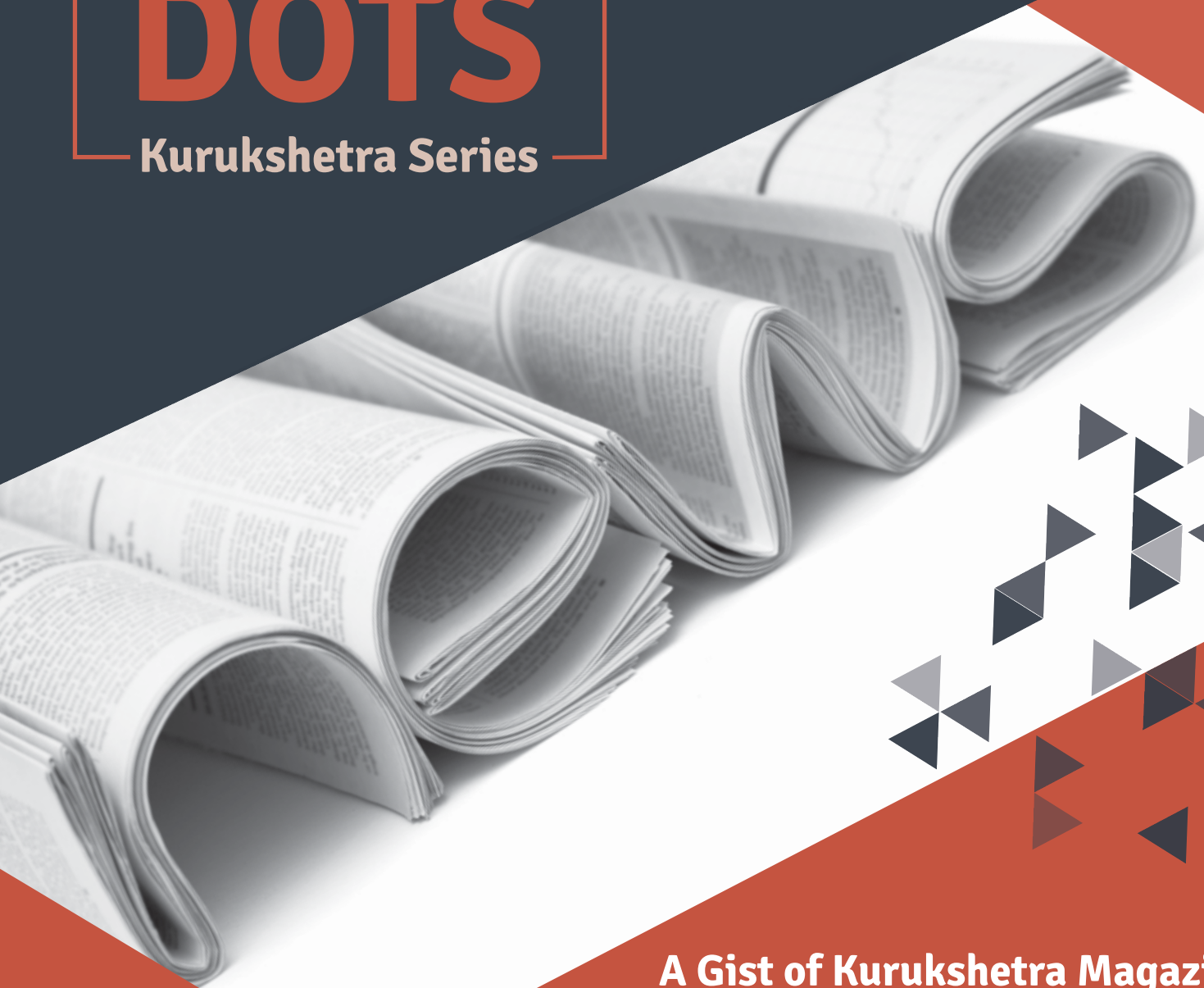


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A Gist of Kurukshetra Magazine (January 2020 Issue)

- Health & Nutrition Overview
- Health System: Towards a New India
- Appropriate Nutrition for Women and Children
- Nutrition: A Public Health Priority



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Kurukshetra Compendium

January 2020

Health and Nutrition

Health and Nutrition Overview and The Way Forward

Nutrition is an essential part of better health and the ancient systems of medicines followed the principle. Health and Nutrition contribute to human capital formation, and the growth and development of a nation.

It is time to consider new approaches to tackle double burden of Malnutrition (DBM), under-nutrition and obesity at the same time.

The focused attention and tailor-made strategies for specifically vulnerable population groups such as women in reproductive age group, children and all rural residents are needed.

- A study by the World Bank has estimated that the annual cost of malnutrition in India is at least US\$ 10 billion and is driven by loss of productivity, illness and premature deaths. Alongside, illnesses in an otherwise 'normal weight' person can lead to under-nutrition, which can spiral into a vicious cycle.
- The inter-linkage between health and nutrition has been recognized since ages. Good nutritional status ensures that individuals can fight disease-causing agents, stay healthy, be productive to society and contribute to overall development.
- Clearly, the challenge of nutrition is multi-layered. It is not the under-nutrition only, the over-nutrition (obesity), 'protein hunger' and 'hidden hunger' (or micronutrient deficiencies) in otherwise normal weight persons are the other dimensions.
- The terminology of malnutrition is commonly used to capture the under and over nutrition and the related challenges. However, in a particular setting, burden was predominately of one type of malnutrition.
- It is being recognized that in many settings and countries, both under and over-nutrition are increasing as an emerging challenge, described as 'Double Burden of Malnutrition (DBM)'.
- The DBM co-exist in many settings and affects the health outcomes and survival of the population. While under-nutrition continues to be a major and pressing challenge in India, the issue of overnutrition is also real.
- Therefore, it is time that India also shifts attention on holistic approach of targeting malnutrition with focus and appropriate strategies to tackle DBM.

Under Nutrition as Persistent Challenge:

- In 1950s, the life expectancy in India was 32 years (which has increased to 68 years in 2017).
- The infant mortality rate (IMR) was nearly 200 per 1,000 live births and maternal mortality ratio (MMR) around 2,000 per 100,000 live births.
- The IMR in India in 2017 was 33/1,000 live births and MMR was 130 per 100,000 LB during the period of 2014-16.
- Over these years, through targeted interventions, the proportion of population living below poverty line has declined and even the food production and availability has drastically increased.
- However, the nutritional status of population has not witnessed the commensurate decline. India has had a high rate of under-nourished population, with marginal improvement in the situation in the last 25 years. The prevalence of underweight, stunted and wasted is higher in rural than urban populations.
- The progress on other parameters of the nutritional status such as level of anaemia in population groups and birth-weight of new-borns is also slow.
- Recognizing the challenge, India had a series of initiatives and programmes since independence which focused on improving nutritional status of the population.

