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Transplantaion and educational status versis compliance from a single center which is a tertiary care referral institute from south India

Abstract

Background: Transplantation cases of kidney should be correlated with a variety of variables and in other words a work in progress. The factors that play an important role include socioeconomic conditions, educational level and cognitive levels, linguistic competency.

Methods: The study population were kidney transplant recipients at our centre from 2010 to June 2026 who came for immunosuppressive medication to our institute regularly. Totally 68 patients were surveyed they were divided into low education from no education up to middle school as in seventh grade and the rest from middle school onwards to the category of higher level of education.

Results: Totally 68 patients were surveyed and 13(19.1%) of them fitted into the low education status and rest 55(80.97%) fitted into higher education. That amounts to about 20% in the lower education status and 80%in the higher education status. Education status did not have a significant impact on compliance in our study.[1]

Conclusion: Low socioeconomic level, linguistic competency and cultural background played a pivotal role in improving kidney transplant out comes. Target focused educational support /health education and patient's rights for medical benefits under various schemes if improvised would play a significant role in the overall outcome of graft survival in kidney transplant patients.[2]

Keywords: chronic kidney disease, education, socioeconomic status, deceased donor, living donor, economic status transplant, consent, linguistic competency, emotional intelligence

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Introduction

Kidney transplantation is one of the standard available methods of renal replacement therapy in patients with end stage kidney disease. Allograft failure, hospitalizations and other complications are like the sword of Damocles in spite of the relatively low long term mortality. Transplant centres should educate patients adequately with relevance of living donor transplants and cadaver transplants. There is a gross lack of documented evidence with regards to the health literacy formats, linguistic competency and cultural knowledge which is required for the patient to take a call on informed treatment decisions. The transplant administrators are responsible for the pre kidney transplant formal education. The health education was also provided by nurses, medico social workers physicians and surgeons but these were mostly on one- on- one basis. The reason why it is important is that equips the patient to acquire and understand heath information provided to make suitable health care decision and there by improve their outcomes. Inadequate health education results with low blood pressure control, higher hospital admissions. It also results with lower rate of compliance towards preventive screenings mammography, flu vaccinations and increased health care expenditure in the long run.

The point of interest is that that transplant education is mandatory. The reason being they need to be informed in detail about, the actual procedure the risks involved, the other options and the benefits of transplantation. Transplant units should as a mandate provide extensive consent forms from the point of registration for transplant up until surgery. There is no common or rather universal format or procedure where in there is little or no doubt of the comprehension by the patient for transplantation however most centres have a fairly good ones for the actual surgical procedures. Education is also important to provide adequate information regarding live and disease donors as an option of swap of kidneys to name a few. The lack of a universal well vetted and accepted frame work for education of transplant patients raises the concern about rules regulations and professional conduct of the system. A universal system is required to ensure for an equal awareness and optimal access to transplant services. In addition just providing information is not enough it's not as simple as that, it's a more tortuous process In other words it must be provided in culturally and linguistically competent manner. Cultural and linguistic competency is an essential part to quality and life span of a person and brings down the lack of equality in dissemination of knowledge. How proficiently this education is done no one really knows due to lack of information and the vast diversity. For example our country has 3 cores of gods and goddesses and approximately about a thousand five hundred languages which are spoken and have their own written format. So the task is enormous and boils down to as much as required. We have a large and significant racial and ethnic minority groups who are undergoing kidney transplantation. This education must also be culturally sensitive.

