Organ Shortage in Malaysia
Organ Shortage in Malaysia
THE PUBLIC VIEW

EDITORS
MAKMOR TUMIN • NURULHUDA MOHD. SATAR

UNIVERSITY OF MALAYA PRESS
## Contents

List of Figures ix  
List of Tables xi  
List of Contributors xiii  
Foreword xv  
Acknowledgement xvii  
List of Abbreviations xix

Prologue: Organ Donation Medical Hope and Practical Barriers xxiii  
Makmor Tumin

Chapter 1 The Dilemma of Organ Shortage in Malaysia 1  
Makmor Tumin and Nurul Huda Mohd Satar  
General Background 1  
Chapter Layout 4

Chapter 2 How Organs Can Be Procured Legally: The World Systems 7  
Farah Salwani Muda, Makmor Tumin and Abdillah Noh  
The Opting-In System 7  
The Opting-Out System 8  
The Conscription System 11  
The Required Request System 13  
The Mandated Choice System 14  
Incentive Payment for Organs 16
<table>
<thead>
<tr>
<th>Chapter 3</th>
<th>The Legal Structure of Organ Donation and Transplantation in Malaysia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lela Yasmin Mansor, Lim Soo Kun and Ng Kok Peng</td>
</tr>
<tr>
<td>History of Transplantation and Organ Donation in Malaysia</td>
<td>23</td>
</tr>
<tr>
<td>Legal and Practical Overview</td>
<td>25</td>
</tr>
<tr>
<td>Human Tissues Act 1974</td>
<td>25</td>
</tr>
<tr>
<td>National Organ, Tissue, and Cell Transplantation Policy</td>
<td>26</td>
</tr>
<tr>
<td>Living Organ Donation Guideline</td>
<td>28</td>
</tr>
<tr>
<td>Medical Facts and Procedures</td>
<td>31</td>
</tr>
<tr>
<td>Guideline for Muslims</td>
<td>32</td>
</tr>
<tr>
<td>Problems Facing Organ Donation</td>
<td>33</td>
</tr>
<tr>
<td>Overcoming Organ Shortage in Malaysia</td>
<td>33</td>
</tr>
<tr>
<td>Public Education</td>
<td>34</td>
</tr>
<tr>
<td>Public Awareness in Malaysia</td>
<td>35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 4</th>
<th>Maximizing Deceased Donations: The Malaysian Versus the World Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Abdillah Noh, NurulHuda Mohd Satar and Chong Chin Sieng</td>
</tr>
<tr>
<td>Deceased Donation in the World</td>
<td>40</td>
</tr>
<tr>
<td>The Public View in Malaysia</td>
<td>42</td>
</tr>
<tr>
<td>Incentive as a Possible Solution for Malaysia</td>
<td>46</td>
</tr>
<tr>
<td>Why Spain is More Successful?</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 5</th>
<th>Islam and Organ Donation: For or Against</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NurulHuda Mohd Satar, Farah Salwani and Nawi Abdullah</td>
</tr>
<tr>
<td>Organ Donation among Muslims: An Overview</td>
<td>55</td>
</tr>
<tr>
<td>Different Views among Scholars</td>
<td>57</td>
</tr>
<tr>
<td>Viewpoints of Scholars in Malaysia and Singapore</td>
<td>59</td>
</tr>
<tr>
<td>Fatwas and Regulation of Organ Donation</td>
<td>61</td>
</tr>
<tr>
<td>Muslims' Public View in Malaysia</td>
<td>64</td>
</tr>
<tr>
<td>Incentive and Organ Donation: An Islamic Perspective</td>
<td>66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 6</th>
<th>Living Donation: Selling Organs or a Gift of Life</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lim Soo Kun, Ng Kok Peng and Chong Chin Sieng</td>
</tr>
<tr>
<td>The Development of Living Donation</td>
<td>72</td>
</tr>
<tr>
<td>Organs Commercialism and Tourism</td>
<td>73</td>
</tr>
<tr>
<td>Public Views of Living Donation in Malaysia</td>
<td>77</td>
</tr>
<tr>
<td>Discussion and Conclusion</td>
<td>79</td>
</tr>
</tbody>
</table>
List of Figures