Diseases Linked to Under-nutrition:

- The nutritional status of an individual affects his/her health status and outcomes of a poorly nourished person has weak immunity and an immune defence system.
- An undernourished individual, including those with micronutrient deficiency, are at higher risk of majority of infectious diseases including tuberculosis, viral and all other infections. An underweight and under-nourished child is at higher risk of diarrheal and pneumonia. The chances of recovery in such children are slower.
- They are more likely to become under-nourished after such a disease spell. While the poor nutrition affects the health outcomes in all population sub-groups, it is the women in reproductive age and newborn and children, who are most commonly and adversely affected.
- Public health science has generated evidence that it is a vicious cycle of under-nutrition which starts at the time of pregnancy (in mother's womb) and continues to affect the newborn for the rest of the life and for many generations.
- Understandably, the initiatives to tackle under-nutrition are targeted/focused/prioritized for women in reproductive age groups, children and adolescent girls. There are emerging evidence that under-nourished and under-weight children are at higher risk of non-communicable diseases such as cardio vascular strokes and diabetes in adult age.

Key Govt. Initiatives, Policies and Programmes to Tackle Nutrition Challenges

- 1951- India's Five-year plans were the major vehicles to improve health and nutrition in India. The first one was launched in 1951. Since then till 12th five-year plan of India (2012-17). The five year plans were key policy instruments to tackle under-nutrition.
- 1952 - Community Development Program (CDP) had an important component of improving nutritional status of population at block level and with engagement of local self-government.
- 1974- Minimum Needs Programme (MNP) was introduced in the first year of the Fifth Five Year Plan (1974-78). The MNP was aimed to provide certain basic minimum needs and improve the living standards of people including health and nutrition services.
- 1975- The integrated Child Development Services (ICDS) was launched on 2 Oct 1975 to improve health and nutritional status of women and children in India.
- 1986- A separate Dept, of Women and Child Development (DoWCD) was established Ministry of Human Resource Development (HRD) under Govt of India. This department was responsible for ICDS and other nutrition services for pregnant women and children.
- 1993- National Nutrition Policy was released
- 1995-The Government of India initiated the National Programme of Nutritional Support to Primary Education (NP-NSPE) on 15 August 1995. This was based upon learning and extension of the Mid-Day Meal (MDM) scheme launched by Govt, of Tamil Nadu in early 1960s and adopted by a number of states since then.
- 2006- Full-fledged Ministry of Women & Child Development (MoWCD) was established
- 2017- Pradhan Mantri Matru Vandana Yojana (which was announced on 31 Dec 2016) was officially implemented from the year 2017 onwards and provides financial support to identified groups of pregnant women for their first pregnancy.
- 2017-'National Nutrition Strategy' released by NITI Aayog, Govt of India.
- 2018- POSHAN Abhiyaan.

Initiatives to Improve Nutritional Status:

- The efforts to tackle under-nutrition in India have been partially successful so far and recent and new attempts are being made to accelerate the progress. The Govt of India had launched National Nutrition
- NNM aimed at 2-3 per cent annual reduction in the rate of low birth-weight, stunting, undernourishment and anaemia amongst women. NNM is now being implemented as POSHAN Abhiyaan, under Ministry of Women and Child Development, aiming for Kuposhan Mukta Bharat (Malnutrition free India) by year 2022.
- The programme aims at reducing levels of underweight, stunted, low birthweight and anaemia in population. As part of this POSHAN Abhiyaan, nutrition is proposed to be a Jan Aandolan or mass movement and the

month of September has been designated as POSHAN Mah.

- In addition, Pradhan Mantri Matru Vandana Yojana (also known as Maternity Benefit Scheme) was announced in late 2016 and launched in 2017, aims to provide financial assistance to pregnant women for the first pregnancy and ensure good nutritional status.
- There is renewed attention on reducing prevalence of anaemia through Anaemia Mukta Bharat. There are a number of complementary initiatives under different ministries to focus on improved nutritional status through approaches such as Eat Healthy and Fit India initiative. The Aspirational District programme also has nutritional status as a performance indicator.
- Health and nutrition (and education) contribute to human capital formation, and the growth and development of a nation. The malnutrition results in making people prone to various adverse health outcomes, as described in earlier section.
- Especially the first 1000 days of children (Nutritional status in 270 days of nine months in pregnancy and 730 days of first two years of a child's life are very crucial for health and childhood development related outcomes for rest of life).
- Much of the development of the brain happens either in pregnancy or first two years of life. Therefore, the poor nutrition affects the newborn for rest of life and not only physical but brain development and other social milestones as well. This is increasingly being understood and realized and a compelling reason for taking urgent actions.
- The adverse effect of pregnant woman's (mother's) nutritional status carries with the child for rest of the life but on the next generations as well through epigenetic effects.
- This situation clearly demands that interventions to tackle under-nutrition in India are implemented in life cycle approach from nutritional status of women in reproductive age, pregnant women, breastfeeding and complementary feeding.
- The need for sustaining the multi-sectoral engagement for better health & nutritional outcomes are being recognized.
- The nutritional status is inter-play of at least three broad factors; dietary intake contributes to 45-50 per cent, poor maternal health results in low birth-weight which accounts for another 25 per cent and illnesses amongst children such as diarrhoea for another 25-30 per cent of under-nutrition.
- Thus, there is a need for targeted interventions for reducing the proportion of low birth weight babies, which constitute nearly 30 percent of total newborns in India.
- Overweight and obesity are other and increasingly recognized spectrum of malnutrition.
- These were earlier reported from affluent and urban populations and are now slowly extending to poor and rural counterparts as well. There are nutritional deficiencies in people who are otherwise overweight as their diet may be rich in calories but deficient in specific micronutrients.
- Even in 'normal body weight' people, there is a high level of body fat and reduced muscle mass indicating a nutritional imbalance that places such individuals at increased risk of obesity related diseases.
- No wonder we see many faces of malnutrition in our population. Under-nutrition is not only cause but effect as well.
- Enteric infections such as diarrhea and typhoid are more common in children who are under-nourished.
- As well as a healthy child who gets such infections can become under-nourished afterwards. Therefore, to tackle under-nutrition, there is a need to improve water and sanitation. Similarly, the problem of stunting cannot be solved by increased access to nutritious food, it requires better housing and improved water and sanitation.

Way Forward (Suggestions)

- There has been some progress on improving the nutritional status of the population in India. However, India of 2020 needs to do more than what has been done in the past.
- Integrated health and nutrition initiatives with closer collaboration of health, Women and child development and education departments. This has already started to happen through three As of AWW, ASHA and ANM (Anganwadi workers; Accredited Social Health Activists and Auxiliary Nurse Midwife) as of now but require improved performance of these mechanisms.
- The nutrition programme run under ICDS and school mid-day meal scheme of education department and care of mothers and children under health departments need to reporting systems with data flow in two directions. This is possible with the use of digital technology.

