, the group in Belgium performed 39 ABO-incompatible kidney transplants from living donors

- First time performed in Malaysia by Prof Datuk Tan Si Yen in Prince court Medical centre (Press Release in July 2011)



Future.....

- Paired Exchange
- Non heart beating kidney transplantation
- ABO incompatible transplantation in government hospital
- Opt out law??
- Living unrelated??



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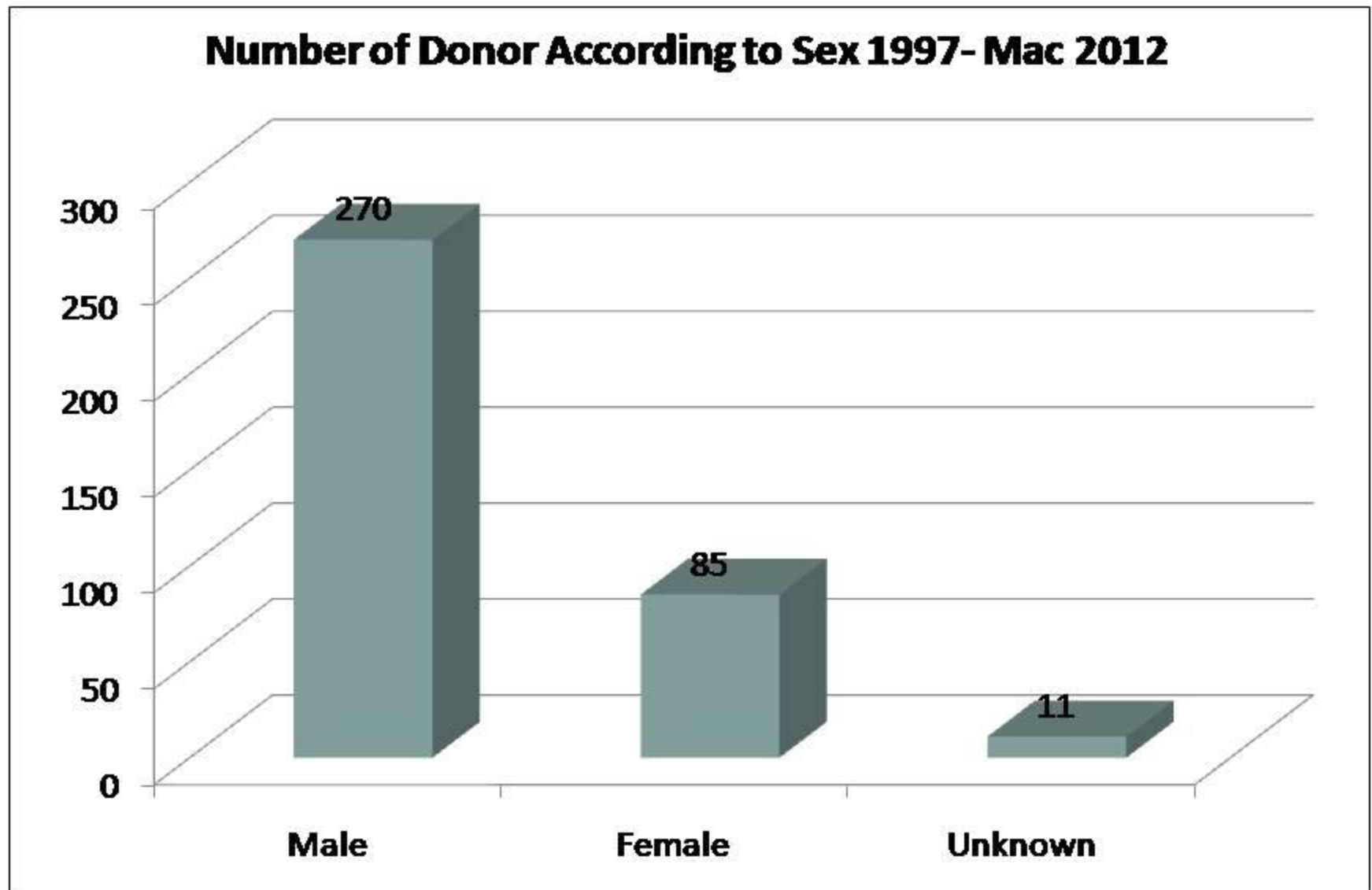
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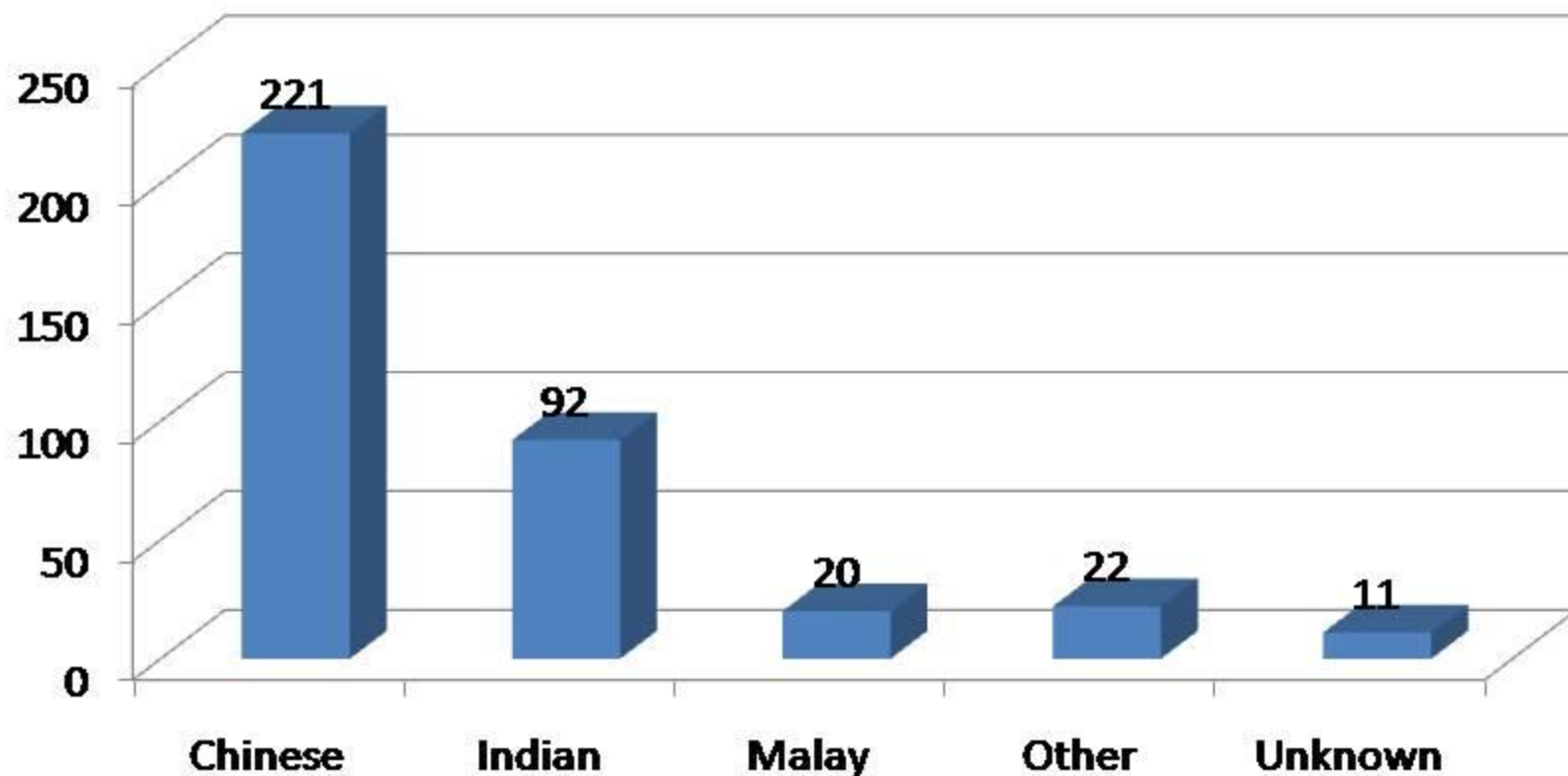
Conclusion

