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Letter from the Editor's Desk

Our Directorate of Public Health and Preventive Medicine as operational head as well as public health lead during the Covid 19 learnt many lessons on disease prevention and managements particularly on the need for scientific approach with rapidly changing information and inputs.

The situation made us to do the concurrent analysis of operational data coming across the state on daily basis so as to take meaningful decisions out of them without any assumptions and bias.

Also Covid appropriate behaviour taught us the basic lessons on health and hygiene, individual responsibilities and community behaviour as a whole in prevention and control of diseases.

Now it is time to share our knowledge and learn from others not only on communicable disease like Covid 19 but also other health issues like NCD and health system issues. We are happy to create a platform in the name of TNJPHMR for the benefit of emerging health experts for sharing their scientific wisdom.

Best wishes...

Dr. T.S.Selvavinayagam MD., DPH., DNB.,

Director of Public Health & Preventive Medicine

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ORIGINAL ARTICLES

Why do we do basic **research**? To learn about ourselves.



RESEARCH IS TO **SEE** WHAT EVERYBODY ELSE HAS SEEN, AND TO **THINK** WHAT NOBODY ELSE HAS THOUGHT.

ORIGINAL ARTICLE - PUBLIC HEALTH

A CROSS SECTIONAL STUDY ON AWARENESS ABOUT STROKE AMONG HYPERTENSIVE PATIENTS ATTENDING NON COMMUNICABLE DISEASE CLINIC AT A TERTIARY HOSPITAL IN CHENNAI

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Abstract

INTRODUCTION: Stroke is the second most leading cause of morbidity and mortality in developing Countries like India. The warning signs of stroke are left unrecognized which lead delay in treatment. Therefore, it is necessary to assess the awareness level about risk factors, signs and symptoms and complications of stroke.

OBJECTIVE: To examine the level of awareness about stroke among hypertensive patients and to create awareness among them.

METHOD: A cross sectional study was conducted at a Tertiary Hospital in Chennai (Govt. Stanley Medical College and Hospital). Moreover, 420 hypertensive patients were included in the study during the period between June 2018- November 2018. After obtaining informed consent from the patients, details were collected by face-to face interview using questionnaire designed for the study.

RESULT: A total of 420 responses were collected in which male and female participants between the ages of 40 to 60 years, were nearly equal. Most of the participants belong to upper lower class. 59% have heard about stroke and 13.1% had experienced stroke previously and relatively high percent of them knew from someone who suffered from stroke. The most commonly recognized risk factor of stroke were hypertension (56.7%) followed by smoking (28.8%). The most identified symptom of stroke by 57.1% of population was difficulty in speaking; Weakness of one side of the body by 48.3% were followed by other symptoms. Paralysis of one side of the human body (47.1%), seizures (41.1%) were the most recognized complications of stroke.

CONCLUSION: This study concludes that there is inadequate knowledge about stroke among the study participants which can be further improvised by some health education programs/events.

INTRODUCTION

Stroke is a debilitating and devastating disease. It is the second leading cause of death worldwide, exceeded only by ischemic heart disease and a leading cause of adult disability. Other the fact that the stroke is largely preventable, the global incidence of stroke is rising, there is still relatively low awareness of the risk factors of Stroke [1]

The term "STROKE" is applied to acute several manifestations of cerebrovascular diseases. It causes both mental and physical crippling. Hereby, WHO defines "STROKE" as "a rapidly developing clinical signs of focal (or global) disturbance of cerebral function; lasting more than 24 hours or that leading to death, with no apparent cause other than the vascular origin".[2]

India as a developing country is facing a double burden in communicable and non-communicable diseases. India has the highest cases of deaths and disability due to stroke. The adjusted prevalence rate of stroke is 84-262/100,000 in rural and 334-424/100,000 in urban areas [3]. The Government of India has started the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS) as the first step. The government is mainly focuses on early diagnosis, management, public health awareness, infrastructure and capacity building at different

levels of health care to all the non-communicable diseases including stroke [3].

Early identifying of symptoms and prompt medical care are necessary for providing appropriate treatment to prevent adverse clinical outcomes in patients with stroke. Moreover, it is very important to identify the level of awareness about stroke warning symptoms and risk factors for its prevention and to lower the associated mortality and morbidity.

This study was based on assessing the awareness of risk factors, signs and symptoms and the complication of stroke among the hypertensive patients attending the non-communicable disease clinic at a Tertiary Hospital in Chennai. (Govt. Stanley Medical College Hospital).[4]

METHODOLOGY

Study Design: A Cross Sectional Study.

Study Duration: 6 months (June 2018 - November 2018)

Study Population: Both Males and Females between 40 and



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60 years of age who have been diagnosed as hypertensive patients.

Study Area:

Non communicable disease clinic at a tertiary hospital (Govt. Stanley Medical College Hospital)

Sample Size:

According to the study on "Prevalence on awareness of stroke among elderly public in eastern India by Bidyut Kumar Das et al, sample size was calculated with P – prevalence 67%, q – 33% [3]. With 95% Confidence level and relative precision of 7% of Prevalence, sample required for the study was calculated as follows. Sample size $n = 4pq/d^2 = 420$ (with non-responsive rate of 5%)

Sampling Technique: Convenient sampling technique

Inclusion Criteria: The Hypertensive patients of age between 40 and 60 years attending non-communicable disease clinic.

Exclusion Criteria: Unconscious patients, patients with auditory impairment, visual impairment and mental deformities were excluded from this study.

Methoda of Data Collection: After giving preliminary introduction about the study in their mother tongue ,written consent was obtained from each respondent ,the validated structured questionnaire was used to assess the awareness about stroke among hypertensive patients through face-face interview .

Data Analysis: Data was entered in MS EXCEL and analysed using Statistical Package for Social Sciences Software (SPSS) Version 16.Descriptive statistics (mean, median, mode) were used to describe continuous variable, while proportion was used for categorical variable.

RESULTS

1. Sociodemographic Profile: This study was done among a sample of 420 hypertensive patients between the age group of 40 – 60 years of various socioeconomic statuses.

Table 1 : Sociodemographic Profile

Variable	Frequency (%)
Age group	40 - 50 yrs. 204 (48.5)
	51 - 60 yrs. 216 (51.5)
Gender	Male 223 (53.1)
	Female 197 (46.9)
Socio-economic Class	Upper 15 (3.6)
	Upper Middle 106 (25.2)
	Lower Middle 122 (29)
	Upper Lower 154 (36.7)
	Lower 23 (5.5)
	Total 420 (100)

In this study, there is almost an equal distribution was seen in age group. 53.1% of the study population was

males. 36.7% participants of this study belonged to upper lower class and 3.6% participants belong to upper socio economic status. (Table 1)

2 . Hypertension - Status, Awareness about its Complications, Practice of Lifestyle Modification after being diagnosed as Hypertensives

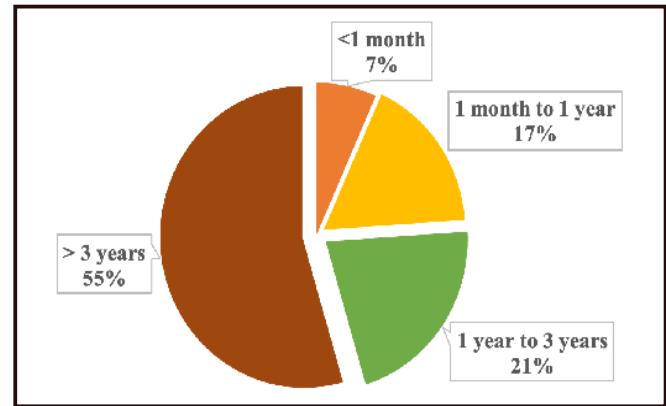


Figure 1: Duration of being diagnosed as Hypertensive

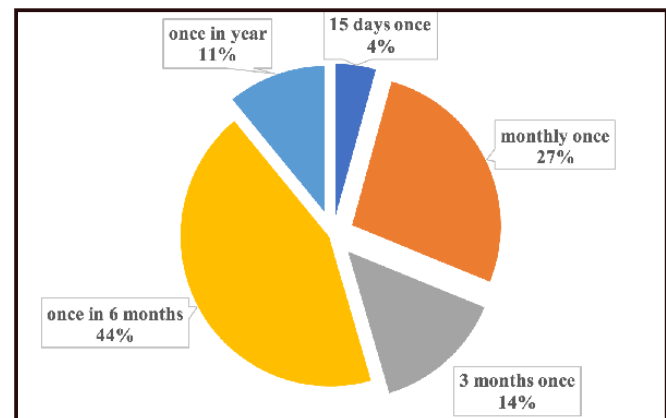


Figure 2 : Frequency of Duration for check-up after being diagnosed as Hypertensives

From the study, it is observed that most of the study participants were diagnosed to have hypertension for more than 3 yrs.(54.5%) and 43.6% of study participants used to come for regular check-ups once in six months (figure 1 & 2)

Table 2 : Lifestyle modification doneafter being diagnosed as Hypertensives

Life Style Modifications	Yes n (%)	No n (%)
A. Dietary changes	327 (77.9)	93 (22.1)
1. Decreased Salt Intake	243 (57.9)	177 (42.1)
2. Decreased oil intake	137 (32.6)	283 (67.4)
3. Decreased fast foodintake	175(41.7)	245 (58.3)
4. Increased Intake of Fruits and vegetables	71 (16.9)	349 (83.1)
B. Exercise	138 (32.9)	282 (67.1)

77.9% of hypertensive patients followed dietary modifications of which decreased salt intake is followed by 57.9% and 41.7% had followed decreased intake of fast food .Only 32.9% were performing exercises.

Table 3 : Awareness about complicationsof untreated Hypertensives

Complications of Hypertension	Awareness about Complications	
	Is a Complication n (%)	Is not a Complication n (%)
1. Myocardial Infarction (HeartAttack)	220 (52.4)	200 (47.6)
2. Stroke	166 (39.5)	254 (60.5)
3. Retinopathy (Eye Problem)	52 (12.4)	368 (87.6)
4. Nephropathy (Kidney Problem)	55 (13.1)	364 (86.9)
5. Sudden Death	42 (10)	378 (90)

The most common complication in untreated cases of hypertension will be Coronary artery disease (Myocardial infarction) followed by stroke and the same pattern is well observed and analyzed in the study. Here, 220 hypertensive patients were aware that myocardial infarction as a major complication followed by stroke (166 patients).

3.Awareness about Stroke - Risk Factors, Signs & Symptoms, Complications

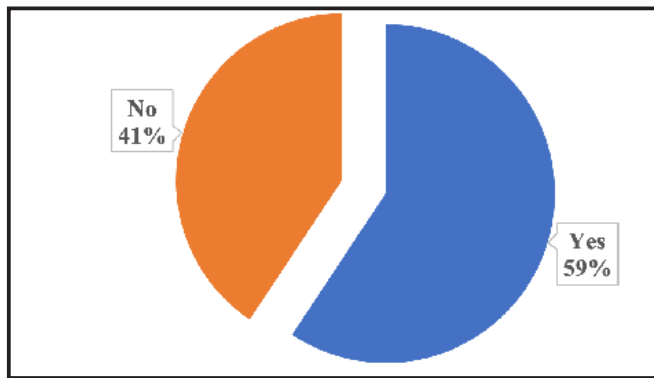


Figure 3 : Heard about Stroke

Among the 420 hypertensive patients participated in the study, 248 patients heard about stroke from their family members or others affected by stroke followed by advice from the physician, internet and mass media. 55 Participants (13.1%) had already experienced stroke.

