

Education, Rehabilitation and Research Programme (ERRP) on yoga for Intellectual and Developmental Disabilities (IDD)

BACKGROUND

The Scientific Research Department, Kaivalyadhama, Lonavala, in collaboration with Sri Balaji Vidyapeeth's Centre for Yoga Therapy, Education and Research (CYTER), Pondicherry, between whom there is an already existing MoU, is currently preparing a comprehensive Education, Rehabilitation and Research Programme (ERRP) focused on yoga education for children with Intellectual and Developmental Disabilities (IDD).

The project will offer an innovative approach to applying and assessing the therapeutic values of yoga for children with IDD by developing examples of best-practice based on previous work in this field. The project will also combine qualitative and quantitative research methodologies in an optimal manner for evaluation of the impact of the unique approach towards yoga, as well as, the comprehensive protocol of intervention, on the quality of life of children with IDD and their caregivers. During the international conference on *Yoga & Education: Principles & Practice* hosted by Kaivalyadhama in December 2015, it emerged that yoga schools and institutes should lead the change in bringing the science of yoga to diverse communities and children in particular. Kaivalyadhama, as one of the oldest organised yoga institutions in the world and one of the leaders in yoga education and research, in collaboration with CYTER, is in an advantageous position to provide concrete experience-based solutions in this majorly unexplored field not only to the other institutions in the country working with special needs groups, but also to the global community, going forward. Bearing in mind that practice-cum-research led rehabilitation process acts as a gold standard in bringing true social change, the activities outlined below constitute a stepping-stone in this direction.

PREVIOUS WORK DONE (2014-2017)

Phase I (2014-15)

Kaivalyadhama's Scientific Research Department (SRD) had conducted case studies involving the efficacy of yogic practices on four children with IDD from Samwad Shaala, a local school for children with special needs, as a part of one of its exploratory research projects from October 2014 - April 2015. Dr. Praseeda Menon, Research Officer (Psychology), SRD, as the

Principal Investigator, Mrs. Anjali Vaidya, as the Yoga Therapist, and Mrs. Vijaya Dabhane, coordinator Samwad Shala, were all involved in this research project. The project involved case studies of four children, who were on the “mild-moderate intellectual disability” level as per standard intelligence testing. The yoga training for these children was conducted five days/week for approximately one hour/day for five months in two sustainable progressive modules. As part of the research study, after receiving informed consent from the school authorities and the parents of these children, certain psychological tests like reaction-time, and hand-steadiness, as well as, video recordings were conducted before and after the yoga training. Results from these psychological tests and video-recorded observations indicated marked improvements in their span of attention, their ability to follow instructions correctly, their sensory-motor coordination and their body-mind stability. The yoga teacher, the school in-charge, and the parents reported that there was also greater emotional and behavioral self-regulation in the children. Their irritability reduced; their patience and sociability improved. Some pictures of the research study are shown in Figure 1.

During the research period, some of the special teachers and parents were also trained by the yoga teacher in order to be able to continue yoga in the long run for the children in the school, and if possible, at their home during school vacations. Thus, with the support of Kaivalyadhama, yoga became introduced into the daily school curriculum of Samwad Shala for 45-60 mins. in 2015.

Nevertheless, insights gained from these case studies and from discussion with various involved stakeholders suggested the need for adopting a more creative approach when doing further work in this area. Three main insights were (1) children with special needs would benefit much more if given an opportunity to understand that yogic techniques can be incorporated into their everyday lives, as well as, that yoga can be fun, (2) an individualised approach is very important given that such children generally suffer from a variety of different physical and mental conditions, (3) if their existing teachers come to understand and enjoy yoga experientially, and recognise its positive ramifications, they would be well equipped to inspire their students to enjoy their practice.

Conference presentations from the research study:

1. Research paper presented at the Conference held during the International Day of Yoga 2015 in June at Talkatora Stadium, New Delhi.
2. Research paper presented at the International Conference on Yoga & Education held in December 2015 at Kaivalyadhama, Lonavala.

