

**A STUDY OF
POST EMERGENT GUINEAWORM CASES
OF YEAR 1994, UNDER RIGEP**

For

**Rajasthan Integrated Guineaworm Eradication Project
Government of Rajasthan, Jaipur
and
UNICEF, Jaipur**



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OBJECTIVE OF THE STUDY

- To find out the reasons for not detecting or reporting cases during pre-emergent stage.
- To suggest measures to ensure detection in pre-emergent stages.
- To suggest implementation strategy for achieving 'Zero Transmission'.

STUDY DESIGN

- Single phase, multi technique study.
- **Centres** - 57 villages across Jodhpur, Nagaur, Bikaner and Barmer districts, where 135 post-emergent Guineaworm cases were detected between January and September 1994.

	Target respondents	Technique	Sample Size
1.	Post-emergent Guineaworm Cases	Structured Interview	135
2.	Pre-emergent G.W. Cases	"	57
3.	Animators of P.E. Cases	"	57
4.	Supervisors 5 to 6		15
5.	RIGEP Functionaries	In-depth Interview	4

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CHAPTER - I

1. INTRODUCTION

1.1 The National Guinea worm (G.W.) eradication programme was launched in India in the year 1983-84 with a target to achieve the goal of 'zero' incidence by the year 1990. But the disease still continues to be endemic in some parts of six districts of Rajasthan and a few of Karnataka and Madhya Pradesh States.

1.2 In the year 1993, 755 Guinea worm cases were reported by the National Institute of Communicable Diseases from 13 districts of Rajasthan, Karnataka and Madhya Pradesh. More than 72% cases i.e. 547 were reported from Rajasthan alone. The major contributing districts were Jodhpur, Nagaur, Bikaner & Barmer which accounted for 96.5% of the cases reported.

1.3 The strategic objective of the RIGEP Project in 1994 was to detect cases in the pre-emergent stage i.e. before the guinea worm erupts through the skin and to perform surgical extraction of the guinea worm in order to totally prevent transmission of the disease and thus achieve zero transmission during that year

To achieve this goal, these administrative cum service units, were in operation -

i) Five Primary Districts having high incidence of guinea worm disease.

- a) Barmer
- b) Jodhpur
- c) Nagaur
- d) Bikaner w.e.f. 1.11.94
- e) Jhalawar (Not included in Study)

ii) Four secondary districts, where Guinea worm incidence was low.

- a) Chittorgarh
- b) Jaisalmer
- c) Jalore
- d) Kota

1.4 **The key areas of activity :-**

- 1. Promoting the incentive scheme for case-finding and prompt reporting

2. Detecting and identifying cases at the pre-emergent stage and performing surgical extraction so as to stop transmission of the disease.
3. Preventing a guineaworm patient from entering a water source and promoting the practice of drinking only filtered water.

1.4.1 Promoting the Incentive Scheme :

To encourage villagers to report patients in the pre-emergent stage, a revised incentive scheme has been operational since Jan. 1994. The scheme gives Rs. 500.00 to the Reporter of a pre-emergent case and Rs. 200.00 to the pre-emergent patient, and Rs. 200.00 to the Reporter of a post emergent case and Rs. 100.00 to the post emergent patient. The scheme grants Rs. 200.00 to the medical team for each guineaworm fully extracted. It also grants Rs. 22.00 per day to the guineaworm patient who is isolated in the sentinel hospital, for a maximum of 2 weeks. In case of female guineaworm patient, an attendant also gets Rs. 22/- per day in addition to free meals and transportation charges till patient remains hospitalised.

Rumour Reporters about guineaworm cases get actual travelling expenses. A rumour reporter can be a village Animator, Supervisor, Local leader or informer who reports about a guineaworm case not reported earlier.

1.4.2 Ensuring weekly surveillance and Reporting of cases :

1.4.2.1 Village Level

- a) For each 500 affected population, a community worker called animator is selected and trained. Each Animator and Health Worker (Male or Female) sends a post card every Friday to the I/C RIGEP sentinel hospital, and to M.O. I/C PHC respectively about the number of rumors and guineaworm cases verified, and also if no case has been reported. For 5-6 Animators, a supervisor is also engaged. An Animator and a Supervisor gets Rs. 200 p.m. and Rs. 400 to 600 p.m. respectively.

1.4.3 Detecting cases at the pre-emergent stage and performing surgical extraction, where possible.

- 1.5 Once cases are reported, verification of the cases, and surgical extraction, where necessary and possible is done. RIGEP provides transport subsidy to the Health Department for verification of cases.

- 1.6 A network of Sentinel Hospitals and Mobile Medical Teams is working at Jodhpur, Nagaur, Barmer and Jhalawar. These Sentinel Hospitals and mobile Teams primarily verify rumors reported by animators and perform surgical extraction.
- 1.7 In spite of all the above measures in the year 1994, between January to September 135 post-emergent cases in 57 villages of Nagaur, Jodhpur, Bikaner and Barmer districts were reported. The Programme Managers therefore found it imperative to conduct an assessment study of post emergent cases under the RIGEP.

2. AIMS OF STUDY

The study aimed at :

- 2.1 Exploring the causes for not reporting the cases in pre-emergent stages,
- 2.2 Making recommendation on the basis of observations made so as to ensure that effective measure could be taken for 1995, and "Zero Transmission" could be achieved.

3. BASED ON DISCUSSIONS WITH RIGEP AND UNICEF OFFICIALS, THE POSSIBLE FACTORS FOR NON REPORTING OF CASES IN PRE-EMERGENT STAGE WERE CATEGORISED AS FOLLOWS

- 3.1 Personal factors - psychosocial factors like the patient's fear of being detected while undergoing surgical extraction.
- 3.2 Project related factors - failure of the community based surveillance system, lack of health education, and non availability of full-time trained personnel

4. STUDY DESIGN AND METHODOLOGY

As suggested in the T.O.R. all post emergent cases reported upto 30 Sept 1994 to the department, and concerned animators and supervisors were included in the study

A questionnaire was developed and pretested for gathering data on personal history, socio-economic, educational, occupational background of the cases. Efforts were made to find out determinants of behaviour including social, economic or any other factors influencing early reporting of the disease or utilizing the services offered under RIGEP. The knowledge about the disease, its spread, its consequences and source of this information was also explored. Likewise village animators and their supervisors, wherever available were to be interviewed in depth to understand the Guineaworm patients' behaviour, their participation in the programme, specially, affecting community based surveillance system.

Investigators after acquiring thorough training in interview techniques and knowledge of the National Guinea worm eradication programme, visited each village having reported a post-emergent case till 30 Sept. 1994. Addresses of these cases were procured from the RIGEP. Investigators interviewed each case in his/her own environment after explaining to him/her the purpose of the study and taking their verbal consent for participation in the study. Cases not available on the day were not revisited and excluded from the study. The Chief Coordinator of the study did the monitoring in all four districts at the field level and also participated actively in the interaction at various levels.

The available animators and supervisors of the villages having reported post emergent cases were interviewed in depth by the investigators using a check list prepared separately. The District level programme managers and Surgeon /c extraction of Guinea worm, were also interviewed so as to understand their perception on late reporting by some cases (in post emergent stage).

RESPONDENT TARGET NUMBER AND NO. INTERVIEWED

S.No.	Respondents	Target	No. interviewed
1.	Post-emergent cases	135	123*
2.	Pre-emergent cases in same village as control	57	31
3.	Animators	57	39#
4.	Supervisor	15	5#
5.	Surgeon/distt. level programme manager, project officer	4	3**
Total		304	

* One identified respondent had died prior to field interviews . The house of one case of Chadi village could not be located. Ten respondents having gone out, could not be contacted.

The interviews of actually available pre-emergent cases, animators and supervisors were recorded Majority of them were reported to have gone to a nearby town/fair, etc.

** The area of Bikaner district was managed from Nagaur office in 1994.

CHAPTER - II

POST-EMERGENT GUINEAWORM RESPONDENTS GENERAL INFORMATION

The list of post emergent cases between January and September '94 furnished by the RIGEP OFFICE was analysed. The statement of District and block wise numbers of affected villages, Total Guineaworm cases and post emergent cases duly verified are tabulated in Table I.

Table - I

S.No.	District	P.H.C.	No. of affected villages	No. of G.W. cases	No. of post EM cases	% of post EM cases of Total G.W. cases
1.	Jodhpur	Bap	2	3	3	100
		Mathaniya	14	74	40	54
		Banar	3	6	3	50
		Peelwa	12	93	39	41
Total			31	176	85	48
2.	Nagaur	Mundawa	10	15	10	66
		Nagaur City	1	8	5	62
		Deh	2	2	1	50
		Basani	21	101	28	27
Total			34	126	44	34.9
3.	Bikaner	Nokha	10	72	12	16.6
4.	Barmer	Balotra	1	4	3	75
		Sindhari	2	2	1	50
Total		10+1 Town	78	380	145	38

Out of 78 affected villages the number of villages with post emergent cases was 61 only. As per the T.O.R. and project agreement 57 villages and 135 post-emergent cases were selected to be visited and interviewed. The villages excluded from the study and the number of cases there are shown in the table II.

