

## Evaluation on the Effectiveness of the Different Modes of Publicity for Tissue Donation among Healthcare Professionals in Singapore

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### Abstract

**Introduction:** In Singapore, the donation of tissues is governed by the Medical (Therapy, Education and Research) Act. For past years, our tissue banks have engaged in various publicity methods. The objective of this study is to evaluate the effectiveness of our publicity strategies among healthcare professionals.

**Method:** A 6-questions survey was conducted among doctors, nurses, allied health and support services staff from Singapore General Hospital and National Heart Centre Singapore. Sample size was calculated in accordance to the occupation ratio.

**Results:** Of the 450 respondents who completed the survey, most did not see, read or heard about tissue donation. Newspaper articles were their main source of information amongst those who encountered tissue donation message. All categories of staff concurred that presentations by tissue banking experts is the best way to convey the message. All occupations except doctors, reported that information on how tissue donation improved a recipient's life will interest them. On contrary, statistics and facts will interest doctors more.

**Conclusion:** Results highlighted our publicity methods have not been effective in conveying tissue donation message to healthcare audiences. Hence, there is a need to re-strategise its publicity efforts, so that information on tissue donation can be effectively delivered to them.

**Keywords:** Tissue donation; Heart valves; Skin allografts

### Introduction

There are two laws that governs organ and tissue donation in Singapore-the Human Organ Transplant Act (HOTA) and the Medical (Therapy, Education and Research) Act (MTERA). Unlike HOTA, which allows for the three organs and one tissue (kidney, liver, heart and corneas) of Singapore citizens and permanent residents to be donated in the event of death for the transplantation purpose [1], the donation of skin and heart valves are governed by MTERA. The Act provides for voluntary donation of specified organs and tissues for the purposes of transplantation, treatment, education or research [2].

For the past years, the National Cardiovascular Homograft Bank and the Skin Bank, which are recently merged under Singhealth's Transplant Tissue Centre in 2015, have engaged in various publicity methods. Many international studies have shown the importance of addressing the gaps in healthcare professionals' knowledge, attitude and education needs with regards to organ/tissue donation [3]. However till date, limited research has been conducted locally to understand the education needs and effectiveness of different publicity methods of tissue donation among local healthcare professionals. Previous studies in the United States revealed that in general, healthcare professionals lacked essential knowledge on donation issues and recommended educational programmes to address these deficits [4,5]. Although our tissue banks had been actively engaged in various modes of publicity, it was unknown if these initiatives were genuinely effective in enhancing knowledge on tissue donation. Therefore, this survey was conducted with the objective of reviewing the effectiveness of our current educational and publicity strategies, and identifying the areas for improvement so as to aid the development of more relevant publicity methods to increase tissue pledge and donor actualization rates in Singapore.

### Materials and Methods

In 2012, a survey consisting of 6 questions was conducted among healthcare professionals working in the Singapore General Hospital and National Heart Centre Singapore. They consisted of doctors, nurses, allied health and support service staff, who play administrative, ancillary and non-clinical positions. Sample size was calculated in accordance to the occupation ratio of these two institutions [6].

Data was collated through an anonymous survey questionnaire that was distributed to the departments through the individual departments' supervisors. The survey questionnaire was developed based on questions from other similar studies and further modification was performed so as to reflect what was relevant in our local context. A pilot study, which results were not taken into account of, was subsequently conducted among a group of healthcare colleagues to assess the clarity, the ease of interpretation and functionality. After further refinement of the questionnaire, it was then circulated among the healthcare professionals. Informed consent was assumed when survey participants completed and returned the questionnaire. Ethical consideration was achieved by anonymity when survey participants were only required to identify their current roles in their institutions

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and no other personal identifier was solicited or recorded.

The effectiveness of different modes of publicity was evaluated statistically by comparing the occupational profile of survey participants to the modes that information on heart valve and skin donation was received, the modes of publicity that are personally effective for them, the types of information that will interest them to find out more about tissue donation, and the most impactful way of conveying the message of tissue donation to them.

## Results

521 participants were randomly surveyed, among which 450 participants (86.4%) reverted with full completion of survey Table 1. The findings for the first part of the study were reported on the “Psychosocial factors, knowledge and attitudes influencing skin and heart valve donation among healthcare professionals in Singapore”.

In the second part of this study, results revealed that most healthcare professionals, which consists 74.3% of the doctors, 53% of the nurses, 69.9% of the allied health professionals and 60% of the support services staff, did not see, read or hear about skin or heart valve donation. Moreover, more healthcare professionals were aware of skin donation, as compared to heart valve donation (Table 2).

Amongst those surveyed that came across the message of skin donation, newspaper articles were found to be the chief mode through which information was received for all healthcare professionals, except for nurses. Most nurses (31%) reported to receive the information through talks and forums (Table 3). However, for the message of heart valve donation, 33.3% of doctors received information through newspaper articles as well as posters in the hospitals; 27.6% of nurses and 26.9% of the allied health professionals were informed through newspaper; 17% of support services staff was informed through posters,

Current Role	Number and percentage (%)
Nurse	231 (51.3%)
Allied Health	76 (16.9%)
Doctor	38 (8.4%)
Support Services	105 (23.3%)

Table 1: Current role of healthcare professionals surveyed (n=450).