Publications:

Menon, P. (2015). *How Yoga Could Help 'Rewire' The Brains Of Mentally Disabled Children*. Retrieved from http://www.huffingtonpost.in/dr-praseeda-menon/how-yoga-could-help-rewir_b_8336520.html#

Special mention: The newspaper, DNA, covered this research as their news story both in print and online in 2015.

<http://www.dnaindia.com/mumbai/report-impaired-kids-benefit-by-yoga-practise-finds-new-study-2130785>



Figure 1: Yoga sessions at Samwad Shala in Lonavala

Phase II (2016)

During the above-mentioned research project, apart from the above three insights gained, we also identified the need for more qualitative and meaningful approaches to researching such groups, which would help us to not only assess participants' progress, but also to document their, as well as, their caregivers' struggles and subjective perceptions in a more real-life manner. Therefore, with a view to adopting a more creative approach to yoga for IDD children, as well as, as a trial of qualitative research methods, we planned a two-day fully sponsored rehabilitative social experiment, called Yoga Mela, with all the 25 children of Samwad Shala, their teachers and family members along with the staff and students of Kaivalyadhama, in March 2016 at Kaivalyadhama. While doing so, we collaborated with the then senior yoga therapist at CYTER, Pondicherry, Dr. Meena Ramanathan, who had twelve

plus years of experience of using yoga in an effective manner with special children. One of the chief facilitators of this event was also Dr. Krzysztof Bierski, a social scientist from Freie Universitaet Berlin, Germany. He brought his expertise of social and cultural anthropological qualitative research techniques and technologies to the experiment of Yoga Mela apart from his networking skills. What followed out of the fruitful discussions with him was a decision to create a ready-to-access repository in the form of a documentary for future rehabilitation and research work in this area.

The activities conducted during the Yoga Mela laid special emphasis on making yoga fun for children along with creating the best conditions that would lead to their spontaneous flowering. The activities included doing animal-inspired asanas with their respective sounds, body part awareness with tapping, relaxation, chanting, self-massage, laddoo making class with grated carrot and coconut mixture, laughter session with all the children, parents, teachers and volunteers lying on each other's bellies, film screenings showing the progress of the four children from Samwad that SRD had conducted case studies on followed by a reflexive session during which all participants along with parents, other family members and teachers shared their reactions and feelings. Every child had a student-volunteer from Kaivalyadhama taking care of their needs all throughout the two days of the event. These volunteers provided individual appraisal and showered praise on their child in front of everybody at the end of the day, as well as, hugged them before they left. The volunteers also made specific observations related to the achievements and struggles of each child so that the school could use it as feedback in planning the developmental activities of these children. The learning out of the Yoga Mela was also facilitated by Kaivalyadhama's student volunteers in the school setting after the event. Some pictures of the Yoga Mela are shown in Figure 2.

From the smiles, giggles, facial expressions, body language and social behaviour of the Samwad children during the Yoga Mela, it was very obvious that the children enjoyed doing yoga when it was made fun for them and when they were allowed their own time and rhythm in the practices. The explicit verbal feedback given by their parents and teachers also indicated that they thoroughly enjoyed the event, felt relaxed and refreshed, and even felt free from the stress of taking constant care of the children for some time. However, children having disabilities generally grow up with a lot of parental and societal restrictions as well as a basic lack of trust in their hidden potential. Observations during the two-day Yoga Mela revealed a need for change in this widely prevalent attitude. Numerous examples during the two days of activities presented ample proof of the benefit of starting to see the world from the perspective of the children rather than closing them up in a banal frame. It was also clear that using love, trust, patience and freedom more often in our interactions with them provides them the fertile ground to blossom on their own even if it is at their own speed and rhythm.