Figure 3.1: International donor ratio (donors per million population), 2010
Figure 3.2: Donors in Malaysia
Figure 3.3: Kidney and Liver Transplantation from Donated Deceased Donor
Figure 3.4: Evolution in the number of kidney transplants performed in Spain
Figure 3.5: Kidney and Liver Transplantation from Donated Deceased Donor in Malaysia (2009-2010)
Figure 5.1: Organ Transplantation from the Spinal Corded Spinal Cord
Figure 5.2: Kidney for organs
Figure 5.3: Spinal Corded Spinal Cord
Figure 5.4: Kidney for organs
Figure 5.5: Spinal Corded Spinal Cord
Figure 5.6: Kidney for organs
Figure 5.7: Spinal Corded Spinal Cord
Figure 5.8: Kidney for organs
Figure 5.9: Spinal Corded Spinal Cord
Figure 5.10: Kidney for organs
Foreword

Transplantation medicine has enjoyed dramatic development since Dr. Joseph Murray in Boston successfully transplanted a kidney from a living donor for the first time in 1954. Since then, the success of organ transplantation has improved not only the survival rate but also quality of life of many individuals. It is clearly the preferred treatment for patients with kidney failure whilst life saving for patients with other organ failure. Nonetheless, the success of treatment by organ transplantation is now increasingly limited not by the lack of medical expertise or physical resources but due to the lack of organ donors that has resulted in a widening gap between those on the waiting list and the number of donated organs.

Organs may be procured from deceased donor or healthy individuals. The improvement in road safety especially in developed countries has resulted in a decrease in the number of brain death donors. The need to compensate for the fall in such donors and the need to increase organ donation rate have led to a search for other donor pools among healthy living individuals which include emotionally related (usually spousal) donors, marginal donors such as those with cardiac (rather than brain) death and older donors who may not be in perfect health.

A major limitation in the effort to increase organ donation rate is the lack of public support for organ donation, especially donation after death. The reasons are many which include the lack of understanding of the benefit of organ transplantation, the fear of organ donation, the lack of trust on healthcare professionals and potential misunderstanding leading to religious and cultural objections. Whilst such lack of public support is prevalent worldwide, it is much more widespread and entrenched in some countries especially the less developed countries.

This book addresses the breadth and depth of the problems seen in Malaysia compared to the rest of the world. It discusses the fundamental problems facing the
local organ transplantation programme which has one of the lowest organ donation rates in the world. The emphasis is on donor education and their study suggests that while only a minority of the population they surveyed were unwilling to donate based on religious or cultural factors, the majority of the population have not enthusiastically supported the transplantation programme. This book highlights the importance of public education on organ transplantation together with the necessity to minimise religious and cultural barriers to organ donation which will hopefully go along the way with improved local attitudes and willingness towards organ donation and thus the transplantation rate for the benefit of the increasing number of patients waiting for life changing and life-saving organ transplantation.

Datuk Dr. S Y Tan, PSD
MB ChB (Edin), MD (Edin), FRCP (Edin), FAMM (Mal), FASN (USA)
Head of Nephrology & Renal Transplant Services
Prince Court Medical Centre
Kuala Lumpur
Human organs may get chronically ill at one point of life. The worst is yet to come when there are no medications that could help to cure those of with human organ problems. Perhaps it's not an exaggeration to say that patients in such situations would start counting their remaining days before death. The advancements in medicine in the 20th century have fervently introduced a new hope for those patients to have a healthy life again. This can be done through transplanting a healthy organ taken from a living or deceased donor into the patient's body.

