

Incorporating Nurturing Care for Early Childhood Development in Pre-service and In-service Training

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Early childhood development refers to a child's development from conception till eight years of life, the first 1000 days being the most important. The WHO guideline on nurturing early childhood development encourages attention to good health, nutrition, opportunities for early childhood learning, responsive care, and security. The Indian Academy of Pediatrics (IAP) released its consensus statement on early childhood development in 2020 which highlighted the role of pediatricians to lead the community in general and parents in particular to understand how to nurture early childhood development. This article looks at the current undergraduate and postgraduate medical curricula in India to analyze how they address early childhood development. Based on identified lacuna, we have proposed suggestions for change in the current curriculum to ensure that the future doctors in general and pediatricians in particular are prepared for their intended role to promote nurturing care for early childhood development.

Keywords: 1000 days, Curriculum, Development, Medical education.

Early childhood development (ECD) is a generic term that refers to a child's cognitive, social, emotional, language, and physical development in the formative years of brain growth. The early childhood period encompasses several distinct phases of a child's life, starting from conception till eight years of life. Of this, the first 1000 days are considered as the critical period for brain growth. The World Health Organization (WHO) guidelines on Nurturing Early Childhood Development, highlight the promotion of five essential components. These are: good health, adequate nutrition, opportunities for early childhood learning, responsive care, and security and safety. The WHO recommendations on ECD focus on provision of these components during early childhood and support of maternal mental health [1].

The Annual Conference of Indian Academy of Pediatrics (CIAP- PEDICON 2021) was held at Mumbai India, from February 4-7, 2021 with the theme "Nurturing Care for Early Child Development (NC-ECD)". IAP along with National Neonatology Forum (NNF), Federation of Obstetric and Gynecological Societies of India (FOGSI), supported by UNICEF and World Health Organization has shown a strong commitment to the cause, as evident by releasing the 'Mumbai Call to Action on Nurturing Care for Early Childhood Development' at the culmination of this event [2]. Of the five action plans that have been committed by IAP towards NC-ECD, action four pertains to "Change perceptions and practices of medical students and allied

professionals." The IAP Consensus Statement on promotion of ECD also highlights the role of the pediatrician in promoting positive parenting and leading awareness amongst parents about nurturing care, besides the role in care of newborn and young child in health and diseases [3]. This encouraged us to take a look at the undergraduate and postgraduate curricula in India to evaluate how well we are preparing our students for this role.

PRE-SERVICE TRAINING FOR ECD

Training of health professionals must be responsive to changing societal needs. There have been many instances where targeted trainings have been initiated to meet new challenges. Most of the training of the health professionals is, however, in-service and a major chunk of budgetary provisions are used for it. However, the results of such training are often unpredictable due to wide variation in the background of manpower being trained, non-availability of qualified trainers and logistics of reaching out to the vast workforce [4]. In contrast, pre-service training provides a fertile ground, being low cost, spanning over a longitudinal period and this strategy catches the participants when they are still in their formative phase. It, however, may not be as effective due to outdated information, non-exposure of students to situations where such training can be used and confounding effect of assessments, which may not be in sync with such training. In a way, training can be compared to vaccination – with pre-service inputs serving as the primary

dose, which build up the initial knowledge and skills (albeit liable to attrition over time), while periodic in-service training acts as a booster that maintains and sustains the effect [5]. Involving professional associations (like IAP) updates the pre-service training with the contemporary recommendations.

The erstwhile Medical Council of India updated the undergraduate (UG) medical curriculum in 2018 with a goal of creating a workforce of doctors who would be skilled in helping achieve the national goal of 'health for all'. To fulfill this goal, the curriculum was revised to enable the Indian medical graduate (IMG) to be a responsive physician of first contact in the community for preventive, promotive, and curative care [6]. The role of the IMG with respect to early childhood development starts with care of the adolescent girls and women of childbearing age to ensure a safe pregnancy, and birth of a healthy newborn. The role also includes monitoring of the growth and development of the infant during the first 1000 days of life, while ensuring appropriate nutrition and a nurturing environment.

