

An Evaluation of Mobile Blood Donation Campaigns Organized by District General Hospital – Kegalle Blood Bank

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Executive Summary

In Sri Lanka, voluntary non-remunerated blood donors donate blood for all patients. This significant achievement is due to the effort of the National Blood Transfusion Service. The NBTS comprises 106 hospital-based blood banks and two standalone blood centres affiliated with 24 cluster centres based on their geographic location island-wide. The blood is collected by in-house bleeding and mobile blood donation campaigns, contributing around 93 per cent of the total collection. The Mobile Blood Donation Campaign Organizers are individuals and organisations who organise and gather suitable donors in the community or workplace to donate blood. The Public Health Inspector attached to the blood bank plays a significant role in arranging the campaigns by coordinating with the organisers. The collected blood is separated into several components based on the collection method. This evaluation has three objectives: to assess the interval between consecutive mobile blood donation campaigns, to evaluate the efficiency of human resources in managing the blood donation campaigns, and to assess the effectiveness of the blood donation campaigns conducted by the blood bank, District General Hospital Kegalle. This evaluation used quantitative and qualitative methods to collect data from the records and stakeholders. The quantitative method includes secondary data collected from the registers and reports. Key informant interviews and focus group discussion were conducted for qualitative data. The data were analysed with SPSS version 21. The findings show that the interval between campaigns is ranging from 0 to 17 days. The mean value is 4.6 days, and the median and mode are four and seven days. Most campaigns (87%) were arranged between two to seven days intervals. More than 53% of the campaigns were organised in less than five-day intervals. Only 10% (20 out of 194) of them were arranged on every 5th day. No PHI is attached to this blood bank, and the MOIC involves organising and coordinating the campaigns in addition to the routine activities. This blood bank has been upgraded as a cluster centre since January 2019. It should have at least one PHI to coordinate organising the MBDC. In 2017 and 2018, total blood collection was less than the blood units issued to the patients in the hospital, which means the blood bank depended on other blood banks for blood supply for survival. In 2019, up to June, the total collection of blood units was more than the issues and expiry.

Keywords — mobile blood donation campaigns, public health inspector, VNRBD

I. OBJECT OF EVALUATION

A. Introduction

The human body comprises several components; among them, blood is essential. Blood comprises around seven to eight per cent of body weight [1]. That is about 4.5-5.5 litres for an average-sized human. An average human can lose 30% (1500ml) of blood without significant physiological changes [2]. Around 450ml of blood is donated during blood donation, which is around eight per cent of the total blood volume.

In the current context, the need for blood is gradually increasing due to the improvement of medical technologies in diagnosis and treatment modalities. The increase in Non-Communicable Diseases (NCD) such as cancer and Road Traffic Accidents (RTA) make the demand more than it was.

In addition to this, blood is a treatment modality in anaemia and thalassaemic disease. Blood components are also used in various disease conditions for treatment, such as platelets in Dengue Haemorrhagic Fever.

Only healthy volunteers can donate blood because pharmaceuticals cannot produce it. In Sri Lanka, the required blood is donated by Voluntary Non-Remunerated Blood Donors (VNRBDs). This achievement is due to the great effort of the National Blood Transfusion Service (NBTS).

B. National Blood Transfusion Service

The NBTS comprises 106 hospital-based blood banks and two standalone blood centres affiliated with 24 cluster centres based on their geographic location (Fig. 1).

