Summer Training at
SEARCH (Society for Education, Action & Research in Community Health), Gadchiroli, Maharashtra
(April - June, 2013)

1. **Quality Study of Knowledge, Attitude and Practice Regarding Oral Health in Rural Gadchiroli.**
2. **Feasibility Report for Running an Oral Health Programme in Rural Gadchiroli**
3. **Work Plan for Establishing a Dental Clinic in Ma Danteshwari Hospital**
4. **Development of IEC Material to Train Muktipath Tobacco Cessation Team & Aarogyadoot to Identify Precancerous and Cancerous Oral Lesions**
5. **Plan for Quantitative Study for Assessment of Need for Oral Health Programme in Rural Gadchiroli**

By
Chaitanya Acharya

Under the guidance of
Dr. Seema Mehta

Post Graduate Diploma in Hospital and Health Management
2012-2014

Institute of Health Management Research,
Jaipur
2013

INSTITUTE OF HEALTH MANAGEMENT RESEARCH
1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 011, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : http://www.iihmr.org
Gram : HEALTHINST

Date : June 27, 2013

CERTIFICATE

This is to certify that **Dr. Chaitanya Acharya**, student of Post Graduate Diploma in Hospital and Health Management **(PGDHM)** from Institute of Health Management Research, Jaipur (Batch 17th), has undergone summer training in Society for Education Action and Research in Community Health – **SEARCH Gadchiroli**, and has completed following projects:

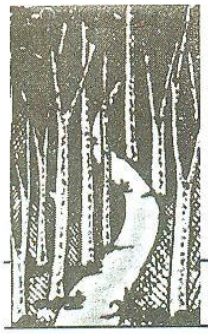
1. **Qualitative Study** of Knowledge, Attitude and Practice regarding Oral Health in Rural Gadchiroli
2. **Feasibility Report** for running an Oral Health Programme in Rural Gadchiroli
3. **Work Plan** for establishing a Dental Clinic in Ma Danteshwari Hospital
4. **Development of IEC Material** to train Muktipath Tobacco Cessation Team & Aarogyadoot to identify Precancerous and Cancerous Oral Lesions
5. **Plan for Quantitative Study** for 'Assessment of Need for Oral Health Programme in Rural Gadchiroli'

The candidate has successfully carried out the mentioned studies assigned to him during **summer training** from **April 8th, 2013 to June 8th, 2013**. His approach to the projects has been scientific and analytical. He is sincere and hardworking.

We wish him success in all his future endeavors.

Prof. SEEMA MEHTA
Assistant Professor
IHMR, Jaipur
(Mentor)

Dr. ASHOK KAUSHIK
Dean
Academics & Student's Affairs
IHMR, Jaipur



SEARCH

Society for Education, Action & Research in Community Health

Shodhgram, P.O. & Dist. - GADCHIROLI (Maharashtra) 442605 INDIA

Phone : (91) 07138-255407, (91) 9371946918 , Fax: (91) 07138-255411 E-mail : search@satyam.net.in website : www.searchgadchiroli.org

Ref. : J27

Date : 8-6-2013.

Certificate of Internship Completion

This is to certify that **Dr. Chaitanya Acharya**, a post-graduate student of Institute of Health Management Research, Jaipur has worked under my guidance and supervision from 8th April to 8th June 2013 as an Intern. He has successfully completed the following projects and presented his findings-

1. Plan for Quantitative Study - 'Assessment of Need for Oral Health Programme in Rural Gadchiroli'
2. Qualitative Study of Knowledge, Attitude and Practice regarding Oral Health in Rural Gadchiroli
3. Feasibility Report for running an Oral Health Programme in Rural Gadchiroli
4. Work Plan for establishing a Dental Clinic in Ma Danteshwari Hospital
5. Development of IEC Material to train Muktipath Tobacco Cessation Team & Aarogyadoot to identify Precancerous and Cancerous Oral Lesions

Dr. Yogesh Kalkonde

Senior Research Consultant

Acknowledgement

First and foremost I would like to thank the community with which all the project work has been done. Nothing could have been achieved without their active involvement.

I am grateful to 'Naina and Amma' (Drs. Abhay and Rani Bang – founders of SEARCH) under whose able leadership and kind guidance, all the quality work gets done at SEARCH. I will cherish this experience of having worked under them, for life.

I thank my guide, Dr. Yogeshwar Kalkonde, who always supported me and gave me valuable guidance, that enabled me to complete the projects in stipulated time.

I am thankful to Mr. Mahesh Deshmukh, Head of Research department and all my colleagues there, who helped me from time to time in making this report.

I am thankful to Mr. Venky and Mr. Kedar who, right from day one, (and even before coming to SEARCH through their communications), ensured that I feel comfortable and adjust smoothly in the environment and culture of SEARCH.

I thank Sindu and Vikram who accompanied me in field visits and helped me in conducting Focus Group Discussions. I thank Drs. Sujay and Vaibhav with whom I went in Mobile Medical Unit to tribal villages.

I also thank my mentor at IIHMR, Dr. Seema Mehta and Professors Dr. Barun Kanjilal, Dr.Alok Mathur, Dr.Nutan jain, who gave me valuable guidance as to how to go about different projects simultaneously and also to IHMR Jaipur, that provided me with the platform that enabled me to get an opportunity of working with SEARCH.

Meanings of Short-Forms and Terms used

FGD	- Focus Group Discussion
PI	- Periodontal Index
DMFT	- Decayed Missing Filled Teeth Index
IEC	- Information Education Communication
BCC	- Behaviour Change Communication
IDA	- Indian Dental Association
TII	- Tobacco Intervention Initiative
KAP	- Knowledge Attitude Practice
BDS	- Bachelor in Dental Surgery
MDS	- Master in Dental Surgery
CLCP	- Cleft Lip Cleft Palate
HBNC	- Home Based Neonatal care
SPSS	- Software Programme for Social Sciences
OSMF	- Oral Submucous Fibrosis

Aarogyadoot - Grass-root level health worker of SEARCH in rural areas

Danteshwari Sewak - Grass-root level health worker of SEARCH in tribal areas

Muktidoot - Grass-root level worker of SEARCH for de-addiction

Restorative Treatment - Treatment of teeth by fillings

Periodontal Treatment - Treatment of Gums

Vyasanamukti - A programme of SEARCH aimed at de-addiction

Tarunyabhaan - A programme of SEARCH for Adolescent Health

Root canal t/t - A dental treatment procedure involving deep filling of tooth in local anaesthesia

Dental Hygienist - A dental healthcare personnel who performs routine dental treatment under the supervision of a dentist

Dental Impressions - Negative replica of oral tissues taken to make dental models

Oral & Maxillofacial Surgery – Branch of dentistry dealing with surgical procedures

Shramdaan - Voluntary physical contribution to keep surroundings clean, done twice a week at SEARCH by all residents

Gatacharcha - Marathi name for focus group discussions, mainstay in obtaining qualitative information from community

Contents

Topic	Page No.
1. Introduction to the Organisation	1
1.1 Overview of activities performed	4
2. Pre-work Plan	8
3. Specific Projects handled	11
3.1 Significance of Oral Health	12
4. Qualitative Study of Knowledge, Attitude and Practice regarding Oral Health in Rural Gadchiroli	14
4.1 Background	15
4.2 Method	16
4.3 Tool	19
4.4 Qualitative Data Collected	21
4.5 Common Themes	36
4.6 Suggestions	38
4.7 'Gondi' nomenclature of Oral Diseases	40
5. Feasibility Report for running Oral Health Programme	41
5.1 Background	42
5.2 Identifying different Models of Intervention	43
5.3 Identifying Feasibility Criteria	44
5.4 Feasibility of Dental Clinic	45
5.5 Feasibility of Dental Van	49
5.6 Feasibility of Dental Camps	51
5.7 Comparison of Alternatives	54
5.8 Suggestions	55
6. Work Plan for Dental Clinic in Ma Danteshwari Hospital	56
6.1 Approach	57
6.2 Activity Plan	59
6.3 Design	60
6.4 HR Requirements	63
6.5 Making a Teledentistry Centre	65
6.6 Inputs from Tribal Hospital – Hemalkasa	67
6.7 Other Important Considerations	69
7. Development of IEC Material to train Muktidoot and Tobacco Cessation Team	78
7.1 Background	79
7.2 Purpose and utility of the Exercise	80
7.3 Characteristics of IEC material Developed	81
7.4 IEC Material Developed	82
8. Plan for Quantitative Study of 'Needs Assessment for Oral Health Programme'	83
8.1 Background	84
8.2 Method	85
8.3 Tools	88
8.4 Analysis Plan	95
9. Reference	97
10. Photographs	99

1. Introduction to the Organisation

SEARCH (Society for Education, Action and Research in Community Health) is a non-government organisation registered as a public trust and charitable society in India (Reg. No: MH 35-85-GAD, F-224-GAD).

It was founded in 1985 by a doctor couple, Abhay Bang and Rani Bang. Inspired by the life and philosophy of Mahatma Gandhi, trained respectively as a physician and a gynecologist, and after studying at the Johns Hopkins University USA, for their Master of Public Health, Drs. Bang returned to India. Their dream was to develop an institution of community health which provided health care to the local population, and generated knowledge for the global community by way of research."Think globally, act locally!"

Location

Shodhgram : 17 Km from Gadchiroli on Gadchiroli-Dhanora Road

Vision

Realisation of 'Aarogya-Swaraj', i.e. people's health in people's hands, by empowering individuals and communities to take charge of their own health, and thereby, help them achieve freedom from disease as well as dependence.

Mission

The mission of SEARCH is expressed in its name, "Society for Education, Action and Research in Community Health."

The mission of SEARCH is to work with marginalised communities to identify their health needs, develop community empowering models of health care to meet these health needs, to test these models by way of research studies, and then to make this knowledge available to others by way of training and publications. Thus the mission of SEARCH includes community health care, research and training.

Philosophy

SEARCH believes that an important role for the voluntary organizations is path finding or research.

"Research" in the context of SEARCH means to identify the problems of people and to develop new and appropriate solutions.

Approach

Go to the people

Live among them

Love them

Listen to them

Learn from them

Begin with what they know

Build up on what they have

Method

Identify the unattended health problems of the populations by living among them, listening to them, and conducting epidemiological studies.

Provide community-based health care by developing the human potential in the villages.

Design new ways of health care delivery for the unattended priority problems and conduct population-based research trials of these interventions.

Influence national and global health policies based on the new knowledge and solutions developed in the laboratory of 100 villages in Gadchiroli District

Activities

Research

Training

Policy Shaping

Programmes

Women's Health

Child and Neonatal Health

Alcohol Prevention and De-addiction

Adolescent Education

Tribal Health and Education

Hospital Services

Special Achievement

HBNC Model of SEARCH has attracted global attention and is being replicated across globe.

(Ref. 1)

1.1 Overview of Activities performed during Summer Training

Departments visited

Ma Danteshwari Hospital (All Departments including Ma Danteshwari Temple)

Administrative Dept (Audumber)

Library (Vinoba Bhawan)

Mess (Moha Mauli)

Seminar Hall (Eklavya)

Prayer Hall (Pimpal)

Research Wing (Carl E. Taylor)

Mobile medical Units and Department (Firte Rugnalaya)

Adolescent Health Department (Tarunyabhaan)

De-addiction Department (VyasanaMukti)

Tribal Health Department (Adiwasi Vibhag)

Residential Cottages

Field visits

Date	Village	Activity
13.04.2013	**Pulkhal (Rural)**	**Observed FGD on NCDs**
15.04.2013	**Kachkal, Tudmel (Tribal)**	**Accompanied Mobile Medical Unit**
17.04.2013	**Kharkadi, Markegaon (Tribal)**	**Accompanied Mobile Medical Unit**
20.04.2013	**Rengatola, Munjalgondi (Tribal)**	**Accompanied Mobile Medical Unit**
27.04.2013 & 28.04.2013	**Porla (Rural)**	**Stay at Arogyadoot's house**

		Observed the life and working of Arogyadoot Conducted First FGD on Oral Health
30.04.2013	**Jhiri, Fulbodi (Tribal)**	**Accompanied Mobile Medical Unit**
04.05.2013 to 06.05.2013	**Hemalkasa & Bhamragadh (Tribal)**	**Meeting with Padmashree Dr. Prakash Amte and other doctors at Tribal Hospital in Hemalkasa, Meeting with Superintendent of Bhamragadh Rural Hospital**
09.05.2013	**Dhundeshivni (Rural)**	**Second and Third FGD on Oral Health**
11.05.2013	**Gota, Pathergota, Yedasgondi (Tribal)**	**Data Collection regarding Gondi Nomenclature for Oral Lesions**
14.05.13	**Bahmani (Rural)**	**Fourth and Fifth FGD on Oral Health**

Participation in Day to Day activities of the organisation –

Daily Evening Prayers

Shramdaan (Every Wednesday and Saturday))

Journal Club Presentations (Every Thursday)

Research Club Presentations (Every Friday)

Kriti Club (Every Saturday)

Persons Met

Dr. Abhay Bang and Dr. Rani Bang (Naina & Amma) (Founders)

Dr. Yogeshwar Kalkonde (Guide)

Doctors Working in SEARCH Hospital

Research Officers working in SEARCH-Research Wing

Field Officers of SEARCH

Danteshwari Sewaks, Muktidoot and Arogyadoot (First-line ground force of SEARCH working with the community)

Intern Coordinator and Admin Staff working in SEARCH

Interns who came through American Indian Fellowship Programme

Guests - Public Health Professionals visiting SEARCH

Padmashree Dr. Prakash Amte, all the doctors working at the Tribal Hospital at Lok Biradari Prakalp, Hemalkasa

Dr. Rajesh Dwivedi, Superintendent, Rural Hopital, Bhamragadh

Mr. B D Sharma (Retd IAS) (Former Member National SC ST Commission), National Head - Bharat Jan Andolan

Person reported to-

Dr. Yogeshwar Kalkonde

Senior Research Consultant (SEARCH)

Findings Presented to –

Dr. Abhay Bang

Director (SEARCH)

Specific Projects handled

1. Qualitative Study of Knowledge, Attitude and Practice regarding Oral Health in Rural Gadchiroli
2. Feasibility Report for running an Oral Health Programme in Rural Gadchiroli
3. Work Plan for establishing a Dental Clinic in Ma Danteshwari Hospital
4. Development of IEC Material to train grass-root level health workers and their supervisors to identify precancerous/cancerous oral lesions
5. Plan for Quantitative Needs Assessment for Oral Health Programme in Rural Gadchiroli

Presentations made –

- Presentation on Life Table, Age-Sex Table and Demographic Transition Model in Research Club on 13th April 2013

- 'Presentation of Summer Training Report' on 8th June 2013

Other Activities –

Participated in Panel Discussion organised at SEARCH (06.05.2013)

2. Pre-Work Plan

Tribal population forms 6% of world's total population. They are unique in their culture and other social and demographic characteristics. It has been a great challenge for all the governments of the world, at local or national levels to provide healthcare to them.

It has also been recognised lately, that making tribals follow the modern way of living and expecting them to accept the policies, the infrastructure and processes of modern health systems goes against their belief system and leads to low health-seeking behaviour.

SEARCH has successfully disproved this top-down approach of health care delivery and using its ideology of going to people, living with them, understanding them and asking them what they want and accordingly designing a customised healthcare delivery service, which has proven to be far better than existing centralized systems.

QUALITY = MODIFYING PROCESSES for MAXIMUM CUSTOMER SATISFACTION

(Outcomes - in Public Health)

By this definition, the work being done at SEARCH is of a very high Quality.

