

AWARENESS AND ATTITUDES TOWARDS FACE AND ORGAN TRANSPLANT IN KUMASI, GHANA

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SUMMARY

Objectives: This study aimed to determine the level of awareness and attitudes towards face and organ transplant among the people of Kumasi, Ghana.

Design: An observational study was employed, where participants were randomly selected for the study.

Participants: The respondents were commuters waiting to board public vehicles at the Kejetia lorry station, Bantama/Komfo Anokye Teaching Hospital taxi station, Buokrom Estate F-line lorry station, traders, and residents of Adum and Bantama, all in Kumasi.

Methods: The descriptive study was conducted from 1st February to 30th April 2009. An interview-based questionnaire was used for the convenient sample of respondents. Data obtained included: demographic profile and items covering awareness, attitudes and beliefs towards face and organ transplant.

Results: Out of the 1020 respondents, females (53.2%) outnumbered males. The age of respondents ranged from 10 to 89 years; mean was 27.50± 2.98 years; majority (72.3%) was Christians, whilst 61.8% had gone through tertiary education. Few (33.5%) of the respondents were aware of face transplant; 70.0% and 62.1% were willing to receive a face if their face was disfigured or donate their face when dead respectively. Also, 50.6% were aware of organ transplant, while 59.1% would receive/donate an organ when required. Multiple regression analysis shows statistical significant association between attitudes, awareness and demographic variables listed.

Conclusion: Face and organ transplant were found to have a relatively low and high awareness level respectively. However, an affirmative attitude was recorded for face and organ transplant. More education on face and organ donations is needed.

Keywords: Face; Organ; Transplant; Awareness; Attitudes.

INTRODUCTION

Transplantation of human organs and tissues has many advantages; it saves many lives and restores essential functions for many otherwise untreatable patients, both in developing and developed countries. Face transplant for instance, can give a new hope to individuals with disfigured facial structures that may be caused by burns, chemicals or accident. Organ transplantation is the moving of an organ from one body to another or from a donor site on the patient's own body, for the purpose of replacing the recipient's damaged or absent organ. Organs and/or tissues that are transplanted within the same person's body are called autografts. Transplants that are performed between two subjects of the same species are called allografts. Allografts can either be from a living or cadaveric source.¹ A face transplant in this study is defined as a surgical procedure to replace all or part of a person's face.

Transplantation medicine is one of the most challenging and complex areas of modern medicine. Some of the key areas for medical management are the problems of transplant rejection, during which the body has an immune response to the transplanted organ, possibly leading to transplant failure and the need to immediately remove the organ from the recipient. When possible, transplant rejection can be reduced through stereotyping to determine the most appropriate donor-recipient match and through the use of immunosuppressant drugs.^{1,2}

Worldwide, the kidneys are the most commonly transplanted organs. In most countries there is a shortage of suitable organs for transplantation.¹ Although blood donation had been accepted by many, there is a hindrance to organ donation worldwide.^{2,3} Countries often have formal systems in place to manage the process of determining who is an organ donor and in what order organ recipients receive available organs.⁴

The world's first partial face transplant on a living human was carried out on November 27, 2005 by Professor Jean-Michel Dubernard, a plastic and microsurgeon in Amiens, France.⁵

In April, 2006, the Xijing Military Hospital in Xian, China carried out a similar operation, transplanting the cheek, upper lip, and nose of a man mauled by an Asiatic black bear.⁶

Although organ transplant techniques had been in existence for a long time, the first kidney transplant in Ghana was on the 11th November, 2008 at the Korle-Bu Teaching Hospital.⁷ In all, three kidney transplants were performed by the team in a matter of one week. The incidence of facial injuries has been on the increase in sub Saharan Africa including Ghana.^{8,9,10} People with faces disfigured by trauma, burns, disease, or birth defects might benefit from a face transplant procedure.