Respondents those who have heard about stroke i.e., 248 participants (59%) were asked to choose multiple answers regarding the risk factors for stroke. On analyzing 56.7% were aware that Hypertension is risk factor for stroke followed by smoking as another major risk factor. (Figure 4)

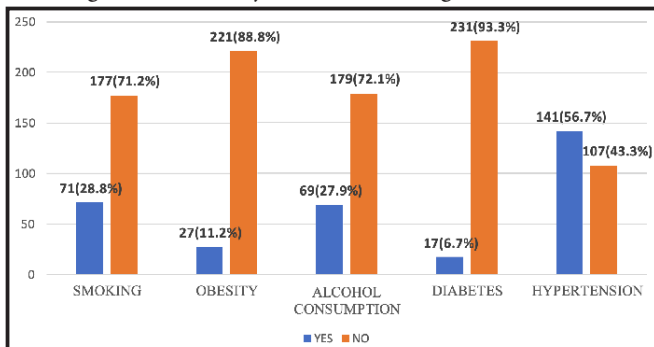


Figure 4 : Frequency of awareness about Risk Factors of Stroke

Table 4 : Frequency of awareness about signs and symptoms of stroke

SIGNS AND SYMPTOMS OF STROKE	YES n (%)	NO n (%)
1. Difficulty In Speaking [#]	142 (57.1)	106 (42.9)
2. Fever	12 (4.8)	236 (95.2)
3. Vertigo [#]	38 (15.2)	210 (84.8)
4. Vision Problems [#]	18 (7.1)	230 (92.9)
5. Breathlessness	10 (4)	238 (96)
6. Headache [#]	35 (14)	213 (86)
7. Neck Stiffness	40 (16)	208 (84)
8. Weakness of One Side ofBody [#]	11 (48.3)	237 (51.7)
9. Gastro-intestinal problems [#]	22 (4.3)	226 (95.7)
10. Sweating	81 (9)	167 (91)

[#]-Relevant signs and symptoms of stroke

Nearly 40-50% of study population considered Difficulty in speech and weakness of one side of body as signs and symptoms of stroke.

Table 5 : Frequency of awareness about the complications of stroke (n=248)

Complications	Yes n (%)	No n (%)
1. Seizure	102 (41.1)	146 (58.9)
2. Infection	13 (5.2)	235 (94.8)
3. Skin Cracks	10 (4)	238 (96)
4. Dental Caries	10 (4)	238 (96)
5. Bronchitis	17 (6.7)	231 (93.3)
6. Paralysis of one side of body	117 (47.1)	131 (52.9)
7. RecurrentStroke	41 (23.8)	207 (76.2)
8. MyocardialInfarction	45 (16.7)	203 (83.3)

From the set of complications given in the questionnaire, majority of the study population identified paralysis in one side of the body (47.1%) also seizures (41.1%) as the complications of stroke. Irrelevant complications such as bronchitis (6.7%), infections (5.2%), skin cracks (4%), and dental caries (4%) were also believed to be complications by the study subjects.

After assessing the awareness about stroke, Information on the risk factors of stroke, warning signs and symptoms, complications and measures to be taken was conveyed to all the study participants.

DISCUSSION

A total of 420 questionnaires were collected in which male and female participants were nearly equal. Between the ages of 40 to 60 years, most of the participants belong to upper lower class which was similar to the study by Bidyut Kumar Das et al "Prevalence on awareness of stroke among elderly public in Eastern India" [3].

Only 248(59%) of study participants have heard about stroke and relatively high percent of them knew from someone who suffered from stroke, Other studies in different

countries revealed the lack of awareness among the general population [1].

Knowledge of stroke risk factors can affect the stroke incidence, and help design the prevention strategies. Risk factors awareness of stroke in the general population of India is inadequate. Of the total population, 49.8% were not aware of risk factors; 17.2% could recognize 1 to 3 risk factors, 20.6% recognized 4 to 7 risk factors and 12.4% recognized ≥ 8 risk factors, which were comparable with the study showing one fifth of subjects did not identify a single risk factor. The most commonly recognized risk factors were hypertension (56.7%) followed by smoking (28.8%) in this study which is similar to other studies [13].

Those who had heard about stroke had a poor awareness regarding sign and symptom of stroke except for Difficulty in speech (42.8%) and also weakness on one side of the body (51.7%).

This was comparable with the study, where the weakness of one side was identified by 62.2% patients as the most common symptom, and less than 8% identified other stroke symptoms by Pandian et al in Northwest India.

Paralysis of one side of the body (47.1%), seizures (41.1%) were the most recognized complications of stroke which was also similar to other studies.

CONCLUSION

Awareness about stroke was inadequate, and these gaps of knowledge which shall result in the late arrival of patients with stroke at specialized facilities thus leading to delaying treatment [17]. Thus, Health Educational programs at the community levels involving mass media, schools, institutions, universities and governmental agencies are needed in order to improve stroke awareness with the hypertensive patients to prevent morbidity.

Conflict of interest : Dr. P. Seenivasan who is an author of this article is also a member of the editorial board and he was not involved with the processing and reviewing of this particular article.

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ORIGINAL ARTICLE - PUBLIC HEALTH

A CROSS SECTIONAL STUDY TO ESTIMATE THE KNOWLEDGE, ATTITUDE AND PRACTICES OF ORGAN DONATION AMONG THE PEOPLE ATTENDING MASTER HEALTH CHECKUP (MHC) IN A TERTIARY CARE CENTRE IN CHENNAI

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Abstract**AIM:** To determine the knowledge, attitude and practices of Organ donation among the general population attending the Master Health Checkup department of Stanley Medical College.**METHODS:** A cross sectional study using convenient sampling method with a sample size of 369 was generated among patients attending Master Health Checkup in Government Stanley hospital. The data collection was done with the help of questionnaire about Organ donation. The data was analysed using SPSS 16 software.**RESULTS:** 78.1% are aware of Organ donation, 41.2% are willing to donate their organs, and around 70% of the people prefer to donate their organs to anyone in need irrespective of their relation to them. 75.1% of the people supported the promotion of organ donation and believed that people's awareness and positive attitude played a vital role. As per the study 19.5% of the people are aware of the organ donor card. 12% of the study population have already donated their organs.**CONCLUSION:** Age, sex, locality and socio-economic status are the factors influencing the attitude, knowledge and practices of organ donation. Though the awareness regarding organ donation has increased, the willingness to donate is still lower than required due to the influencing factors like fear, selfishness and religious beliefs.**KEY WORDS:** Organ donation, Master health check up**INTRODUCTION**

Organ donation is the process of removing the tissues or organs from a live or a recently dead person to be used in another who is in need of organ transplantation. Organ transplantation is a more preferred treatment modality in patients with End-stage organ disease(1). The need for organ donation is higher than its availability. Prerequisites for the success of transplantation programme include awareness and positive attitudes(3). However, increasing utilization will lead to tissue shortages and tissue procurement organizations continue to explore ways to expand the cadaveric donor pool. Thus, the belief and attitudes of the general population towards organ donation can influence the quality of their life. It's been more than five decades, since the practice of organ transplantation emerged on the global stage. After it emerged it has not only perished great success and fame, but has also saved countless numbers of the terminally ill.

However, what has continued to hamper its smooth progress is its first necessity, an organ donation. The lack of an organ donation continues to seal the faith of critically ill patients across the world. The predicament involves the dearth of both living and cadaveric grafts. Shortage exists in the donation of both life-saving and Non-life-saving grafts. With the passage of time the number of patients in need of organ transplants has raised in even the most developed nations.

Organ transplantation saves lives of thousands

in worldwide. Kidney transplants are carried in 91 countries as per WHO. Approximately, 66,000 Kidney donations, 21,000 Liver donations and 6,000 Heart donations were transplanted globally in 2005 (2).

Studies have been done on Medical and nursing students towards their perceptions and attitudes about organ donation and to enhance motivation towards the same.(1). However, there is a lack of studies done on the terminally ill patients and general public with regard to their perception and attitudes about organ donation.

JUSTIFICATION

- The requirement for organs exceed number of donors across world. There are many capable recipients on organ donation waiting list than organ donors.
- Despite improvements in graft and patient survival rates, the number of available cadaveric organs continues to fall far behind the needs and the waiting lists are still increasing.(9-11)..
- Attempts to increase donation rates have included public awareness and professional education programs, as well as laws that require physicians to request that families donate of dying or deceased relatives.
- Some studies have suggested that Knowledge,



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Attitudes, and other determinants determining this issue are influenced by the following factors including gender, educational level, occupation, socio-demographic status, income level, culture and religion.(10-12)..

- The difference in prevalence, knowledge, attitudes and factors are influencing organ donation also depend on many potential barriers, which may reduce the organ shortage, though it is not clear which factors are most significantly related to decisions about donation (24).
- The present study carried out to look an insight into the attitude, awareness and practice towards organ donation and to evaluate the factors which are associated with the same among the people attending Master Health Check-up in a tertiary care center.

OBJECTIVES

Primary Objective :

To assess the attitude, knowledge and practice about organ donation among the general population.

METHODOLOGY

Study Design :

A Cross sectional study.

Study Population :

People who all are attending the Master Health Checkup in Govt. Stanley Hospital in Chennai.

Inclusion Criteria :

Those who have consented for the study.

All patients more than 18 years and less than 60 years will be included in the study.

Exclusion Criteria :

People who are not willing to participate.

Study Period :

July 2021 to September 2021.(3 months)

Study Area :

Master Health Checkup department, Govt.Stanley Hospital in Chennai.

Sample Size :

From previous similar study done by Anita et al² the knowledge levels regarding Organ donation in a selected district of Bhopal was 72%

Sample size was calculated based on this value by using the formula Z^2pq/d^2 which is 369 individuals.

Instruments Used :

Face to face interview with the people using a pretested standard questionnaire.

Ethical Considerations :

Ethical committee permission obtained.

Method of Data Collection :

1. When gained the consent from the

participant, the questionnaire will be issued and after he/she finishes answering it, any queries regarding the same will be answered.

Data Analysis :

After collecting, the Data was being compiled and entered in Microsoft Excel Sheet. Analysis was done using Statistical software SPSS version 16.All Continuous variables were expressed as Mean and Standard Deviation .All Categorical variables were expressed as Percentages and Proportions. The test will be considered significant if $P < 0.05$, at 95% Confidence Interval. Chi square test was considered as the test of significance.

RESULTS

A brief information regarding the awareness of the people in association with age , sex , locality and socio-economic status was analysed along with other information regarding the source, their attitude towards donating their own organs and the basic knowledge about the process of organ donation.

Table 1: Description of the Population Under Study

Age	≤35 Years	170(46.07%)
	>35 Years	199(53.92%)
Sex	Male	199(53.92%)
	FEMALE	170(46.07%)
Socio-Economic Status	Upper	11(3%)
	Upper Middle	137(37%)
	Lower Middle	103(28.1%)
	Upper Lower	114(30.8%)
	Lower	4(1.1%)
Locality	Rural	104(28.1%)
	Urban	265(71.6%)

Table 2 : Awareness of the people under study about organ donation

Are you aware that Organs can be Donated?	Frequency	Percentage
Yes	290	78.6%
No	79	21.4%
Total	369	100.0%

Out of the 369 people under study, 78.6% were aware that organs can be donated to save the lives of other people but 21.4% individuals were not aware of the term "Organ donation".

Out of the 290 people aware, people belonging to the age groups ranging from 26-45 years were found to be increasingly aware of the organ donation process.

Out of the 199 males under the study, 82.4 % were aware

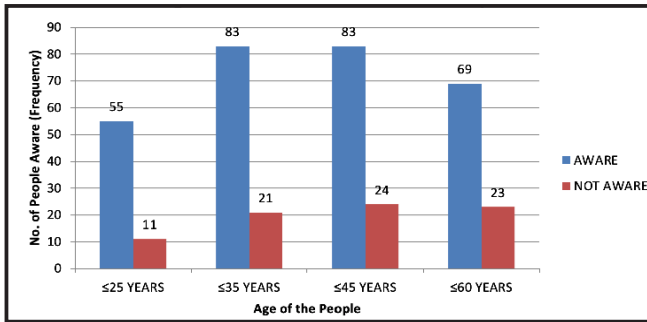


Figure 1: Awareness of the People in Association with their Age

of the organ donation process and 17.6% were not even aware of the organ donation process. Within the 170 females under study, 74.1% were aware of the organ donation process and 25.9% were unaware of the organ donation process.

Table 3: Association of Sex and Awareness of the People Under Study

Sex	Awareness : Aware (Frequency)	Not Aware (Frequency)	Total
Male	164 (91.1%)	26 (8.9%)	180 (100%)
Female	126 (66.7%)	63 (32.3%)	189 (100%)

CHI SQUARE VALUE – 3.1880

p-value - 0.03709 ; It is less than 0.05.

