AFTER SHOCKS

A Report On

Disability and Rehabilitation of the victims of

Japanese Encephalitis

in

Eastern Uttar Pradesh

Submitted to and Supported by

Action for Peace Prosperity and Liberty

(A Trust to Serve and Empower the Unprivileged)

Study Conducted by

CENTER FOR CONTEMPORARY STUDIES & RESEARCH

AFTER SHOCKS**

(A report on Disability and Rehabilitation of the victims of Japanese Encephalitis in Eastern Uttar Pradesh)

- **APPL** (**Action For Peace ,Prosperity and Liberty**) ***(30,Vindhyawasini Nagar,BankRoad,Gorakhpur(U.P.)India)***, ***appl.trust@rediffmail.com)***,is a privately funded NGO-trust devoted to serve and empower the unprivileged section of the society. The promoters of **APPL** have been active in the eastern U.P. for a long time. Before embarking upon the actual job of relief and rehabilitation of disabled due to JE, need for conducting a comprehensive survey, to know the ground realities and ,hence, set priorities, was felt. **APPL** commissioned ***M/S Centre for Contemporary Studies and Research (CCSR), (2/268 Vivek Khand Gomti Nagar,Lucknow ccslucknow@gmail.com*** for this study**.** On behalf of ***Centre for Contemporary Studies and Research*** Mr. Narendra Mishra was involved for the current study. A comprehensive schedule has been filled to collect the primary information regarding present mental, physical, economical and social status of the victims. The detail investigation and information collected is the source of our conclusion and recommendation.
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MARCH 2007

Lucknow

****** Based on the current study/report the subject-problem has been featured by India Today , Out Look, Indian Express, and other leading National/regional Magazines, News Papers etc.

ACKNOWLEDGEMENT

J.E. the killer disease has taken more than ten thousands lives and effected more than a hundred thousand since 1978. Eastern U.P. also known as Purvanchal, the rice belt of Uttar Pradesh has been badly hit due to this epidemic. The records and the study shows that 20% of the people affected who survive become physically and mentally handicapped. We are thankful to Dr. A.K.Srivastava, Executive Trustee of A.P.P.L., Dr Sanjay Srivastava and Ms. Priyanka Sinha both the trustee's of A.P.P.L. for providing resources, guidence and suggestions for this study. Mr.Utkarsh Kumar Sinha (Director, Centre For Contemporary Studies And Research) given the idea of this study. Thanks to Dr. Dinesh Singh (Health Consultant) for his efforts and vision in designing a comprehensive schedule for field survey which was very helpful to clearly visualize the things. The inputs of Dr. Harsh Kr. Sinha (Reader, D.D. University Gorakhpur) and Mr. Manoj Singh (Senior Journalists) helped us a lot in conceptualizing and framing this study. The intensive field work and to reach up to the victims or the affected was a tough job, We are thankful to Dr. Sanjay Srivastava of APPL whose assistance in the field made the things lot easier. We are also thankful to Dr. Yogesh Bandhu Arya (senior Fellow ICSR) for helping us to transform the information and the data in the right format. I am thankful to all of my friends and colleagues in CCSR especially Mr. R.P.Shahi, whose collective efforts has given this study and the report a good shape.

NARENDERA MISHRA
(Centre For Contemporary Studies And Research)

Chapter Plan

CHAPTER ONE

1.0 GENESIS OF THE STUDY

Japanese Encephalitis (JE) is a killer disease. It has taken more than ten thousand lives and severely affected more than a lakh peoples since 1978. PURVANCHAL in Uttar Pradesh-the rice belt was badly affected with JE for the past 29 years but things have not much changed till now. The JE came to Uttar Pradesh in 1978 and from 1978 to 2006 in 29 years the state has seen 18 chief ministers and 8 Governors and almost all the political parties have ruled, but ,so far JE disabled is concerned, the crisis is still the same. In the affected area, even the basic infrastructure has not been built-up and the health services are not up to the marks. The study shows that 20% of the affected, who survive become physically maimed and mentally handicapped and live in miserable conditions.

Though the cases were reported through out the plains of PURVANCHAL, the districts of Gorakhpur, Kushinagar, Maharajganj were the worst hit areas. These three adjoining districts connect this part of Uttar Pradesh to Nepal and the state of Bihar . The geographic areas of the three districts are 3483.8 Sq. kms ,2873.5 Sq. kms and 2934.1 Sq. kms and population (census2001)of these three districts are 3769456, 2235505 and 2173878 respectively. The data shows that the majority of the people in all the three districts reside in rural areas.The data shows that the rural population of the three districts are 3030865, 2126741 and 2063278 respectively, whereas the urban population of the three districts are

738591,108764 and 110600 respectively. The trend shows that the towns, small towns and the villages were equally hit and the exiting health system were not able to provide proper and adequate services. The only medical college at Gorakhpur in this area is still not having proper facilities and running short of equipments and medicines. The year 2005 was the worst hit year and the preventive measures to be taken by the govt. were badly exposed. When the death toll reached the 700 mark the Govt's woke up and the dialogues begun and the funds and programmes were initiated. The govt. also announced the rehabilitation- package for the disabled and the dead. The insensitivity of the system and the miserable conditions of the affected and the disabled is the root cause of this study and the findings would really help to rethink/review/re-design the rehabilitation policies with a new vision.

1.1 OBJECTIVE OF THE STUDY

The objective of this study is to investigate about conditions, facts and ground realities of the JE disabled in PURVANCHAL in general and in worst hit three districts of Gorakhpur, Maharajganj and Kushinagar,in particular. A comprehensive schedule has been filled to collect the primary information regarding present mental, physical, economical and social status of the victims. Their surroundings, family atmosphere, the effect of the illness and disability on their family has been investigated in detail. The study looks into the accessibility and quality of medical services during and after the illness in terms

of services rendered, counseling and follow up. It was the motive to find out the awareness level of the victims, families and the community. The study also aims to find out the reach and effectiveness of the present rehabilitation package announced by the Government , how much the rehabilitation package changed the victims' life and what is still needed to be done? This study has an important objective not to point-out who was at wrong, but to highlight what was wrong and specially to focus on the needs of the disabled , the ground realities , the loop holes in the existing health system and the rehabilitation policy of the Govt. It also includes to share the findings with the organisations working on the issue as well as with the concerned deptts. of the central and state govts. APPL also plans to adopt some of the worst affected cases and support them for their total revival.

1.2 METHODOLOGY

For the actual picture of ground realities both primary and the secondary data were collected for this study. Analysis of media reports and gist of conversations with some of the leading journalists, health activists and senior doctors also has been incorporated.

Forty samples has been collected for the study on purposive random sample basis. Primary information has been collected from affected villages and towns after conversation with victims, their family and the community, on the basis of a 40 point schedule. The main objective was to record the version of the

affected peoples, their families and the community regarding their present physical, mental, social and economical status. Level of awareness, accessibility to medical facilities during and after decease, status of rehabilitation package and the extent of relief they felt. It is also an objective in this process to examine and record the conditions of their living conditions and food habits. It was aimed to reach the affected at their places and to record the ground realities. Some cases have also been taken-up from Gorakhpur Medical College in current year to analyze the changes taken place in the conditions between years 2005 to 2006.

The secondary data consists of the list of the disabled due to JE from the dist. C.M.O. Office which is the only authentic record available from the districts of Gorakhpur, Maharajganj and Kushinagar. The list contained 143, 69 and 67 names and addresses of the affected (disabled) in these districts respectively. Many other references on JE including government and non-government reports and studies also have been referred.