The alternative to a face transplant is to move the patient's own skin from their back, buttocks or thighs to their face in a series of as many as 50 operations to regain even limited function and a face that is often likened to a mask or a living quilt. Scott Levin, chief of plastic and reconstructive surgery at the Duke University Medical Centre, has described the procedure as "the single most important area of reconstructive research".¹¹ Even with the advent of facial transplant surgery in the developed world, there is still very little information on the possibility or even availability of facial transplant surgery in Ghana.

The ability to reconstruct complex facial injuries is still a considerable challenge despite the development of microsurgical techniques. The reconstructive options for conditions such as panfacial burns are severely limited. The result after multiple surgical procedures in this group is often poor in terms of function and cosmetics. Facial transplantation provides a potential solution, but opinion is currently divided about the extent to which the potential benefits to the quality of life can be justified when weighed against the technical, psychological and immunological risks. This study was to determine the level of awareness and the attitude of people towards face and any organ transplant surgery among the people of Kumasi, Ghana.

MATERIALS AND METHODS

The descriptive cross-sectional study was conducted from February 1, 2009 to April 30, 2009 to assess the responses of people towards face and organ transplant. The study population was commuters waiting to board public vehicles at the Kejetia lorry station,

Bantama/Komfo Anokye Teaching Hospital (KATH) taxi station and Buokrom Estate F-line lorry station. Traders and residents of Adum and Bantama, in Kumasi were also part of the study population. Samples of 1020 respondents were interviewed using convenient sampling techniques after having obtained the necessary ethical approval for the study.

Data collection tools were structured interview guide and focus group discussions guide for most traders and few residents.

Most of the commuters read and answered the questionnaire themselves within approximately 5 minutes. Data obtained include: demographic profile and items covering awareness, attitudes and beliefs towards face and organ donation. Topics related to personal willingness to donate or receive a face or an organ for transplantation, and objections to donation, religious and other beliefs towards donation were studied. The pre-tested questionnaires used for the interview were administered after each respondent had given his/her informed consent, assured about the confidentiality and ethical principles that would be followed.

Ethical Approval

The appropriate ethical approval was obtained from the Committee on Human Research, Publications and Ethics of the Kwame Nkrumah University of Science and Technology, School of Medical Sciences and Komfo Anokye Teaching Hospital, Kumasi. The ethical concept of health delivery and research was observed and complied with the Helsinki Declaration of 1975 (revised in 1983) on human experimentation.

Data Analysis

Data collected were analyzed using descriptive statistics and tests of significance (i.e. Multiple Regression Analysis) with SPSS windows version 12 (SPSS, Inc., Chicago, IL, USA).

RESULTS

Demographic Data

A total of 1020 respondents took part in the survey. Their ages ranged from 10 to 89 years, with a mean age of 27.50±2.98 years. Females (53.2%) outnumbered males (46.8%), whilst, majority (82.4%) of the respondents were Christians. Also, 61.8% of the respondents had gone through tertiary education (Table 1).

Attributes of Face Transplant

Few (33.5%) respondents were aware of face transplant, however, most of them (70.0%) were

willing to receive a new face if theirs is disfigured or donate (62.1%) theirs if they died (Figure 1).

Table 1 Demographic data of the respondents (N=1020)

Variable	Number	Percent
Age-group		
10 - 29	666	65.3
30 - 49	288	28.2
50 - 69	60	5.9
70 - 89	6	0.6
Gender		
Male	477	46.8
Female	543	53.2
Religion		
Christian	840	82.4
Muslim	123	12.0
Jewish	5	0.5
Buddhist	3	0.3
Others	49	4.8
Education Level		
Primary	120	11.8
Secondary	219	21.4
Tertiary	630	61.8
Others	51	5.0