Donors

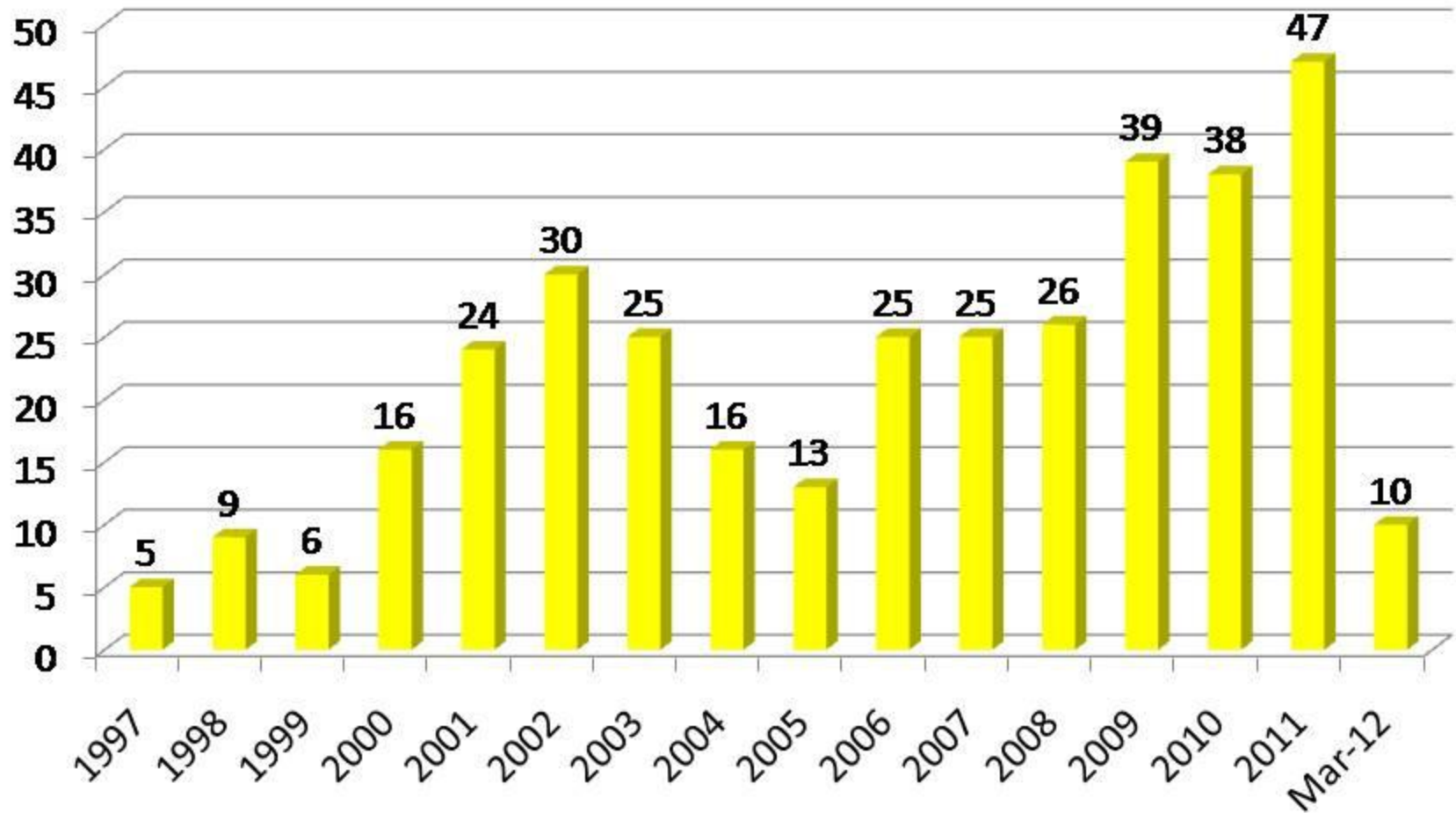


Total :366

Number of Donor According to Race 1997- Mac 2012



Number of Donor 1997 – Mac 2012



Pledgers in Malaysia

- Total pledged donors: 172,029 (up to June 2011)
- However 15,196 patients are currently waiting for kidney transplantation.
- Chinese: 95,995
- Malays: 29,276
- Indians: 41,955
- Others: 4,805

Table 5.1.4: Place of transplantation, 2000-2009

Year	2000		2001		2002		2003		2004	
	No.	%	No.	%	No.	%	No.	%	No.	%
HKL	28	20	33	20	30	17	26	16	20	10
UMMC	19	13	23	14	15	9	6	4	7	4
Selayang Hospital	4	3	11	7	11	6	11	7	11	6
Other local	3	2	4	3	1	1	1	1	2	1
China	80	56	83	51	103	60	111	69	139	72
India	9	6	8	5	12	7	4	3	11	6
Other overseas	0	0	1	1	0	0	1	1	2	1
Unknown	0	0	0	0	0	0	0	0	0	0
Total	143	100	163	100	172	100	160	100	192	100

