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RESEARCH SUPPORT FACILITIES

11.1 Reproductive Health Clinics

The institute's family welfare clinics provide reproductive health services advantageous in our clinical setup giving good retention rates in study cohorts.

11.1.1 Family Welfare Clinic

The institute has three family welfare clinics which provide reproductive health services to the nearby residents; which are usually from lower, middle class group. The hospital-based clinic, at B J Wadia Children's Hospital provides services to the women who attend hospital for their children's ailment. The hospital also has new wing OPD which provides services to the children born to HIV infected parents. These couples also attend FP clinic for contraceptive advice and are motivated for consistent use of condom.

The family welfare clinics of NIRRH provide family planning services and serve as a model for integration of family planning services with other aspect of reproductive health care. Services offered routinely include IEC on the various contraceptives and motivation to accept a reliable method, creating awareness, screening and treatment of reproductive tract infections (RTIs), screening for cervical cancer, colposcopy, and pelvic ultrasonography for women. The women attending these clinics are then enrolled for clinical studies and also provide biological samples for the basic research with their consent and in accordance with the ethical guidelines of ICMR. The important feature of these clinics is the good rapport of the clinic staff with the women/couples attending these clinics. This results into high rate of follow-ups (more than 95 percent) for the project participants.

During this year, a total of 5038 women attended Family Welfare clinics for contraceptive advice/services. Of these, 185 women accepted CuT 380, 47 women, Oral contraceptive pills (576 pill packets distributed) and 26 women EC pills, 22 women 2 monthly injectable contraceptive Net-EN. In addition to these, 213 couples collected male condoms and 11,720 condoms were distributed to them. Also, in one of the FP clinics, 38 HIV infected couples were motivated for consistent use of condom and a total of 1080

condoms were distributed to them. 37 women were successfully motivated and underwent tubal ligation, 2 males were referred for vasectomy and 29 women were referred to hospitals for medical termination of pregnancy. Women were also provided specialized services like pelvic ultra sonography for placement of copper IUD, pelvic inflammation and amenorrhoea to rule out pregnancy.

Cervical Cytology screening: Papanicolaou smear screening is being regularly done for the women who attend three Family Welfare clinics of the institute and two adolescent friendly clinics. During the reporting period, a total of 739 cervical smears were screened to detect abnormal cervical cytology and reproductive tract infections. Normal negative cytology was seen in 30.6 percent women, abnormal cervical changes (CIN I & CIN II) were observed in 0.54 percent and non-specific inflammatory smears in 49.39 percent women. Bacterial vaginosis and candida albican vaginal infections were detected in 13.5 percent and 6 percent women respectively.

11.1.2 Infertility and Reproductive Endocrine Clinic

During the reporting year April 2007 to March 2008, clinical services were provided to 309 infertile couples and 5 unmarried girls through infertility clinic. These unmarried girls were having problem of irregular menses while the infertile couples were of Primary infertility, secondary infertility or BOH (Bad Obstetrics History i.e. two or more unexplained pregnancy loss). Out of total 309 infertile couples diagnosed and treated, 218 were of primary infertility, 75 were of secondary infertility and 16 were of bad obstetric history (BOH).

Total 7982 visits were done by these infertile couples to infertility clinic on average 35-40 consultations per day. The selected women were subjected to follicular monitoring by doing USG. Total 4002 USGs has been done giving an average of 20 USG per day. Women not showing spontaneous ovulation were put on Clomiphene citrate for ovulation induction and then to follicular monitoring. Among other services catered to the infertile women were as follows, Intra Uterine Insemination (IUI) for 33 women,

Artificial Insemination Husband (AIH) for 32 women, Cervical Smear (Pap smear) for 219 women and Post Coital Test (PCT) for 3 women. Cervical Smear was taken to screen the patients for abnormal cytology and some STIs. Other services provided are taking BP, giving injections, clinical examinations and appropriate referral to general hospital as and when required.