There is a new breed of 'professional health managers' who are being entrusted with the important responsibility of providing healthcare to various tribal communities in India – in the capacity of health programme co-ordinators at block and district levels or functionaries in NGOs working for tribal health.

One of the most important factor in success of any public health intervention is to be able to develop a participatory mechanism by inculcating a sense of ownership within the community. Any approach that is alienated from the community has a very less chance of attaining the desired level of success.

This desired level of socio-cultural integration has been very successfully attained at SEARCH and it has lead to the success of its endeavours that the world has seen.

Could this model of 'tribal friendly approach' in healthcare be utilized to crystallize the key concepts of 'How to develop a bond with the tribal community and garner its support for creating better health facilities for the community itself ?'

Can this approach be taught in training schools so that the new breed of health managers could apply it on field and create more efficient and effective healthcare delivery ?

Observations during stay and work at SEARCH –

The structure and function of SEARCH is 'tribal friendly' –

- Culturally sensitive Nomenclature of Workers (Arogyadoot, Danteshwari Sewak, Muktidoot etc.)
- Vernacular Architecture - an architectural design where, local people build a structure for their own day to day use, using local knowledge, using locally available materials, local manpower and traditional designs – thereby increasing the sense of ownership and involvement in the health facility

  The hospital, its IPD, doctors quarters, whole of SEARCH premises is made following a vernacular architecture
- Stress on 'Focussed group Discussions' to know 'what people want' rather than deciding what is to be done for them in isolation
- Speaking Local Language (Gondi) - The doctors and Danteshwari Sewaks speak to the tribals in their language
- Excellent outreach service – With the help of mobile medical units, the doctors are going in deep forest areas where tribal community lives, literally call them out of their houses to avail free medical check-up and free drug distribution. This is done in the evening and nights when people are at home.
- The 'danteshwari sewaks' are local tribal people, living in the community, selected and trained in basic medical care by SEARCH doctors. They perform a very important function of organising the demand side and informing the supply side of healthcare delivery
- The doctors try to make a bond with the community...calling them 'kaka-kaku', playing with their kids etc. Check up is done in the house of a 'Danteshwari Sewak' and not in the medical van so as to make the patients comfortable. The visit ends with a dinner of whole medical team in a tribal household thereby sealing the bond that the SEARCH team has developed with the village.
- Gandhian principles are followed with a simple lifestyle that includes simple attire, informal polite behaviour, shram-daan, prayers, vegetarianism, prohibition of tobacco and alcohol. The founders lead by personal example in this regard.
- The doctors and other functionaries are totally dedicated and committed to the cause and regard their work not as a profession but as a service to mankind and relate it with their own spiritual development
- For the founders Drs. Bang (Naina and Amma), the sense of oneness with the tribal community goes to the extent that even the marriages of their sons were done following tribal rituals

Conclusion

'Tribal Friendly Approach' is pure Quality

But, it is not a technique, it is an ideology, it is not a concept, it is a feeling, it is not a 'shiksha', it is a 'deeksha', it cannot be copied or taught , it comes from within, it can only be followed by someone who is truly motivated from the core of his heart and has the capacity of inculcating this ideology in others.

Merely copying the external traits of a tribal friendly approach without changing the attitude towards the tribal community will not help. Developing compassion and respect towards the tribal community and a sense of service within oneself is of primary importance if someone really wants to bring a change in their health scenario. Developing tribal friendly techniques will always follow once the change of heart has taken place and that is of secondary importance.

'Nirman' is a youth movement started by Dr. Abhay Bang (Naina) wherein young educated people of Maharashtra are mobilised and guided to work on important social and developmental issues (not only limited to health). The selection and training of 'Nirmanites' is aimed at developing the core values on which SEARCH is based. Once, right kind of attitude towards community service is developed, evolution of effective community friendly techniques in any field, be it health, education or social justice, will invariably follow.

(Ref. 2,3,4,5,15,16)

3. Specific Projects Undertaken

1. **Qualitative Study of Knowledge, Attitude and Practice regarding Oral Health in Rural Gadchiroli**
2. **Feasibility Report for running an Oral Health Programme in Rural Gadchiroli**
3. **Work Plan for establishing a dental clinic in Ma Danteshwari Hospital**
4. **Development of IEC Material to train Muktipath tobacco cessation team & Aarogyadoot to identify precancerous and cancerous oral lesions**
5. **Plan for Quantitative Needs Assessment for Oral Health Programme in Rural Gadchiroli**

3.1 Significance of Oral health

Quality of life can be affected by oral health and diseases. The most basic human needs, including the ability to eat and drink, swallow, maintain proper nutrition, smile and communicate is dependent on oral health. Not only the quality of life but it also affects self- esteem, performance at school or work. In a nutshell, oral health is an essential component of health throughout life.

But the grim reality in India is that, 95% of the population suffers from gum disease, only 50% use a toothbrush and just 2% of the population visit the dentist.

Dental health of the community can be attained by organised efforts to prevent oral disease, promote oral health and improve the quality of life.

Community health initiatives and events should be aimed at prevention, early intervention, rehabilitation and in addition direct treatment of dental and oral diseases.

Oral health is a window to general health. It is an integral part of general health and well- being and essential component of health throughout life. Poor oral health can affect more than mouth ; it can affect other areas of body as well. Increasing evidence shows a link between oral health and general health and well being. Periodontal disease - or disease of the gums and supporting bone has been linked to a number of diseases including the following:

Diabetes: There is a strong link between gum disease and diabetes, People with diabetes are not only more at risk of gum disease, but gum disease can also affect the severity of their diabetes. Diabetes reduces the body's resistance to infection — putting the gums at risk. In addition, people who have blood sugar control problems may develop infections of the gums and the bone that holds teeth in place.

Respiratory Illness: The same bacteria found in plaque can also be inhaled into the lungs where they may cause an infection or aggravate any existing lung condition, especially in older adults.

Pre-term, low birth weight babies: Studies are also examining whether pregnant women with gum disease may be at a higher risk of delivering pre-term, low birth weight babies than women without gum disease.

Cardiovascular disease: There is new research that point to a possible connection between gum disease and heart disease and stroke. Research suggests that heart disease, clogged arteries and stroke may be linked to oral bacteria, possibly due to chronic inflammation

Endocarditis: Gum disease and dental procedures may allow bacteria to enter your bloodstream. If you have a weak immune system or a damaged heart valve, this can cause infection of the inner lining of the heart (endocarditis).

HIV/AIDS: Oral problems, such as painful mucosal lesions, are common in people who have contracted HIV/AIDS.

Osteoporosis: This causes bones to become weak and brittle — may be associated with periodontal bone loss and tooth loss.

Alzheimer's disease: Tooth loss before age 35 may be a risk factor for Alzheimer's disease.

Other conditions: Other conditions that may be linked to oral health include Sjogren's syndrome — an immune system disorder — and eating disorders.
Oral cancer: Lifestyle behaviour affecting general health such as tobacco use, excessive alcohol use and poor dietary choices cause oral cancer.

Oral disease itself can be painful, cause tooth loss and chronic bad breath, and affects people of all ages.

(Ref. 6)

4. Qualitative Study of Knowledge, Attitude and Practice regarding Oral Health in Rural Gadchiroli

4.1 Background

SEARCH has a unique approach of going to the community and asking them as to what are their problems and their expectations regarding any health issue which is being considered for intervention by SEARCH.

This ensures two things.

It helps SEARCH to identify the priorities of the community. It helps in identifying the gaps in healthcare delivery and throws light on how to bridge them. It also helps in identifying any specific difficulties or bottlenecks that the community faces in depicting a positive health seeking behaviour. It gives insight into the beliefs and customs of the community that could have a positive or negative impact on the intervention being planned and how to deal with them. The overall result is customisation of healthcare delivery to maximum possible level, thereby leading to maximum impact on community health.

Secondly, involving the community in planning process and incorporating their views in designing the intervention, promotes the feeling of ownership in the community and ensures maximum compliance in the whole exercise.

Generating information regarding the knowledge, attitude and practice of community towards oral health will enable us to design a strategy that is effective in real terms. SEARCH has been conducting qualitative studies of this type ever since its inception but, the issue of oral health is not known to have been explored in the past. Literature review also suggests that not many qualitative studies on oral health have been done so far.

The time tested method of SEARCH, Focus Group Discussions (gatacharcha) was employed for the study.

(Ref 15,16)

4.2 Method

Goal:

To conduct a qualitative study to assess the knowledge, attitude and practice toward oral health in rural community of Gadchiroli.

Objectives

- To understand the knowledge and attitude of the community and practices that it follows towards maintaining oral hygiene
- To understand their problems in maintaining oral health and seeking dental treatmeent

Study Area:

The study was conducted in the field area of the Society for Education, Action and Research in Community Health (SEARCH) in the Gadchiroli district. SEARCH is working in the rural area of Gadchiroli for the last 25 years and has a long track record of evaluating health problems of rural community and conducting field trials to develop interventions. SEARCH has conducted a field trial of home based neonatal care in which 39 villages received the intervention. These villages are referred to as intervention villages and the study villages were selected from these villages.

Study Design:

Five focus group discussions (FGDs) were conducted in three villages to understand the KAP of the community towards Oral Health.

Criteria of selection:

Villages were selected for the study by following criteria

1. The village should come under the intervention area of SEARCH
2. The village should be more than 5 km away from civil hospital of Gadchiroli
3. The village should have both male and female health workers appointed by SEARCH who are working for that village.

Inclusion Criteria for the participants

1. Should be residing for more than a year in the village where this FGD is taking place
2. Should know and be able to converse in Marathi

Exclusion Criteria for the participants

1. Should not be a health worker/employee of SEARCH at present/past.
2. Family members of the health worker working for SEARCH can't be a part of the study
3. Should not be a private / government health provider - Asha, Auxillary Nurse Midwife, Multi Purpose Worker, Anganwadi worker or a physician.
4. Should not be a Sarpanch, gramsevak, police, patil or a school teacher.

Focus group discussions:

Five FGDs were held in the villages. The villagers who fulfilled the inclusion criteria were assembled at the village health worker's house and after explaining the FGD procedures, discussions were held. The discussions were conducted by a moderator and for registering the responses of the participants a voice recorder was used. Additionally notes were taken down to register the verbal and non-verbal responses of the participants.

Risks:

No risks associated with conduct of the study were perceived.

Benefits

The Qualitative study assessed the oral health status of the population and helped to understand the local people's knowledge, attitude and perception regarding oral health which will help to develop effective community based intervention strategy for management of oral diseases.

Outcome Measures:

The knowledge, attitude, practice of villagers about oral health was determined Qualitatively. Common themes in the knowledge, attitudes, practices were determined from the transcripts of Focus Group Discussions (Gatacharcha).

Privacy and Confidentiality:

The data obtained on each individual in was kept confidential. Identifiers were not used during the analysis.

Informed consent:

A verbal consent was obtained from the villagers before conducting FGDs.

Utility of Data thus collected:

Based on the common themes that could be identified from the transcripts of FGDs, suggestions were made towards designing an effective strategy of intervention.

(Ref 17,18)

4.3 Tool

A Qualitative study of Knowledge, Attitude and Practice about Oral Health in rural Gadchiroli

(All proceedings were in local language – Marathi. Here, English translation is given)

We are thankful to all of you who are participating in this discussion. This discussion is about what problems you face in maintaining oral health and seeking treatment. Your cooperation is of utmost importance and it will help SEARCH to plan an effective strategy about it. I will not be able to quickly write down all that you speak, so I am recording this discussion. This discussion is not aimed at providing any remedies or rewards and your participation in it is completely voluntary. The information gathered in this activity will only be used for research purpose.

This discussion has certain basic rules –

- This is not an examination, there are no right or wrong answers, please feel free to respond
- Genuine answers from your side are very important
- Speak as much as you wish to, but one at a time
- Please do not take anyone's name
- Please do not discuss amongst yourself, share your ideas with everyone

If you want to ask any thing before starting the discussion, you can ask.....

OK, now we start the discussion....

Tell me about yourself (probe – Age, profession, relation with other members, reason for participating in group discussion)

1. What Dental problems you commonly face?
   Tooth ache, Bleeding Gums, Ulcers/Burning sensation in Mucosa....any other
   What are the terms that you use in your local dialect to describe those lesions/problems

2. What do you do for remedy?
   What are your home remedies
   When do you decide to seek professional help
   Where do you go for treatment

3. What problems do you face in getting Dental Treatment?
   Experience with previous treatment
   Time/Money/Pain/Fear/Behaviour of Service Provider

4. What is the treatment cost that you bear?
   What costs are affordable to you
   Cost of check-up and prescription, tooth removal, filling, cleaning, artificial teeth, medicines and x-rays, logistics etc.

5. Do you think your problems are related to tobacco and alcohol use, why or why not?
   (Especially Mucosal problems)

6. What do you do to maintain Oral Hygiene?
   Probe-
   How many times do you rinse your mouth
   How many times do you clean your teeth
   With what do you clean your teeth
   When do you change your tooth brush

7. What is the importance of Oral Health?
   Probe –
   Relation of oral and general health
   Function and Aesthetics

4.4 Qualitative Data Collected

FGD 1 27.04.2013 Porla Village Female Group Ages – 35, 37, 40, 40, 42, 55, 69		
Question	***Responses***	***Remarks***
What Dental problems you commonly face? (Tooth ache, Bleeding Gums, Ulcers/Burning sensation in Mucosa....any other) What are the terms that you use in your local dialect to describe those lesions/problems	Tooth Ache, Bleeding Gums are main problems General Marathi words used to describe lesions	
What do you do for remedy? What are your home remedies When do you decide to seek professional help Where do you go for treatment	'Lal Dant manjan' most used for relieving dental pain Vithoba manjan is also used 'Nas' is also used Services of traditional healer are utilized, they are effective in pain relief, but for the time being. Alternatively, painkiller is sought from Arogyadoot. If pain persists,	*Nas used by 55 year old elderly female* *In general people don't go to doctors. They try to settle with home remedies or at the most pain medicines available in village*

	people go to private dental clinics at Gadchiroli	
What problems do you face in getting Dental Treatment? Experience with previous treatment (Time/Money/Pain /Fear/Behaviour of Service Provider)	Traditional Healers provide ayurvedic preparations for local application, it reduces the pain. They either do not charge anything for this or charge very less. Charges at government dental clinic are less, but the behaviour of service providers is not good and treatment is not effective. Treatment provided at private dental clinics in Gadchiroli is effective and the behaviour of doctors is also good but the treatment charges are high. Patient's expectations for dental treatment are that it should be affordable to them, should be effective and should consume less time.	*The whole group had a unanimous opinion in this regard*