- Promote 'Nutrition Garden' concept: Ministry of Human Resource Development has brought the concept of school 'nutrition garden' encouraging eco-club of students to help them identify fruits and be interlinked with better collaboration and coordination. It will be important to share the data, have joint analysis and action plans. vegetables best suited for topography, soil Diversification of supply of food under government programmes including more nutritious items such as millets, eggs, milk, soybean and nutrient rich fresh foods.
- Mass fortification of rice, wheat, salt, edible oils and salts, with essential minerals and vitamins like iodine, iron, zinc and vitamin A and D should be optimally used.
- Regular monitoring on real time basis: Comprehensive National Nutrition survey (CNNS 2016-18) is the most recent survey on nutritional status of Indian population.
- The NFHS-5 data collection has been completed and an analysed report is expected to be available soon.
- Focus on 'behavioural change' for improved nutrition: The major challenge in bringing the sustained behavioural changes are related to a continuum of 4A of awareness, assessment, analysis and action.
- The awareness is raised through AAAM: ASHA, AWW, ANM and Mothers. However, a balanced approach of going beyond awareness and focus on analysis of information and actions needs to be strengthened.
- Attention on 'dietary diversification' and focus on healthy diet: The dietary diversity with balanced nutrients is the key to growth and good health across the life course.
- The skewed agricultural priorities due to production of cash crops, marketing tactics, food processing has resulted in the sacrifice of nutrient rich balanced diet by many people.
- With diet diversification in the spotlight, My Plate for the day' publication of The National Institute of Nutrition (NIN), India has highlighted that the fruits and vegetables should share nearly 50 per cent of an individual's food plate.
- Educate people on health benefits of consumption of fruits and vegetables along with training in community or kitchen gardening or terrace gardening.
- The school and college teachers and students should be involved in the process. Training and a capacity building of both teachers and students on healthy diets should be prioritised.
- The younger generation should be trained in healthy diets. Junk the 'junk food' should be promoted to school students and ban on unhealthy food in school and college canteens should be actively promoted.
- The schools could be suitable platforms to call parents of children and educate them about healthy nutrition and lifestyle.
- Establish more cold chain storage capacity for food items across the country: It has been recognized that while India produces a lot of fresh fruits and vegetables, a significant amount is wasted during sorting/ grading, transport, storage in processing units, or with wholesalers and retailers.
- Promote local production of fruits and vegetables in rural India: Contrary to common belief, the cost of fruits and vegetables in rural areas is higher than urban as the transportation cost is also factored in.
- Therefore, the production and consumption of locally available all kinds of vegetables, fruits including seasonal fruits in rural areas need to be promoted. As most of the government organizations in India such as Anganwadi centres, government primary and high schools and panchayat office have space around their buildings, the area can be utilized to grow locally consumed green leafy vegetables, roots & tubers and locally available fruits.
- The awareness about nutrition should be linked to a healthy lifestyle to prevent noncommunicable disease risk factors and adopt physical activity, healthy diet, no smoking and moderate or no use of alcohol.

Conclusion:

- The Double Burden of Malnutrition (DBM) is a nutritional reality for many countries including India.
- The period of 2016-25 is the United Nations (UN) decade of nutrition, and only six years are left. The target for sustainable development goals is 2030, which has nearly a decade to achieve. Only three years are left to achieve the targets set up under the National Nutrition Mission (NNM) of India.
- Clearly, there has to be an urgency to accelerate interventions. While till now efforts and initiatives have been focused on priority challenge of under-nutrition, the policy makers and programme managers in India, both at national and state level, need to be mindful of new nutritional reality. It is time to consider new approaches to reduce under-nutrition and obesity at the same time.
- The focused attention and tailor-made strategies for specifically vulnerable population groups such as women in reproductive age group, children and all rural residents would be needed.

Health System: Towards a New India

- *In its Three-Year Action Agenda, NITI Aayog called for a new wave of institution building with a strong and a pro-active stewardship role by the government to overcome the persistent challenges while also leveraging the potential of a mixed health system.*
- *The government has launched several reform initiatives over the last few years which need to be rigorously implemented.*
- *Additionally, the key enablers of health system reform such as financing, organisation and provision of service delivery as well as digital health need to be strengthened.*
- India has made noteworthy strides on health and nutrition over the last two decades. Polio guinea worm disease, yaws as well as maternal and neonatal tetanus have been eliminated.
- The Total Fertility Rate has reduced sharply from 2.7 in 2005-06 to 2.2 in 2015-16 and for the first time the birth cohort has fallen below 25 million.
- Contrary to expectations, we were able to achieve the Millennium Development Goals in respect of the Maternal Mortality Ratio (MMR level of 130 against a target of 139) as well the Under- 5 child mortality target (U5 MR level of 43 against a target of 42).
- Infant Mortality Rate has also reduced from 57 per 1000 live births in 2005-06 (National Family Health Survey-3) to 41 per 1000 live births in 2015-2016 (NFHS-4). Given the size, complexity and diversity of our country, the importance of these improvements in the health and nutrition status of the population cannot be underestimated.
- India's health system is still facing multiple challenges. There are significant inter and intra-state disparities in outcomes and socio-economically disadvantaged groups are especially vulnerable to gaps in healthcare access. Additionally, while the burden of non communicable diseases is rising, there is also a substantial unfinished agenda with respect to communicable diseases as well as maternal and child health.
- The health system is fragmented at multiple levels: payers and modes of financing, providers of healthcare services and the digital backbone.
- Currently the government (Union and States combined) spends approximately 1.13 per cent of GDP on health. As a consequence, households finance 62 per cent of the healthcare spending through out-of-pocket expenditure at the point of care.
- Risk pooling is low, with less than 35 percent of the population participating in any risk pooling scheme and less than 10 per cent being covered by a functioning risk-pooling mechanism which provides effective protection against catastrophic health events.
- Delivery of health services is also fragmented into small sub-scale entities with 95 per cent of the care being delivered by providers employing less than 10 workers each, adversely affecting the quality and efficiency of service delivery.
- The digital systems used in these health care entities, if at all used, are also siloed in the absence of mandatory adherence to any data standard. The result is that the patient health records lie buried in manual systems or disparate IT systems with little standardization and almost no possibility of interoperability. This limits the availability of information that could potentially guide policy making.
- While there is no doubt that building a well- functioning system is a work of decades, the government has initiated systematic efforts over the last few years by taking a comprehensive view of the health system and impacting its multiple determinants.