Transplantation has become a prevalent therapy for end stage organ failure. However, the number of transplantations remain very limited in many countries due to the lack of donated organs. For instance, in Malaysia, more than 16,000 patients are wait-listed for kidney transplantation in 2012, but only 88 kidney transplantations were performed in that year. This situation is too enduring for many patients as their lives are threatened. In fact, it might generate a huge cost of dialysis to be borne by the Malaysian tax payers.

The sources of organs for transplantation can be via procuring them from a recently deceased body or from a living donor. A deceased donor can donate all his organs, while a living one can only donate organs which do not impose deadly risk, such as kidney and part of his or her liver.

Although death occurs every moment and organs for transplantation might be available in transplant institutions, procuring organs from a deceased donor is subject to many barriers, making donation rates remain at a very low level in many countries including Malaysia. In order to procure a deceased's organs, some countries require a signed official form stating that the donor wanted to donate his organs after death. This legislation is globally known as 'the informed consent (IC) system.' In the real world, many people might be willing to donate organs but do not have the opportunity
to declare their intention officially. To overcome this problem which causes a huge loss in organs, many countries, like Sweden and Spain, have applied another system called 'the presumed consent (PC) system'. In this system, everyone is a donor unless they had objected to donate prior to their death. In general, countries applying the PC system have higher organ donation rates than those with IC system (Malaysia is one of those countries with IC system). However, the PC system has been widely criticised to violate donors' autonomy.

In both systems, most countries allow the deceased's family to stop the process of procuring organs from the deceased body, even if he/she had stated to become a donor during his life. Therefore, family objection to organ donation can enormously decrease donation rates. Besides the PC and IC systems, some other systems have been theorised such as the mandated choice system and the required request system.

The lack of registered donors under the IC system and the high level of objections against donation in some countries which applied the PC system have urged researches on investigating the reasons behind people's ignorance or rejection for organ donation. Many factors have been found to affect donors and their families' attitude and decision on organ donation. Those factors include knowledge about organ donation, education, ethnic diversity, and religion.

Among the mentioned factors, religion is one of the elements deemed as an important determinant influencing people's attitude towards organ donation. In general, Islam, the religion of Malays in Malaysia, permits organ donation and encourages it as a form of charity or communal responsibility. However, there are some arguments among Islamic scholars stating that organ donation is prohibited as the human body belongs to Allah and, thus, Muslims cannot donate parts of their bodies during or after their life. All the ramifications of varied opinions on organ donation among Islamic scholars are linked with the different approaches used in interpreting the primary sources of Islamic jurisprudence (Quran and Sunnah). However, Muslims are allowed to follow the perspective they deem more convincing, thus Muslims might object to organ donation based on religious reasons, or donate organs due to religious motivations.

Although deceased donations are the most contributing source of organs in most countries, living donation is also of significant importance especially for countries with low deceased donation rates. One of the advantages of living donation is the absence of the need for family consent. However, it encounters many other ethical problems due to the illegal transplantation practices taking place in many parts of the world. The ability to live with one kidney and the huge need for kidneys around the world has created a black market for organ trading in many under-developed and developing countries, such as Pakistan and India. Private hospitals in some countries, such as India and Pakistan, offer kidney transplant for all patients around the world for a specific amount of money, thus organ trafficking emerges. A very small portion of this money will be transferred to the kidney vendor, who is mostly poor and in debt. In other unfortunate recorded cases, vendors were left without any payments after having their kidneys harvested.
Malaysia suffers from severe shortage in human organs for transplantation, a fact that threatens the life of thousands every day. The organ donation rates have yet to gain an increasing momentum because of the possible factors hindering it, which will be discussed in this book. Overcoming the problem of organ shortage requires a comprehensive understanding of organ donation aspects in the country. Therefore, this book provides scientific studies dealing with the above mentioned issues and suggests plausible solutions to enhance donation rates and improve the public health in Malaysia.