By filming the reactions and interviews of all the involved stakeholders during and about the Yoga Mela, we were able to orient qualitative research questions for further work in this field. The entire process and experience of the Yoga Mela social experiment was put together for public access in the form of two documentaries, one, the 5 mins. promotional film, and second, the 20 mins. film explaining the teaching methodology and unique approach taken to

yoga when working with a special needs group. The links to the two documentaries are available below.

<https://youtu.be/wSAQ1X82tUs>

5 mins promotional film

<https://youtu.be/qWuZRZAdrWs>

20 mins full-length film



Figure 2: Yoga Mela for students of Samwad Shala at Kaivalyadhama

Phase III (2016-17)

After the huge success of the Yoga Mela experiment and thereafter, the tremendous appreciation pouring in from all quarters with the launch of the documentaries on easy-to-access social media in September 2016, the next step involved taking the outcomes of the Yoga Mela, in the form of the experiential learning obtained and/or the repository of the

documentary, to some of the existing special schools within Maharashtra with a view to establishing collaborations with them and spreading this unique experiment of 'special-needs-fun-yoga' among them.

Yoga workshop at Adhar

In line with this, Dr. Meena Ramanathan, with special help from Mr. Neeraj Churi, a well-wisher and a yoga enthusiast, held a two-day workshop somewhat similar to Yoga Mela at Adhar, Badlapur, Mumbai, on 25th & 26th December, 2016. Adhar is a residential lifetime shelter at Badlapur, which takes care of people of both genders with special needs from 18-76 years of age. During the two-day workshop, two different groups, which included Adhar residents with special needs, as well as, their in-house caregivers enjoyed fun-filled yoga. The workshop also included yogic counselling and consultations for Adhar staff in order to energize them in their caregiving abilities. There were a total of six sessions, four sessions for the residents and two for the caregivers. During this workshop, Dr. Meena Ramanathan introduced different yogic techniques such as Jathis, Kriyas, Asanas, Pranayama, stretching postures, and yogic relaxation in an innovative and enjoyable manner. For example, the Jathis that she taught helped to create awareness of the body part being manipulated. Yet another fun-filled innovative practice that she taught the participants was animal-walking along with making various sounds in order to combine the physical benefit of the postures with the release of pent-up negative energy through uttered sounds in a fun way. The Adhar residents and employees enjoyed this session very much. Dr. Meena Ramanathan also taught participants to relax in Shavasana with proper yogic breathing and different sounds. All the participants felt very relaxed after doing these practices. A total of 119 beneficiaries benefited from this workshop, which included 74 residents of Adhar and 45 Adhar employees. A few pictures of the workshop at Adhar are given in Figure 3 below.

Yoga workshop at Sangopita

The immensely successful two-day workshop at Adhar was consecutively followed by a similar workshop at Sangopita from 27th-28th December 2016. Sangopita: A Shelter for Care, is a residential centre for children and adults of both genders with IDD. The centre is located in the village of Bendshil near Badlapur, Mumbai. Each day had two sessions for the special kids and one session for the caregivers. Thus, there were a total of six sessions spread over two days at Sangopita, four sessions for the residents and two for the in-house caregivers. Each session continued for 1.5-2 hours. The sessions were planned in such a way that all the participants enjoyed thoroughly. The sessions started with chanting, followed by a few Jathis and Kriyas as warm up and flexibility training practices. After that, the participants practised asanas standing, sitting, and lying down in both prone and supine positions. More concentration was given to Pranayamas combined with Nada (sound), where the participants were made to exhale with sounds of aakara, uukara, and Makara Nada such as Pranava Pranayama. They then practised the Brahma Mudra followed by relaxation sessions. The sessions ended with shlokas, chant of the Gayatri Mantra and the Shanti Mantra. A few pictures of the workshop for Sangopita residents are given in Figure 4 below.

The response from the students at Sangopita was astounding. They were clapping, very cheerful and wanted to continue the sessions and not stop at all. They were impatiently waiting for their session the following day, all set and ready. The caregivers reported that the children had been in a very good mood throughout the evening and the night, and there were no tantrums at all. Normally, they had to be forced and pushed to do things, but they happily came over to the hall to practice yoga. They also cuddled and surrounded Dr. Ramanathan completely, which showed the bond and the love they had developed for her within a day's time.