Table - II

Villages excluded from the study

S.No.	Name of Village	PHC	Distt.	No. of post emergent cases
1.	Munjasar	Peelwa	Jodhpur	1
2.	Chandrakh	Mathaniya	Jodhpur	1
3.	Surpaliya	Basani	Nagaur	1
4.	Dharamwas	Mundawa	Nagaur	1

57 villages were visited where only 123 post emergent cases in 69 foci were available, and interviewed. Out of the remaining 12 respondents, one respondent was reported to have died. The house of a respondent could not be located, and the remaining 10 were reported to have migrated to some other places for livelihood.

1. General information about post emergent foci

1.1 Communication : All the cases except those of Rathori Kuwa of Nagaur city, were found to reside in scattered Dhanis that were deprived of communication facilities like Roads, Transport, Telephone etc

1.2 Availability of water supply & use : Ref. statement - Annexure I

Main villages were found to have satisfactory sources of safe water supply but their Dhanis which are widely scattered are still deprived of any suitable source of safe water supply. The distance of potable water supply for these hamlets was observed to be from 1 to 6 km. Out of 69 foci 46 foci i.e. 66% had no nearby access to safe water supply where 90 respondents i.e. 73% cases lived. Even where handpumps have been provided it was observed that three of them were out of order, or became dry. List enclosed - Statement IV. Where arrangement for safe water supply was from private tubewells e.g. village Roon dist. Nagaur, it was reported to be irregular because of erratic power supply. For these reasons they were compelled to use unsafe water as and when required and available from near by open surface water collection, which were found to be universally available in or around these foci. Application of temephos was reported for these sources but respondents were not very certain about how often and when it was applied

1.3 Population : The population of Dhanis varies from 7 to 115 persons.

2. Post Emergent case profile

Table III A

District wise Number of Post emergent respondents, number of house-holds, total family members and guineaworm cases

District	No. of Post emergent respondents	No. of House-Holds	Family Members	Total Guineaworm cases in these families
Jodhpur	82	82	748	116
Nagaur	28	28	177	47
Bikaner	10	10	101	26
Barmer	3	3	16	3
Total	123	123	1042	192
Percentage	100	100		100

2.1.1 The table no. III A reveals that -

- (i) each post emergent case is from separate house hold
- (ii) 123 House-holds, had 192 Guineaworm cases out of which 69 cases were pre-emergent. Presuming 1 house-hold had only one pre-emergent case 69 house-holds out of 123 House holds (56%) had knowledge about facilities and services under the RIGEP.
- (iii) The average family size of house-holds is 8.47 persons which is higher than state and national averages.

Table III B

Showing District-wise Sex, Age, Education, Occupation and Income-wise distribution of post emergent respondents.

District	Post Emergent Cases																					
	Sex		Age				Education				Occupation							Average Monthly Income				
	M	F	< 16	16-30	31-45	> 45	Illiterate	Literate	< X	> X	Agriculture	Animal Hus.	Labour	Business	Service	Other	None	< 1000	1000 - 1500	1500 - 2000	2000 - 3000	> 3000
dhapur	53	29	30	27	17	8	55	10	16	1	36	18	9	-	2	1	16	32	22	17	6	5
Bagaur	16	12	5	11	7	5	17	5	5	1	16	2	2	5	1	2	-	8	12	-	7	1
Bankaner	7	3	4	3	2	1	9	1	-	-	5	-	1	-	-	1	3	2	6	1	-	-
Barmer	1	2	-	1	1	1	3	-	-	-	3	-	-	-	-	-	-	1	2	1	-	-
Total	77	46	39	42	27	15	84	16	21	2	60	20	12	5	3	4	19	43	42	19	13	6
TOTAL	123		123				123				123							123				
%	62.6	37.4	31.9	34.1	21.9	12.0	68.4	13.0	17.0	1.6	48.8	16.2	9.7	4.0	2.4	3.2	15.7	35.0	34.10	15.5	10.51	4.95

2.1.2 The table no. III.B reveals that -

Age & Sex : No age group or sex is immune to guineaworm infestation. The low percentage of female respondents (37%) is because of comparatively low risk of infection to females because of their nature of work and hence low percentage in post emergent cases also.

2.1.3 Literacy : 100 respondents i.e. 81.3% are either illiterate or just literate who need special, effective, timely and repeated health education, so as to bring about desired change in health practices.

2.1.4 Income : 84% of respondents (104) were having monthly income below 2000 pm with an average family size of 8.4 which suggests that they belong to poor social and income status.

2.1.5 Occupation : The main occupation was observed to be agriculture, animal husbandry and labour which necessitate them to move widely and expose themselves to the risk of infection, while drinking water from surface water sources which is often the only available source.

- This calls for regular and effective application of all surface water collections known for human consumption in the area and supply a water bottle to carry filtered water or mechanism to filter water before drinking to all who are vulnerable

Table IV A

**District-wise response about knowledge of respondents
for Safe Water Sources**

District	'N'	Knowledge about Safe Water Sources	
		Yes	No
Jodhpur	82	79	3
Nagaur	27	27	1
Bikaner	10	6	4
Barmer	3	3	-
Total	123	115	8
Percentage	100	93.5	6.5

2.2 Knowledge about Safe Water Sources:- (Ref. Table IV A)

2.2.1 Only 6.5% (8) respondents did not know that water of Nadi, Tank, Pond, step well is unsafe, which suggests that given regular supply everyone is ready to use safe water. Drinking unsafe water is their helplessness.

2.3 Attitude and Practice about drinking safe water - (Ref. Table IV B)

2.3.1 99.2% respondents (122) were of the opinion that water should be ingested after filtering. Only one respondent did not think it necessary to filter water before drinking. This clearly means that positive health knowledge was observed on the day of study, even if that was the result of I.E.C. activity of the RIGEP.

2.2.3 Only 59.3% of respondents (73) were found tuned to sound practice of filtering water. 25 families (20.3%) were found using torn cloth. 20 families (16.2%) were using broken & unsuited funnels. i.e., about 36.5% (45) families were found using unsuitable filters. 5 respondents (4.2%) were found to use dirty filters choked with dirt. Out of 26 respondents, who were using cloth for filtering, cloth of only one respondent (3.8%) was found sound and suitable, at the time of study.

Hence filtering by domestic cloth should be discouraged under the RIGEP.

- Proper, adequate and timely supply of filters should be ensured by the RIGEP. It will be fruitful to have extra filter ready in field and ensure that no one use an unsuitable filter. The transmission of guinea worm once broken, will ensure the achievement of objectives of the RIGEP.

Table - IV B

District-wise response showing attitude and practice of respondents about use of Drinking Water (n=123)

District	Attitude		Practice									
	should they filter water before use		With What How they filter				Do they consume whatever available		Even unfiltered		Have sound practice of filtering	
			Cloth		Filter							
	Yes	No	S*	NS**	S*	NS**	Yes	No	Yes	No	Yes	No
Jodhpur	81	1	-	20	48	14	52	30	49	33	43	39
Nagaur	28	-	-	4	21	3	14	14	9	19	20	8
Bikaner	3	-	1	1	7	1	5	5	4	6	9	1
Barmer	10	-	-	-	1	2	2	1	2	1	1	2
Total	122	1	1	25	77	20	73	50	64	59	73	50
%	99.2	0.8	0.8	20.3	62.6	16.3	59.3	40.7	52	48	59.3	40.7

* = Suitable ** = Not suitable

3. Knowledge about Guineaworm disease :

It is only with a correct and complete knowledge about why and who suffers, who does not and how guineaworm transmission takes place, through effective I.E.C. activity, a person can protect himself from suffering and control of disease.

Table V A shows response to answer, 'why an individual gets G.W. infestation?' Only 26% (32) answered correctly that the cause of this disease is drinking unfiltered water. 6.5% (8) attributed to God's desire or individual's fate and 16.3% (20) attributed to dirty water of ponds and Tanks. As many as 51.2% (63) respondents told they do not know. Thus 57.7% respondents were not exposed to any I.E.C. on guineaworm.

Table V A**Response of Post-emergent cases answering why Guineaworm infestation occurs**

District	Response				Total
	By drinking unfiltered water	Drinking dirty water of tanks	Fata/Gods Desire	Do not know	
Jodhpur	18	10	8	46	82
Nagaur	9	8	-	11	28
Bikaner	3	2	-	5	10
Barmer	2	-	-	1	3
Total	32	20	8	63	123
Percentage	26	18.3	6.5	51.2	100.0

Table V B**Response of Post-emergent cases answering who suffer from Guineaworm**

District	Those who drink unfiltered water	Do not know	Total
Jodhpur	41	41	82
Nagaur	15	13	28
Bikaner	5	5	10
Barmer	1	2	3
Total	62	61	123
Percentage	50.5	49.5	100.0

Table V B shows, 50.5% respondents (62) answered correctly that Guineaworm infestation occurs to those people who drink unfiltered water. 49.5% (61) respondents, however, expressed they did not know the answer.