Makmor Tumin
University of Malaya, Kuala Lumpur
Chapter 1

The Dilemma of Organ Shortage in Malaysia

Makmor Tumin and NurulHuda Mohd Satar

General Background

Organ transplantation is considered as one of the most important medical advancements in the 20th century. In 1902, Dr. Alexis Carel who attempted to transplant organs on animals said: "Although organ transplantation today is merely a clinical curiosity, it may one day have a certain practical interest" (Lauri and Zarb Adami, 2010: p.14). After numerous attempts at renal transplant, which was successfully performed for the first time in 1954, transplant operations were extended to other organs, such as lung, liver, and pancreas. On 23 December 1954, Dr. Joseph Murray stunned the whole world by performing the first transplantation on two identical twins in the United States; after 13 years, the first successful transplantation of the heart was performed by Professor Christian Barnard in 1967.

Over the years, the success rate of organ transplantation has been escalating due to improvements in transplantation techniques such as laparoscopic, immunosuppressive drugs and host-graft adaptation. Matching the technical improvement, the waiting lists for organ transplantations have also increased dramatically, surpassing the number of available organs. The escalating demand for human organs as treatment has also created adverse consequences, such as organ trading which has become an international phenomenon organised by criminal groups who exploit the impoverished people by encouraging them to sell their organs.

Organ transplantation has been practised in Malaysia since 1970s. However, it takes two decades for Malaysia to officially recognise the importance of a structured effort relating to organ donation when the National Transplant Centre was established in 1997 at Hospital Kuala Lumpur. Since then, numerous types of organ transplantation have been performed in Malaysia, such as kidney, cornea, and bone marrow transplantation. In December 1975, kidney transplantation from a deceased donor was performed in
Organ Shortage in Malaysia: The Public View

Malaysia for the first time. Also in the same year, a business man from Sarawak received a kidney donated by his brother. The first heart transplant surgery was successfully performed in December 1997, while the second and third successful surgeries were done in 1998. In 1999, the first liver transplantation between donor and recipient without blood ties was successfully carried out.

Based on the 7th Report of the National Transplant Registry (NTR), 113 liver transplantations had been carried out between 1993 and 2010, where the majority of organs were given by living donors. For renal transplants, there were 102 transplants in 2010 alone. For heart and lung transplants, there were 19 heart transplantations reported to the Registry between 1997 and 2010.

Figure 1.1: International donor statistics (donor per million population), 2012.

Compared to other countries which have successful organ donation and transplantation experience, organ donation rate in Malaysia is very low. Currently, the rate of organ donation is 0.8 per million population (pmp), compared to 4.5 pmp in Saudi Arabia, 4.0 pmp in Qatar, and 2.9 pmp in Iran. Spain recorded the highest rate of organ donation in the world in 2012, where the number of donors reached 35.1 donor pmp, followed by Belgium which has a donation rate of 32.9 pmp (International Registry in Organ Donation and Transplantation). However, most of the European countries apply the "presumed consent" laws on organ donation, where everyone is considered as an organ donor unless he specified otherwise before his death, as opposed to the opting-in system implemented in Malaysia and other countries in Asia.

Medically, organs can be harvested from a living or a deceased donor. Globally, there are many kinds of legal systems that govern and organise the organ donation
process in the world. However, the systems could be basically divided into two main
types namely the opting-out system and the opting-in system. In the opting-out system
or the 'presumed consent' system, everyone, is considered as an organ donor after
death unless he had stated otherwise during his life. Consequently, the government
has the authority to procure his organs immediately after his death. In contrast, the
opting-in system requires consent from the donor during his life to authorise the process
of procuring his organ after his death. Nevertheless, these two systems possess some
differences in applications from one country to another. For instance, some countries
which apply the opting-in system, like Malaysia, require consent from the deceased's
family, even if he had already registered as an organ donor; while in some other
countries, which also follow the opting-in system, the family consent does not have
the power to stop the organ procuring process if the donor had already declared his
decision to donate his organ.