	Doctors	Nurses	Allied Health	Support Services
Came across mass media on skin donation	12.8%	15.5%	12.6%	17.0%
Came across mass media on heart valve donation	2.6%	9.7%	8.9%	7.9%
Came across mass media for both tissues	10.3%	21.8%	8.9%	15.1%
Did not come across anything for both tissues	74.3%	53.0%	69.6%	60.0%

Table 2: Seen, read or heard any mass media on skin and/or heart valve donation.

Response	Doctors	Nurses	Allied Health	Support Services
Posters placed in hospital compound	25.0%	15.4%	18.8%	12.2%
Brochures	0%	9.9%	15.6%	9.8%
Newspaper articles	37.5%	26.5%	31.3%	37.8%
Websites	12.5%	16.7%	15.6%	14.6%
National TV	12.5%	10.5%	6.3%	11.0%
Radio	6.3%	3.7%	0%	0%
Talks and Forums	6.3%	31.0%	3.1%	7.3%
Roadshows	0%	4.3%	9.3%	7.3%

Table 3: Mode that information was received on skin donation.

Response	Nurses	Allied Health	Support Services
Posters placed in hospital compound	10.2%	11.5%	17.0%
Brochures	9.5%	15.4%	17.0%
Newspaper articles	27.6%	26.9%	17.0%
Websites	24.4%	23.1%	13.2%
National TV	11.8%	7.7%	13.2%
Radio	3.9%	0%	3.8%
Talks and Forums	12.6%	7.7%	11.3%
Roadshows	0%	7.7%	7.5%

Table 4: Mode that information was received on heart valve donation.

brochures and newspaper articles (Table 4).

All categories of healthcare workers concurred that presentations by a medical professional or tissue banking expert is the most effective way to convey the message of skin and heart valve donation. However, the second most effective mode differed for the various categories of healthcare professionals-for the doctors, boards and posters on tissue donation in the hospital campus is preferred; the nurses favour roadshows within the hospital; for the allied health and support service staff, they like testimonials; email blast and internet are also effective modes of information for the support service staff (Table 5).

All occupations, except for doctors, reported that information on how tissue donation improved a recipient’s life would interest them the most to find out more about tissue donation. On contrary, doctors would be more interested if statistics and facts were presented (Table 6). In addition, the majority of the healthcare professionals from all categories agreed that the most impactful tissue donation message should contain information such as “You could make an important choice by donating your tissue and improving a recipient’s quality of life” (Table 7).

## Discussion

Tissue donation rates under the opt-in legislation of MTERA remain low despite its enactment since 1972 despite active media publicity [7,8]. This showed that legislation and mass publicity alone are not sufficient to increase tissue pledger and donor actualization rates. Better practical strategies to target the areas of personal motivation of donors, changing the cultural and religious beliefs of an increasingly literate population and instilling a sense of altruism, are essential to increase their openness to donation [8]. Hence, we embarked on this study with the healthcare professionals in our institutions with the objective of aiding the development of appropriate publicity methods to increase tissue pledger and donor actualisation rates in Singapore. This is because a majority of the survey participants such as doctors, nurses and allied health professionals are caregivers to the patients and play vital roles in identifying potential donors, educating and broaching the subject of tissue donation to potential donors’ next-of-kins. Therefore, if these healthcare professionals assume these roles effectively, they will have a direct impact on increasing the number of donors [9].

Despite active publicity since the operations of skin bank in 1991 and cardiovascular homograft bank in 2008 respectively, more than half of healthcare professionals surveyed, including doctors and nurses, have never come across any mass media on donation for both tissues. Among those who encountered the message of tissue donation through the mass media, many received information through newspaper reports, posters in the hospital campus, talks and forums. Website, as the study revealed, is not very effective in delivering tissue donation message probably because it depends on the staff’s personal motivation. This

Response	Nurses	Allied Health	Support Services
Presentations by a medical professional or tissue banker	151	48	84
Brochures	84	23	59
E-mail blast/ Intranet	41	29	64
Testimonials	96	36	64
Roadshows in hospital compound	104	34	62
Boards or posters in hospital compound	75	29	56
Scientific Meetings	34	7	11
Journal/Scientific Publications	43	10	24

**Table 5:** Modes of publicity that are personally effective for them to receive messages of skin and/or heart valve donation (each staff can select more than 1 choice).

Response	Nurses	Allied Health	Support Services
Details about how to become a tissue pledger	15.90%	16.70%	15.30%
How donation impacted/improved a recipient's life	47.60%	46.20%	49.70%
Statistics and facts about skin and heart valves donation	25.10%	32.00%	26.10%
I am not interested	10.10%	5.10%	7.00%
Others	1.30%	0%	1.90%

**Table 6:** Information that will interest healthcare professionals to find out more about skin and heart valve donation.