Hence, the above data is statistically significant.

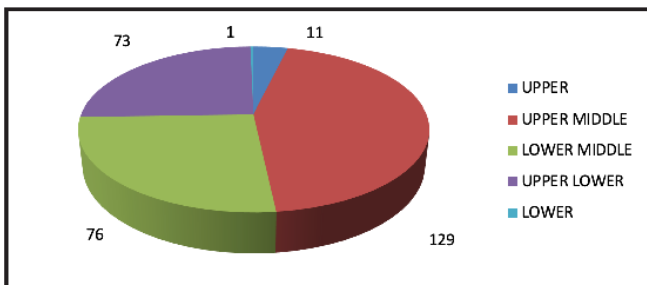


Figure 2: Awareness of the People in Association with their Socio-Economic Status

The socio-economic details of the population under study are as follows:

Among the 78.6% people who are aware of the organ donation process, 3.8% belonged to the upper class, 44.5% belonged to upper middle, 26.2% belonged to lower middle, 25.2% belonged to upper lower and 0.3% belonged to lower class. It should be noted that the percentage of awareness is decreasing with respect to the socio-economic status, as we approach towards the lower class, in the order mentioned above. That is, there are no unaware people in the upper

class whereas the percentage of people unaware in the upper middle is 5.8%, lower middle is 26.2%, upper lower is 36%, and in the lower class is 75%.

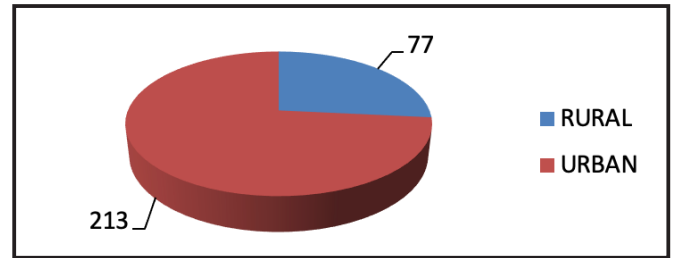


Figure 3: Awareness of the People in Association with their Locality

26.5% of the rural population under study and 73.4% of the population from Urban, were aware of the organ donation process, under the study.

Table 4: Sources through which Awareness about Organ Donation was Obtained

Source	Frequency
Doctor	54 (14.6%)
Internet	16 (4.3%)
Television	150 (40.6%)
Radio	6 (1.6%)
Newspaper/Magazine	73 (19.7%)
Friends/Colleague	72 (19.5%)

Majority of the people who were aware of the organ donation process have picked their source as television, whereas some people picked more than one source of information.

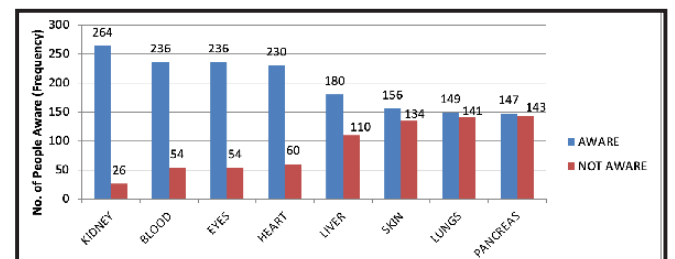


Figure 4: Awareness about the Various Organs that can be Donated

143 people (38.8%) from the study have known that all the mentioned above organs can be donated. About 71.5% were aware of kidney donation while only 39.8% were aware of pancreas donation. However, 3.3% of the population believed that only eyes can be donated.

About 74% considered that organ donation is done to save someone's life whereas 3.3% assume that organ donation is done for acquiring money.

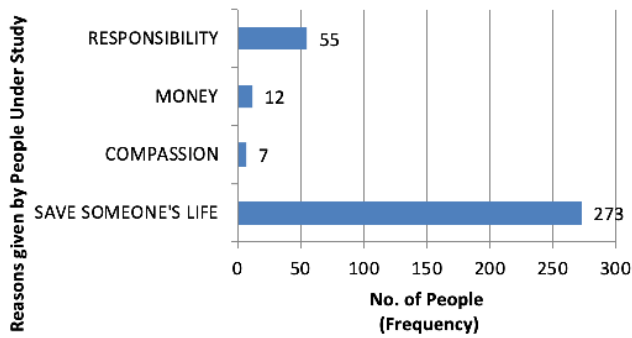


Figure 5: Reasons given by People Regarding the Practice of Organ Donation

Though, 46.6% of the people believe that donated organs will not be misused, around 31.7% doubt that organs donated are being misused or abused.

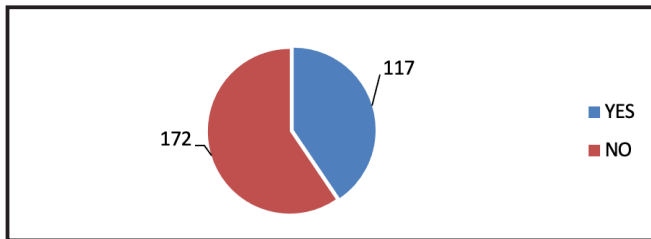


Figure 6: Belief of People Regarding Misuse of Organs

Table 5: Acquaintance of People with those who have Donated Organs

People who have Donated Organs	Frequency
Family Member	43 (11.6%)
Friend	43 (11.6%)
Colleague	9 (2.4%)
No one	194 (52.5%)

It is remarkable to know that 25.8% have acquainted with someone who has donated organs

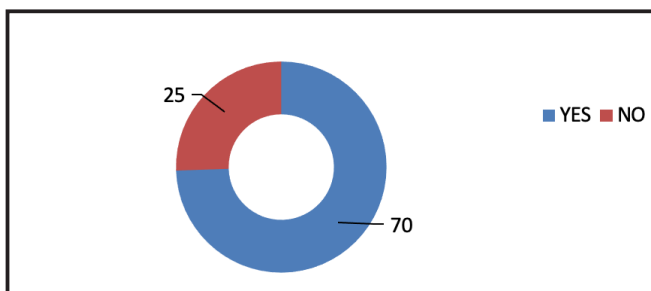


Figure 7: Decision to Donate Organ after being Influenced by those who have donated

Out of the 25.8% who are acquainted to people who have donated organs, only around 19% of the people are influenced to donate their organs as well.

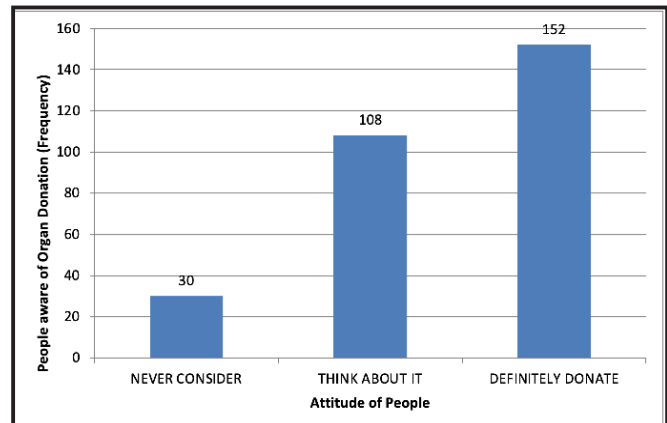


Figure 8: Attitude of People towards their own Organ being donated

Out of 78.6% who were aware of organ donation, only 41.2% were definitely willing to donate organs, whereas 29.3% had second thoughts and 8.1% will never consider donating.

Table 6: Preferences of the People in Choosing their Recipients

Recipients		Frequency
Relations	Family	27 (7.3%)
	Stranger	2 (0.5%)
	Friends	1 (2.7%)
	Colleague	1 (2.7%)
	Can be anyone	258 (69.9%)
Smoking Habits	Non-Smokers	82 (22.2%)
	Both Smokers and Non-Smokers	207 (56.0%)
Drinking Habits	Doesnot Consume Alcohol	92 (56.0%)
	Both Consuming and not Consuming Alcohol	197 (53.3%)
Age	Young Person (<30 Years)	35 (9.4%)
	Middle Age (30-50 Years)	7 (1.8%)
	Elderly Person (>50 Years)	4 (1.0%)
	Can be anyone	243 (65.8%)
Mental Status	Mentally Retarded Person	10 (2.7%)
	Mentally Sound Person	26 (7.0%)
Physical Health	Can be anyone	253 (68.5%)
	Physically Challenged	11 (2.9%)
Religion	Not Physically Disabled	17 (4.6%)
	Can be anyone	261 (70.7%)
	Person Belonging to same Religion	5 (1.3%)
	Person Belonging to Different Religion	6 (1.6%)
	Can be anyone	278 (75.3%)

Around 70% of individuals prefer to donate their organs to anyone in need irrespective of their relation to them. About 56.1% prefer to donate organs to others irrespective of their smoking habits, whereas 22.3% prefers to give only to the non-smokers. 25% of the people under study prefer to donate their organs to those who don't consume alcohol. 65.9% choose to donate their organs to anyone irrespective of their age, while 9.5% would prefer to donate their organs to

young age group. It is to be noted that though 7% wanted to donate their organs only to mentally sound persons, about 2.7% preferred to give their organs to mentally retarded people exclusively.70.8% favoured to donate their organs to anyone irrespective of their physical health.76.3% desired to give the organs to anyone regardless of their religion.

ASSESSMENT OF KNOWLEDGE OF PEOPLE REGARDING VARIOUS ASPECTS OF ORGAN DONATION

Only 35.2% rightly believed that consent for a living donation should be given by the donor himself, while 43.4% thought of other relatives.

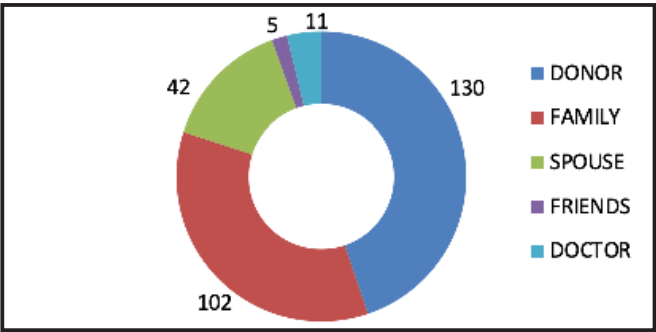


Figure 9: Knowledge Regarding Consent for Organ Donation

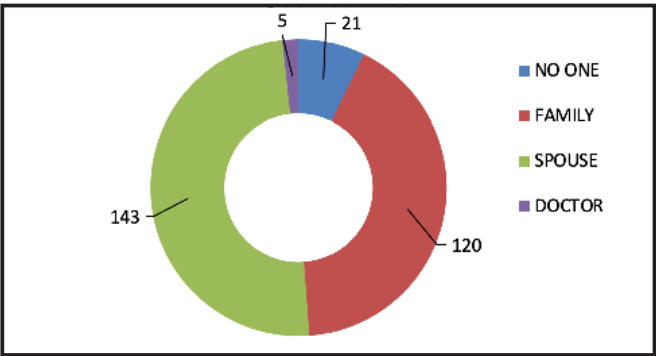


Figure10 : Knowledge regarding consent for Organ donation after Brain Death

Also, 38.8% answered correctly that if a married person acquires brain death, then the first relative preferred to give consent is the spouse.

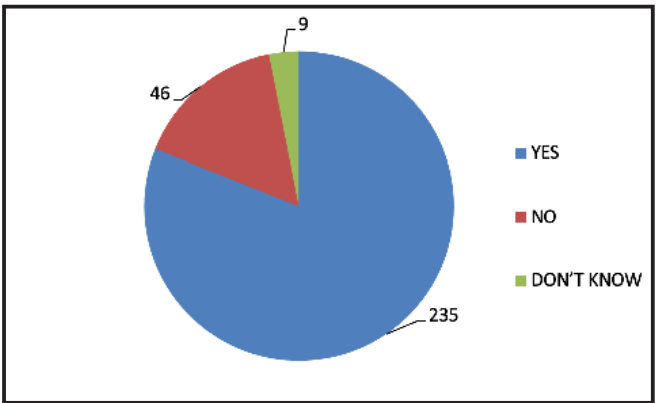


Figure 11: No. of Lives a Single Brain Dead Donor can save

63.7% rightly assumed that a single brain dead donor can save more than one life, whereas 2.4% were not aware of this.