1.3 Limitations of the study

Through the area affected is vast it is our limitation to take up only forty cases. The random selection criteria was applied because the list of the disabled provided by the officials in Maharajganj and Kushinagar could not provide us the information regarding the extent (percentage)of disability .It is also our limitation to rely and depend upon the data provide by the government health authorities as no other source was available

CHAPTER TWO

2.0 Japanese Encephalitis and its Effects

Japanese Encephalitis is an acute mosquito borne viral disease of humen as well as horse swine and other domestic animals. J,E. virus produces human infection and disease is reported in a vast area of Asia from northern Japan and eastern Korea,China, Philippines, Taivan, Indo-China and Indonesian archipelago to the Indian sub-continent. J.E. virus is placed in the FLAVIVIRUS genus of the family FLAVIVIRIDAE. J.E. viruses are spherical particles approximately 50nm in diameter. They are single positive-stranded R.N.A. viruses that possess a lipid containing envelope. The JE virus firstly infects the pigs and some species of wild bird. They get infected after getting bit by a "***CULEX TRITAENIORHYNCHUS***" a night biting mosquito that feeds preferentially on large domestic animals and birds (Here only pigs are visible) but only infrequently on humen. This mosquito is the principal vector of zoonotic and human JE in Northern Asia. This species of mosquito generally breed in the paddy fields and picks up the J.E. virus from the pigs and infects humen through bites. It"s also the fact that relatively very little is known about the pathogenesis of J.E. virus in humen. After being bit by the mosquito generally the person gets into high fever after 7-14 days and in majority of cases the person dies within 3 days. If the person survives, there are chances of improvement from the fourth day. If a person recovers within 8-10 days there are chances of total revival but after 8-10 days the person gets physically and

mentally weak and disabled. Dr. K.P. Kushwaha, Head of the Department of Pediatrics, B.R.D. Medical ,Gorakhpur says (Indian express Sept. 23,2005) "Japanese Encephalitis doesn't always kill 20% and those who survive become physically and mentally handicapped.

The majority of the effected are from the lower income group having poor nutrition and living conditions. The virus affects the person having a low immunity level. The morality chart shows that mostly the children between 3 to 7 year age groups died.

2.1 Intensity of JE in Uttar Pradesh

The records of the SGPGI Lucknow shows the death toll from year 1978-2005 which is as follows

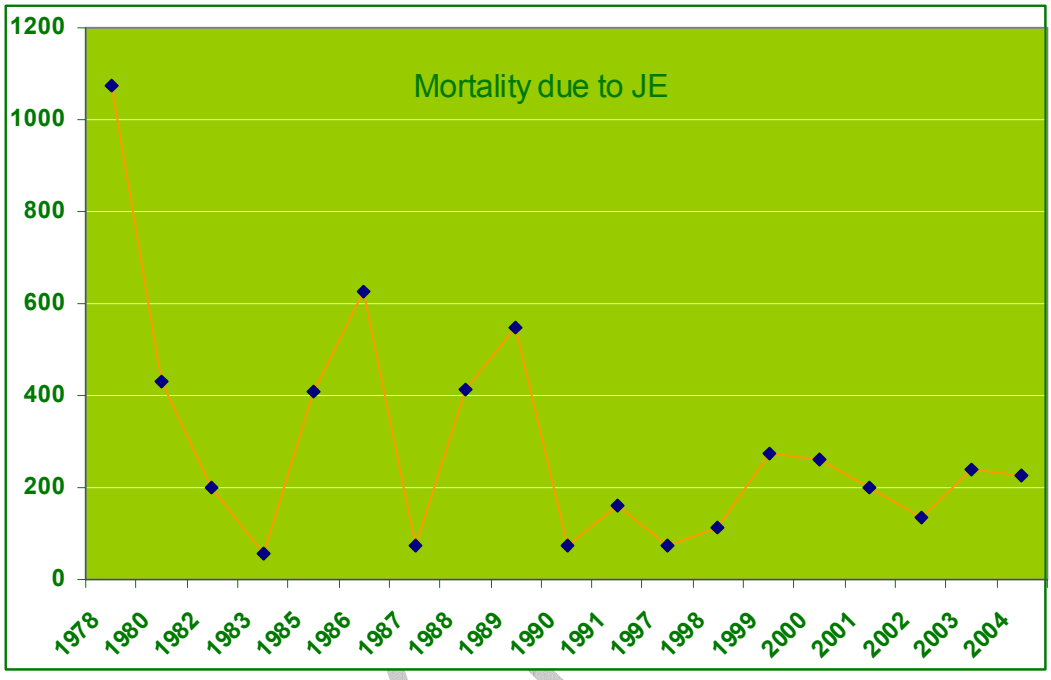
Table-1: Death due to J.E in Uttar Pradesh

Year	Mortality
1978	1072
1980	430
1982	199
1983	58
1985	409
1986	626
1987	73
1988	413
1989	548
1990	73
1991	161
1997	73
1998	114
1999	274
2000	259
2001	199
2002	133
2003	237

2004	228
2006	417*

* unconfirmed other sources

Figure-1: Death due to J.E. in Uttar Pradesh



2005 was the worst year in which the plains of Uttar Pradesh were badly affected and the death toll risen to more than 1000 peoples. The miserable conditions of the thousands of affected villages and lack of proper medical facilities and awareness made the situation worst. B.R.D. Medical College,at Gorakhpur-- the only medical centre in Purvanchal was running short of medical equipments, facilities, medicines and staff. It drew attention of the national and international media and the J.E. crisis was called/ compared to the Tsunami. The head of the research team of SGPGI. Prof. Dr. T.N. Dhole claimed[1] that more than ten thousand children have died in Purvanchal and more than one lakh are affected. He also said that most of the cases cannot be

[1] Jansatta 1st September, 2005

recorded because either the parents left the centers, entrusted with the job of filling up the LAMA (Lease against medical advice) form and/or cannot reach the centers as poverty was the main cause behind it. They were unable to afford the costly medical treatment.

Since 1978 the governments cannot even systematically plan and implement the preventive measures to be taken. The preventive measures are fogging vaccination and awareness. The fogging machines purchased were not up to the mark and most of the time half of them were of no use. After the Tsunami of 2005 and media attention to the whole episode the Government woke up. Dialogues begun, the funds and programmes were declared and initiated. But the ground realities have not much changed. The bureaucracy was not at all sensitised. This was well established by the fact of 2004 when media reported of the release of Rs.73.60 lakh in March 04 for the sake of equipped-encephalitis-ward at the Gorakhpur Medical College and the amount was found dumped in the P.L.A. account of King George Medical College, Lucknow for more than a year. When the conditions in 2005 worsened the equipments were bought and send to B.R.D. Medical College,Gorakhpur. The officials here at Gorakhpur refused to accept them because of the low quality. Presently ,in the children's ward at Gorakhpur medical college the encephalitis patients are accommodated and in case of heavy turnout another ward is partially or completely shared. Due to limited accommodation, two or sometimes three patients share a single bed in the worst hit months. This reflects the conditions of the medical services made available in the state of Uttar Pradesh.

When the issue was raised in the as State and the National Assembly the state govt. announced intensive fogging and the distribution of mosquito nets in the affected areas. The govt. also announced later a rehabilitation package for the disabled and the dead. The persons eligible for such packages are only those who were registered in the govt. hospitals and in case of disability with 40% and more disability.

The vaccination campaign of the Govt. has not shown good results as the cases were still being reported from those areas this year. In 2006 the health department immunized around 68 lakh children to protect them from the killer disease. The death toll has been the highest in Gorakhpur and Basti division. In Gorakhpur district the disease infected 523 people,453 in Kushinagar, 187 in Deoria, 254 in Maharajganj, 54 in Basti, 134 in Siddarthnagar and 103 in Sant-Kabeernagar. This was the post immunization scenario. The text book of pediatrics by Dr. Nelson says that the virus not only infects the pigs but also infects other domestic animals. It also says that in Japan the humen and domestic animals were vaccinated simultaneously and they successfully won the battle against J.E. Epidemiological survey in Japan show that 68% of the cases were found positives. It was found that no symptoms were visible among the animals found positive.