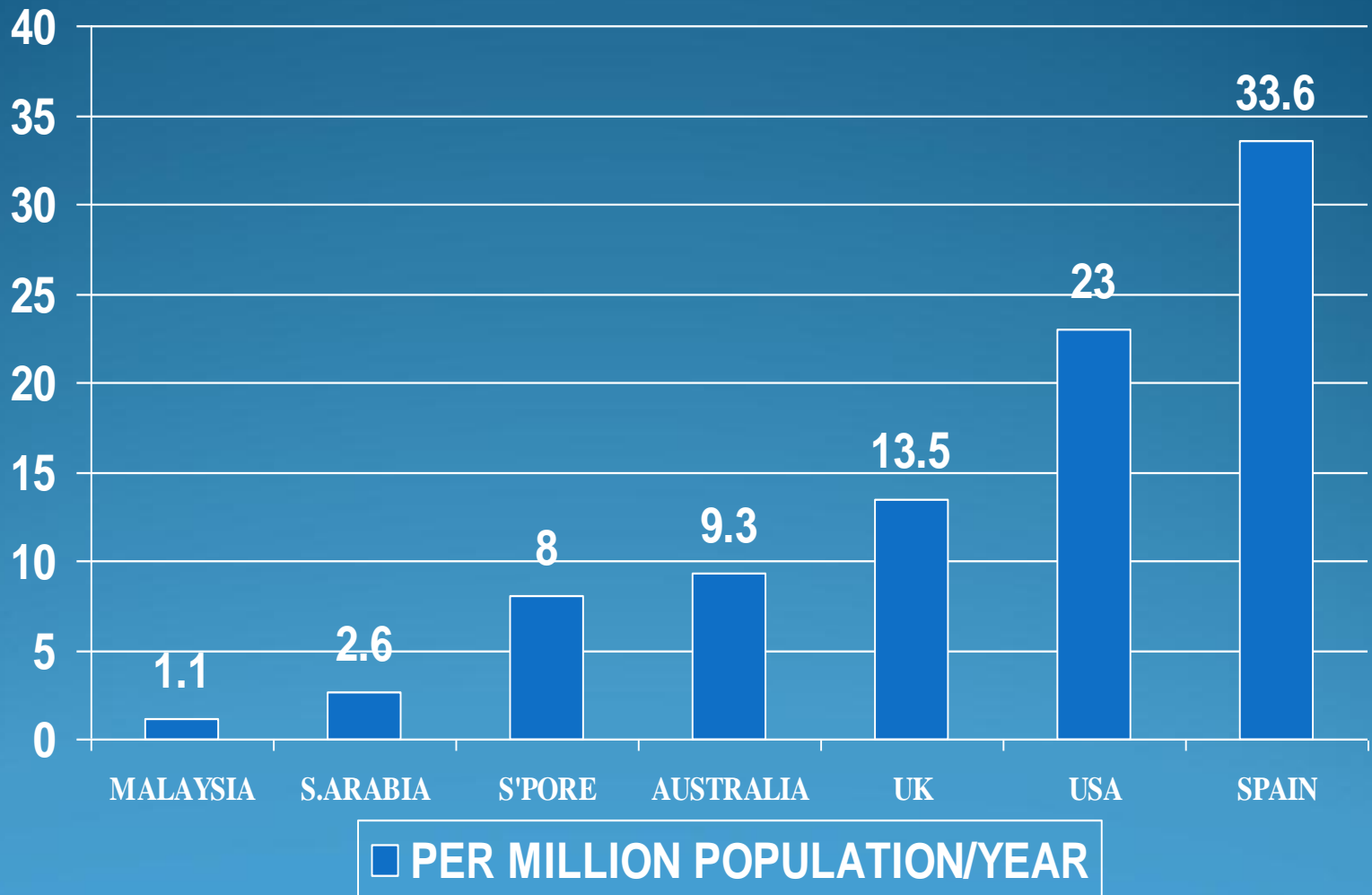
Year	2005		2006		2007		2008		2009		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
HKL	31	19	35	24	36	33	32	26	34	31	305	21
UMMC	7	4	5	3	3	3	10	8	6	6	101	7
Selayang Hospital	5	3	9	6	14	13	10	8	18	17	104	7
Other local	4	2	2	1	4	4	8	7	6	6	35	2
China	109	66	84	58	45	41	61	49	41	38	856	58
India	6	4	7	5	3	3	2	2	2	2	64	4
Other overseas	3	2	3	2	5	5	1	1	0	0	16	1
Unknown	0	0	0	0	0	0	0	0	2	2	2	0
TOTAL	165	100	145	100	110	100	124	100	109	100	1483	100

Table 5.3.1: Type of Renal Transplantation, 2000-2009

Year	2000		2001		2002		2003		2004	
	No.	%	No.	%	No.	%	No.	%	No.	%
Commercial cadaver	80	56	83	51	103	60	112	70	145	76
Commercial live donor	9	6	7	4	11	6	3	2	6	3
Live donor (genetically related)	21	15	32	20	33	19	25	16	21	11
Live donor (emotionally related)	6	4	4	2	3	2	5	3	2	1
Cadaver	27	19	37	23	22	13	15	9	17	9
Total	143	100	163	100	172	100	160	100	191	100

Year	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Commercial cadaver	105	64	84	59	45	42	53	46	17	19
Commercial live donor	9	6	5	4	3	3	1	1	9	10
Live donor (genetically related)	37	23	24	17	20	19	32	28	20	22
Live donor (emotionally related)	3	2	4	3	13	12	6	5	10	11
Cadaver	9	6	26	18	27	25	23	20	33	37
Total	163	100	143	100	108	100	115	100	89	100