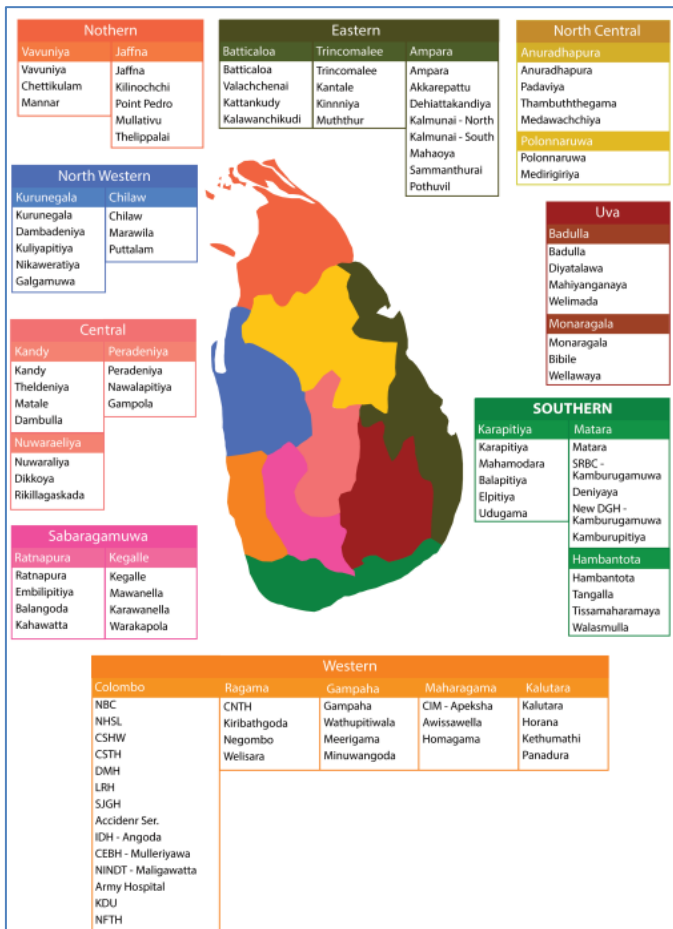


Fig 1 Geographical distribution of blood banks in Sri Lanka [3]

National Blood Centre at Narahenpita is the operational centre where the national policies are developed and implemented for the efficient operation of the blood bank network in the country. NBTS provides total technical support and limited human resource supply (nursing officers and Saukya Karya Sahayaka/ junior staff) except medical officers to blood banks. The medical officers are appointed and managed by the medical services unit of the Ministry of Health (MoH).

C. Hospital Blood Bank

Hospital blood banks are functioning within hospital premises. It uses sophisticated medical equipment that needs specially trained human resources to handle them. Medical Officer in Charge (MOIC), trained Blood Bank Medical Officers (MO-BBs), Nursing Officer in Charge (NOIC), Nursing Officers (NOs), Medical Laboratory Technologist (MLT), Public Health Inspector (PHI), Laboratory Orderly, Saukya Karya Sahayaka (SKS) and driver if a designated vehicle for blood bank is available are the human resources for a blood bank. The blood bank provides the total supply of blood and blood products to the patients at the hospital and, if requested, to nearby private hospitals.

The blood is collected in in-house bleeding and mobile blood donation campaigns. The VNRBDs are coming and donating blood in the blood bank is called in-house bleeding. This in-house bleeding contributed only seven per cent of the total blood collection of 450,640 units in 2018 [4].

D. Mobile Blood Donation Campaigns

A significant part of the blood collection is done through Mobile Blood Donation Campaigns (MBDCs). The Mobile Blood Donation Campaign Organizers (MBDCO) arrange these campaigns. The MBDCOs are individuals and organisations that organise and gather suitable donors in the community to donate blood to needy patients. Some regular organisers organise the campaigns regularly, mainly every four months, and others organise every six months or yearly. The number of blood units collected in the sessions varies depending on the organisers' capacity, ranging from less than 25 to more than 500.

A successful blood donation campaign is a team effort of organisers, head of the institution (HoI), MOIC of the blood bank, Matron of the hospital, blood bank PHI and overseer. The MBDCOs find suitable donors through their organisation or with his contacts. A proper place and time convenient for the donation is decided with the consultation of PHI of the blood bank. PHI visits the proposed location for MBDC and advises on the necessary arrangements for the campaigns.

E. Medical Officer

The MOIC of the blood bank arranges the medical officers for the campaigns and decides how many blood units to collect, among them how many to be collected in quadruple, triple, and double blood bags. In addition to the above tasks, the team composition is also decided by the MOIC, how many medical officers, nursing officers, Saukya Karya Sahayaka (SKS) and the number of mobile beds to use in the campaign. For example, for a hundred blood donor campaign, at least one medical officer, seven nursing officers, and three SKS are needed if six blood donor beds are to be used. For each additional bed, another nursing officer is required. When the expected number of donors increases, the composition also varies accordingly.

Kegalle Blood Bank has six blood bank-trained medical officers. The NBTS provides four weeks of training for routine blood bank function and an additional two weeks of training for platelet apheresis. These six medical officers provide 24-hour blood bank service and manage the blood donation campaigns. The MOIC is one of the medical officers who, in addition to the routine function of a medical officer, looks after the duty of the MOIC due to the lack of medical officers. When there is a shortage of medical officers for the campaigns, the service is obtained from nearby blood banks through administrative approval.