CHAPTER THREE

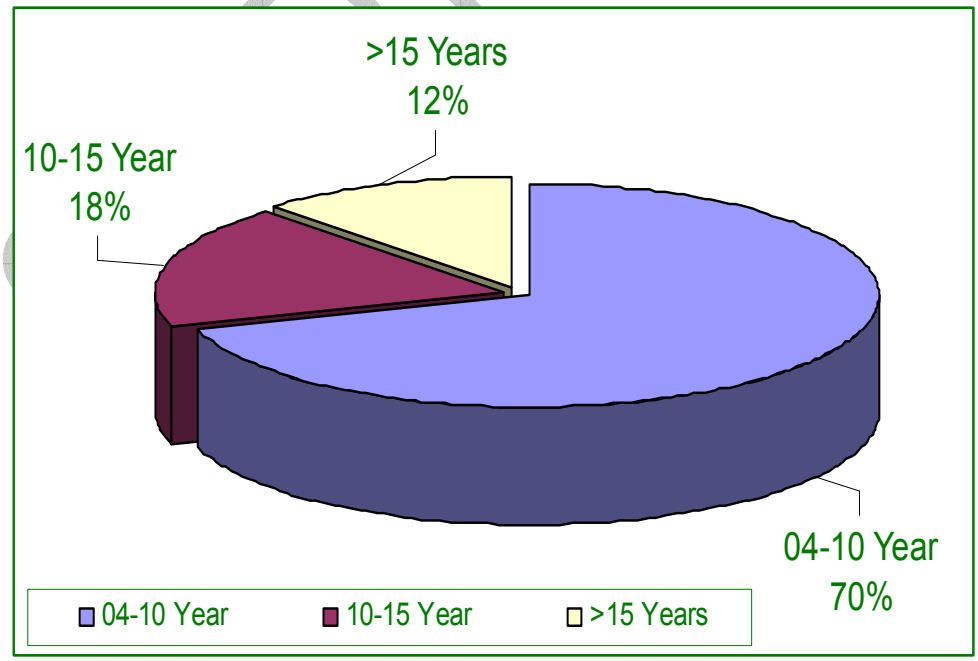
3.0 Findings of the Survey

The study mainly covers survey of 40 affected people in the districts of Gorakhpur, Maharajganj and Kushinagar. The schedule for this covers health, social, economic and other aspects of affected peoples. Main findings of this study are as fallow.

3.1 Age Group of Disables

The study shows that 70% of the affected were between 4-10 years and 18% of the effected were between 10-15 years. Whereas 12% of were 15 years and onwards. The trend shows that the maximum disability is between the children aged 4-10 years.

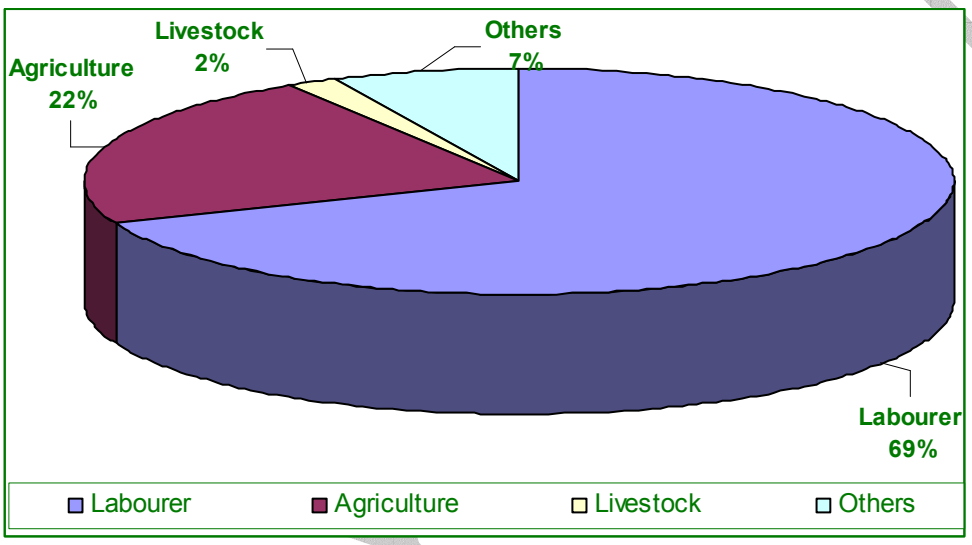
Figure-2: Age Profile of Disabled



3.2 Economic Profile of Disables

Out of disabled people surveyed, 69% of effected were labors. 22% depend upon agriculture. 2% of them earn their livelihood by cattle rearing and. 7% did other jobs.

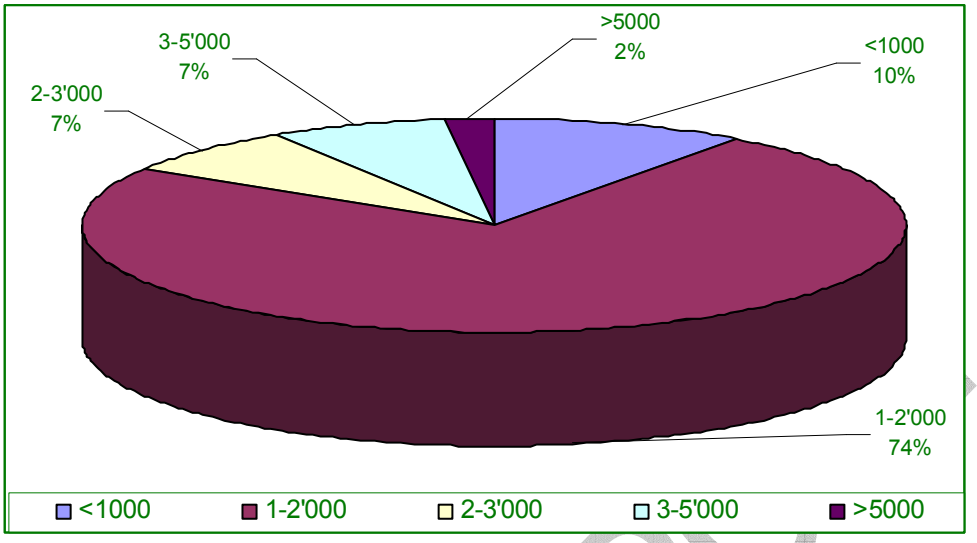
Figure-3: Family Occupation



3.3 Income Group

A majority of disabled belonged to a low income group as the below graph fig.-4 shows. The study shows that 74% of the effected are between the income group of Rs.1000-2000 and only 2% of them fall into the category of Rs.5000 and above. These figures are directly related to their nutrition and food habits. A majority of the effected are undernourished and the consumption of pulses, fruits, milk and green vegetables were very low.

Figure-4: Income Group, in Rupees



3.4 Habitation of Disabled

Most of the affected have very poor and unhygenic living conditions. The study points out the facts. As it is find in this study 83% of the effected are from the rural background and only 17% are from the urban areas. There are similarities however in the living conditions whether they are in rural or in urban areas. 53% of the effected have pucca houses and 32% of them in threshed houses (chappers). Out of them 15% have tiled (khaprail) houses. Most of them who have somehow managed to make a pucca house, still the living conditions are not up to the mark and hygienic. This co-relates with the fact that 54% of the affected sleep in the rooms and 29%, 2 % and 15% sleep in the open place, courtyard and veranda respectively. In spite of sleeping in the room the majority of them are being affected.

