

Assessment of Knowledge, Attitude and Practice Towards Japanese Encephalitis among Mothers of Under Five Children in Selected Hospital at Varanasi District, Uttar Pradesh

Sangeeta Kumari¹, Nithya KS²

¹Nursing Tutor, Metro College of Nursing, Greater Noida, U.P., India
Email: 337sangeeta[at]gmail.com

²Associate Professor, Metro College of Nursing, Greater Noida, U.P., India
Email: nithya.sudhakaran[at]gmail.com

Abstract: ***Introduction:** Case fatality rate of Japanese encephalitis ranges from 0.3% to 60% and depends on the population and age. Countries which have had major epidemics in the past, but now controlled the disease primarily by vaccination, include china, south Korea, Japan, Taiwan and Thailand. Other countries that still have periodic epidemics include Vietnam, Cambodia, Myanmar, India, Nepal and Malaysia. **Objective:** the main objective of the study was to assess the level of knowledge, attitude, practice and its association with demographic variable. **Methodology:** A descriptive study was conducted in selected hospitals at Varanasi. The target population of this study were 100 mothers of under five children selected by purposive sampling technique coming to selected hospital for OPD check-Up. Structured interview questionnaire tool was used to collect data from the participants. Data analysis was done by descriptive and inferential statistics. **Result:** The result shows that 54% were having moderately adequate knowledge, 94% had a good attitude towards prevention of Japanese encephalitis, 82% of the study population had a good practice towards prevention of Japanese encephalitis, on associating the demographic variables with the knowledge of the Japanese encephalitis there was a significant association with the demographic variables like drainage system, family history of Japanese Encephalitis and source of information. **Conclusion:** The finding of this study indicates that the mothers have moderately adequate knowledge regarding Japanese encephalitis. However, their attitude towards prevention of Japanese encephalitis was generally positive and had a good practice towards prevention of Japanese encephalitis. This concludes that still more training and health education is needed among the under-five mothers on the prevention of Japanese Encephalitis.*

Keywords: Japanese Encephalitis, Knowledge, Attitude, Practice, Mothers, Under five children, India, Varanasi

1. Introduction

Background of the Study

According to World Health Organization Japanese encephalitis virus is the main cause of viral encephalitis in many countries of Asia with an estimated 68000 clinical cases every year. Although symptomatic Japanese encephalitis is rare, the case-fatality rate among those with encephalitis can be as high as 30%. Permanent neurologic or psychiatric sequelae can occur in 30%–50% of those with encephalitis. 24 countries in the WHO South-East, Asia and Western Pacific regions have endemic Japanese Encephalitis transmission, exposing more than 3 billion people to risks of infection. There is no cure for the disease. Treatment is focused on relieving severe clinical signs and supporting the patient to overcome the infection. Safe and effective vaccines are available to prevent Japanese encephalitis.

Devesh Chaturvedi, Principal secretary, Medical, Health & Family Welfare Department, UP government 4 deaths were reported due to Japanese Encephalitis till August 27, 2019, while 55 patients suffering from Japanese Encephalitis have been admitted. And also in 2016, the number of Japanese Encephalitis patients stood at 3,911 with 641 deaths reported and in 2017, the patients' were 4724, with 655 deaths being reported. However, the statistics showed a downward trend in 2018 when there were 3,077 Japanese

Encephalitis patients and 248 Japanese Encephalitis deaths. Similarly, according to the health official, in 2016 there were 74 deaths from Japanese Encephalitis, while the total Japanese Encephalitis patients stood at 442. Furthermore, 2017 saw 93 Japanese Encephalitis deaths with 692 patients being detected with the disease. On the contrary, 2018 saw a decline both in a number of patients as well as Japanese Encephalitis deaths.

Japanese encephalitis is an infection of the brain caused by Japanese encephalitis virus. Japanese encephalitis is a zoonotic disease caused by group B arbovirus. Japanese encephalitis is generally spread by mosquitoes specifically those of the culex type. Among the animal hosts, Pigs and wild birds serves' as a reservoir for the virus. Infected pigs do not manifest any overt symptoms of illness but circulate the virus so that mosquitoes get infected and can transmit the virus to man.