Organ donations rate in 2001





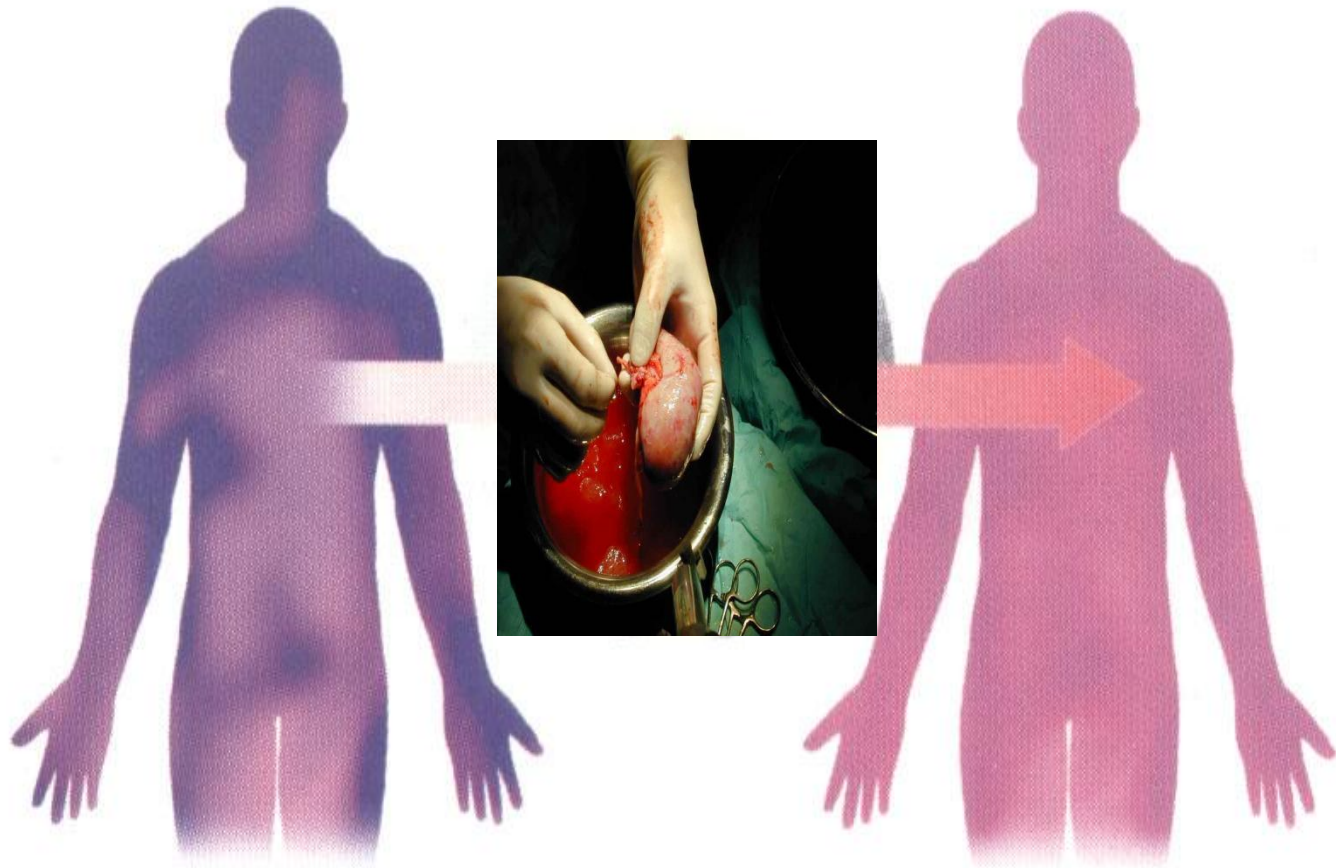
Kidney Transplantation not only improves quality of life for recipient but also creates another dialysis slot for new end stage renal failure patient.



Therefore :