A total of 455 semen samples have been examined in endocrinology laboratory during the reporting period. Total 131 infertile males were examined, investigated and treated in a specialized male infertility clinic attended by two andrologist. Men with Azoospermia or Severe Oligospermia were recruited for genomic studies in infertile males. Men with mild to moderate oligozoospermia and those with normal semenology underwent further tests of sperm function and sperm ultra structure evaluation for collaborative studies. The result so obtained helped in management and prognosis of the cases.

11.1.3 Elderly Women's and Osteoporosis Clinic

The service cum research community based clinic located at BDD chawl, Naigaum – Dadar, caters to services in the area of menopause and osteoporosis. Routine health services include clinical examination, breast examination, cervical cancer screening by cytology; Ultrasonography and Colposcopy are done in indicated cases. In addition to these services, IEC focusing on dietary intake, lifestyle modification and prophylactic bone health measures to maintain bone health is imparted to women attending the clinic.

Individual and group counseling regarding menopause and osteoporosis are being held at the clinic. Health talks are also arranged in the community with active participation of women's organizations, to increase awareness among health care providers and women in general, about menopause and therapeutic measures that can be taken so as to improve the quality of life of the elderly women.

11.1.4 Adolescent Friendly Centers

Two AFC's were started as part of the interventions in the project in collaboration with the health authorities of the Municipal Corporation of Greater Mumbai at two health

posts. The centers were named as JAGRUTI centers and are manned by doctor, counselor and social workers from the institute side and the services of the ANM, MPW and Nurse are utilized from the staff of the MCGM health post. Services provided are family planning, RTI/STI screening and treatment, menstrual disturbances, sexual problems, problems related to growing up, pregnancy detection, ANC, PNC, gynecological services, premarital counseling immunization, information and counseling on SRH issues, general health and referral and a range of IEC activities.

Married adolescent women approached the center for family planning methods, pregnancy detection, complaints of vaginal discharge, menstrual disorders, infertility and other general health complaints. Adolescent unmarried girls approached the center for premarital counseling, menstrual complaints and queries on sexual and reproductive health.

Adolescent boys approached the center to procure condoms mainly. They also approached the center for information on a number of their sexual and reproductive health problems.

During the period under report the center catered to 500 new adolescent clients and about 600 who came for follow-up.

11.1.5 Genetic Counseling Clinic

Over the last one year Genetic Research Centre has offered clinical services to 665 cases, which were registered, diagnosed and counseled. These cases were referred from various hospitals of the country. As per the clinical diagnosis the cases there were 27 cases of Mental Retardation they were screened for Fragile X syndrome by immunocytochemical test. Simultaneously, MSPCR for Fragile X syndrome has also been standardized. 56 cases for Prenatal Diagnosis. 27 couples with two or more abortions, 60 cases of short stature and Primary Amenorrhea.

Genetic test services were provided by various test which includes FISH studies in 89 cases (including FISH for chromosomal disorders and primary amenorrhea), sperm FISH were performed in 17 cases, MTHFR in 110 cases, T-FISH for 20 cases. Further the follow up visits of these cases were 2,785.

Apart from clinical evaluation of patients

Table 20: Animals bred and supplied during the year (April 2007 - March 2008).

Sr. No.	Species	Animals Sanctioned	Animals Supplied	Total Strength as on March 2008
1.	Swiss Mice	618	179	271
2.	Balb/c Mice	24	-	61
3.	C57BL/6	20	9	57
4.	CD1	95	9	82
5.	DBA2	20	3	42
6.	CF1	159	-	13
7.	Holtzman Rats	2355	970	623
8.	Rabbits	92	6	92
9.	Bonnet Monkeys	-	-	115
10.	Marmosets	64	6	233

and counselling the centre has imparted training to the students in various aspects of medical genetics. As part of educational, teaching and training programme the Genetic Research Centre imparts 10 hrs genetic lecture series for B.Sc. and M.Sc. SNTD nursing student as part of their curriculum. Summer trainees from different part of the states are trained in various technologies used for cytomolecular diagnosis. The Centre also contributes in various institutional collaborative projects by providing clinical diagnosis and assistance in blood collections. And also gives first aid assistance for the staff in the institution.

