

**REPORT OF
SICKLE CELL SCREENING
IN BOUDH AND GANIA BLOCKS**

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AJAY TRIPATHY
Executive Director

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1. INTRODUCTION:

Sickle cell is an abnormal, crescent-shaped red blood cell containing haemoglobin S, an abnormal form of haemoglobin characteristic of sickle cell anaemia. Sickle Cell Anaemia is an autosomal disorder in which the abnormal haemoglobin leads to chronic haemolytic anaemia with a variety of severe clinical consequences.

The disorder is a classic example of disease caused by a point mutation in DNA. Persons with one gene of this disease are clinically healthy, but their RBC look abnormal in the absence of oxygen under the microscope. Persons with 2 genes (homozygous) of this disease suffer from acute anaemia and in most cases die before puberty. The rate of Sickling is influenced by a number of factors, most importantly by the concentration of haemoglobin S red blood cell in the individual.

The Sickle Cell disease is characterised by crises of joint pain, thrombosis, and recurrent fever and by chronic anaemia, with splenomegaly, lethargy and weakness. The disease is prevalent among the Blacks, especially in certain parts of Africa. It has been found that the areas where the disease is most prevalent also showed the higher frequencies of malaria. The haemoglobin S gene is carried in 8 percent of American blacks, and one birth out of 400 in American Blacks will produce a child with sickle cell anaemia. In India, it is an important disorder on account of its high incidence in certain regions and in certain communities including Orissa.

The disorder has its onset during the first year of life, when haemoglobin F level falls. These patients are prone to delayed puberty.

On examination, patients are often chronically ill and jaundiced. There is hepatomegaly, but the spleen is not palpable in adult life. The heart shows hyperdynamic precordium and systolic murmurs. Non-healing ulcers may be rarely present. Sickle Cell Anaemia becomes a chronic multisystem disease, with death from organ failure commonly occurring between the ages 20 to 40 years.

No specific treatment is available for the disease. However, comprehensive medical management may improve both longevity and quality of life. Prenatal diagnosis is now available for couples at risk of producing a child with sickle cell anaemia. DNA from foetus cells can be directly examined, and the presence of the sickle cell mutation can be accurately diagnosed. Genetic counselling should be made available to such couples. Marriage Counselling and testing for unmarried Sickling positive persons will help in combating the disease.

Local NGOs of Gania and Boudh Blocks reported that there is a high incidence of sickle cell disease and requested us to carry out screening to determine the extent and magnitude of sickle cell in the communities of the two blocks. As a result of which future action plan can be developed.

Considering all these aspects, Orissa Voluntary Health Association decided to carry out a screening exercise in the above two areas.

2. OBJECTIVES:

- i) To conduct mass screening of blood for sickle cell in selected villages.
- ii) To recommend suitable measures regarding prevention and control of sickle cell disease in the area.

3. AREA:

We have decided to cover one or two villages of the block due to constraint of our resources. The villages to conduct the screening were selected after due consultation with the PHC Medical Officer of the Block and Local NGOs. The villages chosen for screening are given below in table 1.

Table 1: The villages chosen for screening were as follows.

State	District	Block	GP	Village
Orissa	Nayagarh	Gania	Kishoreprasad	Kaliapada
Orissa	Boudh	Boudh	Gochapada	Lumurjena
Orissa	Boudh	Boudh	Gochapada	Usmilka

4. METHODOLOGY

During the planned visit to the villages we have informed the villagers about the date and time of screening. They were also informed about the need of the screening so that people will be interested to be screened. A one-day village meeting was organised for this purpose. The local NGOs helped us a great deal in this process.

Appropriate techniques of blood slide collection were used during the screening. The study team members decided the following tasks among themselves.

1. Arrangement of screening place
2. Calling people to the screening place
3. Maintaining the register
4. Numbering the slides
5. Pricking the blood and putting blood in two slides (one for blood group testing and one for sickle cell testing)
6. Testing Blood Group
7. Putting cover slip in the slide and sealing it by using wax
8. Testing for sickle cell

This procedure helped us a lot to make the process of screening smooth and to speed up the activity. The blood group was informed to the people on the spot. As the testing of sickle cell was done after a gap of few hours from the time of blood slide collection, we informed about the sickling result afterwards.

The blood group testing was done following two systems viz.

- a) ABO Blood Group System (O, A, B and AB Blood Groups)
- b) Rhesus Blood Group System (+ and - Blood Groups)

In the tables the blood group of individuals according to both the two systems was given in one column viz. O+, O-, A+, A-, B+, B-, AB+ and AB-.

5. RESULTS/FINDINGS

The results of sickle cell screening are given below in a tabular form in Table 2 to Table 8. In Table 2 to 5 the details of only sickling positive persons are given for ready reference. In Table 6 to 8 details of all the persons screened are given.

Table 2: Summary of screening:

Sl. No.	Name of the village	Number of persons screened	Number of Sickling positive persons
1.	Kaliapada	216 (142 M, 74 F)	3 (2 M, 1 F)
2.	Lumurjena	91 (46 M, 45 F)	6 (3 M, 3 F)
3.	Usmilka	60 (30 M, 30 F)	9 (3 M, 6 F)
	Total	367 (218 M, 149 F)	18 (8 M, 10 F)

After examining the slides, we found following sickling positive cases in the three study villages. We found that the slide positivity percentage is higher in Usmilka (15%) followed by Lumurjena (6.59%) and Kaliapada (1.39%). Overall slide positivity percentage is 4.90%.

Table 3: Details of Sickling Positive persons of Kaliapada

Sl No	Name	Father/Mother/Husband Name	Age	Sex	Sickling	Blood Group	Caste
1.	Binoda Ch. Jena	F: Krutartha Jena M: Kamalini Jena	14	M	Positive	AB +	Pano
2.	Kamalini Jena	H: Krutartha Jena F: Chakradhar	38	F	Positive	AB +	Pano
3.	Krutartha Jena	F: Hrudaynath Jena M: Pradha Jena	42	M	Positive	B +	Pano

Studying the sickling positive persons in Kaliapada we found that all the positive persons are from one family of Pano caste. The other members of the same family need to be further investigated. The family can visit RMRC, Bhubaneswar with a recommendation letter from local PHC for further investigation and expert advice. We found two male and one female sickleing positive persons in the village who are of one family.

Table 4: Details of Sickling Positive persons of Lumurjena

Sl No	Name	Father/Mother/Husband Name	Age	Sex	Sickling	Blood Group	Caste
1.	Laxmi Pradhan	H: Angada Pradhan F: Lalmani Khamari	30	F	Positive	O +	Dumala
2.	Saindri Geja	H: Dharani Geja F: Ashuta Thati	30	F	Positive	O +	Dumala
3.	Kirtan Geja	F: Dharani Geja	4	M	Positive	A +	Dumala

		M: Saindri Geja					
4.	Bisikesan Pradhan	F: Prahalad Pradhan M: Khata Pradhan	29	M	Positive	O +	Dumala
5.	Rohita Pradhan	F: Sankar Pradhan M: Astami Pradhan	30	M	Positive	O +	Dumala
6.	Soudamini Pradhan	H: Angira Pradhan F: Dhruva Dehuri	55	F	Positive	A +	Dumala

Studying the sickling positive persons in Lumurjena village we found that all the six sickling positive persons are from Dumal caste. The other members of the affected families need to be further investigated. The affected families and the village as a whole need expert advice and genetic counselling on sickle cell disease. Marriage counselling to unmarried persons will help. Sickle cell screening, awareness and counselling programme is needed for the village and other similar villages of the area. The local PHCs should take up special care and support programmes for the sickling positive persons. Sickle cell testing facilities should be available in local PHCs. We found three male and three female sickleing positive persons.

