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Health care for children in Indian Armed Forces

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ABSTRACT

Children of Armed Forces personnel constitute 33% of the clientele dependant on our healthcare. Various child health indicators and immunization coverage of Indian Armed Forces children is better than the national figures. With improved patient care, it has been observed that the morbidity and mortality pattern of diseases affecting the children of Armed Forces personnel has shown a change from infectious diseases in the past to more of chronic complex disorders at present. Hospital admissions of children in military hospitals due to nutritional and infectious diseases have reduced and constitute only around 21% of all paediatric hospital admissions. Various factors responsible for this shift are preventive health measures (antenatal care, immunization), Active promotion of health (baby friendly hospital concept, Well baby clinic) curative health services (outpatient services, in-patient care, specialty care, supportive Care) and supportive care-reaching beyond like ASHA schools. Presently, we need to handle, life style diseases like obesity, mental stress, teach coping mechanisms for common stressors such as parental separation, family reunification, parental loss, behavioral problems, diseases other than infectious diseases requiring super specialty care. The challenge lies in planning the road ahead for these children and adolescents ensuring a life-course approach.

Introduction

Childcare has been given importance since the beginning of medicine as a science. The ancient ayurvedic scriptures speak in detail of child care (*Atharva Veda*, *Kaumarbhritya tantra*, *Kaumarabritaand* in *Sushruta Samhita*, *Sarira–Sthana* and *Ashtanga-Hridaya*). Kashyapa and Jeevaka (400 BC) were well known Paediatricians of ancient India.[1] Modern medicine saw health care for children intensify. In 1798, with the discovery of smallpox vaccine began the era of vaccine preventable diseases.[2] Over the years mortality due to infectious diseases has reduced drastically. The World Health Organisation (WHO) declaration at Alma Ata in 1978 on Primary health care includes maternal and child health, immunization and nutrition in addition to safe drinking water for everyone, especially children.[3] However, it was not until the late twentieth century that Paediatrics emerged from the shadows of Internal medicine, and established itself as a separate specialty.[1]

In the Indian Armed Forces, families of soldiers have been provided health care by military physicians for a long time. It was always realized that a happy soldier is one who knows

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that his near and dear ones are being cared for. No welfare measures for troops can match up to the interest accrued from a health care plan for his family. This is more relevant in India, where free health care is not assured either through health insurance or a national healthcare system. Children of Armed Forces personnel constitute 33% of the clientele dependant on our healthcare.

Children of Indian Armed Forces personnel

The children of Indian Armed Forces personnel have a different social environment vis-a-vis their counterparts in civil who are more likely to grow up within the environs of their own region and specific culture. They get to see the country and develop a pan India view without a parochial bias. They learn to be self-reliant early in life as quite often one parent is not available for long periods of time due to field postings, courses, deputations, temporary duties, etc. Over the years they become adaptable as they need to adjust to a new social environment every few years in a country that has diverse ethnic population across its various regions. They grow up in a nuclear family without growing roots in any particular place or culture. Nevertheless, they have a surrogate family of Armed Forces which provides the social support system where-ever they are. As far as their health needs are concerned they have access to world class care. They are brought up in clean cantonment areas with facilities available for all round development, timely vaccination and access to better nutrition.

Child health indicators

Various child health indicators viz. under-5 mortality rate, infant mortality rate, and neonatal mortality rate are much lower among children of Armed Forces personnel as compared to rest of the country and are comparable to some of the best world statistics. Immunization coverage is also far better vis-a-vis rest of the country (>90% for Armed Forces children vs 67% for India).[4] The number of beneficiaries of various vaccinations are given in Table 1.[5]

Health care delivery system

Health promotion is the backbone of all welfare activities in the army. It starts at the unit level by the Regimental Medical Officer who is entrusted with the responsibility of early detection of diseases, treatment and timely referral to the hospitals. He ensures regular medical check-up of children, their vaccination and deworming along with curative services for minor ailments. Besides providing medical services he also disseminates information on topics like nutrition, hygiene and sanitation and family planning which contribute indirectly to improved health care. The role of Army Wives Welfare Association (AWWA) in improving the overall status of health of women and children through regular visits to homes and education of women is noteworthy. This has contributed significantly to a reduction in occurrences of infectious

Table 1 – Data on maternal and child health activities: 2014–2015.