Ongoing yoga at Adhar and Sangopita

A noteworthy point is that after these two workshops at Adhar and Sangopita, a schedule of yoga practices that Dr. Ramanathan had worked out for both the centres is being followed by them during the morning assembly and in the last hour of their daily activity in the evening.

Thus, as an outcome of these workshops, the yogic schedule is being practised twice a day regularly in both the centres.



Figure 3: Yoga workshop for residents of Adhar in Badlapur



Figure 4: Yoga workshop for residents of Sangopita in Badlapur

Visit to Sanjeevan Deep Centre, Mumbai

In taking parallel efforts to carry the work forward, the team from the Scientific Research Department, Kaivalyadhama, comprising of Dr. Praseeda Menon and Dr. S. D. Pathak visited Sanjeevan Deep Centre, Airoli, Mumbai, in December 2016 in order to establish a collaboration with them (Figure 5). This centre runs a day care centre for IDD and hearing impaired children, as well as, a vocational rehabilitation class for their students above 20 years of age. There were four categories of classes for IDD children in this centre based on their age, severity of disability, and presence of behavioural problems. The total strength of the IDD children in this centre is 53, currently. The most interesting thing for us was that yoga was already taught as a part of their curriculum twice in a week for 40mins. each time. Thus, the children and teachers were not new to yoga practice. Three special needs teachers taught yoga to children along with other subjects. We also screened the Yoga Mela videos for all the teachers and staff, so that they could have some idea about the work of Kaivalyadhama in

this area. This was followed by a discussion with them. The special teachers liked the video very much, and during the discussion, the three yoga teachers gave their inputs on what they learned new from the video. Other teachers also gave their inputs and remarked that they were willing to cooperate with Kaivalyadhama for the benefit of their school and children. The discussion about a prospective collaboration was equally fruitful with the administrative staff of Sanjeevan Deep Centre.



Figure 5: Kaivalyadhama’s visit to Sanjeevan Deep Centre, Mumbai

Visit to Kamayani Special School, Pune

The visit to Kamayani Special School, Pune, by Dr. S. D. Pathak, Dr. Praseeda Menon and Mrs. Akshata Badave from the Scientific Research Dept. (Figure 6) was also a part of the networking initiative with special schools in order to establish collaborations in the nearby major cities. Dr. Asha Deshpande, Director of Research, Kamayani, introduced us to some of the faculty and teachers, following which, we had a screening of the 20 mins. documentary elaborating Kaivalyadhama’s efforts at using yoga for IDD. After the movie screening, we had a closed group discussion in order to know the staff’s views and suggestions about a collaborative research project. Some noteworthy points of the discussion were: (1) they thought it would be better to take only a limited number of children at Kamayani for this sort of research instead of all, (2) age group and other selection parameters need to be pre-determined, and that it would be better to do such a research on children with greater emotional and behavioural problems. They suggested that it would be better if Kaivalyadhama

could provide yoga teachers to them instead of their yoga teachers getting trained and then teaching their children as their teachers remain busy with existing activities.

We had a brief summarizing discussion with Dr. Deshpande after the tour of the campus about the way ahead. She said that they would definitely like to collaborate with Kaivalyadhama in such a study and that she would present this idea to the Research Advisory Board of Kamayani. We told her that we were planning to organize a two or three day training programme for special teachers sometime mid-year and that we would appreciate if a couple of Kamayani teachers, who were interested in introducing yoga to children, would participate in this programme.



