

Effectiveness of an Interprofessional Education Module on Care of Autistic Children in Enhancing the Interprofessional Competencies among Students of Healthcare Professions: A Study Protocol

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Abstract

Background: Autism Spectrum Disorders are neurodevelopmental disorders that are being identified in children in current days due to the emerging technological and healthcare advances. Most often, children require specialized care from various healthcare practitioners by referral systems which requires parents/caregivers to take children from one place to another. Interprofessional Practice is a collaborative approach in professional care where healthcare providers work with people from within their own profession, with people outside their profession and with patients and their families. The process becomes laborious when practitioners do not appreciate the concept of Interprofessional Education. Being the future workforce, students from health professions should learn together to have better understanding of each other's roles and responsibilities and learn to have effective team communication. A collaborative approach is crucial in autism, to enable quality care for well-being and assist to provide early and comprehensive evaluation and appropriate interventions.

The objective of the study is to develop an Interprofessional Education Module on care of autistic children for Students of Healthcare professions and evaluate its effectiveness in enhancing the Interprofessional Competencies among them.

Method: Quantitative pre-test-post-test approach. Phase 1 - development of the Module and Assessment Tool; Phase 2 - testing the Tool among 40 students from selected disciplines. Module and Tool will be prepared based on review of literature, semi-structured interviews, focus group discussion and needs assessment. Reflective summaries will document the Interprofessional Education experience of the students.

Discussion: There are no comparable method of Interprofessional Education for care of children with autism, therefore, appraisal by experts will be considered as a critical step in validating the module and tool. Descriptive and Inferential Statistics will be used for analysis.

Keywords: Autism Spectrum Disorders, Communication, Healthcare Professions, Interprofessional Competencies, Interprofessional Education, Interprofessional Practice, Students, Teamwork.

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Introduction

Children are the building blocks of every country's present and will grow up to become the future of its development and existence. Parents/family members/caregivers try their best to provide every possible

facility to the children and ensure that the best possible opportunities required to attain their highest potential in life are available to them. However, communities have considerable differences in expressing their responsibility in the health of children and the availability of resources to meet their special needs. Of late, there has been an added urge to concentrate attention on concerns that have an effect on children and to improve their existing health status. Children are being appreciated not only for who they are today but also for the roles they will have in the future in establishing healthy families, powering the workforce, and yielding success in the work of the nation. Evidence has corroborated that the state of health established during childhood, tunes the stage for accomplishment of wholesome health during their adulthood. This helps create noteworthy moral, social, and economic imperatives to make sure that the children are healthy. "Healthy children are more likely to become healthy adults"¹.

Dramatic advances have occurred in healthcare over the past years causing reduction of death among children under a year, reduction in death and illness due to infectious diseases and accidents, increase in accessibility to healthcare, and reduction in pollutants and pollution in the environment. Conversely, WHO states that congenital anomalies, injuries, and non-communicable diseases are becoming apparent as the areas of main concern. Advancement in the care of communicable diseases, improvements in reproductive, maternal and child health aspects, conjoined with the current demographic changes, have initiated a shift in the mortality and morbidity liability to noncommunicable diseases². One of the conditions which does not gain adequate recognition in the healthcare due to social stigma and lack of knowledge is behavioural and mental health conditions. Even more so, it is a serious issue in children, often ridiculed for their so-called abnormalities. One specific form of such a condition is Autism or Autistic Spectrum Disorders (ASD).

Studies show that prevalence of ASD has been 1:68 children in the US. Other studies worldwide have been reporting an increase in the number being diagnosed over time. Over the last 10 years there is estimated increase of 2,000% in cases of ASD. ASD is "a spectrum that includes individuals with profound mental retardation and little or no speech or communication compared to more verbal, functionally able children;

a neurodevelopmental syndrome defined by deficits in social reciprocity and communication, and by unusual restricted, repetitive behaviours³." Autism is usually manifested within the first few years of life as a slight difference or variation in the child's behaviour or actions to an intense evidence of the abnormality.

India is recorded as the second most populated country in the world, amounting to about 17.74% of the total population. Of this, almost 1/3rd (29.7%) are under the age of 15 years. Prevalence studies in India have been done to identify the actual prevalence of ASD and have shown 1/1000 children between the age of 1-10 years being diagnosed³. Therefore, proper, and timely assessment and identification and appropriate care would be an essential component for providing the basic necessities for maintenance of health for these children. An important factor in the care of autistic children is that they are not physically sick but have more of the behavioural symptoms. Hospitalization may not be a viable option for their care and parents opt to care for such special children in their homes or in care centres. The major issue arising in such instances is that they are required to obtain care and consultations from various Healthcare professionals for their optimal health status which is not feasible for the parents/caregivers.