What is the treatment cost that you bear? What costs are affordable to you (Cost of check-up and prescription, tooth removal, filling, cleaning, artificial teeth, medicines and x-rays, logistics etc.)	At private dental clinics fees is 100 Rs for consultation and medicines separate, Tooth removal 100 Rs, Fillings 50 Rs, Dentures 4000 Rs Tooth removal at 20 Rs, fillings at 50 Rs and dentures at 500 Rs will be quite affordable to them	*Very less people go for artificial teeth*
Do you think your problems are related to tobacco and alcohol use, why or why not? (Especially Mucosal problems)	People know that tobacco use negatively affects oral health, oral cancer being the most serious complication. Still due to habit, people continue to use smokeless forms of tobacco (mainly 'kharra' and 'nas') Ladies and children are also addicted to tobacco. Children acquire the habit from their parents. People use tobacco for relieving stomach ache, placating crying babies. People accept that it is a bad habit and something needs to	*People are more concerned about Oral Cancer. They are not much aware of other problems created by tobacco* *Elderly females are more aware than younger ones*

	be done about it but they do not know what should be done.	
What do you do to maintain Oral Hygiene? How many times do you rinse your mouth How many times do you clean your teeth With what do you clean your teeth When do you change your tooth brush	People clean their teeth daily, once in the morning. Most people use 'vithoba manjan' and 'lal dant manjan'. A few use 'nas' and a few use toothpaste. Some use finger some use brush.	*Younger females use brush and paste* *Older ones prefer finger and manjan*
What is the importance of Oral Health? Relation of oral and general health Function and Aesthetics	People believe that removal of teeth leads to weakening of eyesight and headache. All ladies have some interest in aesthetic value of anterior teeth.	*The oldest lady aged 69 was very sure about this correlation- Said it was her personal experience*

FGD 2

09.05.2013

Dhundeshivni Village

Female Group

Ages – 23, 24, 25, 26, 27, 30, 32, 35, 40

Question	***Responses***	***Remarks***
What Dental problems you commonly face? (Tooth ache, Bleeding Gums, Ulcers/Burning sensation in Mucosa....any other) What are the terms that you use in your local dialect to describe those lesions/problems	Tooth Ache, Bleeding Gums are main problems General Marathi words used to describe lesions Children have problem only during teething phase, otherwise, they don't have any problems	*Only two women with ages 35 and 40 admitted to suffer from dental problems, younger ones reported to have no dental problems*
What do you do for remedy? What are your home remedies When do you decide to seek professional help Where do you go for treatment	'Nas' is used for pain relief, if pain persists, They use ayurvedic preparation given by traditional healer in village for local application	*Nas used by only one person* *Others reported not to have any dental problems*
What problems do you face in getting Dental Treatment? Experience with previous treatment (Time/Money/Pain /Fear/Behaviour of Service Provider)	Time required to go to cities and treatment costs combined with medicine costs are two most important barriers in seeking dental treatment by a doctor	*Only two elderly women were vocal about these experiences, the younger ones did not know all this as they had no experience of dental disease or*

		treatment. *They even could not recall anyone in the village who received dental treatment*
What is the treatment cost that you bear? What costs are affordable to you (Cost of check-up and prescription, tooth removal, filling, cleaning, artificial teeth, medicines and x-rays, logistics etc.)	No idea about actual treatment costs of dental procedures	*They had a concern with treatment charges being separate and charge for medicines being extra – total being quite high for them to afford*
Do you think your problems are related to tobacco and alcohol use, why or why not? (Especially Mucosal problems)	People know that tobacco use negatively affects oral health. They have seen on TV about tobacco chewing causing oral cancer They do not know any specific disorder related to tobacco	*Young women were unaware of the effect of tobacco on oral health, older ones had some idea about it*
What do you do to maintain Oral Hygiene? How many times do you rinse your mouth How many times do you clean your teeth With what do you	Women clean their teeth daily, once in the morning. Most people use 'vithoba manjan' and 'ayurvedic manjan' available at village shop. A few use 'nas' and a few use toothpaste.	*Younger females use tooth paste* *Older ones prefer finger and manjan* *One of those using paste experienced bleeding gums with tooth-brush, so she discontinued and started using finger*

clean your teeth When do you change your tooth brush	They don't have any time-frame to change their tooth brush. One chews babul datum	*with paste*
What is the importance of Oral Health? Relation of oral and general health Function and Aesthetics	People believe that dental pain leads to improper food intake leading to bad health	*One lady aged 35 believed that tooth removal caused poor eyesight*

FGD 3 09.05.2013 Dhundeshivni Village Male Group Ages – 57,51,58,41,35,37,54,23		
Question	***Responses***	***Remarks***
What Dental problems you commonly face? (Tooth ache, Bleeding Gums, Ulcers/Burning sensation in Mucosa....any other) What are the terms that you use in your local dialect to describe those lesions/problems	Tooth Ache, Tooth mobility, Swollen Gums, Bleeding Gums are main problems General Marathi words used to describe lesions	*Everyone had some or the other dental problem*
What do you do for remedy? What are your home remedies When do you decide to seek professional help Where do you go for treatment	Ayurvedic preparation available at village shop most used for relieving dental pain Services of traditional healer are utilized, they are effective in pain relief. If pain persists, people go to private dental clinics at Gadchiroli	*None of them ever actually went to see a dentist*
What problems do you face in getting Dental Treatment?	Time -2-3 hours get wasted in one visit to dentist.	*All people want better treatment at lower costs*

Experience with previous treatment (Time/Money/Pain /Fear/Behaviour of Service Provider)	And we need to go many times Government setups – less money, more time, inferior service, unavailability of doctor and medicines	
What is the treatment cost that you bear? What costs are affordable to you (Cost of check-up and prescription, tooth removal, filling, cleaning, artificial teeth, medicines and x-rays, logistics etc.)	At private dental clinics fees is 100 Rs for consultation and medicines separate, Tooth removal 100 Rs, Fillings 100 Rs, Dentures 2000 Rs. These rates are high for them Tooth removal at 20 Rs, fillings at 50 Rs and dentures at 300 Rs will be quite affordable to them	*All of them agreed that effectiveness of treatment is equally important as low costs*
Do you think your problems are related to tobacco and alcohol use, why or why not? (Especially Mucosal problems)	Oral diseases including oral cancer can happen to anyone irrespective of tobacco or alcohol use	*The whole group had a unanimous opinion in this regard*
What do you do to maintain Oral Hygiene? How many times do you rinse your mouth How many times do you clean your	People clean their teeth daily, once in the morning. Most people use 'vithoba manjan' and 'ayurvedic manjan'. A few use 'nas' and only one	*One young person uses brush and paste, he changes tooth brush in two months* *Older ones prefer finger and manjan* *One person aged*

teeth With what do you clean your teeth When do you change your tooth brush	uses toothpaste.	*55, switched over from manjan to toothpaste 15 days ago and said that it made his loose teeth tight*
What is the importance of Oral Health? Relation of oral and general health Function and Aesthetics	All of them believe that dental problems lead to improper chewing, thereby creating general body weakness People believe that removal of teeth leads to weakening of eyesight and headache, especially if the tooth is removed by a dentist	*The oldest man, aged 70, was very sure about this correlation- Said it was his personal experience*

FGD 4

14/05/13

70,22,40,30,45,45,65,55

Bahmni Village

Female Group

Question	***Responses***	***Remarks***
What Dental problems you commonly face? (Tooth ache, Bleeding Gums, Ulcers/Burning sensation in Mucosa....any other) What are the terms that you use in your local dialect to describe those lesions/problems	Dental decay, gums pain, dental pain, teeth loosening and falling, bleeding gums 'Hirdi' – swollen gums 'Maswa chadte'-swollen gums 'Aag padte' – burning sensation Decay – 'dat kidle' 'Phode'-blisters on gums 'Dat haltat' – moving teeth	*30 year old had bleeding gums* *Elderly females know more words. Young ones don't know many*
What do you do for remedy? What are your home remedies When do you decide to seek professional help Where do you go for treatment	Don't do anything Wait for it to settle down Apply balm Wash with 'nas' or 'lal- manjan' or 'vithoba manjan' If no relief, go to doctor	*Only two, 70 and 45 year old had gone to doctor* *Both went to private doctors*
What problems do you face in getting Dental Treatment? Experience with previous treatment (Time/Money/Pain /Fear/Behaviour of Service Provider)	Cost is a factor but has to be born Some people fear Behaviour of doctor is good	*Young ladies fear going to a doctor*

What is the treatment cost that you bear? What costs are affordable to you (Cost of check-up and prescription, tooth removal, filling, cleaning, artificial teeth, medicines and x-rays, logistics etc.)	300 for scaling don't remember other costs	
Do you think your problems are related to tobacco and alcohol use, why or why not? (Esp. Mucosal problems)	Tobacco is not related to dental problems	*According to some, 'Kharra' is not tobacco*
What do you do to maintain Oral Hygiene? How many times do you rinse your mouth How many times do you clean your teeth With what do you clean your teeth When do you change your tooth brush	Once a day, Vitoba manjan/Nas+finger – old people Vicco/Colgate+Brush, Once a day – change of brush 2 months –Young people Rinse mouth after meals and teach children also to do so	*Two elderly ladies used datoon* *New age children listen to cleanliness instructions*
What is the importance of Oral Health? Relation of oral and general health Function/Aesthetic	No effect of oral health on general health	*Old ladies – There is an effect of dental extraction by dentist on eyesight*

FGD 5 14/05/13 Bahmni Village Male Group 42,60,19,27,50,70,50		
Question	***Responses***	***Remarks***
What Dental problems you commonly face? (Tooth ache, Bleeding Gums, Ulcers/Burning sensation in Mucosa....any other) What are the terms that you use in your local dialect to describe those lesions/problems	Bleeding gums + burning sensation on excessive brushing Sensitivity of teeth – 'kankan hote' 'Pokal padle' – decay of teeth due to kharra chewing. Other terms are normal Marathi words	*Young person c/o bleeding gums* *42 year old – burning sensation and bleeding gums while chewing tobacco* *He Stopped tobacco – problem got relieved*
What do you do for remedy? What are your home remedies When do you decide to seek professional help Where do you go for treatment	Don't do anything Vicco manjan Daatoon, Charcoal, Nas etc. are used	*No one went to dentist for their own problem* *They had taken there wives on experiencing extreme pain after using alcohol and nas and traditional medicine* *One of them was advised minor surgery but did not follow it, is continuing on traditional medicine*

What problems do you face in getting Dental Treatment? Experience with previous treatment (Time/Money/Pain /Fear/Behaviour of Service Provider)	Many turns Cost is a factor but has to be born No Fear of dentist	
What is the treatment cost that you bear? What costs are affordable to you (Cost of check-up and prescription, tooth removal, filling, cleaning, artificial teeth, medicines and x-rays, logistics etc.)	150 for extraction 100 for examination+xray 3000 for minor surgery 1500 for root canal treatment	*500-800 for a denture is affordable* *50 for extraction* *50 for filling is affordable*
Do you think your problems are related to tobacco and alcohol use, why or why not? (Especially Mucosal problems)	Yes Effect on mucosa Burning sensation followed by ulcers followed by cancer	
What do you do to maintain Oral Hygiene? How many times do you rinse your mouth How many times do you clean your teeth With what do you clean your teeth When do you	Finger+Vithoba manjan once a day Colgate+Brush once a day Finger + Nas Brush+ Nas Change of brush – 2months	

change your tooth brush		
What is the importance of Oral Health? Relation of oral and general health Function and Aesthetics	Yes Dental disease causes - Headache Ear ache Eyes problem (on extraction) Eating and speaking are main functions of teeth Aesthetics is not important	*Extraction leads to dental problems is only heard – not experienced so far by anyone*

4.5 Common Themes

1.

- Tooth ache, tooth mobility, bleeding gums, pain on chewing are common problems faced by people.
- Young age people neglect their dental hygiene as well as dental diseases. Only the older age group is more concerned with them as they face recurrent problems.
- There are no specific terminologies that people use to describe oral lesions. They use general Marathi words.

2.

- On facing these problems, people try locally available remedies – Lal Dant Manjan, Vithoba Dant Manjan, Nas, locally available ayurvedic preparation or medicine from Arogyadoot.
- If the pain does not settle in 2-3 days, they decide to go to service providers.
- Their options are traditional healers in villages, private dental clinics in Gadchiroli, Government hospital in Gadchiroli.

3.

- Traditional Healers provide ayurvedic preparations for local application, it reduces the pain. They either do not charge anything for this or charge very less.
- Charges at government dental clinic are less, but the behaviour of service providers is not good and treatment is not effective.
- Treatment provided at private dental clinics in Gadchiroli is effective and the behaviour of doctors is also good but the treatment charges are high.
- Patient's expectations for dental treatment are that it should be affordable to them, should be effective and should consume less time.

4.

- The costs borne by patients are
- 5rs for registration at Government set up
- 100 Rs Consultation fees in private clinics
- 100 Rs for tooth removal in private clinics
- 100 Rs for tooth filling in private clinics
- 300 for cleaning of teeth
- 1500 for root canal treatment
- 2000 Rs for dentures at private clinics
- 3000 for minor oral surgical procedures

- Nil or Negligible cost for procuring ayurvedic preparations from traditional healers
- People accept that treatment provided by dentists is the best option but mainly due to high treatment costs, they avoid going to private dental clinics.
- Time spent in going to urban centres for treatment, waiting time at clinics and number of visits is also a problem. If effective treatment is provided at SEARCH hospital at costs lower than private clinics, the patients will be very happy to come there for treatment.

5.

- People know that tobacco use negatively affects oral health, oral cancer being the most serious complication.
- Still due to habit, people continue to use smokeless forms of tobacco (mainly 'kharra' and 'nas').
- Ladies and children are also addicted to tobacco.
- Children acquire the habit from their parents.
- People use tobacco for relieving stomach ache, placating crying babies.
- People accept that it is a bad habit and something needs to be done about it but they do not know what should be done.

6.

- People clean their teeth daily, once in the morning.
- Most people use 'vithoba manjan' and 'lal dant manjan'.
- Few use 'nas' and a few use toothpaste.
- Most people use finger to clean teeth instead of toothbrush.
- Many experience bleeding from gums on using brush.
- Those using toothbrush change it when they feel it is no more effective-there is no fixed time to change the toothbrush.

7.

- People think that teeth are important as they help to chew food. Not being able to chew properly can lead to low food intake and consequently, general body weakness.
- People believe that removal of teeth has some relation with eyesight and headache.
- Ladies have some interest in aesthetic value of anterior teeth.

4.6 Suggestions

- Considering the general lack of awareness towards oral hygiene and malpractices regarding maintenance of Oral Health, first of all a community based BCC programme needs to be launched that stresses upon Importance of Oral Health and correct methods and materials that should be utilized to maintain oral health (eg. Use of Toothbrush and toothpaste in place of tobacco based products and teaching correct brushing technique).
- People need to be explained that their choice of remedies for dental problems are having only obtunding effect and many of the products used by them are harmful in long run.
- Considering the economic constraints of the community, dental treatment charges should be as low as possible.
- Dental treatment needs to be effective as local people are not very much motivated for dental treatment. They will not understand the complications that can occur in any treatment procedure. Their expectations will be very high and any failure in treatment can greatly de-motivate them. Along with treatment, education of the patients regarding practical limitations of treatment, possible complications that can arise, need for compliance and follow-up needs to be done. This will gradually enable them to appreciate the dental treatment service being provided to them.
- Initially, stress has to be on extraction and fillings as these procedures are relatively better understood and appreciated by the community owing to their low cost and time requirement and immediate effect. Later on, Root Canal Treatment, Prosthetic treatment, Periodontal treatment and minor surgical procedures can be introduced as they require patience and compliance and understanding of complications by the patients.
- Dispelling the misconceptions prevailing in the community regarding Dental Treatment has to be done effectively through community approach as well as in dental clinic
- Use of tobacco and oral cancerous and precancerous lesions arising out of it, need to be dealt with specially. Community based approach through tobacco cessation team and muktidoot needs to be reinforced with clinical aspects like oral checkups of suspected patients and referral to SEARH dental clinic.
- For treatment of oral precancerous lesions and conditions like OSMF, most effective treatment that is available at lowest possible costs needs to be employed. Because, the habit of smokeless tobacco chewing is deeply ingrained in the community and if effective treatment is not provided, there are great chances of resumption of habit and relapse of the disorder, thereby leading to loss of whole effort by the patient as well as healthcare provider.