Figure 6: Kaivalyadhama's visit to Kamayani Special School, Pune

Phase IV (2017-18)

After the encouraging response from the participants with special needs, their teachers, caregivers and parents at the yoga workshops organized at Adhar and Sangopita in December 2016, as well as, the networks established with Sanjeevan Deep Centre, Mumbai, and Kamayani, Pune, Kaivalyadhama and CYTER would now like to come up with a more penetrating, open for all, and fully sponsored workshop, under the Education, Rehabilitation and Research Programme (ERRP) to "train the trainers" from the above-mentioned and other such centres. The purpose of this workshop is to empower the resource people and caregivers at various centres working in the area of special needs to conduct fun-filled yoga sessions for their wards on an ongoing basis. Yet another purpose of the workshop would be to create a

base for research, and to educate the workshop participants with the tools and methods to engage with the longitudinal research aspect of the programme. In line with the purpose of holding such a workshop, the aims and objectives are mentioned below.

1. The two main aims of the proposed ERRP are:

- a. To enhance the quality of life of people with IDD and their caregivers, as well as, empower them through yogic practices.
- b. To create opportunities for gathering of research data, as well as, building up research literature related to the first aim.

2. The objectives to be achieved in line with the above-mentioned aims are as follows:

- i. To create awareness among the caregivers of people with special needs that yoga can contribute to their overall development, and could be taught in a way that people with special needs would not only take it up as an everyday practice and as a way of life, but also enjoy doing so.
- ii. To train a greater number of educators from existing special schools/centres in using yogic practices in an interesting and fun-filled manner for special-needs groups to be able to provide the fertile inner ground required for their overall development.
- iii. To undertake longitudinal qualitative and quantitative research on the role of yogic practices in influencing the quality of life of people with IDD, as well as, empower their caregivers at the schools/centres with the observational tools to periodically monitor the struggles and victories of the IDD group, as well as, that of all involved caregivers in this intervention activity.

3. The specific goals in order to achieve the above-mentioned objectives are as follows:

- i. To organize a fully sponsored train the trainers programme (TTP) in order to bring the special educators, parents, and other caregivers of the special children together.
- ii. To create awareness about using yogic practices in an interesting way, as well as, to familiarize the special educators with the novel yoga protocol through the TTP.
- iii. To equip the special educators to handle the yoga sessions independently in their respective schools through the TTP.

- iv. To create a feedback mechanism in order to follow-up and monitor the progress of the yoga module back in the schools, as well as, to ensure periodic observations with regard to the chosen research variables

The first step in the undertaking the above-mentioned ERRP will be to network with existing establishments working with special needs and organize a TTP.

Train the Trainers Programme (TTP)

Nature of the TTP:

Three days of intensive training administered by Dr. Meena Ramanathan (CYTER) and Dr. Praseeda Menon (Kaivalyadhama).

Two days of training given by Dr. Meena Ramanathan on

- Things to be considered when teaching yoga to special needs people
- The yoga protocol for people with special needs and their caregivers
- How to measure/gauge progress.

One day of informative lectures by Dr. S. D. Pathak, and explanation of the research protocol followed by discussion by Dr. Praseeda Menon on

- The medical view of IDD and the research process and observational tools for research

Participation certificates will be jointly offered by CYTER and Kaivalyadhama to the participating representatives from the schools. Selection of participants will be based on a statement of purpose (SoP) submitted by the participants when applying for the TTP. One or two representatives will be chosen from every participating school for the TTP. During the TTP, their motivation and commitment will be gauged in order to be a part of the broader ERRP, and only those found totally committed with their genuine interest, effort, time and sincerity will be involved in the longitudinal research process. Also, for the current research, only people with IDD will be the main focus of research when collecting data on chosen research variables.

Participants:

The participants can be existing special educators, caregivers, physiotherapists, physical education teachers or even parents who will commit to conducting classes for people with special needs. We will be selecting one or two representatives per participating school.

Target group:

We have commitments from Adhar, Badlapur and Nashik, Sangopita, Badlapur, and Sanjeevan Deep Centre, Mumbai. Apart from these three centres, the goal will be to have participation from 10-15 institutes that run one or more schools for special children in Mumbai, Pune, as well as, other parts of Maharashtra. The total trainers participating in the program should not exceed 30. One thing to be considered is prioritizing schools which have participated in workshops either with CYTER or Kaivalyadhama previously, in order to be sure of their commitment and training abilities.