Figure-5 (a): Location of the House Hold

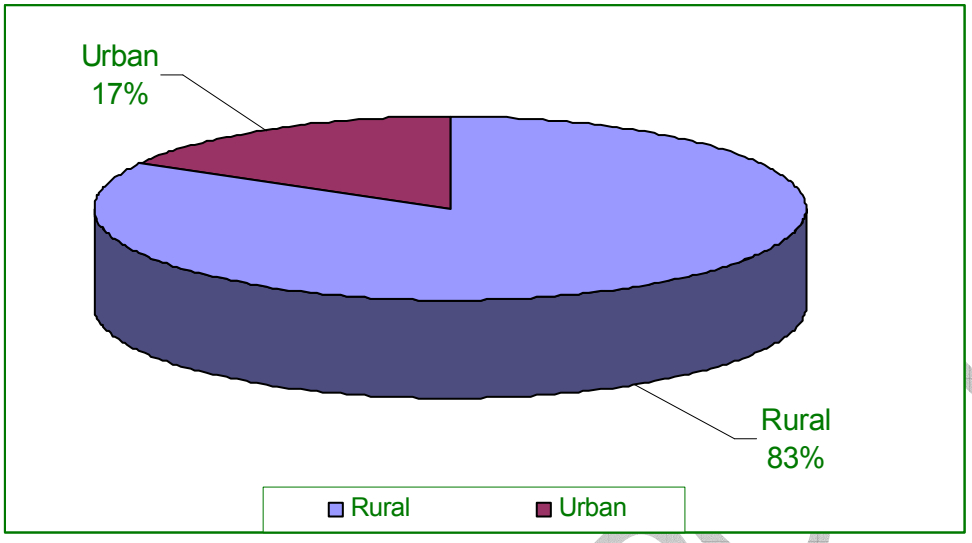


Figure-5 (b): Residence type

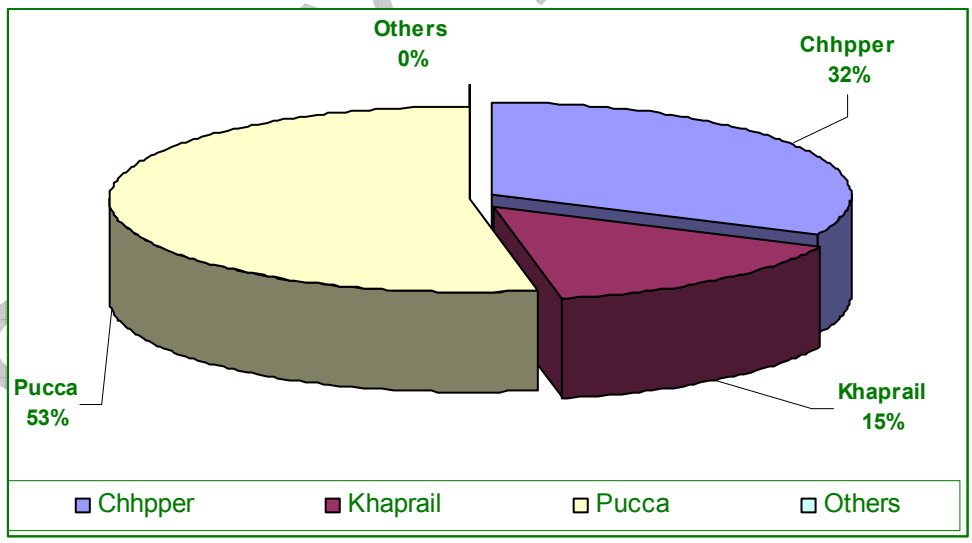
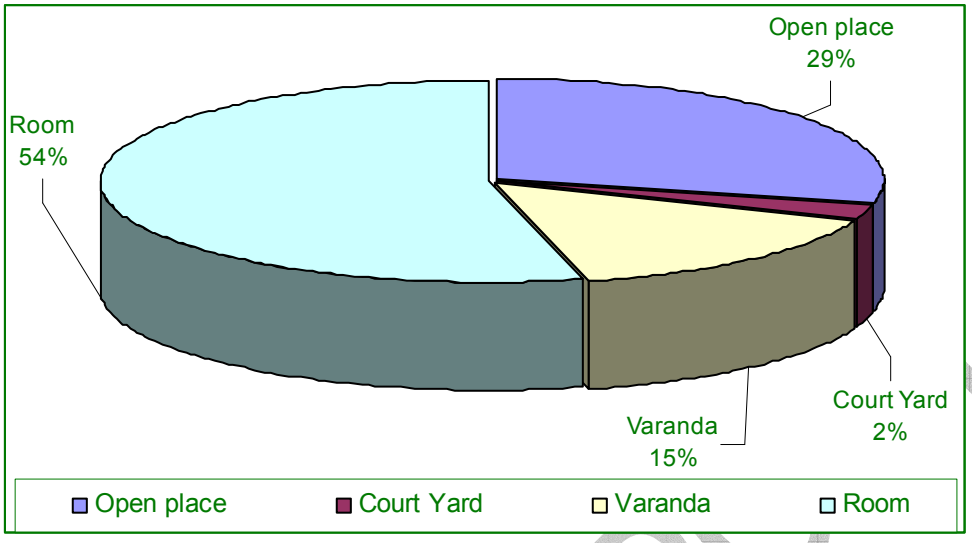


Figure-5 (c): Sleeping Place



3.5 Surroundings

As it is already established that the J.E. is carried through the pigs and water logging in and near the paddy fields. The facts that 48% of the affected peoples were living in the areas with heavy water logging nearby and 50% of the affected lived in the surroundings having piggery as well as water logging, surrounded by paddy fields. The study also reveals that the majority of them don't even know about the relation of the J.E. with the pigs and the paddy fields. 93% of the effected did not even know about the J.E. before being affected. The villagers and the affected both still are not very clear about the symptoms and why it happens.

Figure-6 (a): Surroundings

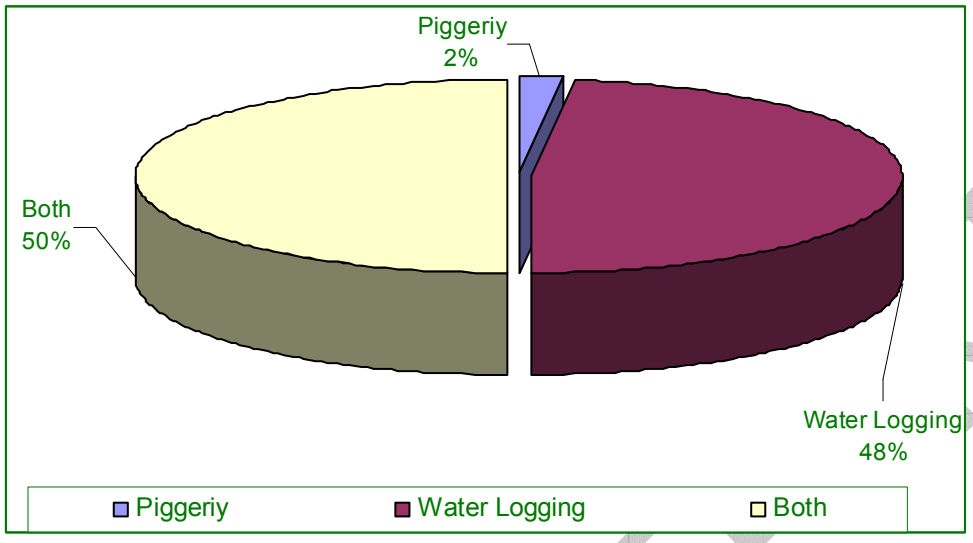
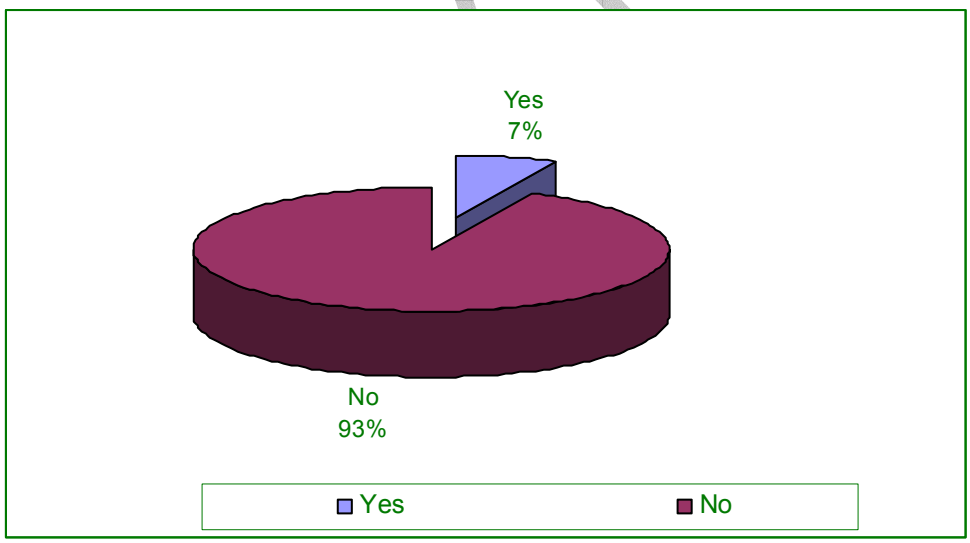


