

Challenges and response to the practices in paediatric referral based on a Case Study from C.G.H.S. Dispensaries in Jaipur, Rajasthan

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Abstract

Background: A strong referral chain is vital for the proper functioning of any broad base community health care pyramid. Improper referral contributes to high childhood morbidity and mortality. Since this referral chain is as strong as its weakest link, identifying and strengthening the weak links will help provide efficient, effective, affordable and equitable health care to the community. Inadequate evaluation of paediatric patients by the referring physician in the peripheral CGHS (Central government Health Scheme) dispensaries was resulting in a high patient load at the referral hospital where the author was working as a specialist, and frustration in the patient's caregiver. The associated delay in receiving specialist's care often resulted in aggravation of the basic disease.

Material and Methods: In a study conducted in a referral Urban health care system in India (CGHS), primary data collected from 264 referred patients and secondary data of 5 referring peripheral clinics was analysed.

Results: Reasons for improper paediatric referral and common conditions requiring referral and specialist's care were identified.

Conclusions: Identified lacunae in referral were corrected using a unique "WISH" format, devised by the author. This helped the primary care physician in doing a quicker, comprehensive and easily reproducible health check-up and rapid referral of the paediatric patient, if required, to a higher centre. This tool will empower the primary care physician in improving patient evaluation at the first link of a referral health care system and ensure early, economic and efficient referral.

Keywords: Paediatric Referral Status in India, Mortality, Morbidity, Referral Protocol of Paediatric Patients.

Introduction

One of the key reforms identified to be implemented is of the entire health system with Decentralization to local bodies. In order to ensure decentralization system is functioning well, it is very necessary to combine the decentralization process with an effective referral system.

Findings of the recently published Demographic Health Survey has indicated various kinds of reasons faced by the women in accessing health care which prevent them from getting medical advice or treatment for themselves when they are sick. In that survey a random sample of women between 15-49 age group had been interviewed on their accessibility to health care.

Although there is some mechanism established for patient referrals by the Ministry of Health & Family welfare which is, though not functioning properly at present. Government has introduced a referral form, where the health care personnel at the primary healthcare centres are expected to fill it and forward while transferring the patients. This mechanism may not function well because of the lack of other requirements for an efficient referral system.

In a study conducted on referral mechanism in a district, it was reported that although the facilities are using the referral system, only small number of patients are to be attended the secondary care institution after referral. Even there most of the patients are coming from nearby centers. It is also observed that the existing referral system does not greatly improved the access to secondary care for more remote, and probably for more needy communities.

The referral may **defined** as a 'process that ensures the accessibility to higher levels of medical care to the patients from the lower level of health care institutions i.e. community or primary level health care facilities'. Referral is usually practised in order to obtain expert professional advice, undergo a diagnostic technique, seek a therapeutic intervention or receive in-patient care when these are not available at the referring facility. The presence of well established referral system is important for the proper functioning of the health system based on primary health care. Referral hospital is an institution to which patients with complex medical condition can be sent for diagnosis, treatment and care and which can also act as a resource center for the health worker of the peripheral health institutions. It is to provide efficient, effective affordable and equitable services to their community.

Following are the **characteristics** of a referral:

- Providing round the clock medical care.
- Rehabilitation that requires a higher level of competence than the source of referral.
- Hospital has the capacity for diagnosis, treatment and institutional care.
- All patients referred or referring them safely to more complex levels of care.
- Referring patient back to the source of referral with appropriate information.
- Capability of supporting the development of primary health care services through training and continuing education programme at all levels.

The basic **Principals** of referral can be spelt out as under-

- All patients referred or referring them safely to more complex levels of care.
- Referring patient back to the source of referral with appropriate information.
- Capability of supporting the development of primary health care services through training and continuing education programme for all levels.
- Overlapping and competition between various levels are to be avoided in order to prevent wastage that may affect the efficiency of the referring Hospital and referred hospital.
- Ideally the referring health center is where first diagnosis should be done and responsible for providing comprehensive, integrated and continuing care.
- Distances, transport and finances are factors that cannot be ignored and that affect the way in which patient are managed.
- Every patient should first receive care at the health unit at first contact level, where appropriate initial treatment can be given and a decision made about the need for referral to the first referral hospital.