Table 8: Opinion of the People Regarding Selling of Organs

Opinion about Selling	Frequency
Legal	21 (5.6%)
Illegal	232 (62.8%)
Don't Know	37 (10.0%)

About 10% did not know if selling of organs was legal or illegal, but 62.9% correctly believed that selling of organs was illegal.

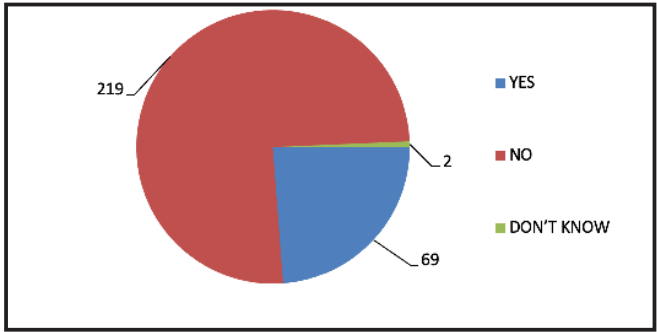


Figure 12: Knowledge Regarding Expenses Related to Organ Donation

18.7% assume that donor's family should bear the expenses related to organ donation.

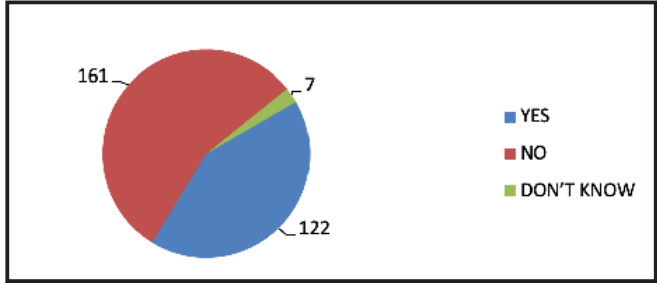


Figure 13: Knowledge Regarding Registering as a Organ Donor

43.6% have correctly known that the organ donation could be done even if the person has not registered before.

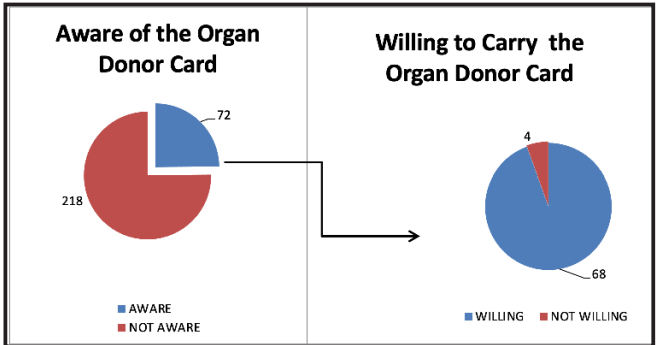


Figure 14: Knowledge Regarding Organ Donor Card

As depicted in the figure above, 19.5% of the individuals under study are aware of the organ donor card, out of which 18.4% are willing to carry one.

Table 9: Awareness about Organ Donor Card in Association with Sex of the People Under Study

Sex	Aware of the card (Frequency)	Not aware of the card (Frequency)
Male	49 (13.2%)	114 (30.8%)
Female	23 (6.2%)	102 (27.6%)

Yates corrected chi square - 4.528

p-value- 0.03335; It is less than 0.05.

Hence, the given data is statistically significant.

ASSESSMENT OF PRACTICES OF ORGAN DONATION AMONG THE PEOPLE UNDER STUDY

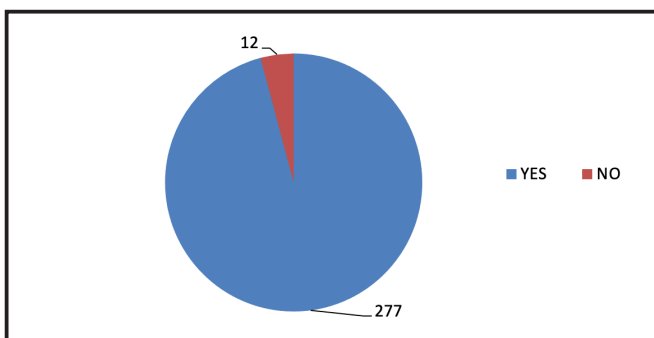


Figure 15: Opinion Regarding Promotion of Organ Donation

About 75.1% of the people supported the promotion of organ donation and believe that people's awareness and positive attitude play a vital role.

Table 10: Validations given by People for the Refusal to Support the Promotion of Organ Donation

Reasons	Frequency
Fear That Organs Will Be Wasted	6 (1.6%)
Religious Beliefs	2 (0.5%)
Family Refusal	4 (1.1%)

Table 11: Practice of Seeking Permission From the Elders before Donating Organs

Practice	Frequency
Will Seek Permission	207 (56.0%)
Will not Seek Permission	83 (22.4%)

39.5% of the people had an optimistic attitude to donate their organs by either convincing or registering without the knowledge of the elders, whereas 16% were less determined and easily influenced to quit.

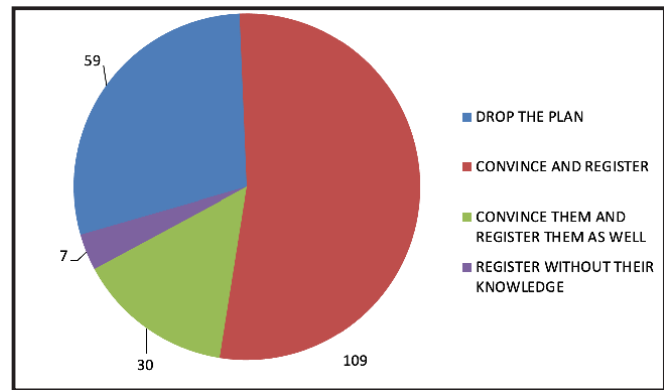


Figure 16: Plan after refusal by elders

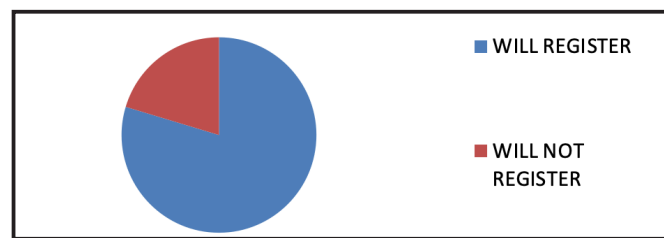


Figure 17: A chance to Register Themselves as an Organ Donor

62.6% of the people desire to register themselves as organ donor when given a chance whereas, 16% refused to do so by citing one of the following reasons.

Table 12: Reasons for Refusal to Register as Organ Donor

Reasons	Frequency
Fear	36(9.8%)
Selfishness	14(3.8%)
Religious Belief	10(2.7%)

Table 13: Attitude of the people towards registering as Organ Donor in association with sex

	Will Register (Frequency)	Will not Register (Frequency)
Sex: Male	138 (37.3%)	26 (7.0%)
Female	93 (25.2%)	33 (8.9%)

YATES CORRECTED CHI SQUARE – 4.0820;

p-value - 0.04335 which is less than 0.05.

Therefore, the data is statistically significant.

DISCUSSION

Out of the 369 people under study, 82.4% males and 74.1% females are aware of the term Organ donation. According to our study, out of 78.1%, who are aware, only 62.6% desire to register themselves as a Organ donor. Owing to fear, selfishness and religious beliefs, 16% of the people are unwilling to donate. Among the people who desired to donate, 138 are males and 93 are females. In a study done by

Naveen et al, 72% were aware about organ donation, where 68% desire to register as an organ donor.

According to our study, out of 78.1%, who are aware, only 62.6% desire to register themselves as a Organ donor. Owing to fear, selfishness and religious beliefs, 16% of the people are unwilling to donate. Among the people who desired to donate, 138 are males and 93 are females. In a study done by Naveen et al, 72% were aware about organ donation, where 68% desire to register as an organ donor.

According to our study, among 19.5% of the people who are aware of the organ donor card, 18.4% are willing to carry one. In previous study done by evans et al, about 24% were aware about organ donor card of which 20% are willing to carry one.

Also, the middle age group (26-45 years) of age are more aware of the Organ donation process. It is to be noted that the percentage of awareness is decreasing with respect to the socio-economic status, as we approach towards the lower class.

In our study, there are no unaware people in the upper class whereas the percentage of people unaware in the upper middle is 5.8%, lower middle is 26.2%, upper lower is 36%, and in the lower class is 75%. About 71.5% are aware of kidney donation.

CONCLUSIONS

1. Age, sex, locality and socio-economic status are the factors influencing the attitude, knowledge and practices of organ donation.
2. Though the awareness regarding organ donation has increased, the willingness to donate is still lower than required due to the influencing factors like fear, selfishness and religious beliefs.
3. The donor pool can be increased by awareness programmes through mass campaign and promoting unrelated organ donation.

Conflict of interest : Dr. P. Seenivasan who is an author of this article is also a member of the editorial board and he was not involved with the processing and reviewing of this particular article.

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ORIGINAL ARTICLE - PUBLIC HEALTH

A CROSS SECTIONAL STUDY TO ASSESS THE UTILISATION OF INTEGRATED CHILD DEVELOPMENT SERVICES AMONG CHILDREN AGED 6 MONTHS TO 6 YEARS IN CHENNAI – 2017

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Abstract

BACKGROUND : An integrated package of early childhood services is provided under Integrated Child Development Services (ICDS) scheme, which lay the foundation for the development of nation's human resource. Services like supplementary nutrition, health checkup, immunization, health education, non-formal education and referral services are provided through the public health facilities, in order to improve the health and nutrition of children 0-6 years.

OBJECTIVES : 1) To assess the ICDS utilisation by the Children aged 6 months to 6 years in Tamil Nadu. 2) To assess the nutritional status among the Children aged 6 months to 6 years

MATERIALS AND METHODS : A cross sectional study conducted in Zone V, Chennai from July to August 2017, among 90 mothers of child aged 6 months to 6 years, using a semi-structured pre-tested questionnaire which had questions related to socio demographic details, anthropometric measurements and utilization of services. Data was collected in MS excel and analysis done using SPSS 16 version software. Appropriate descriptive and inferential statistics were used, considering p value of < 0.05 as significant.

RESULTS : The results of the study showed that about 16.7% of the children were registered and utilising any of the services provided in the ICDS scheme, among those utilising services, 93.3% children were taking supplementary nutrition 80% children were taking non formal preschool education and 73.3% children were availing health check-up services. Among the mothers not utilising the ICDS services, 49.3% were aware but not making use of ICDS services and 50.7% were not aware of ICDS. In this study, the prevalence of underweight and stunting was found to be 26.3% and 25% accordingly. Overall, severe underweight in 5% and severe stunting was found in 13.8% of the children.

CONCLUSION : This study indicated that there is need of improvement in utilisation of ICDS providing child health services in the study area. Also, indicates that there is a gap in awareness regarding the availability of the services under the scheme. Hence, the IEC and BCC activities relating to the ICDS scheme has to be strengthened, so as to avail the services of ICDS scheme.

KEYWORDS : ICDS, Services, Supplementary nutrition, Utilisation, Non-formal education.

INTRODUCTION

In India, Integrated Child Development Services (ICDS), a flagship program under Ministry of Women and Child Development, was initiated to provide the supplementary nutrition, the preschool education to children less than 6 years of age, adolescent girls and their own mothers. Services under the scheme are provided by Anganwadi Worker through Anganwadi centre. ICDS was launched in 1975, in accordance with National Policy for Children. 1,2

The programme lays the foundation for proper the physical, social and psychological development of the child. Also, Enhance the capability of mother & nutritional health of child through nutrition and health education. The ICDS programme aimed at improving immunization, decreasing malnutrition, increasing birth weight, infant and child mortality. 1

Malnutrition is one of the most widespread condition affecting the health of the children. Malnutrition increases the risk of infections and also affects the physical and mental abilities. The supplementary nutrition of 500 calories and 12-15 gms of protein per day for 300 days in a year is provided under ICDS programme.