- Provision of free fluoride based tooth paste and soft tooth brushes along with teaching correct bushing technique will greatly benefit the community in three ways – Firstly, it will help in replacing harmful products that are being used by community to clean teeth, many of which contain tobacco. This will have an overall impact on use of tobacco by the community. Secondly, by rendering better oral hygiene, it will also reduce the use of tobacco and its products that people use as palliative remedies for tooth ache. Thirdly, by saving teeth from caries and gums from diseases, it will improve the overall status of oral health in the community and reduce the need for dental treatment.

4.7 Gondi Nomenclature for Oral Lesions

(These were recorded out of discussions with the tribal people during visits in Mobile Medical Units)

Tondi – Small Ulcers outside the mouth around lips

Palhole Manta – Moving teeth

Pulpa – Dental Caries

Pulpa – Gum Disease

Nikhara – Ulcers in the mouth

Chuna Vidta – Lime got more in Tobacco Preparation

Tola Udita – Peeling of Skin inside mouth due to excess lime in Tobacco Preparation

Meeto – Coloured Lesions in Oral Cavity with burning sensation (can be red, white or black)

(Other words used to describe oral lesions are common words in Marathi/Hindi)

5. Feasibility Report for running an Oral Health Programme in Rural Gadchiroli

5.1 Background

Effectiveness and efficiency are two most important aspects in running any health intervention programme. For oral health intervention, many models have been tried and all of them have their advantages and disadvantages. No single model fits all circumstances. It is imperative to analyse various models according to the experiences of different organisations that have employed them and the type of setting they were in.

The motives of different organisations are different, some of them being profit oriented and others non profit. Also the capacity of expenses that can be incurred by the organisation varies. There is also an impact of ongoing programmes as there is a rightful tendency of the organisation to synchronise their activities. There is an impact of HR policies and Organisational culture on designing of interventions.

On the demand side, the paying capacity of the community is an important consideration, especially in an investment intensive field like dentistry. The attitude of the community and trends in their health seeking behaviour also determine the mode and level of healthcare delivery.

Besides these, external factors like climate, roads, electricity also determine the success or failure of any action plan.

This study is aimed at identifying the alternatives that are available, determining the criteria on which the decision should be made, comparing the alternatives, and making recommendations.

(Ref. 19)

5.2 Identifying Different Models of Intervention

Review of various interventions conducted so far, that have been successful in similar situations reveals that for our intervention, three models can be developed

- Setting up a Dental Department in Hospital
- Running a Mobile Dental Van or a Vehicle Mounted Portable Dental Setup
- Organising Dental Camps in Rural Areas

Each of these models, needs to be studied on defined feasibility criteria and the one which suits our requirement the most, should be selected.

Possibility of utilizing a combination of approaches needs to be explored.

5.3 Identifying Feasibility Criteria

The available alternatives can be evaluated on the following criteria-

Establishment Cost – It includes one-time cost of establishment of the facility

Maintenance Cost – It includes recurrent costs of running the facility over time

Sustainability – Criteria of sustainability includes previous experiences of other organisations regarding retention of employees, maintenance of equipments, repeatability of activities and popularity of model in the community over time

Social Marketability – The inherent appeal a particular model has to the community as shown by past experience of other organisations

Human Resource – It includes the cost of hiring/training the Doctors and other Dental team members

Logistic Cost – The money and man-hours to be spent by the organisation in arranging the logistic aspects of a particular model

Effectiveness – The ability of a model to provide comprehensive dental care

Responsiveness – The ability of a particular model to adapt to changing needs of the community and to changing technology

5.4 Feasibility of Setting up a Dental Clinic in Ma Danteshwari Hospital

1. Establishment Cost

Infrastructure Requiement

Space

Electrical Fittings

Water Supply

Air Supply

Gas Supply

Expected Cost of Masonry including all these features = 25000 rs

Many Quality Dental Materials routinely used are imported and are designed to be stored and manipulated in temperature and humidity controlled environment. We will need to install an air conditioner and a refrigerator in the dental department. Depending upon available facilities (Central Air Cooler / Old Refrigerator), their cost has to be added.

Procuring Dental Material and Equipment

Quotations can be sought from various dental depots from Nagpur

A wide range of Dental Chairs and other Equipments and material is available – ranging from very basic to high end

It is recommended to go for middle range options to balance economy and durability

The cost of a complete package including installation of one dental chair, basic equipments and instruments and initial stock of Dental materials will amount to

Rs. 2 lakhs

2. Maintenance Cost

Regular non-stop supply of Dental Material is essential because Dentistry is a very material-and-equipment-dependent Branch and even a small technical problem in equipment or a single missing material can cripple a dentist.

The costs of Quality Dental Materials are high and need to be kept in mind while determining the charges of Dental treatment. Any good Dental Depot (from Nagpur) can be designated for maintaining this supply.

The charges of Dental Lab are high and are usually incorporated in determining the charges (fees) of dental treatment. They vary from procedure to procedure and with quality of material used.

The cost of maintaining the equipment will be free for one year from purchase, after which, per visit of a Dental Mechanic would cost around 500 rs considering distance from Nagpur (parts replacement extra). Under normal circumstances, it can be expected to have at least one visit per month of a Dental Mechanic

To be added to these costs are the utility bills – Electricity, Water, Gas

3. Sustainability

This model is a time tested one and is sustainable on a long term basis. Numerous Dental setups are working successfully all over the world since a very long time, in diverse environmental conditions, amongst different social and economic settings. Unless something drastically goes wrong, this model can be sustained over time.

4. Social Marketability

Active publicity will be required in the initial stages to motivate community people for availing the services available in the dental clinic. But over time, ensuring uninterrupted provision of quality dental care, will in-turn ensure the popularity of the facility amongst the community by way of word-of-mouth publicity.

5. Human Resource

a) Trained Dental Manpower

Minimum Requirement - At least one BDS Doctor

One trained nurse

One attendant

The tasks to be performed by the nurse and the attendant is not very technical and one locally available nurse and an attendant can be trained by the doctor himself to suit his requirement, in a short period of time

As far as recruiting BDS doctor is concerned, currently, there is lot of supply of young BDS, hoping to get employed with reputed organisations. But, SEARCH has to utilize its time tested HR policy to ensure Professional Competence, Commitment to SEARCH values and long term association with the organisation

Additional Requirement in future –

If routine cases of scaling (Dental Cleaning) and simple fillings etc. increase in number, we will need to employ a Dental Hygienist

If the cases of Root Canal Treatment increase in number, we will need to employ an additional BDS Doctor

If complicated cases of fractures, cysts, Impactions, Abcess, Paediatric and periodontal disease etc report in higher numbers, we need to engage a specialist (MDS in respective field) on a visiting basis. Generally, for a rural setting like Gadchiroli, One Oral and Maxillofacial Surgeon on a visiting basis would suffice.

The total cost of hiring a BDS to work in such a set up would be 5000 to 20000 rs depending upon experience and HR policies of SEARCH

Cost of visit of a specialist would range from Rs. 500 to 1000 per visit (Procedural Fees Extra)

b) Contracting a Dental Laboratory

Heamatological Examinations and histipathological examinations can be done at the facilities available at SEARCH

But for Dental Lab Work (processing of Dental Impressions to make artificial teeth), a Dental Lab needs to be employed

6. Logistic Cost

The impressions need to be carried and brought back to and from a dental laboratory on a day to day basis and a logistic system needs to be developed in collaboration with existing material supply system.

Similarly, for maintaining supply of Dental materials, logistics can be arranged along with current system being practised for other medical supplies of the hospital.

7. Effectiveness

Except for Complicated procedures involving tertiary level interventions, all primary and secondary treatments can be provided at the centre. For specialist procedures, services of visiting dental specialists can be employed.

8. Responsiveness

Dental Clinic established within a hospital is highly adaptive to changes in demands of the community, changes in dental technology, because of the space available to it to incorporate newer dental equipment, permanent staff that can be trained in new technology, support of medical doctors available 24*7, admission facilities available within the premises. These things become even more important in cases of Clinical emergencies that keep arising in Dental Practice, which sometimes even become life-threatening.

(Ref 10,23,24)

5.5 Feasibility of Running a Mobile Dental Van or a Vehicle Mounted Portable Dental Set-up

1. **Establishment Cost**

   Procurement – Ordering a mobile Dental Van for the organisation will cost

   approximately Rs.30 lacs

   Portable Dental Set ups are cheaper and can be arranged in under 5 lac rupees

   Alternatively, contracting out its services by using existing Mobile Dental Vans of Dental Colleges would be still cheaper

2. **Maintenance Cost**

   Maintaining the van (as an automobile as well as dental equipment mounted on it) by our own would be costlier and a contractual arrangement could settle this issue for SEARCH

3. **Sustainability**

   Although, on papers, so many organisations are running their mobile dental units. But in practice, the work being done by them is not that impressive because of lack of commitment of the organisation to provide for high maintenance cost of the automobile as well as the dental equipment mounted on it. But, SEARCH, with its proven commitment and experience in running a mobile medical unit, can overcome this shortcoming of this model.

4. **Social Marketability**

   This model rates high on the issue of outreach and social marketability. SEARCH is already running a mobile medical unit and introduction of a mobile dental van will be extension of the existing practice and there is no reason to believe that it will not be accepted positively by the community

5. **Human Resource**

One Driver, one Nurse (who can be one of the regular employees available) and a Doctor (BDS) are required. The availability, training and cost issues are same as discussed in the previous sections.

6. **Logistic Cost**

One of the main cost centre in this model is the fuel expenses. The logistic costs of procuring Dental Materials and those associated with Dental Laboratory remaining same, the added cost of running the van will raise the overall logistic cost of this model considerably. Also, portable dental setup that needs to be packed and carried to community sites and unpacked there (whole process requiring 3-4 hours) is not an option because of logistic difficulties.

7. **Effectiveness**

'Completeness of treatment being provided' – This point will get compromised in this model. Limited dental procedures can be performed due lack of space, stores and fixed arrangements. Also, the time required to perform individual dental procedure is more as compared to a medical check-up. This duration, that a patient is expected to spend in the van, makes the whole process inconvenient to him/her. The procedures, that can be performed successfully will be limited to primary care. (Also, it has been the experience of SEARCH that certain areas are not accessible due to huge size of a van and in those areas, a jeep is employed in place of mobile medical unit. Mobile Dental unit cannot fit into a jeep. Portable Dental setup that can fit into a jeep is not effective in providing comprehensive Dental Care. Size of the van will pose a problem in accessing certain areas).

8. **Responsiveness**

Responsiveness to changing Demands – Due to lack of space, stores and complicated fixtures, the flexibility of dental procedures will get compromised as to make even a small change in fixtures, we will have to take the van to service centres. Also, complicated procedures requiring a team of doctors and paramedics cannot perform due to lack of space.

(Ref. 20,21,22)

5.6 Feasibility of organising Dental Camps

1. **Establishment Cost**

   Organising Dental Camps in the Community will not require any major establishment Costs, given the facilities and manpower already available with SEARCH. For Dental Check up camps, the material and instruments required are minimal (lights, mouth mirrors, probes, tweezers, gloves, gauze etc.) that can be arranged with small expenditure.

   But for Dental Treatment Camps, Dental Chair and other equipment, needs to be arranged. Whether the camp is organised in the hospital or in the community, for treatment purpose, these equipments are mandatory. And because the camps are organised intermittently, it will be better to heir the services of other organisations rather than buying own equipment. Also, because of intermittent nature of activities and need for outreach, rather than hiring stationary equipment, hiring a mobile dental van would be most appropriate. Thus, for check-up camps, not much expense will be required, but for treatment camps, cost of hiring a mobile dental van is unavoidable. But this cost can be reduced by collaborating with other organisations like Dental Colleges who already have a mobile Dental Unit.

   Such collaboration is easier in this case because of intermittent utility of mobile dental van (as compared to the previous model wherein full time services of the mobile dental unit was envisaged).

2. **Maintenance Cost**

   This model will have lower maintenance costs because the equipment to be maintained is less. For checkups only hand instruments are to be maintained and for treatment camps, the mobile dental unit to be hired, will be maintained by the leasing organisation itself.

3. **Sustainability**

   Previous experience of other organisations reveals that although organising dental camps is a time tested model and can be continued for a long time, if right combination of men and materials is arranged, still the popularity of such camps and the patient turn-out reduces over time.

4. **Social Marketability**

This model has an inherent appeal and is highly marketable in the community. The community does not readily associate dental health with the community hospital and reaching out to them through camps dedicated for oral health goes well with the people.

5. **Human Resource**

The human resource required for organising dental camps is of two types, people performing managerial tasks auxiliary functions and dental professionals. The first category of people is already available with SEARCH. The second category of people can be outsourced either from a dental college or from organisations like Indian Dental Association who will be very much willing to help SEARCH (considering its reputation in community health service), by sending Dentists either at token honorarium or even free of cost. Because of intermittent nature of service to be provided, we don't need to hire a permanent dental staff, consequently reducing significantly the HR costs of this model of intervention.

6. **Logistic Cost**

In case, dental check-up camps are organised within SEARCH hospital, it will not involve any logistic cost. If dental check-up camps are organised in the community, it will again not involve any major logistic cost as for check-ups, the instruments required are very less and everything can be done through existing mobile medical unit.

But if Dental treatment camps are to be organised within the hospital, it will involve the cost of transportation of Mobile Dental Van from source organisation to SEARCH Hospital. This cost will rise more if treatment camps are to be organised in the community as it will involve cost of transportation of the mobile dental van into remote areas of the field.

7. **Effectiveness**

The main purpose of any Dental Check-up camp is either raising the awareness level of community, or diagnosis and referral of specific dental diseases (screening camps). But this alone will not serve the purpose of making a change in the oral health status of the community as a whole.

As far as dental treatment camps are concerned, although theoretically it seems to be an effective method of intervention, practical experience shows that there are three problems associated with it –

Dental Procedures require long sittings and proper work can be done only if some system of time allotment through appointments is in place. This is not so in a camp scenario.

Many Dental procedures involve steps spanning over many days (even weeks) and an intermittent approach does not solve the purpose of full and final treatment.

Every time the doctor treating the patients changes, giving rise to adjustment issues on both sides, the patient as well as doctors.

Such issues will severely compromise the satisfaction level of community with our model of intervention resulting in compromised success of the same.

8. Responsiveness

There are only a limited types of treatment that can be offered in a dental camp setting (due to the requirement of different equipment, material and time requirement). Once a pattern is set, to change it according to change in demand of the community or change in the focus of intervention or a change in treatment methodology due to introduction of a new technology, becomes very difficult to accommodate into ongoing practice. Dental camp model (barring diagnostic and screening camps) cannot be expected to be very responsive to changing focus of intervention.

(Ref 25,26)

5.7 Comparison of Alternatives

Feasibility Criteria	Dental Clinic	Mobile Dental Van	Dental Camps
Establishment Cost	High	High	Low
Maintenance Cost	Moderate	High	Low
Sustainability	High	Low	Low
Social Marketability	Moderate	High	High
Human Resource	High	Moderate	Low
Logistic Cost	Moderate	High	Low
Effectiveness	High	Low	Low
Responsiveness	High	Low	Low

5.8 Suggestion

Effectiveness and Responsiveness are two most important criteria in this case because in Public Health, the positive impact that an intervention creates holds the highest value in deciding upon the alternatives. Organisations working in public Health like SEARCH, being non-profit oriented, criteria related with economic profit will hold a second place.