Table 5: Details of Sickling Positive persons of Usmilka

Sl No	Name	Father/Mother/ Husband Name	Age	Sex	Sickling	Blood Group	Caste
1.	Saraswati Kheti	H: Hajari Kheti F: Ghasi	70	F	Positive	O +	Dumala
2.	Chaitan Singh	F: Jogeswar Singh M: Usha Singh	50	M	Positive	O +	Pana
3.	Iswar Urma	F: Sagar Urma M: Balmati Urma	55	M	Positive	A +	Pana
4.	Pravasi Urma	H: Jatindra Urma F: Jogeswar	50	F	Positive	B +	Pana
5.	Urbasi Urma	H: Iswar Urma F: Jogeswar	50	F	Positive	O +	Pana
6.	Urmila Urma	F: Trinath Urma M: Nrupati Urma	20	F	Positive	B +	Pana
7.	Nrupati Urma	H: Trinath Urma F: Dwija	40	F	Positive	B +	Pana
8.	Chitrasena Urma	F: Trinath Urma M: Nrupati Urma	21	M	Positive	B +	Pana
9.	Anuri Urma	H: Sriya Urma F: Kapru Rajhansa	25	F	Positive	A +	Pana

Studying the sickling positive persons in Usmilka village we found that all the nine sickling positive persons are from Dumala and Pana caste. The other members of the affected families need to be further investigated. The affected families and the village as a whole need expert advice and genetic counselling on sickle cell disease. Marriage counselling to unmarried persons will help. Sickle cell screening, awareness and counselling programme is needed for the village and other similar villages of the area. The local PHCs should take up special care and support programmes for the sickling positive persons. Sickle cell testing facilities should be available in local PHCs. We found 6 female and 3 male sickleing positive persons.

Table 6: Details of persons screened in Kaliapada Village:

Sl. No.	Name	Father/Mother/Husband Name	Age	Sex	Sickling	Blood Group	Caste
1.	Utsava Senapati	Rama Senapati Mallika Dei	70	M	Negative	B+	Chasa
2.	Dhulia Pradhan	Gurubari Pradhan Jema Dei	50	M	Do	B+	Do
3.	Pradeep Kumar Senapati	Artabandhu Senapati Sukanti Senapati	24	M	Do	AB+	Do
4.	Bholeswar Pradhan	Gobinda Pradhan Sradha Dei	50	M	Do	B+	Do
5.	Phagu Pradhan	Gurubari Pradhan Jena Dei	52	M	Do	B+	Do
6.	Pabitra Ku. Pradhan	Dinabandhu Pradhan Parbati Pradhan	19	M	Do	O+	Do
7.	Bhagaban Swain	Bhagata Swain Shree Dei	65	M	Do	O+	Do
8.	Budhia Sahu	Aintha Sahoo Pata Dei	70	M	Do	O+	Do
9.	Abhimanyu Behera	Dharmananda Behera Suka Dei	28	M	Do	O+	Gouda
10.	Bhagaban Pradhan	Bhikari Pradhan Apurba Behera	18	M	Do	O+	Chasa
11.	Pradeep patra	Kathia Patra Sukanti Dei	11	M	Do	B+	Do
12.	Pramod Prusti	Dhruba Ch. Prusti Haramani Prusti	23	M	Do	A+	Do
13.	Bijaya Kumar Swain	Udayanath Swain Malli Dei	28	M	Do	B+	Do
14.	Sahadev Pradhan	Khetra Pradfhan Chanda Pradhan	80	M	Do	AB+	Do
15.	Dhaneswar Prusti	Dhruba Chandra Prusti Haramani Prusti	32	M	Do	O+	Do
16.	Gurubari Pradhan	Kantha Pradhan Ujyola Pradhan	70	M	Do	A+	Do
17.	Ajyodhya Pradhan	Udayanath Pradhan Panchei Dei	32	M	Do	B+	Do
18.	Balabhadra Swain	Raghunath Swain Duita Swain	35	M	Do	O+	Do
19.	Santosh Ch. Pradhan	Bhikari Pradhan Apurba Pradhan	22	M	Do	B+	Do

20.	Kishore Nayak	Basanta Nayak Bimala Dei	22	M	Do	A+	Do
21.	Subash Chandra Pradhan	Gurubari Pradhan Kuni Dei	'18	M	Do	O+	Do
22.	Ramesh Senapati	Bira Senapati Sanbar Senapati	22	M	Do	A+	Do
23.	Tophan Pradhan	Batu Pradhan Bimala Pradhan	12	M	Do	B+	Do
24.	Chaturbhuja Pradhan	Basudev Pradhan Mimi Pradhan	10	M	Do	B+	Do
25.	Krustna Chandra Sahu	Maguni Sahu Golapa Sahu	10	M	Do	O+	Gudia
26.	Baidyanath Senapati	Sribatsa Senapati Jhumpudi Senapati	32	M	Do	B+	Chasa
27.	Udayanath Swain	Nabara Swain Kanchan Dei	55	M	Do	B+	Do
28.	Baikuntha Pradhan	Udayath Pradhan Panchei Pradhan	50	M	Do	O+	Do
29.	Aslok Kumar Behera	Trinath Behera Susama Behera	24	M	Do	O-	Do
30.	Gyana Ranjan Samal	Jogi Samal Sumitra Samal	9	M	Do	A+	Chasa
31.	Lalmohan Senapati	Baidhar Senapati Panchei Senapati	21	M	Do	O+	Do
32.	Trilochan Swain	Udayanath Swain Malli Swain	22	M	Do	O+	Do
33.	Musha Pradhan	Bidyadhar Pradhan Bhoru Dei	52	M	Do	O+	Chasa
34.	Ashok Kumar Pradhan	Nabaghana Pradhan Baidehi Pradhan	19	M	Do	AB+	Do
35.	Birabar Pradhan	Bhikari Pradhan Apurba Pradhan	25	M	Do	O+	Do
36.	Duryodhan Pradhan	Brunda Pradhan Uttam Pradhan	20	M	Do	B+	Do
37.	Kuanri Senapati	Mohan Pradhan Chakradhar Senapati	50	F	Do	O+	Do
38.	Chakradhar Senapati	Rama Senapati Malli Senapati	60	M	Do	O+	Do
39.	Mandodari Swain	Baisi Pradhan Agadhu Swain	50	F	Do	A+	Do
40.	Sagar Pradhan	Bholi Pradhan Upei Pradhan	25	M	Do	O+	Do

41.	Kumuda Pradhan	Joginath Pradhan Panchei Dei	23	M	Do	O+	Do
42.	Maheswar Swain	Baidhar Swain Chaili Swain	9	M	Do	O+	Do
43.	Pabitra Senapati	Gangadhar Senapati Sanju Senapati	6	M	Do	O+	Do
44.	Gayatri Samal	Madhab Samal Pandhei Dei	6	F	Do	A+	Do
45.	Bijaya Pradhan	Bipra Pradhan Nayan Pradhan	15	M	Do	A+	Do
46.	Biswanath Swain	Pari Swain Jema Swain	8	M	Do	A+	Do
47.	Apurba Dei	Bhikari Pradhan Satrugna Jena	60	F	Do	O+	Do
48.	Bimala Pradhan	Batu Pradhan Dhadia Das	40	F	Do	B+	Do
49.	Haramani Dei	Dhrub Chandra Prusti Dhadia Rout	55	F	Do	A+	Do
50.	Jogi Pradhan	Khetrabasi Pradhan Parat Dei	48	M	Do	O+	Do
51.	Bisika Senapati	Uhhab Senapati Halia Nahak	70	F	Do	O+	Do
52.	Santosa Behera	Charana Behera Baidei Behera	15	M	Do	O+	Gouda
53.	Sodara Prusti	Markanda Prusti Panchu Swain	60	F	Do	O+	Chasa
54.	Labanya Sahoo	Bodhia Sahoo Kanhu Sahoo	70	F	Do	B+	Gudia
55.	Ghana Behera	Balu Behera Keli Behera	34	M	Do	A+	Gouda
56.	Niranjana Behera	Ghana Behera Jayanti Behera	14	M	Do	A+	Do
57.	Susama Behera	Ghana Behera Jayanti Behera	5	F	Do	A+	Do
58.	Tuna Behera	Rabi Behera Pramila Behera	8	M	Do	A+	Do
59.	Joginath Pradhan	Bidya Pradhan Bhanu Pradhan	50	M	Do	A+	Chasa
60.	Bira Senapati	Bharat Senapati Gande Senapati	45	M	Do	O+	Do
61.	Pari Swain	Benu Swain Dula Dei	50	M	Do	O+	Do
62.	Laxman Pradhan	Nabaghan Pradhan Baidehi Pradhan	16	M	Do	O+	Do
63.	Basudev Behera	Puria Behera Basa Behera	11	M	Do	A+	Keuta