Public and Primary Health

- Over 2.55 crore children and 70 lakh pregnant women were immunized over a period of two years under Mission Indradhanush. The programme has emerged as a global best practice in public health.
- Further, Rotavirus and Pneumonia vaccines were introduced in an effort to counter pneumonia and diarrhoea in promoting health and well-being through the National AYUSH Mission.
- In 2017, the first-ever All India Institute of Ayurveda was launched along the lines of AIIMS, New Delhi, for creating synergies between the traditional wisdom of Ayurveda and modern technologies. Cleanliness is crucial for preventing diseases.
- Following the implementation of the Swachh Bharat Abhiyan, nearly 100 per cent of households in rural India now have access to a toilet, compared to merely 29.1per cent in 2005-06.

- The battle against Tuberculosis (TB) has also been escalated through the launch of a new National Strategic Plan in 2017. The thrice weekly treatment regimen has been changed to a daily fixed-dose drug regimen and a sum of Rs. 600 crore has been allocated for providing nutritional support to TB patients in the Union Budget 2018-19.
- Going forward, the establishment of dedicated public health cadres by States needs to be prioritised with training imparted on critical skills such as the ability to integrate health with its social determinants, carry out community surveillance, analyse data and enable public participation, disseminate health promotion information and effect behaviour change.
- To build a robust primary healthcare system, the government has announced children less than 2 years of age. For the first time, a comprehensive effort is being made for incorporating traditional the setting up of 150,000 Health and Wellness Centres (HWCs) between 2018 and 2022 under the Ayushman Bharat initiative.
- Currently, over 27,000 HWCs are operational across the country. Historically, only a selective package of services has been provided at the primary care level in India, however, the HWCs will deliver a comprehensive package of diagnostic, curative, rehabilitative and palliative services for communicable as well as non-communicable diseases.
- Moreover, the Centres will provide diagnostics and drugs free of cost which will have a direct impact on controlling out- of-pocket expenditures. Currently, over 55 per cent of India's out-of-pocket expenditure is on outpatient care, of which drugs constitute the biggest component.

Secondary and Tertiary Healthcare

- The second pillar of Ayushman Bharat is the Pradhan Mantri Jan Arogya Yojana (PM-JAY) which will provide 10 crore of the poorest and most vulnerable families in the country an annual cover of Rs. 5 lakh per annum for hospitalization related expenses.
- By consolidating multiple health insurance schemes under PM-JAY, the government is taking a major step towards 'One Nation One Scheme' which will ultimately ensure that all citizens can access a common package of secondary and tertiary health services regardless of the State in which they reside. Thus far, 19,624 hospitals have been empanelled under PM-JAY and over 70 lakh patients have been admitted.

Human Resources for Health:

- We cannot build a world-class health system without first investing in a world- class medical education system. Earlier this year, the government enacted the landmark National Medical Council Act 2019 for overhauling medical education in India.
- Central and State government medical colleges are being upgraded to add 10,000 undergraduate and 8,058 postgraduate seats by 2020-21, ensuring the presence of at least one medical college for every 3-5 Parliamentary Constituencies and at least one in every State.
- Similar efforts are also underway for producing the requisite number of skilled nursing professionals through the setting up of 112 Auxiliary Nursing and Midwifery schools and 136 General Nursing Midwifery schools in underserved districts of the country. Further, minimum qualifications for teachers in medical institutions have been rationalized for the Diplomat of National Board. This is expected to expand the pool of candidates eligible for appointment as faculty by 3700 a year.

Medicines and Devices:

- More than 5,500 Jan Aushadhi stores have been opened for providing quality drugs at affordable prices and the government plans to expand the number of stores to 7,500 by 2020. It is estimated that these stores serve between 10-15 lakh people across India on a daily basis.
- To make medicines affordable for all citizens, the government has also fixed the ceiling prices of nearly 850 drugs. Further, the prices of Drug Releasing Stents which are used for treating blocked arteries were also lowered from INR 30,180 to INR 27,890. This is a significant step because an estimated 5 lakh patients undergo the stent procedure every year.
- Recognizing the vital role played by medical devices in ensuring a well- functioning health system, the Medical Devices Rules were notified by the government in 2017. Previously, only 15 categories of devices had been subject to regulation, that too under the umbrella of drugs. India also finalized its first National Essential Diagnostics List earlier this year to guide decision making with respect to the different kinds of diagnostic tests required by healthcare facilities across the country. Moreover, to boost indigenous production the government is supporting the establishment of medical device parks in India.

Health Technology and Data Systems:

- Tools such as telehealth, mobile health and Artificial Intelligence (AI) are helping to lower barriers between hospitals and patients, thereby improving access to care, especially in Tier-2 and Tier-3 cities.
- India has made considerable progress in leveraging Information Communication Technology (ICT) for enhancing the coverage and quality of maternal and child health services. For example, the Auxiliary Nurse Midwives Online or ANMOL application has been developed to equip public health workers to register pregnant women, encourage institutional birthing and monitor immunisation programmes for newborns.
- In the area of digital health, the National Health Stack proposed by NITI Aayog in 2018 is an important step. It is designed to offer a suite of advanced technologies which can be incorporated into overall digital health implementation in India. The availability of these “plug-in” modules will simplify and accelerate progress in implementing digital health in facilities and for health payers.
- It will also facilitate collection of comprehensive healthcare data across the country. The focus of this work will allow policymakers to experiment with policies, detect fraud in health insurance, measure outcomes and move towards smart policy making.
- In 2019, the National Digital Health Blueprint was released by the government. The key features of the blueprint include a Federated Architecture, a set of architectural principles, a 5-layered system of architectural building blocks, Unique Health ID (UHID), privacy and consent management, national portability and Electronic Health Records (EHRs) among others.
- Operationalizing EHRs for every citizen will be the key to optimizing health information systems. A system-wide EHR will enable monitoring of diseases, expenditures and performance to deliver financial and health outcomes.
- AI solutions can provide doctors with an unbiased second opinion on diagnosis, treatment options, potential risks and predicted outcomes. For doctors working under considerable time pressure, AI can prove to be an important supportive tool by collating test reports of patients, studying their medical records and suggestion treatments.
- Crucially, AI can enable healthcare personnel to detect the dormant signs of diseases, thereby ensuring prevention or treatment at an early stage. Cancer screening and treatment is one area where AI provides tremendous scope for targeted large scale interventions. Indian witnesses an incidence of more than 1million new cases of cancer every year, a number that is likely to increase given the ageing Indian population and lifestyle changes.
- NITI Aayog is in advanced stages of launching a programme to develop a national repository of annotated and curated pathology images for cancer screening and treatment.