WHAT WE HAVE IN THE CURRENT UNDERGRADUATE CURRICULUM

The current competency based medical curriculum, includes several competencies that train the IMG regarding ECD in the subjects of community medicine, obstetrics and gynecology, and pediatrics. These are listed in Supp **Table I**. The curriculum also suggests integration between various subjects to help the students develop a better perspective of health issues. For example: fertilization, genetics, anatomy of the reproductive tract and physiology of pregnancy are topics that teachers of obstetrics and gynecology may integrate with anatomy and physiology. The competency table also recommends integration between the subjects of biochemistry, pediatrics, clinical medicine, and community medicine on topics related to micronutrients, vitamins, nutrition, diet planning, breastfeeding, lactation, immunization, and various nutrition related national health programs.

WHAT WE DON'T HAVE IN THE CURRENT MEDICAL CURRICULUM

A familiarity and introduction to the concept of Early Childhood Development

Even though there are nearly 200 competencies that directly relate to elements of ECD and many more that indirectly influence the various aspects and factors affecting ECD, the IMG is never really introduced to the concept or the term ECD, directly or holistically. Similarly, the objectives of the postgraduate (PG) pediatric curriculum, though encompassing various aspects of normal growth, nutrition and development, as well as the problems in these areas, do not

acquaint the budding pediatrician with the term ECD or the broad areas of health care that it includes.

Focus on nurturing ECD

UG and PG medical training has aptly focused on antenatal care, newborn care, immunization, development, growth and nutrition, but it has generally overlooked the role of the other components of ECD, like early childhood learning, responsive parenting, and safety and security. A pediatrician is expected to be able to answer all questions related to the development of a child. The existing curriculum while focusing on normal and abnormal development of children, does not lay stress on the social, emotional, and behavioral aspects of development. The postgraduate pediatric training does not enable pediatricians in the making, to guide new parents, or to respond to questions pertaining to 'responsive parenting' or to demonstrate how to provide 'learning opportunities' to children.

Integration of concepts of ECD across subjects

The subjects of obstetrics, pediatrics, and community medicine include the competencies relevant to ECD. However, these do not figure amongst the topics listed for alignment and integration. It is likely that the integration strategies utilized by each of the subjects may still leave a lot to be desired with respect to development of the concepts of ECD in the minds of the Indian medical graduate. Nevertheless, it should be considered.

The postgraduate training in pediatrics lacks an integrated clinical exposure. Antenatal care is discussed only in relevance to neonatal morbidities and mortality without highlighting the importance of maternal mental health. Pediatric training also does not focus on the role of a pediatrician in the community with respect to promotion of ECD. Most of the skill training is generally hospital based and focuses on evaluation and management of deviations rather than promotion and maintenance of normal childhood development in the community setting.

In addition to the content, a major issue seems to be distribution of competencies across subjects and lack of 'whole task' competencies. With content expertise in this area, IAP needs to work on the following strategies:

- Use its association with WHO, United Nations International Children's Education Fund (UNICEF), National Medical Commission (NMC) and other professional bodies like the Federation of Obstetric and Gynecological Societies of India (FOGSI) and Indian Association of Preventive and Social Medicine (IAPSM), to advocate in developing and including in the curriculum, the competencies which mirror the actual work expected from UG and PG students. Enlisting these

competencies and helping the students, with appropriate assessments and progress towards the larger competencies related to ECD, also need to be included in such advocacy. Suitable modifications should also be made to the 'competency to objectives' document developed by IAP taskforce for implementation of Competency Based Medical Education in UG Pediatric Education.