As we mentioned above, the Malaysian opting-in system of organ donation gives
the deceased's family the authority to hamper the process of procuring organs from
the deceased donor, which are widely considered as the culprit behind the low organ
donation rates recorded in Malaysia. Hence, Malaysia should establish an appropriate
system of obtaining the consent of the donor and his family and also verge on opting-
out system as well to overcome the impediment to current organ's shortage in this
country. However, it will not be a clear-cut improvement process as the new system
has to take into account the factors which may be effective in enhancing the organ
donation rates in Malaysia. In other words, any new system has to be sensitive towards
the complexity of the Malaysian community, given that many ethnics and religions do
eexist in the country, thus any insensitive remarks about these issues might lead to a
bad social repercussion, especially in the long run.

Given the necessity to address the problem of organ shortage in Malaysia and
its special social and demographic circumstances, it is important to have a scientific
understanding of the details regarding the issue of organ donation in the country. For
this purpose, a comprehensive study in Klang Valley (from October to December 2010)
was conducted to uncover facts about the reluctance of many Malaysians to register as
organ donors. We collected public opinions about both living and diseased donations
through survey. In the study, 1,420 people were approached, where 1,310 of them
voluntarily agreed to participate in the survey. The questionnaire was divided into two
sections; the first was about the deceased organ donation, and the second was about
living organ donation. The respondents were asked to express their opinions regarding
organ donation and the factors that may affect their decision of being organ donors. The
survey participants were also examined about how they would respond towards the
notion of organ donation if some new facts were introduced for them, such as getting
incentives as a compensation for donating organs, or getting proper information about
organ donation from a religious perspective. The results of the survey are illustrated
throughout the chapters, where every part of the survey is further described in its
related chapter.
Index

Action Committee on Public Awareness 45
allocation of organs 77
al-Sharawi 57, 58
Application for Unrelated Living Transplant 30
Austria 9, 10, 39, 40
autografts 61
autonomy 8, 11, 15, 17, 46
awareness 10, 15, 34, 35, 36, 37, 66, 67, 80, 84

Belgium 2, 9, 39, 40, 48, 53, 82
black markets 16, 74, 82, 84
blood donation 62
blood donor 62
brain death 10, 12, 33, 48, 49, 61, 63, 73
brain death concept 12
brain death diagnosis 49
brain death process 73

campaigns 16, 27, 34, 35, 36, 45, 53, 61, 74, 80, 84, 85

cardiac death donors 41
Cell Transplantation Policy 4, 25, 26, 37, 39
charity 18, 46, 47
Checklist of unrelated transplantation in Malaysia 30
China 12, 13, 47, 74, 76, 77
Chinese 12, 13, 43, 53, 76, 77
Christian Barnard 1
commercial transplants 19, 67, 74

compensation 3, 17, 18, 19, 39, 47, 53, 66, 71, 72
compensation-based donation system 71
Conscription System 11
consent procedures 7
consent system 8, 10, 20, 50
continuous brain death assessment 49
corneal transplantation 23, 61
Death in the Islamic teaching 61
deceased body 26
deceased donation 17, 37, 39, 40, 45, 46, 47, 48, 50, 56, 58, 73, 82, 83, 84
Declaration of Istanbul 13, 21, 72
degree of consanguinity 29
dialysis 45, 56, 59, 67, 73, 81
Dialysis and Transplant Patients Association (DATPA) 66
donation surgery 37, 46
Donor Advocate 30
donor cards 56, 57
donor care 19
donor consent 50
donor coordination 25
donor detection 49
donor education 45, 50
Donor Evaluation 30