*One cadaveric donor although
donates 2 kidneys but actually helps 4
patients*

Tiada Penderma = Tiada Organ = Tiada Pemindahan

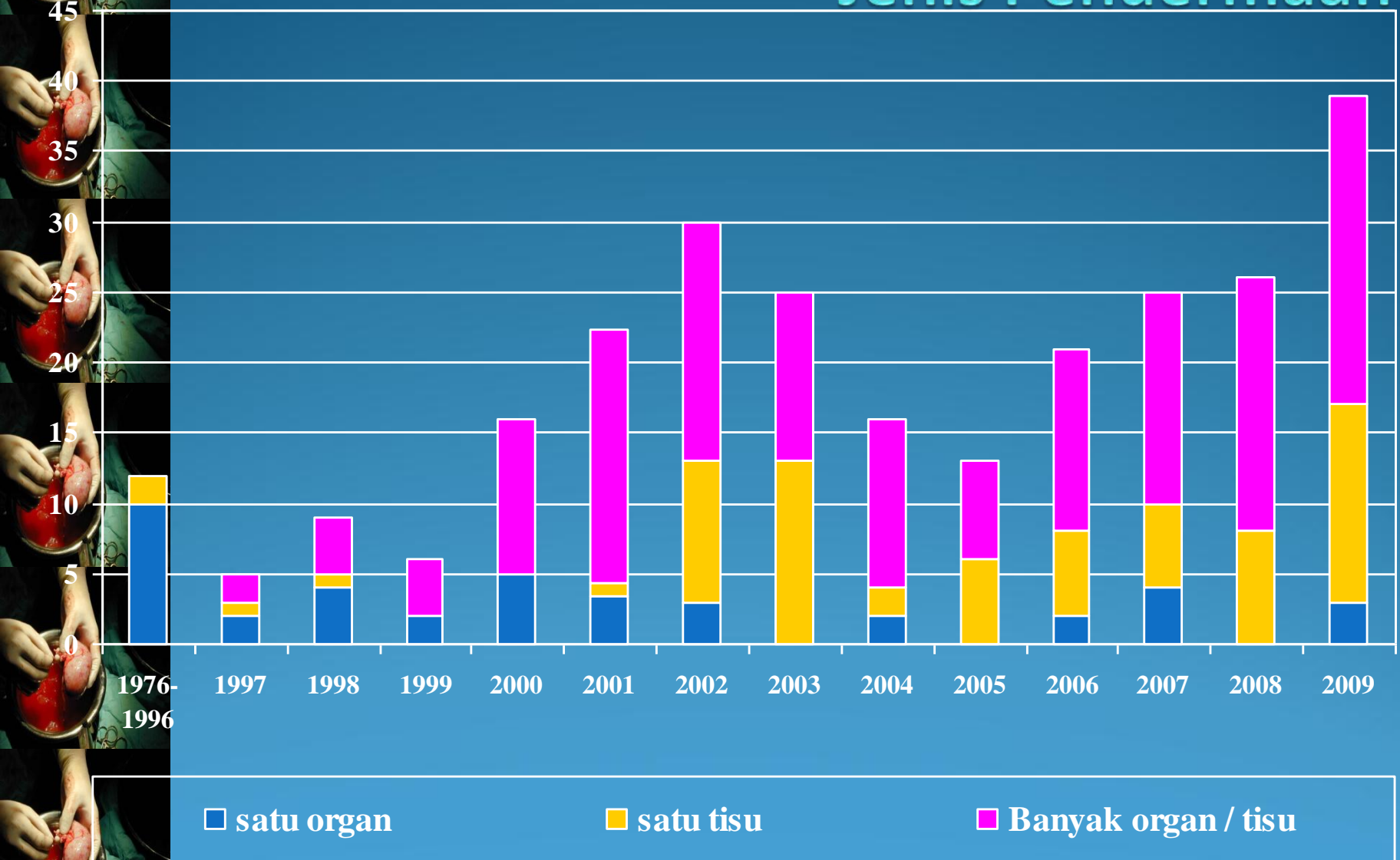


But

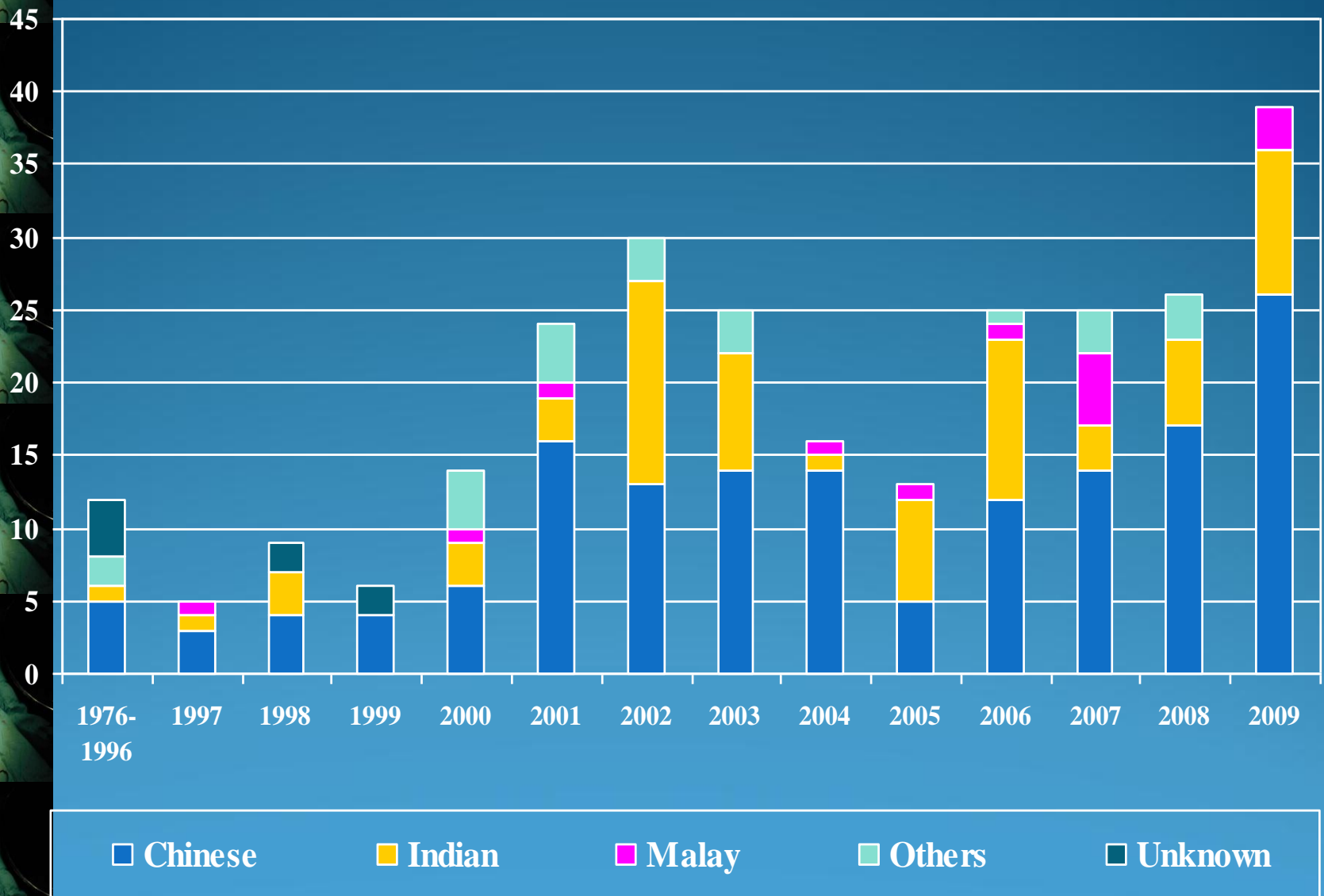
- 6000 – 7000 road traffic accident deaths per year.
- It involves mainly youngsters and productive age group.