Since the Referral services are provided at the higher level institutions, the treatment costs for all the patients are greater in such institutions but at the same time the quality of services should be ensured and

provided to the patients. It is pertinent to make the patients well aware about the services available at each level of institutions. As a thumb rule of referral, patients should not by pass one level of institution without the consent of the personnel of that level. Follow up care is also needed to provide at the referral system. Entry point in to the referral system is the primary level and patients/clients proceeding onward will be taken care of by the health system itself. The primary level institution could be union sub-health-centre, Primary Health Centre, Urban Health Clinic/post. It is important to make the referral effective, initially all patients should be received, examined and treated by the health care provider at the primary level.

Child Mortality and Morbidity and Referral

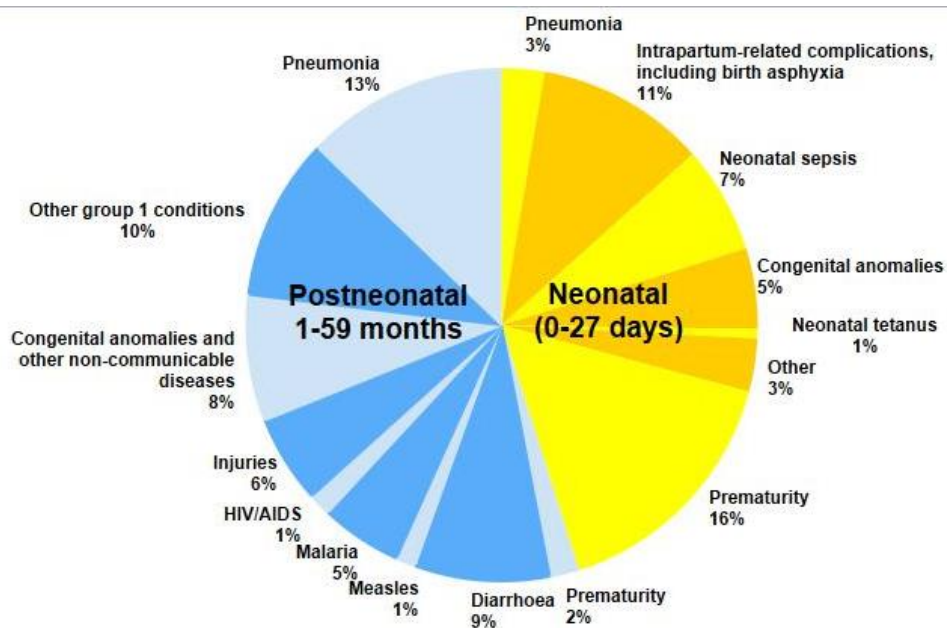
There are numerous cases of improper or ineffective or no referral that causes increased morbidity and mortality in the India. The leading causes of death among children under five in 2015 were preterm birth complications, pneumonia, intrapartum-related complications, diarrhoea, and congenital abnormalities. Neonatal deaths accounted for 45% of under-five deaths in 2015. Table 1 depicts the major causes of deaths among children 1-59 months from 2012–2015.

Table 1: Cause of Death by Disease of 1-59 months children in India

| # | Diseases/Causes | | | | |
|----|--|------|------|------|------|
| 1 | ARI (Lower) | 30.8 | 30.6 | 29.8 | 28.4 |
| 2 | Diarrhoeal diseases | 21.7 | 21.9 | 21.4 | 22.2 |
| 3 | Other communicable, perinatal and nutritional conditions | 9.6 | 9.8 | 9.6 | 10 |
| 4 | Other non-communicable diseases | 7.3 | 7.5 | 7.4 | 7.8 |
| 5 | Injuries | 7.1 | 7.4 | 7.3 | 7.8 |
| 6 | Congenital anomalies | 5.2 | 5.5 | 5.6 | 6 |
| 7 | Prematurity | 4.4 | 4.6 | 4.6 | 4.9 |
| 8 | Measles | 4.5 | 3.5 | 5.4 | 4.5 |
| 9 | Meningitis/encephalitis | 5.2 | 5 | 4.9 | 4.2 |
| 10 | Pertussis | 0.8 | 0.8 | 0.8 | 0.8 |
| | | 96.6 | 96.6 | 96.8 | 96.6 |

*Source: WHO-SEARO, 2016

The distribution of mortality by disease during neonatal and post-neonatal period is given in the Graph 1.