11.2 Experimental Animal Facility

The Institute has a well maintained animal facility distributed over three floors and different species of laboratory animals such as mice (526), rats (623), rabbits (92), bonnet monkeys (115) and marmosets (233) are being maintained and taken care of by qualified and trained staff regularly including weekends and holidays. The details of animals sanctioned and supplied during the year are given in Table 20.

11.1 Institutional Animal Ethics Committee

The Institute is registered for breeding and conducting experiments on animals (Control and Supervision) with the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Ministry of Social Justice and Empowerment, Government of India (vide Registration No.78/1999/CPCSEA dated 11

March 1999) and has been renewed up to 2009.

The Institutional Animal Ethics Committee, including CPCSEA nominee, reviews the project proposals involving laboratory animals as animal model. The Committee overviews that the laboratory animals are housed in an appropriate environment, properly taken care of and used only when other *in-vitro* methods cannot provide the desired information. In brief, the Committee ensures that the concept of 3R's – Reduction, Refinement and Replacement in the use of animals in research is being followed.

During this year, two meetings were convened on September 27, 2007 and March 25, 2008 and animals were supplied to 39 different projects approved by the Institutional Animal Ethics Committee.

11.2 Institutional Clinical Ethics Committee

The Institutional Clinical Ethics Committee meetings (ICEC) reviews all research projects which involve participation of human subjects including use of clinical material. Approval from the IEC is a necessity prior to initiation of the study. The IEC is now streamlining annual review of the progress of previously approved projects and updating the guidelines for Standard Operating Procedures. IEC also plans to initiate monitoring facilities of the ongoing projects. During the reporting year six new projects were submitted for review, three projects were approved after minor revision in

the projects and the major review was proposed for three projects.

In the current year, a new chairperson, four new members and one new institutional member have been appointed. During the reporting year, two meetings were held (November 27, 2007 and March 6, 2008) and a special meeting (ICSCRT-Institutional Committee for Stem Cell Research and Therapy) was held for a detailed review and discussions on the research projects in the area of stem cell research. The IEC has registered at the Office for Human Research Protection. The ethics committee has also obtained Federalwide Assurance (FWA) number, FWA00013637, on September 15, 2008 by the office for Human Research Protections (OHRP). Procurement of this number is essential as the funding agencies verify whether the institute has an active OHRP approved FWA or not.

11.5 National Center for Primate Breeding and Research

The National Institute for Research in

Reproductive Health (NIRRH) has taken the initiative to establish a facility for breeding of Non human primates at Sasunavghar, Maharashtra. The project proposes to construct a quarantine building, in-door breeding and experimental facility and out door breeding facility including corals and corn-cribs.

The National Institutes of Health (NIH), USA, another partner of NIRRH in this venture, has consented to provide cages and some equipment required for animal health management. In addition, NIH has extended the services of their engineers and architects working at their primate centers for the designing of upcoming center in Mumbai. This would ensure that the upcoming primate center in Mumbai meets international standards, which are essential requirement for collaborative research programs. NIH has also sponsored the training of the Institute's four scientists in different primate centers in USA. Once fully functional, the facility will serve as a national resource centre for NHPs.



Fig.148 (a) Corridor of animal holding rooms in the Quarantine building (b) Quarantine building under construction (c) Laboratory area, operation theatre and administration sections of the Quarantine building. (d) Plynth in preparation for 16 concribs.

The construction work on three different sections of the Quarantine building namely The Animal receiving area, Animal holding area and the section which houses the laboratories, operation theatres, necroscopy, administrative office and the reception, is in full swing. Automatic cage washers have been procured and will be installed after the electrical and other construction activities are completed. Few of the equipment to be housed at the center has been received from the National Institutes of Health, USA. Formalities for acquiring the other equipment as agreed, are being processed. Architectural drawings are being prepared for the other areas of the Quarantine building and it would be sent to the experts at NIH for their final comments and approval. The construction of the approach road to reach the center is in its final stages.