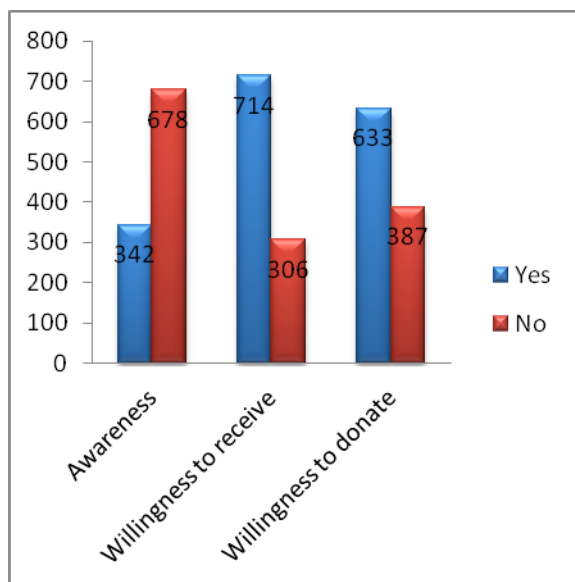


Figure 1: Respondents' attributes towards face transplant (N=1020)

Table 2 shows reasons for unwillingness receive or donate for face transplant. The major reason for both was personal feelings.

Attributes of Organ Transplant

Most (50.6%) of the respondents were aware of organ transplant; notwithstanding, 2.8% of them had organ donor card, opted for it in the USA, England and

Canada and 1.7% had received organ transplant (skin grafting- autografts) before in KATH, Kumasi. There was a positive attitude towards organ donation or receiving. Table 3 shows the different reasons given by respondents who were not willing to donate or receive an organ transplant. Most (30.2%) of them attached religious beliefs to their reasons; whiles, personal feelings and issues of side-effect (Slight increased risk of infection (urinary tract), Diabetes, High blood pressure, Cholesterol problems, Headaches, Tremors, Slight increased risk of cancer, Skin appearance changes, Insomnia, Depression, Mood swings) of the medications (Glucocorticoid, Calcineurin inhibitors, Anti-proliferatives, mTOR inhibitors, Monoclonal anti-IL-2R α receptor antibodies and Polyclonal anti-T-cell antibodies) accounted for 25.9% and 20.9% respectively of the reasons given.

Table 2 Reasons for non-acceptance of face transplant if required

Reason	For willing to	
	Receive (%)	Donate (%)
Religious beliefs	75(24.5)	57(14.7)
Personal feelings	114(37.3)	204(52.7)
Unsafe	42(13.7)	60(15.5)
Cost	24(7.8)	---
Not sure	51(16.7)	66(17.1)
TOTAL	306	387

Table 3 Reasons for non-acceptance of organ transplant if required (N= 417)

Reason	Number	Percent
Cost	78	18.7
Religious beliefs	126	30.2
Side-effect of medication	87	20.9
Personal feelings	108	25.9
Others	18	4.3

Table 4 Multiple Regression Analysis for Socio-demographic variables for Awareness and Attitude

	FACE TRANS-PLANT		ORGAN TRANS-PLANT	
	Awareness	Attitude	Awareness	Attitude
Age	0.80	0.80	0.02*	0.04*
Gender	0.50	0.50	0.50	0.50
Religion	0.12	0.16	0.55	0.04*
Education (Tertiary)	0.04*	0.01*	0.001*	0.00*

Values marked*are considered significant

Multiple Regression Analysis

A statistical significant for attitudes, awareness and demographic was identified. In terms of awareness and demographic characteristics, tertiary education and younger age (10 -39 ages) were associated with organ

transplant; while tertiary education was the only variable found to be associated with face transplant (Table 4).

DISCUSSION

Technology in transplant continues to improve. However, there is a large gap between the number of patients waiting to receive organs and people willing to donate organs¹. The public anyway would be needed to fill up the created gap. The level of awareness and attitudes of the public regarding transplant is very important to be able to alleviate the issue. This study was to determine the level of awareness and the attitude of people towards face and any organ transplant surgery among the people of Kumasi, Ghana. The sampling was performed and respondents were made up of different groups of people.