Nutrition:

- A critical determinant of ill health is malnutrition. Even though governments have launched multiple schemes over the years, a robust convergence mechanism has been absent, resulting in persistent high levels of malnutrition in the country.
- To tackle this challenge comprehensively, the POSHAN Abhiyaan was launched to provide an appropriate governance structure reflecting the many overlapping factors like access to sanitation and health services that affect the nutritional status of an individual or household.
- The Abhiyaan is targeting a reduction in stunting, under-nutrition, anaemia and low birth weight by at least 2 per cent, 2 percent, 3 per cent and 2 per cent per annum respectively.
- The POSHAN Abhiyaan. focuses on engaging all stakeholders to make nutrition a Jan Andolan. Rashtriya POSHAN Mah has been celebrated in the month of September for the last two years.
- In 2018, it reached out to over 25 crore people with messages on crucial practices like antenatal care, optimal breastfeeding, anaemia, growth monitoring, delaying age at marriage for girls and hygiene, among others.
- Rashtriya POSHAN Mah, 2019 focused on creating awareness about essential health and nutrition interventions during the first 1000 days of a child’s life, prevention of diarrhoea, Anaemia Mukh Bharat, complementary feeding practices as well as the importance of clean water, sanitation and hygiene.

Way forward:

- A challenge that will need to be addressed going forward is the prevalence of Overweight Obesity which is one of the most important risk factors for non- communicable diseases.

- While it currently affects the affluent sections of society disproportionately, the transition of the risk factor will progressively impact all population groups including poorer households.
- To address the Overweight-Obesity burden in the country, a lifecycle approach that focuses on ensuring the availability and consumption of adequate quantities of nutritionally balanced food at every stage of life is required. Surveillance mechanisms for monitoring overweight- obesity prevalence in the population must be established and scaled-up. Physical and wellness activities like Yoga also need to be promoted in every age group.

Appropriate Nutrition for Women and Children

- Appropriate nutrition is of utmost importance for everyone for maintenance, growth and well-being. Energy needs of women are lower compared to men because of the difference in their body weight and body composition. Period of pregnancy and lactation is associated with increased nutrient needs of women.
- Since the mother's nutritional status, both prior to and during pregnancy, impacts foetal growth and development; it is important for the mother to be nutritionally, physically and emotionally sound.
- Indian Council of Medical Research (ICMR, 2010) has laid down the recommended dietary allowances for various nutrients for Indians of all age and gender groups.
- As per the National Guidelines on Infant and Young Child Feeding (2006), all infants should be exclusively breastfed for the first six months of life (180 days); and thereafter, along with complementary feeding, breastfeeding should be continued at least up to years or beyond.

Breastfeeding

- Mother's milk is a complete food and is uniquely adapted to meet the metabolic requirements of the new born(s).
- Breastfeeding is, thus, the natural way of providing nourishment to the baby, which also helps him/her to adapt to the drastic change from a fully dependent-cum-secure intra uterine environment to the independent and hostile extra- uterine life.
- Breast milk is not only easy to digest but it is highly nutritious and provides immunity to the infant protecting him/her against various infections and diseases.
- Breast (human) milk contains substantial amounts of n-3 and n-6 essential fatty acids which are needed for neural growth and brain development, leading to cognitive development during early months of life.

Child Health

- During the first 5-6months after birth, there is a rapid increase in the number of brain cells (neurons) which continues till the second year of life—though at a slower rate.
- Thus during this period, any kind of malnutrition/under-nutrition, particularly that of the micronutrients like iron, iodine, zinc and others, can affect his/her brain development leading to mental retardation and poor cognition.
- That is why the nutrition of children under two years of age has attained a higher priority; and currently the prime most emphasis is on the first 1,000 critical days (from conception till 2 years age ; 270days prenatal +730 days post natal life).

Government Initiatives

- Since 1992, India has been celebrating the World Breastfeeding Week (WBW) from 1-7 August every year.
- Similarly, since 1982, Nutrition Week (1-7 September) are now Nutrition Month (1-30 September) are being celebrated every year for drawing everybody's attention to the important aspects relating to these areas of prime significance.
- PradhanMantriMatruVandanaYojana provides support to the pregnant women and lactating mothers and also encourages health seeking behaviour and immunization.
- Mission Indradhanush, which targets the left out and missed out children and pregnant women for immunization, is aimed on increasing the rates of complete immunization of women and children.
- Mothers Absolute Affection (MAA), the exclusive breastfeeding initiative, is focussed on increasing rates of exclusive breast feeding to reduce infection amongst children up to the age of 6 months.
- For Children, adolescents and pregnant women, to manage nutrition issues, MoHFW also implements the Intensified Diarrhoea Control Fortnight (ICDF) programme, National Deworming Day(NDD) programme and

Nutrition: A Public Health Priority

- *Nutrition is certainly a policy issue going beyond women and children alone, as the country has moved away from the selective emphasis of the MDGs to the more comprehensive SDGs.*
- *The increasing burden of communicable diseases as well as over-nutrition, are leading to complex policy challenges.*
- *Hence, while government policies and programmes are converging and taking steps to manage malnutrition, the most important factor affecting positive change will be behaviour change of the population, where individuals and communities make informed choices regarding their nutrition needs and the food they eat, and also changing to a healthy lifestyle which strongly compounds the benefits of healthy eating.*
- In the month of September, one would have heard and read a lot about 'POSHAN Mah, and nutrition.
- The aim of this article is to enhance the understanding of 'nutrition' and learn its importance, while also discussing some related aspects of nutrition and healthy eating.

What is Nutrition?

- The definition given by the British Nutrition Foundation is: 'the study of nutrients in food, how the body uses nutrients and the relationship between diet, health and disease.'
- The other more comprehensive definition is -'nutrition is the intake of food, considered in relation to the body's dietary needs.
- The important aspect to note here is the 'intake of food in relation to the body's dietary needs'. This implies that as the body's needs change, so should the diet i.e. a lifecycle approach should ideally cater to dietary needs of each stage.
- For example, nutrition needs of a child vary from that of an adolescent and those of an adult working person may vary from that of a geriatric individual. Good nutrition, an adequate, well balanced diet combined with regular physical activity, is considered to be a cornerstone of good health. Poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity.
- This brings us to the next set of words which are results of improper nutrition, and termed as malnutrition. Malnutrition comprises both undernutrition and overnutrition and they both lead to their own set of disease conditions.