- Develop integrated teaching modules to include competencies spread across subjects. Advocacy to NMC to include ECD in the list of topics recommended to be taught in an integrated manner will go a long way in preparing the students for their future role.
- Promote establishment of 'Child health promotion corners' within pediatric outpatient departments, that function to promote the concepts of NC-ECD, in all teaching hospitals (these could be named as 'ECD Clinics' to give them a distinct identity). To begin with, this could be a part of well-baby clinics with gradual expansion to cover all activities as outlined above. This concept can be promoted through the Medical Education Chapter of IAP. One or two medical colleges in each state should be encouraged to develop expertise, infrastructure and protocols to function as 'regional centers', which can then provide training and consultations about the development of similar corners in other teaching and non-teaching hospitals.
- Advocate NMC to include ECD in the list of electives for the UG students. The medical colleges (or envisioned regional centers) that have well established 'child health promotion corners' could attract students for their elective postings. To develop the interest of UG students in this concept, they should be exposed to these areas during the compulsory posting in the subjects of pediatrics, community medicine and obstetrics and gynecology. Integrated teaching can provide a useful opportunity.
- Rotation through ECD clinics should become a part of postgraduate training, as should integrated teaching sessions with postgraduates from other departments. Greater attention to pre-service clinical practice and postgraduate mentoring have been shown to be more effective than curriculum change [5].
- External motivators can add to the 'appeal' of ECD for both UG and PG students. Short term research projects of Indian Council for Medical Research (ICMR), PG theses, visibility in UG and PG quiz programs etc. can be included, in addition to other local incentives.
- Evaluation of training must be an integral part of these efforts. The focus must shift to outcomes rather than output. The model of training evaluation developed for

Integrated Management of Neonatal and Childhood Illnesses (IMNCI) can be suitably adopted rather than re-inventing the wheel [7].

IN-SERVICE TRAINING FOR ECD

Contrasted to pre-service training where emphasis is on 'theory- to -practice', in-service training generally focuses on 'practice -to- theory- to -practice' route as it involves some degree of unlearning and then relearning [8]. Rather than being a stand alone entity, in-service training should try to build on the pre-service knowledge and skills by providing additional knowledge and skills, and effective supervision. A recent review on the quality of in-service training for immunization found tutor competence as a limiting block [9]. Tutor training (or training the trainers) is as important as practitioner training for success of the program.

Contrasted to pre-service training, in-service training is generally voluntary, albeit attendance may be forced through by employers [10]. Needs assessment, appropriate learning activities and follow-up of learning are essential for successful in-service training. Such training is also shorter compared to the pre-service model and therefore provides less time and opportunity for self-assessment and reflection. A research using theory of planned behavior suggested that changing the attitudes is more likely to result in application of new knowledge than regulatory requirements [11]. The training should therefore focus more on attitudinal change rather than on transmission of knowledge; this again brings the importance of tutor training to the fore.

Program evaluation is crucial for in-service training models to allow optimum utilization of resources. Kirkpatrick or Logic models provide useful theoretical basis for evaluation. Again, the focus should be on outcomes rather than only output; process evaluation must also get due emphasis rather than only product evaluation.

A concerted approach to training involving both pre- and in-service models is crucial for the success of preparing health workforce for ECD. A centralized curriculum under one regulator can be used to our advantage.

THE WAY FORWARD

Indian Academy of Pediatrics is committed to achieve the Sustainable Development Goal (SDG) Target 4.2 i.e., 'By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education'. One of the corresponding indicators (4.2.1) is the proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex [12]. The current estimates of 45% of young children in India being at risk of poor development is not acceptable [13]. The

Academy with its strength of 32,000 plus members has the potential to make a definite impact, not only by capacity building of its workforce i.e. pediatricians; but also by preparing and implementing the systems needed to ingrain in the minds of upcoming pediatricians and the medical fraternity. This can only be achieved by evolution of the current curriculum of graduate and postgraduate medical education by including the ECD component in a big way, as suggested in this brief.