Also, immunization services, regular health check-up (height, weight, milestones monitoring) and referral services are provided. The non-formal education to preschool children is given by Anganwadi workers. 2,3

Healthy mother delivers a healthy baby, with better chances of survival. Intrauterine period and period of weaning are very important from nutritional standpoint, because it leads to increased risk of infections, low birth weight. Expectant mothers receives Supplementary nutrition of 600 calories and 18-20 gms of protein per day, IFA tablets, TT injection, nutrition education under this programme. 1 Growth monitoring like measurement of weight, height and mid arm circumference is done and their nutritional status is determined.

As per the census 2011, around 158 million Children are in the age group 0-6 years and they are the longer term resources of the country. The study is undertaken with this



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background.

REVIEW OF LITERATURE

A study done was in Tripura, which showed that about 77.4% of children under 6 years of age were utilizing any of the ICDS services and 67.5 % were getting supplementary nutrition.

A study was done in Karnataka, which showed 99.3% getting immunization services, 95.9% children were getting supplementary nutrition, 66.% were getting regular health check-up and 83.4% were getting preschool education.

A study done in Nagpur, showed that 77.48% utilises the services provided under ICDS.

NFHS 3 shows that 81% of children <6 years were covered by AWC, about 33% received any of the services, 20% have received immunization services from AWC, 26% have received supplementary nutrition, 18% have received health checkup and 23% have received non-formal education.

NFHS 4 – Tamil Nadu statistics, shows that about 27.1% of children were stunted, 23.8% were in underweight and 19.7% were in wasted category.

OBJECTIVES

- 1) To assess the ICDS utilisation by the Children aged 6 months to 6 years in Zone V, Chennai.
- 2) To assess the nutritional status among the Children aged 6 months to 6 years.

METHODOLOGY

A cross sectional study was conducted in Zone V, Chennai from July to August 2017 among mothers of children aged 6 months to 6 years. Sample size was calculated based on a NFHS 3 survey, which showed the prevalence (of utilization of services) was taken as 33%. Considering confidence interval of 95%, absolute precision of 10%, the sample size was calculated as 85. The required sample size was collected in the Zone V of Chennai Corporation. In Zone 5, a ward was randomly selected and in the selected ward, a street was randomly selected. In the selected street, house to house visit was done and all the household which had children between 6 months to 6 years of age were included in the study. The households who were not available during the 1st visit were revisited. If the household members were still not available, they were not included in the study. House to house visits were made until the required sample size of 85 children were seen. Mothers of children were interviewed using a semi structured pretested questionnaire, which comprised of 3 sections –

Section 1 has Demographic Details,

Section 2 has the Questions for utilization of services, Section

3 is the Anthropometric measurements

In this study, utilisation is defined as those children who had registered in ICDS and availed any of the ICDS services at-least once. Weight of the children were measured using a weighing scale in young children. The participants were asked to stand in the middle of the scale's platform with the body weight equally distributed on both feet. Weight of the patient was measured in kilograms corrected to the nearest 0.1 kg (100 grams). Stadiometer is used for the measurement of height in children aged 2 years and older. For the children aged less than 24 months, stature was measured using infantometer.

The official permission for the study was obtained from Institutional Ethics Committee, Madras Medical College. The informed consent from parents and assent from children was obtained and then using a semi-structured pre-tested questionnaire, the interview was conducted. Data was entered in Microsoft Excel and analysed using SPSS 16 version software. Relevant descriptive and inferential statistics like Chi-square test and Fischer exact test were used, considering the p value of < 0.05 as significant.

RESULTS

The study results were analysed and depicted below. (Table 1- 5). The mean age of the children and mothers was 3.4 years and 27.8 years respectively with standard deviation

Table 1: Socio-demographic details of the respondents

S.No	Socio- demographic variables (n=90)	Frequency (Proportion)
1.	Sex of child	Male 38 (42.2%)
	Female 52 (57.8%)	
2.	Child birth order	1 45 (50%)
	2 41 (45.6%)	
	3 4 (4.4%)	
3.	Religion	Hindu 89 (98.9%)
	Christian 1 (1.1%)	
4.	Community	SC 85 (94.4%)
	MHC 5 (5.6%)	
5.	No. of child <6 years in a household	1 38 (42.2%)
	2 41 (45.6%)	
	3 11 (12.2%)	
6.	Family type	Nuclear family 73 (81.1%)
	Joint family 15 (16.7%)	
	3 generation family 2 (2.2%)	
7.	Socio-economic status (B.G.Prasad Scale)	Upper middle 25 (27.8%)
	Lower middle 21 (23.3%)	
	Upper lower 44 (48.9%)	
	Upper < 1 year 15 (16.7%)	
8.	Residing in that area	< 1 year 21 (23.3%)
	1-5 years 10 (11.1%)	
	5-10 years 6 (6.7%)	
	>10 years 53 (58.9%)	

Table 2: Utilisation of services among the respondents

S.No	Utilisation of services(n=90)		Frequency (Proportion)
1.	Heard about anganwadi/ICDS?	Yes	52 (57.8%)
		No	38 (42.2%)
2.	How heard about anganwadi/ICDS? (N=52)	AWW	21 (40.3%)
		Near-by home	27 (51.9%)
		Previous child	4 (7.6%)
3.	Anganwadi worker (AWW) visited? (N=52)	Yes	21 (40.3%)
		No	31 (59.7%)
4.	How often visited? (N=21)	Once a month	19 (90.4%)
		3 times/week	2 (9.6%)
5.	Registered in anganwadi/ICDS?	Yes	15 (16.7%)
		No	75 (83.3%)
6.	Reasons for utilising anganwadi/ICDS? (N=15)	Child care	4 (26.7%)
		For services available	11 (73.3%)
7.	Reasons for not utilising anganwadi/ICDS? (N=37)	Don't know about services	26 (70.2%)
		Private school	5 (13.5%)
		Other government health care facilities	3 (8.1%)
		AWW not visiting	3 (8.1%)

Table 3: Regarding the utilisation of individual services

S.No	Services	Supplementary nutrition	Immunisation	Pre-school education	Health check-up
1.	Do you know?				
	Yes	15 (100%)	10 (66.7%)	13 (86.7%)	12 (80%)
	No	0 (0%)	5 (33.3%)	2 (13.3%)	3 (20%)
2.	Do you avail?				
	Yes	14 (93.3%)	0	12 (80%)	11 (73.3%)
	No	1 (6.7%)	15 (100%)	3 (20%)	4 (26.7%)
3.	If yes, how often?				
	Almost daily	8 (57.1%)		11 (91.7%)	0
	Weekly once	3 (21.4%)		1 (8.3%)	0
	Monthly once	3 (21.4%)		0	2 (18.1%)
	Sometimes	0		0	9 (81.9%)
4.	If not, reason?	Going to school (1)	Near-by health post	Going to school (1) Don't know (2)	Private (1) Don't know (3)

of 1.6 years and 4.4 years respectively.

The results of the study shows that 16.7% of the children were registered under this scheme and utilising any of the services, among them 100% children were taking supplementary nutrition, 80% children were taking non formal preschool education and 73.3% children were utilising the health check-up services. Among the mothers not utilising the ICDS services, 49.3% were aware but not making use of ICDS services and 50.7% were not aware of ICDS. Among the reason for non-utilization about 70.2% informed that they don't know about the services provided in ICDS.

Table 4: Anthropometric measurements of the study participants

S.No	Anthropometry (n=90)	Mean (SD)
1.	Weight (kgs)	12.21 (3.3)
2.	Height (cms)	91.8 (11.8)

Table 5: Nutritional status of the study participants

S.No	Nutritional status (n=80)		Frequency (Proportion)
1.	Weight for age	Underweight	21 (26.3%)
		No underweight	59 (73.8%)
2.	Height for age	Stunted	20 (25%)
		Not stunted	60 (75%)

In this study, the prevalence of underweight and stunting were 26.3% and 25% respectively. Severe stunting was found in 13.8% of the children; severe underweight in 5%.

DISCUSSION

An integrated package of early childhood services is provided under Integrated Child Development Services (ICDS) scheme, which lay the foundation for the development of nation's human resource. Services like supplementary nutrition, health checkup, immunization, health education, non-formal education and referral services are provided through the public health facilities, in order to improve the health and nutrition of children 0-6 years.^{1,2}

The study results revealed that 16.7% of the children were registered under this scheme and utilising any of the services provided. A similar study conducted in Tripura, showed that 77.4% of children were utilising any of the CDS services.⁴ Also, a study done in Nagpur, showed that 77.48% were the utilization of services.⁶ NFHS 3 survey of Tamil Nadu data shows that about 33% received any of the ICDS services.⁷

This study results that 15.5% children were taking supplementary nutrition, 13.3% of children were taking non-formal preschool education, 12.2% children were availing health check-up services and most of them didn't have availed immunisation services from ICDS. A similar study conducted in Tripura, showed 67.5 % were receiving supplementary nutrition from ICDS.⁴ Also, a study done in Karnataka, 99.3% getting immunization services, showed 95.9% children were getting supplementary nutrition, 66% were getting regular health check-up and 83.4% were getting preschool education.⁵ NFHS 3 Tamil Nadu data shows that 23% received non-formal education and 18% received health checkup, 26% received supplementary nutrition, 20%

received immunization services from AWC.⁷

In our study, about 70.2% said that they don't know about the services provided in ICDS and 13.5% children are attending private school. A similar study in Tripura, showed that 53.84% of the ICDS non-users said that they send their children to private nursery school whereas 42.30% parents had no knowledge about the services for children below 3 years of age.⁴

Compared to all the other research/studies and NFHS 3 data, the percentage of utilization was much less in our study, the reason may be inadequate information, education and counselling (IEC) activities pertaining to the ICDS services, as reasoned out by majority of the study participants.

The study showed that the prevalence of underweight and stunting were 26.3% and 25% accordingly. NFHS 4 – Tamil Nadu statistics, shows that 23.8% of children were stunted, 27.1% were in underweight category.⁸

As compared with survey data, the prevalence of underweight is higher, that is to be investigated with better child feeding and rearing practices in the community.

CONCLUSION

This study indicated that there is need of improvement in utilisation of ICDS providing child health services in the study area. Also, indicates that there is a gap in awareness regarding the availability of the services under the scheme. Hence, the IEC and BCC activities relating to the ICDS scheme has to be strengthened, so on to avail the services of ICDS scheme

Prevalence of under-nutrition among under-five children in our research/study is relatively high. It is necessary to intense the health education on promotion of proper nutrition, better infant and child feeding practices, healthy social and family life, respectful maternal and child care and strengthening the public health measures to overcome the malnutrition among under-five children in India.

RECOMMENDATIONS

- To strengthen the IEC activities regarding the services provided in the ICDS scheme.
- To induce the behaviour change communication to avail the services provided in scheme.
- To motivate towards practice.
- Health education has to be provided to promote nutrition, in-order to overcome the malnutrition.

LIMITATIONS

This study has been conducted on a small group of people but provides useful information regarding ICDS services utilisation in this area. Because of the small sample size, statistical test was not performed. Further studies need

to be conducted to elaborate and confirm by triangulating the findings with other stakeholders like ICDS worker.

Conflict of interest : Dr. S. Sudharshini who is an author of this article is also a member of the editorial board and he was not involved with the processing and reviewing of this particular article.

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ORIGINAL ARTICLE - PUBLIC HEALTH

KNOWLEDGE AND PRACTICE REGARDING KANGAROO MOTHER CARE AMONG POSTNATAL MOTHERS OF PRETERM BABIES.

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Abstract

Introduction: India is one of the countries which have registered a largest number of neonatal deaths, 35 percent of which are attributed to preterm birth and low birth weight. Among many strategies available, Kangaroo mother care (KMC) is easiest, cheapest and beneficial technique in reducing neonatal mortality. So, it is the need of the hour to increase knowledge and awareness regarding KMC. The objective of the present study is to find out the knowledge and practice regarding kangaroo mother care among postnatal mothers of preterm babies.

Methods: A cross sectional study was conducted among 60 postnatal mothers of preterm babies in the postnatal ward of the Institute of Obstetrics and Gynaecology, Egmore, Chennai with duration of two months. Consecutive sampling method was used and a one to one interview based on validated structured questionnaire was conducted to assess the knowledge and practice. Photo exhibition and demonstration of technique were conducted for feasibility.