From the perspective of the community also, the satisfaction created by provision of comprehensive dental care under one roof as well as the ability of the service to adapt to changing demands and environmental factors, will take precedence over other feasibility criteria.

Mobile Dental Van is not a good idea to start with (owing to its low effectiveness and responsiveness). But this option can be thought of again at a later stage, if its need is felt (in a scenario where outreach becomes primary objective of intervention).

Organising Dental Camps alone would not be that effective because of their lack of effectiveness in providing comprehensive care but along with a dental department it will have a synergetic effect.

Considering all the factors, Establishing a Dental Clinic within Ma Danteshwari Hospital, in combination with periodically organising Dental Camps in the community emerges out to be the best alternative.

6. **Work Plan for establishing a Dental Clinic in Ma Danteshwari Hospital**

6.1 Approach

We need to employ a three-pronged approach to ensure maximum impact of our intervention

a) Dental Clinic

1. Provision of primary and secondary level dental treatment
2. Special emphasis on Preventive Care
3. Oral Cancer Registry

b) Dental Camps

1. Mobilizing Community towards maintaining better oral hygiene – (BCC)
2. Providing primary treatment and referring to clinic for secondary treatment
3. Identification and registration of cases with oral cancerous and precancerous lesions

c) Incorporation of Oral Health into ongoing Programmes of SEARCH (Vyasana-mukti, Aarogyadoot)

1. Development of New IEC material

   Stressing Importance of Oral Hygiene

   Explaining the relation of Oral Health to General Health

2. Training 'Aarogyadoot'

   How to maintain good oral hygiene

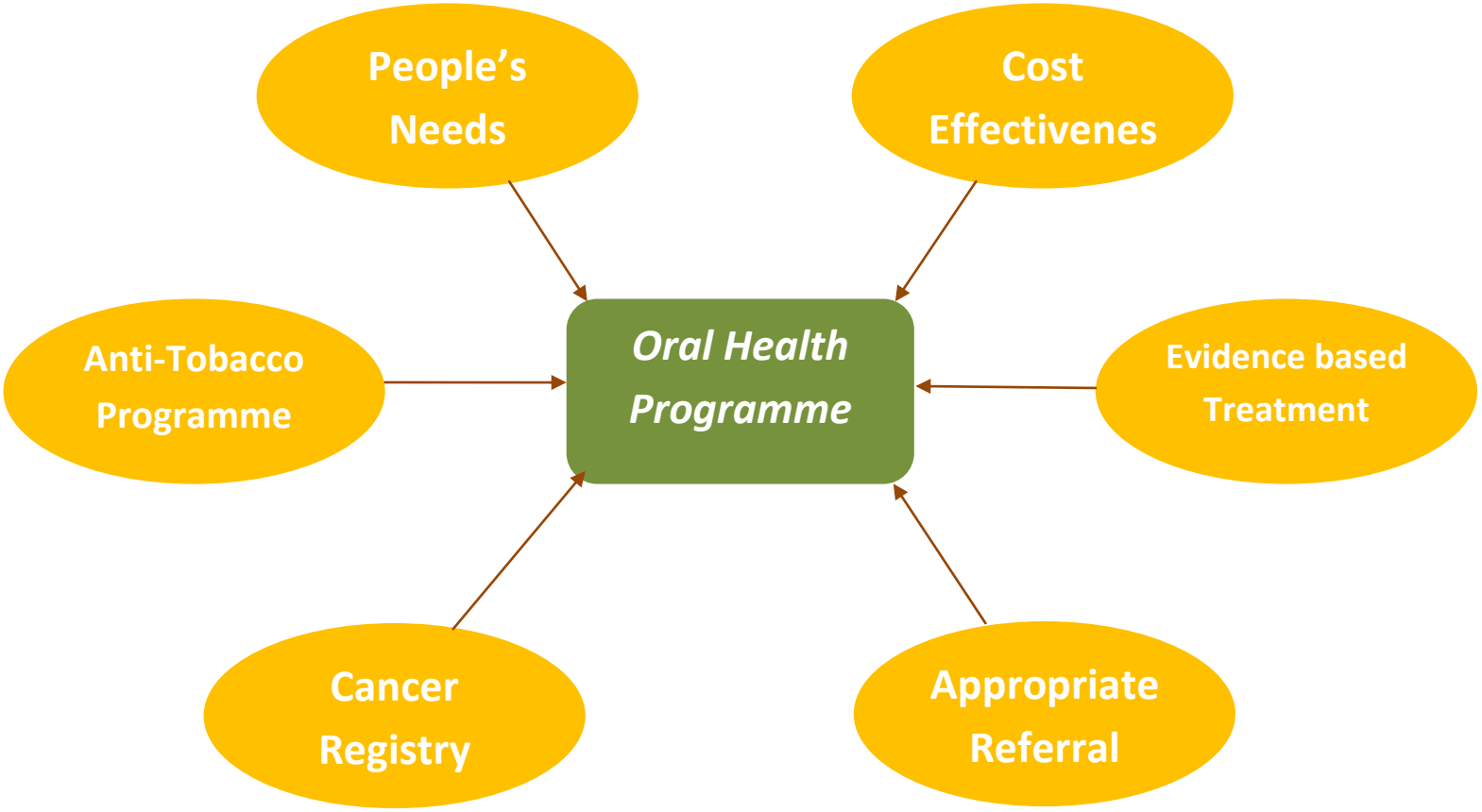
   How to identify disorders of oro-dental region

   How to motivate people to maintain good oral health

   How to motivate people to seek professional dental care where indicated

3. Training 'Muktidoot'

   How to identify oral cancerous and precancerous lesions
   Referral of cases to SEARCH Dental Clinic (Ref 19)


People's Needs
Cost Effectivenes
Anti-Tobacco Programme
Oral Health Programme
Evidence based Treatment
Cancer Registry
Appropriate Referral

6.2 Activity Plan

Time→ Activity ||	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Publicity of Dental Clinic in the community								
Selection of Space for Dental Clinic								
Mason Work								
Ordering of Dental Equipment								
Hiring of Dental Surgeon								
Development of BCC and IEC material								
Installation of Dental Equipment								
Training of Auxilliary Team								
Training Aarogyadoot								
IEC and BCC activities in Community								
Organising Dental Camps								

6.3 Design of Dental Clinic

Specific Requirements

1. **Space**

   8 feet by 6 feet space is required by a Dental Chair with Wall Mounted X ray Unit

   Including Consultation area, Dental Lab area, Space for X ray Developer, Wash Basin, Store Almirah, the space requirement will go up to 10 ft by 15 ft.

   With additional Chair the space requirement will go up by 8 by 6 ft, up to three dental chairs

2. **Electrical Fittings**

   15 Amp into one for Air Compressor

   5 Amp into 5 at one feet above Ground – for Dental Chair, Suction, X-ray Machine, Scalar, Light Cure Gun

   5 Amp into three at same level for every additional chair

3. **Water Supply**

   Wash Basin with half inch inlet Tap and two inch outlet Drain

   Half inch inlet from ground or up to one feet above ground per chair on chairside

   2 inches outlet to ground or up to one feet high per chair on Chair Side

4. **Air Supply**

   Half inch pipeline carrying air tube from Compressor to every chair (preferably concealed)

5. **Gas Supply**

   On a long term basis, it is preferable to have a LPG line for chairside burner rather than a spirit lamp due to long duration dental procedures requiring burner use

6. Other Specific Requirements –

Steel Sink with Platform is preferable to wash basin

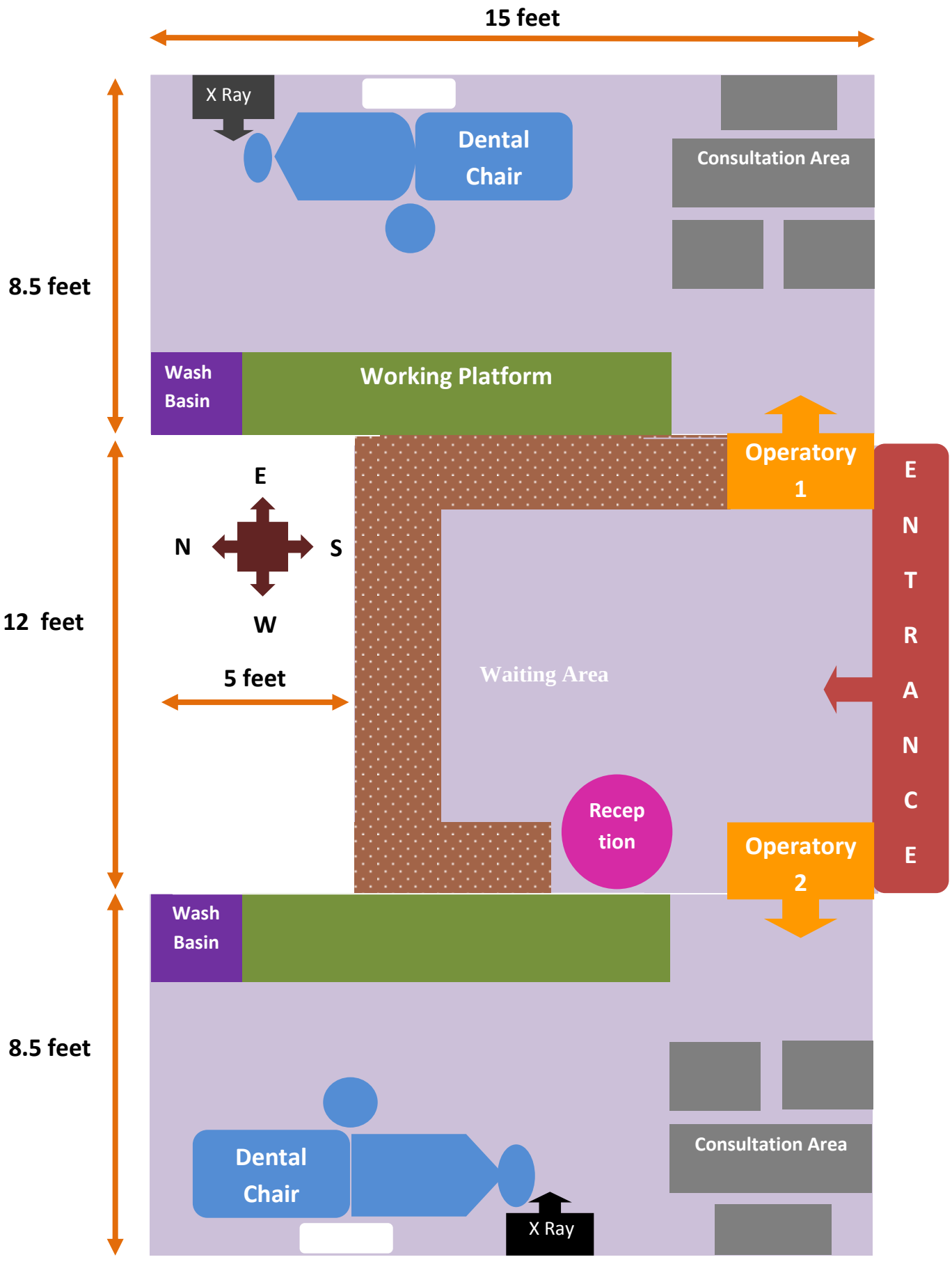
4 feet by 4 feet Lead sheet on chair side wall facing X ray beam to prevent radiation hazards

Dental Clinic to be preferably located away from Maternity area to prevent damage to pregnant and lactating women and infants from scattered radiation

To construct a platform of approximately 2.5 feet into 6 feet per chair to hold sundry dental equipments, instrument Trays, perform Chair-side Lab work

(Ref 10,23,24)

Lay-Out Plan


15 feet
8.5 feet
12 feet
8.5 feet
5 feet
X Ray
Dental Chair
Consultation Area
Wash Basin
Working Platform
Operatory 1
E
N
W
S
ENTRANCE
Waiting Area
Recep tion
Operatory 2
Wash Basin
Dental Chair
X Ray
Consultation Area

6.4 Human Resource Requirements

Personnel	Number	Duties	Contract
Dentist (BDS)	1	All major Dental Procedures	Permanent employment
Dental Interns	1 or 2	Assisting Dentist in all procedures and taking care in his absence	3-6 months internship
Dental Nurse	1	Injections, BP, chair-side assistance, Instrument and material maintenance	One of the existing nurses in the hospital to be trained by dentist
Dental Hygienist	1	Assisting Dentist in all procedures especially scaling, making and pouring impressions, simple extraction and fillings, shooting and developing x rays etc and taking care in his absence	Not required if interns are regularly present
Dental Lab technician	1	Fabrication of Artificial teeth	Outside lab to be contracted
Dental mechanic	1	Maintenance of Dental Equipment (monthly visits required)	First year free maintenance by dental dealer, followed by paid visits on call
Heamatology and histopathology assistant	1	Blood and tissue collection and processing for investigation	Service available in hospital
Receptionist	1	Patient record maintenance, appointments and patient management in OPD	Task can be delegated to Nurse
Oral and Maxillofacial surgeon	1	Complicated Surgical procedures	Visiting Basis
Attendant	1	Housekeeping services	Service available in hospital
Maintenance Worker	1	Electrician/Carpenter/Plumber	Service available in hospital

New manpower to be sought

One BDS Dentist

One visiting Oral and Maxillofacial surgeon

One or Two Dental Interns

One Dental Lab to be contracted

(Other personnel can be arranged from already existing staff)

(Ref 10)

6.5 Making a Tele-dentistry centre along with Nagpur Dental College

Tele-dentistry is a combination of telecommunications and dentistry involving the exchange of clinical information and images over remote distances for dental consultation and treatment planning. Tele-dentistry has the ability to improve access to oral healthcare, improve the delivery of oral healthcare, and lower its costs. It also has the potential to eliminate the disparities in oral health care between rural and urban communities.

The field of dentistry has seen extensive technologic innovations in recent years. Advances have been made in the use of computers, telecommunication technology, digital diagnostic imaging services, devices and software for analysis and follow-up. Using advanced information technology, the science of dentistry, today, has crossed much longer distances than it was ever able to. New information technology has not only improved the quality of management of dental patients, but also has made possible their partial or complete management at distances of thousands of kilometers away from healthcare centers or qualified dentists. The entire process of networking, sharing digital information, distant consultations, workup, and analysis is dealt with by a segment of the science of telemedicine concerned with dentistry known as "Tele-dentistry".

Methods of Tele-consultation

Tele-consultation through tele-dentistry can take place in either of the following ways - "**Real-Time Consultation**" and "**Store-and Forward Method**". Real-Time Consultation involves a videoconference in which dental professionals and their patients, at different locations, may see, hear, and communicate with one another. Store-and-Forward Method involves the exchange of clinical information and static images collected and stored by the dental practitioner, who forwards them for consultation and treatment planning. The patient is not present during the "consultation". Dentists can share patient information, radiographs, graphical representations of periodontal and hard tissues, therapies applied, lab results, tests, remarks, photographs, and other information transportable through multiple providers. This data sharing can be of extreme importance for patients, especially those in need of specialist consultation. A third method has also been described, known as "Remote Monitoring Method", in which patients are monitored at a distance and can either be hospital-based or home-based.