Measuring under-nutrition:

- In the realm of public health, we consider three terms which are the standards to measure under-nutrition i.e. stunting, wasting and under-weight; while overnutrition is measured by incidence of overweight, obesity, and diet-related Non- Communicable Diseases (NCDs) comprising of heart disease, stroke, diabetes and cancer.
- A stunted child is one whose height is lower than the standard height for the given age of child. Stunting is the result of long- term nutritional deprivation and often results in delayed mental development, poor school performance and reduce intellectual capacity. Also, women of short stature are at greater risk for obstetric complications because of a smaller pelvis.
- Further, small women are at greater risk of delivering an infant with low birth weight, contributing to the inter-generational cycle of malnutrition, as infants of low birth weight or retarded intra-uterine growth tend be smaller as adults.
- Wasting is defined as a condition where the weight of the child is lower than the standard weight for the given height.
- Wasting in children is a symptom of acute under-nutrition, usually as a consequence of insufficient food intake or a high incidence of infectious diseases, especially diarrhoea.
- Wasting in turn impairs the functioning of the immune system and can lead to increased severity, duration of and susceptibility to infectious diseases and an increased risk for death. On the other hand, underweight is a condition where the weight is lower than the standard weight for the given age of the child. Evidence has shown that children who are even mildly underweight have an increased risk of mortality and severely underweight children are at a greater risk of the same.
- A child is considered to be overweight when the weight is higher than the standard weight for the given age of the child. Childhood obesity is associated with a higher probability of obesity in adulthood, which can lead to a

variety of disabilities and diseases, such as diabetes and cardiovascular diseases.

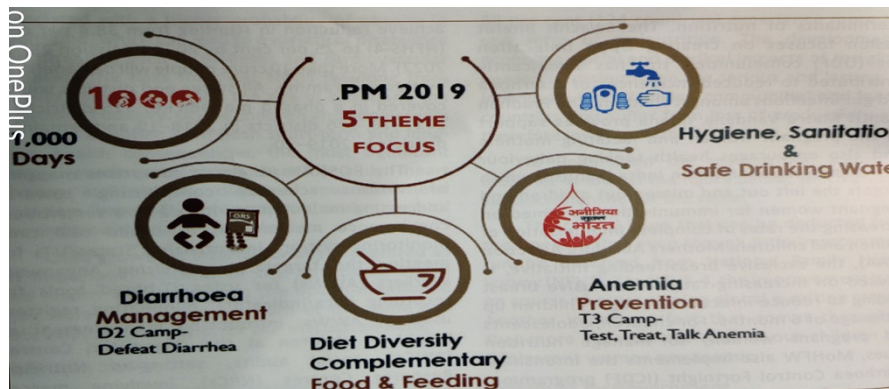
- The risks for most NCDs resulting from obesity depend partly on the age of onset and the duration of obesity. Obese children and adolescents are likely to suffer from both short-term and long-term health consequences, the most significant being, cardiovascular diseases (mainly heart disease and stroke), diabetes, musculoskeletal disorders (especially osteoarthritis) and cancers of the endometrium, breast and colon.
- Child growth is internationally recognized as an important indicator of the nutritional status and health in populations; the above-mentioned indicators are a direct measure of the same and subsequently, essential for our discussion here.

Nutrition Status:

- Globally, 15.08 crore children under five years are stunted and 5.05 crore are wasted, as stated by the Global Nutrition Report 2018. In India, 4.66 crore children are stunted, and 2.55 crore are wasted.
- Also, India figures among the set of countries that have more than 10 lakh overweight children. Overall, of the 141 countries analysed in the report, 88 per cent (124 countries) experience more than one form of malnutrition. The developmental, economic, social and medical impacts of the global burden of malnutrition are serious and lasting, for individuals, their families, communities and for the countries that suffer from loss of productivity and therefore lower growth.
- To understand the malnutrition status in India, let us look at the figure below, which gives a succinct snapshot of the same. The critical issue that can be deduced from the figure is that even though little improvement can be observed from National Family Health Survey (NFHS)-3 to NFHS-4, the improvement is not on course to meet all nine global nutrition targets.
- Another important fact that comes through, is that more than 50 per cent of our children and adolescent women are anaemic.

Initiatives by Government:

- As has been mentioned above, minor improvements have been observed between NFHS-3 and NFHS-4, which implies that the policies and initiatives of the Government are in the right direction and making an impact.
- The determinants of health comprise various factors across the socio-economic, cultural and behavioural realms. In the past few years, significant work has been done on several key determinants of nutrition.
- The Swachh Bharat Mission focuses on creating Open Defecation Free (ODF) communities; this has significantly contributed to reduced incidences of diarrhoea and gut infections amongst children. The Pradhan Mantri Matru Vandana Yojana provides support to pregnant women and lactating mothers and also encourages health seeking behaviour and immunisation.
- Mission Indradhanush, which targets the left out and missed out children and pregnant women for immunisation, is aimed on increasing the rates of complete immunisation of women and children. Mothers Absolute Affection (MAA), the exclusive breastfeeding initiative, is focused on increasing rates of exclusive breast feeding to reduce infection amongst children up to the age of 6 months.



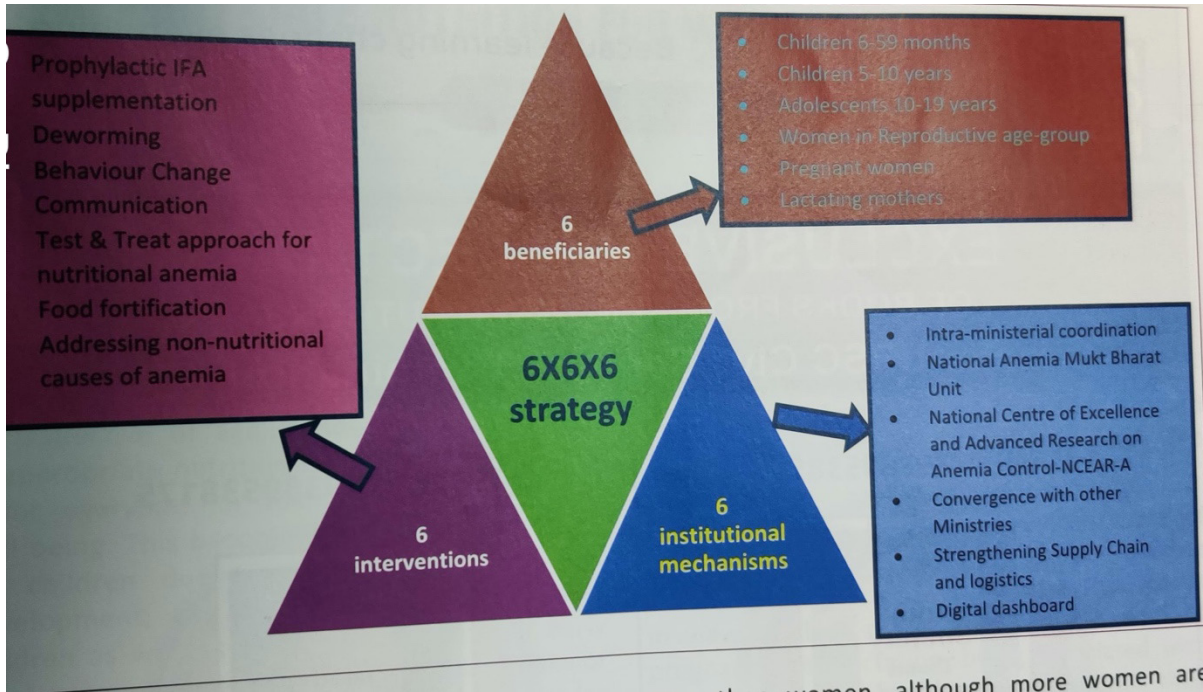
- MoFIFW also implements the Intensified Diarrhoea Control Fortnight (ICDF) programme, National Deworming Day (NDD) programme and the Pradhan Mantri Surakshit Matritva Abhiyaan (PMSMA).
- In September 2017, the cost norms for providing supplementary nutrition through anganwadis to pregnant women and lactating mothers, children and adolescent girls were revised and linked with the food price index.
- Addressing non-nutritional causes of anaemia; and Setting a comprehensive communication strategy including