*Source: WHO-SEARO, 2016

Timely and effective Referral of the sick child plays a vital role in child survival and decrease morbidity too. Though, not much studies are available which explain the role of referral from lower health intuitions to higher health institutions in curbing child mortality and morbidity. Moreover, very less data is available on the same as well. Few researches have indicated the extent of referral role in limiting child mortality and morbidity.

A research paper published in Indian Journal of Community Medicine, 2016 by Deshmukh V. et al. 'Taken to health care provider or not, under-five children die of preventable causes: Findings from cross-sectional survey and social autopsy in Rural India' revealed that – 'Out of the sick children who were taken to a health facility, 36.8% new-borns and 53.1% post-neonates were taken back home and died at home. The initial choice of the health provider (formal public, private formal, or informal) did not seem to significantly influence this behaviour. Similarly, Kallander et al. in their study observed that 13% did not receive any treatment from the first provider and 10% did not receive treatment from either the first or the last provider. Of the 40% referred to another health facility, only half adhered to the referral advice. A study done by Mahajan et al. on 'Modifiable Factors for Prevention of Childhood Mortality' published in Journal of Indian Paediatrics, Jan 2015 established that in 5 percent of cases the child mortality is caused by delayed referral from the lower institutions to higher institution.

Challenges in Referrals in India

Usually referral are required for emergency cases, medico-legal cases, curative cases and at time for preventive cases. Though, a well-defined referral

system has been jotted down Indian Health System, execution of the same is very far-off. Several attempts, at times in bits and pieces, at times in an institutional manner, were made to streamline the referral system in India. However, well managed referral system in India has been coming up as a bigger challenge for strengthening public health and medical services in the country. Internationally, we defined and well-structured referral system exists even in small and less developed countries like Oman, wherein no patient can get treatment at the Referral Centre without the referral form from the lower institutions, but in India, situation is exactly opposite. One of the major problems in health sector in the country is the tendency on the part of the patients to by-pass the primary health care facilities in favour of secondary and tertiary levels hospitals. People usually go to the facilities or individual physician referred by relatives or on the basis their own experience resulting low utilization of the lower level of institutions. Further, there are no financial disincentives for patients if they by-pass primary health care facilities in favour of tertiary level facilities. Proper system of quality patient care is poor at the primary level, which results in their poor utilization of the services.

Challenges are not only at the patients' level. The challenges are at the source facilities levels as well. The major challenge is to address the communication gap between the attending doctor at the referral facility and the facility at source. Moreover, poor briefing about the condition of the patient to the patient and relatives and the reasons for the referral is always found to be a cause of concern. Lack of equipment and support facilities for emergency treatment or resuscitation of severely injured patient at the referral institutions many a time contributes in morbidity and mortality. Delayed,

incomplete referral or referral to a wrong/ill equipped facilities are also considered to be major challenges in the referral system of the country. Ineffective follow-up of information given to patients by the medical staff is also one of the contributing factor in this regard.

Apart from the challenges at the source facility level, there are several challenges that can be spelt out at the referral centre level. The most common factor, in this regard is the overcrowding or excess patient flow at the referral hospitals. Inadequate infrastructure i.e. lack of beds, equipment, medicines, power back up, availability of blood, investigations facilities; shortage of skilled human resource i.e. Doctors, surgeons/specialists, nurses etc. are also common lacunae found at the referral centres besides delayed and proper handling of the referred patients at the referral centres.