Figure-6 (b): Awareness regarding JE before being affected

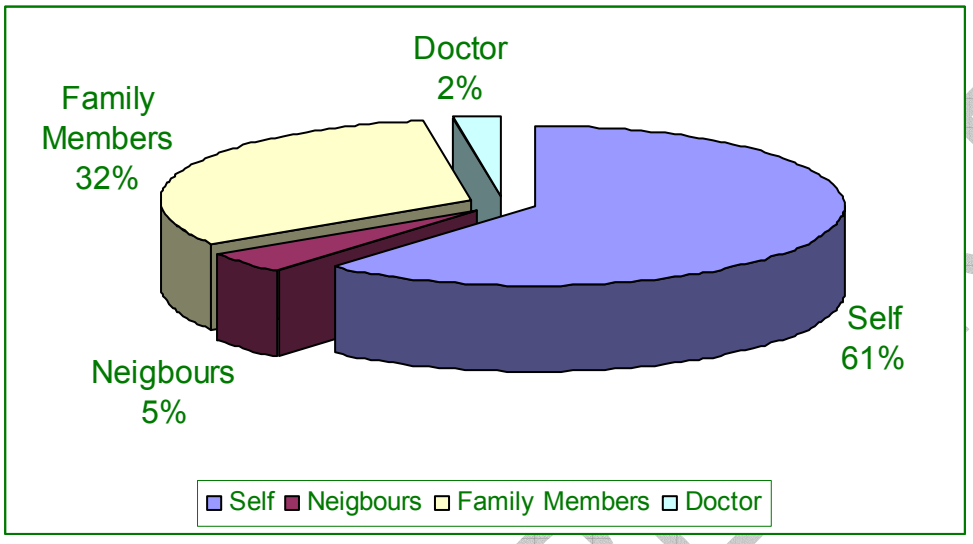


3.6 Decision Making Process

The study also investigates about the decision making process and the reach of medical services. The study show that 60.9%. of the affected families claimed

that the decision in case of family illness is taken by the family head himself and 72% claimed that the decision is taken after consulting the family.

Figure-7: Decision Makers



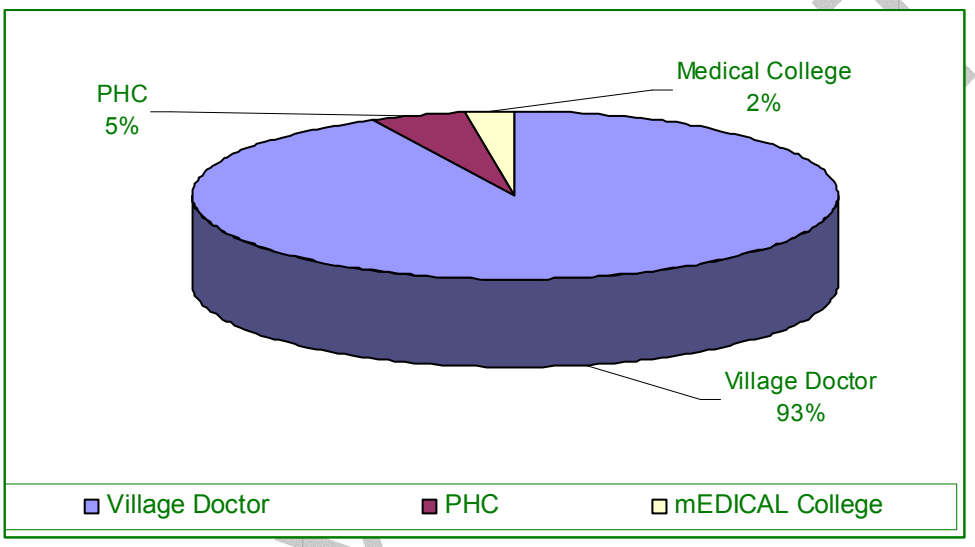
3.7 Contact Persons

Another interesting fact during survey revealed that in case of illness the majority of the people preferred to go the nearby village doctor. 92.6% of the affected said that they went to the village doctor because they believe that they are the one who could make the things easy. They are always available and they start giving the treatment ,irrespective of the fact whether they have money or not ? Only 4.8% do prefer to go to PHC and 2.4% do to the medical college.

We have found in our study that distance to medical facility has no major role to play. As far as the distance of the Nearest PHC and CHC is concerned, the study shows that 36.5% of the affected were within less then 1 km or 1 km from the nearest PHC/CHC. 34.2% were within the limit of 1 km - 5 km and 29.2% were within the limit of 5 km or more. The fact is well established that

the village doctor or the JHOLA CHAP Doctor is still the life line of the village ,because many factors : such as their readily availability, flexible payment-terms(some times payments in kinds–viz. wheat/rice, payments in instalments when next crop is ready etc.), play important deciding factors .

Figure-8 (a): Contact Persons



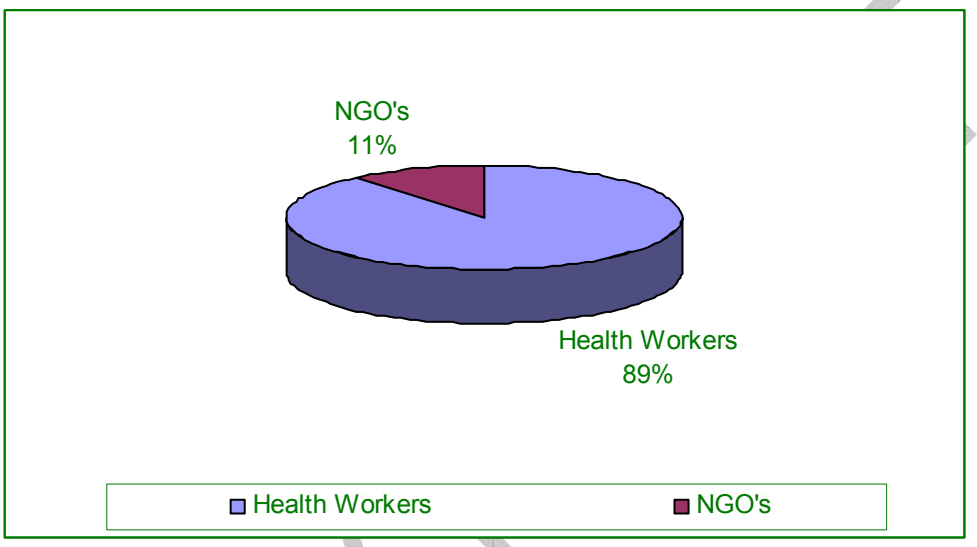
Note :- Pl. give another figure with no.8(b) and caption : Distance to nearest PHC/CHC

3.8 Awareness status

The study also opens the fact that the 93% of the person affected had no previous history of JE as compared to 7% who had. But the awareness level in both the cases were not up to the mark. Another interesting fact revealed that the majority (60.7%) of the people affected claimed that the Govt. officials and

staff were the means by which they came to know about the J.E. as much as they know 8.1% said that they came to know through the NGOs (See Graph).