Response	Nurses	Allied Health	Support Services
Imagine you are on the tissue waiting list for months, yet there is no suitable donor	14.30%	22.80%	28.00%
You could make an important choice by donating your tissue and improving a recipient's quality of life	43.30%	41.80%	33.50%
A young child's life improved due to a generosity of a donor	28.60%	16.50%	24.50%
Endorsement of tissue donation by well-known personalities or ambassadors of SingHealth	5.60%	3.80%	3.10%
I can do more for mankind by opting into tissue donation	6.10%	15.20%	9.90%
Others	2.20%	0%	0.60%

**Table 7:** The most impactful way of conveying the message of tissue donation to healthcare professionals.

means that staff who are not aware or disinterested in tissue donation will not search for or visit websites containing the message of tissue donation. As a result, it is less likely for them to visit the websites to receive accurate information that may change their perspectives. As the skin bank started 11 years before the cardiovascular homograft bank, this may explain why more healthcare professionals were aware of the skin donation programme than heart valve donation programme.

All the categories of healthcare professionals agreed that the most effective mode of conveying the message of tissue donation is through presentations and talks given by tissue banking experts or medical professionals. This fits with our current practices of giving educational talks on a regular basis to different healthcare audiences. To improve the rate of attendance, we organise talks during convenient times for the staff such as during lunch hour or specific timeslots for in-service talks, and issue continuous education points for attendance. This creates a

win-win situation, which benefits the doctors and nurses as they have an opportunity to fulfil their continuous education requirements, while our tissue banks can achieve our objective of educating them on tissue donation.

Significant findings were obtained with regards to the types of information that will generate interest in different categories of healthcare professionals to find out more about tissue donation. In particular, doctors want to find out facts and statistics in relation to tissue donation. This is in alignment with our personal experiences with doctors, who often asked specific questions such as the occurrence of adverse events post-transplantation, and any literatures and recent studies to support certain graft processing practices. This also implies that presentations given to doctors should ideally contain more scientific, medical and technical information, graphs, statistics and journal references so as to engage and educate them more effectively. Conversely, the presentation style for all the other healthcare professional groups should be angled towards a more personal and descriptive approach, which encompasses real-life stories of how tissue donation has improved a recipient's life.

The data gathered highlighted that the various publicity methods engaged by our tissue banks have not been very effective in conveying tissue donation message to targeted healthcare audiences. The findings suggest that tissue banks can convey messages of tissue donation to healthcare professionals more effectively by imparting correct information associated with tissue donation, addressing misconceptions, providing insights of how the body is treated upon donation, the roles of various categories of healthcare professionals to facilitate tissue donation processes, and how donation has improved the lives of recipients. The most impactful way to angle a campaign is by empowering the survey participants to make conscious informed decisions of how they can change the life of a recipient by making this important choice of tissue donation. This is consistent with another of our finding, which supports why these same groups of survey participants are willing to donate-because they want to "improve someone's quality of life" and "do a good deed." Periodic publication through newspaper articles, in-campus posters and educational talks customized to suit and engage the different target audiences are discovered to be the optimal modes of education.

This study highlights the need for appropriate method in educating and engaging healthcare professionals in tissue donation. Based on the study results, the most effective way to do so is to design and conduct activities with direct contact between tissue bank experts and target audience. In the future, we would also like to further explore the role of intranet usage in promoting tissue donation message and which types of newspaper will have the most widespread impact to healthcare professionals and the public. In these ways, we will re-strategise our publicity efforts in accordance to the appropriate target audience, so that information on tissue donation can be effectively delivered to them.

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#### References

1. The Human Organ Transplant Act. Legislation and Guidelines. Singapore Ministry of Health.
2. The Medical (Therapy Education and Research) Act. Legislation and Guidelines. Singapore: Ministry of Health.
3. Dardavessis T, Xenophontos P, Haidich A, Kiritsi M, Vayionas MA (2011)

- Knowledge Attitudes and Proposals of Medical Students Concerning Transplantations in Greece. *Int J Prev Med* Jul 2: 164-169.
4. Bidigare S, Oermann M (1991) Attitudes and knowledge of nurses regarding organ procurement. *Heart Lung* 20: 20-24.
  5. Roark D (2000) Overhauling the organ donation system. *Am J Nursing* Jun 100: 44-48.
  6. (2010) Singhealth annual report. Singapore Health Services.
  7. Kwek TK, Lew TW, Tan HL, Kong S (2009) The transplantable organ shortage in Singapore has implementation of presumed consent to organ donation made a difference? *Ann Acad Med Singapore* 38: 346-353.
  8. Chin J, Kwok THX (2014) Ethical challenges in the deceased organ donation programme: Asian perspectives. *Indian J Med Ethics* 11: 139-143.
  9. Collins TJ (2005) Organ and tissue donation: a survey of nurse's knowledge and educational needs in an adult ITU. *Intensive Crit Care Nurs* 21: 226-233.

**Citation:** Heng WL, Tham I, Yick JL, Chiang IY, Seck T (2016) Evaluation on the Effectiveness of the Different Modes of Publicity for Tissue Donation among Healthcare Professionals in Singapore. *Transplant Rep* 1: 103. doi:[10.4172/troa.1000103](https://doi.org/10.4172/troa.1000103)

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