Requirements

For most dental applications, store-and-forward technology provides excellent results without excessive costs for equipment or connectivity. A typical store-and-forward teledentistry system consists of - a computer with substantial hard drive memory, adequate RAM, and a speedy processor; an intraoral video camera and a

digital camera for the capture of pictures; a modem and an Internet connection. A fax machine, a scanner, and a printer may also be required in some cases. To enable live videoconferencing, one might employ a widely available standalone IP/ISDN videoconferencing solution, or install a PCI codec board into the system. If a live group session is desired, a multipoint control unit that bridges three or more parties is required. The codec must be able to accommodate audio and visual functions.

Benefits of Tele-dentistry:

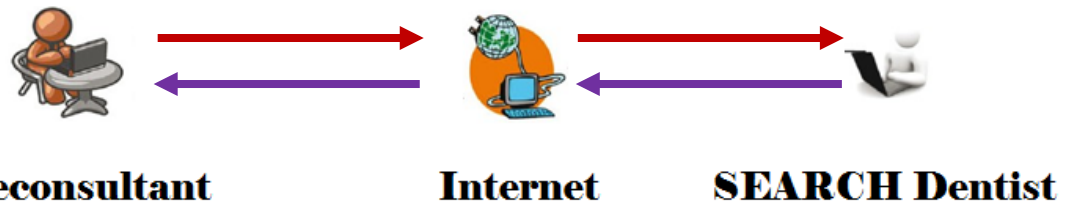
 Reduced costs of the service, improved quality of care.

 Reduced isolation of practitioners by providing peer contact and specialist support

 General dentists will send multimedia patient records (that is, including images, text and sounds) to dental specialists, often enabling the specialist to make a diagnosis and develop a treatment plan without having to see the patient in person. Inter-professional communications will improve dentistry's integration into the larger health care delivery system.

 Second opinions, preauthorization and other insurance requirements will be met almost instantaneously online, with the use of real images of dental problems rather than tooth charts and written descriptions

 Occasionally, cases submitted to the dental laboratories have subtle Complications or esthetic nuances that require direct Contact between the dentist and the laboratory technician. In these instances, the ability to send color images of the patient's teeth and then to talk about the images can help to prevent making improperly constructed appliances, thereby saving time and money.



If such kind of a tele-dentistry mechanism is developed along with Nagpur Dental College, it can prove to be very helpful in delivering effective dental treatment to patients especially in complex cases

(Ref 27,28,29,30)

6.6 Inputs from Dental clinic Running at Hemalkasa

A visit to Tribal Hospital running at Lok Biradari Prakalp (Hemalkasa) approximately 200 km away from SEARCH was made. Established by Padmashri Dr. Prakash Amte, tribal hospital at Hemalkasa now also has a dental clinic and it is catering to similar tribal-rural population for which SEARCH is planning its intervention. The visit aimed at learning from the experience of the doctors and other personnel working at the hospital.

1. Information gathered from Dr. Mayur Munne (Dentist)

Fee Structure	For General Population	For Tribal Population
Consultation	Free	Everything is Free
Scaling	50	
Flap Surgery	Not done	
Extraction	50	
Disimpaction (Camp)	200	
Ortho t/t	Not done	
Prostho t/t	Not done	
Pedo	Same charges as adults	
Restorations	50	
Anterior tooth RCT (Rotary)	100	
Posterior Tooth RCT (Rotary)	150	
Medicines	Free	

-A dentist from US, Dr. Mike Murrel has donated the dental setup 4-5 years ago. He visits the hospital, treats patients, once every year, for one week. During that time, he replenishes all Consumable, non consumable dental materials, sufficient for next one year.

-Dental Chair is programmable electronic (Gnatus Company)

- Lab support is not there, so prosthodontic work (making artificial teeth) is not done

- OPD is 7-8 per day

2. Dr. Anagha Apte (DGO)

   (About Referral)

   Patients are mainly referred to SDPC Datta Meghe Wardha (even that is difficult for poor patients)

   "One big issue with tribal people is that, how will they be treated at these higher centres and what can we do about it"

3. Dr. Ketki (Formarly – dentist)

- "Anti-tobacco Education at dental clinic has had a negative impact, people start avoiding the dentist"
- "Dental mechanic for maintenance of Dental Equipment is an important issue"

<u>Other issues learnt during visit-</u>

- For anti tobacco, mere clinical approach cannot work, intense community based mobilisation will be needed, this feeling was echoed by many people working in the tribal hospital
- Anti tobacco drive is more difficult than alcohol drive as tobacco has got engrained into the community as a habit and custom. In case of alcohol, women were sufferers because of the drinking habit of male members. It was relatively easier to garner their support in anti-tobacco drive. But in case of tobacco, women are consuming more than men. Even children have fallen prey. Whole community needs to be addressed. So, it is an uphill task.
- Dr. Rajesh Dwivedi (Superintendent at Rural Hospital Bhamragarh) –
- "We should give more and more stress on school children as at tender age, they can be moulded in the right direction. Once the habit of tobacco chewing is set, it is difficult to break it. Oral Health Programmes should focus on schools"
- "One major concern is about those patients who are in advance stages of oral cancer, need comprehensive treatment, but cannot go to higher centres"

6.7 Other Important Considerations

Effectiveness of treatment in Oral Cancerous and Precancerous Lesions

Oral precancerous and cancerous lesions and conditions are slow to develop and difficult to treat. The patient is faced with dual tension of quitting a deeply ingrained habit and patiently undergoing a therapy which involves spending time and money on a long term basis and with a very slow pace of recovery. All this makes the whole experience quite tiring and frustrating to the patient and there are high chances of him opting out of treatment regimen and continuing the habit.

"You informed me that tobacco chewing is bad, and motivated me to quit the habit. I am also receiving treatment for my oral lesion for past three months but my problem does not get resolved...What's the use ..?"

"You have diagnosed me with an early stage of oral cancer. But besides registering my name as a cancer patient and providing me with certain medicines that are not effective, what have you done. You are referring me to a hospital for surgery where I cannot go due to my limited means. Now I know that I have a deadly disease but cannot do anything about it. I was happier when I did not know anything about oral cancer. I should not have come only to the hospital..."

These are the type of questions that we will face when we start an anti-tobacco campaign along with oral cancer registry and treatment at our dental clinic. These questions are genuine and we need to prepare ourselves to deal with them.

First most important thing is to convince the patients that irrespective of success or failure of treatment, quitting tobacco is good for them.

Secondly, we need to employ best possible treatment methods (in consultation with the specialists in oral medicine) that effectively treat the oral lesions. We have to stress upon compliance and follow up from the patient's side so as to minimize relapse cases.

Thirdly, we need to build effective referral linkage for established oral cancer cases and somehow make the whole process of going and receiving treatment at the higher centres comfortable and acceptable to the patients.


Strong IEC and BCC in the community
Strong Positive Motivation for patients
Effective Oral Cancer Intervention
Effective Treatment Methods
Patient Friendly Referral Arrangement

Most challenging Cases – OSMF

Problem

Oral Submucous Fibrosis (or **OSF**) is a chronic, complex, irreversible, highly potent pre-cancerous condition characterized by juxta-epithelial inflammatory reaction and progressive fibrosis of the submucosal tissues (lamina propria and deeper connective tissues). As the disease progresses, the jaws become rigid to the point that the sufferer is unable to open his mouth. The condition is linked to oral cancers and is associated with areca nut chewing, the main component of betel quid. Areca nut or betel quid chewing, a habit similar to tobacco chewing, is practiced predominately in Southeast Asia and India, dating back thousands of years.

There are a large number of cases with OSMF in rural Gadchiroli and it is imperative to decide upon an evidence based, effective, low cost treatment for this disorder.

Current Treatment Methods

Currently, treatment includes:

- Abstention from chewing areca nut (also known as betel nut) and tobacco
- Minimizing consumption of spicy foods, including chillies
- Forgoing hot fluids like tea, coffee
- Forgoing alcohol
- Maintaining proper oral hygiene
- Supplementing the diet with foods rich in proteins and calories and vitamins A, B complex, C and iron
- Rounding off sharp teeth and extract third molars

Treatment also includes following:

- Physiotherapy - This includes measures such as forceful mouth opening and heat therapy. Heat has been commonly used and the results have been described as satisfactory
- Immuno modulatory drugs - Local and systemic applications of glucocorticoids and placental extracts are commonly used. These also prevent or suppress inflammatory reaction, thereby preventing fibrosis by decreasing fibroblastic proliferation and deposition of collagen. The prescription of chewable pellets of hydrocortisone (Efcorlin); one pellet to be chewed every three to four hours for three to four weeks
- Submucosal injections - Hydrocortisone 100 mg once or twice daily depending upon the severity of the disease for two to three weeks. Submucosal injections of human chorionic gonadotrophins (Placentrax) 2-3 ml per sitting twice or thrice in a week for three to four weeks. Local injection of corticosteroids and placental extract have been tried, in addition to hyaIuronidase, collagenase and like substances which break down intercellular cement substances and also decreases collagen formation.
- Surgical treatment - is recommended in cases of progressive fibrosis when inter-incisor distance becomes less than 2 centimetres (0.79 in).(Multiple release incisions deep to mucosa, submucosa and fibrotic tissue and suturing the gap or dehiscence so created by mucosal graft obtained from tongue and Z-plasty. In this procedure multiple deep z-shaped incisions are made into fibrotic tissue and then sutured in a straighter fashion)

- Pentoxifylline (Trental), a methylxanthine derivative that has vasodilating properties and increases mucosal vascularity, is also recommended as an adjunct therapy in the routine management of oral submucous fibrosis.

The treatment of patients with oral submucous fibrosis depends on the degree of clinical involvement. If the disease is detected at a very early stage, cessation of the habit is sufficient. Most patients with oral submucous fibrosis present with moderate-to-severe disease. Moderate-to-severe oral submucous fibrosis is irreversible. Medical treatment is symptomatic and predominantly aimed at improving mouth movements.

Most Cost Effective Treatment Method

Review of literature regarding the studies conducted to find out most effective treatment of OSMF leads to a conclusion that the old technique of peroral intralesional shots of steroids, hyaluronidase and placental extracts in lignocaine is safe and effective in resolving the symptoms associated with OSMF. The therapy is very cost effective and also reduces the need for surgery. It has to be adjunct with restrictions on diet, quitting habits and rigorous mouth opening exercises. In severe cases, surgical treatment needs to be resorted to.

(Ref 10,12,31)

Advantages and Disadvantages of tying up with a Dental College

Advantages of tying up with a Dental College -

a) If there is a tie up with any Dental College, the whole Dental Set up can be outsourced and it will be cheaper because, Dental Colleges buy equipment and materials in bulk, at wholesale rates.
b) Regular supply of Dental Material can be ensured via an indent system from the Central Store of the college
c) They also have a permanent Dental Mechanic who can be on call as well as one day in 15 days can be fixed for his visit from college to hospital for maintenance of Dental equipment
d) Again, if there is a tie up with a Dental College, they can provide for one of their regular BDS staffs to work in our hospital along with one or two interns for assistance and specialists for visits.

Possible pitfalls in collaborating with a Dental College –

a) Difference in work culture – The philosophy of SEARCH might not be shared with equivalent vigour by the employees of a private dental college (especially interns) and there can arise friction due to incompatibility of the culture of two organizations (resulting mainly in absentism and insubordination). Problems related with 'who is in command' also arise especially when a specialist from one organisation works in another organisation
b) Profit/ Non Profit Motive – Dentistry being a material-and-equipment-dependent field, and because, there are so many different cost as well as revenue centres, (registration, treatment, Path lab charges, x rays, dental lab charges, material supply, equipment maintenance), there is a need to work out in great details the revenue sharing plans if two organisations are collaborating in a Dental setup. If one organisation is profit oriented and the other is not, it can make the things all the more difficult.
c) Referrals – There is a tendency that private dental colleges setup their satellite clinics in hospitals with high patient turn-outs. But their focus is not to provide treatment to patients at their satellite clinics. The aim is to convert the OPD at a Satellite clinic into referral cases and they end up increasing the OPD numbers at the college. This is done in view of the requirement of Dental Council of India to have stipulated number of OPD patients to run their BDS and MDS courses. We have to be careful in this regard and ensure that the patients are actually getting treated at our centre and only the most critical cases are referred to the college.

Tobacco Intervention Initiative (TII)

The Tobacco Intervention Initiative (TII) is a professionally-led "call to action" programme to eradicate tobacco addiction while striving for a `tobacco free India' and thus improving the oral health of Indians by the year 2020.

A TII Centre is an IDA Certified Tobacco Intervention Centre, where the dentist will not just take care of the teeth but provide counselling for de-addiction. A TII Center dentist is a trained tobacco intervention professional and the clinic is equipped with the necessary infrastructure, including CDs for the patients, booklets and other educational materials.

SEARCH is already running tobacco cessation programme through its vyasanamukti department. It can consider some kind of collaboration with TII primarily aimed at gaining better IEC material and clinical expertise in this field. (Ref 32)

Operation Smile India

Operation Smile's humanitarian work helps children by correcting their facial deformities through the gift of medicine and surgery; a change that brings about a more positive life along with a healthier self-image. Since 1982, Operation Smile has treated more than 150,000 children in 51 countries, free of charge, while training thousands of medical professionals in the process and leaving behind necessary equipment to foster long-term self- sufficiency. Operation Smile has an active volunteer network of more than 5,000 highly trained medical professionals who donate their time and skills on an annual basis. Approximately 1 in every 700 Indian children is born with a cleft lip and/or cleft palate with an estimated backlog of more than 1 million people living with untreated facial deformities. Children with facial deformities often have difficulty breathing, drinking, eating and speaking, which combined with their appearance leads to their social isolation and ridicule. The stigma attached to their deformity render them unable to live fulfilling lives as they are often not admitted to school, not allowed to play with other children and sometimes even forbidden from going outside. Since Operation Smile's first mission to India in 2002 to July 2011, volunteers have provided free medical evaluations to more than 23,000 patients and performed life-changing surgery on more than 15,000 children. Operation Smile India was established in 2003 as a registered Indian Trust and is governed by a local Board of Directors & Medical Advisory Council.

Operation Smile India's has Outreach Centers in various parts of India which provide year-round free reconstructive surgeries to children who suffer from cleft lips, cleft palates and other facial deformities. The Outreach Center facilities include operating and recovery rooms as well as rooms for medical, dental, speech therapy and parental and patient consultations. These Centers also serve as education and training facilities for medical professionals in the region. Currently there are Outreach centers in 6 locations.

SEARCH can consider some kind of a collaboration with this organisation. (Ref 33)

Indian Dental Association

Indian Dental Association is very pro-active in supporting any venture to improve community awareness towards oral health as well as providing primary and secondary treatment. They can help greatly especially by providing doctors for organising Dental Camps in the community. Local branch of Indian Dental Association can be contacted in this regard. (Ref 34)

Oral Cancer Registry

A cancer registry is a systematic collection of data about cancer and tumor diseases. The data are collected by Cancer Registrars. Cancer Registrars capture a complete summary of patient history, diagnosis, treatment, and status for every cancer patient. Information maintained in the cancer registry include; demographic information, medical history, diagnostic findings, cancer therapy and follow up details. The data is used to evaluate patient outcome, quality of life, provide follow-up information, calculate survival rates, analyze referral pattern, allocate resources at regional or state level, report cancer incidence as required under state law, and evaluate efficacy of treatment modalities There exist population-based cancer registries, hospital cancer registries (also called hospital-based cancer registries), and special purpose registries. Population-based cancer registries monitor the frequency of new cancer cases (incident cases) every year in well defined populations and over time. If an unexpected accumulation is observed, a hypothesis about possible causes is generated. This hypothesis is investigated in a second step by collecting more detailed data. The aim is to recognize and reduce risks.