Table V C

**Response of Post-emergent cases answering
who do not suffer from Guineaworm**

District	Who drink filtered water only	Do not know	Total
Jodhpur	40	42	82
Nagaur	16	12	28
Bikaner	5	5	10
Barmer	2	1	3
Total	63	60	123
Percentage	51.2	48.8	100.0

Table V C shows, that 51.2% respondents (63) answered correctly that those who drink filtered water only, do not suffer from Guineaworm infestation. Rest 48.8% (60) respondents showed their ignorance, which by and large co-relates to response of Table VA and V B.

Table V D

**Response of Post-emergent cases answering
how Guineaworm Transmission occurs**

District	Dipping emerging guineaworm in watersource and Drinking that unfiltered water	Do not know	Total
Jodhpur	13	69	82
Nagaur	5	23	28
Bikaner	3	7	10
Barmer	1	2	3
Total	22	101	123
Percentage	17.2	82.8	100 0

Table V D shows, only 17.9% (22) respondents know that transmission of disease occurs by dipping emerging guineaworm in source of drinking water and using that water without filtering.

Table V E**Response of Post-emergent cases showing their knowledge about Incubation period of Guineaworm**

District	8 to 14 months	Do not know	Total
Jodhpur	17	65	82
Nagaur	8	20	28
Bikaner	3	7	10
Barmer	-	3	3
Total	28	95	123
Percentage	22.76	77.24	100.0

Table V E shows that only 22.76% (28) respondents knew about time interval between intestation and emergence of Guineaworm. 77.24% (95) respondents had no knowledge about incubation period.

A comparison with the knowledge of Pre-emergent cases as shown in Table XXII shows that there is no significant difference in the knowledge of the disease among post and pre-emergent respondents.

4. Detection during pre-emergent stage - (See Table VI)

4.1 The RIGEP presumes that a person can detect himself that he is suffering from G.W. before it emerges from skin. The table VI reveals that only 59 persons out of 123 (47.9%) admitted that they could know about the disease in pre emergent stage but 64 (i.e., 52.1%) persons informed that they could not detect it in pre emergent stage.

Table VI**District-wise response of post-emergent cases who could and who could not detect the disease in pre-emergent stage.**

Response	Districts				Total	%
	Jodhpur	Nagaur	Bikaner	Barmer		
Yes	46	9	3	1	59	47.9
No	36	19	7	2	64	52.1
Total	82	28	10	3	123	100

4.2 Out of 59, who could detect G.W. in pre-emergent stage, 18 respondents (30.5%) did go for Surgical extraction but by that time the blister had already bursted and therefore they were labelled post emergent - Annexure II.

- Since this is still possible that a pre-emergent case is detected but bursts before surgically extracted and hence meticulous care has to be taken for application of Tamephos and Health Education for drinking filtered water only.

4.3 Important prodromal symptoms before emergence of guineaworm - Ref. Table VII.

Table VII

District-wise response of 123 post-emergent respondents about prodromal symptoms of guineaworm emergence

District	Feeling of thread under skin	Movement under skin	Urticaria	Burning, Blister	Others	Do not know
Jodhpur	12	8	63	70	13	3
Nagaur	6	7	23	24	11	1
Bikaner	1	0	7	6	1	1
Barmer	0	0	3	2	0	0
Total	29	15	96	102	25	5
Percentage	23.5	12.1	78.0	82.9	20.3	

102 (82.9%) cases developed Blister and 96 cases (78 %) developed urticaria. It was only then that they came to know that they were infected with Guineaworm. The blister bursts out in 24-36 hours and if within this period information is received and mobile team reaches its patient, it can extract the worm otherwise post emergent case is the result.

- Mechanism for quick information and mobility is the answer.

5. Source of knowledge about GW and RIGEP

On being asked about the Source of their knowledge about this disease, the information that they furnished is shown in table No.VIII

Source of knowledge about GW Disease (Post-emergent cases)

Table VIII

Source	Jodhpur (n = 82)	Nagaur (n=28)	Bikaner (n = 10)	Barmer (n = 3)	Total (n = 123)
Family Member & Neighbours	31 (37.8)	21 (75)	3 (30)	3 (100)	58 (47.1)
Doctor Nurse	80 (97.5)	15 (53.6)	10 (100)	3 (100)	108 (87.8)
Publicity Media & other	8 (9.7)	1 (3.6)	1 (10)	3 (100)	13 (10.5)

From the Table it is evident that medical personnel were the main source G.W. information to almost 87.8% where as the family members and neighbours were the other major source of Information. It has also come to the fore that the publicity media which should have played a major role has completely failed to provide information to respondents of hamlets.

5.1 The table reveals that only 15 respondents i.e. (12%) had no communication about health education on Guineaworm from Animator/Nurse/Doctor. 13 out of 15 (86.6%) and 2 (13.4%) were in Nagaur and Jodhpur respectively, where effective I.E.C. activity through Trained Animators need to be strengthened.

6 Knowledge about Incentives

Table IX A

Respondents' knowledge about incentives

District	n	Knowledge of Incentive	
		Yes	%
Jodhpur	82	54	66
Nagaur	28	22	78
Bikaner	10	9	90
Barmer	3	0	0
Total	123	85	69.1

Monetary incentives play a vital role. The important observation made during the survey was the knowledge about the incentive paid by the government, to pre and Post emergent cases and their motivators, the travel expenses to informers and compensation money to male & female cases during their isolation in Hospital. It was observed that only

69% (85) respondents were having the knowledge about incentives. The district-wise variation in knowledges ranges from 0 to 90% as shown in table IX A above.

Table IX B

Correct knowledge of different incentives

District	Correct knowledge about incentives given (n = 85)						
	In case of Pre-emergent case		In case of Post-emergent case		Informer actual travel	Indoor	
	Motivator	Patient	Motivator	Patient	Yes	Male	Female
Jodhpur	35	37	20	23	21	3	1
Nagaur	13	13	8	13	12	0	0
Bikaner	7	7	2	4	7	0	0
Barmer	0	0	0	0	0	0	0
Total	55	57	30	40	40	3	1
%	64.7	67.0	35.3	47.0	47.0	3.5	1.1

6.1 Out of 85 respondents, having knowledge of incentive 64.7% (55) and 67% (57) knew the correct amount of incentive paid to motivators and patients for getting the worm extracted in pre emergent stage, and only 35.3% and (30) and 47% (40) knew that on giving correct information of Guineaworm patient the actual travel expenses are also reimbursed by the Govt. Only 3 persons i.e. (3.5%) knew that if admitted in a sentinel hospital, a G.W. Patient gets Rs. 22/- per day. Only one person knew that in addition to the indoor female patients an attendant also gets Rs. 22/- per day. This is the biggest failure on the part of I.E.C. activity of the RIGEP. Cash incentives motivate people to inform the appropriate authority, about possible G.W patient in pre-emergent stage and also to motivate people for extraction of worm at the right time.

7. **Knowledge about availability of services of surgical extraction of G.W. In pre-emergent stage and reasons for not availing services**

Table X A**District-wise response of post-emergent cases having knowledge about surgical extraction**

District	Surgical Extraction simple & quick (n = 123)		
	Yes	No	Total
Jodhpur	37	45	82
Nagaur	15	13	28
Bikaner	4	6	10
Barmer	1	2	3
Total	57	66	123
%	46.4	53.6	100

Out of 123 post-emergent cases interviewed 66 patients i.e. 53.6% had no knowledge that G.W could be extracted by giving a simple incision and in a short period. Remaining 57 persons i.e. 46.4% of them knew this fact but they did go for surgical extraction in pre-emergent stage for various reasons given in Table X B.

Table X B**Reasons for not getting G.W. Surgically Extracted**

District	Reasons for not getting extracted							
	n	Fear	Place not known	Distance	Could not know till emergence	Could not be extracted	Self limiting disease	Past painful experience
Jodhpur	37	17	5	4	7	0	3	1
Nagaur	15	6	0	3	3	1	1	1
Bikaner	4	2	0	0	2	0	0	0
Barmer	1	0	1	0	1	0	0	0
Total	57	25	6	7	12	1	4	2
Percentage	100	43.9	10.5	12.3	21.05	1.75	7.0	3.5

The reasons why 57 respondents who were convinced that surgical extraction is simple and quick yet did not go for it are shown in Table X B. 43.9% (25) did not avail themselves of the opportunity because of fear, 10.5% (6) did not know place where it was

extracted and 12.3% (7) were far away. Out of remaining 19 (33.3%), twelve could not detect their disease till emergence & in the opinion of 4 respondents it was a self limiting disease and two of them had their last year's painful experience of surgical extraction and at the same time in their opinion worshipping RAMDEOJI was the better way for cure of G.W. In one case it could not be extracted by the Surgeon V/C.

- Good I.E.C. and sensitive service delivery is the logical solution to the problem. The programme managers should ensure that the knowledge, attitude and practice of all post-emergent cases of the year 1994 is positively changed by vigorous efforts before May 1995 through personal contacts and motivation.

8. Interaction with satisfied Beneficiaries of surgical extraction :

In the villages people keep a track of people getting sick and are interested in knowing how they are cured. Satisfied beneficiaries play a positive role in motivation. Therefore, 57 respondents, who were aware about surgical extraction of guineaworm, were asked whether they had any interaction with such person who got his worm surgically extracted. Their response are tabulated in Table XI.