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REFERENCES

1. Improving Early Childhood Development: WHO guideline. Geneva: World Health Organization; 2020. Accessed February 25, 2021. Available from: <https://www.who.int/socialdeterminants/themes/earlychilddevelopment/en/>
2. Gupta P, Basavaraja GV, Pejaver R, et al. Mumbai 2021 Call for Action. Addressing the need to incorporate 'Nurturing care for Early Childhood Development' in Pediatric Office Practice. *Indian Pediatr.* 2021;58:215-16.
3. Bharadva K, Shastri D, Gaonkar N *et al.* Consensus statement of Indian Academy of Pediatrics on Early Childhood Development. *Indian Pediatr.* 2020;57:834-41.
4. Berdzuli, N, Rossi, E, Zlidar, V. Improving family planning pre-service education: Experience from the Eastern Europe and Eurasia Region. Europe and Eurasia Regional Family Planning Activity for the U.S. Agency for International Development. Accessed February 25, 2021. Available from: https://publications.jsi.com/JSIInternet/Inc/Common/download_pub.cfm?id=10486&lid=3
5. Feldacker1 C, Chicumbe S, Dgedge M, *et al.* The effect of pre-service training on post-graduation skill and knowledge retention among mid-level healthcare providers in Mozambique. *Human Resources for Health.* 2015;13:20
6. Medical Council of India. Competency-based undergraduate curriculum for the Indian Medical Graduate. 2018 Vol. I, II and III Accessed 20 March 2021. Available from <https://www.nmc.org.in/wp-content/uploads/2020/01/UG-Curriculum-Vol-I.pdf>
7. IMCI: Preservice education. A guide to evaluation. Regional Office for Eastern Mediterranean. Document WHO-EM/CAH/192/E. 2010.
8. Institute of Education. Pre-service and in-service teacher training. Accessed February 24, 2021. Available from <https://inee.org/system/files/resources/IOE2012ITTStrategyDocument.pdf>
9. Nicol E, Turawa E, Bonsu G. Pre-and in-service training of health care workers on immunization data management in LMICs: A scoping review. *Human Resources for Health* 2019; 17:92 <https://doi.org/10.1186/s12960-019-0437-6>.
10. Anshu, Singh T. Continuing professional development of doctors. *National Med J India.* 2017;30:89-92.
11. Singh T, Grave WD, Ganjiwale J, et al. Paying attention to intention to transfer in faculty development using the theory of planned behavior. *Am J Edu Res.* 2014;2:361-65.
12. Sustainable Development Goal 4 (SDG 4). Accessed February 22, 2021. Available from: <https://sdg4education2030.org/the-goal>
13. Countdown to 2030-Women, Children and Adolescent's health. India Country Profile. Accessed February 14, 2021. Available from: www.nurturing-care.org

Web Table I Early Childhood Development Competencies for Obstetrics and Gynecology, Pediatrics and Community Medicine in Undergraduate Curriculum of National Medical Council

No.	Topic	Number of competencies	Core (Y/N)
<i>Obstetrics and Gynecology</i>			
OG 1	Demographic and vital statistics	3	Y
OG 4	Development of fetus and placenta	1	Y
OG5	Pre-conceptional counselling	2	Y
OG 8	Antenatal care	8	Y
OG 9	Complications of early pregnancy	5	Y
OG 12	Medical disorders in Pregnancy	8	Y
OG 17	Lactation	3	Y
OG 18	Care of the newborn	4	Y
OG 35	Obstetrics and gynecology skills	2	Y
OG 36	Obstetrics and gynecology skills	2	Y
<i>Pediatrics</i>			
PE1	Normal growth and development	7	6 Y(1 N)
PE2	Common problems related to growth	6	Y
PE 3	Common problems related to development-1, Developmental delay, cerebral palsy	8	7Y(1N)
PE 4	Common problems related to development-2, Scholastic backwardness, ADHD, Autism, learning disabilities	6	N
PE 5	Common problems related to behavior	11	N
PE 7	Breastfeeding	11	Y
PE 8	Complementary feeding	5	Y
PE 9	Normal nutrition, assessment and monitoring	7	6Y(1N)
PE10	Provide nutritional support, assessment and monitoring for common nutritional problems	6	5Y(1N)
PE 12	Micronutrients in health and diseases-1 (vitamins)	21	13Y(8N)
PE 13	Micronutrients in health and diseases-2 (Iron, iodine, calcium, magnesium)	14	11Y(3N)
PE 16	Integrated management of childhood and neonatal illnesses guidelines	3	Y
PE 17	National health programs, NHM	2	Y
PE 18	National health programs, RCH	8	Y
PE 19	National programs, RCH-Universal immunization programs	16	15Y(1N)
PE 20	Care of the normal and high-risk newborn	20	Y
PE 35	Role of physician in the community	1	Y
<i>Community Medicine</i>			
CM 5	Nutrition	8	Y
CM 10	Reproductive maternal and child health	9	Y
CM 17	Health care of the community	5	Y

Prepared from information available in ref no 6.