Sr. no.	Vaccination		No. of beneficiaries	
			2014	2015
1.	BCG		39,768	30,009
2.	OPV (under one year)	1	38,526	35,898
		2	28,984	30,576
		3	27,553	28,859
3.	DPT (under one year)	1	29,379	24,924
		2	26,604	21,179
		3	23,228	21,590
4.	Measles		36,319	28,224
5.	OP V Booster		32,578	30,615
6.	DPT Booster		25,230	24,382
7.	Vitamin A	1	15,510	12,172
		2	15,852	8447
		3	9279	5180
		4	6881	3439
		5	6192	3246
8.	DT (5 years)	1	13,521	12,044
		2	4196	2161
9.	TT (10 years)	1	13,022	9532
		2	3016	2299
10	TT (16 years)	1	7510	6343
		2	2847	2002
11	Pulse Polio up to 5 years of age	Dose	394,974	366,856

diseases. At present, Paediatric services are available at all family stations. With improved patient care, it is observed that the morbidity and mortality pattern of diseases affecting the children of Armed Forces personnel has shown a change from infectious diseases in the past to more of chronic complex disorders at present. It has been seen that over past few years admissions of children in military hospitals due to nutritional and infectious diseases have reduced and constitutes only around 21% of all paediatric hospital admissions.[5]

As per the 'Health field theory' health status is affected by interplay of four key influences: genetic factors, the environment, lifestyle and hospital services.[6] The Armed Forces is a true example to showcase how public health practice can successfully augment the curative services provided by the hospitals. It would be pertinent to state that the Armed Forces health care model provides comprehensive primary, secondary and tertiary care health services to all the dependants.

Factors responsible

The factors responsible for this change may be grouped as improved comprehensive care namely; preventive, promotive and curative. The Indian Army Medical Corps undertakes to provide comprehensive health care for the dependent children of all serving and retired personnel of the three services, free of charge from the womb and right through childhood. This is no easy task. The health of the child is ensured by a team effort of the Gynaecologist, the Paediatrician and the Community Medicine Specialist along with Nursing and paramedical care personnel and consists of:

(a) preventive health measures,
(b) active promotion of health,
(c) curative health services,
(d) supportive care-reaching beyond.

Preventive health measures

Antenatal care: Every pregnant mother gets good antenatal care and safe hospital delivery. The mother is screened for infections namely Syphilis, Hepatitis B and HIV. An antenatal ultrasonography helps screen babies for normal growth and congenital anomalies. Health care services provided by hospitals are augmented through health promotion initiatives.[7] The maternal mortality rate of 55 per 100,000 deliveries is far below the national rate of 174 per 100,000.

Immunization: The Station Health Organisation through its 74 Family Welfare Centres along with the paediatrician aid in the immunization programme even in the small hospitals. Zero dose polio vaccine is given to babies in the hospital post delivery. All other vaccines as per the Universal Immunization Programme are given in the paediatric OPD, as far as possible on a daily basis. Over the last few years Hepatitis B, Haemophilus influenzae type b (Hib) and Measles and Rubella (MR) vaccination has been included in the service hospitals.

Health promotion

Baby friendly hospital concept: Paediatricians posted at various military hospitals make every effort to make their hospitals ''Baby friendly'' in keeping with the national trend. They ensure early and exclusive breast feeding through training of paramedical workers and education of mothers. Even smaller military hospitals have initiated steps to achieve a baby friendly certification.

Well baby clinic: The concept of a well baby clinic to screen children early for preventable conditions is practiced at every service hospital. This is combined with the immunization clinics to reduce hospital visits for parents.

Curative health services

Outpatient services for sick children initially offered as a referral service is moving towards daily walk in care for children with problems. Towards this, many hospitals have added the day care service concept. Children with conditions such as bronchial asthma, thalassemia or those on chemotherapy are cared for on a day care basis as far as possible. Facility for Continuous Ambulatory Peritoneal Dialysis has been made available. In addition, the larger hospitals with trained super specialists are running specialty clinics. We have Paediatricians visits, neurologists, cardiologists, nephrologists, oncologists and neonatologists, to provide super specialty services.

In-patient care hospitals have a separate paediatric ward. In addition, the Zonal and Command Hospitals provide at least Level II and Level III Neonatal Intensive Care respectively. Department of Paediatric Surgery has been established at all Command Hospitals.

Specialty care in the form of high risk baby clinics, epilepsy and developmental clinics, malignant disease treatment centre, ambulatory dialysis, renal, bone marrow and stem cell transplantation is available at some of the larger referral hospitals.

Supportive care

With the help of the Armed Forces Wives Welfare Organizations, special schools such as ASHA and Sankalp are run for children with special needs such as cerebral palsy or a hearing handicap. The Shravan programme for Cochlear implants and rehabilitation is providing yeoman services to children with special hearing needs.

Health challenges: children of the Armed Forces

Deployment parameters of our soldiers can have a significant impact on the emotional and behavioural health of military families. These include stressors such as parental separation, family reunification, and parental loss. Due to frequent moves, many military children experience disrupted relationships with friends, and need to adapt to new schools and cultivate new community resources. Some children also experience the trauma of being reintegrated with a parent who has returned home post-combat permanent injury/illness. These aspects need to be addressed consciously.