Figure: 9: Means of awareness



3.9 Illness and After

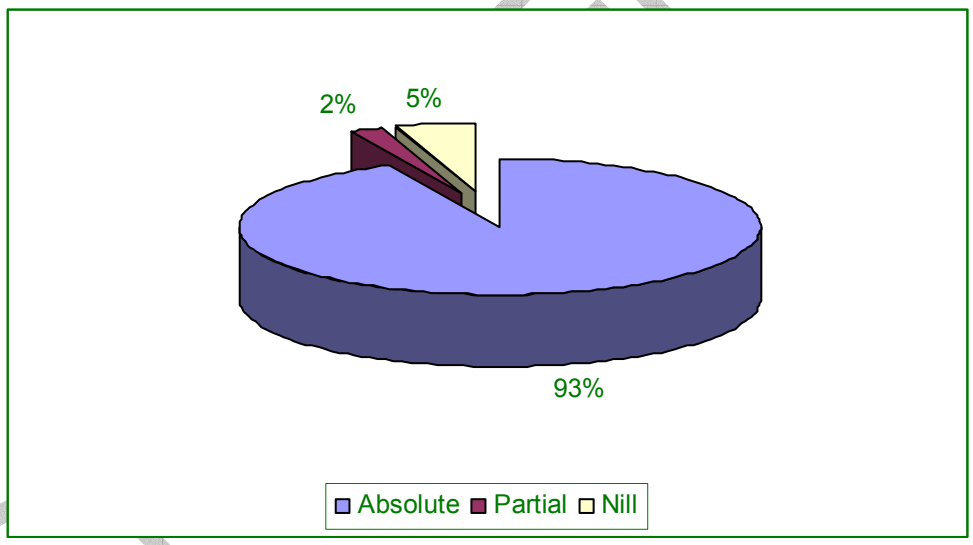
3.9.1 During the Illness

The majority of cases documented here are for the year 2005 , when the situation was the most favorable and services were at the red-alert as the whole J.E. issue was politicized. The following graphs project the prevailing conditions. Most of the patients were admitted at the BRD Medical College, Gorakhpur and some at the other govt. hospitals. 68% of the affected said that they were partially provided medicine and they had to spend their own money on medicines, while the treatment was going on. 17% of the affected said that

they were provided all the medicines and they were fully satisfied. 15% of the affected said that they were not provided any medicines and they had to buy all the medicines from the market.

In case of pathology tests 93% of the effected said there they were provided full pathological assistance and were satisfied. 2% cases said that they were provided with the services partially and only 5% claimed that they were not provided with the services. The majority of them seemed to be satisfied with the services provided by the govt.

Figure-10: Pathology Service

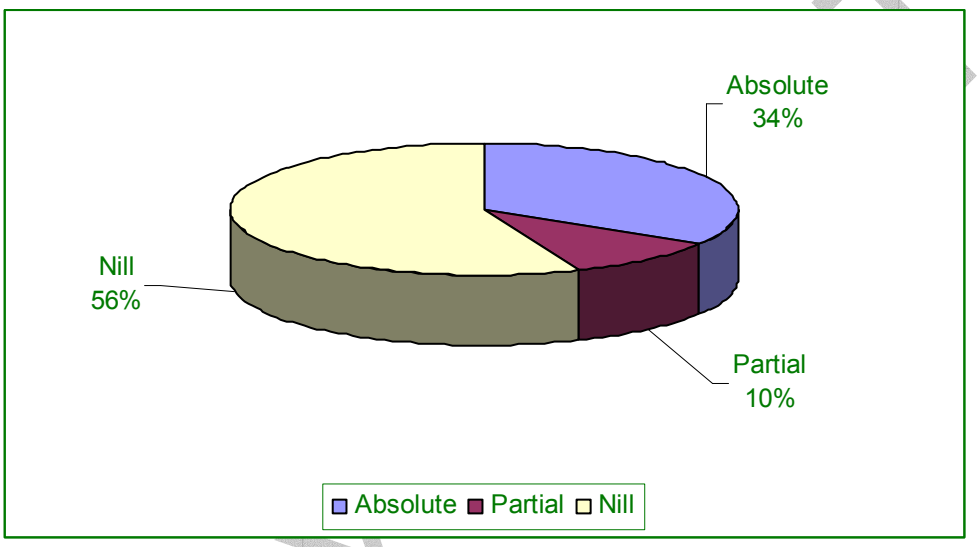


3.9.1.1 Counseling During the Illness

The counseling during the illness seemed to be the weak part of the Govt. services. This reflects in the extent of the awareness among the people. However 34% of the affected said that they were provided counseling during the illness and they were satisfied. But the majority of affected- 56% said that

they were partially provided with some counseling during the treatment. 10% said that they were not provided with any counseling.

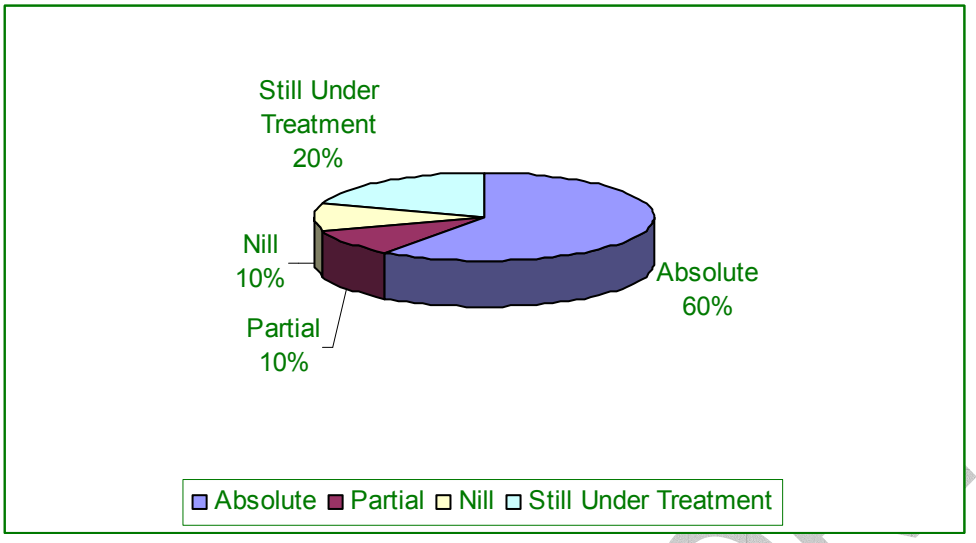
Figure-11: Counseling During the Illness



3.9.2 Follow Up

The follow up after the illness of the physically and mentally disabled was also satisfactory. 60% of the affected claimed but they were provided with absolute and they were fully satisfied. 10% of them said they were partially served. 10% of them said that there was no follow up, however some of them were not able to go the centre due to their personnel and financial problems. (See graphic).