Results: Only 22 out of 60 mothers (36.7 %) were found to have adequate knowledge regarding KMC. All the mothers who had adequate knowledge were practicing KMC, mostly initiated KMC within 48 hours of birth. 90% of mothers were willing to practice KMC further after demonstration of KMC and the rest expressed inconvenience due to lack of privacy in their homes. All the mothers felt it a useful technique and were willing to recommend to others.

Conclusion: Overall knowledge and practice of KMC is very less. But almost everyone was willing to practice KMC further and recommend it to others after knowing about the benefits of KMC and had a positive attitude. So, proper awareness and counselling in the antenatal period itself is needed to increase the practice of KMC, thereby reducing neonatal mortality.

Keywords: KMC, neonatal mortality, knowledge and practice, need of the hour

INTRODUCTION

Kangaroo care or kangaroo mother care (KMC), sometimes called skin-to-skin care, is a technique of newborn care where babies are kept skin-to-skin with a parent, typically their mother.⁽¹⁾ It is most commonly used for low birth-weight preterm babies, to prevent hypothermia and support breast feeding. This technique was initially developed in 1970s to care for preterm infants in countries where infrastructure facilities were not available. ⁽²⁾ In India, almost 1/3rd of the neonatal deaths is attributed to preterm birth and low-birth weight.⁽³⁾ KMC is proven to be effective and inexpensive intervention in reducing infant mortality rate, rate of hospitalisation and increases weight gain.⁽¹⁾ KMC helps in keeping the baby warm, promotes brain development and weight gain, increases bonding, reduce postnatal stress, enhance milk production.⁽⁴⁾ It is the need of the hour to give education to nurses as well as to the mothers of the kangaroo mother care that the KMC is given to all babies less than 2000 gram and born before 37 weeks of gestation the baby is placed upright inside mother's clothing against skin. A loose garment like blouse, sweater or wrap tied at the waist holds the baby.⁽⁵⁾ From the previous studies, it can be concluded that there is poor awareness among women regarding kangaroo mother care and its benefits.⁽⁶⁾⁽⁷⁾ This study is conducted to assess the

knowledge and practice of kangaroo mother care among postnatal mothers of preterm babies. The importance of this study lies in the fact that it can be used as a tool for health education regarding kangaroo mother care.

METHODS

The cross-sectional study was conducted in the postnatal ward of Institute of obstetrics and gynaecology, Chennai. The study was conducted for two months from May to June 2018. Mothers of consecutive sample of 60 preterm babies admitted to postnatal ward of Institute of obstetrics and gynaecology from May to June 2018 were studied to assess the knowledge and practice. Consecutive sampling was done. Postnatal mothers of preterm babies born before 37 weeks of gestation and those who were willing to participate in the study were included in the study. Official permission to conduct the study was obtained from the Head of the Institute after approval from the Institutional ethics committee. After explaining the



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purpose of the study, informed consent was obtained from the study participants. Face to face interview was conducted using validated structured questionnaire. Photo exhibition was used to assess knowledge about Kangaroo mother care (Fig.1). The postnatal mothers who has heard about Kangaroo mother care and knew about correct positioning were considered to have adequate knowledge.



[Source: Adapted from 'THEHINDU' 21 November, 2014]

Fig.1. Picture depicting KMC

RESULTS

A total of 60 postnatal mothers with preterm babies participated in this study. Socio-demographic data of mothers, under study and characteristics of neonate are given in (Table .1) and (Table .2) respectively.

Out of 60, 22 mothers had heard about KMC, all were aware of the proper KMC positioning. They also were able to tell the benefits of KMC. (Table.3). Out of 22 mothers who heard about KMC, 18 heard about KMC from hospital and 4 from media. 10 out of 22 responded that KMC helps to increase birth weight of the baby, rest of them told that it increases body temperature and promotes bonding. Mothers who had higher educational status, who had previous history of preterm birth and those from urban residence had more adequate knowledge (Table.4).

All mothers who had adequate knowledge practiced KMC, 22 out of 60 mothers were practicing KMC before the study. Majority of mothers initiated KMC after one day, only few initiated after 2 days. Attitude of the mothers towards KMC was assessed after demonstrating KMC technique and asking them to practice in front of investigator. 10 out of 60 mothers felt inconvenient practicing KMC. 8 felt inconvenient due to lack of privacy. 2 felt inconvenient due to pain post caesarean section.

Table1: Socio-demographic characteristics of mothers

Socio demographic characteristics(N-60)	Frequency	Percentage
Maternal age(in years)		
<20	2	3.33
20-30	50	83.3
30-40	8	13.3
Residence		
Urban	47	78
Rural	13	22
Maternal education		
Upto 10 th std	18	30
Upto 12 th std	27	45
Graduation	15	25
Monthly income of family (in Rupees)		
5000-10000	19	31.6
10000-15000	29	48.3
15000-20000	12	20.1
Previous history of preterm birth		
Yes	20	34
No	40	66

Table2: Characteristics of the neonates of the postnatal mothers

Characteristics(n-60)	Frequency	Percentage
Sex of the baby		
Male	28	46.6
Female	32	53.3
Type of delivery		
Vaginal delivery	0	0
Caesarean section	60	100
Gestational age at birth(weeks)		
Moderate to late preterm(32-37 weeks)	50	83.3
Very preterm(28-32 weeks)	10	16.6
Birth weight(kg)		
Low birth weight (≥ 1.5 to < 2.5 kg)	54	90
Very low birth weight (< 1.5 kg)	6	10
Initiation of breastfeeding(hours)		
Within 2 hours	45	75
2-24 hours	10	16.6
>24 hours	5	8.3
NICU admission		
Yes	8	13.3
No	52	86.6

Table 3: Knowledge regarding Kangaroo Mother Care

S.No	Questions To Assess Knowledge	Frequency Positive Response (Yes)	Percentage
1.	Heard about KMC	22	36.7
2.	Time of initiating breastfeeding	25	41.6
3.	Baby should have skin contact after birth	22	36.7
4.	Know about the benefits of KMC	22	36.7

Table 4: Factors affecting level of knowledge

Factor	No.of Participants Under The Factor	Adequate Knowledge	Inadequate Knowledge
Maternal education status	Graduated=15	10 (66.6%)	5 (33.3%)
	Not graduated=45	12 (26.6%)	33 (73.3%)
Previous history of preterm birth	Yes=20	13 (65%)	7 (35%)
	NO=40	9 (22.5%)	31 (77.5)
Residence	Urban=47	21 (44.6%)	26 (55.4)
	Rural=13	1 (7.6%)	12 (92.3%)

54 out of 60 mothers told that they would practice it hereafter and all of them wished recommend to others.6 mothers were not willing to practice due to lack of privacy in their homes as a result of poverty. Most of the mothers felt KMC as a very useful technique in promoting weight of the baby and improving breastfeeding. Next majority mothers felt that awareness and education about KMC must be increased. Only few felt privacy as a hindrance in practicing KMC.

DISCUSSION

In the above study, it is seen that 22 out of 60 mothers (36.7%) mothers had adequate knowledge about KMC. This is comparable to study in Ethiopia in which 64% mothers had adequate knowledge (8) whereas in a study in northern Kerala mothers had lower level of knowledge (9) It can be seen that mothers with higher educational status had higher level of knowledge than the rest. This implies that if a female is educated more, all aspects of her life can be improved including her family life. It is also noted that the mothers who had previous history of preterm birth had higher level of knowledge. It signifies that a mother becomes more aware of kangaroo mother care if she has previously given birth to a preterm baby. Also, mothers from urban residence had higher level of knowledge, implying that KMC's reach to rural areas is still a far run. Out of 22 mothers, 18 knew about KMC from hospital which indicates no prior knowledge before coming to hospital. 75% of mothers breastfed their babies within 2 hrs, which means mothers are more aware of initiating breastfeeding comparatively.

Out of 22 mothers practicing KMC, 82% initiated within 72 hours which is equally comparable with study done in Ethiopia (8) and comparatively lower compared to a study done in Ghana (10). All the participants of the study showed positive attitude towards KMC. They felt warmer and attached towards their baby. Only 10 mothers felt inconvenient practicing KMC. The reason quoted was lack of privacy and 2 among them felt pain due to caesarean section. They said that how could they practice KMC in a home where there is hardly space to live at all. So, poverty is a hindrance in practicing KMC. When asked about their low level of knowledge and practice, many said that there is no awareness regarding KMC. They felt that proper education and awareness is needed about KMC. All the mothers were ready to practice KMC as it is a easy and useful technique except for those who lacked privacy. The acceptance of KMC as a useful strategy in this study is comparatively higher than a study done in Ethiopia where only 65.04 percent of mothers accepted KMC as a useful technique (8). This shows knowledge, attitude and cultural differences in different parts of the world.

RECOMMENDATIONS

Counselling should be done to initiate KMC with specific focus on addressing the soci-cultural barriers at a time convenient to the mother. The procedure should be demonstrated with adequate time provided for clearing her doubts.

LIMITATIONS

This study doesn't include term and post term babies, also babies with normal birth weight. This study includes only patients of Institute of Obstetrics and Gynaecology, Chennai and doesn't include patients of primary care and private health centres. Mothers who delivered by normal vaginal delivery didn't participate in the study.

DECLARATIONS

Funding:

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Ethical approval:

Formal approval was obtained from Institutional ethics committee, Madras Medical College, Chennai-600003 (no.17062018)

Conflict of interest : Dr. S. Sudharshini who is an author of this article is also a member of the editorial board and he was not involved with the processing and reviewing of this particular article.

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CASE REPORTS



FOR MOST DIAGNOSES ALL THAT IS
NEEDED IS AN OUNCE OF **KNOWLEDGE**, AN
OUNCE OF **INTELLIGENCE**, AND A POUND OF
THOROUGHNESS

CASE REPORT - OTORHINOLARYGOLOGY

ORO-NASAL FISTULA - A RARE PRESENTATION OF MAXILLARY OSTEOMYELITIS IN THE MODERN ERA OF ANTIBIOTICS

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Abstract

ABSTRACT : Maxillary osteomyelitis is rare disease since maxilla is a cancellous bone with more collateral blood supply and meagre medullary tissue. Mandible is more commonly involved site than maxilla. We hereby report a case of maxillary osteomyelitis which is extremely rare presentation with different symptomatology & its management. The patient had an uneventful recovery. When Maxillary osteomyelitis is present, there is possibility of malignancy or granulomatous disease and it should be ruled out.

KEYWORDS :

Maxillary osteomyelitis, Weber Fergusson, sequestrum, maxillectomy, diabetes mellitus, micro motor drill.

INTRODUCTION

Osteomyelitis a dreadful disease long ago has now become easier to treat due to advances in diagnostic and treatment modalities¹. However the disease still holds interest among clinicians because of its varied symptomatology and mode of presentation¹.

Osteomyelitis primarily involves the medullary cavity and the adjacent cortex. The odontogenic origin is the major source of infection in maxilla-facial osteomyelitis¹.

Rees in 1947 described this condition. All three components of bone: periosteum, cortex and marrow² are involved in Suppurative Osteomyelitis. Because of the more extensive maxillary blood supply and thin cortex and meagre medullary tissue makes maxilla impossible for infection within bone making the oedema and pus spread into the nearby soft tissue and paranasal sinuses⁵.

CASE REPORT

A 45 year old female, with known case of uncontrolled diabetes mellitus for the past 5 years and no habits, presented with history of regurgitation of food particles and foul smelling discharge through the right nasal cavity for the past 10 days and swelling over the right cheek for the past 40 days. The patient had undergone dental extraction 2 months ago and was treated with oral antibiotics, she responded well initially later developed the above symptoms over a period of 40 days.

On examination of this patient, a firm tender swelling over the right maxilla was palpable with smooth surface. Skin over the swelling was normal. Unhealthy sequestrum (Figure 1) seen over the right half of the hard palate. There was an oro-nasal fistula through which foul smelling inspissated food material were extruding.