Research Approach

The quantitative research approach was adopted in this study.

Research Design

A descriptive design was used in this study.

Setting of the Study

This study was conducted in selected hospitals at Varanasi.

Volume 14 Issue 7, July 2025

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

www.ijsr.net

Population

The target population selected for this study are mothers of under five children coming to OPD for check-up.

Sample Size

The sample selected for this study was 100 mothers of under five children.

Sampling Technique

The data was collected through purposive sampling technique.

Description of Tool

The tools consist of 4 sections.

Section 1: It deals with demographic variables which consists of baseline information such as Age, Education, Occupation, Income, Areas of Living, House Environment, Pet Animals, Drainage System, House Waste Disposal, Family History of Japanese Encephalitis, Usage of replants., Source of Information.

Section 2: Structured interview questionnaire tool was used to assess the level of knowledge. the tool consists of 20 multiple choice question with four options. Each correct answer carries one mark and each wrong answer carries zero mark with a maximum score 20 and minimum score zero, the total score 20, depending on the level of knowledge was graded in to adequate, moderately adequate and inadequate.

Level of Knowledge	Score	Percentage
Adequate	15-20	>75%
Moderately adequate	7-14	50 – 74%
Inadequate	1-6	< 50%

Choice	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly disagree	1

Level of Attitude	Score
Good	38-50
Average	24-37
Poor	10-23

Section 4:

Check list was used to assess the practice on prevention of Japanese Encephalitis.

The check list consists of 10 questions, each question as its two dimensions like yes or No.

Each correct answer carries 1 mark with a maximum score of 10 and minimum score of 0. The total score is 10. Depending on the total score the level of practice was graded in to good, average and poor.

Level of practice	Score
Good	7-10
Average	4-6
Poor	1-3

Validity

The validity of the tool was obtained by submitting to the experts of the field such as medical surgical, paediatric, psychiatric, community and OBG Nursing and the tool was revised according to their suggestions.

Reliability

The Test - Retest method was used to find out the reliability of the tool.

Data Collection Procedure

Tool was presented to the college ethical committee and got clearance and permission from them, then we obtained permission from the higher authorities of college of nursing and from hospital authority to collect data from mother of under five children. After explaining about research to the samples we got oral and written consent from each sample and implemented tool for data collection by structured interview questionnaire method. We had taken 45 minute for each sample to complete the interview.

2. Data Analysis

The data is summarized organized, tabulated and analyzed according to the objectives of the study by using descriptive (frequency and percentage) and an inferential statistics (chi-square).

Section 1:

This section deals with the demographic variables and the demographic data consisted of baseline information such as Age, Education and Occupation. These data were analysed and interpreted using central tendency

Section 2:

This section consist of data collected from the mother's of under five children related to the level of knowledge regarding Japanese encephalitis. The Self constructed knowledge assessment scale consisting of 20 items. These data were analysed and interpreted using central tendency .

Section 3:

Check list was used to assess the attitude on prevention of Japanese Encephalitis, this section is made. The check list consists of 10 questions, each question as its two dimensions like yes or No. These data were analysed and interpreted using central tendency.

Section 4:

Check list was used to assess the practice on prevention of Japanese Encephalitis, this section is made. The check list consists of 10 questions, each question as its two dimensions like yes or No. These data were analysed and interpreted using central tendency.

Section 5:

To find out the association between level of knowledge on Japanese encephalitis infection with selected demographic variables this section was made. The data collected was analysed and interpreted using chi square test.