Table XI

District-wise Response Whether they had talked to a person who had got his G.W. Surgically Extracted.

District	Response		Total
	Yes	No	Total
Jodhpur	5	32	37
Nagaur	8	9	15
Bikaner	2	2	4
Barmer	1	0	1
Total	14	43	57
%	24.6	75.4	100

8.1 Out of 57 respondents, only 24.6% (14) stated that they had talked to persons who had got their worm extracted by surgical method. But even then they decided not to go in for surgical extraction for various misconceptions or on account of finding the beneficiary not thoroughly satisfied. By their experience, the respondents can be divided into three categories Table XI - A.

1. It was a better method, treatment was good and free in the opinion of 8 out of 14 i.e. 57% respondents.
2. 3 out of 14 (21.4%) said that, wound healing was delayed and thus it was not good method.
3. 3 out of 14 (21.4%) said that by surgical extraction G.W. was broken into pieces, and they had to visit more than once for extraction.

Table XI A

**Experience shared by district-wise respondents
about surgical extraction**

District	Surgical Extraction is good	wound healing delayed	Guineaworm broken to pieces and complications	Total
Jodhpur	4	1	-	5
Nagaur	2	1	3	6
Bikaner	1	1	-	2
Barmer	1	-	-	1
Total	8	3	3	14
%	57.2	21.4	21.4	100

- 8.2 57 post-emergent cases who were aware about surgical extraction, were asked about benefits of surgical extraction, who performs extraction, where extraction is done, and whether any fee is charged. Their responses are tabulated in Table XII.

Table XII

**District-wise response of Benefits of Extraction,
Done by whom and where (n = 57)**

Districts	Benefits of Surgical extraction				Surgical extraction is done					
	Quick recovery		Prevents Transmission	Free treatment	By			Where		
	Yes	No			Doctor	Private	Do not know	Residence	Dispensary	Do not know
Jodhpur	36	1	15	8	30	1	6	10	20	7
Nagaur	14	1	10	3	14	1	-	4	10	1
Bikaner	3	1	1	0	1	-	3	1	1	2
Barmer	1	-	0	0	0	-	1	0	1	-
Total	54	3	26	11	45	2	10	15	32	10
%	94.7	5.3	45.6	19.2	79.0	3.5	17.5	26.3	56.2	17.5

It was observed that 94.7% post-emergent cases who came in contact with pre-emergent cases had the impression of quick recovery if surgically extracted 45.6% even knew that it prevented transmission of disease. But the saddest part is that only 19.2% of them knew that treatment was done free of cost.

- For success of the programme, this aspect needs to be looked into and wide publicity given so that each individual in the area knows about free treatment

79% respondents (45) knew that pre-emergent extraction was done by Doctors i.e. somebody from Govt. service. Two respondents, one each from Nagaur and Jodhpur, stated that private practitioners were doing extraction work and charging a fee of Rs. 50/- per worm. 17.5% respondents (10) did not know, by whom surgical extraction was done. 26.3% respondents stated that extraction was done at residence of the patient. 56.2% stated the dispensary to be site, while 17.5% respondents did not know where extraction was done.

9. Assessing existing behaviour and attitude

During interviews, lot of information is exchanged and it is expected that an intelligent and open minded interviewee may change his previous behaviour. Therefore the last question asked was, "If you suffer again from G.W., what will you do?" The response is tabulated in Table XIII.

Table XIII

District-wise reponse of post-emergent cases to what will he/she do if infected again

District	Same way as done before	Will get surgical extraction	Do not know	Will use filtered water only	Will not contact pond water
Jodhpur	28	52	4	57	45
Nagaur	1	26	1	28	29
Bikaner	4	2	4	5	5
Barmer	2	1	0	0	0
Total	33	81	9	80	79
Percentage	26.8	65.8	7.4	65.0	64.2

33 respondents (26.8%) were of the opinion that they would do the same as they had done in past

81 of them (65.8%) said they would prefer surgical extraction if they suffer next time.

80 of them i.e. 65% stated emphatically that they would use only filtered water, while 79 i.e. 64.2% were determined not to touch the pond water with the affected part of the body.

- Continual Health Education would go a long way converting the resolve into practice.

10. Respondents' veivs about Services of Animators

Field experience reveals that some animators are really doing very good job devoting sufficient time in contacting persons for RIGEP Activities. The study team met animators who got a good monitory benefit from Incentive scheme. On the other hand there were animators who did not even know the correct name and addresses of post-emergent cases within their areas. In RIGEP, each animator is expected to visit assigned house hold once a month. Table XIV shows number of visits of animators to the post-emergent respondents prior to emergence and post-emergent stage and also visits of other supervisors.

Table XIV

Number of home visits of animators prior to pre-emergent and post-emergent stage (n = 123)

S. No.	District	Number of times the Animator paid home visit								Did somebody else visited						
		Prior to pre-emergent stage				post-emergent stage				Who met				How many times		
		0	1	2	3≤	0	1	2	3≤	D*	R**	S***	NK****	1	2	3≤
1.	Jodhpur	40	8	15	19	28	10	19	25	20	10	7	7	5	5	2
2.	Nagaur	13	4	3	8	10	1	7	10	8	1	7	-	2	2	4
3.	Bikaner	2	3	1	4	2	2	-	6	5	-	7	-	-	1	3
4.	Barmer	2	0	-	1	1	-	-	2	-	-	-	-	-	-	-
	Total	57	15	19	32	41	13	26	43	33	11	21	7	7	8	9
	Total	57	66			41	82									
	Percentage	46.4	12.2	53.6		33.4	15.9	66.6		26	8.9	17	5.6	5.6	6.5	7.3

* = Doctor, ** = RIGEP Staff, *** = Supervisor, **** = Identity not known

Only 66 respondents, (53.6%) stated that the animators had met them prior to the emergent stage, out of whom 15 (12.2%) said that he met them once only, 19 (15.4%) said that he met them twice, and 32 (26%) said that he met him 3 times or more. 46.4% (57) cases were never visited by an animator, prior to emergent stage.

However 82 respondents, (66.6%) stated that their animators met them in post emergent stage, out of whom 13 (15.9%) said that he met once only, 26 (31.7%) said that he met them twice and 43 (52.4%) said that he met him 3 times and more but 41 (33.4%) respondents told that animators did not meet them even once during post-emergent stage. The fact that in 46.4% (57) cases, the animators had failed to contact them even once prior to emergent stage, for one reason or the other and that 34 respondents (27.6%) were visited once or twice only is also far from satisfactory.

- Role of animators in these areas needs to be better defined and practiced as well as monitored.

CHAPTER - III

PRE-EMERGENT CASE : INTERVIEW FINDINGS

In the study area, there were number of pre-emergent cases who experienced surgical extraction of worm. To know their experience a few of them were also interviewed. Their district-wise distribution is as given below :-

Jodhpur	8
Nagaur	12
Bikaner	2
Barmer	1
Total	23

- The Socio Economic Profile of pre-emergent cases constituted by their age, sex, education and monthly income is shown in table No. XV

Table XV

(n = 23)

District	Pre emergent respondents /Family members	Total GW cases in family	Sex		Age				Education			Occupation			Income				
			M	F	<15	15-30	30-45	>45	Nil.	Lk.	10>	Ag	Labour	Noth ing	< 1000	1-1.5	1.5-2	2-3	> 3000
Jodhpur	8/74	15	3	5	2	2	2	2	6	1	1	7	-	1	3	2	2	1	-
Nagaur	12/87	15	7	5	4	1	5	2	9	3	-	11	1	-	6	3	2	-	1
Bikaner	2/4	2	2	-	-	-	2	-	2	-	-	2	-	-	1	1	-	-	-
Barmer	1/13	2	-	1	-	1	-	-	1	-	-	1	-	-	-	-	-	1	-
Total	23/178	34	12	11	6	4	9	4	18	4	1	21	1	1	10	6	4	2	1
Percentage			52.1	47.9	82.6			17.4	78.2	17.4	4.3	91	4.4	4.4	43.4	26.4	17.2	8.6	4.3

The table reveals that out of these, 52.1% were Male and 47.9% Female respondents. 78.3% were illiterate & 17.4% were marginally literates, while not even a single respondent was a matriculate.

Agriculture along with the animal husbandry was the main occupation of 91% and one was employed as labour, and one was child. About 82.6 of pre emergent cases interviewed were below the age of 45 yrs , the age group which is more mobile, working in the fields,

taking cattle for grazing while some of them are school going children. Only 17.4% were above 45 yrs.

The picture was no different from that of the post emergent cases interviewed during this study (Table III B), and hence Age, Sex, Occupation, Income, etc., did not play any role in pre or post emergent cases.

2. Availability of Water sources : knowledge and practice

The table XVI below shows that their main sources of drinking water are more than one which are both safe and unsafe.