64.	Bapi Prusti	Pramod Prusti Sashi Prusti	10	M	Do	O+	Chasa
65.	Rasmita Nayak	Bimbadhar Nayak Manjula Nayak	11	F	Do	O+	Do
66.	Deepak Prusti	Promod Prusti Sashi Prusti	7	M	Do	O+	Do
67.	Ashok Nayak	Udayanth Nayak Mina Nayak	11	M	Do	O+	Do
68.	Atindranath Nayak	Surendra Nayak Sukanti Nayak	10	F	Do	O+	Do
69.	Urmila Nayak	Surendra dnayak Sukanti Nayak	7	F	Do	O+	Do
70.	Bhikari Pradhan	Pura Pradhan Gelhi Pradhan	55	M	Do	B+	Do
71.	Jogi Samal	Manguli Samal Seranda Samal	42	M	Do	B+	Barika
72.	Labani Swain	Baghaban Swain Boita Dei	65	F	Do	B+	Chasa
73.	Muna Behera	Rabi Behera Pramila Behera	6	M	Do	A+	Gouda
74.	Jaga Behera	Gobardhan Behera Bhama Behera	4	M	Do	B+	do
75.	Hadi Behera	Gobardhan Behera Bhama Behera	5	M	Do	B+	Do
76.	Prasan Senapati	Maheswar Senapati Banabasi Senapati	42	M	Do	O+	Chasa
77.	Pramoda Kumar Senapati	Maheswar Senapati Banabasi Senapati	37	M	Do	B+	Do
78.	Sakti Prakas Senapati	Promoda Kumar Senapati Subasini Senapati	15	M	Do	B+	Do
79.	Gyani Prakas Senapati	Promoda Kumar Senapati Subasini Senapati	11	M	Do	B+	Do
80.	Soumya Prakash Senapati	Prasan Senapati Kokila Senapati	13	M	Do	O+	Do
81.	Deepti Prakas Senapati	Prasan Senapati Kokila Senapati	8	M	Do	O+	Do
82.	Rajesh Senapati	Pravat Senapati Kumari Senapati	4	M	Do	O+	Do
83.	Rakesh Senapati	Pravat Senapati Kumari Senapati	4	M	Do	B+	Do
84.	Banabasi	Maheswar Senapati	60	F	Do	O+	Do

	Senapati	Sita Senapati					
85.	Kokila Senapati	Prasan Senapati Tara Senapati	36	F	Do	O+	Do
86.	Subasini Senapati	Pramod Senapati Duti Senapati	33	F	Do	B+	Do
87.	Kumari Senapati	Pravat Senapati Bela Senapati	23	F	Do	O+	Do
88.	Magi Swain	Sunanda Swain Sukei	55	M	Do	B+	Do
89.	Madha Samal	Panu Samal Kaincha Samal	60	M	Do	A+	Do
90.	Markanda Prusti	Anta Prusti Jhumpei	75	M	Do	B+	Do
91.	Satrughna Nayak	Udayanath Nayak Mina Nayak	7	M	Do	O+	Do
92.	Biswanath Pradhan	Fagu Pradhan Aji Pradhan	20	M	Do	B+	Do
93.	Antarjyami Pradhan	Jagarnath Pradhan Saria Pradhan	23	M	Do	B+	Do
94.	Eswar Pradhan	Ajodhya Pradhan Kaitha Pradhan	15	M	Do	B+	Do
95.	Pravat Samal	Madhab Samal Panchei Samal	4	M	Do	A+	Barik
96.	Nalini Samal	Jogi Samal Hema Samal	28	F	Do	O-	Do
97.	Rasmita Samal	Joginath Samal Nalini Samal	8	F	Do	B+	Do
98.	Nidhi Nayak	Chaita Nayak Siri Nayak	55	M	Do	O+	Chasa
99.	Duhita Dei	Nidhi Nayak Anamika Nayak	47	F	Do	B+	Do
100.	Anusuya Pradhan	Barabandhu Pradhan Bisika Pradhan	10	F	Do	A+	Do
101.	Padma Chandra Nayak	Fakir Nayak Sukanti Dei	8	M	Do	A+	Do
102.	Sridhar Pradhan	Brajabandhu Pradhan Bisika Pradhan	15	M	Do	O+	Do
103.	Sarojini Malha	Gobardhan Malha Kanak Malha	10	F	Do	B+	Do
104.	Abhimanyu Pradhan	Binoda Pradhan Rambha Pradhan	9	M	Do	O+	Do
105.	Mamina Swain	Bodhia Swain Santilata Swain	9	F	Do	A+	Do
106.	Mamata Pradhan	Binoda Pradhan Rambha Pradhan	4	F	Do	O+	Do

107.	Srinibas Gandhia	Dhaneswar Gandhia Laxmi Gandhia	4	M	Do	O+	Do
108.	Baktapria Swain	Krushna Chandra Swain Sradhanjali Swain	4	F	Do	O+	Do
109.	Mathura Kumar Nayak	Udayanath Nayak Minika Nayak	10	M	Do	O+	Do
110.	Jitendra Senapati	Bamadev Senapati Bhila Senapati	8	M	Do	AB+	Do
111.	Susanta Kumar Nayak	Bimbadhar Nayak Manjula Nayak	16	M	Do	O+	Do
112.	Purna Ch. Nayak	Basanta Kumar Nayak Bimala Nayak	28	M	Do	O+	Do
113.	Baikuntha Behera	Babana Behera Baidehi Dei	30	M	Do	O+	Gouda
114.	Jyostna Behera	Baikuntha Behera Kuntala Dei	5	F	Do	B+	Do
115.	Rasmita Senapati	Ajyodhya Senapati Bisika Senapati	8	F	Do	O+	Chasa
116.	Prabhasini Pradhan	Ananda Pradhan Gouri Dei	8	F	Do	A+	Do
117.	Ananda Pradhan	Jogi Pradhan Panchei Dei	35	M	Do	B+	Do
118.	Annapurna Pradhan	Brajabandhu Pradhan Bisika Pradhan	7	F	Do	A+	Do
119.	Sadasiva Ganthia	Kasinath Ganthia Radhika Ganthia	35	M	Do	O+	Do
120.	Nalumohan Ganthia	Sadashiva Ganthia Rangabati Ganthia	14	M	Do	O+	Do
121.	Matiani Ganthia	Sadei Pradhan Sansari Ganthia	42	F	Do	A+	Do
122.	Baidhar Swain	Jadu Swain Tanuja Swain	45	M	Do	O+	Do
123.	Prakash Ku. Sahu	Maguni Sahu Golapa Sahu	3	M	Do	B+	Do
124.	Laxmi Nayak	Basanta Kumar Nayak Bimala Nayak	11	F	Do	O+	Do
125.	Dhobani Pradhan	Musa Pradhan Saiba Barik	40	F	Do	A+	Do
126.	Pabitra Nayak	Makara Nayak Pramila Nayak	11	M	Do	B+	Do
127.	Natia	Narayan Pradhan	7	M	Do	B+	Do