Section 1: Demographic Variables

Table 1.1: Demographic variables

Table IV: Demographic variables				N=100
S. no	Demographic variable	Option	Frequency (n)	Percentage (%)
1	Age	18-25yrs	43	43
		26-33yrs	42	42
		34-42yrs	14	14
		42 and above	1	1
2	Education	Illiterate	7	7
		Primary education	16	16
		High school	43	43
		Graduation	34	34
3	Occupation	Farmer	7	7
		House wife	55	55
		Job	29	29
		Student	9	9
4	Income	Rs 5000-10,000	68	68
		Rs 10,000-15,000	22	22
		Rs 15,000-20,000	7	7
		Rs 20,000-25,000	3	3
5	Areas of Living	Rural	56	56
		Urban	34	34
		Slum	5	5
		Hilly	5	5
6	House Environment	Near House water stagnation	20	20
		Living near Farming land	38	38
		Cattle Near house	14	14
		All the above	28	28
7	Pet Animals	Dog	26	26
		Pig	5	5
		Cow	57	57
		Goat	12	12
8	Drainage System	Open type	39	39
		Closed type	61	61
9	House Waste Disposal	In field	63	63
		Deep burial	4	4
		Municipal dustbin	33	33
10	Family History Of Japanese Encephalitis	Yes	19	19
		No	81	81
11	Usage Of Mosquito Preventable Measure	Yes	85	85
		No	15	15
12	Source Of Information	ASHA	18	18
		Neighbour	23	23
		Family member	17	17
		Mass media	42	42

On analysing the age distribution of the study participants, it showed that about 43% were from the age group of 18-25years, 42% were from the age group of 26-33years, 14% were from the age group of 34-42years and only 1% was from the age group 43years and above. In our research most of the research participants were from the age group of 18 to 25years. The occupation distribution of the study participants it revealed that about 7% were farmer, 55% were housewife, 29% were doing job and 34% were student. In our research most of the research participants were housewife. The income distribution of the study participants it revealed that income of 68% of the women was 5000-10000 Rs, income of 22% of the women was 10000-15000Rs, income of 7% of the women was 15000-20000 and income of 3% of the women was 20000-25000. In our research most of the research participant's income was around Rs.5000-Rs10000. The area of living distribution among the study participants, it revealed that about 56% were from rural area, 34% were from urban area, 5% were from slum area and 5% were from hilly area. In our research most of the research participants were from rural areas. The

house environment distribution of the study participants it revealed that about 20% were having stagnant water near house, 38% were living near farming land, 14% were having cattle near house and 28% were having all the above. In our research most of the research participant were living near farming land. The pet animals distribution of the study participants it revealed that about 26% had dog, 5% had pig, 57% had cow and 12% had goat. In our research most of the research participants had cow as their pet animal. The drainage system distribution of the study participants, it revealed that about 39% were having open type drainage system, 61% were having closed type drainage system. In our research most of the research participants were having closed type of drainage system. The house waste disposal distribution of the study participants it revealed that about 63% were disposing their waste in field, 4% used to dispose by deep burial method, 33% were disposing their waste in municipal dustbin and 12% had goat. In our research most of the research participants were disposing their waste in field. The family history of Japanese encephalitis among the study participants it revealed that about 19% were having family

history of Japanese encephalitis, 81% were not having family history of Japanese encephalitis. In our research most of the research participants were not having Family History of Japanese Encephalitis. The usage of mosquito preventable measure among the study participants it revealed that about 85% were Using mosquito preventable measure, 15% were not using mosquito preventable measures. In our research most of the research participants were using mosquito preventable measures. The Source of Information among the study participants it revealed that about 18% were getting information through ASHA, 23% were getting information through neighbour, 17% were getting information through family member and 42% were getting information through mass media. In our research most of the research participant's source of information was mass media.

Section 2: Questionnaire Regarding Knowledge on Japanese Encephalitis

Table 2.1: Level of knowledge

The Level of knowledge among the study participants it revealed that about 24% were having adequate knowledge, 54% were having moderately adequate knowledge and 22% were having inadequate knowledge. In our research most of the research participants were having moderately adequate knowledge on Japanese encephalitis.

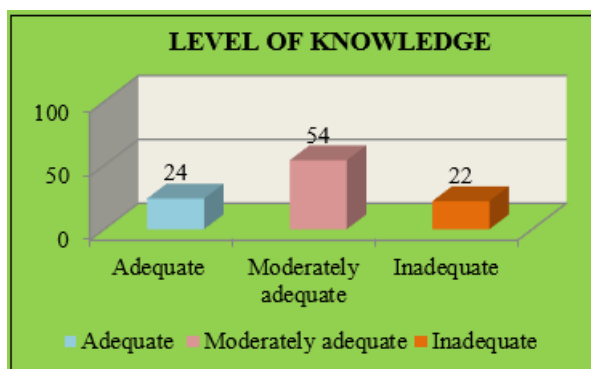


Figure 2.1: Level of Knowledge Distribution

Section 3: Level of Attitude Regarding Prevention of Japanese Encephalitis

Table 3.1: Level of Attitude

The level of attitude among the study participants it revealed that about 94% had a good attitude, 6% had a average attitude and 0% had a poor attitude towards prevention of Japanese encephalitis. The research result revealed that almost all of the study participants (94%) had a good attitude towards prevention of Japanese encephalitis