Table XVI

Availability of water sources at places of Pre-emergent cases

District	n	Sources of water							
		Piped	Handpump	Well	T.W	Stepwell	pond	Nadi	Tube
Jodhpur	8	-	2	1	-	1	1	8	-
Nagaur	12	1	5	6	-	1	3	1	-
Bikaner	2	-	1	2	-	-	-	1	-
Barmer	1	-	-	-	-	-	-	1	-
Total	23	1	8	9	-	2	4	11	-

3. Knowledge & Practice of filtering water

Table XVII

Showing District wise response of Pre-emergent respondents about knowledge of safe & water sources

District	Have knowledge about safe water sources		
	n	Yes	No
Jodhpur	8	7	1
Nagaur	12	6	6
Bikaner	2	1	1
Barmer	1	1	-
Total	23	15	8

The table XVII reveals that only 65.2 respondents knew about safe, drinking water sources. 34.8% of the respondents, still do not know this. The situation calls for planned intensive education. In case of post-emergent respondents 93.5% knew about safe water sources (Table IV A).

The table XVII reveals that 100% pre-emergent G.W. patients as compared to 99.2% post emergent cases (Table IV B) were of the opinion that water should be filtered before drinking but only 56.5% knew the importance of filtering water to prevent transmission of G.W. disease.

It was further observed that 26% of them (6) were using cloth for filtration as compared to 21% of post-emergent cases. Table IV B which was found unsatisfactory from the point of view of preventing transmission of disease. 74% of them (17) were using funnel filter but out of them, the filter was found broken and unsatisfactory in case of 3 respondents (13%). The situation as regards the practice of filtering water is more or less same in post and pre-emergent cases.

Table XVIII

District-wise response showing knowledge attitude and practice of pre-emergent respondents about use of drinking water

District	n	Should they filter water before use		Filtering prevents transmission of G.W.		With What they filter			
		Yes	No	Yes	No	Cloth		Funnel	
						Satisfy	Unsatisfy	Satisfy	Unsatisfy
Jodhpur	8	8	-	3	5	0	3	3	2
Nagaur	12	12	-	9	3	0	2	10	0
Bikaner	2	2	-	1	1	0	1	1	0
Barmer	1	1	-	-	1	0	0	0	1
Total	23	23	-	13	10	-	6	14	3
Percentage	100	100	-	56.5	43.5	0	26	61	13

4. Habit of consumption of water : Ref. Table XIX

As regards habit of consuming water for drinking purpose 56.5% of them admitted that they consumed water from whatever source it is available while 65.2% admitted that they took water with out bothering whether was filtered or not. The relevant data for post-emergent respondents are 59.3% and 40.7% respectively (Table IV B).

Table XIX**District-wise response of pre-emergent respondents about practice of water-use**

District	n	Do they drink water from whatever source it is available		Do they consume without bothering for filtration	
		Yes	No	Yes	No
Jodhpur	8	6	2	7	1
Nagaur	12	6	6	7	5
Bikaner	2	1	1	1	1
Barmer	1	-	1	-	1
Total	23	13	10	15	8
%	100	56.5	43.5	65.2	34.8

Observation

Knowledge, attitude and practice with respect to guineaworm disease and prevention is similar in pre-emergent and post-emergent cases under study, irrespective of their Age, Sex, Caste, Literacy and Economic status.

5. Detection of Guineaworm in pre-emergent stage :

All of them could guess in pre emergent stage that it was a G.W. disease and the symptoms by which they could detect, are shown in Table no. XX below

Table XX**District-wise response of Pre-emergent cases about detection and prodromal symptoms**

District	Could they detect it in pre emergent stage		How could they detect				
	Yes	No	Thread like	By Movement	Urticaria	Blister burning	Other
Jodhpur	8	-	3	4	6	7	1
Nagaur	12	-	7	4	8	8	2
Bikaner	2	0	-	-	2	2	-
Barmer	1	0	-	-	1	1	-
Total	23	0	10	8	17	18	3
Percentage	100	0	43.4	34.7	73.9	78.2	17.6

18 (78.2%) cases could detect on account of appearance of blister and burning sensation. 17 (73.9%) cases had urticaria 10 (43.4%) cases had a thread like feeling below their skin, only 8 (34.7%) cases could detect it owing to some movement-like sensation below their skin. 17.6% had other symptoms like swelling, fever etc.

But only 17 out of 23 i.e. 73.9%, Pre-emergent cases underwent surgical extraction, Six (annexure III) of them took other treatment like Medicine, Bandages etc. The reasons for not going for surgical extraction was mainly fear of pain and a belief that it would automatically, come out in due course of time Ref. Table XXI.

Table XXI

**District-wise response of pre-emergent cases about
action taken in pre-emergent stage and reasons
for no surgical extraction**

District	n	Action taken in known pre emergent stage					
		Treatment taken			Reasons for not getting extracted		
		Medicine	Bandaged	Extracted surgically	Fear and Self extraction	Place not known	Distance
Jodhpur	8	7	7	7	1	-	-
Nagaur	12	10	8	8	4	-	-
Bikaner	2	2	2	1	1	-	-
Barmer	1	1	1	1	-	-	-
Total	23	20	18	17	6	-	-
Percentage	100	86.9	78.2	73.9	26		

1. It can be seen that not all pre emergent cases registered, have been surgically extracted. 6 cases in study (26%) were not surgically extracted, because of fear and their belief that it would be self extracted. List of six cases - Annexure III

- RIGEP Managers should review the entire situation, and impart intensive training programme to all functionaries or else the desired goals would remain outside the range of achievement.

6. Knowledge about G.W.

The table XXII reveals that the level of knowledge of pre-emergent respondents about why, who will suffer, How transmitted, incubation period, Length of the Guineaworm etc. was far from satisfactory. 34.8% only could answer why disease occurs, 52.1% answerd, who will suffer and 56.5% answered who do not suffer. This situation is not very much different from that of post-emergent cases which was 26%, 50.5% & 51.2% respectively (See Table VA, VB, VC).

Table XXII

**Number of pre-emergent respondents
who answered correctly**

District	n	Knowledge about (3.W. Disease occurrence					Length of GW	Disability physical loss
		Why	Who will suffer	Who do not suffer	How transmitted	Incubation period		
Jodhpur	8	1	3	3	-	-	7	8
Nagaur	12	5	7	8	3	6	9	8
Bikaner	2	1	1	1	1	1	2	2
Barmer	1	1	1	1	-	-	-	1
Total	23	8	12	13	4	7	18	19
Percentage	100	34.8	52.1	56.5	17.3	30.4	78.2	82.6

7. Financial loss

It was observed that 78.2% of the patients equal to the number of persons who went for surgical extraction suffered a minimum financial loss of less than Rs. 500/- only. 3 of them i.e. 13% had a financial loss of Rs. 1000 to 1500, and only two patients said that they had suffered a loss of more than Rs. 1500/-.

Table XXIII

Financial loss suffered by pre-emergent respondents

District	LOSS		
	Loss 500	1000 - 1500	1500
Jodhpur	6	1	1
Nagaur	11	-	1
Bikaner	1	1	-
Barmer	-	1	-
Total	18	3	2
Percentage	78.2	13	8.8

How often these cases were visited by Animators in pre-emergent stage may be good indicator of the animators closeness to them.

Table XXIV

District-wise response of pre-emergent cases about number of visits prior to emergent stage by Animators

District	Number of Visits			
	0	1	2	3 & more
Jodhpur	7	0	-	1
Nagaur	1	1	1	9
Bikaner	0	0	-	2
Barmer	1	0	-	0
Total	9	1	1	12
Percentage	39.0	4.4	4.4	52.2

The table XXIV reveals that 52.2% persons were visited by Animators 3 or more times during pre-emergent stage which is double the frequency for post-emergent cases. (See table XIV), which shows that frequent visits of animators are much beneficial not only for identifying pre-emergent cases but also act as an encouraging factor for surgical extraction.

CHAPTER - IV

ANIMATORS

An animator is one of the most important links between the community and RIGEP. He does surveillance, provides Health education, detects and motivates pre-emergent cases for extraction and reports weekly status to RIGEP.

Thus, they are the best knowledgeable persons to tell why some people do not like to avail themselves of the facilities of treatment through extraction and what additional inputs are required to make the eradication of the disease, a reality. Therefore it was targeted to interview the concerned animators of each post-emergent case one for each village.

1. Availability :

During the course of the study 21 concerned animators (36.9%) out of 57 target villages were found to have gone out of HQ. The animators interviewed district-wise are as given below :

Table XXV

District-wise no. of Animators Targeted, not available, & Interviewed Animators.

S. No.	District	No. Targeted	Not Available	Interveiwed
1.	Jodhpur	24	9	15
2.	Nagaur	25	10	15
3.	Bikaner	6	-	9
4.	Barmer	2	2	-
	Total	57	21	39

Note :- In Bikaner district against the target of six, 9 animators could be interviewed.

2. Job responsibilities of Animators - As perceived & practised

With a view to learning if there was a gap between the 'expected' and the 'practised', the animators were asked about their activities. Their responses is tabulated in Table XXVI.