The rejoinder for such problems around the world has been found in the expanding system of Interprofessional Education (IPE), Interprofessional Collaboration (IPC) and Interprofessional Practice (IPP). IPE is recognized to be one major approach to trim down on professional compartmentalisation and enhance collaborative practice. It teaches students who are taking up health professions about the various roles of different members in the healthcare professions. Each have tasks to be performed in order to ensure a successful and productive collaborative practice. Many studies have been designed and conducted to delve into the deep end of awareness, knowledge, and perception the students already possess regarding IPE^{4,5,6}. Although reviews showed that awareness of IPE was average among the students, majority had good knowledge and a positive perception^{7,8,9,10,11,12,13,14}. Literature also had recommended the need to improve their awareness and knowledge about IPE by making use of combined seminars for the various healthcare professional novices and also by implementing IPE into their present curricula of training^{15,16,17,18,19,20,21,22,23,24}.

Literature Survey:

The literature survey will be based on the following headings:

- I. Interprofessional Education
- II. Interprofessional Education Modules
- III. Autism and Care of Autistic Children
- IV. Interprofessional Competencies
- V. Assessment and Tools for Interprofessional Competency

Research Gaps Identified: With the diagnosis and management of ASD moving to the forefront among the developmental disorders, there is a growing need for more systematic and planned care. Children with ASD have health issues that are tedious and require a wide range of professionals caring for them. India being one of the developing countries, is lagging behind in inculcating practices into its healthcare education and delivery system that will adeptly solve these issues. With ASD being increasingly identified, the care of children requires an interprofessional approach⁸.

Healthcare professionals in developed countries have identified the importance of IPE/IPP in providing comprehensive healthcare to clients, taking into consideration age, gender, disease, and management process. They have pioneered in establishing and practicing the IP Competencies in various care settings^{14,22,23,24}. Inculcating IPP in care of children with ASD provides team-based healthcare to the children in a single setting and reduces healthcare costs. For this, the students of Healthcare professions have to accept and learn these changes during their training period, to step away from the traditional and hierarchical method practiced all throughout the history of Indian Healthcare. Preparation of a standard curriculum will be apt to enhance the learning of the students, assessing its utility with tools structured for the purpose, according to the culturally identified components.

From the literature review, the following gaps have been identified:

- a) Absence of Structured IPE Program in the curricula of Institutions for Health Professions Education in India.
- b) Regional differences in healthcare delivery practices in care of children with autism owing to variations among population and differences in attitudes and

perceptions of Students of Healthcare professions.

- c) No assessment scales customized for assessment of team-based IP collaborative care competencies in care of Autistic Children.

Importance of Proposed Research: The Centre for Disease Control (CDC) currently recognises autism as the second largest permanent developmental disability seen in children, which is increasingly evident among the developmental disabilities.³ Although ASD is most commonly bracketed with social, behavioural and communication impairments in the development, children also endure neurological and gastrointestinal health issues, sleep disturbances, issues with medication compliance, and correlated mental health issues. In order to address all these needs, care should be provided to the children across various disciplines, such as “psychology, social work, occupational therapy, physical therapy, education, nursing, dietetics, psychiatry, and medicine, to name a few”. Research has documented the need for multidisciplinary management for ASD in children and the methodology is also recommended by the American Academy of Paediatrics (AAP). The “A.L.A.R.M.” guidelines (“Autism is prevalent, Listen to parents, Act early, Refer, and Monitor, an approach developed by the American Academy of Paediatrics Autism Task Force”), states that the care needs to be referred as “Early Intervention or local school program, where the child is referred to an autism specialist, or team of specialists, for a definitive diagnosis, to audiology to rule out hearing impairment and to local community resources for help and family support.”⁸

Due to the increasing intricacies in the care of children with autism, there is a subsequent increase in the number of children being diagnosed and the number of professions that cater to their needs are becoming more pronounced. This calls for Interprofessional Collaboration (IPC) by means of a well-established multidisciplinary approach. According to WHO, IPC is “having different professions, coming together to work towards a common goal for patients, families, caregivers, and communities to deliver the highest quality of care.” When care is provided using a well-established multidisciplinary approach, effective collaboration is composed of the following fundamental bases, viz. “all team members want to work together towards a common goal; all participants are valued; team members embrace the unique perspectives of all other team members; team is based on a strong sense of purpose; and each team member requires trust and a

sense of shared responsibility.”²⁵ This will enhance the structure of provision of care and will bring about the expected health outcomes in the children.

Studies among children with developmental and intellectual health concerns reveal that those who are able to identify their problems and actually accept their condition, receive treatment in outpatient setups. Some of the systems of care have, for the most part been unsuccessful in producing substantial measurable and favourable clinical outcomes^{1,3,10}. The various strategies suggested in the studies which are targeted to improve care in child development and intellectual health treatments are: improving access of families to health services in schools and healthcare facilities; increasing use of Evidence Based Practices (EBPs); and establishing and maintaining service setups responsible for validating the expected health outcomes¹². The task of producing such a multidisciplinary workforce in order to operate the strategies, requires educating and encouraging providers to develop the ability to train and cultivate the specific competencies required. These providers will have to provide care exhibiting these competencies within the scope of available agencies that are inherently bounded with the day-to-day lives of the children and families.