Reasons of the Challenges/Problems

There are several reasons of the challenges in the referrals in India discussed above. At the community level or from the patients' side the most common reason is lack of awareness among the community about the types of services available at the facility level, as a result they landed up at the inappropriate institutions. While at the primary centre level, the shortage of trained personnel, lack of confidence among health personnel (nurses, doctors), poor infrastructure and equipment, medicines, inadequate budget and weak management are the main reasons of the poor referral system. At the referral centre levels, poor communication linkages with the lower health facilities, lack of adequate infrastructure and skilled manpower and weak management are the main reasons in this regard.

The Present Research

Realising the scenario of poor referral system and the crucial role of effective referral services to reduce the morbidity and mortality particularly among the children under 5 years, a study was conducted in Central Government Health Scheme (CGHS) hospital and its peripheral clinics in Jaipur district of Rajasthan to address the challenges of poor referral system.

Problem identified: Most patients being referred to the Paediatric 'Out Patient Dispensary' (OPD) in the CGHS polyclinic for specialist's opinion had no documented comprehensive evaluation from the referring doctor in their respective CGHS dispensaries. Which resulted a poor referral system in the CGHS Hospital.

Objective of the Research Study

The objectives of the study were:

1. To understand the major causes of poor referral practices adopted by the doctors at peripheral clinics.

2. To suggest practical solution in order to improve proper referral services.

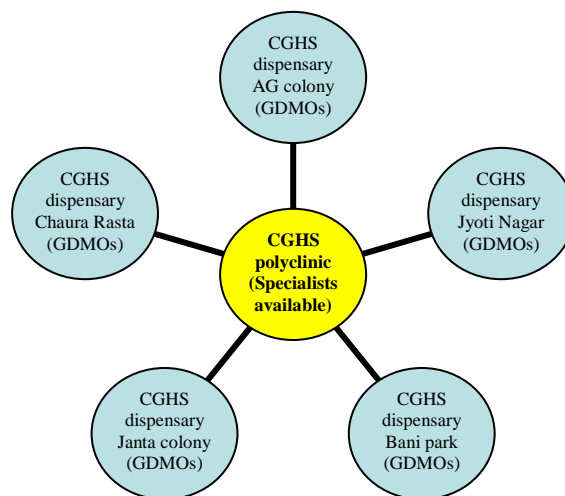


Fig. 1

Material & Methods

As per laid down protocol, no CGHS beneficiary can directly walk in for specialist's consultation, as referral by a CGHS dispensary doctor is a must. So all patients screened were the ones who had already been examined by a dispensary doctor, received some preliminary treatment and then considered for referral and second opinion to the specialist in the polyclinic. There are a total of 5 CGHS dispensaries in Jaipur city, from where all patients requiring specialist's opinion get referred to the CGHS polyclinic. A total of 264 patients (sample size) were evaluated over a span of 3 months.

Inclusion and Exclusion Criteria of the Study: All patients referred to the Paediatrics OPD of the CGHS polyclinic from all the 5 CGHS dispensaries in Jaipur city, over a three months' duration (1/09/13-30/11/13) were included in this study.

Tools and Technique used were:

History taking, as narrated and provided by the caregiver & clinical examination of each patient, scrutiny of the patient's previous medical records and documenting the relevant findings in the OPD slip (handed over to each patient) as well as the OPD record register (maintained in the OPD) formed the basis for evaluating the collected clinical data which was then subjected to simple statistical calculations.

Every patient visiting the Paediatrics OPD in the CGHS polyclinic was subjected to a detailed clinical evaluation and where required, referred to the concerned specialist for reconfirming/crosschecking the clinical findings and prescribed treatment. These details were documented in the OPD record register. Based on

the monthly patient data, the profile and frequency of various complaints, clinical diagnosis and referrals to other specialists was evaluated.

The details about each patient walking into the Paediatric OPD of the CGHS polyclinic were meticulously recorded in the format given below. These were in the age group of 1 month to 15 years of age.