Table XXVI

**District-wise response of Animators showing involvement
in RIGEP Activities**

S. No.	District	Detection of G.W. cases		Reporting about G.W. cases		House visit		Health Education & Distribution		Distribution of Funnel Filters		Help in Treatment		Identify unsafe water sources and Helping in temephos application	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1.	Jodhpur	15	-	10	5	13	2	10	5	14	1	13	2	13	2
2.	Nagaur	13	2	8	7	12	3	11	4	14	1	13	2	11	4
3.	Bikaner	8	1	4	5	8	1	7	2	8	1	8	1	4	5
4.	Barmer	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		36	3	22	17	33	6	28	11	36	3	34	5	28	11
Percentage		92.4	7.61	56.5	43.5	84.6	15.2	71.8	28.2	92.4	7.6	87.1	12.8	71.8	28.2

It can be seen that :

1. 92.4% Animators (36) told that they were surveying G.W cases, detecting pre and post emergent G.W. cases.
2. 17 Animators (43.5%) stated that sending information by post card to sentinel hospital was not their duty. Only 56.5% (22) were reporting by post card to higher authorities
3. 6 Animators (15.2%) did not pay home-visits as they thought it was not necessary to enquire about guinea worm cases by house visits. They expected the cases to come to them in the event of sickness. It is this attitude of animators which results failure to get any information in the pre-emergent stage. 85% animators considered visiting homes as part of their duty.
4. 11 Animators (28.2%) provided no Health Education, while 72% (28) stated that imparting Health Education was their duty.
5. 92.4% Animators (36%) distributed Funnels but 7.6% did not consider this as their duty.
6. 5 Animators (12.8%) expressed that they did not have any role in getting the patient treated. However 87.2% expressed that it was their duty to get the patient treated.

7. 11 Animators (28.2%) maintained it was not their duty to identify unsafe water sources and to co-operate in Temephos application to Nadies, Tanks etc.

That means 56.5% to 92% respondent animators were aware of their duties to varying degrees

- This should be considered only natural that all animators are suitably trained and appropriately re-oriented to be equal to the tasks assigned to them. Their performance has to be regularly monitored by competent persons.

3. House-holds visits for Health Education

One important task assigned to animators is to visit each house-hold once a month so that potential guinea worm cases could be identified in pre-emergent stage. Imparting Health education, ensuring the use of filters and taking of remedial measures could also be-timely taken care of.

That means for a G W. case of August, at least 7 visits, and for cases of May, at least 4 visits, should have been undertaken by the Animators. Table XXVII reveals that during Interview 74.3% Animators have stated that they did not visit these post-emergent cases before emergence. 7 animators (17.9%) had visited post emergent cases before but either the gap between their last visit and emerging worm was more than a month, or the patient did not disclose that he was having a worm under his skin.

Table XXVII

No. of Home visits paid by Animators to post-emergent cases.

District	Animators paid Home visits before emergence			
	No visit	once only	more than one	Total (n)
Jodhpur	11	3	1	15
Nagaur	11	3	1	15
Bikaner	7	1	1	9
Total	29	7	3	39
Percentage	74.3	17.9	7.8	100

In most cases, when patient developed symptoms or blister bursted, they approached the animator, and if available he visited the case that day.

4. **Case detection in pre-emergent stage and reasons for non detection.**

Table XXVIII

· District-wise response of Animators about why post-emergent case was not detected during Pre-emergent stage

S.No.	District	No. of cases	No. of G.W. cases detected during pre-emergent stage	Reasons for Not Detecting	
				No contact during pre-emergent stage	Patient did not disclose
1.	Jodhpur	15	9	4	2
2.	Nagaur	15	7	7	1
3.	Bikaner	9	5	4	-
4.	Barmer	-	-	-	-
Total		39	21	15	3
Percentage		100	53.8	38.5	7.7

39 Animators were asked to comment about one post emergent case each under study, as why he could not detect it in pre-emergent stage

53.8% Animators stated that they had detected post emergent Guineaworm cases during pre-emergent stage.

38.5% Animator did not have any contact and 7.7% cases did not disclose, the site being near genital parts of the female.

5. **Whether Animators motivated for surgical extraction : (Ref. Table XXIX)**

Table XXIX

District-wise response, for advice given for surgical extraction, agreed, not agreed with reasons

District	Advice given for surgical extraction	Agreed but blister bursted	Reasons for not being motivated		
			Blind faith	Distance	Fear
Jodhpur	9	1	5	-	3
Nagaur	7	-	6	-	1
Bikaner	5	1	2	1	1
Barmer	-	-	-	-	-
Total	21	2	13	1	5
Percentage	53.8	9.5	68.4	5.2	26.4

Out of 21 pre-emergent cases advised for surgical extraction by Animators, 2 cases agreed (9.5%) but the blister bursted before surgical intervention. 19 cases (90.5%) were just not motivated. 68.4% of them, could not be motivated because of their blind faith in Ram Deo Ji and Self expulsion, 5.2% because of distance and 26.4% were afraid of incision.

6. Conviction of Animator about surgical extraction

The Animators' own opinion was asked about surgical extraction. Four Animators out of 39 interviewed were of the opinion that surgical extraction was not a good method for extracting guineaworm. The reasons given are tabulated in Table XXX. It was further revealed that these animators themselves suffered from guineaworm and their experience was painful in 75% cases and delayed wound healing was experienced by 1 animator (25%).

Table XXX

Animators' own opinion about surgical extraction, and reasons

District	Surgical Extraction Good		If No, Why	
	Yes	No	Procedure Painful	Delayed Healing
Jodhpur	15	0	0	0
Nagaur	14	1	1	0
Bikaner	6	3	2	1
Barmer	-	-	-	-
Total	35	4	3	1
Percentage	89.7	10.3	75.0	25.0

7. Knowledge about Incentive

The impact of incentive scheme under RIGEP can be studied if the people in the organisation have correct knowledge about it and communicate with people.

Table XXXI

The level of correct knowledge of Animators regarding the payment of incentives by the Govt. to Motivators & Patients in Pre & post-emergent extraction.

S. No.	District	Incentives			
		In pre-emergent case		In post-emergent case	
		Motivators	Patient	Motivators	Patient
1.	Jodhpur	14	13	11	12
2.	Nagaur	15	14	11	3
3.	Bikaner	7	5	6	7
		36 (92.3%)	22 (56.4%)	28 (71.8%)	22 (56.4%)

92.3% Animators knew, what a motivator gets, but only 56.4% knew what incentive the client (patient) would for pre-emergent extraction. Only 71.8% Animators knew what a motivator and 56.4% knew what a patient in post emergent case would get for surgical extraction. It is in the interest of motivator and RIGEP, that Animators fully know what the client will get and they should tell them while motivating them for surgical extraction.

- At village Sathuni Purohitan (Barmer) the brother of an animator told that the latter being from upper class, can not visit the houses of Meghwals and Naiks who are treated as untouchables. Incidentally the majority of post-emergent cases studied, belong to Meghwals, Naiyaks, Rebaries etc. who are recognized scheduled castes.
- One extra Animator should be appointed from amongst these castes.

CHAPTER - V

SUPERVISORS

There is provision of 1 supervisor for 5-10 Animators. He is supposed to supervise their work. Supervisors are selected from amongst the Animators only and are initially paid Rs 400 per month and after 6 months Rs. 600 p.m. In principle, the practice of encouraging animators is sound. But this has a limitation. The animator to be promoted because of good work may not be centrally located in the geographical area of Animators to be supervised and as a result the animators living away may be neglected. Whenever they move into the field they they leave such comments on record of Animators "Complete your work", "Improve your work", and go away. They hardly visit the area, the Dhani of the Animator. The skill of supervision needs to be developed through Training.

Only five supervisors could be contacted by the study team and interviewed. The information is tabulated in Table no. XXXII with this small sample no generalised statement can be made But the observation made is :-

1. One supervisor, who had studied upto class 8th pass was devoting whole day exclusively for the RIGEP work. As per his own statement he earned Rs. 15,000/- as incentive money as an animator and supervisor. He was quite popular in the area and considered very knowledgeable.
2. One supervisor having passed XIth class is devoting 4-5 hours a day for RIGEP work. He claimed to have earned Rs. 6000/- as incentive money.
3. Three supervisors, one of them a graduate and the remaining matriculates, did not know how much time they were spending for supervision, Few people in the area knew them; None of them got any incentive.
4. Reasons for post emergent-cases stated are :-
 - (i) Area of Animators and supervisors is too large. It should not be population based. but be village and hamlet based.
 - (ii) The post-emergent cases were living in scattered Dhanis, where visit of Animators was not regular, people were not motivated. 80% supervisors (4) stated people had blind faith in Ram Deo ji, one of the supervisors told that, time lag between informing about case-detection and visit of doctor for extraction was at times 5 to 7 days which should be reduced to avoid emergence of the worm.