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Definition of understanding	
Culture	The shared set of beliefs, values, traditions, language, art, laws, and social behaviors that characterize a group of people and shape how they perceive and interact with the world. This also includes. Material culture clothing, food and every day tools, non material cultures such as values, beliefs, spiritual practices, share identities in order to build a relationship of trust
Cultural competency	In healthcare is the ability of healthcare providers and systems to understand, respect, and effectively respond to the diverse social, cultural, and linguistic needs of patients, which must include provider and the system as a whole and patient centered focus.
Linguistic competency	*It is the know how of a particular dialect in such a way that it effectively conveys in manner such that its easily understood by a diver audience which includes persons with limited English proficiency, persons hard of hearing, persons who are visually challenged persons who cannot speak.(Note: In health care and public services, "linguistic competence" can also mean an organization's ability to communicate clearly with people who have limited English knowledge or disabilities.)*
Limited English proficiency	People who do not speak English as their primary language and have a limited ability to read, write, speak, or understand English. It is to understood that it's a language barrier not that of overall intelligence, a particular population for example rural areas with no access to English but proficient in local language.
Education	The structured or shared process of acquiring and passing on knowledge, skills, values, beliefs, and habits It shapes how people think, feel, and act, helping individuals grow personally and contribute to society. It is inclusive of formal. Informal and non-formal education. which is very relevant in heath care settings
Emotional intelligence	The ability to recognize, understand, manage, and use your own emotions in positive ways, while also understanding and influencing the emotions of others. The pillars of emotional intelligence are **Self-Awareness:** Knowing your own emotions, strengths, weaknesses, drives, and how they affect others. **Self-Regulation:** Controlling or redirecting disruptive impulses and moods, and pausing before acting. **Motivation:** Using inner passion and values to guide and inspire yourself toward goals **Empathy:** Recognizing, understanding, and considering other people's emotional reactions. **Social Skills / Relationship Management:** Managing relationships, building networks, and resolving conflicts with clarity and compassion
Minorities	Notified minorities by the government is six but the grey areas are the linguistic minorities which are constitutional and have a legal context and minority in certain union territories like Nagaland, Mizoram have majority of Christians, Punjab has Sikhs as majority, Jammu and Kashmir have Muslim majority. This in the context of our country where we announce that Hindu religion is the majority.

Limited English proficiency can create major obstacles when accessing healthcare, education, legal systems, and employment, often leading to delayed diagnoses or higher risks of medical misunderstandings.[3]

Methods

The data was extracted from medical social work department who monitor the various schemes by the government. Data was also collected from transplant outpatient registers. Data base was retrieved from pharmacy department where patients came to collect drugs (immunosupressives). The formal education was divided into high school that is 7th grade and below were regarded as lower education and rest into higher education. The variables such as age, sex, blood group diseased and live donor, number of times hospitalized requiring intensive care unit treatment. Though we had a list of 401 transplants since the inception of our kidney transplant programme actively from 2010 upto2026 June. We had only 68 patients on our record who came for follow up and medication which is about of the total number of transplanted cases that amounts to 16.9%.[4]

Statistical analysis

The study included data from the period of 2010 to 2026, since the available date was that of convenient sampling and that it was rather small. Data was retrieved from a password protected data base and the patents were de identified before data, being handed over. Only sixty eight (68) patient were surveyed and this is about only 17% (correction to the nearest decimal point) of the total number of transplanted cases. Since it was a very small sample, description of the variables in ratio and percentage form was documented. Total number of transplant cases reviewed in the study 68. The ages ranged from 21years to 55 years. The male female ratio is 13:55 cannot be expressed in ratio since 13 is a prime number percentage was 19.1% of female and male ratio was 80.6%. This with the context of patriarchal system existing in our society is a biased data. The educational status divided into lower level of education among (13) 19.1% of the study group and the rest 88.9%) were of the higher level of education. Among the lower level of education of 19.1% (13) of which nine (9) were totally uneducated as in no formal education at all 13.1%. 29(42.6%) of the 68transplant recipients patients required intensive care unit hospital admissions. So in conclusion upto 50% of them approximately received hospital admission of critical care units. Five of these patients who received intensive care hospital admissions had no education at all that is (7.3%) patients surveyed. The rest 14(23.72%) of the 68 patients surveyed belonged to the higher level of education this was the recipient category the donors 21(30.88%)) were totally without any formal education. This reveals that formal education is not the sole criteria. The highest number of intensive care admissions were 12 times and the formal education of the transplant recipients were that of the higher level category. The recipient was formally educated upto class 10th and he was 23 years old, the next patient to have the highest intensive care admissions was 5 time he was a thirty three year old engineer. So formal education and compliance and complication did not correlate with our small group surveyed. Of the 68 kidney transplant patients surveyed 21(30.43%) of the patients were cadaver transplants and the 47(69.1%) were live donor organ transplants. Only six(6) of the 21 live organ transplants were by male donors the rest were female donors. The most common blood group is B+ recipients in the group surveyed. The most common or frequently featuring blood group of the donor was O+. The diseased