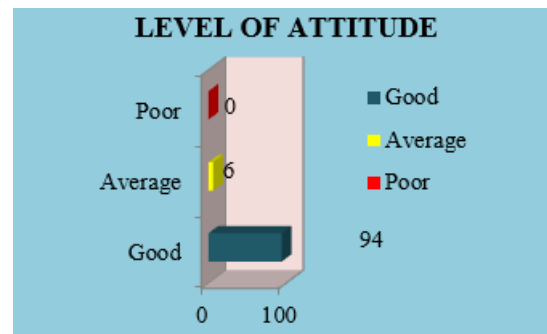


Figure 3.1: Level of attitude Distribution

Section 4: Level of Practice on Prevention of Japanese Encephalitis

Table 4.1: Level of Practice

On analysing the level of practice among the study participants it revealed that about 82% had a good practice, 13% had a average practice and 5% had poor practice towards prevention of Japanese encephalitis. The research result showed that most (82%) of the study participants had a good practice towards prevention of Japanese encephalitis

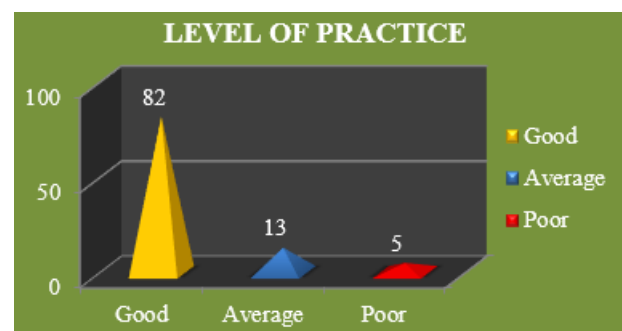


Figure 4.1: Level of practice Distribution

Section 5: Association of Knowledge on Japanese Encephalitis with the Demographic Variables

Table 5.1: Association of knowledge on Japanese encephalitis with the demographic variables

S No	Demographic variable	Option	Adequate knowledge	Moderate knowledge	Inadequate knowledge	χ^2 value	P value	Significance (p<0.05)
1	Age	18-25yrs	10	23	10	4.7	0.54	Not significant
		26-33yrs	11	19	12			
		34-42yrs	1	11	2			
		42 and above	0	1	0			
2	Education	Illiterate	1	5	1	8.8	0.18	Not significant
		Primary education	3	10	3			
		High school	6	22	15			
		Graduation	12	17	5			
3	Occupation	Farmer	0	6	1	2.656	0.8	Not significant
		House wife	15	26	14			
		Job	5	17	7			
		Student	2	5	2			

4	Income	Rs 5000-10,000	13	40	15	8.8	0.12	Not significant
		Rs 10,000-15,000	3	11	8			
		Rs 15,000-20,000	3	3	1			
		Rs 20,000-25,000	3	0	0			
5	Areas of Living	Rural	11	32	13	3.97	0.67	Not significant
		Urban	10	17	7			
		Slum	0	2	3			
		Hilly	1	3	1			
6	House Environment	Near House water stagnation	5	12	3	12.3	0.054	Not significant
		Living near Farming land	7	25	6			
		Cattle Near house	6	5	3			
		All the above	4	12	12			
7	Pet Animals	Dog	6	14	6	3.41	0.75	Not significant
		Pig	0	5	0			
		Cow	13	31	13			
		Goat	3	4	5			
8	Drainage System	Open type	8	24	7	21.89	0.00018	Significant
		Closed type	14	30	17			
9	House Waste Disposal	In field	12	37	14	4.18	0.6	Not significant
		Deep burial	0	2	2			
		Municipal dustbin	10	18	5			
10	Family History of Japanese Encephalitis	Yes	0	8	11	14.20	0.0008	Significant
		No	22	46	13			
11	Usage Of Mosquito Preventable Measure	Yes	21	44	20	2.46	0.29	Not significant
		No	1	10	4			
12	Source Of Information	ASHA	3	12	3	17.55	0.00074	Significant
		Neighbour	3	11	9			
		Family member	1	8	8			
		Mass media	15	23	4			

On associating the demographic variables with the knowledge of the Japanese encephalitis there was a significant association with the demographic variables like drainage system, family history of Japanese Encephalitis and source of information.