mass/mid media/social media communication material (radio and TV spots, posters, job-aids, interpersonal communication (IPC) material, etc).

Conclusion

- However, these are all individual and independent programmes run by separate ministries and work has been carried out in silos.
- International experience has shown that converging initiatives such as these, with focus on areas with high malnourishment, accelerates the rate of reduction of malnourishment; and this was the genesis of the National Nutrition Mission (NNM). On the occasion of International Women’s Day 2018, Prime Minister Shri Narendra Modi launched the NNM.

The 6X6X6 AMB strategy:



- Provision of supervised biweekly iron folic acid (IFA) supplementation by the ASHA for all under five children;
- Weekly IFA supplementation for 5-10 years old children;
- Annual/biannual deworming (children and adolescents);
- Point of care testing (POCT) and treatment for in-school adolescents and pregnant women using newer technologies;
- Establishing institutional mechanism for advanced research in anaemia
- Setting a comprehensive communication strategy including mass/mid media/social media communication material

Conclusion

- Nutrition is certainly a policy issue going beyond women and children alone, as the country has moved away from the selective emphasis of the MDGs to the more comprehensive SDGs.
- The increasing burden of communicable diseases as well as over-nutrition, are leading to complex policy challenges: for example, diabetes and hypertension prevalence are higher among men than women, although more women are overweight/obese.
- The government is trying to provide solution to this issue by increasing focus on preventive health
- The focus is on enhancing awareness around nutrition and healthy eating practices, and to make a shift to a healthy lifestyle too.
- The government policies and programmes are converging and taking steps to manage malnutrition
- The most important factor affecting positive change will be behaviour change of the population

- As the tagline of POSHAN Abhiyaan states: Sahi Poshan Desh Roshan— a healthy population is the foundation rock of a healthy and productive nation

Role of Anganwadi Workers and Ashas in Curbing Malnutrition

Anganwadi Workers and the ASHA workers are the grassroots level functionaries under the umbrella Scheme and the National Health Mission respectively. Both these functionaries being closely connected with the rural and urban poor families, play a pivotal role in addressing their nutrition and health related

- India persistently faces high levels of maternal and child under-nutrition as well as anaemia, characterized by an inter-generational cycle that is compounded by multiple deprivations caused by poverty, social exclusion and deeply entrenched gender discrimination.
- Decreasing child mortality and improving maternal health depend on reducing malnutrition which is directly or indirectly responsible for 35 percent of deaths among children under five.
- Under-nutrition in infants and children is further categorized as Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM).
- Severe Acute Malnutrition (SAM) refers to very low weight for height (< 3z scores of the median), visible severe wasting, or the presence of nutritional oedema.
- Moderate Acute Malnutrition (MAM) is defined as a weight-for-age between -3 and -2 z-scores below the median.
- It can be due to a low weight for height (wasting) or a low height-for-age (stunting) or to a combination of both. Similarly, moderate wasting refers to weight-for-height between -3 and -2 z-scores while moderate stunting refers to height-for age between - 3 and -2 z-scores.

Causes of Malnutrition:

- Malnutrition is a multidimensional issue. It is caused due to a number of generic factors such as poverty, inadequate food consumption (due to poor availability/access), inequitable food distribution, poor maternal nutrition, sub-optimal infant feeding and child care practices, inequity/gender imbalances, poor sanitary and environmental conditions, and restricted access to quality health care, education and social safety-net services/facilities.
- Further, various economic, environmental, geographical, agricultural, cultural, health complex and governance issues complement the general factors in causing under-nutrition in children.

Nutrition/Health Interventions:

- For eradicating malnutrition in the country, the direct targeted interventions include schemes/programmes like Integrated Child Development Services (ICDS), POSHAN Abhiyaan, National Health Mission (NHM), Mid-Day Meal Scheme and Scheme for Adolescent Girls, Pradhan Mantri Matru Vandana Yojana.
- In addition, various indirect multi-sectoral interventions/schemes having potential to address one or the other aspect related to nutrition include Swachh Bharat Mission (Ministry of Drinking Water & Sanitation/DW&S), Public Distribution System/PDS (Ministry of Consumer Affairs, Food & Public Distribution/CAF&PD), Mahatma Gandhi National Rural Employment Guarantee Scheme/MGNREGS (Ministry of Rural Development/MoRD), Drinking Water & Toilets (Ministry of Panchayati Raj and Ministry of Urban Development via the Urban Local Bodies).

Role of Anganwadi Workers and ASHAs:

- Anganwadi Workers and the ASHA workers are the grassroots level functionaries under the umbrella ICDS Scheme and the National Health Mission respectively.
- Both these functionaries being closely connected with the rural and urban poor families, play a pivotal role in addressing their nutrition and health related problems/issues.

Roles and Responsibilities of Anganwadi Workers:

Under the ICDS Scheme, Anganwadi Services were launched in 1975 as a pilot project covering 33 blocks in the country; its objectives are:

- To improve nutritional and health status of children in the age-group 0-6 years;
- To lay the foundation for proper psychological, physical and social development of the child;

- To reduce the incidence of mortality, morbidity, malnutrition and school dropouts;
- To achieve effective coordination of policies and implementation strategies among the various departments for promoting child development; and
- To enhance the capability of the mothers to look after the normal health and nutritional needs of their children through proper nutrition and health education.

Package of services under the ICDS scheme:

1. Supplementary nutrition
2. Pre-school non-formal education
3. Nutrition & health education
4. Immunization
5. Health check-up
6. Referral services

Out of the 6, three health related services viz immunization, health check-up and referral services are provided by NRHM & Public Health Infrastructure.