	Pradhan	Sanju Pradhan					
128.	Bijaya Pradhan	Ajyodhya Pradhan Kaida Pradhan	11	M	Do	B+	Do
129.	Rita Senapati	Ajyodhya Senapati Mahali Senapati	5	F	Do	B+	Do
130.	Gita Senapati	Ajyodhya Senapati Mahali Senapati	8	F	Do	O+	Do
131.	Baidhar Swain	Khetrabasi Swain Devi Swain	53	M	Do	A+	Do
132.	Kuni Pradhan	Gurubari Pradhan Kantika Bhola	65	F	Do	A+	Do
133.	Chatiani Prusti	Karia Pradhan Baidhar Prusti	60	F	Do	B+	Do
134.	Batu Pradhan	Puru Pradhan Geli Pradhan	50	M	Do	AB+	Do
135.	Narasingha Rout	Anithu Rout Panchu Rout	47	M	Do	O+	Do
136.	Duryodhan Prusti	Gobardhan Prusti Bisika Prusti	50	M	Do	O+	Do
137.	Apurba Pradhan	Jogia Prusti Barta Rout	42	F	Do	O+	Do
138.	Uttam Pradhan	Brundaban Prusti Kalia Pradhan	45	F	Do	B+	Do
139.	Sulochana Pradhan	Rabindra Pradhan Basua Pradhan	18	F	Do	B+	Do
140.	Aintha Pradhan	Ajyodhya Pradhan Sudarsan Mohanty	30	F	Do	O+	Do
141.	Jhumpuri Dei	Baistnaba Senapati Bhudhia Swain	45	F	Do	B -	Do
142.	Laxmi Senapati	Ajyodhya Senapati Bisika Senapati	5	F	Do	O+	Do
143.	Binoda Pradhan	Jogi Pradhan Pancheli Devi	25	M	Do	O+	Do
144.	Anjali Pradhan	Sudama Pradhan Uttam Pradhan	6	F	Do	B+	Do
145.	Pabana Senapati	Bhagirathi Senapati Mahali Senapati	15	M	Do	O+	Do
146.	Pabitra Pradhan	Nakula Pradhan Hema Pradhan	12	M	Do	O+	Chasa
147.	Manas Swain	Balaram Swain Sulochana Swain	15	M	Do	A+	Do
148.	Padmabati Rout	Narasisngha Rout Naran Dash	35	F	Do	O+	Do
149.	Debaka Swain	Aintha Swain Narasingh Mantri	55	F	Do	B-	Do
150.	Tikili Nayak	Palia Nayak	5	F	Do	O+	Do

		Nakula Nayak					
151.	Lipina Swain	Balaram Swain Sulochana Swain	9	F	Do	O+	Do
152.	Sukara Behera	Baraju Behera Laxman Behera	40	F	Do	O+	Gouda
153.	Hadi Behera	Baraju Behera Sukara	6	M	Do	B+	Do
154.	Trusanta Rout	Sanatan Rout Saya Rout	7	M	Do	B+	Chasa
155.	Rasmita Pradhan	Dinabandhu Pradhan Parbati Pradhan	9	F	Do	B+	Do
156.	Deepak Sahoo	Maguni Sahoo Golapa Sahoo	7	M	Do	B+	Gudia
157.	Karuna Pradhan	Hadibandhu Pradhan Kuma Pradhan	9	M	Do	A+	Chasa
158.	Aruna Pradhan	Prafulla Pradhan Kanchan Pradhan	9	M	Do	A+	Do
159.	Lili Prusti	Madhaba Prusti Janaki Prusti	3	F	Do	B+	Do
160.	Gadadhar Prusti	Abhina Prusti Jema Prusti	45	M	Do	B+	Do
161.	Aintha Swain	Sunanda Swain Sukei Swain	50	M	Do	O+	Do
162.	Hari Swain	Aghari Swain Mandodari Swain	38	M	Do	O+	Do
163.	Sanjaya Prusti	Antarjyami Prusti Minika Prusti	10	M	Do	O+	Do
164.	Antarjyami Prusti	Gobardhan Prusti Bisika Prusti	40	M	Do	O+	Do
165.	Nabaghan Pradhan	Pandari Pradhan Jhumuri Pradhan	43	M	Do	A+	Do
166.	Jamkeswar Pradhan	Banshidhar Pradhan Phula Pradhan	57	M	Do	B+	Do
167.	Suresh Rout	Narasingha Rout Padma Rout	23	M	Do	O+	Do
168.	Gangadhar Senapati	Dayanidhi Senapati Apurba Senapati	34	M	Do	O+	Do
169.	Basanta Nayak	Ganeswar Nayak Matiani Nayak	45	M	Do	O+	Do
170.	Nira Rout	Kartika Rout Buluri Rout	12	M	Do	O+	Do
171.	Maheswar Rout	Kartika Rout Amari Rout	35	M	Do	B+	Do
172.	Bipra Pradhan	Bansidhar Pradhan Phula Pradhan	45	M	Do	A-	Do
173.	Prafula	Magi Swain	25	M	Do	B+	Do

	Swain	Dalana Swain					
174.	Malia Swain	Hatia Swain Daitari Swain	42	F	Do	AB+	Do
175.	Rili Swain	Hatia Swain Malia Swain	2	F	Do	A+	Do
176.	Arjuna Swain	Agadhu Swain Mandodari Swain	28	M	Do	A+	Do
177.	Agadhu Swain	Sananda Swain Sukei Swain	55	M	Do	B+	Do
178.	Jamuna Prusti	Duryodhan Prusti Natha Prusti	42	F	Do	A+	Do
179.	Santosh Pradhan	Ananda Pradhan Pramila Pradhan	19	M	Do	A+	Do
180.	Dulana Swain	Magi Swain Butia Swain	50	F	Do	B+	Do
181.	Jema Dei	Paramananda Sankhali Dei	45	F	Do	A+	Do
182.	Sumitra Samal	Jogi Barik Madhab Samal	35	F	Do	A+	Barika
183.	Dipu Pradhan	Sanju Pradhan Narayan Pradhan	1	M	Do	B+	Chasa
184.	Labanya Pradhan	Bodhia Pradhan Sahadev Pradhan	55	F	Do	O-	Do
185.	Sashi Pradhan	Gadhadar Pradhan Trinatha Pradhan	50	F	Do	B+	Do
186.	Sukanti Nayak	Surendra Nayak Damodhar Nayak	30	F	Do	O+	Do
187.	Ranju Nayak	Surendra Nayak Sukanti Nayak	5	F	Do	O+	Do
188.	Sudhansubal a Nayak	Suryamani Nayak Basanti Rout	13	F	Do	A+	Do
189.	Jali Swain	Hari Swain Samara Swain	2	F	Do	B+	Do
190.	Utshab Swain	Magi Swain Dulana Swain	20	M	Do	B+	Do
191.	Matia Swain	Bhagaban Swain Labani Swain	55	M	Do	B+	Do
192.	Bimala Swain	Sudhuri Swain Rama	65	F	Do	B+	Do
193.	Saraswati Swain	Bira Swain Aparti Swain	3	F	Do	O+	Do
194.	Sansari Ganthia	Kasinath Ganthia Radhika Ganthia	55	M	Do	O+	Do
195.	Ahalya Pradhan	Manguli Pradhan Mangulu Rout	48	F	Do	O+	Do