Prominent agencies involved in Cancer Registry in India are -

National Cancer Registry Programme – Indian Council of Medical Research

National Oral Cancer Registry – an Initiative of Indian Dental Association

Tata Memorial Centre AMumbai

Indian Cancer Society

(An Cancer Registry Centre in association with Tata Memorial Centre Mumbai is already being planned at SEARCH)

(Ref 35,36,37,38)

7. Development of IEC Material to train Muktipath tobacco cessation team

&

Aarogyadoot to identify precancerous and cancerous oral lesions

7.1 Background

A lot of material is available in the form of books, articles, research and review papers regarding the basic knowledge about oral cancer, its prevalence and associated factors.

Lot of written and pictorial material is also available to train laypersons in identifying the risk factors of oral cancers, its signs and symptoms.

The task performed in this exercise is to select the very basic set of risk factors associated with oral cancer in this region (rural Gadchiroli), how to do an examination, what questions to ask, what signs and symptoms to check and how to check, in order to detect a premalignant or malignant stage of oral cancer. Effort has been made to develop a IEC material in a pictographic, simple style using local language that will help in training the grass-root level health worker in detecting the suspect cases of oral cancer and precancerous lesions.

7.2 Purpose and Utility of Exercise

Early Detection Saves Lives

With early detection and timely treatment, deaths from oral cancer could be dramatically reduced.

The 5-year survival rate for those with localized disease at diagnosis is 83 percent compared with only 32 percent for those whose cancer has spread to other parts of the body.

Early detection of oral cancer is often possible. Tissue changes in the mouth that might signal the beginnings of cancer often can be seen and felt easily.

SEARCH has recently conducted a study which has revealed alarming trends in the use of smokeless forms of tobacco. Tobacco use was found to be in about 50% of population. Prevalance of precancerous lesions was found to be approximately 30 %. High prevalence of tobacco use was seen even amongst women and children.

Due to all these findings, high rate of oral cancer prevalence is expected in the intervention areas of SEARCH. Consequently, SEARCH is contemplating an Rural Oral Health Programme and an Oral Cancer Detection Centre in the SEARCH Hospital. This particular exercise is a part of these interventions.

Muktipath tobacco cessation team at search is a cadre of workers working with the community for drives against Alcohol and Tobacco.

Aarogyadoot are the grass-root level workers of SEARCH. These are the members of the community, selected and trained by SEARCH in primary healthcare.

The IEC material developed hereby is aimed at training this army of SEARCH so that they are able to detect the cases of oral premalignant and malignant lesions and refer them to the Oral Cancer Detection and Registration Centre being setup at SEARCH Hospital. Timely detection, registration and treatment can save a lot of life years of the community**.**

7.3 Characteristics of the IEC material

1. The material to be developed is pictorial and easy to understand as the persons for whom it is being made are non technical

2. Simple Marathi language is used so that complex concepts can be presented to them in easily understandable manner

3. A thumb-rule approach is employed so as to make whole issue easy to grasp and practice in the field

7.4 IEC material developed

1. ‘Mukh-Kark Roga Baddal Mahiti’ (Power Point presentation in Marathi)
2. ‘Mukh-Kark Roga Baddal Paach Goshti’ (Power Point presentation in Marathi)
3. 5 things to remember to detect Oral Cancerous and Precancerous Lesions and Conditions (Power Point presentation in English)

(Presentations are Attached with the report)

(Ref 10,39)

8. Plan for Quantitative Needs Assessment for Oral Health Programme in Rural Gadchiroli

8.1 Background

Oral health is becoming the focus of Public Health planning and implementation on a scale that has never been seen before. This positive development is due to recent discoveries regarding relation of Oral health with general health especially with chronic non communicable diseases. This knowledge is backed by studies throwing new light regarding loss in healthy life years occurring due to diseases of oro-facial region. International organisations, governments at local and state levels and national and international NGOs are now planning interventions that aim to improve oral health status of communities worldwide.

Besides, the studies regarding incidence and prevalence of various types of oral cancer and the negative impact it has owing to its poor prognosis is a major concern . This is especially so in India where the consumption of tobacco in various forms is widespread. This situation is indicating an emergent need for intervention against oral cancer.

The emergence of dental work force and institutions in recent years has also lead to making dental services available to community as well as increasing the level of awareness in community towards positive health seeking behaviour. Recent advances in Dental treatment methods have ensured primary, secondary as well as tertiary level treatment of dental ailments.

SEARCH has recently conducted a study regarding expenses incurred by community members in rural Gadchiroli towards tobacco and its products. The results showed that approximately 50% of population consumed tobacco in some form or other. SEARCH is already running drives against tobacco through its de-addiction programme. In order to reinforce its intervention, it plans to run an oral health programme in rural Gadchiroli.

In order to plan an effective strategy, SEARCH needs to conduct a Quantitative assessment of Oral health/disease status. This data will serve two purposes. It will provide us with information regarding the extent as well as distribution of dental diseases in the population, as well as valuable information regarding type of diseases affecting the population and their treatment needs (viz. Need for Dental Surgery, Prostheses, Restoration, Periodontal Treatment etc.). Secondly, it will form baseline data that would help us in determining the impact of our intervention, by conducting similar exercise in future.

No such study is known to have been conducted in past in rural Gadchiroli.

(Ref. 7)

8.2 Method

Goal:

To conduct a quantitative study to assess the need of running an oral health programme in rural community of Gadchiroli.

Objectives

- To measure the Oral health status of the community in objective, numeric terms
- To measure the prevalence of Oral Precancerous and Cancerous lesions

Study Area:

The will be conducted in the field area of the Society for Education, Action and Research in Community Health (SEARCH) in the Gadchiroli district. SEARCH is working in the rural area of Gadchiroli for the last 25 years and has a long track record of evaluating health problems of rural community and conducting field trials to develop interventions. SEARCH has conducted a field trial of home based neonatal care in which 39 villages received the intervention. These villages are referred to as intervention villages and the study villages will be selected from these villages.

Study Design:

A cross-sectional descriptive study will be conducted. Numeric score of oral health/disease status as well as prevalence of oral precancerous and cancerous lesions will be determined on a prescribed/ pre-decided format. Data will be obtained through oral examination of a cross section of population.

Criteria of selection:

i) Quantitative study:

Villages will be selected for the study by following criteria

1. The village should come under the intervention area of SEARCH
2. The village should be more than 5 km away from civil hospital of Gadchiroli
3. The village should have both male and female health workers appointed by SEARCH who are working for that village.

Inclusion Criteria for the participants

Should be residing for more than a year in the village

There is no specific Exclusion Criteria

Cross sectional survey:

All the 39 villages under the intervention area will be included for the population based survey. Total population iss 44402.

From literature review, prevalence rate of dental diseases as estimated using WHO and other databases is determined to be ranging from 50% to 80%.

From a recently conducted study of SEARCH, the approximate prevalence of Oral Precancerous lesions has been found to be 30%

Formula for calculating minimum sample size, N = Z*Z (pq) / c*c

Where Z = 1.96 p = prevalence rate q = (1-p) c = 5%

Minimum Sample size for 30% prevalence = 323

50% prevalence = 384

80% prevalence = 246

Accordingly we need to have a sample size of 384

Incorporating Design Effect and Non Response Rate

Estimated Prevalence	Base Sample Size (n)	n * Design Effect	Adjusting NR Rate
50 %	384	768 (DE=2)	1024 (25%)
50%	384	576 (DE=1.5)	640 (10%)

Pilot survey via dental check-ups to determine feasibility issues and initial trends regarding prevalence of dental diseases as well as presence of oral precancerous or cancerous lesions in the community will be done at SEARCH Hospital. It will be followed by survey in the field.

(Ref. 8, 8a)

Risks:

No risks associated with conduct of the study are perceived.

Benefits

The quantitative study will reveal the current oral health status of the population as well as prevalence of cancerous and precancerous lesions in objective terms.

Outcome Measures:

The data from the quantitative study will be analyzed to determine the extent and distribution of oral diseases in the population as well as prevalence of different types of oral cancerous and precancerous lesions.

Privacy and Confidentiality:

The data obtained on each individual will be kept confidential. Identifiers will not be used during the analysis.

Informed consent:

A verbal consent will be obtained from the villagers before conducting the quantitative survey.

Utility of Data thus collected:

Quantitative Data will determined in objective terms (Numeric Scores), the current status of dental disease in the community and also the prevalence of Oral Precancerous and cancerous lesions.

It will give us information about which types of diseases or lesions are prevalent and what is their distribution amongst different variables of the community.

We will be able to know type of dental treatment needed by the community – which specialities need to be stressed upon.

Besides, data thus collected forms our Baseline. Subsequent measurements on same criteria will reveal comparative data to measure the impact of our intervention and help us to identify any shortcomings of our intervention

8.3 Tools

Two tools have been suggested here and depending upon the feasibility any one of them can be employed for the quantitative study

1

The WHO Oral Health Assessment Form

The WHO Oral Health Assessment form is a universally accepted and used recording methodology for oral health surveys. Standard codes are used for all sections of the form. The forms are designed to facilitate computer processing of the results. To minimize the number of errors all entries must be clear and unambiguous.

Details of method to fill the form and processing of data are given in WHO Publication "Oral Health Surveys - Basic Methods" 4th edition. Here, the basic format of survey form is shown.

(Ref. 9)

WHO ORAL HEALTH ASSESSMENT FORM (1997)

Country.....

Leave blank (1)[ ][ ][ ][ ](4) Year Month (5)[ ][ ][ ][ ](8) Day (9)[ ][ ](10) Identification number (11)[ ][ ][ ][ ](14) Examiner [ ](15) Original/duplicate [ ](16)

GENERAL INFORMATION

Name .....

Year Month

Date of birth (17)[ ][ ][ ][ ](20)

Age in years (21)[ ][ ](22)

Sex (M = 1, F = 2) [ ](23)

Ethnic group [ ](24)

Occupation [ ](25)

Geographical location (26)[ ][ ](27)

Location type: [ ](28)
1 = Urban
2 = Periurban
3 = Rural

OTHER DATA (specify and provide codes)

..... [ ](29)

..... [ ](30)

CONTRAINDICATION TO EXAMINATION

Reason: ..... [ ](31)

..... 0 = No
1 = Yes

CLINICAL ASSESSMENT

EXTRA-ORAL EXAMINATION

0 = Normal extra-oral appearance
1 = Ulceration, sores, erosions, fissures (head, neck, limbs)
2 = Ulceration, sores, erosions, fissures (nose, cheeks, chin)
3 = Ulceration, sores, erosions, fissures (commissures) [ ](32)
4 = Ulceration, sores, erosions, fissures (vermilion border)
5 = Cancrum oris
6 = Abnormalities of upper and lower lips
7 = Enlarged lymph nodes (head, neck)
8 = Other swellings of face and jaws
9 = Not recorded

TEMPOROMANDIBULAR JOINT ASSESSMENT

SYMPTOMS
0 = No
1 = Yes
9 = Not recorded
[ ](33)

SIGNS
0 = No
1 = Yes
9 = Not recorded

Clicking [ ](34)
Tenderness (on palpation) [ ](35)
Reduced jaw mobility (< 30 mm opening) [ ](36)

ORAL MUCOSA

CONDITION

0 = No abnormal condition
1 = Malignant tumour (oral cancer)
2 = Leukoplakia
3 = Lichen planus
4 = Ulceration (aphthous, herpetic, traumatic)
5 = Acute necrotizing gingivitis
6 = Candidiasis
7 = Abscess
8 = Other condition (specify if possible) .....
9 = Not recorded

(37)[ ][ ](40)
(38)[ ][ ](41)
(39)[ ][ ](42)

LOCATION

0 = Vermilion border
1 = Commissures
2 = Lips
3 = Sulci
4 = Buccal mucosa
5 = Floor of mouth
6 = Tongue
7 = Hard and/or soft palate
8 = Alveolar ridges/gingiva
9 = Not recorded

ENAMEL OPACITIES/HYPOPLASIA

Permanent teeth

0 = Normal
1 = Demarcated opacity
2 = Diffuse opacity
3 = Hypoplasia
4 = Other defects
5 = Demarcated and diffuse opacities
6 = Demarcated opacity and hypoplasia
7 = Diffuse opacity and hypoplasia
8 = All three conditions
9 = Not recorded

14 13 12 11 21 22 23 24
(43)[ ][ ][ ][ ][ ][ ][ ][ ](50)
(51)[ ][ ][ ][ ][ ][ ][ ][ ](52)
46 36

DENTAL FLUOROSIS

0 = Normal
1 = Questionable
2 = Very mild
3 = Mild
4 = Moderate
5 = Severe
8 = Excluded
9 = Not recorded

[ ](53)

COMMUNITY PERIODONTAL INDEX (CPI)

0 = Healthy
1 = Bleeding
2 = Calculus
3* = Pocket 4–5 mm (black band on probe partially visible)
4* = Pocket 6 mm or more (black band on probe not visible)
X = Excluded sextant
9 = Not recorded

* Not recorded under 15 years of age

17/16 11 26/27
(54)[ ][ ][ ](56)
(57)[ ][ ][ ](59)
47/46 31 36/37

LOSS OF ATTACHMENT*

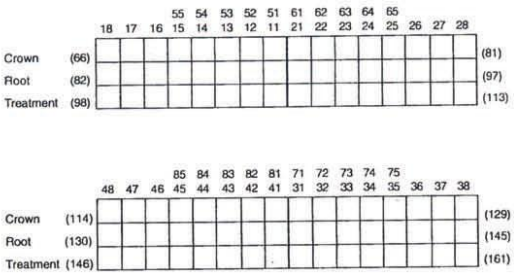
0 = 0–3 mm
1 = 4–5 mm (cementoenamel junction (CEJ) within black band)
2 = 6–8 mm (CEJ between upper limit of black band and 8.5-mm ring)
3 = 9–11 mm (CEJ between 8.5-mm and 11.5-mm rings)
4 = 12 mm or more (CEJ beyond 11.5-mm ring)
X = Excluded sextant
9 = Not recorded

*Not recorded under 15 years of age

17/16 11 26/27
(60)[ ][ ][ ](62)
(63)[ ][ ][ ](65)
47/46 31 36/37

DENTITION STATUS AND TREATMENT NEED

Identification number ☐☐☐☐



Primary teeth *Crown*	Permanent teeth *Crown*	Permanent teeth *Root*	STATUS
A	0	0	Sound
B	1	1	Decayed
C	2	2	Filled, with decay
D	3	3	Filled, no decay
E	4	—	Missing, as a result of caries
—	5	—	Missing, any other reason
F	6	—	Fissure sealant
G	7	7	Bridge abutment, special crown or veneer/implant
—	8	8	Unerupted tooth, (crown)/unexposed root
T	T	—	Trauma (fracture)
—	9	9	Not recorded

TREATMENT
0 = None
P = Preventive, caries-arresting care
F = Fissure sealant
1 = One surface filling
2 = Two or more surface fillings
3 = Crown for any reason
4 = Veneer or laminate
5 = Pulp care and restoration
6 = Extraction
7 = Need for other care (specify).....
8 = Need for other care (specify).....
9 = Not recorded

PROSTHETIC STATUS

Upper Lower (162) ☐☐ (163)

0 = No prosthesis
1 = Bridge
2 = More than one bridge
3 = Partial denture
4 = Both bridge(s) and partial denture(s)
5 = Full removable denture
9 = Not recorded

PROSTHETIC NEED

Upper Lower (164) ☐☐ (165)

0 = No prosthesis needed
1 = Need for one-unit prosthesis
2 = Need for multi-unit prosthesis
3 = Need for a combination of one- and/or multi-unit prostheses
4 = Need for full prosthesis (replacement of all teeth)
9 = Not recorded

DENTOFACIAL ANOMALIES

DENTITION

(166) ☐☐ (167) Missing incisor, canine and premolar teeth—maxillary and mandibular—enter number of teeth

SPACE

☐ (168) Crowding in the incisal segments:
0 = No crowding
1 = One segment crowded
2 = Two segments crowded

☐ (169) Spacing in the incisal segments:
0 = No spacing
1 = One segment spaced
2 = Two segments spaced

☐ (170) Diastema in mm

☐ (171) Largest anterior maxillary irregularity in mm

☐ (172) Largest anterior mandibular irregularity in mm

OCCLUSION

☐ (173) Anterior maxillary overjet in mm

☐ (174) Anterior mandibular overjet in mm

☐ (175) Vertical anterior openbite in mm

☐ (176) Antero-posterior molar relation:
0 = Normal
1 = Half cusp
2 = Full cusp

NEED FOR IMMEDIATE CARE AND REFERRAL

Life-threatening condition ☐ (177)
Pain or infection ☐ (178)
Other condition (specify)..... ☐ (179)

0 = Absent
1 = Present
9 = Not recorded

Referral ☐ (180)
0 = No
1 = Yes
9 = Not recorded

NOTES

2

Alternatively, another format is shown here that measures three most important aspects of dental disease status and treatment needs. This tool is a combination of two indices (DMFT and PI) which are well established and have been used for years by investigators world-wide. This is combined with recording the presence of six major cancerous and precancerous lesions along with the site of occurrence. The data thus collected can be analysed via Excel or SPSS programmes.