Pendermaan Organ Kadaverik dan Jenis Pendermaan



Pendermaan Organ Kadaverik dan Jenis Pendermaan





Lack of deceased donors in Malaysia leads to

- Patients need to depend on living related donors
- Overseas transplantations- India (living non-related donor) and China (cadaveric)
- Usage of marginal organs



Why shortage of donors?

(A) Family attitude

(B) Hospital staff attitude



(A) Why do family members refuse to allow organ donation?

- Not allowed by religion?
- Patient's wish unclear.
- Do not wish to disfigure the body
- Do not wish to postpone the
- Brain death= death??

Corneas wasted all due to nonchalance of staff

ON July 28, we lost our sister about midnight. By the time we arrived at the Hospital Kuala Lumpur, her body had been transferred from Ward 24 to the Forensic Division.

We contacted the person in charge of the division and requested that her corneas be removed for those who needed them.

But here we met a brickwall of all sorts of excuses on why the donation could not be made.

First, we were told that the corneas could only be removed in the ward.

We informed him that on a previous occasion, my brother-in-law's eyes were removed at the Forensik.

The person then told us to wait and went in. About an hour later, his assistant came out and informed us that the corneas could not be removed as the procedure was a complicated affair and involved blood and other tests which would take a day.

In the previous instance, the

whole procedure was done efficiently in half an hour by people who knew what was to be done. As we were anxious to proceed with the rituals, we informed him that we could not wait all day.

As a result of gross inefficiency and ignorance on the part of the medical staff concerned, two persons lost their chance to see again

and two corneas were unnecessarily reduced to ashes. What a waste! I hope the medical authorities can keep their relevant staff better informed on the procedures of organ donation so that these invaluable parts are not wasted!

Sivaraman Kannan
Kajang

NSF 17/8/2001

(B) Hospital Staff attitude

- Lack of experience in asking family members for organ donation.
- Troublesome job
- Brain death = death?

Possible organs to be donated

- Must be transplanted to patient within certain hours
- - Heart : 4-6 hours
 - Lung : 4-6 hours
 - Liver : 8-12 jam
 - Kidney : 24 jam



In Malaysia : Opting – in type law

Allow harvesting of organs from deceased donors provided,

- The deceased donor has expressed his/her will to donate the organs after death AND
- Consent from next of kin

For those who are above 18 years old



The Gift of Life
Tell your family of your wish to be an organ donor

I request that after my death:

A all organ & tissues ☐ or

B Kidneys ☒ Heart ☒ Liver ☒ Lungs ☒
Eyes ☒ Bones ☒ Skin ☐

may be removed for the purposes of transplantation.

Signature Fadhilah Date 8.2.99

Full name (BLOCK CAPITAL) FADHILAH ZOWYAH
LELA YASMIN NANSOR

In the event of my death, please contact:

Hospital Kuala Lumpur, 03-290 5437 03-290 5434

NATIONAL ORGAN DONOR REGISTRATION FORM



Pledge your organs & tissues by filling this form.

1. Your personal data

Name:

I.C No: Old IC :

New IC: - -

Date of Birth:

Race: ☐ Malay ☐ Chinese ☐ Indian ☐ Others

Sex: ☐ Male ☐ Female

Current Address:

No. Tel:

2. Your Wish

I request that after my death:-

A All my organs & tissues

B OR Kidneys ☐

Heart ☐

Liver ☐

Lungs ☐

Eyes ☐

Bones ☐

Skin ☐

may be removed for the purposes of transplantation.

SIGNATURE:

DATE:

3. My Next of Kin

Name:

Relationship:

4. What to do next?

Please let your family know of your decision to be an organ & tissue donor upon death.