educational attainment 64, 65
Egypt 32, 60, 74, 75
Estonia 53
Ethnic 42, 43, 77

Family 3, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85

Fatwa 59, 60, 61, 62

Financial 7, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85

First successful transplantation of the heart 1

First transplantation 1

France 10, 12, 39, 82

Gift of Life 36, 71

Grand Ulama 61

Guidelines 21, 23, 26, 27, 46

Hadith 32, 58, 59, 60

Harm 13, 32, 60, 61, 63

Hashim Yahya 59

Healthcare professionals 13, 84

History of Transplantation and Organ Donation in Malaysia 23

Hospital Kuala Lumpur 1, 23, 24

Hospital transplant coordinator acts 49

Human Organ Transplants Act (HOTA) 10

Human Tissues Act 1974 4, 25, 26, 27, 33, 50

Incentive Payment for Organs 16

Incentives 3, 4, 7, 17, 19, 39, 40, 44, 45, 46, 47, 48, 50, 66, 67, 68, 71, 72, 78

Incentives to the organ donors 46

Income 17, 35, 47, 64, 78, 79

Income level 78

India 17, 19, 20, 47, 74, 75, 81, 82, 84

Informed consent 7, 19

Infrastructure 10, 24, 25, 68, 82

International Conference of Islamic Jurists 61, 62

Interpersonal channels 34

Iran 2, 4, 18, 19, 20, 53, 55, 66, 67, 68, 82

Iranian model of renal transplant 66

Islam 5, 32, 53, 55, 56, 57, 58, 59, 60, 65, 68, 69, 83

Islamic countries 53, 56

Islamic jurists 60, 61, 62

Islamic perspective on organ donation 50

Joseph Murray 1, 72

Kidney 1, 2, 10, 16, 18, 19, 20, 23, 24, 31, 37, 39, 40, 41, 42, 53, 56, 59, 60, 61, 63, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 84

Kidney donation 31, 63, 71, 72, 77, 78

Kidney failure 56, 59, 81

Kidney sellers 18

Kidney transplant 3, 23, 63

Kidney transplantation 1, 18, 23, 37, 39, 63, 77

Kidney vendors 18

Kuwait 53, 61

Laparoscopic 1, 31

Level of income 78, 79

Liver donation 31

Liver transplantation 2, 41, 42, 77

Living donation in Malaysia 72

Malaysia Cell Registry 36

Malaysian Medical Association 26

Mandated choice system 4, 7, 15, 82

Media 25

Medical Facts and Procedures 31

Mufti 32, 58, 59, 60, 61

National Fatwa Council 58, 62

National Health Service 8, 29

National Health Service Blood and Transplant 8

National Transplantation Council 26

National Transplantation Technical Committee 27

National Transplant Organisation 10

National Transplant Procurement Management Unit 24

National Transplant Registry 2

National Transplant Resource Centre 24

Opting-in 2, 3, 4, 7, 8, 10, 42, 50, 82, 83

Opting-out 3, 4, 7, 8, 9, 10, 39, 40, 42, 50, 82, 83

Organ compatibility 72

Organ disposal 11

Organ donation card 35

Organ Donation in Malaysia 23, 81

Organ donation market 71

Organ procurement 13, 27, 33, 34, 48, 49

Organic commercialism 73

Organ shortage 3, 4, 7, 14, 16, 50, 66, 68, 81, 83, 84, 85

Joseph Murray 1, 72

Kidney 1, 2, 10, 16, 18, 19, 20, 23, 24, 31, 37, 39, 40, 41, 42, 53, 56, 59, 60, 61, 63, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 84