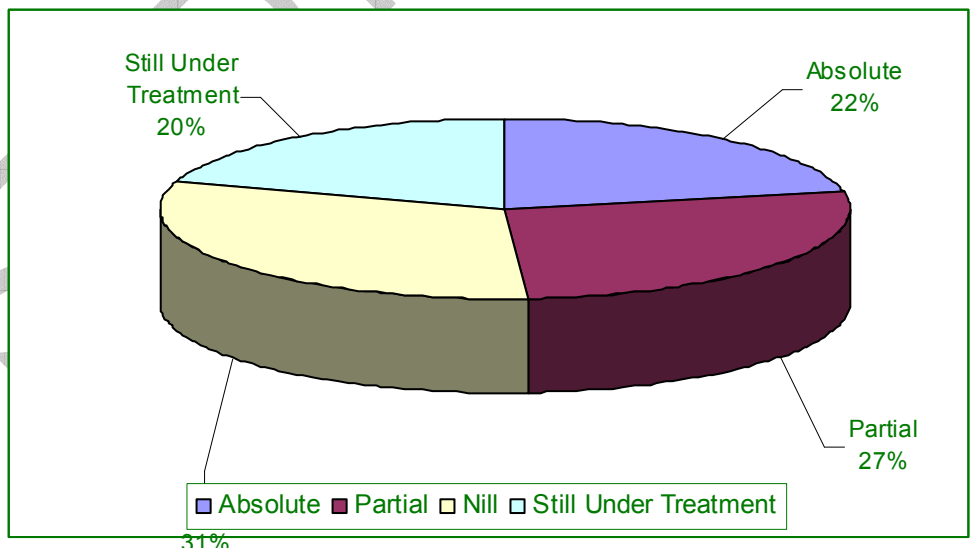
Figure-12 : Follow-up Services Provided



3.9.2.1 Medicine Provided After the Illness

The people affected physically and mentally were the target of the study. They are still suffering and the study points out about the quality of services after the illness. 63% of the affected say that they were provided no medical support after the illness. However 7% of them claimed that they got partial support. 10% of them said that they were provided full medicinal assistance after the illness. Rest of the 20% still under treatment.

Figure-12: Follow Up



Note:- Pl. delete this graph i.e. Fig.12 above, as it is superfluous.

Figure-12 (a): Medicine provided after the illness

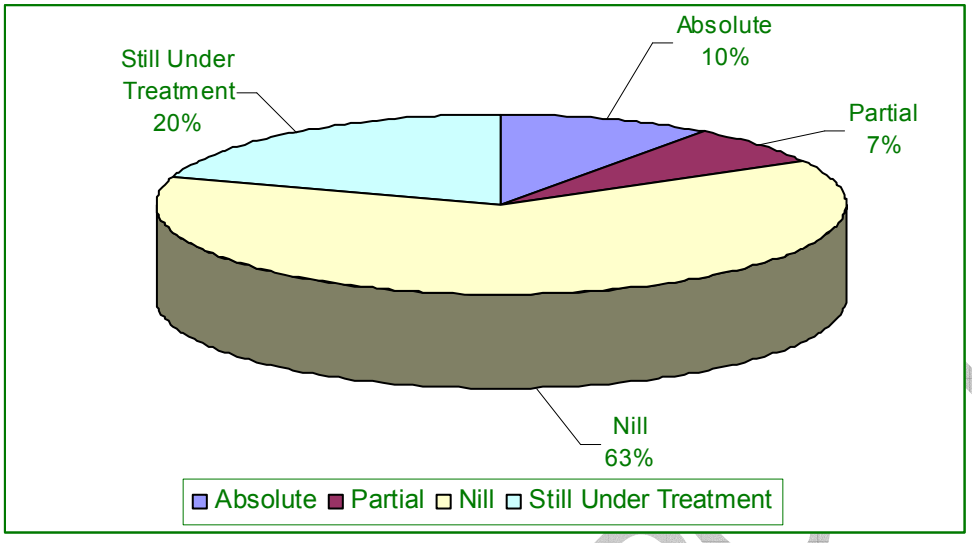
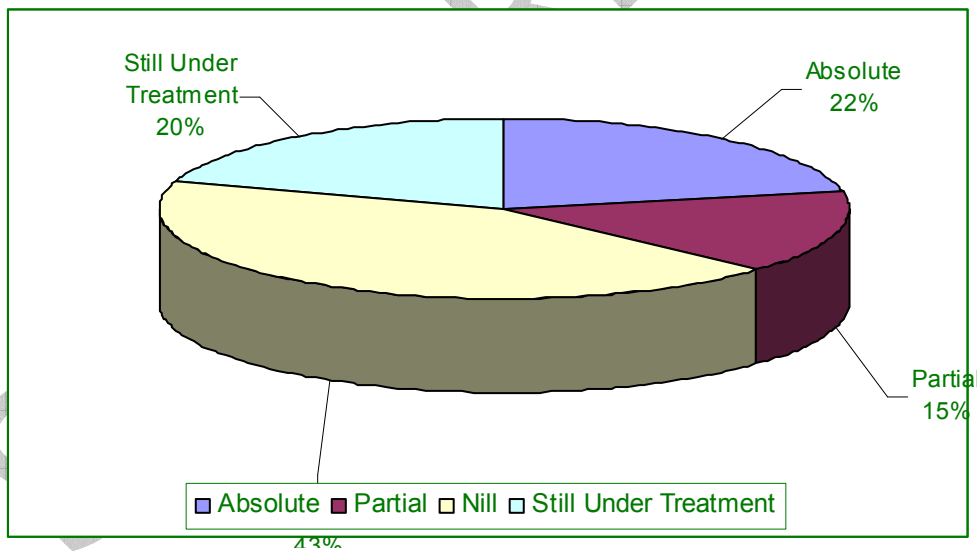


Figure-12 (b): Counseling after the illness



3.9.2.2 Counseling Provided After the Illness:-

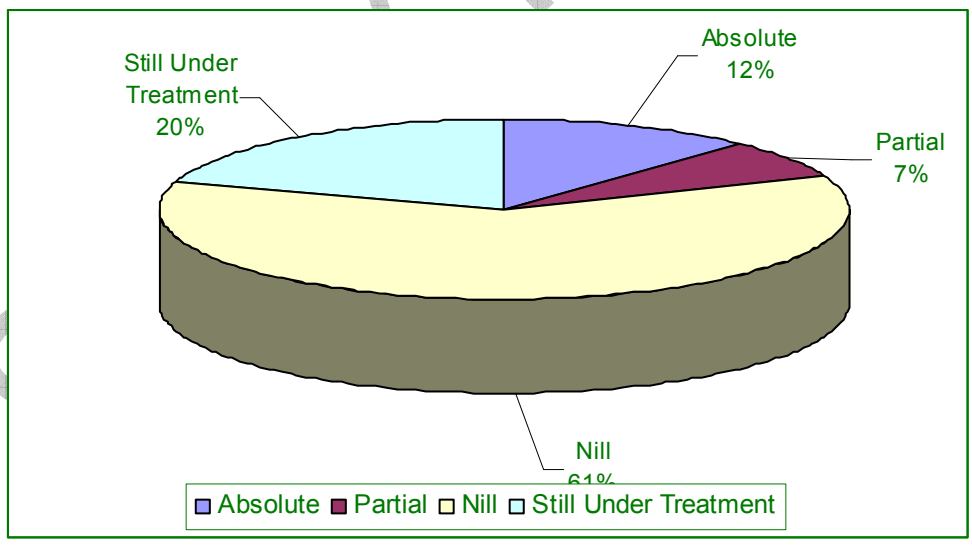
any counseling after the illness. under treatment Counseling part of the medical services seems to not provided with be a bit weak. 43% of the affected claimed

that they were. Only 22% of them were satisfied with the services and 15% claimed that they were partially served. However 20% of them are still

3.9.2.3 Physiotherapy After the Illness :-

The mentally and physically disable people need physiotherapy and it is the prime factor in the treatment, but the study shows that 61% of the affected said that they were not at all provided with these facilities. However 12% seemed to be satisfied with the services. 7% of them claimed that they were partially provided the services.