Data Analysis, Results and Discussions

Table 2: Format to record vital statistics at Paediatric OPD of the CGHS (Referral Hospital)

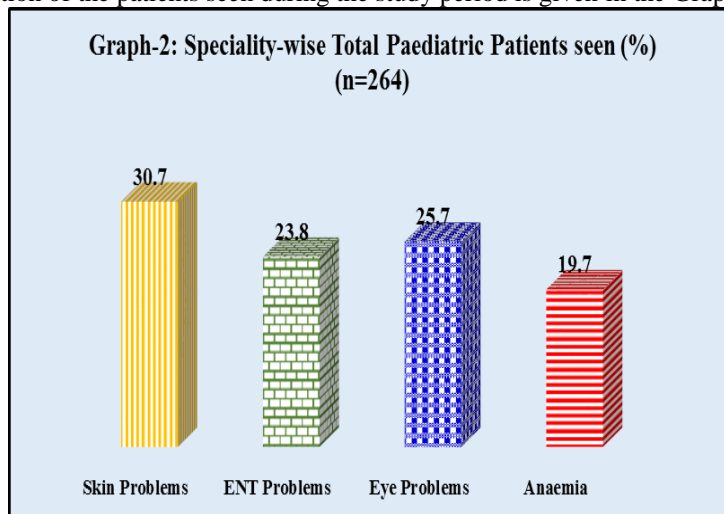
| CGHS token no. | Name | Age/Sex | Chief Complaints /Clinical Dx | Weight | Worm infestation | Immunisation status | Infection | Sight/Eye problem | Skin condition | Height | Hearing/Nose/Throat | Hb |
|----------------|------|---------|-------------------------------|--------|------------------|---------------------|-----------|-------------------|----------------|--------|---------------------|----|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

If required, the concerned specialist was sent a reference for confirming/ providing a diagnosis and appropriate treatment. Weight and Height were recorded in the Paediatric OPD and simple blood investigations were performed in the pathology lab in the polyclinic itself.

A total of 264 patients were seen over a span of 3 months. The speciality-wise breakup of the patients evaluated for the study was as follows:

| # | Speciality-wise Breakup | Number of Patients |
|----|--|--------------------|
| 1. | Patients with Skin Problems | 81 |
| 2. | Patients with associated ENT conditions | 63 |
| 3. | Patients with eye related problems | 68 |
| 4. | Patients with Anaemia | 52 |
| | Total number of Paediatric Patients seen | 264 |

The percentage distribution of the patients seen during the study period is given in the Graph 2.



The Skin problems (30.7%) were Seborrheic dermatitis, Atopic dermatitis, Urticaria, Vasculitis, Impetigo, Scabies, Pediculosis, Alopecia Areata, Pityriasis alba, Vitiligo, Tinea, Papular urticaria, Nappy rash, Molluscum contagiosum, Ichthyosis, Lichen planus, Keratoderma, Angular cheilitis, Onychodystrophy, Chickenpox rash, Lip smacking dermatitis, Cellulitis etc). The major Ear, Nose, Throat (ENT) problems (23.8%) were Tonsillitis, Otitis media & externa, Sinusitis, Nasal polyps, furunculosis etc. The major eye related disease (25.7%) were recorded as

Refractive error, squint, allergic conjunctivitis, eyestrain, blepharitis, decreased sight etc. The paediatric Anemia (19.7%) included Nutritional anemia, associated h/o worm infestation, Thalassemia intermedia, associated viral fever etc.

The occurrence of anaemia was surprisingly low in this particular population cohort. This could be attributed to the better socioeconomic standard of the studied population (CGHS beneficiaries), having a higher level of awareness and accessibility to proper nutritional requirements and maintenance of basic hygiene. Another factor that could play an important role is the common practise of providing haematinics and anti-helminthics by the CGHS dispensary doctors as these medicines are freely available in the CGHS pharmacy.

ENT conditions are quite common, as is expected in the paediatric age-group. All the same, most of these conditions could have been easily picked up by the dispensary doctor itself if mandatory throat examination and easy availability of disposable tongue spatulas are taken care of.