Detach this completed form and post it. THANK YOU.



MAKING A PROMISE ... (from left) Mother Mangalam, Dr Amir, Hashim, Dr Tong and V. Harcharan Singh looking at their organ donation pledge forms.

Organs pledged by religious leaders

By LEE YUK PENG

KUALA LUMPUR: Six religious leaders put their preaching to practice yesterday by collectively pledging their organs.

The six — mufti Datuk Hashim Yahya, chief Buddhist priest Ven Dr Sri K. Dhammananda, Rev Dr Solomon Rajah of the Council

their organs would be given to.

"Whether it is given to a Muslim or a non-Muslim, it is for the same purpose," he said.

Mother Mangalam said: "We should donate organs because it is a good cause."

Insaf chairman Dr Amir Farid Isahak said an organ donation awareness cam-

Best New Year gift ever

Woman grateful for boy's kidney



Raymond ... organ donor who was killed in an accident

KUALA LUMPUR: Being hooked to the dialysis machine for 10 years, a 36-year-old kidney patient could not have hoped for a better New Year gift than to be given a new lease of life.

She underwent a kidney transplant for the second time in 10 years last Tuesday.

The first one — a kidney donated by her mother — failed in 1990, four years after the transplant.

The woman, who was identified only as S.Y., said she was grateful to receive a kidney from a cadaveric donor in Kota Kinabalu.

"It's the best New Year gift for me. I hope it works this time," said S.Y., who was given a new lease of life for the second time at Kuala Lumpur Hospital.

She also thanked the donor's family for their kind gesture.

Her kidneys had failed since she was young. Since then, S.Y., who works at a chiropractic centre, has to undergo dialysis thrice a week.

She was one of the two kidney recipients from 12-year-

MIRACLE JOURNEY

Dec 26, 2000

12 noon: KL Hospital (KLH) informed two kidneys available from donor in Kota Kinabalu, Sabah after consent document signed.

Co-ordinating work activated, potential recipients identified from waiting list and several of them contacted for blood tests to cross-match with donor's blood.

3.45pm: First flight available to KK for surgeon in KL. Arrives in KK about three hours later.



Dec 26, 2000

10pm: Two kidney patients from Sabah arrive in KLIA, bringing along blood samples of donor. Only one will be given a kidney. The other is for a matching recipient from other states.

IMR starts matching work immediately.

Dec 27, 2000

7am: Surgeon reaches KLIA, takes an hour to reach KL Hospital by cab.



Queen Elizabeth Hospital, Kota Kinabalu

Dec 26, 2000

11pm: Operation to harvest organ begins in KK until 2am the next day.

Dec 27, 2000

4am: Surgeon boards flight to return to KL with the two kidneys

Kuala Lumpur Hospital



Selayang Hospital, Kuala Lumpur



Dec 27, 2000

12.30pm: Operation in Selayang for the recipient from Sabah starts and completed four hours later

Dec 27, 2000

Decision made to perform the other transplant at Selayang Hospital to save time. A doctor sends one of the kidneys to Selayang Hospital from KLH.

Dec 27, 2000

9am: Transplant begins in KLH for recipient from KL. Operation lasts for two and a half hours.

old Raymond Kok who was declared brain dead after a hit-and-run accident.

A patient on the waiting list, S.Y. was picked by the Institute for Medical Research as she was found to be the most suitable candidate.

The other recipient, a man

from Sabah, was euphoric when told to fly here for the transplant.

Those who wish to pledge their organs can contact the National Transplant Resource Centre at tel: 03-926 0066, 04-200 2435 or 05-243 3333 ext 2032.



Outline of Lecture

Introduction

History of Kidney Transplantation

Prevalence and Incidence of Chronic kidney disease/dialysis/transplantation

Renal Replacement Therapy

Kidney Transplantation in Malaysia- Then, Now, Future

Statistics of Kidney Transplantation in Malaysia

Conclusion

Terima Kasih

*kepada semua Penderma Organ
kerana mengembalikan
senyuman kepada kami*



Jadilah Seorang Penderma Organ

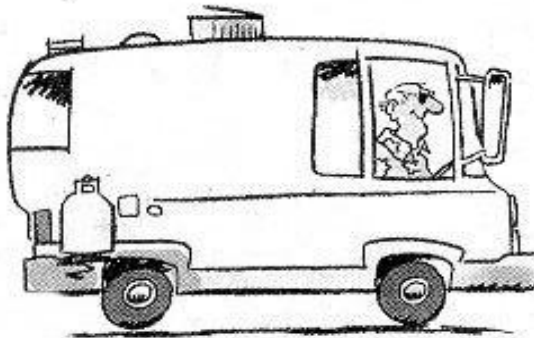


Be a hero...
Save someone...
Donate Life

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- Dr. Lela Mansur and her team for providing me with the pictures, facts and figures

The Wheels of Life



Thank you