PERSPECTIVE

Programmatic Approaches for Nutritional Care in India: Addressing the Continuum of Care Perspectives

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Child health and nutrition is nested within a larger gamut of child care and development, functioning through the health care system. Malnutrition is multidimensional and rooted in poor early childhood care and development that is shaped by environmental, social and economic factors. Current nutrition care interventions are marked by a piecemeal approach, focusing on treating malnutrition but overlooking the need for rehabilitation and care support. Continuum of care (CoC) as an approach aims for a seamless and need-based care, bearing an impact on improved care output, beneficiary participation, care experience and access to care. CoC in nutrition care shall contribute to integration of nutrition and health care services, addressing distal and proximal causes of undernutrition through a gamut of preventive, promotive, treatment and rehabilitative care.

Keywords: *Child health, Intervention, Malnutrition, Nutrition programs.*

Despite recent gains in addressing undernutrition in India, the absolute burden continues to keep this issue as one of the foremost concerns of public health in general and child health in particular. Prevalence of stunting has decreased by about ten percentage points in the last decade to around 38% [1,2]. Wasting among under-5 children showed an increase to 21% (NFHS-4) [1,3]; the current levels are three times the global average. Significantly, severe wasting has increased from 6.4% (NFHS-3) to 7.5% (NFHS-4) [1] in the corresponding period. Improvement has also been slowed in exclusive breastfeeding rates [3].

What ought to raise a red flag are the figures of Infant and young child feeding (IYCF) practices– complementary feed rates show a decline from 52.6% (NFHS-3) to 50.1% (NFHS-4) [1,3]. Only 11.6% children (breastfeeding and non-breastfeeding) of 6-23 months of age receive an adequate diet. The combination of high stunting, wasting and poor IYCF stem from multiple deprivations and chronic malnutrition continues to be the dominant epidemiological concern [4,5].

The foremost intervention to address Severe acute malnutrition (SAM) in India is facility-based nutritional rehabilitation. It is only in the last couple of years that community-based management of acute malnutrition (CMAM) is receiving some attention, while early child development continues to be largely ignored. The first five years of life determine subsequent changes for the entire life course. Investment in these early years of life serves as the primary driver for reducing health inequity and better conditions of daily life. Continuum of care (CoC) to mother and child *i.e.* from pregnancy to childbirth extending to early years of life is central to planning and designing public health interventions [6]. These forces can be looked as trajectories in constant interaction along with social, cultural and economic factors, functional across and within each of these layers [7]. To mitigate effects of malnutrition among under-five children, a strategic, systematic and consistent intervention is required in terms of nutrition care and healthcare that is nutrition-specific, nutrition-sensitive and enabling [8]. While provisioning structures and services for child health and nutrition care is essential, supporting families and enabling them to access services is equally important. The burden of work and family leave little scope to the caregivers in providing quality child care [8,9], evidenced by the emerging IYCF data [10].

Continuum of Care (CoC): A Weak Link

Continuum of Care (CoC) has at best had a weak presence in this discourse in India. The National Rural Health Mission's (NRHM) operational guidelines on facility-based SAM management mentions it just once: "effective management of SAM must be based on the basic principle of 'Continuum of Care' - from the home and community, to the health center/health facility and back again"; and offers no operational detail [11].

While practitioners and planners (of public health and clinical services) believe in the doctrine of CoC, it beholds somewhat different meaning to different people and different disciplines. Simply put, it is an answer to seamless care, improved output and improved access of care services. A CoC approach rules out mis-distribution of healthcare and emphasizes seamless care to those who need it the most, when they need it the most and in a manner that is appropriate for changing needs. This concept is understood, practiced and researched across different realms including mental health, diabetes care, geriatric care, cancer care and maternal and child health. There are somewhat different adaptations of CoC models in diverse care settings (such as diabetes care, geriatric care or mental health care) with a core set of elements: emphasis on individual care experiences received over time and maintained through a management plan known as care plan; viewing continuity as a patient-centered outcome; and, focus on managing seamless care over and through care transitions.

Reproductive, maternal, newborn and child health (RMNCH) program of the WHO conceptualizes continuum as a life-cycle approach, beginning from reproductive care, child birth and extending to ensuring child survival. This form of care extends from home to hospital and back with appropriate referral and emergency case management; highlighting two core elements of continuum: time of care and place of care. This model does not have a case manager; instead a community health caregiver serves as a link between beneficiary and care provider(s) across different care settings. Active case management link beneficiaries to preventive and curative services, at the same time it strengthens them for a positive health behavior, self-care, need identification and timely care seeking.

APPROACHES AND DRIVERS

CoC relates to three major components: health providers, health system, and community (beneficiary and caregivers). The public health approach views CoC as an intervention through targeted prevention, medical intervention, treatment and rehabilitation at each stage of care pathway. Therefore CoC demands integration, coordination and collaboration across different levels of care with special focus on case management, where beneficiary is followed across care pathway for; preventing adverse health events, ensuring appropriate (and need-based) care, and avoiding duplication of care. Viewed through the public health lens, CoC incorporates perspectives of provider and beneficiary; thus, integration of services becomes important which entails multiple services, delivered in chronological and coordinated fashion to prevent duplication and omission of services.

CoC is driven by three prime drivers [12,13]:

(*i*) **Informational continuity** pertains to the availability and use of information; links care across different providers and services, one health care event to another. This sharing of information across providers is centered on a disease or a person, facilitating coordination of care to ensure timely recognition of care need and provisioning of consistent care. Information transfer may also take place from a care service provider to the receiver or beneficiary.