Resource people:

Dr. Meena Ramanathan's will be the chief facilitator for the yogic practices in the TTP. She is currently the Deputy Director of CYTER, Pondicherry. Her experience is invaluable since she has been involved in a successful project with IDD children for the last twelve years at Saday school in Pondicherry. The project at Saday has been conducted under the auspices of the CYTER unit of Sri Balaji Vidyapeeth, Pondicherry.

Dr. Praseeda Menon will be the Principal Investigator of the research programme. She currently works as a Research Officer in the Psychology Section, SRD, Kaivalyadhama. She has previously conducted research in the area of yoga for IDD, and is very enthusiastic about researching the impact of fun-filled yoga on the quality of life of people with IDD, as well as their caregivers, through innovative research methods and technologies.

Dr. S. D. Pathak, Research Associate, SRD, Kaivalyadhama, and a retired civil surgeon will act as one of the key persons in raising funds for the project as well as giving some informative lectures related to the medical angle of IDD to participating teachers.

Other faculty from SRD and CYTER will assist in the TTP and the ERRP as per requirements.

Location:

This will depend on the concentration of participating schools. The two already available options are Sanjeevan Deep Centre, Airoli, Mumbai, and Kaivalyadhama, Lonavala.

Timelines for the ERRP:

This will be subject to availability of funds, resource people, as well as, the facility to conduct the training. However, the timeline for organizing the TTP will be 4-5 months from the time of availability of funds for the same. The timeline of conducting longitudinal research will be spread over a period of 12-18 months from the time of availability of funds for the same after conducting the TTP.

Budget for the ERRP:

The proposed budget for the above ERRP is Rs. 7,25,000, which include expenses of:

- a. Networking with various institutions/centres working in the area of special needs
- b. Organizing the TTP
- c. The longitudinal research

Break-up of the proposed budget:

- | | | |
|----|---|------------|
| a. | Networking with various institutions/centres | Rs. 25,000 |
| | working in the area of special needs | |
| | (through phone calls, visits, emails, physical mail etc.) | |

- b. Organizing the TTP R s .
2,00,000
- i. Travel of faculty from CYTER and Kaivalyadhama to the TTP location
 - ii. Travel of yoga and research assistants from both institutions
 - iii. Transportation of the participants to the training location
 - iv. Lodging and food costs for all faculty, assistants and participants
 - v. Purchase of training books, printing/copying of training material
 - vi. Equipments for training activities
 - vii. Decoration, gift items for participants
- c. The longitudinal research R s .
5,00,000
- i. Screening of research subjects with IDD with professional help
 - ii. Travel of faculty from both institutions for research related meetings and discussions with each other and the TTP participants
 - iii. Travel of the research team for data collection at research sites, if required
 - iv. Purchase of books for research, Printing/copying of research material
 - v. Postage charges for mailing of research material, phone follow-ups
 - vi. Professional help for periodic video recordings of yoga at various research sites
 - vii. External hard disks for storage of data
 - viii. Consultation with experts in research and quantitative/qualitative data analysis
 - ix. Purchase of relevant articles from online research databases
 - x. Expert consultations for qualitative scientific writing
 - xi. Research article processing charges for submission to journals
 - xii. Other research related tasks
- Total = Rs .**
7,25,000/-

Expected outcomes from Phase IV:

- i. Awareness among the caregivers of people with special needs that yoga can impact their, as well as, their wards' quality of life significantly if introduced in an appealing manner.
- ii. Training of larger number of special educators and caregivers in using yogic practices for the overall and holistic development of people with special needs.
- iii. Creating a base for participative, innovative, action-led research for investigating the impact of yogic practices in influencing the quality of life of people with IDD and their caregivers.