LOCAL EXAMINATION:



Figure 1: sequestrum of hard palate

DNE:

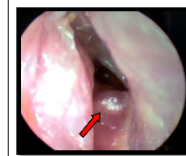


Figure 2: slough in the right nasal cavity With foul smelling inspissated food particles

Nasal endoscopy revealed slough with mucopurulent discharge over the floor and lateral wall of right nasal cavity. Turbinates could not be made out. (Figure 2)

CT PNS revealed extensive bony destruction and osteolysis of medial, anterior, postero lateral wall of right maxilla and right orbital floor with right maxillary sinus soft tissue opacification (Figure 3).

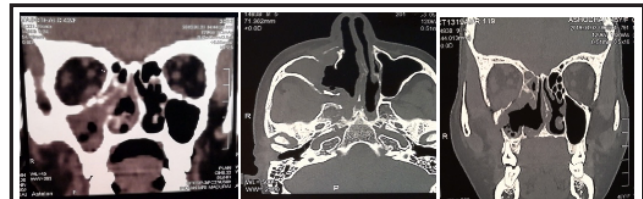


Figure 3: CT PNS showing extensive bony erosion of right maxilla with evident oro-nasal fistula

Figure 3: CT PNS showing extensive bony erosion of right maxilla with evident oro-nasal fistula

Biopsies were taken from the hard palate and the existing oro-nasal fistula. Histopathology showed “Evidence of necrotic bone with marked chronic inflammatory infiltrates”; No evidence of malignancy or granulomatous disease” (figure 4)



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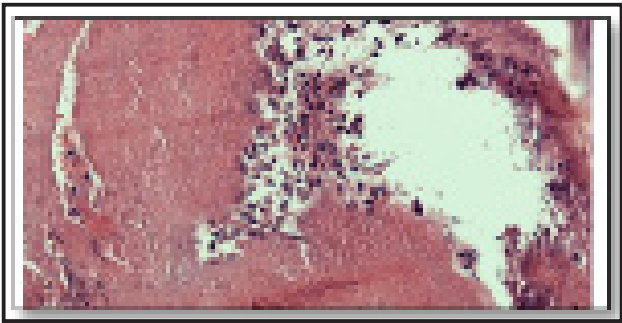


Figure 4: necrotic bone with chronic inflammatory infiltrates

Patient was taken for subtotal maxillectomy by weber Fergusson's approach (figure 5), periosteum over anterior aspect of maxilla was raised laterally up to zygomatic process. (Figure 6) Palatal flap was raised using periosteal elevator. On pressure, anterior bony wall of maxilla was necrosed and broke easily. Bony cuts and fissure burr over anterior wall and medial wall of maxilla, incisor and hard palate were taken using micro motor drill. (Figure 7) Rest of the subtotal maxillectomy was done with the help of round body cutting and diamond burr (6mm). The round burrs excise dead bone in a controlled manner until fresh bleed is seen. This prevented removal of unnecessary bone. A thorough wash using diluted betadiene was given. Gutta percha was inserted to maintain the facial contour. Nasal packing done. Nasogastric tube feeds for 7 days was given following which oral feeds were started. Obturator inserted and the patient recovered uneventfully (Figure 8).



(Figure 5) Step 1: Weber Fergusson incision



(Figure 6) Step 2: sub periosteal flap



(Figure 7) Step 3: Bony cuts & maxillectomy

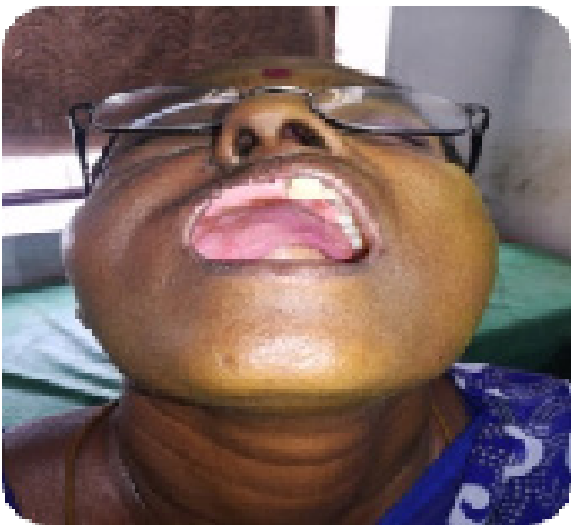


Figure 8: Post operative period before and after obturator insertion

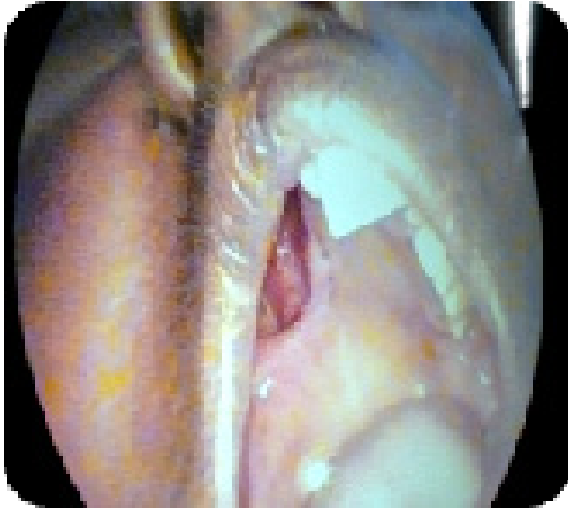


Figure 9: Post operative period before and after obturator insertion

DISCUSSION

Osteomyelitis is a rare entity in today's era and maxillofacial involvement is extremely rare². The term osteomyelitis is a pathology of inflammation and infection involving bone. Maxillofacial Osteomyelitis more commonly involves mandible² as a result of haematogenous spread and contiguous spread from infective focus, or direct inoculation due to trauma³. Diabetes mellitus, autoimmune conditions, malignancies and malnutrition are some immune compromised status which are major predisposing factors along with diminished host defences. 85% of Haematogenous osteomyelitis occur in paediatric age group and in adults it is post traumatic involving 50% cases. Maxillary osteomyelitis can be classified

- Traumatic - following accidental or iatrogenic trauma. The primary site of infection is antrum, teeth, or lacrimal sac
- Rhino-genic - spontaneous spread of infection from the antrum and postoperative rhino-genic cases
- Odontogenic - dental-root sepsis may progress to osteomyelitis.

The most common source of infection in maxilla facial osteomyelitis is the local periodontal infection. In one study, the source of infection in 74% was identified as odontogenic component, 16% had maxillary sinusitis and 6.4% had trauma.

In another study, among uncontrolled diabetic patients, 45.1% had maxillary osteomyelitis

In another study, 51% patients of maxillary facial osteomyelitis patients were found to have

pre-existing periodontal disease.

Our patient who had a poor glycaemic control also had local odontological infection¹.

Clinical, radiological and histological investigations makes diagnosis easy. Leucocytosis and neutrophilia are observed in acute infections with elevation in ESR and CRP and helps in course of treatment. Histological analysis of soft tissue and bone sequestra by Biopsy to rule out neoplasm is essential².

The goals of successful management involves accurate diagnosis with complete removal of underlying disease. Accurate localization of bone involvement, effective culture-directed broad spectrum high end antimicrobial therapy, surgical dead tissue debridement, rehabilitation and improving the host's defence are the mainstay treatment².

CONCLUSION

The most difficult to treat infectious disease is maxillary osteomyelitis and remains to be a challenge. Good clinical knowledge is critical to initiate proper and accurate investigation¹. The key to successful management is vigilant medical management with appropriate intervention by surgery. In our case subtotal maxillectomy-weber Fergusson's approach along with use of round burs micro motor drill for clearing full disease and remains conservative to prevent disfigurement of face and oro- nasal fistula post-surgically.

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CASE REPORT - ORTHOPAEDICS

MANAGEMENT OF POST SEPTIC SEQUALE OF HIP WITH NECK OF FEMUR NON-UNION IN CHILDREN

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Abstract

BACKGROUND: Post Septic Sequale of Hip with Neck of femur Non-Union in children is a rare presentation. Two paediatric cases from Orthopaedics department, Institute of Child Health, Egmore were selected for this study with complaints of painless limp, hip abduction restriction, deformity and shortening of femur. These cases were surgically treated with Proximal femoral valgus osteotomy and bone grafting with fibular strut graft and these patients were followed at 2nd, 6th, 10th month. At the last follow-up, these two children were evaluated clinically and radiographically - consolidation at the site of non-union, normal gait pattern were observed.

CONCLUSIONS: Conclusions: Proximal femoral valgus osteotomy and bone grafting with fibular strut graft continues to be the best treatment for post septic sequelae of the hip with good results.

KEYWORDS: : Osteotomy, non-union, Avascular necrosis

INTRODUCTION

Septic arthritis leading to coxa vara and non-union are rare cases and only a few similar cases are reported at the literature [3, 4]. Two paediatric cases from Orthopaedics department, Institute of Child Health, Egmore with Post septic sequelae of hip with arthritis with Coxavara. The main stay in the treatment is proximal femoral valgus osteotomy and adductor tenotomy. Early diagnosis and treatment of septic arthritis of the hip will prevent the sequelae leading to triradiate cartilage and capital femoral physis premature closure, dysplasia of acetabulum, avascular necrosis of the articular cartilage and head, femoral head damage and ankylosis of hip.

METHODOLOGY

Two paediatric cases of post septic sequelae of hip non-union neck of femur with coxa vara presenting at Orthopaedics department, Institute of Child Health, Egmore, Chennai were selected for this study and valgus osteotomy of the proximal femur and bone grafting with fibular strut graft were done for the treatment of sequelae of infantile hip septic arthritis. Follow up was done at 2nd, 6th and 10th months and assessed for consolidation. After adequate union was achieved implant exit was done at 1 year. At the last follow-up at 18 months postoperative evaluation, the patients were assessed for consolidation of non-union, Trendelenburg gait, right lower extremity alignment, level of greater trochanter, and level of centre of femoral head, pelvitrochanteric muscles, Hilgenreiner-epiphyseal angle, stability of the hip, mechanical efficiency and lower-extremity length discrepancy status.

CASE ILLUSTRATION**CASE1**

An 8 year old girl came to OPD with complaints of limping and shortening of right lower limb since 3 years. During 6th month of her age she was diagnosed with Bilateral septic arthritis knee joint, was treated by Bilateral knee arthrotomy and with IV antibiotics and above knee slab for 3 months, in a local government hospital. Then patient lost follow up. Then patient was started to have limping gait with shortening of right lower limb for past 3 years on irregular treatment. At presentation she demonstrated: pelvic obliquity, Trendelenburg gait, right hip flexion 120°, extension 10°, adduction 20°, abduction 30°, internal rotation 30°, external rotation 40° and limb length discrepancy of 3 cm shortening of right femur.

Pre OP X-Ray:

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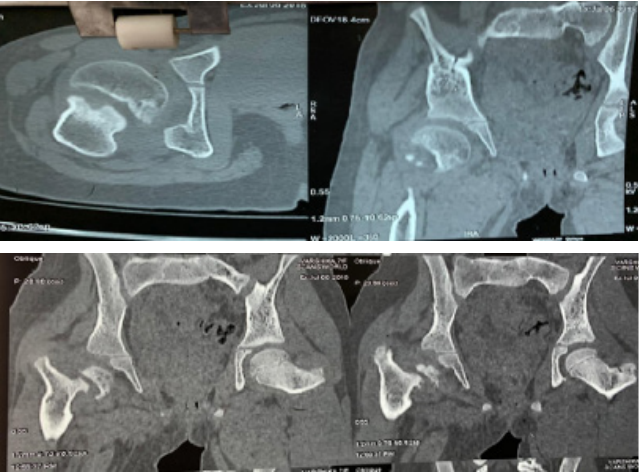
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Plain X-ray AP view showed decreased neck-shaft angle - 95° , proximal migration of femur, greater trochanter overgrowth and capital physis is vertically placed. Hilgenreiner-Epiphyseal angle - 75° and classified under Choi Type IIIB.

Pre OP CT

Pre OP CT shows neck of femur is resorbed with small femoral component with non-union of neck of femur. An MRI screening show Head of femur is viable.