196.	Bulu Pradhan	Biranchi Pradhan Kokila Pradhan	7	M	Do	B+	Do
197.	Jhuna Pradhan	Ananda Pradhan Pramila Pradhan	11	F	Do	A+	Do
198.	Padma Swain	Padmanava Swain Debaraj Swain	40	F	Do	O+	Do
199.	Matiani Swain	Matia Swain Nidhi Rout	42	F	Do	B+	Do
200.	Bapuna Rout	Baikuntha Rout Gelhi Rout	12	M	Do	A+	Do
201.	Mangulu Pradhan	Bansidhar Pradhan Subasi Pradhan	42	M	Do	A+	Do
202.	Tikina Pradhan	Ananda Pradhan Pramila Behera	16	M	Do	B+	Do
203.	Sunanda Pradhan	Jogi Pradhan Panchei Pradhan	28	M	Do	O+	Do
204.	Udayanath Nayak	Kanhei Nayak Matiani Nayak	28	M	Do	O+	Do
205.	Baidhei Pradhan	Akula Pradhan Naya Swain	40	F	Do	A+	Do
206.	Suruja Swain	Satya Swain Ekadasi Swain	65	F	Do	O+	Do
207.	Laxmi Ganthia	Dhaneswar Ganthia Dhurba Rout	30	F	Do	O+	Do
208.	Somanath Ganthia	Dhaneswar Ganthia Laxmi Ganthia	4	M	Do	O+	Do
209.	Jugala Pradhan	Bhima Pradhan Kalika Pradhan	62	M	Do	O+	Do
210.	Suryamani Rout	Raghunath Rout Jamuna Rout	50	M	Do	A+	Do
211.	Nilakantha Jena	Nabina Jena Chaina Jena	58	M	Do	O+	Harijan (Pana)
212.	Binoda Ch. Jena	Krutartha Jena Kamelendu Jena	14	M	Positive	AB+	Do
213.	Sailabala Jena	Nilakantha Jena Bholeswar Naik	51	F	Negative	B+	Do
214.	Chitrasena Jena	Gadadhar Jena Kousalya Jena	18	M	Do	AB+	Do
215.	Kamalini Jena	Kruturtha Jena Chakradhar Jena	38	F	Positive	AB+	Do
216.	Kutartha Jena	Hrudaynath Jena Prabha Jena	42	M	Do	B+	Do

Table 7: Details of persons screened in Lumurjena Village:

Sl No	Name	Father/Mother/ Husband Name	Age	Sex	Sickling	Blood Group	Caste
1.	Krushna Balhabha Mahakud	Banamali Mahakud Damayanti Mahakud	53	M	Negative	B+	Dumal
2.	Chandrama Mahakud	Krushna Balhabha Mahakud Gopinath Mandil	48	F	Do	A+	Do
3.	Dutia Pradhan	Margu Pradhan Kasturi Pradhan	60	M	Do	O+	Do
4.	Laxmi Pradhan	Dutia Pradhan Raghunath Pradhan	55	F	Do	O+	Do
5.	Anama Prasad Mahakud	Banamali Mahakud Damayanti Mahakud	77	M	Do	O+	Do
6.	Aditya Pradhan	Dutia Pradhan Laxmi Pradhan	33	M	Do	O+	Do
7.	Anusuya Pradhan	Aditya Pradhan Antaryami Singh	30	F	Do	A+	Do
8.	Manadukhu Geja	Satrughna Geja Chanchala Geja	50	M	Do	A+	Do
9.	Karpura Geja	Manadukh Geja Harikarna Geja	45	F	Do	B+	Do
10.	Chitra Geja	Sada Geja Rodana Geja	45	M	Do	A+	Do
11.	Kumari Geja	Chitra Geja Akhyaya Mahakuda	40	F	Do	O+	Do
12.	Sudhansu Sekhar Dehuri	Bhikari Dehuri Premasila Dehuri	26	M	Do	B+	Do
13.	Suku Pradhan	Dhoba Pradhan Kautuka Pradhan	45	M	Do	O+	Do
14.	Dasmi Pradhan	Suku Pradhan Jayadev Barik	35	F	Do	O+	Do
15.	Landu Pradhan	Suku Pradhan Dasmi Pradhan	2	M	Do	O+	Do
16.	Angada Pradhan	Chakra Pradhan Sunaphula Pradhan	35	M	Do	O+	Do
17.	Laxmi Pradhan	Angada Pradhan Lalmani Khamari	30	F	Positive	O+	Do
18.	Kambho Geja	Bida Geja Sakuntala Geja	35	M	Negative	B+	Do
19.	Malati Geja	Kambho Geja Maguni Pradhan	30	F	Do	O+	Do

20.	Udhaba Geja	Bida Geja Sakuntala Geja	40	M	Do	O+	Do
21.	Surabali Geja	Udhaba Geja Sadhaba Geja	35	F	Do	B+	Do
22.	Mulia Geja	Laxman Geja Bijili Geja	50	M	Do	O+	Do
23.	Dukhi Geja	Mulia Geja Rath Geja	45	F	Do	O+	Do
24.	Laxmidhar Kumbhar	Makunda Kumbhar Kausalya Kumbhar	55	M	Do	O+	Harijan Kumbhar
25.	Subasa Kumbhar	Laxmidhar Kumbhar Bisakha Kumbhar	25	M	Do	A+	Do
26.	Gouri Kumbhar	Subasa Kumbhar Kula Kumbhar	20	F	Do	B+	Do
27.	Jagdish Mahakud	Jujusti Mahakud Bunduri Mahakud	42	M	Do	O+	Dumala
28.	Bina Mahakud	Jagdish Mahakud Maheswar Jagiria	35	F	Do	O+	Do
29.	Belari Karna	Balabhadra Karna Sukuru Pradhan	35	F	Do	B+	Do
30.	Bijaya Pradhan	Kara Pradhan Bedabar Pradhan	37	F	Do	B+	Kandha
31.	Bidyadhar Pradhan	Prahalada Pradhan Khata Pradhan	28	M	Do	A+	Dumala
32.	Sriya Pradhan	Bidyadhar Pradhan Damana Geja	22	F	Do	O+	Do
33.	Anirudha Pradhan	Panchu Pradhan Astami Pradhan	35	M	Do	AB+	Do
34.	Tuna Pradhan	Anirudha Pradhan Nanda Pradhan	28	F	Do	O+	Do
35.	Akhyaya Pradhan	Sankar Pradhan Astani pradhan	40	M	Do	O+	Do
36.	Sabitri Pradhan	Akhyaya Pradhan Judhistir Mahakud	35	F	Do	O+	Do
37.	Damana Geja	Jadu Geja Ghasana Geja	46	M	Do	O+	Do
38.	Tusamani Mahakud	Madan Mahakud Hema Mahakud	60	F	Do	A+	Do
39.	Raghu Karna	Bhula Karna Ankhi Karna	50	M	Do	B+	Harijan Kumbhar
40.	Golapi Pradhan	Purusottam Pradhan Thakura Dang	30	F	Do	A+	Dumal
41.	Sashi Geja	Bhaskar Geja Surumin Geja	45	M	Do	A+	Do
42.	Sukuru Pradhan	Gopala Pradhan Ura Dei	70	M	Do	B+	Do