Kidney donation 31, 63, 71, 72, 77, 78

Kidney failure 56, 59, 81

Kidney sellers 18

Kidney transplant 3, 23, 63

Kidney transplantation 1, 18, 23, 37, 39, 63, 77

Kidney vendors 18

Kuwait 53, 61

Laparoscopic 1, 31

Level of income 78, 79

Liver donation 31

Liver transplantation 2, 41, 42, 77

Living donation in Malaysia 72

Malaysia Cell Registry 36

Malaysian Medical Association 26

Mandated choice system 4, 7, 15, 82

Media 25

Medical Facts and Procedures 31

Mufti 32, 58, 59, 60, 61

National Fatwa Council 58, 62

National Health Service 8, 29

National Health Service Blood and Transplant 8

National Transplantation Council 26

National Transplantation Technical Committee 27

National Transplant Organisation 10

National Transplant Procurement Management Unit 24

National Transplant Registry 2

National Transplant Resource Centre 24

Opting-in 2, 3, 4, 7, 8, 10, 42, 50, 82, 83

Opting-out 3, 4, 7, 8, 9, 10, 39, 40, 42, 50, 82, 83

Organ compatibility 72

Organ disposal 11

Organ donation card 35

Organ Donation in Malaysia 23, 81

Organ donation market 71

Organ procurement 13, 27, 33, 34, 48, 49

Organic commercialism 73

Organ shortage 3, 4, 7, 14, 16, 50, 66, 68, 81, 83, 84, 85
organ traders 84
organ trading 1, 4, 5, 7, 16, 18, 20, 61, 67, 74, 82, 84
organ trafficking 12, 46, 49, 71, 73, 74, 76, 82
Pakistan 4, 5, 18, 20, 53, 55, 66, 67, 68, 74, 75, 76, 81, 82, 84
Philippines 5, 19, 20, 37, 74, 81, 84
Portugal 9, 53
potential donor 8, 9, 24, 27, 34, 35, 40, 42, 49, 66
presumed consent 2, 3, 8, 9, 10, 20, 48
prison 12, 76
prisoners 12, 76, 77
procuring organs 3, 76
Public Awareness 35, 45
Public Education 34
Quran 32, 38, 55, 58, 69
recovery period 31
religion 20, 37, 44, 45, 55, 56, 65, 66, 83
religious 3, 5, 23, 33, 43, 44, 54, 55, 56, 64, 65, 66, 68, 78, 83
renal transplant 1, 24, 66, 67
required request system 4, 7, 13, 82
reward 18, 19, 47, 57, 78
Saudi Arabia 2, 53, 55, 56, 61, 62, 66, 67, 68
Saudi Department of Research Fatwa 61
selling human organs 74
Singapore 10, 58, 60, 74
Spain 2, 4, 9, 10, 20, 39, 40, 41, 48, 49, 53, 82, 83, 85
Spain donation rate 9
Spanish model 24, 42, 48, 82
Spanish National Transplant Organisation 10
tax rebate 44
Tissue Organ Procurement Team 27
transplantation of genital organs 62
transplantation packages 74
transplantation professionals 42
transplant ethics 28
Turkey 21, 35, 55
United Kingdom 8, 48
WHO 13, 16, 46, 71, 73, 74, 84
xenograft 59, 62
Zaki Badawi 57
The lives of more than 18,000 Malaysian patients who are in the waiting list for organs are under threat. Organ transplant is the only hope for those patients to live a healthy life again. However, the shortage of human organs for transplant has been impeding these hopes to turn into reality. Consequently, many are tragically dying every year while waiting for an organ. Malaysia has one the lowest organ donation rates in the world. Improving donation rates requires a better understanding of the reasons behind the low donation rates, especially among the public. This book provides the essence of years of research on the issue of organ donation in Malaysia. This book is a compilation of numerous research papers published in international and local journals; however, it is simplified here to reach the non-specialist readers. This book discusses both the living and deceased organ donations and investigates the social, legal, ethical, and technical aspects of organ donation. It gives a deep insight into the reasons behind organ shortage and suggest strategies to overcome this dilemma. The shortage in organs supply is a global concern faced by both developing and developed countries. This book was written in the light of local and international experience; thus we hope that it would help to create awareness on the importance of organ donation and transplantation and would potentially solve the dilemma of organ donation not only in Malaysia but also throughout the world.