

Brief Communication

Descriptive analysis of transfer forms in a paediatric unit at Teaching Hospital, Anuradhapura

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Abstract

Introduction

Transferring patients between health care institutions is an essential practice in Sri Lanka. All transfer patients are accompanied by a standard transfer form (Health 946). This provides essential information regarding the patient to the receiving hospital. The objective of our study was to analyse the data available on transfer forms and to assess the outcome of these patients on arrival at the Paediatric Unit B of Teaching Hospital, Anuradhapura.

Method

A retrospective data analysis was carried out on transfer forms and patient records over a six-month period. Data analyzed included whether information requested on the form was provided, reason for transfer, time of transfer, average duration of hospital stay and outcome of the patient who was transferred. Ethics clearance was obtained from the Ethics Review Committee, Faculty of Medicine, Rajarata University.

Results

Of 150 transfers, 74(49.30%) were female and 76(49.70%) were male. 47(31.30%) were children less than one-year-old. Majority (125,83%) were from divisional hospitals. 43(28.7%) were transferred for "further investigations and management" while 34(22.7%) were transferred for respiratory tract infections. 65(43.30%) had been admitted to the local hospital on day one of illness and 63(45%) were transferred on the day of admission. 72(48%) did not require any intervention during the first 24 hours of transfer. Only 33(22%) needed some immediate intervention on admission and one needed intensive care. The most prominent diseases documented on discharge were lower respiratory tract infections (LRTI) in 32(21.30%), bronchiolitis in 23(15.30%), viral fever in 21(14%) and simple febrile convulsions in 12(8%).

Conclusions

The majority of transfer forms contained the required information. However, the reason for transfer was not specified in a third of the forms. More than a third were transferred on day one of illness and day one of the admission to the local hospital. Almost half of patients did not require any immediate intervention on transfer. The cost effectiveness of transferring paediatric patients between health care institutions needs further evaluation with a well-planned study.

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Introduction

The Sri Lankan health care system has several different types of hospitals with varying human and infrastructure resources. The setup is well organized with easily accessible primary care facilities, free inpatient management and patient transfers to higher levels of care. Hence, transferring patients between health care institutions is an essential practice in Sri Lanka. All transferred patients are accompanied by a standard transfer form (Health 946) signed by the transferring medical officer.

According to health statistics, there has been a significant improvement in the health sector in the recent past. However, very little attention has been paid to improving the quality of patient transfers between institutions (1-5). The aim of the transfer form is to provide essential information to the receiving hospital, such as patient identification details, reason for transfer, expected management and details of initial management, consent for transfer. Adults and paediatric transfers have identical transfer forms, although neonatal transfers have a separate transfer form, introduced recently. However, paediatric transfer patients require provision of different information in comparison to adults but this has not been allocated a space in the form. It has been noted that the existing transfer forms do not provide sufficient data for immediate management (2). Patients are often transferred for advanced and specialized care, laboratory or radiological investigations and intensive care but it has been noted that most of these transfers are unnecessary and the patient can be managed at the local hospital. There are very few scientific studies conducted in this field and even on paediatric transfers.

Objective

The objective of this study was to analyse the data on transfer forms and to assess the outcome of these patients on arrival to the Paediatric Unit B of Teaching Hospital, Anuradhapura.

Methods

A descriptive cross-sectional study was carried out at the Paediatric Unit B of Teaching Hospital, Anuradhapura (THA), the third largest hospital in Sri Lanka. THA has three paediatric units and the units receive patients transferred from other local hospitals only on their respective casualty days, on a roster basis.

Daily admissions to the casualty unit vary from 15 to 20 per day and 2 to 5 patients are usually transfers from outside hospitals. We recruited 150 consecutive patients transferred to this unit between February and September 2017. Ethics approval was obtained from the Ethics Review and Higher Degrees Committee, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka.