Skin conditions seen were quite varied and least addressed by the dispensary doctors. This could be due to lack of awareness as well as confidence in diagnosing skin disorders.

Eye conditions and complaints of eyestrain were also quite common as is expected in this age group and social class where every child is going to school and having above average exposure to videogames, computers and television.

Conclusions and Recommendations

On discussion with the Dispensary doctors at the peripheral clinics, it was brought out that the poor referral was basically attributed to the following factors:

1. Lack of sufficient time for undertaking a detailed evaluation in the dispensary: The large number of patients being handled by each dispensary doctor precluded spending more than 5 minutes per patient.
2. Lack of confidence in carrying out a comprehensive check-up on paediatric patients compounded by lack of cooperation from the patient in allowing this.

To identify the common complaints and clinical conditions being addressed and diagnosed in the Specialist's OPD. This is in line with the age old adage taught by all medical teachers: "Common things occur commonly and are more likely to come across!"

Based on this, the study proposes a "PAEDIATRIC QUICK REVIEW SCHEME" [PQRS] design to facilitate a comprehensive check-up of each child walking into any CGHS dispensary. This can be formulated into a stamp seal which can be put on the existing OPD slips, thus obviating the necessity of incurring any additional operational costs.

The Process suggested for the implementing 'PQRS'

To enable Quick and comprehensive check-up of all paediatric patients in the CGHS dispensary, the following administrative tools can be adopted:

- A) **PQRS stamp:** Paediatric Quick Review Scheme will comprise of a seal in the following format:

| Weight | in kgs(N/<N/>N) |
|-------------------|-----------------|
| Worms | |
| Immunisation: | FI/PI/UI |
| Infection | -/+ R2S |
| Skin | N/R2S |
| Sight | N/R2S |
| Height | In cm (N/<N/>N) |
| Hear/Nose/Throat: | N /R2S |
| Haemoglobin | N /R2S |

*Abbreviations used:

| | | |
|-------------------------|----------------------------------|--------------------------------|
| N : Normal | FI -Fully Immunised | PI -Partially immunised |
| UI -Un immunised | R2S : Refer to Specialist | |

- B) A half day orientation/Continue Medical Education (CME) can be organised by the specialists on the following aspects:

- Dermatologist- on the common skin condition
- ENT specialist – indications for referral
- Eye specialist- how to suspect eye problems in children
- Pathologist- investigations, their indications & interpretations

- C) Besides, it can be ensured by the administrative staff that *simple apparatus* like a disposable tongue spatula and torch are available with each doctor (looks very general but hardly found in the peripheral govt. clinics), along with an accurate height and weight measuring apparatus ,as well as age matched height and weight charts for easy reference.

Advantages anticipated: The advantage of the proposed PQRS approach can be divided into short term and long term benefits. The **short term benefits** are-

1. Providing comprehensive check-up to the client i.e. the child of any CGHS beneficiary.
2. Saving time of the dispensary doctor in providing the desired service.
3. Reassuring the dispensary doctor that no major clinical aspect of the patient's examination has been unintentionally overlooked.

4. Streamlining & facilitating the client in availing the services of the various specialists being provided in the CGHS polyclinic i.e.

- Dermatologist (Skin),
- Otorhinolaryngologist (ENT)
- Ophthalmologist (Eye)
- Pathologist & Radiologist

Besides the paediatrician (Child specialist), specialist services of Internal Medicine and Obstetrician are also provided for in the polyclinic, though the frequency of referral of a paediatrics case to these specialities is expected to be low.

The **long term benefits** of the recommended tool in Health administration would be-

- Providing quality services to an important though small segment of the clients availing CGHS facilities
- Streamlining the referral from the dispensaries
- Quick, comprehensive and documented evaluation by the medical practitioners in this age of medico-legal accountability
- Serve as a benchmark in providing cost-effective measures in health administration.

By adopting the three steps mentioned above, Paediatric Referral can be strengthened and a large number of morbidity and mortality can be addressed.

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