This convergence is facilitated by the grassroot level functionaries i.e. AWWs (Anganwadi Services Scheme) and the ANMs/ASHA Workers (Ministry of Health & Family Welfare) through:

- Observance of monthly Village Health and Nutrition Days (VHND) at AWCs- immunization, ANC/PNC etc.;
- Referral of sick/malnourished children by AWWs to health facilities and the ANMs;
- Biannual rounds of Vitamin A supplementation (in several States);
- Use of joint Mother Child Protection (MCP) cards by ANM and AWWs;
- Participation at the Village Health Sanitation and Nutrition Committee(VHSNC) meetings;
- Monthly meetings by ANM and AWW at the sub-centre level; and joint training conducted by NRHM.

Roles and Responsibilities of Anganwadi Workers:

- To elicit community support and participation in running the programme.
- To weigh each child every month and plotting it on the growth card; maintain the child cards (for children below 6 years) to be examined by the visiting medical/para- medical personnel; and using the referral cards for referring mothers/children to the sub-centre/PHC etc.
- To carry out, annually, a quick survey of all the families in their respective area of work with particular attention to the mothers and children.
- To organise non-formal pre-school activities for children aged 3-6 years and to help in designing/making toys out of indigenous resources.
- To organise supplementary nutrition feeding for infants/children (below 6 years) as well as pregnant women and nursing mothers via planning of menu based on locally available food/local recipes.
- To provide health/nutrition education along with counselling on breastfeeding as well as infant/young child feeding practices to the mothers. Further, anganwadi workers being rather close to the local community can motivate the married women for adopting family planning practices/birth control measures.
- To help and coordinate the health centre visits of pregnant women/nursing mothers for registering their child's birth and reporting the same to the village level functionary notified as Registrar of Births.
- To conduct home visits for educating the parents, especially the mothers, for enabling them to play an effective role in their child's growth and development with particular emphasis on that of the newborn child.
- To assist the PHC staff in effective implementation of the programme's health component viz. immunization, health checkups and ante-natal/postnatal check- ups etc.
- To inform the ANM regarding any emergency cases like diarrhoea, cholera etc. programmes in the village.
- To guide ASHAs (Accredited Social Health Activists under NRHM) in the delivery of healthcare services and maintaining the records.

- Anganwadi Workers can act as depot holders for RCH Kit/contraceptives and disposable delivery kits, though the actual responsibility lies with the ANMs or ASHAs except that for over-the counter drugs.
- To assist the ANMs in the administration of IFA tablets (for anaemia control) and vitamin A doses (for preventing VAD) to the beneficiaries.
- To share the health-related information with the ANM.
- To support in organizing Pulse Polio Immunization (PPI) drives.
- To assist in implementing Scheme for Adolescent Girls (SAG) and motivate/educate the adolescent girls, their parents and community as a whole by organizing social awareness programmes/campaigns etc. Also, to assist in implementing the Nutrition Programme for Adolescent Girls (NPAG) and maintaining the records.
- During home visits, to identify disability among children and referring them immediately to the nearest PHC or District Disability Rehabilitation Centre.
- To inform the Supervisors/CDPO regarding any village level developments requiring their attention and intervention, particularly for the coordinating arrangements with different departments.
- To maintain liaison with other institutions (eg. Mahila Mandals) and to involve school teachers (women only) and primary/middle school girl students of the village, where necessary.

Roles and Responsibilities of ASHA Workers

- ASHAs are the community-level health activist for creating awareness on health and its social determinants as well as for mobilizing the community towards local health planning and increased utilization/accountability of the existing health services.
- They are promoters of good health practices. In addition, they provide a minimum package of appropriate and feasible curative care or arrange for timely referrals.
- They generate community awareness concerning the various determinants of health such as nutrition, basic sanitation & hygienic practices and healthy living/working conditions, as well as regarding the existing healthcare services and the importance of timely utilisation of health & family welfare services.
- They counsel women on birth preparedness, importance of safe delivery, breastfeeding & complementary feeding, appropriate care of the young child, immunization, contraception and prevention of common infections including reproductive tract infections/sexually transmitted infections (RTIs/STIs).
- They mobilise the community and facilitate their accessing health/health related services such as immunisation, antenatal/postnatal check-ups(ANC/PNC), supplementary nutrition, sanitation and other governmental services available at the anganwadi/sub-centre/primary health centres.
- They act as depot holders for essential provisions like Oral Rehydration Solution (ORS), Iron Folic Acid tablets (IFA), chloroquine, Disposable Delivery Kits (DDK), oral contraceptive pills & condoms, etc.
- Since ASHAs cannot function without adequate institutional support at the village level, women's committees (self- help groups/women's health committees), village health & sanitation committee (Gram Panchayat), peripheral health workers especially ANMs and Anganwadi workers, and the ASHA trainers (for periodic in-service training) provide them the needed support.
- Recently, Home-Based-Care for Young Children (HBYC) has been initiated to extend the community-based-care by ASHA workers with particular focus on nutrition counselling, improved child rearing practices and breastfeeding promotion etc.

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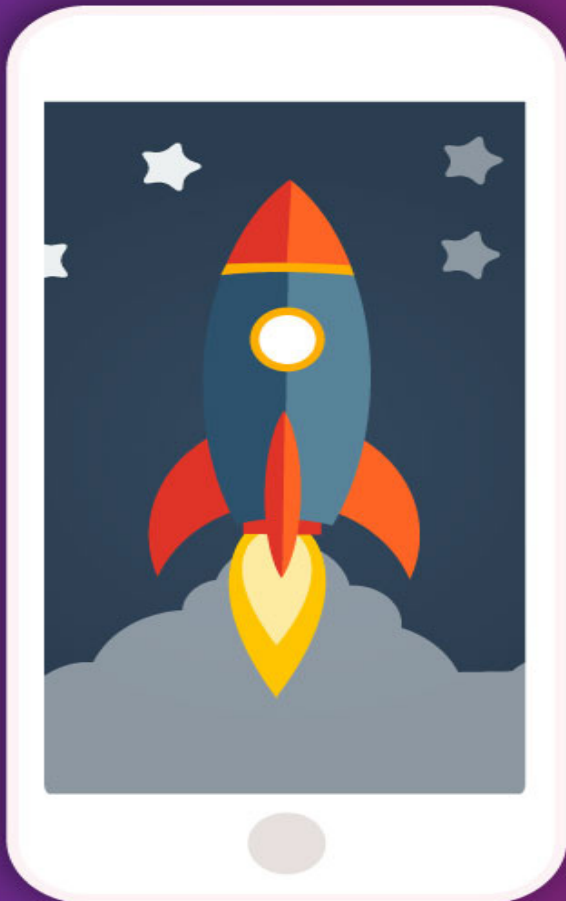
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