Awareness regarding Face and Organ Transplant

The results of our study show that, the level of awareness on face transplant was low (33.5%) as compared to that of organ transplant (50.6%). A similar organ transplant study in Nigeria reveals a higher (60.0%) awareness level among 428 respondents in Lagos.¹² Also higher awareness for organ transplant had been reported by Perona *et al* (2004) in Brazil and Bapat *et al* (2010) in India.^{2,13} The relatively lower and higher level of awareness for face and organ transplant respectively in our study may be due to the publicity given to the first organ (kidney) transplant by the media.

Awareness in the study was also associated with some demographic features. Tertiary educational level was associated with awareness of face transplant; while, organ transplant was significantly higher among those with tertiary educational level and younger ages. In a cross sectional study by Olumuyiwa *et al* (2006) a similar statistically significant association was reported for organ transplant.¹² The significant association of respondents with a tertiary level of education for both face and organ transplant may be due to access to different types of information, hence had more knowledge on the issue as compared to the other respondents with lower levels of education.

The reason for respondents of younger ages (i.e. 10 – 39 years) been significantly associated to organ transplant may be due to the frequent use of information for academic, entertainment, etc. especially the internet, television, radio etc. ; hence may have access to the information as compared to the other age groups.

Responses related to Attitudes towards Face and Organ Transplant

Majority of the respondents, from the study exhibited positive attitude towards face transplant, though their awareness level was relatively low. A higher percentage of the respondents were willing to either donate their faces when dead or accept a new face, if theirs is disfigured. This shows that the zeal for face transplant among the respondents is affirmative, hence maximum campaigns and education on face transplant is required to increase the positive attitude of the Kumasi population. Also, face transplant associations or groups should be created, since majority of the people would be willing to join.

Despite the high awareness level of respondents towards organ transplant, the study shows that few had an organ donor card. Again, 1.7% of the respondents claim to have received an organ transplant before. However, majority of them were eager to either donate or receive organ transplantation. Similar studies in different countries had reported a higher number of ferventness among respondents to either donate or receive an organ for transplant.^{2,12,14,15} Also, in a similar study in Turkey, the author reported that, no respondents had an organ donor card.¹⁶ Comparing the results of our study with others in the literature, it is obvious that positive attitude towards organ transplant is high.

However, the results of our study and the literature indicate that few or no respondent possessed organ donor card. This may be due to the fact that, there are few or no organ donation associations and clubs in Kumasi, therefore, irrespective of the number of people with positive attitude, the number of registered organ donors would be always low. There is therefore the need of creating more of such clubs and associations in schools, worship centres and working places, coupled with relevant education.

The study again reveals that, the reasons given by the few respondents who had a negative attitude towards face and organ transplant, had personal feelings and religious beliefs as the main reasons, though 17.1% were “not sure” on donating their face. Naçar *et al* (2009) in their study on attitudes of students towards organ transplant also reported religious beliefs as a reason for which respondents had negative attitudes towards organ transplant.¹⁶ Emphasis on education, involving the different religious groups is needed to alleviate that negative attitude. Since most religions preach about life saving, they should be educated to know that face transplant is also a way of life saving.

Statistical significant for attitude in our study was identified among tertiary education level respondents for face and organ transplant, whiles, younger age and religion (Christian) was identified for only organ transplant. A study in Lagos in 2006 had similar significance for organ transplant in terms of younger age and tertiary education level.¹² However, the study of Bapat *et al* in 2010 had a different statistical association.² The reason for this may be the differences in religious denominations, since in Kumasi majority of the people are Christians, whiles in Nigeria and India Muslims and Hindus are the majority respectively. This could be supported by the study of Naçar *et al* in 2009, in which it was reported that 16.5% of the respondents said organ donation was not in accord with Islamic beliefs.¹⁶

CONCLUSION

Face and organ transplants were found to have a relatively low and high awareness level respectively. However, an affirmative attitude was recorded for face and organ transplant. There is a need of more education campaigns and forums on face and organ donations. In addition, the Ghana Ministry of Health, health related Non-Governmental Organizations, religious bodies and other stakeholders, should incorporate the establishment of organ donation associations and clubs in the institutions at all levels, so as to alleviate the number of people waiting for compatible organ donors to undergo a transplant surgery.

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