43.	Bisakha Pradhan	Chaturu Pradhan Basha Pradhan	55	F	Do	O+	Do
44.	Khira Geja	Sashi Geja Bhuja Geja	42	F	Do	O+	Do
45.	Parikhita Pradhan	Dhruba Pradhan Koutuka Pradhan	55	M	Do	B+	Do
46.	Bunduri Pradhan	Parikhita Pradhan Ghashi Mahakud	50	F	Do	O+	Do
47.	Sakuntala Geja	Bila Geja Laxman Data	60	F	Do	B+	Do
48.	Surusuta Mahakud	Suresh Mahakuda Brusaba Kolta	35	F	Do	A+	Do
49.	Susanta Mahakud	Suresh Mahakud Surusuta Mahakud	8	M	Do	AB+	Do
50.	Babu Mahakud	Suresh Mahakud Surusuta Mahakud	6	M	Do	B+	Do
51.	Basa Pradhan	Hara Pradhan Chaturu Pradhan	70	F	Do	O+	Do
52.	Rodana Geja	Sada Geja Sahadev Pradhan	60	F	Do	A+	Do
53.	Mithila Geja	Sashi Geja Khira Geja	12	F	Do	A+	Do
54.	Surasena Pradhan	Padu Pradhan Balkuni Pradhan	26	M	Do	O+	Do
55.	Premasila Pradhan	Surasena Pradhan Makar Pradhan	20	F	Do	O+	Do
56.	Alekha Pradhan	Panchu Pradhan Astami Pradhan	30	M	Do	O+	Do
57.	Manjuri Pradhan	Alekha Pradhan Panchu Bagha	25	F	Do	A+	Do
58.	Saindri Geja	Dharani Geja Achyuta Thati	30	F	Positive	O+	Do
59.	Kirtan Geja	Dharani Geja Saindri Geja	4	M	Do	A+	Do
60.	Dillip Geja	Dharani Geja Saindri Geja	2	M	Negative	O+	Do
61.	Suchitra Pradhan	Bhika Pradhan Biranchi Khamari	22	F	Do	A+	Do
62.	Nityananda Pradhan	Bhika Pradhan Suchitra Pradhan	1½	M	Do	A+	Do
63.	Hemanta Geja	Chitra Geja Kumari Geja	19	M	Do	A+	Do
64.	Ashoka Geja	Udhaba Geja Bali Geja	20	M	Do	O+	Do
65.	Sarojini	Balaram Karna	45	F	Do	O+	Do

	Karna	Mahajana Pradhan					
66.	Ramesh Mahakud	Jujasti Mahakuda Bunduri Mahakud	32	M	Do	B+	Dumal
67.	Budhubari Mahakuda	Ramesh Mahakuda Rasa Gaigaria Mahakuda	25	F	Do	A+	Do
68.	Sumanta Geja	Udhav Geja Bali Geja	15	M	Do	B+	Do
69.	Mita Geja	Gupta Geja Pravakar Kolta	22	F	Do	O+	Do
70.	Rinki Geja	Gupta Geja Mita Geja	5	F	Do	O+	Do
71.	Pinki Geja	Gupta Geja Mita Geja	2	F	Do	O+	Do
72.	Rahasa Pradhan	Gopala Pradhan Pujari Pradhan	70	M	Do	B+	Do
73.	Jogendra Pradhan	Parikhita Pradhan Bunduri Pradhan	22	M	Do	B+	Do
74.	Bhika Pradhan	Sukuru Pradhan Saunti Pradhan	24	M	Do	O+	Do
75.	Bisikesan Pradhan	Prahalad Pradhan Khata Pradhan	29	M	Positive	O+	Do
76.	Anusaya Pradhan	Bisikesan Pradhan Haladhar Amath	22	F	Negative	O+	Do
77.	Rohita Pradhan	Sankar Pradhan Astami Pradhan	30	M	Positive	O+	Do
78.	Gitanjali Pradhan	Rohita Pradhan Radhesyam Mahakud	25	F	Negative	O+	Do
79.	Kunti Karna	Balabhadra Karna Belari Karna	10	F	Do	B+	Do
80.	Kisori Pradhan	F: Rahasa Pradhan	40	F	Do	O+	Do
81.	Narasingha Geja	Dukhu Geja Karpul Geja	20	M	Do	AB+	Do
82.	Purusottam Pradhan	Basudev Pradhan Chautra Pradhan	50	M	Do	A+	Do
83.	Angira Pradhan	Panchu Pradhan Astami Pradhan	60	M	Do	B+	Do
84.	Soudamini Pradhan	Angira Pradhan Druba Dehuri	55	F	Positive	A+	Do
85.	Susama Pradhan	Satrughna Pradhan Ratna Mahakuda	28	F	Negative	B+	Do
86.	Buli Pradhan	Satrughna Pradhan Susama Pradhan	4	F	Do	B+	Do
87.	Basanta Pradhan	Gopal Pradhan Udari Pradhan	60	M	Do	B+	Do

88.	Nura Pradhan	Basanta Pradhan Mahadev Pradhan	55	F	Do	O+	Do
89.	Padu Pradhan	Maharagu Pradhan Asturi Pradhan	60	M	Do	O+	Do
90.	Bhalkuni Pradhan	Padu Pradhan Ghasi Pradhan	55	F	Do	O+	Do
91.	Satrughna Prahan	Purna Ch. Pradhan Prafulla Pradhan	27	M	Do	B+	Do

TABLE 8: Details of persons screened in Usmilka Village:

Sl No	Name	Father/Mother/ Husband Name	Age	Sex	Sickling	Blood Group	Caste
1.	Tapaswini Pradhan	Nauru Pradhan Gudhubari Dei	12	F	Negative	A+	Dumal
2.	Nauru Pradhan	Bharata Pradhan Moti Pradhan	35	M	Do	AB+	Dumal
3.	Saraswati Kheti	Hajari Kheti Ghasi Dei	70	F	Positive	O+	Do
4.	Arjuna Nayak	Anta Nayak Purnami Nayak	31	M	Negative	B+	Khaira (Chasa)
5.	Jogeswar Nayak	Banabasi Nayak Balmati Nayak	42	M	Do	B+	Do
6.	Somanath Urma	Rahasha Urma Khata Urma	42	M	Do	B+	Pana
7.	Nepru Urma	Somanath Urma Ganesh	35	F	Do	O+	Do
8.	Guru Urma	Bishnu Urma Suravi Urma	22	M	Do	O+	Do
9.	Bishnu Urma	Usma Urma Bunduri Urma	50	M	Do	A+	Do
10.	Chakra Malik	Dayani Malik Nua Dei	50	M	Do	B+	Kandha
11.	Shiva Nayak	Maharaga Nayak Kamini Nayak	6	M	Do	B+	Dumal (Chasa)
12.	Kamini Nayak	Maharaga Nayak Dhruba Jhankar	40	F	Do	AB+	Do
13.	Chaitan Singh	Jogeswar Singh Usha Singh	50	M	Positive	O+	Pana
14.	Saraswati Singh	Chaitan Singh Eka	45	F	Negative	B+	Do
15.	Seshadev Malik	Kunu Malik Nira Malik	28	M	Do	A+	Keuta
16.	Surekha Bagh	Sadhu Bagh Indra	30	F	Do	B+	Gouda
17.	Ahalya Bhokta	Kukti Bhokta Bansa	28	F	Do	B+	Sudha (Chasa)