Operative Procedure

In fracture table, through lateral approach proximal femur is exposed. Under C-Arm guidance reduction done and it is provisionally fixed with two guide wires. Fibular graft harvested from ipsilateral leg and it is placed over neck of femur through the guide wires. Valgus derotation osteotomy done and it is fixed with contoured recon plate. Patient was on Hip Spica for 6 weeks. Non weight bearing was advised till union. Periodic follow up was done till union.



With this valgus derotation osteotomy, the neck-shaft angle increased from 96° to 136° postoperatively. The greater trochanter was transferred inferiorly and laterally to restore normal tension of the pelvitrochanteric muscles. The Hilgenreiner-Epiphyseal angle was 35° postoperatively.

Follow up



At 2 months



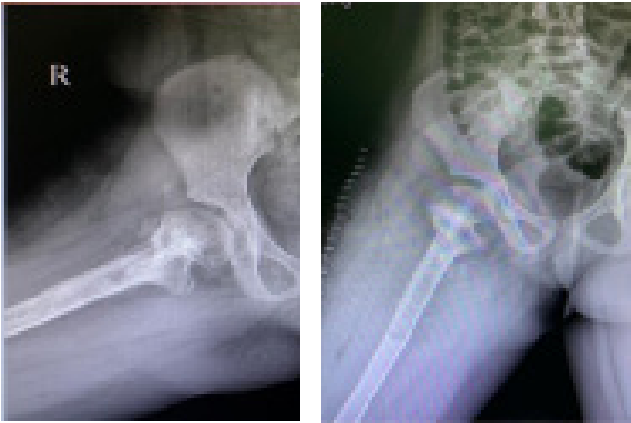
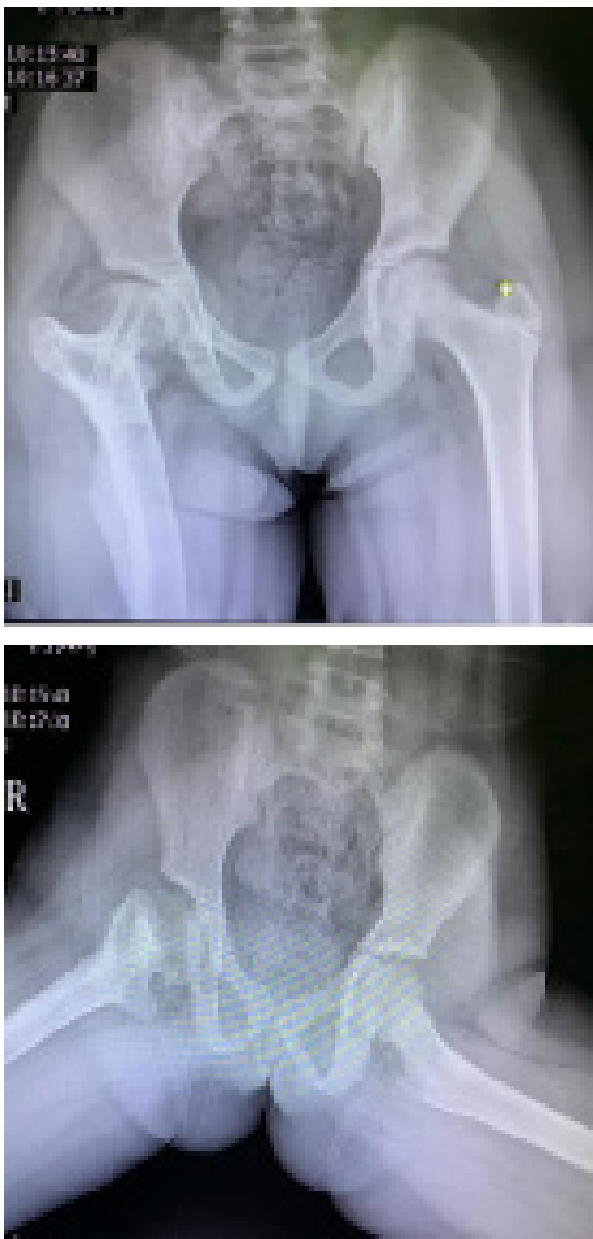
At 6 months



At 10 months

Follow up at 1 year

After 1 year of the operation, the consolidation of the osteotomy was evident and planned for implant exit.

**Follow up at 18 months**

At 18 months follow-up, child showed improved range of movements with Flexion - 120°, extension - 8 to 10°, adduction - 35°, abduction - 45°, and rotation - 30° internally and 35° externally and X-ray showed healed osteotomy site. No difficulties in squatting, running, climbing stairs and walking. Shortening of 3 cm was present and planned for limb lengthening procedure in future; x-ray showed neck

**CASE 2**

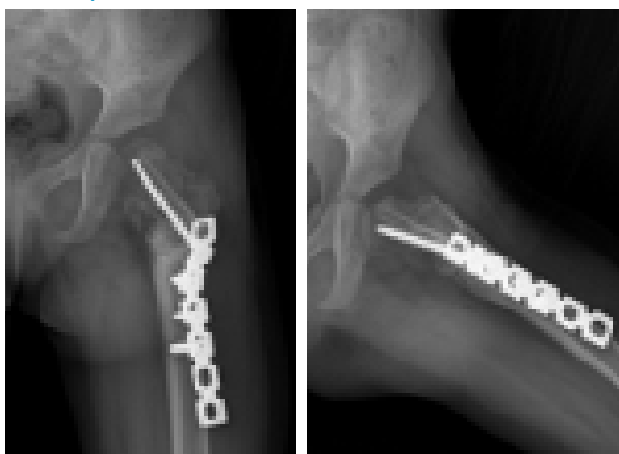
A 3 year old girl came to OPD with complaints of limping and shortening of left lower limb. During 2nd month of her age she was diagnosed with left side septic arthritis hip joint, was treated by left hip arthrotomy and with IV antibiotics, in ICH. Then patient was started to have limping gait with shortening of left lower limb for past 2 years. At presentation she demonstrated: pelvic obliquity, Trendelenburg gait, left hip flexion 110°, extension 10°, adduction 25°, abduction 30°, internal rotation 25°, external rotation 30° and 2.0 cm of shortening of right femur.

Pre OP X- Ray

Plain X ray: AP View showed reduced neck-shaft angle - 95°, proximal migration of femur, greater trochanter overgrowth and capital physis is vertically placed. Hilgenreiner-Epiphyseal angle - 85°. Pre OP CT shows neck of femur is resorbed with small femoral component with non-union of neck of femur. An MRI screening show Head of femur is viable.

Post OP X-Ray

Valgus derotation osteotomy with fibular strut grafting was performed in a similar way and post-operative period was uneventful.

Follow up at 2 months**Follow up at 6 months**

At the last follow-up, patient's range of motion improved with flexion -120°, extension - 10°, adduction 30°, abduction 40°, and rotation internally 30° and externally 35° and able to perform squatting, running, climbing stairs and walk without pain. Shortening of 2 cm was present and planned

for limb lengthening procedure in future; x-ray of her hip showed a viable head and neck shaft angle was 138°.

RESULTS

Two cases with neonatal septic arthritis presented with painless limping, limitation of hip abduction, limb length discrepancy and shortening of femur to the outpatient unit. Proximal Femoral Valgus osteotomy and bone grafting with fibular strut graft were performed. Follow up were done at 2nd, 6th, 10th months. At the last follow-up postoperative evaluation, these patients showed successful consolidation of non-union, correction of Trendelenburg gait, restored lower extremity alignment.

DISCUSSION

Septic arthritis remains a major infection causing morbidity and mortality. The metaphyseal and epiphyseal vessels anatomy in the hip during infancy predisposes to septic arthritis of hip. Septic arthritis of the hip in new born can progress to severe long-term sequelae due to direct damage in the articular cartilage or indirectly by damaging the physes. The main complications of septic arthritis in the hip are triradiate cartilage and capital femoral physis premature closure, dysplasia of acetabulum, avascular necrosis of the articular cartilage and head, femoral head damage and ankylosis of hip.

Out of late treatment of 31 children with residual deformity and five cases of Type IIIB are found with femoral neck malalignment with extreme ante version or retroversion of the femoral neck treated with Proximal femoral valgus osteotomy was performed in these children and adults with coxa vara and femoral neck non-union in a study by Choi et al.

In 21 patients with severe sequelae of the hip in a study by Wada et al and 2 out of 4 cases were treated by femoral valgus osteotomy and bone grafting. Metaphysis is the primary site of lesion and non-union at the metaphysis will ossify quickly due to right angled arrangement of epiphysis plate against the forces. Valgus osteotomy is a cost effective and easy to perform procedure which acts as a biological stimulus promoting osteogenesis as it converts shearing forces to compressive forces.

On resecting the lateral wedge, there is a chance of damaging the epiphyseal plate near Greater Trochanter and it is difficult to achieve rigid internal fixation in children. The action of the abductor muscles increases after lateralisation and distal displacement of the greater trochanter. The tip distance from great trochanter and hip centre increases when the superior end of the femur was placed against the pelvis on the lateral side leading to biomechanically stable

hip.

CONCLUSION

In this study, two cases with non-union of neck of femur following septic sequelae of hip were treated surgically with proximal valgus osteotomy and bone grafting with fibular strut graft showing quick ossification. Operative treatment for post septic sequelae with hip arthritis was attempted in two neonates and showed good results. Similar study in large groups for longer period of time will help in knowing the exact result of the procedure.

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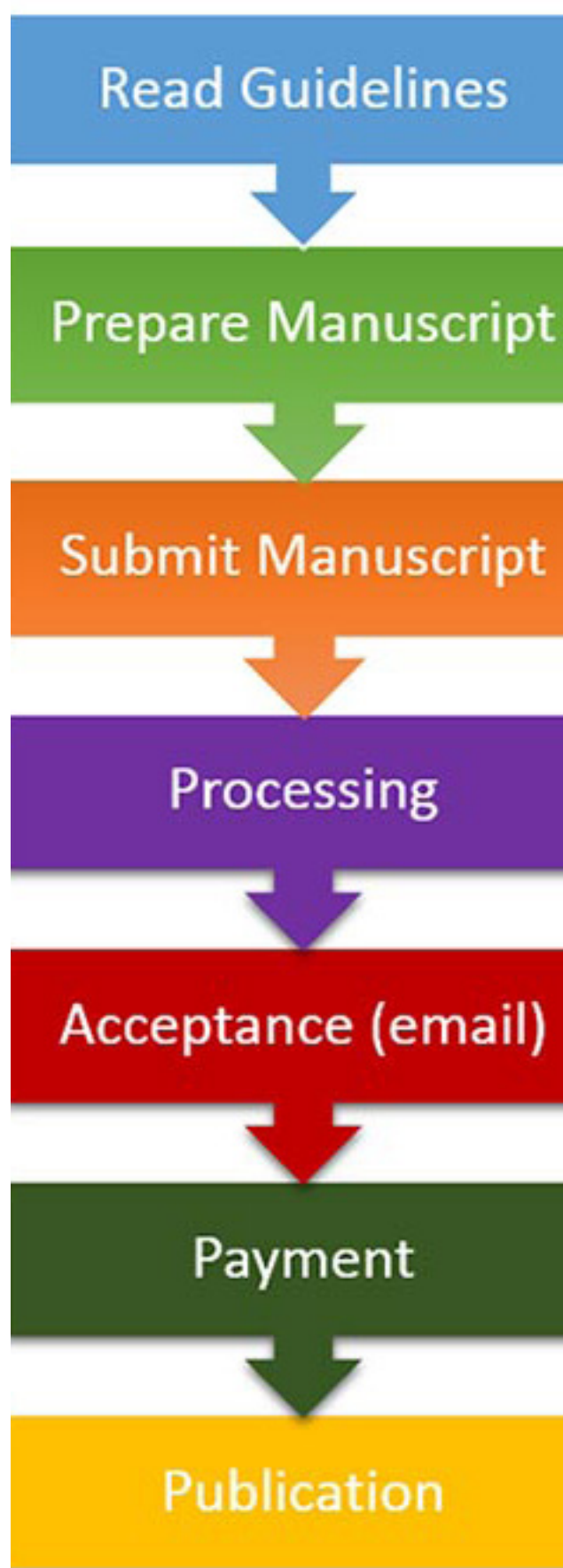
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