Developmental-behavioural paediatrics is currently being recognized as a subspecialty of paediatrics and is well-established in many developed countries. The training programmes provided aim to increase the number of providers who engage in IPP and establish themselves at providing specialised care²¹. This, however, remains a new and emergent subspecialty in India. Although some of the subspecialties had been established in the late sixties, the paradigm of care was purely clinical and service based. The prime aim was to diagnose and treat children who showed manifestations of neurological and developmental disorders. The paradigm was predominantly “medical” with one physician provider, who placed referrals leading to fragmented care, with no proper follow-up, and no proper communication from and to the higher specialities¹⁴. The necessity of an IPP team was soon realized and became an independent practice entity for appraisal and management of children who were diagnosed with specific developmental-behavioural incapacities. This also increased awareness and the need to support children with developmental disorders in the schools and other academic and care settings were propagated.

It has been noted that India does not have a national IPE curriculum and ways to assess the education and practice in relation care of autistic children²¹. There is no curriculum for students of various healthcare professions to gain education and practice together, learning from and about each other to provide care for autistic children¹⁵. While there are some IP competency assessment instruments in other countries, not one is adequately constructed for and validated in multiple professional settings for Students of different Healthcare professions across multiple cultures^{2,21}. In spite of extensive research being conducted, a comprehensive perspective still seems to be lacking. Therefore, the researcher has considered it necessary to develop an IPE module on care of autistic children for Students of Healthcare professions, especially in relation to the Indian context. In order to test the efficiency of the module, an Interprofessional Competency Assessment Tool (IPCAT) will be prepared. Although there are four IP competency domains, for the current study, the researcher proposes to concentrate on Communication and Teamwork as important competencies in Care of children with ASD²⁶.

Objectives of the Study:

- a) To develop an IPE Module on care of autistic children for Students of Healthcare professions
- b) To evaluate the effectiveness of the IPE Module on care of autistic children in enhancing the IP Competencies among students of healthcare professions.

Method/Design

Conceptual Framework: The Conceptual Framework for “Effectiveness of an IPE module on care of autistic children in enhancing the IP competencies among Students of Healthcare Professions” is prepared based on National IP Competency Framework¹³ and a Conceptual Model of Interdisciplinary Education for Collaborative patient centred care.¹²

Research Design: The study will be done in a quantitative approach, conducted in two phases.

Phase I – Development of the Module and IP Competency Assessment Tool (IPCAT)

The Module and Tool will be prepared and content validity done by experts. Reliability of the tool will be assessed by test-retest method.

Phase II – Testing the Module

It will be a pre-test-post-test design and the Module will be implemented among students of Nursing, Physiotherapy, Occupational Therapy and Audiology and Speech Language Pathology and the pre-test-post-test results will be analysed to evaluate the effectiveness of the Module.

A stringent module implementation plan will be followed over a period of 2 weeks.

Pilot study will be conducted in selected setting with 10 students to check the feasibility of the study. Any difficulties arising in the preparation and administration of the IPE module and tool will be modified for use in the main study.

The recruitment of participants will be done by purposive sampling method based on the inclusion and exclusion criteria from the selected Health Professions Institutions. The proposed sample size is 40, divided into teams of 4, based on similar types of studies done.

Data will be compiled using Microsoft excel. Statistical analysis will be done with EZR software where, “ $p < 0.05$ ” will be considered statistically significant. The data will be compiled to assess the effectiveness of the module to be used for assessing the IP competencies of the group and values of the pre-test and post-test will be analysed using paired ‘t’-test to determine the statistical significance. Thematic analysis will be done for the Reflective Summary. Themes will be identified to categorize specific responses and comments to assess the effectiveness of the IPE Module.

Discussion

Expected Outcomes:

- An IPE Module on Care of Autistic Children for Students of Healthcare professions.
- An IP Competency Assessment Tool (IPCAT) on Care of Autistic Children for Students of Healthcare professions – Communication and Teamwork
- Enhancement of IP competencies as measured by the instruments prepared

List of Abbreviations:

ASD Autism Spectrum Disorders
IPC Interprofessional Collaboration

IPCP Interprofessional Collaboration and Practice
IPE Interprofessional Education
IPL Interprofessional Learning
IPP Interprofessional Practice

Declarations:

Ethics Approval: Obtained from Kasturba Medical College and Kasturba Hospital Institutional Ethics Committee (Registration No.: ECR/146/Inst/KA/2013/RR-19)

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