18.	Sadhu Bagh	Kunja Bagh Kanchan Bagh	40	M	Do	A+	Gouda
19.	Kartika Bhoktia	Sundura Bhoktia Chanchala Bhoktia	60	M	Do	O+	Sudha (Chasa)
20.	Iswar Urma	Sagar Urma Balmati Urma	55	M	Positive	A+	Pana
21.	Supte Bhokta	Sundar Bhokta Chanchala Bhokta	40	M	Negative	O+	Sudha (Chasa)
22.	Kansa Bhokta	Kartika Bhokta Ani Behera	45	F	Do	A+	Do
23.	Saindri Bhoi	Sankar Bhoi Jadu	20	F	Do	O+	Gouda
24.	Surubali Jhankar	Goutam Jhankar Sashi	20	F	Do	A+	Sudha (Chasa)
25.	Goutam Jhankar	Kapila Jhankar Kanta Jhankar	55	M	Do	A+	Do
26.	Sashi Jhankar	Goutam Jhankar Nitia	50	F	Do	A+	Do
27.	Padunath Malik	F: Udara Malik	50	M	Do	B+	Kandha
28.	Paradesi Malik	Kesab Malik Jasoda Malik	32	M	Do	O+	Keuta
29.	Pravasi Urma	Jatindra Urma Jogeswar	50	F	Positive	B+	Pana
30.	Kausalya Urma	Hakima Urma Iswar	28	F	Negative	AB+	Do
31.	Hakima Urma	Iswar Urma Urbasi Urma	32	M	Do	O+	Do
32.	Urbasi Urma	Iswar Urma Jogeswar	50	F	Positive	O+	Do
33.	Sanjukta Mallik	Sesa Mallik Chakra	25	F	Negative	O+	Keuta
34.	Narendra Jhankar	Gouranga Jhankar Ahalya Jhankar	32	M	Do	A+	Sudha (Chasa)
35.	Purnabasi Jhankar	Narendra Jhankar Nilagiri	28	F	Do	B+	Do
36.	Tapisa Mallik	Pradosi Mallik Bisnu Muduli	22	F	Do	O+	Keuta
37.	Bina Jhankar	Dutia Jhankar Sishu	28	F	Negative	A+	Sudha (Chasa)
38.	Munisa Singh	Nabaghana Singh Krushna	40	F	Do	O+	Pana
39.	Urmila Urma	Trinath Urma Nrupati	20	F	Positive	B+	Do
40.	Nrupati	Trinath Urma	40	F	Do	B+	Do

	Urma	Dyoja					
41.	Chitrasena Urma	Trinath Urma Nrupati Urma	21	M	Do	B+	Do
42.	Kailash Behera	Kosta Behera Laxmidhar	40	F	Negative	B+	Do
43.	Suresh Behera	Kasta Behera Kailash Behera	22	M	Negative	B+	Do
44.	Anuri Urma	Sriya Urma Kapra Rajhansha	25	F	Positive	A+	Do
45.	Tapisa Urma	Biranahi Urma Nila Mahananda	32	F	Do	A+	Do
46.	Biranchi Urma	Laxmidhar Urma Urbasi Urma	40	M	Do	O+	Do
47.	Banita Bhokta	Baistamba Bhokta Brundaban	24	F	Do	O+	Sudha (Chasa)
48.	Sainya Urma	Iswar Urma Usbari Urma	30	M	Do	O+	Pana
49.	Bila Nayak	Ananta Nayak Purnabi	30	F	Do	B+	Paika Khairia
50.	Siria Urma	Rahash Urma Khata	32	M	Do	B+	Pana
51.	Prena Bhokta	Bhima Bhokta Bighna Majhi	30	F	Do	B+	Sudha (Chasa)
52.	Baistamba Bhokta	Kartik Bhokta Pancha Bhokta	27	M	Do	O+	Do
53.	Bhima Bhokta	Kartik Bhokta Kansa Bhokta	40	M	Do	O+	Do
54.	Manu Bhokta	Kartika Bhokta Kansa Bhokta	22	M	Do	O+	Do
55.	Khata Urma	Moti Urma Saheb	50	F	Do	B+	Pana
56.	Rahasa Urma	Tapan Urma Tara Urma	60	M	Do	B+	Do
57.	Keta Mallik	Daphang Mallik Punia	35	F	Do	O+	Keuta
58.	Dafa Mallik	Kunu Mallik Nira Mallik	45	M	Do	A+	Do
59.	Bhagya Nayak	Arjuna Nayak Nandi	32	F	Do	B+	Khaira
60.	Ranjan Urma	Trinath Urma Nrupati Urma	15	M	Do	O+	Pana

6. LIMITATIONS

During the screening exercise we have certain limitations which might have affected the screening results. These limitations were as follows.

- i) Due to resource constraint we could cover only one or two villages in a block, the results of the screening thus might not be representative of the whole block.
- ii) The conclusions and recommendations are based on the study findings and the knowledge of the study team about sickle cell.

7. CONCLUSIONS

In view of the above findings we can conclude the following.

Studying the sickling positive cases in the three study villages, we found that the slide positivity percentage is higher in Usmilka (15%) followed by Lumurjena (6.59%) and Kaliapada (1.39%). Overall slide positivity percentage is 4.90%. Studying the sickling positive persons in Kaliapada we found that all the 3 sickling positive persons are from one family of Pano caste. Studying the sickling positive persons in Lumurjena village we found that all the 6 sickling positive persons are from Dumala caste. Studying the sickling positive persons in Usmilka village we found that all the 9 sickling positive persons are from Dumala and Pana caste.

8. RECOMMENDATIONS

Studying the sickling positive persons in Kaliapada we found that all the positive persons are from one family of Pano caste. The other members of the same family need to be further investigated. The family may visit RMRC, Bhubaneswar with a recommendation letter from local PHC for further investigation and expert advice.

Studying the sickling positive persons in Lumurjena village we found that all the 6 sickling positive persons are from Dumala caste. The other members of the affected families need to be further investigated. The affected families and the village as a whole need expert advice and genetic counselling on sickle cell disease. Marriage counselling to unmarried persons will help. Sickle cell screening, awareness and counselling programme is needed for the village and other similar villages of the area.

Studying the sickling positive persons in Usmilka village we found that all the 9 sickling positive persons are from Dumala and Pana caste. The other members of the affected families need to be further investigated. The affected families and the village as a whole need expert advice and genetic counselling on sickle cell disease. Marriage counselling to unmarried persons will help. Sickle cell screening, awareness and counselling programme is needed for the village and other similar villages of the area.

A comprehensive screening for sickle cell is needed in Boudh district, especially in Boudh Block to ascertain the actual prevalence of sickle cell in the area. This will help to formulate an action plan for intervention.

The screening team also wishes to recommend the following measures to be taken by the Health and FW department, Local PHCs and Local NGOs.

- Upgradation of the local PHCs so that, sickle cell testing facility and proper advice and care to the sickle cell positive persons and their families is available there.
- The PHC personnel including doctors and paramedical staff should be trained in sickle cell disease.
- Proper treatment of complications due to sickle cell anaemia should be available in the PHCs.
- Local PHC and NGOs should give proper Counselling to the families and persons with sickle cell patients and traits.
- People should be made aware about this disease.
- Necessary funding may be given to the local NGOs and PHCs by the state government for sickle cell related activities in the blocks.
- Local NGOs should take up measures for imparting health education and creating awareness on Sickle cell disease.

9. SCREENING TEAM

The screening team included the following members.

1. Dr. R. S. Balgir, Deputy Director, Human Genetics Department, RMRC, Bhubaneswar
2. Mr. Bishwanath Murmu, Research Assistant, Human Genetics Department, RMRC, Bhubaneswar
3. Mr. T. Moharana, Laboratory Assistant, Human Genetics Department, RMRC, Bhubaneswar
4. Mr. Himansu Sekhar Dutta, Programme Officer, Research Department, OVHA, Bhubaneswar
5. Mr. Nirakar Sahu, Programme Assistant, Research Department, OVHA, Bhubaneswar

The Laboratory Technicians and Pharmacists of the respective PHCs and staff of local NGOs also accompanied us to the villages and helped us in blood slide collection.

10. SCREENING ORGANISATION (OVHA)

Historical Background

During early seventies, after World Health Organisation's efforts, many developing countries came up with several approaches to ensure the effective delivery of primary health care to achieve the broad target of Health for All by 2000 AD. Community participation was emerged as a key to success in primary health care for which the importance of voluntary actions was also enhanced. Voluntary action got significant importance in promotive, curative and preventive aspects of health care.