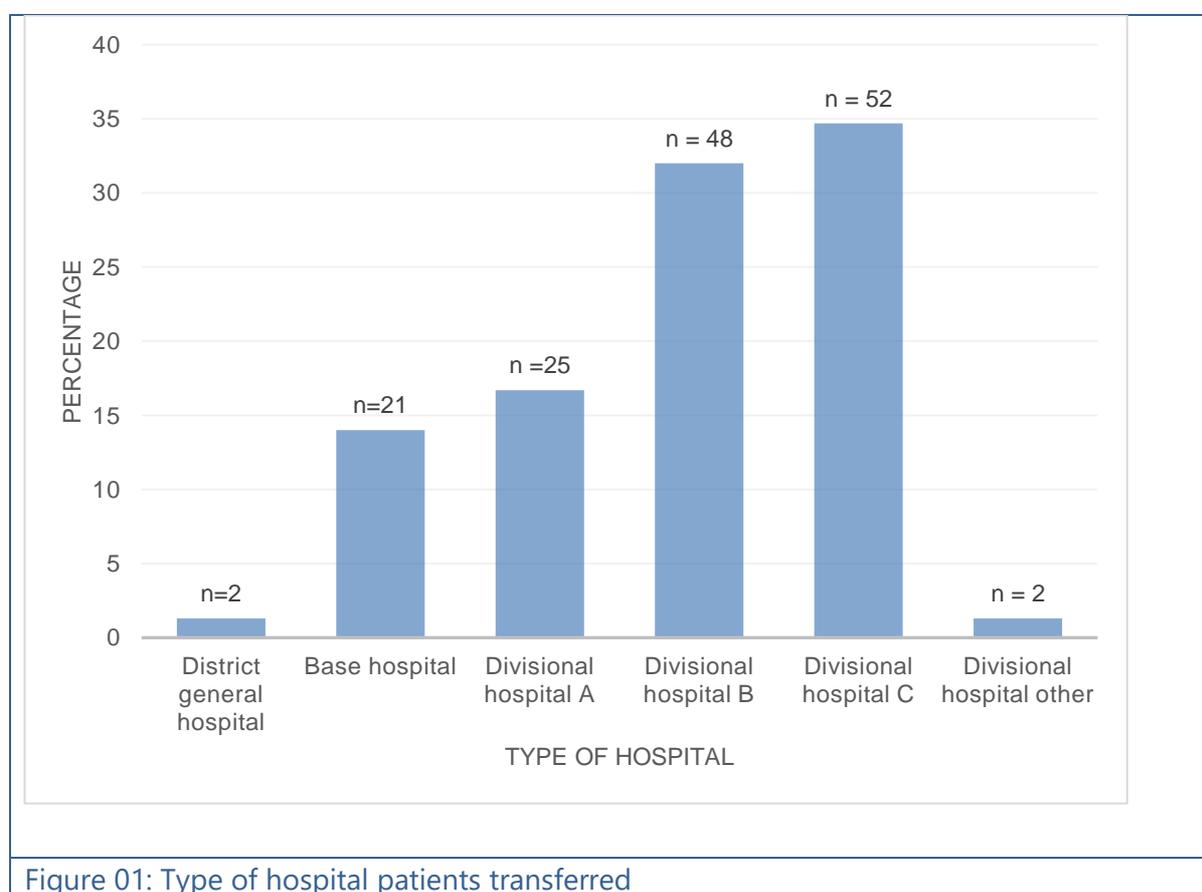
The official transfer form (Health form 946) requires 15 separate items of information regarding the transferred patient. 1) Name of transferring hospital 2) Name of receiving hospital 3) Registration number of patient 4) Ward number 5) Full name and address of the patient 6) Age 7) Sex 8) Race 9) Religion of patient 10) Name and address of the guardian 11) Reason for transfer 12) Report of special examination 13) Suggested treatment 14) Date 15) Signature and designation of officer transferring the patient 16) Consent for transfer. All the data included in each transfer form were recorded in a data extraction sheet.

The duration of local hospital stay, details about the illness, initial management carried out within 24 hours and final diagnosis of the patient were extracted from patients' records in the bead head ticket (BHT). Reason for transfer and final diagnosis were reviewed by a consultant pediatrician to categorize them into a minimum number of variables.