A total of twenty five concribs have been

reproductive health care. A collection of manuals and books on basic techniques in molecular biology, immunology, cell biology, stem cell endeavoring to provide fully automated library, referral, and web-based services to scientists. Information on books and journals procured and services offered during the year is given in Table 21.

11.7 Biostatistics Department

Services for treating Reproductive Health Problems

As a part of interventions, clinic for Reproductive Health Services, namely 'Clinic for Men' and 'Clinic for Couples' initiated at Mohili Village and Bail Bazar Municipal health posts respectively since 2006, continued to provide services during the year 2007-2008 too. Services such as white discharge, primary and secondary infertility, sexual problems, sexually transmitted infections, gynecological problems, burning

Table 21: Books and journals procured and services extended during the year.

1. Acquisition		
Books	NIRRH	23
Journals subscribed	NIRRH	
Print		74
Print + online		36
Online		5
Books	GRC	11
Journals subscribed	GRC	
Print		3
Online		2
2. Services		
Number of users from other institutions		511
Number of photocopies provided to readers		1,07,838

planned of which the plinth work for sixteen has been completed. The work on the remaining nine concribs is underway.

11.6 Library and Information Center

The Dr G. M. Phadke Memorial Library and Information Center houses an exclusive collection of books, journals, databases, reports etc. on subjects encompassing all aspects of

micturition, information on ANC/PNC, motivation for NSV and post NSV follow-up, counselling for HIV positive and suspected cases, motivation for condom use and information on reproductive health issues were provided in these clinics by medical and para-medical staff.

Counseling Services:

As part of the intervention, counselling

services initiated since September 2005 in the Mohili Village municipal health post and Bail Bazar municipal health post continued to provide services in the year 2007-2008 too. Counseling on problems such as white discharge, infertility, sexual problems, sexually transmitted infections, gynecological problems, burning micturition as well as information on reproductive health issues such as ANC/PNC, spacing contraceptive methods and Non Scalpel Vasectomy (NSV), were provided in these clinics once in a week.

Pap smear screening for Cervical Cancer

During 2007- 2008, in Mohili Village and Bail Bazar, pap-smear camps for screening cervical cancer were conducted.

11.8 Bioinformatics support

The following services were provided to the faculty and students at the institute:

- a) Plotting of Restriction maps
- b) Plasmid map preparation
- c) Primer design
- d) Identification of homologs
- e) Installation of BiQAnalyser software
- f) Identification of documented SNPs
- g) Prediction of glycosylation and phosphorylation sites of proteins
- h) Prediction of antigenic sites in protein sequences

11.9 Confocal Imaging Facility:

The department of Neuroendocrinology provides assistance to staff and students of the Institute and outside Institutions for co-localization and 3-D imaging.

11.10 Core facility for DNA sequencing

The department of Molecular Endocrinology has been providing DNA

sequencing services to Institute projects. During the year the services were extended to Projects from following Departments:

Molecular Endocrinology

- i) Genetic analysis of PCOS
- ii) 21-Hydroxylase gene mutations in CAH
- iii) Analysis of NAT2 gene polymorphisms

Structural Biology

- i) Genetic analysis of FSH receptor
- ii) Modulation of FSH by Microseminoprotein

Neuroendocrinology

- i) Role of imprinting cluster in embryogenesis

Immunology

- i) Identification and characterization of antimicrobial peptides

Gamete Immunobiology

- i) Identification and characterization of human sperm antigens

Biochemistry

- i) Studies with 80 kDa human sperm antigens

Data generated has been published in reputed Journals by the different investigators.

11.11 Diagnosis of RTIs/STIs

The department of Infectious Diseases Biology has been providing support to the following Departments in the diagnosis of common RTIs like BV, Candida, Trichomonas infection, and sexually transmitted infection like *C. trachomatis* and Human Papillomavirus.

1. Department of Molecular Endocrinology and Infertility, National Institute for Research in Reproductive Health.
2. Gynecology and Obstetric Department, Seth G.S. Medical College and KEM Hospital, Parel, Mumbai.