Table XXXII

**Education, Experience, occupation of the Supervisors :
Reasons for Post-emergent cases**

S. No.		No. of Supervisors				
		1	2	3	4	5
1.	Education	X	B.A.	VIIIth	Xth	XIIth
2.	Since working as supervisor	15.6.94	May 94	May 94	May 94	March 94
3.	Main Occupation	Shop, Agriculture	Mat Making	Agriculture	Agriculture	None
4.	Views expressed for Animators	No comments	Satisfactory	Satisfactory	Satisfactory	Satisfied
5.	Reasons for post emergent cases	1. Blind faith 2. Doctors come after 10 days of reporting	Blind faith Animators should work in Dhanis also	Don't know	Long distance Blind faith	Blind faith
6.	Time spent for RIGEP work	Could not mention	4-5 days in a month	whole day daily	3-4 hours in whole day	daily 4-5 hours
7.	How much incentive money received	-	-	15,000/-	-	6,000/-

CHAPTER - VI

Project officers and Vaidya I/C

The chief co-ordinator himself interviewed project officers of Jodhpur (on leave), Barmer and Nagaur. The officers pointed out following major causes for post-emergent cases.

1. Villagers do not recognise guineaworm as a disease. Old habits die hard. Gap between knowledge and practice can be reduced by continuous effective health education. Seeing is believing. Since now people watch that people of Main village do not suffer from G.W. disease, the people living in Dhanis are gradually coming to realise that this disease can be prevented.
2. The peak period of emergence of guineaworm cases and monsoon agriculture work coincide. People, therefore do not want to be away from their village except in emergencies.
3. Animators do not reach every household, may be because of remoteness or for some other reasons
4. A pregnant lady did not allow extraction as she was told by "BHOPA" that if she allowed extraction, she would not only not deliver the child but would also become sterile.
5. Some Pre-emergent cases are hospitalised and treated, but when the blister is bursted in Hospital, it is termed as post-emergent cases, and thus the number of post-emergent cases is increases. This fact has been confirmed by post-emergent case studies Annexure II where 18 cases were detected in pre-emergent stage and were ultimately labelled post-emergent cases. This practice adversely affects the morale of the motivator and the patient, because this result in reduction in incentive value.
6. Payment of incentive money is not maid to the motivator and patient, immediately because the extracting team does not carry money with them. This fact was also corroborated during study as many cases, motivators differed in their knowledge about incentive money, and many did not get any incentive or compensation money at all.
7. Balesar and Phalodi sentinel centres were non-functional as trained, competent and experienced doctor/vaidya was not posted upto Sept. 94.
8. Rumours were sent by the animators to the Head office by post or in person. It is only when the case is confirmed and the vehicle available that the extraction team leaves.

This takes about a week's time and the guineaworm is in no mood to oblige to remain pre emergent that long.

- There should be provision for a separate vehicle for the extraction team, which should immediately rush for extraction on receiving the report or should supervise the work of supervisors and Animators in the field, specially during peak period of prevalence during May - October.

CHAPTER - VII

SUMMARY

Causes of Post-Emergent Stage :

The causes for not reporting the guineaworm cases in pre-emergent stages as observed in the study are :-

1. PERSONAL FACTORS :

- (1) Failure to detect guineaworm infestation till blister formed or urticaria develops (Ref. Table VI).

52.1% post emergent cases out of 123, could not detect guineaworm infection till emergence of the worm.

Blister formation in 82.9% and urticaria in 78% cases were main symptoms when patients could detect the G.W. disease. Since the blister bursts in 24-36 hours; and the time lag between case detection, information, verification and extraction by competent authority, for these cases of remote Dhanis was often more than 36 hours, the cases turned to post-emergent stage.

- (2) Only 46.4% respondents knew that surgical extraction is simple and quick. (Ref. Table X A). But they did not opt. for extraction on account of

(a) Fear of surgical extraction :- 43.9% of respondents who knew about surgical extraction did not opt for the method because of fear. (Table X B)

(b) Place not known :- 10.5% respondents did not know where extraction is done or to who should be approached and where for extraction. (Table X B)

(c) Distance :- 12.3% respondents did not avail themselves of the services because of distance. (Table X B).

(d) Self limiting disease :- 10.5% respondents believed the disease to be self limiting.

2. PROJECT RELATED FACTORS

(a) Failure of community based surveillance system.

(i) **Late selection of Animators & Supervisors**

The study covered post-emergent cases detected and confirmed between January and September 1994.

80% of Animators were appointed in March 94. The supervisors were appointed in May 94. It was only after that they were trained and put to work.

(ii) **Norms of Animators - 1 for 500 population : just not realistic for these areas.**

There are many villages, in the area of Blocks of Nokha (Bikaner), Peelwa, Bap, Mathania, Mandore (Jodhpur) Nagaur, Mundwa, Deh (Nagaur), Sindhari and Balotra (Barmer), whose small hamlets are scattered miles apart in Desert, without any means of communication.

46.4% post emergent respondents were not visited by animators till emergence (Table XIV) 12.2% respondents confirmed just a single contact with Animators only. 74.3% Animators stated that they did not visit those post emergent cases prior to emergence (Table XXVII) The reason given was difficult terrain and distance.

(iii) **Job Responsibility - not known to all animators :- (Table XXVI) On seven activities which are supposed to be performed by animators, eg. G.W. case detection, reporting to sentinel Hospital, House visit, Health education and distribution of I.E.C. material, help in treatment, identification of unsafe water sources and helping in temephos application, the positive response varied from 56.5 to 92%.**

10.3% Animators (Table XXX) were not even convinced about efficacy of surgical extraction. In such cases, the animators cannot be expected to act as effective motivators. The correct knowledge about incentive to be paid to the motivator was known to 92.3% & 71.8% (Table XXXI), only where as only 56% knew what is paid to patient during pre and post emergent cases.

I.E.C. :-

Impact of I.E.C. activity could be seen in villages, highways etc. But remote Dhanis, could not be covered in the year 1994 to cover all aspects of the programme.

Time Lag :-

Time Lag between case detection and surgical extraction be reduced to 24 hours - 36 hours by a system of effective surveillance, quick reporting and extraction by competent hands.

Incentives :-

Should be widely made known to the motivators as well as the patients.

CHAPTER - VIII

SUGGESTIONS

1. The officer I/C HQ should be located at Central places of the worst affected areas e.g. Osian, Phalodi, Bap, Jodhpur, Mundwa, Jayal, Nokha and Balotra for effective management of activity in actual field situations.
2. The sentinel hospitals at Osian, Nagaur, Nokha and Barmer be staffed with experienced and competent experts of surgical extraction of guineaworm.
3. The officer incharge HQ should establish close liaison with medical officer I/C, PHC, PHC officials and Block Administration and should join monthly staff meetings of PHCS and Gram Panchayats, where guineaworm programme be discussed.
4. They should supervise, guide and support the surveillance machinery in training, and orientation programmes vigorously. Monthly meetings may be held where presence of all concerned be made mandatory.
5. Arrangement be made to earmark a vehicle to the mobile team incharge for frequent touring specially during G.W. emergence months from May to Oct. The mobile Team, in addition to supervision of surveillance mechanism, should investigate and analyse each G.W. patient and ensure to prevent contamination of water sources.
6. Feed Back : All the Gram Panchayats and Animators and Supervisors should be given feed back about progress of guineaworm cases of their own and neighbouring areas to cultivate competitive spirit, in easily understood language.
7. Stability : The staff posted on the project be continued at their postings for at least two years.
8. Recruitment of Animators : The existing basis of posting animators on population basis is to be replaced by number of hamlets or Sq. k.m. Area. So that an animator can reasonably be sure to visit the assigned house-holds
9. All New Animators be imparted detailed foundational training in residential course for 3-4 day courses, before May each year.
10. The batches for training should not be more than 15 per training
11. The newly elected members of Gram Panchayats of vulnerable villages be also trained/oriented in RIGEP Activities.

12. The incentives scheme should be vigourously advertised, through wall slogans, and loud speakers, as was done in small pox eradication programme.
13. The defintion of pre-emergent and post-emergent stage need be clearly defined. There are instances where pre-emergent cases have stated that they were taken to the Sentinel Hospital, and yet the worm was not extracted, but burst open. Still they were termed as pre-emergent cases - Annexure III.

On the other hand there were 18 post-emergent cases, who said that they were taken to sentinel hospitals and the blister bursted there, hence they were termed as post-emergent cases - Annexure II

14. Though there is a provision of paying Rs. 200/- to the doctor extracting G.W. in pre emergent stage, No vaidya of Balesar, Barmer, Nagaur and Nokha got this money in 1994.
15. Provision be made to to promptly pay incentive money to the patient and motivator..ref. Para 4.4 of general information.
16. Proper sterilisation facilities, Anaesthesia and sharp instruments be provided for surgical extraction
17. Interveiws of satisfied clients (Pre-emergent cases of the area) be video-taped and shown to motivate other people.
18. The format of monthly progress report, sent by project officer should also include number of motivators (Reporters) and pre and post emergent case patients who have been paid incentive, upto previous month and during the current month.

It is heartening to note that the RIGEP authorities have already implemented the recommondation number 1, 2, 5, 8 for 1995.

CONCLUSION

RIGEP Manager should plan for and ensure :-

- (i) Improving the quality of surgical extraction and its wide publicity.
- (ii) Reaching the unreached through surveillance, I.E.C. & Service.
- (iii) Reducing the time-lag between case detection and extraction..