Results

We analyzed 150 transfer forms of 73 (48.70%) boy patients and 74(49.30%) girl patients. Median age was 24 months with the 25th percentile at 9 months and the 75th percentile at 60 months. A total of 47 (31.30%) were less than one year old.

Majority of the transfers (n=125, 83.4 0%) were from divisional hospitals (Type A, B, C) while 21(14.0%) were from base hospitals and the rest from the district general hospitals (n=2, 2.6%), (Figure 01).



Of the demographic details of the transferred patients, name and age was complete in all forms. The address was missing in 19 (12.7%).

Consent for transfer was obtained in only 108(72.0%) transfers and examination findings were mentioned in only 114 (76.0%). Name or designation of the transferring officer was missing in 80(53.3%) forms (Table 01).

Table 01: Information on patients documented in transfer forms

	Yes N(%)	No N(%)
Name	150(100.00)	00(00)
Address	131(87.30)	19(12.70)
Age	150(100.00)	00(00)
Sex	147(98.00)	03(02.00)
Race	96(64.00)	54(36.00)
Religion	93(62.00)	57(38.00)
Consent for transfer	108(72.00)	42(28.00)
Reason for transfer	141(94.00)	09(06.00)
History	150(100.00)	00(00)
Examination	114(76.00)	36(24.00)
Diagnosis	52(43.70)	98(65.30)
Transferred by whom	70(46.70)	80(53.30)

Regarding the time of receiving of patient to the teaching hospital, the majority of transfers were during the daytime. There were 90 (60%) transfers during daytime and 60 (40%) transfers during night (Table 02).

Table 02: Time of receiving of patient to the ward

Time	Frequency N(%)
6am to 11.59am	37(24.70)
12noon 5.59pm	53(35.30)
6pm to 11.59pm	48(32.00)
12am to 5.59am	12(08.00)

141 (94%) transfer forms had mentioned a reason for transfer. However, only 108 (72%) specified the reason. Most frequent reason for transfer was the presence of respiratory problems, 34 (22.7%) with bronchiolitis, lower respiratory tract infection (LRTI) or pneumonia. 26 (17.3%) had experienced some form of convulsions.

All other reasons listed in Table 03 were reported in less than 5 patients (Table 03).

Table 03: Reason for transfer

	Frequency N(%)
Further investigations and management	43(28.70)
Bronchiolitis/LRTI/Pneumonia	34(22.70)
Convulsions	26(17.30)
Rash	5(3.30)
Gastroenteritis/Dysentery	5(3.300)
Snake bite	5(3.30)
Poisoning	5(3.30)
Urinary tract infection/ Dysuria	4(2.70)
Radiological investigations	3(2.00)
Surgical opinion	2(1.30)
Blood transfusions	2(1.30)
Congenital Heart Disease	2(0.30)
Electrocution	1(0.700)
Acute lymphoblastic leukaemia	1(0.70)
Anaphylactic shock	1(0.70)
Cerebral palsy	1(0.70)
Down syndrome	1(0.70)
Not mentioned	9(6.00)

Nearly half of the patients 65(43.30%) were admitted to the local hospital on day one of the illness and another 66(44%) were admitted on day 02 to day 05 of illness. Out of them, 63(42%) were transferred to the THA on day one of the illness and 68(45.30%) were transferred on day 02 to day 05 of illness.

Only 03 patients had been reviewed by a consultant pediatrician prior to transfer. 55(36.70%) were admitted under the label of "House Officer to see stat". However, 119 (79.30%) patients were found to be well on admission to the ward. Immediate interventions were required for 33(22.0%) transfers and another 45(30.0%) needed interventions within 24 hours.

One patient was admitted to the intensive care within 24 hours of transfer. 34 (22.7%) patients were discharged after one day of hospital stay while 101 (67.30%) stayed up to 5 days in the THA.

None were re-transferred but discharged and left THA on their own (Table 4).