In India, Fr. James Tong started a movement to bring the voluntary organisations involved in community health and development activities to one network, which would base on secular values while working towards making health a reality for the people of India. As a result of Fr. Tong's effort Co-ordinating Agency for Health Planning (CAHP) was formed in 1972 that was later on renamed as Voluntary Health Association of India (VHAI). Likewise, in State level too, different State units were formed. Several leading health-NGOs and missionary hospitals put their efforts for the formulation of Orissa Voluntary Health Association (OVHA), which came into existence on 6th December 1974.

Vision

People of the state would be able to live a healthy and peaceful life that would base on 'growth with justice.' Violence, misery, poverty, ignorance, illiteracy, gender inequality, diseases and infirmity would be replaced by peaceful community and family life, prosperity, adequate education and physically, mentally and socially healthy individuals. In fulfilling the needs of the people the scarce natural resources would be effectively utilised, and there would be continuous efforts to promote sustainable human development. Thus, we can make health a reality for the people of Orissa.

Mission

OVHA would strive hard to systematically convince the government and other agencies about the health needs of the communities. It would help support the government and other agencies in formulating and implementing necessary health programmes in State. It would also facilitate the planning, management and evaluation of health and development activities by the voluntary agencies particularly through the capacity building of NGO workers, sharing information and research findings and extending consultancy support. At the time of need it would also respond to the emergencies, like epidemics, calamities, etc. In other words, OVHA would always be putting its sincere efforts to promote the health status of the State.

Goal

To improve the health status of Orissa State.

OVHA Structure

OVHA has had two types of members, Members & Associate Members, who form the general body. Voluntary Agencies are eligible to get the status of Member and individuals for Associate Member. The Members elect the Governing Board from the representatives of different member organisations. The Governing Board consists of 11 members from member organisations and the Executive Director as ex-officio member. The Governing Body looks into the activities of OVHA, which is generally executed by the Executive Director. The Executive Director is the crucial link between management and staff. Under the Executive Director there are six departments. The departments are as follows:

1. Training
2. Research, Consultancy & Networking
3. Information, Documentation & Communication
4. Field Projects
5. Finance
6. Executive Director's Secretariat

A Programme Officer heads each department except the Executive Directors Secretariat. The Executive Director himself heads the Executive Directors Secretariat. Right now OVHA has had 21 staff who has adequate technical competence and experience.

Role of OVHA in Orissa

OVHA is the largest and oldest network of NGOs working in the field of community health and development in Orissa. OVHA being a federation, its real strength and weakness lies with its member organisations who are spread through out the State. The individual members, also known as Associated Members, only contribute to the strengthening of organisation by giving suggestions, expertise, sharing their experiences, etc.

Since the day of its inception OVHA has been contributing significantly to the overall development of health status in state. Besides conducting a number of training programmes OVHA organises seminars, workshops & exhibitions and publishes books and periodicals. The other important activity of OVHA is advocacy and lobby. We keep a close look on different health related developments of the state and at the time of necessity respond to these in a professional manner. OVHA help enhances the capacity of many NGOs and enable them to plan, implement and evaluate community health and development projects. OVHA's research findings are of great help in planning and implementing different programmes or projects for the enhancement of state health status. OVHA has been playing a major role in the counselling of HIV/AIDS infected people in Orissa. OVHA closely work with the government and other agencies and extends every kind of support for enhancing the health status of Orissa. It's noteworthy that OVHA has been contributing significantly as an important member in many State level committees on health, population, environment, etc. formed by the government.

Since few years OVHA has been recognised as a Mother NGO by the Government of India for implementing the Reproductive & Child Health Programme and Indian Systems of Medicine & Homeopathy programme in eight districts of Orissa. OVHA supported some voluntary agencies for relief, rehabilitation and reconstruction work immediately after the super cyclone and flood of 1999. It's noteworthy that OVHA was directly involved in the emergency relief work immediately after the super cyclone and flood of 1999. For the control of malaria inside the state OVHA supported several member organisations to establish and strengthen Malaria Centres. Under these programmes OVHA supported a number of voluntary agencies, both financially and technically, which contribute to enhance the health status of Orissa.

OVHA has completed twenty-six years of its services in Orissa, however, it has to go a long way as its responsibilities has been growing tremendously inside the state as a pioneer of health in voluntary sector. The present health indicators of Orissa are far below the desired level, and still health for all is a dream for State. Voluntary action would continue to play a significant role to enhance the health status of Orissa, as the state efforts alone cannot be adequate. In this situation it's the moral responsibility of OVHA to provide necessary leadership and professional inputs to the voluntary agencies of state to make health a reality for the people of Orissa.

Future Thrust Areas of OVHA

1. To address the immediate health needs of most vulnerable groups, particularly women and children.
2. To enhance the disaster preparedness capacity of communities.
3. To further strengthen the malaria control programme.
4. To take initiatives for addressing the less-addressed problems in State like Mental Health, Tribal Health, Rational Drug, Substance Abuse, Sickle Cell Anaemia, etc.
5. To intensify OVHA's efforts in the areas of Reproductive & Child Health as well as HIV/AIDS.
6. To promote the Traditional Systems of Medicine.
7. To encourage networking among different agencies for planning and implementing necessary common-action-programmes, at all levels, to promote the health status of state.
8. To further strengthen the Health-IEC activities in State.
9. To establish five Regional Resources Centres for providing better supports to voluntary agencies.
10. To advocate with the government for formulation and implementation of adequate policies for enhancing the State health status.
11. To start Diploma Programme in Community Health Management.
12. To construct a building, with necessary facilities, for OVHA by looking into the needs of the state.

List of Governing Body Members (9th August 2000 – 8th August 2004)

1. Mr. P. Pattanayak	President
2. Mr. M. K. Mohapatra	Vice-president
3. Mr. K. K. Swain	Secretary
4. Mr. P. K. Satapathy	Asst. Secretary
5. Mr. D. C. Nayak	Treasurer
6. Mr. R. K. Mohanty	Member
7. Dr. D. K. Samal	Member
8. Dr. (Ms) S. Mohanty	Member
9. Mr. P. C. Mishra	Member
10. Mr. S. K. Dash	Member
11. Mr. S. C. Sahu	Member
12. Mr. A. Tripathy (Executive Director)	Ex-Officio Member

List of OVHA Staff

1. Mr. A. Tripathy, Executive Director
2. Mr. B. Panda, Programme Co-ordinator
3. Mr. P. C. Panigrahi, Finance Officer
4. Mr. H. S. Dutta, Programme Officer (RCN)
5. Mr. N. R. Patra, Programme Officer (IDC)
6. Mr. D. Mohanta, Programme Officer (Training)
7. Mr. S. K. Bisoi, Programme Officer (FP)
8. Dr. (Ms.) S. Mohanty, Programme Officer (Health)
9. Dr. (Ms.) A. Mohapatra, Programme Officer (Health)
10. Ms. S. Dash, Counsellor (HIV/AIDS)
11. Ms. M. S. Mohapatra, Counsellor (HIV/AIDS)
12. Mr. M. K. Sahoo, Counsellor (HIV/AIDS)
13. Mr. D. Pattanayak, Counsellor (HIV/AIDS)
14. Mr. N. Sahu, Programme Assistant (RCN)
15. Ms. B. R. Pattanayak, Programme Assistant (IDC)
16. Mr. N. G. Jena, Administrative Assistant
17. Mr. P. Khilar, Administrative Assistant
18. Ms. S. Mohapatra, Office Secretary
19. Mr. S. Behera, Care Taker
20. Ms. S. S. Bal, Care Taker
21. Mr. R. C. Parida, Driver