**Statement showing district-wise villages, Foci, Source of water
at Main villages and foci**

JODHPUR

S.No.	Name Village	Name Foci	Available Water Source	
			Main Village	Focli
1.	Chadi			
		1.1 Kotechaon ki Dhani	M	U (B)
		1.2 Devaron ki Dhani	M	U (7)
		1.3 Vishnoiyoun ki Dhani	M	M (1)
		1.4 Roopamaton ki Dhani	M	M (2)
		1.5 Devdo ki Dhani	M	M (1)
2	Paleena			
		2.1 Indoliya ki Dhani	M	M (2)
3.	Ridmalsar			
		3.1 Kumharon ki Dhani	M	M (1)
		3.2 Pathani ki Dhani	M	M (2)
		3.3 Panchoriou ki Dhani	M	M (1)
4.	Jesla			
		4.1 Isharwala ki Dhani	M	M (1)
5.	Barjasar			
		5.1 Dhoru ki Dhani	U	U (1)
		5.2 Moriyon ki Dhani	U	U (1)
		5.3 Bara ki Dhani	M	M (1)
6.	Aau			
		6.1 Moriyon ki Dhani	M	U (2)
		6.2 Hajisagar ki Dhani	M	M (2)
7.	Bhojasar			
		7.1 Thaton ki Dhani	U	U (1)
		7.2 Chhitar ki Dhani	S	S (1)
		7.3 Chhitar Bora ki Dhani	M	M (1)

8.	Nevra	8.1	Kumaharon ki Dhani	U	U (6)
9.	Bapini	9.1	Meghwalo ki Dhani	M	U (3)
		9.2	Jaganthon ki Dhani	M	U (1)
		9.3	Khetanoon ki Dhani	M	U (1)
		9.4	Sadon ki Dhani	M	U (1)
10.	Jakhan	10.1	Kutharia	U	U (1)
		10.2	Sodhon ki Dhani	U	U (1)
11.	Meera ki Nimari	11.1	Bhaicha ki Dhani	M	U (1)
		11.2	Bhelon ki Dhani	M	U (1)
		11.3	Thkouron ki Dhani	M	U (1)
12.	Kadwa	12.1	Khethano ki Dhani	U	U (11)
		12.2	Meghwalon ki Dhani	U	U (1)
		12.3	Badhjiri ki Dhani	U	U (1)
13.	Neembo ka Talab	13.1	Jatamalon ki Dhani	U	U (1)
14.	Kerla	14.1	Musalmano ki Dhani	U	U (2)
		14.2	Babiniyon ki Dhani	U	U (1)
15.	Punasar	15.1	Jathmalon ki Dhani	U	U (1)
		15.2	Sadon ki Dhani	U	U (2)
16.	Bunjari	16.1	Meghwalon ki Dhani	U	U (1)
17.	Salwa Kalan	17.1	Gindiya Nada	M	U (1)
18.	Jajawal	18.1	Bhandiria	M	U (1)

19.	Nasar	19.1	Bedonka Bera	M	U (2)
20.	Nainau	20.1	Meghwalo ki Dhani	M	U (2)
21.	Bhikemkor	21.1	Sodon ki Dhani	M	U (1)
22.	Bhimsagar	22.1	Roopjira ki Dhani	M	U (1)
23.	Unawarea	23.1	Thakor ki Dhani	U	U (1)
24.	Matora	24.1	Godaron ki Dhani	U	U (1)
25.	Bedu			M	M (1)
26.	Chandarku			M	M (1)

NAGAUR

27.	Tantwas	27.1	Nayankon ki Dhani	M	U (4)
		27.2	Karmsoton ki Dhani	U	U (2)
		27.3	Pethron ki Dhani	U	U (1)
		27.4	Gudwa ki Dhani	M	M (1)
28.	Bhojas	28.1	Meghwalon ki Dhani	M	M (1)
		28.2	Nayankon ki Dhani	U	U (1)
29.	Unwalia	29.1	Meghwalon ki Dhani	U	U (1)
30.	Bhundel	30.1	Mehwalon ki Dhani	U	U (1)
31.	Roon			M	M (10)

32.	Kherwar		U	U (1)	
33.	Bodawa		M	M (1)	
34.	Ahirpura		M	M (1)	
35.	Chawata Kalan		U	U (1)	
36.	Rathori kuwa Nagaur		M	M (5)	
37.	Sonsagar				
		37.1	Nayakon ki Dhani	U	U (1)
38.	Jhadeli				
		38.1	Jhadeli ki Dhani	M	M (1)
39.	Dhingsara				
		39.1	Vishnoiyan ki Dhani	M	M (1)
40.	Akhasar				
		40.1	Bhapan ki Dhani/North Dhani	M	M (1)
41.	Chhawta khurd		M	M (1)	
42.	Rohina		M	M (2)	
43.	Mandpura				
		43.1	Shivpura	M	M (1)

BIKANER

44.	Sarunda				
		44.1	Siyago ki Dhani	M	M (1)
		44.2	Swamiyon ki Dhani	S	S (1)
		44.3	Nayakon ki Dhani	U	U (1)
45.	Basi				
		45.1	Ankhiyon Ki Dhani	U	U (2)
46.	Sadhuna				
		46.1	Jaton ki Dhani	M	M (1)
47.	Kodi				
		47.1	Khaton ki Dhani	U	U (1)

BARMER

48.	Sathuni Purohiton		M	M (2)
49.	Ed Man Singh			
		49.1 Swaron ki Dhani	U	U (1)

Name of villages and focii where post emergents cases were not found**NAGOUR**

50.	Pachodi			
		50.1 Ravo ki Dhani	M	M
51.	Datina			
		51.1 Bhomiyon ki Dhani	M	M
52.	Bhatnokha			
53.	Baragaon			
54.	Dhawa			
55.	Dhakoria			

BIKANER

56.	Kahira			
		56.1 Samo ki Dhani	M	M
57.	Manigana			
		57.1 Jaton ki Dhani	M	M

S = Safe
U = Unsafe
M = Mixed

List of 18 labelled Post emergent cases who though detected in Pre-emergent stage but due to bursting of blister were labelled otherwise

S.No.	Name of Patient	Name of Dhani	Village	Distt.
1.	Heera Devi W/o Khiaram	Godaron ki Dhani	Matora	Jodhpur
2.	Devi Singh / Takhat Singh	Jetmano ki Dhani	Punasar	Jodhpur
3.	Samnu Khatun W/o Mange Khan	Musalmanon ki Dhani	Kerla	Jodhpur
4.	Dakhu Kanwar W/o Khinv Singh	Jagnathon ki Dhani	Bapini	Jodhpur
5.	Bhanwari Devi D/o Phosaram Prajapat	Kumaharon ki Dhani	Nevra	Jodhpur
6.	Deepa ram S/o Gena Ram Prajapat	Kumaharon ki Dhani	Nevra	Jodhpur
7.	Bansi Lal S/o Jugta Ram	Isarwalon ki Dhani	Jesla	Jodhpur
8.	Sultan Bharti S/o Phool Bharti Sauame	Indulayi ki Dhani	Palina	Jodhpur
9.	Jethi Davi D/o Chena Ram	Devdo ki Dhani	Chadi	Jodhpur
10.	Sawant Singh S/o Dhud Singh	Devdo ki Dhani	Chadi	Jodhpur
11.	Anchi W/o Isru Ram Jat	Kotechon ki Dhani	Chadi	Jodhpur
12.	Puni D/o Bhringa Ram	Vishnoiyan ki Dhani	Chadi	Jodhpur

13.	Padma D/o Tej Mal Singh	Kotecha ki Dhani	Chadi	Jodhpur
14.	Naina Davi D/o Tej Mal Singh	Kotecha ki Dhani	Chadi	Jodhpur
15.	Hawa Devi W/o Dhuda Ram Nayak	Naykon ki Dhani	Son Nagar	Nagaur
16.	Balmukund Mali S/o Hajari Lal Mali	Rathori Kuwa (Nagaur City)	Nagaur	Nagaur
17.	Khinya Ram	Roon	Roon	Nagaur
18.	Santosh D/o Kheta Ram Jat	Jataon ki Dhani	Sadhuna	Bikaner

List of labelled pre-emergent cases but not surgically extracted
Ref. Table XXI

District	S.No.	Name	Focli	Village
Jodhpur	1.	Nasir Khan S/o Khmesh Khan	Moriyon ki Dhani	Aau
Nagaur	2.	Bhanwar Karwar W/o Hanuman Singh	Rohina	Rohina
	3.	Durga Ram S/o Banna Ram	Meghawalon ki Dhani	Bhojas
	4.	Munni D/o Deepa Ram	Roon	Roon
	5.	Bhanwar Singh S/o Ram Singh	Indon ki Dhani	Jhadeli
Bikaner	6.	Kasharam S/o Purkharam	Bhandon ki Dhani	Sadhuna

Statement Showing District-wise, Panchayat Samitee-wise, Names of Villages where handpumps were out of order or Dry

Name of Village	District	Panchayat Samitee	Particulars of Complaint
Salwa Kalan (Gindiya Nada)	Jodhpur	Mandor	Water not Potable
Baran Gaon	Nagaur	Nagaur	Hand pump failed
Roon	Nagaur	Mundwa	Handpump out of order