Table 04: Duration of hospital stay and type of admission

	N(%)
Day of illness on admission to local hospital	
Day 01	65(43.30)
Day 02 - Day 05	66(44.00)
Day 06 -10	3(2.00)
Days >10	16(10.70)
Day of illness on transfer to TH Anuradhapura	
Day 01	63(42.00)
Day 02 - Day 05	68(45.30)
Day 06 – 10	15(10.00)
> 10 Days	4(2.70)
Type of admission to the paediatric ward	
Stat admission	55(36.70)
Urgent	15(10.00)
See Early	33(22.00)
Normal	47(31.30)
Condition on admission to the ward	
Well	119(79.30)
Ill	31(20.70)
Duration of hospital stay at TH Anuradhapura	
01 Day	34(22.70)
02 Days - 05 Days	101(67.30)
03 Days	1(0.70)
05 Days	1(0.70)
06 Days - 10 Days	8(5.30)
> 10 Days	4(2.70)
Not available	1(0.70)

Final diagnosis on discharge was lower respiratory tract infections in 32 (21.30%), bronchiolitis in 23 (15.30%) and viral fever in 21 (14%). Other major diagnoses on discharge were acute gastroenteritis, simple febrile convulsions, complex febrile convulsions and poisoning (Table 05).

Table 05: Final diagnosis at the time of discharge

	Frequency N(%)
Lower respiratory tract infection	32(21.30)
Bronchiolitis	23(15.30)
Viral fever	21(14.00)
Simple febrile convulsion	12(8.00)
Complex febrile convulsions	10(6.70)
Acute gastroenteritis	10(6.70)
Poisoning	6(4.00)
Epilepsy	5(3.30)
Snake bite	4(2.70)
Dysentery	2(1.30)
Urinary tract infection	2(1.30)
Bacterial meningitis	1(0.70)
Adverse effect following immunization	1(0.70)
Nephritic syndrome	1(0.70)
Cervical lymphadenitis	1(0.70)
Other	19(12.70)

Discussion

We found that the reason for transfer were not mention in 06% and the reason was not adequately specified in around a quarter of the transfer forms. This is not an acceptable situation, as the transfer form, apart from being a legal document, is the only document available to the admitting doctor and triage nurse to decide on ward allocation. The designation of the transferring officer was not present in 53.3% of the transfer forms.

Demographic data like sex and address were missing in some transfer forms. Though not absolutely essential, this information is important in the management of the patient as identification features. Sex is an essential component in paediatrics as there are some children who under investigation for sex determination due to congenital anomalies and syndromes. Correct address is necessary for back referral of patients, contact in future for re-admissions, sending reports and so on. We found certain cases where no correct address was identified. Since these are pediatric transfers, these may be due to a transition of day-to-day guardianship (because the parents may not be with the child all the time) and the child may not know the address.

Examination findings were not included in a significant number 36 (24.0%) of transfer forms. This same fact has been highlighted in 2003 by Sudewa et al (2) and we are unable to see any improvement.

We found that most of the transfers were from divisional hospitals and during daytime. Most of the patients had been admitted on day one of the illness and transferred on the same day.

Major reason for transfer was for further investigations and management. Most of patients had respiratory tract related conditions and majority was discharged within 05 days of hospital stay. Tertiary care hospitals are getting overloaded with excess patients in this manner. Thus, encouraging retention and management at the local hospital is a necessary step to overcome congestion and to provide quality care.

One possible reason for this the non-availability of adequate investigations. However, only 3(2%) has specified that transfer was for radiological investigations. Even though there are not many comparable studies, a previous study done in 2011 in Kandy found that a significant proportion 85.6% (125 out of 146) of transfer forms documented the reason for transfer as further investigations and management' while this study shows 28.7% (43 out of 150).

Only 45 (30.0%) needed some form of intervention during the first 24 hours of hospital stay after transfer and 60 transfers (40%) happened from 06.00 pm to 05.59 AM following day, questions whether these transfers are really urgent. But data on investigations required, level of care given during the first 24 hours were not available for analysis and is identified as a limitation of this study.

Conclusion

Majority of transfer forms provided the requested data. However, reason for transfer was not specified in a significant proportion of forms. More than a third were transferred on day one of the illness and day one of admission to local hospital and nearly half of patients did not need an immediate intervention within 24 hours. The cost effectiveness of transferring paediatric patients between health care institutions needs further evaluation with a well-planned study.

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