organ transplants were from a pool of organ sharing programme where government institutes were on priority list. Graft survival from our study groups shows one patient who has a s graft survivor 16 years with a AB+ blood group totally 13 transplants were done in that year of 2010 and was hospitalized two times. In 2011 one registered, regular for follow up survival of 15 years total transplants 16.2012 no data of follow up totally 27transplants were done that year. Graft survival in 2013 in our study group was 2 out of the 23 transplants done that year. The year 2014 a total of 14 transplants were done we have one on regular follow up with a graft survival of 12 years. 2015 a total of 17 transplants were done however no data available on graft survival for that year. The year 2016 only 2 graft survival for a period of 10 years of the 31 patients transplanted that year.2017 totally 22 and 2018 totally 15 transplants but none registered for follow up so no data available.2019 of the 26 transplants done one graft survivor registered for follow up. The year 2020 and total transplants done six and one register graft survivor of 6 years. 2021 totally 22transplants done and graft survival for follow up was 3. 2022 totally 44 grafts done 22 registered follow up viable functioning grafts.2023 totally 28 grafts were done and register patients with follow up in total 9patients with a graft survival of 3 years or more. 2024total transplants done 27 and 12 patients with graft survival are registered for follow up. 2025 and 45 transplants done patients registered for follow up were 9 registered with graft survival.2026 for six months 27 transplants done and patients registered for follow up are seven.[5-8]

Serial no	Year of transplant	Total no of transplants done	Patients registered for follow up at our centre
1	2010	13	1
2	2011	16	1
3	2012	27	nil
4	2013	23	2
5	2014	14	1
6	2015	17	nil
7	2016	31	2
8	2017	22	nil
9	2018	15	nil
10	2019	26	1
11	2020	6	1
12	2021	22	3
13	2022	44	22
14	2023	28	9
15	2024	27	12
16	2025	45	9
17	2026 (up to June)	27	7

Discussion

This study was under taken primarily to highlight the fact that a need for organised well equipped emotionally intelligent transplant programmes. Our studies clearly show that formal education did not play a pivotal role in compliance of a patient. For example 2022-2024 have recorded a high level of compliance sensitivity quotient. Deceased donor organ transplant at our institute was stated after several years of living related organ transplant. There more of element of equivocality when compared to unequivocally when it comes to transplant education. Providing linguistically competent services and care is important since its beneficial to ethnic and religious minorities since the sovereign government and its benefits are for everyone who are part our nation. Culturally competent system will increase deceased donor transplantation. They also play an important role in decisions when it comes to kidney transplantation where cultural values and beliefs play a role. There is definitely a barrier when it comes to ethical minorities and they access to transplantation wait list of deceased organ transplantation list. All though transplant centre state that written material in at least two as in bilingual but in a multilingual population is this really enough is the question. So the conclusion is that education in health care system more so in transplant centres vary in their methods of delivery or dissemination of information. The common finding is most transplant centre rarely promote living donor transplant as an option. Accordingly in a multilingual population alternative methods can be used like audio visual presentations and group discussions in a transparent manner. The point of relevance is that bicultural and bilingual staff in transplant centre are definitely an asset and their beliefs and values which may be totally the opposite of professional expectation. Culturally competent care and education should sensitivity of the situation in terms of expectation satisfaction of patient's outcome including patients experiencing psychological stress which in vast majority plays a role of cognitive adherence to the professional expectation. Adherence to medication may be in a vast majority in many degrees and layers. Medical non adherence is dynamic family, environment this is in spite of the government providing immunosuppressive drugs free of cost at our institute. This also dependent on lifestyle changes regular clinical visits and laboratory testing which also incur additional expenses. To simply put compliance is adherence and persistence against all odds in other words whatever it takes. The informed consent the surgical side needs to take the myriad of social and, psychosocial and sever other factors which influence the informed consent process.[9,10]

Conclusion

Most of the transplant centre function on these points when they come to educating the patients in health care setting. The one- one happens through referral clinician, nurse, social worker, surgeon. Nephrologist, Urologist, financial counsellor, dietician, physician assistant transplant co –coordinator and pharmacist to name a few. Types of formal education at transplant centres is through –written format, educational format, one-on--one education, group lectures, power point presentation video and the teach back technique. Its documents in all transplant centres globally including our institute one of the mentioned methods are used. Most of the culturally diverse groups relied on an interpreter in their programmes to facilitate education of the patient and donor. Steps that can be done in a culturally diverse population they can have interpreters in person, on video group call, bilingual staff, bicultural staff. Cultural competency training and community liaisons to name a few. Transplantation programmes are always a work in progress. The challenges are many when it comes to complained, fatigue, stress memory issues restlessness and anxiety in the higher level of education are a sensitivity issue barrier as one puts it ignorance is bliss but true how far.

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Artificial intelligence

Was not used in preparing the manuscript.

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