Oral Examination Form Guide

Operational Definitions –

Leukoplakia - Raised white part of oral mucosa measuring 5 mm or more, that cannot be scraped off and which cannot be attributed to any other diagnosable disease (can be homogenous, ulcerated or nodular) (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 466)

It is to be differentiated from Nicotine Stomatitis and Tobacco Pouch Keratosis that are local mucosal reactions to smoking and smokeless tobacco respectively, with significantly low malignant potential (pg 90-92, Burkett's Oral Medicine, Diagnosis and treatment, 10th edition)

Erythroplakia – Bright red velvety plaque that cannot be identified as being caused by inflammation or any other disease process (Different from stomatitis associated with nutritional deficiencies and palatal erythema in case of bidi smokers) (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 468-469)

Blanching – Change in colour and consistency of mucosa to white and leathery type due to underlying tissue changes mainly ischemia due to fibrosis (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 471-472, Burkett's Oral Medicine, Diagnosis and treatment, 11th edition, pg 88-89)

Fibrosis – Presence of palpable fibrous bands (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 471-472)

OSMF – Presence of either Blanching or Fibrosis or both (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 471-472, Burkett's Oral Medicine, Diagnosis and treatment, 11th edition, pg 88-89)

Ulcer – Indurated (hardened), breach of oral mucosa with rolled margins, not healing since at least four weeks (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 466)

Proliferative Growth - Any pathologic growth that projects above the normal contours of the oral surface (Wood NK, Goaz PW. Differential Diagnosis of Oral and Maxillofacial Lesions, 5th ed. St. Louis: Mosby; 1997:131)

PI Scoring – (Periodontal Index) As in Russel's Periodontal Index (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 154-156)

0 – Negative. Neither overt inflammation in the investing tissues nor loss of function due to destruction of supporting tissue.

1 – Mild Gingivitis. An overt area of inflammation in the free gingival, does not circumscribe the tooth.

2 – Gingivitis. Inflammation completely circumscribes the tooth, but there is no apparent break in the epithelial attachment.

6 – Gingivitis with pocket formation. The epithelial attachment is broken and there is a pocket (not merely a deepened gingival crevice due to swelling in the free gingivae). There is no interference with normal masticatory function, the tooth is firm in its socket and has not drifted.

8 – Advanced destruction with loss of masticatory function. The tooth may be loose, may have drifted, may sound dull on percussion with metallic instrument, or may be depressible in socket.

DMF Scoring – (Decayed Missing Filled Tooth) As in DMFT index (Soben Peter, Essentials of Preventive and Community Dentistry 3rd Edition, pg 178-180)

D – There is a catch in explorer, explorer goes into carious substance, not merely in a groove, filled teeth with new or recurrent caries are to be counted as decayed.

M – Teeth missing due to caries (take history regarding loss due to other reasons – ortho, perio, trauma, non eruption, congenitally missing). Grossly decayed teeth indicated for extraction are to be included in this category.

F – A tooth restored by single or multiple fillings/ RCT and crown, with no residual/new decay

X – Loss due to reasons other than caries – extraction/evulsion due to ortho-perio-trauma, non eruption, congenitally missing

Site of Lesions – L-Lip F–Floor of Mouth B–Buccal Mucosa P–Palate T–Tongue G-Gingiva

(Ref 10,11,12,13)

Oral Examination Form

Item	Code
Village	
Name of Person	
Age	
Sex	Male Female
Marital Status	☐ Never Married ☐ Currently Married ☐ Divorcee/Separated ☐ Widowed
Education	☐ Illiterate ---- Years in School
Profession	☐ Housewife ☐ Labour ☐ Farmer ☐ Business ☐ Service ☐ Student ☐ Social Work ☐ Other
Type of Tobacco Use	☐ Kharra ☐ Gutkha ☐ Nas ☐ Gudakhu ☐ Gul ☐ Only Tobacco ☐ Tobacco+Lime ☐ Chilum ☐ Pan Masala ☐ Cigarette ☐ Bidi ☐ Only Supari ☐ Pan+Tobacco+Lime

Tooth	18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
DMF																
PI																
Tooth	48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
DMF																
PI																

Mouth Opening in mm		
Oral Precancerous/Cancerous Lesion/Condition and Site	☐ No Lesion Found	Site
	☐ Leukoplakia	L F B P T G
	☐ Erythroplakia	L F B P T G
	☐ Blanching	L F B P T G
	☐ Fibrosis	L F B P T G
	☐ Ulcer	L F B P T G
	☐ ProliferativeGrowth	L F B P T G

8.4 Analysis Plan

Data collected using the WHO Oral Health Assessment form can be processed using SPSS along the lines as prescribed in WHO Publication "Oral Health Surveys - Basic Methods" 4th edition. Assistance can be sought from WHO in this regard. Data collected using the second form can also be analysed using descriptive statistics. The data thus collected can give us information regarding –

Prevalence of Dental Diseases

Type of Dental Diseases

Distribution along different variables in the community

Priority-wise treatment needs pertaining to each dental speciality

Comparison with other communities and the larger picture (National and Global Trends)

Prevalence of Oral Cancerous and Precancerous Lesions

Prevalence rate

Type of lesions

Site of lesions

Relation with type of tobacco used

Distribution along different variables in the community

Comparison with other communities and the larger picture (National and Global Trends)

(Ref 14)

"It is important to find ways and methods to synchronise Oral Health Programme with ongoing activities of SEARCH"

9. References

1. SEARCH Website (www.searchgadchiroli.org)
2. Tribal Health Problems, Disease Burden and Ameliorative Challenges in Tribal Communities with Special Emphasis on Tribes of Orissa R.S. Balgir *Proceeding of National Symposium on Tribal Health (NSTH06)*
3. Study to understand the Health Status and Healthcare Systems In selected tribal areas of India Swami Vivekananda Youth Movement Saragur In collaboration with the Ministry of Health & Family Welfare & WHO Country Office for India (2008-2009)
4. Healthcare-seeking Behaviour among the Tribal People of Bangladesh: Can the Current Health System Really Meet Their Needs? Syed Azizur Rahman, Kielmann, McPake, and Normand J Health Popul Nutr. 2012 September; 30(3): 353–365
5. Nirman Website (Nirman.mkcl.org)
6. Significance of Oral Health (www.ida.org.in)
7. Tobacco vs Development – Private spending on tobacco in Gadchiroli District, S Sawalkar M Deshmukh, Economic and Political Weekly, Feb 2013
8. Calculation of Sample Size (www.ifad.org)
   8a. WHO Global Oral Health Database (www.mah.se/CAPP/)
9. WHO Website (www.who.int/)
10. Soben Peter, Essentials of Preventive and Community Dentistry, 3rd Edition
11. Burkett's Oral Medicine, Diagnosis and treatment, 10th edition
12. Burkett's Oral Medicine, Diagnosis and treatment, 11th edition
13. Wood NK, Goaz PW. Differential Diagnosis of Oral and Maxillofacial Lesions, 5th ed. St. Louis: Mosby; 1997:131
14. WHO Publication "Oral Health Surveys - Basic Methods" 4th edition
15. Improving the health of mother and child – solutions from India (Access International Compendium Report) 2012
16. Sewagram to Shodhgram Article by Dr. Abhay Bang
17. www.epiresult.com - 'Focus Group Discussion - a Step by Step Guide'
18. FGD Methods (archives.who.int/)
19. A guide for developing and enhancing Community Oral Health Programmes (AACDP)
20. Utilization of Services rendered in dental outreach programmes in rural areas of Haryana, S Vashishth N Gupta, Contemporary Clinical Dentistry, Sept 2012 Vol 3 Supplement 2
21. Mobile Dental Clinics - What Works, What to Watch and What to Avoid, Andrea Hight, BS, Sullivan Schein Dental

22. Utilization of Mobile Dental Health Care Services to Answer the Oral Health Needs of Rural Population, S Tandon S Tandon, Journal of Oral Health and Community Dentistry, May 2012 6(2)
23. www.dentalclinicdesign.org
24. www.dentalclinicmanual.com
25. Website of iSmile Charity Dental (www.ismile.co.in)
26. Colgate Palmolive India Oral Health Programme (www.colgate.co.in)
27. Website of Apollo Telemedicine Networking Foundation (www.telemedicineindia.com)
28. Applications of teledentistry: A literature review and update - Jampani N D, Nutalapati R, Dontula B, Boyapati R. Applications of teledentistry: A literature review and update. J Int Soc Prevent Communit Dent 2011;1:37-44
29. Reddy K V. Using teledentistry for providing the specialist access to rural Indians. Indian J Dent Res 2011;22:189
30. Website of Sanjay Gandhi Post Graduate Institute of Medical Sciences Lucknow (www.sgpgi-telemedicine.org)
31. Shafer's Textbook of Oral Pathology, 6th Edition
32. Website of Tobacco Intervention Initiative (http://tii.org.in/)
33. Website of Operation Smile India (http://www.operationsmile.org.in/)
34. Website of Indian Dental Association (www.ida.org.in)
35. Website of National Cancer Registry Programme (www.icmr.nic.in)
36. Website of National Oral Cancer Registry (nocr.org.in)
37. Website of Tata Memorial Centre (tmc.gov.in)
38. Website of Indian Cancer Society (www.indiancancersociety.org)
39. "*Detecting Oral Cancer: A Guide for Health Care Professionals*" National Institute of Dental and Craniofacial Research (NIDCR) (http://www.nidcr.nih.gov/)

10. Photographs

Founders Drs. Abhay and Rani Bang

(Naina & Amma)

SEARCH Bus Stop

Way to the Hospital

Ma Danteshwari Temple at the Entrance

Hospital Entry

Registration Area

Waiting Area

OPD Area

Sonography Room

Laboratory

X-Ray Room

Doctor's Room

Huts made for stay of patient's relatives

Huts made for stay of patient's relatives

Canteen

Pharmacy

Proposed site for Dental Cliniic

Vernacular Architecture, tribal culture reflected in designing of whole campus

Prayer Hall ‘Pimpal’

Administrative Office ‘Audumbar’

Library

Tribal ‘Munda’

Tribal Art

Traditional Design of Buildings

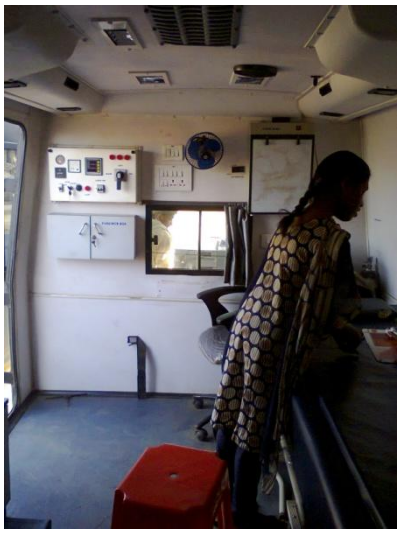
Mess

Research Department

Prayer Hall from inside

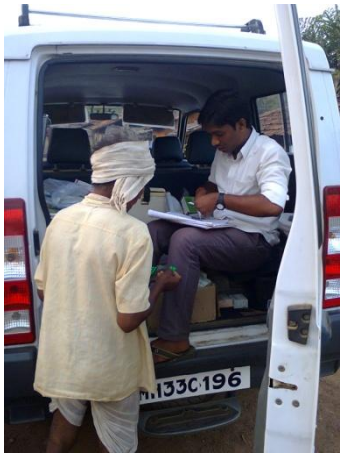


Tribal Huts



Mobile Medical Unit Vehicles



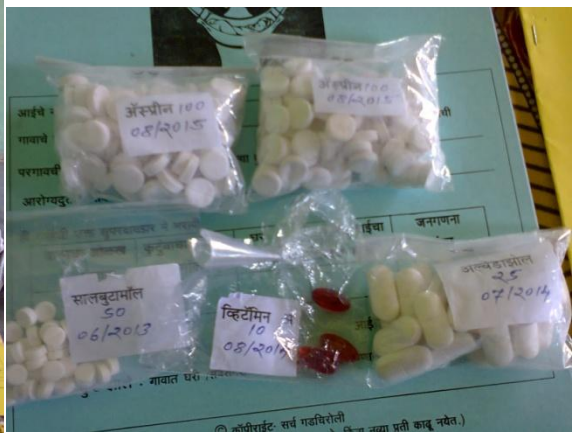



Outreach Services in Interior Areas

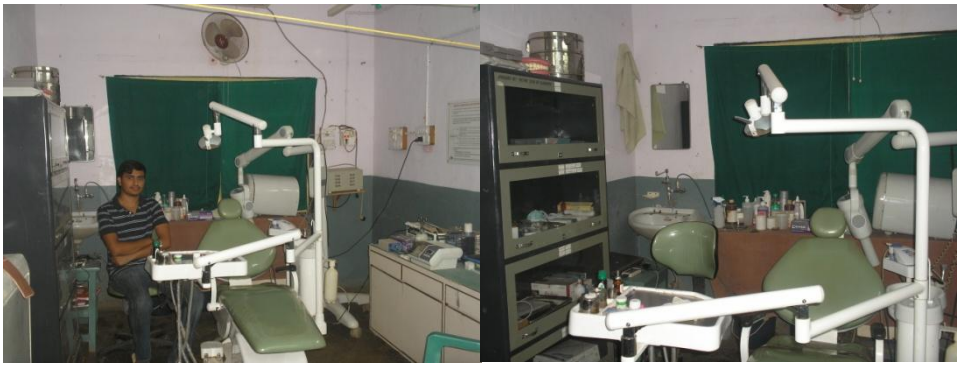



Outreach Services in Interior Areas

Making a bond with the Community



Working of Grass-root level workers (Arogyadoot)



Tribal Hospital and Dental Clinic at Hemalkasa