In view of the above, there is a dire necessity of providing continuity in health care services to the children. Many of the smaller hospitals do not have expert paediatric services throughout the year. For children with special needs, parent transfers pose a hurdle and facilities for special schools may not be available at all places. Each year we witness an increasing number of children with autism spectrum disorder, attention deficit hyperactivity disorder, behavioural disorders. This trend is consistent with observations from other nations too. There is substantial burden of children with cerebral palsy and other chronic neuromuscular disorders. Provision of holistic and multidisciplinary care, under one roof, is a major challenge for the Armed Forces Medical Services, in the years to come.

Another emerging problem is the rising prevalence of childhood obesity, especially in the middle and upper middle classes. Issues related to accommodation shortage (with resultant stay of families in civil locations), safety concerns, busy academic schedule with pressure to perform; are all promoting sedentary life styles. The rapidly changing dietary habits along with the adoption of sedentary lifestyle increases the obesity-related diseases such as insulin resistance, type-2 diabetes mellitus, and metabolic syndrome. School Health Surveys in the Armed Forces are usually the prerogative of Community Medicine Specialists posted in the station. Surveys may fulfil the need of ''catching them young''; however, the challenge lies in planning the road ahead for these children and adolescents. Effectively addressing this complex problem calls for a sustained, multi-sectoral response involving paediatricians, community medicine specialists, paramedical workers, parents and school administrative staff. Timely action must be initiated to combat the rising epidemic of childhood obesity.

Accidental death due to drowning, electrocution, physical falters, motor vehicle accidents and foreign body aspiration are preventable maladies. There is a need to strengthen educational and ambulatory care sensitization initiatives to control these factors.

The future

Providing healthcare right from the pre-natal stage to adolescence is vital in order to ensure a good quality life. Ensuring a life-course approach in maintaining quality of life requires culture based acceptance of the preventive and curative modalities as much as external medical interventions. These interventions need to be effective across the entire childhood stage, beginning with reduction of mortality among infants through immunization and nutrition interventions and youth and adolescents being provided correct information about sexuality, reproduction and safe motherhood. A Referral Centre of Excellence for Mother and Child Care set up at tertiary level hospitals can fulfil this important need. This would not only serve as a referral centre but would also take a lead in research on pertinent issues of health of the children of Armed Forces personnel. A study by Kapilashrami et al. concluded that the health status of fewer than five children in Armed Forces is better than their civilian counterparts.[8] However, families often have to move back to their hometowns due to exigencies of services. These towns/villages at times are in remote locations with inadequate health care facilities. These periods of separation from a holistic health care setting may lead to poor nutritional status and missed vaccination. The best long term strategy would be to focus on educating the wives of serving personnel through IEC activities during their stay in cantonments. They should be made aware about issues like home based nutritional care, prevention of common child hood ailments and complete immunization. Efforts should be made to not resist these interventions to only lectures but expand them to workshops including cooking classes for healthy cooking practices, detection of common adulterants at home, lifestyle interventions, etc. at the vocational training centres of the units.

Emerging issues like outbreaks of acute encephalitis in children in civil areas can also have an impact on Armed Forces children. Often outbreak surveillance investigation and prevention and control teams focus on serving personnel. However it is the need of the hour to have a surveillance system for children for similar cases in the endemic areas.

Conclusion

Paediatric practice is increasingly becoming more specialized. Major focus is on ultra-technology and narrow-spectrum specialization. However, the importance of child health care in a community context, related to family circumstances and influenced by the environment, social stresses, economic limitations, cultural attitudes and practices, and policy decisions and priorities is equally pertinent. The need of the hour is a balance between the two. Sound clinical work, as in a hospital environment and integrated approach with others in the community can take care of the major issues related to child health. Community health projects with meaningful interventions along with involvement and support from of non-medical authorities can further improve the status of nutrition and immunization. Dove-tailing of the curative-preventive approach, as part of a team that includes paediatricians, nurses, community health workers and parents, particularly mothers, in the community itself will be beneficial in the long run.

Conflicts of interest

The author has none to declare.

REFERENCES

1. Tullu MS, Kamat JR. Pediatrics in India. *J Postgrad Med*. 2000;46:233–235.
2. Riedel S. Edward Jenner and the history of smallpox and vaccination. *Proceedings (Baylor University Medical Center)*. 2005;18(1):21.
3. Fendall NR. Declaration of Alma-Ata. *Lancet*. 1978;312 (8103):1308.
4. Govt. of India. *Mission Indradhanush Report*. New Delhi: Min of Health & FW; 2016.
5. Govt. of India. *Annual Health Report of the Armed Forces 2015*. New Delhi: Ministry of Defence; 2016.
6. Antonovsky A. The salutogenic model as a theory to guide health promotion. *Health Promot Int*. 1996;11(1):11–18.
7. Dudeja P, Singh A, Jindal AK. Health promotion initiatives: an experience of a Well Women's Clinic. *Med J Armed Forces India*. 2014;70(1):64–67.
8. Kapilashrami M, Virk R, Chatterjee K. Nutritional status of the under five children of armed forces personnel. *Med J Armed Forces India*. 1999;55(4):296–298.