3. Conclusion

The researchers have conducted a study on knowledge, attitude and practice regarding Japanese Encephalitis. The result showed that 54% were having moderately adequate knowledge, 94% had a good attitude towards prevention of Japanese encephalitis, 82 % of the study population had a good practice towards prevention of Japanese encephalitis. This concludes that more training and health education is needed among the under five mothers on the prevention of Japanese Encephalitis.

References

- [1] Japanese encephalitis [Internet]. World Health Organization. World Health Organization; [cited 2019Dec10]. Available from: (<https://www.who.int/news-room/fact-sheets/detail/japanese-encephalitis>)
- [2] Iasparliament. Prelim Bits 01-07-2019: Prelim Bits: Current Affairs [Internet]. Recent CurrentAffairs.iasparliament;[cited2019Dec10]. Available from: (<https://www.iasparliament.com/current-affairs/prelim-bits-6/prelim-bits-01-07-2019>)
- [3] Sharp Decline in Acute Encephalitis Syndrome, Japanese Encephalitis Deaths, Says UP Govt [Internet]. News18. News18; 2019 [cited 2019Dec12]. Available from: (<https://www.news18.com/news/india/sharp-decline-in-acute-encephalitis-syndrome-japanese-encephalitis-deaths-says-up-govt-2298311.html>)
- [4] Gupta Piyush; (2007) TEXTBOOK OF PREVENTIVE AND SOCIAL MEDICINE"; 2nd edition; page no.– 238 – 241.
- [5] World News. [cited 2019Dec10]. Available from: (https://wn.com/H_49)
- [6] Park k.; (2009) "PARKS TEXTBOOK OF PREVENTIVE AND SOCIAL MEDICINE"; BHANOT publication; 20th edition; page no.– 249 – 250.
- [7] Wikipedia. Wikimedia Foundation; 2019 [cited 2019Dec10]. Available from: (https://en.wikipedia.org/wiki/Japanese_encephalitis)
- [8] Dr.KS.GopiFollowProfessoratHomoeopathiccollegeLike23Comment1ShareLinkedInFacebookTwitter0, Follow. HOMOEOPATHIC REMEDIES FOR JAPANESE ENCEPHALITIS [Internet]. LinkedIn. [cited 2019Dec10]. Available from: (<https://www.linkedin.com/pulse/homoeopathic-remedies-japanese-encephalitis-dr-ks-gopi>)
- [9] Encephalitis [Internet]. Brain Foundation. [cited 2019Dec10]. Available from: (<https://brainfoundation.org.au/disorders/encephalitis/>)
- [10] Encephalitis [Internet]. Brain & Spine Foundation. [cited 2019Dec12]. Available from: (<https://www.brainandspine.org.uk/our-publications/our-fact-sheets/encephalitis/>)

Author Profile



Ms. Sangeeta Kumari has recently joined Metro College of Nursing as a Nursing Tutor. She completed her B.Sc. Nursing from Apex College of Nursing, Varanasi (U.P.) in 2020 and M.Sc. Nursing from Metro College of Nursing, Greater Noida (U.P.) in 2025, affiliated with Atal Bihari Vajpayee Medical University. She has 1 year and 7 months of clinical experience, having worked in the ICU and Emergency departments at Vijay Hospital and Trauma Centre, where she served as a dedicated nursing staff member.



Ms. Nithya. KS, has completed both BSc Nursing and MSc Nursing specialized in Obstetrics and Gynaecology Nursing from Kerala University in 2012. She has joined in Metro College of Nursing, Greater Noida, U.P. in the year of 2022. She has total 12 years of experience in academics. Previously she was associated with Sharda University, Greater Noida, U.P.