Figure-12(c) : Physiotherapy After Illness



3.10 Commodity Facilitation

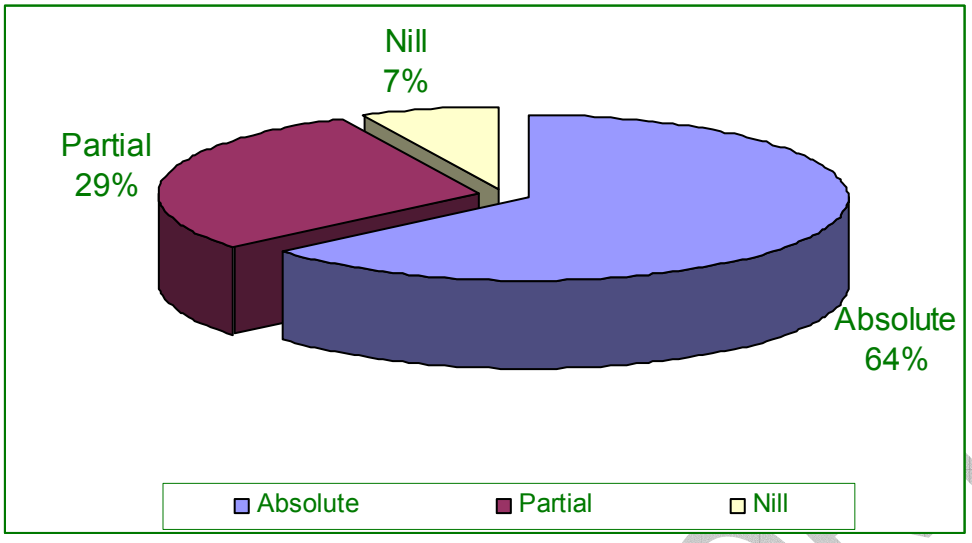
As far as the commodities are concerned (mosquito net). 41% of the affected never got the things. 39% said that they received mosquito nets. The fact remains that 41% of the affected had not received the mosquito nets, when it was to be distributed to all in the affected region. So it could be imagined that the government system is not working efficiently. It needs to be provided to all.

3.11 Other Problems

The study also points out about the mental, physical and practical problems and conditions of the families who's members are affected or disabled. The results so obtained indicate that 85% of the families are affected mentally, badly. The people affected were mostly of the lower economic strata and the illness of their dear ones forced them to sell off their belongings and to borrow money exceeding to their paying capacity. 10% of them claimed that they were partially affected and 5% said that they have managed the things.

Figure-13: Affect on family Physically and Mentally

Note:- Pl. rework the following figure(no.13) in view of percentage given in the above text at 3.11



Again 85% of them claimed that they had to face a lot of practical problems their movement was restricted and the work (most of them belong to labour class) was very much affected. On the other hand their over burdened with the heavy dues and the incoming was also affected. However only 10% of them claimed that they were partially affected and 5% of them said that they managed the things.

The study also reveals that 78% of them claimed that the illness of the family member affected their family and relations. Most of them borrowed money from the relatives and they were under pressure for paying the dues. Also the relations between the family members were affected. 17% of them claimed that they were partially affected.

The government after a lot of pressure announced the rehabilitation package for the physically and the mentally disabled and the dead. However it was too late but the study reveals that the amount (Rs.50000 for the disabled and Rs.25000 for the dead) seem to help them a lot. The trends of spending the rehabilitation

amount spend are one of the findings of the study. The study also shows that the rehabilitation amount reached the needy except a few exceptions and the others are on the way to get it. However criteria of 40% and above disabled to be eligible for the amount should be revised and it should be paid to all of them considering their economic status (as the people said).The study reveals that 39% of them spend the amount on the medicines whereas 15% did not spend on the same. 46% of them have not received the amount.

47% of victims ,who received the money spent the amount on paying the loans, whereas 7% did not spend on the same. 46% of them have not received the amount. 25% of them spent the amount on making savings term deposits, whereas 29% did not spend on the same. 46% of them have not received the amount. 10% of them spend the amount on other things (making their houses or business etc.). 44% of them said that they did not spend on the same. 46% of them have not received the amount.7% of them spend the amount on buying cattle whereas 47% did not spend on the same. 46% of them have not received the amount.

Nature of Spending of Rehabilitation Amount			
	Yes	No	Did Not Receive
Medicine	39	15	46
Expanse on Dues	47	7	46
Saving	25	29	46
Livestock	7	47	46
Others	10	44	46

CHAPTER FOUR

4.0 RECOMMENDATIONS

4.01 As the present study shows that in the case of JE illness majority of the people i.e. 92.6% preferred to go to the nearby local doctors or the quacks for initial consultations.

The senior doctors at Medical College ,Gorakhpur claim that most of the cases ,which turn up at the Medical College were made worst by these village doctors and initial referral would considerably have decreased the mortality and morbidity rate .

In absence of any effective medical services (the conditions of PMC in this part of the country is not hidden from any body),lack of health awareness programmes either by the Govt. or NGO's , till we generate a better option, we have no option except to choose the lesser devil and equip/upgrade the existing resources of local doctors/quacks by imparting more scientific knowledge, providing them with new tools and tackles . APPL recommends that these local doctors, as a policy, should be equipped to work as 'Swasthya Mitra",on the lines of 'Siksha Mitra' or 'Home Guards' for law and order/defence services.

4.02 Counseling during and after the illness seems to be the weak part of the government services. 56% of the affected say that they were partially provided and 10% said that they were not provided any counseling .As such this (56+10) 66 % segment is not satisfied.

The counseling part needs to be improved and looked upon as this will help to a great deal in the fight against JE. Consultations with the health providers and the health consultants should be organized at every level.

4.03 The system of fogging and distribution of the mosquito-nets should be re-examined as 41% of the affected said that they did not get any mosquito-net.

4.04 The quality of services rendered after the illness and disability should also be looked upon. As the 63% of the affected (disabled) say that they did not get the medicines from the govt. centers and 61% of them said that they were not provided physiotherapy after the illness. This part should be looked upon with utmost sensitivity. Consultations with the health providers and the health consultants should be organized at every level, to make the rehabilitation-package effective, convenient and as per local needs of the patients.

4.05 The study reveals that according to the criteria of the govt. only 40% and above disability were considered to be eligible for the rehabilitation amount .It was seen that in some of the cases (with 60-100% disability), amount was not enough and they need some extra care and specialized health-services. In light of the above, APPL recommends the review and re-design of the rehabilitation-package- policy.

4.06 It is seen that the people in the affected areas including the affected individuals, their families and the community still do not have awareness about the symptoms of JE and why it happened?. 50% of the affected lived in surroundings having piggery and water logging surrounded by the paddy and other fields but most of them don't even know the relations ship of the JE with the pigs, paddy fields and water logging. APPL recommends that effective tools for awareness should be designed and executed in the affected areas. In the designing of tools and their execution experts from the social sector should also be consulted and detailed study at the grass-root level should be done.

4.07 The study shows that the most effective segment to provide information and create awareness were the govt. officials and staff and the reach of Media and NGO's is very limited. APPL recommends for augmentation and further capacity building of this segment with effective and new tools .Also to review the existing tools and means on the grass-root levels. A consultation with the media and the NGO's should be made at the district level in the regards.

4.08 Researches should be made to find out whether the local strains of JE virus infects domestic animals other than pigs as these are not available with reference to the findings of the studies in Japan.

4.09 Vaccination programme for humans and animals should be planned and executed simultaneously.

4.10 In view of the fact that current vaccination programme is executed only in the most affected areas ,with questionable results,the APPL recommends that the periphery area should be decided and worked out and the vaccination should be done starting from the periphery to the centre. It would yield better results.

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