(*ii*) **Relational continuity** pertains to sustained contact between a client and a provider. This consistency of contact enables linking of care across time and encourages informational continuity across providers and between providers-beneficiaries. It connects care provided in the past to the recent care need and smoothen progress to future care. This driver of continuity entails two elements:

(*a*) *Ongoing relationship* focuses on relationship between the provider(s) and beneficiary. This interpersonal relationship is based on trust, mutual understanding, communication and sense of responsi-bility, depending on duration and kind of care involved. It facilitates providers in monitoring progress of their patients and preventing them from falling out of care.

(*b*) *Consistency of personnel* involves seeing the same provider(s) at each care experience across different care settings. It enables linking of past care to the changing care needs of a beneficiary thereby providing appropriate need-based care.

(*iii*) **Management continuity:** This form of continuity relates to provisioning of care over time in a way that none of the services are missed, duplicated or delayed. The care services are delivered in a complementary and timely fashion. The two prime elements of this driver are:

(*a*) *Consistency of care* includes care management plans, coherent care, discharge planning and transition across services and tracking beneficiary over time.

(*b*) *Flexibility*: The care plan is designed and updated according to the changing need of the beneficiary and care protocol is adapted as per the specific need(s) keeping in mind the context and values of an individual (*e.g.* change in life cycle or health status of a beneficiary).

These different drivers of continuity operate through certain core elements of CoC which are briefly as follows:

People: Includes care experiences of an individual and incorporate interaction between the individual and care provider(s) for suitable care, wherever needed and linked across; home, first level facility and hospital. The emphasis is on availability of, access to and quality of care at the household, peripheral facilities and hospitals and at the same time strengthening linkages between them.

Environment: This is crucial to CoC in a life cycle approach. Continuum imbibed in any program delivery is supported by an enabling environment, shaped by political commitment and a strong health system.

Time: Includes care received over time and varies from short term or long term care. It embraces a continuity of indispensable interventions accessible across different levels of care at all stages of life, *e.g.* RMNCH. The events preceding experiences with CoC, during experience of care and after care services become crucial.

CoC IN NUTRITION CARE

Currently, RMNCH+A strategic approach has an expanding focus on child development and quality of life and recognizes various high impact interventions across the life cycle across ages (adolescence, pre-pregnancy, childbirth and postnatal period, childhood and through reproductive age) as well as institutions (in homes and communities, through outpatient services and hospitals with 'inpatient' facilities) [14]. Nutrition care in India pivots around pure clinical management of SAM [15] which upholds Nutrition Rehabilitation center (NRC) as the answer to prevent SAM-related mortality. While this model has been adopted from the African experience of treating SAM by providing facility-based therapeutic care (only), it becomes important to note that malnutrition in India has a different epidemiological profile where SAM and Severe chronic malnourishment (SCM) among children co-exist [16]. Both SAM and SCM have a different etiology and different intervention requirements [17,18].

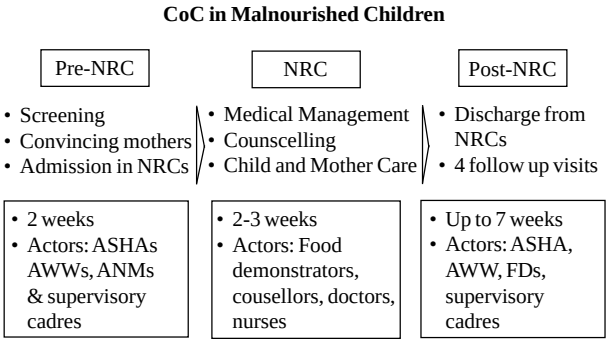

FIG. 1 *Continuum of nutritional care across different care environments.*

The existing public health care service offers ample scope for prevention, treatment and rehabilitation of malnourished children through Integrated Child development services (ICDS), Sub-centers (SC), Primary Health Centers (PHC), and NRC. The ICDS is accountable for screening and referral of children with growth faltering and medical complications to NRC. The NRCs; provide an inpatient facility based therapeutic care for complicated SAM whereas the discharged (cured) SAM cases, uncomplicated SAM and moderate acute malnutrition (MAM) are to be managed at the community [19]. While operational guidelines for SAM management do not mention of the entity responsible for management of these cases, the ICDS have a limited outreach *i.e.* leaves out children between 0-2 years of age [11] and is poorly equipped [20] to manage cases of discharged SAM, MAM, uncomplicated SAM and SCM.

SAM management through NRCs exhibits a poor care outcome with, low cure rate, high default rate, high non-responders and high secondary failure. Moreover, while clinical management of SAM have been adopted as primary component of CoC for malnourished children in India, community based care for MAM and uncomplicated SAM have received little attention [21]. This confirm to the fact that there exist a week linkage of continuum connecting nutrition care within and across different levels of care *i.e.* at community, facility and back to community level [22].

The relevance of CoC emerges as an integrated system of care. It is possible to have multiple continuums within a single care organization, with a set of core services organized by its own continuum along a distinct care pathway. As health care undergoes a transition from bio-medical to bio-social models, it brings into focus, the patient needs, patient participation and patient experiences of health care. Multi-sectoral approaches to nutrition-based resilience building has had demonstrated success by addressing issues of rural development, food security, reaching out to vulnerable groups such as women and girl children and enhancing access [23,24]. With approaches such as these, different health care systems have been veering towards an integrated model for delivering care; which is seamless, on time and appropriate, within an intersection of health and social security systems. Implementation of integrated nutrition care shall need to incorporate CoC elements in facility and community based care models to make the big leap in addressing the ongoing challenges.

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