F. Nursing Officer

Nine nursing officers are attached to the Kegalle blood bank, which is enough only for the daily function of the blood bank. They need extra nursing officers to cover the mobile blood donation campaigns. The Matron makes internal arrangements for blood bank-trained nursing officers to cover up the blood bank and MBDC duties after discussing with the Nursing Officers in Charge of relevant units in the hospital.

G. Public Health Inspector

The PHI position is vacant in the blood bank. The PHI has the primary role in arranging the MBDC by coordinating with the organisers. The PHI visits suitable organisations and individuals who have candidates for blood donation. By discussing with them, allocate an appropriate date for the campaign. At the same time, PHI provides necessary information such as who are the eligible candidates for blood donation, how the candidates should be prepared for blood donation, who are the people who cannot donate blood, etc. By providing the information, blood donor deferrals during the campaign will be reduced. It will save time to concentrate on eligible candidates. In addition to this task, the PHI also advises on the arrangements at the place of the donation. On top of that, PHI manages the MBDC schedule, and if there are any changes in the plan, coordinates with the organisers to reschedule the date.

H. Saukya Karya Sahayaka

Five SKS (junior staff) are attached to the blood bank, two are attached to NBTS, and three are from the hospital pool. They cover the routine function of the blood bank. They need extra SKS for blood donation campaigns. The overseer of the hospital manages the distribution of SKS and allocates suitable trained SKS for MBDC. Having trained and experienced SKS is essential for MBDCs. Because SKSs are handling crucial procedures in the collected blood packs, such as stripping to storage. These procedures should be done correctly to avoid haemolysis of collected blood.

I. Head of The Institution

The head of the institution has the ultimate authority in approving the above MBDCs and staff composition. In addition, he should authorise the usage of hospital vehicles for the campaigns. Most hospital blood banks don't have the laboratory facilities to screen the donated blood. In that instance, the donors' blood samples will be transported to the nearest blood bank laboratories. This transportation is also to be authorised by the HoI.

J. Blood and Blood Products

The blood collected from the donors was separated into Red Cell Concentrate (RCC), Platelet, Fresh Frozen Plasma (FFP) and Cryoprecipitate based on the collection method. These components are used for different indications.

A mobile blood donation campaign is a team effort. The common understanding is vital for the smooth functioning of the blood bank and the supply of blood and blood products for needy patients on time. The shelf life of RCC is 35 or 42 days, based on the methods used for collection and processing. Platelets can be stored only for five days, and FFP and cryoprecipitate can be used within one year. RCC and platelets have a short life span. Therefore, MBDC should also be arranged on a proper interval to provide a continuous supply of blood and blood products and to avoid and minimise the expiry of blood and blood products. A common understanding can be given when all the stakeholders come into a common platform: the Hospital Transfusion Committee (HTC) meeting.

K. Hospital Transfusion Committee

Blood banks conduct the HTC with stakeholders such as representatives from NBTS, consultant transfusion physicians of the cluster, HoI, hospital consultants, the blood bank staff, the Matron, the overseer, and the nurse in charge of the other units. In the meeting, matters related to the blood bank, such as services available at the blood bank, future improvements, and newly available services at the cluster centre and NBTS, are discussed with the performance report of the blood bank. The decisions taken at the meeting with the concurrence of stakeholders are noted for further action and follow-up. The HTC meeting is an excellent opportunity for the blood bank to educate the stakeholders regarding their difficulties when arranging MBDC.

For the smooth supply of blood and blood products, especially platelets, the MBDC should be arranged at regular intervals. At the same time, blood collection should be adequate to supply the demand in the hospital.

II. EVALUATION PURPOSE, OBJECTIVES AND SCOPE

A. Evaluation Purpose

District General Hospital - Kegalle Blood Bank has conducted MBDCs for a long time. This program has yet to be evaluated since then. There are in-house bleeding and MBDCs to collect blood from VNRBDs. There is a considerable number of resources used for the MBDCs. There is a need for trained staff and, significantly, the PHI for the blood bank. In this context, how these MBDCs are organised, and their efficiency and effectiveness must be assessed.

The information from this evaluation is needed for the MOIC of the blood bank, Consultant Transfusion Physician of the Kegalle Cluster Blood Banks, Director of DGH Kegalle and Director/NBTS.

The MOIC of the blood bank wants to know how the MBDCs are spaced. How much does the collection of blood meet the demand of the hospital? What is the effect of not having a PHI for the blood bank with MBDCs? This information will help to stress the importance of having or not having a PHI for the blood bank.

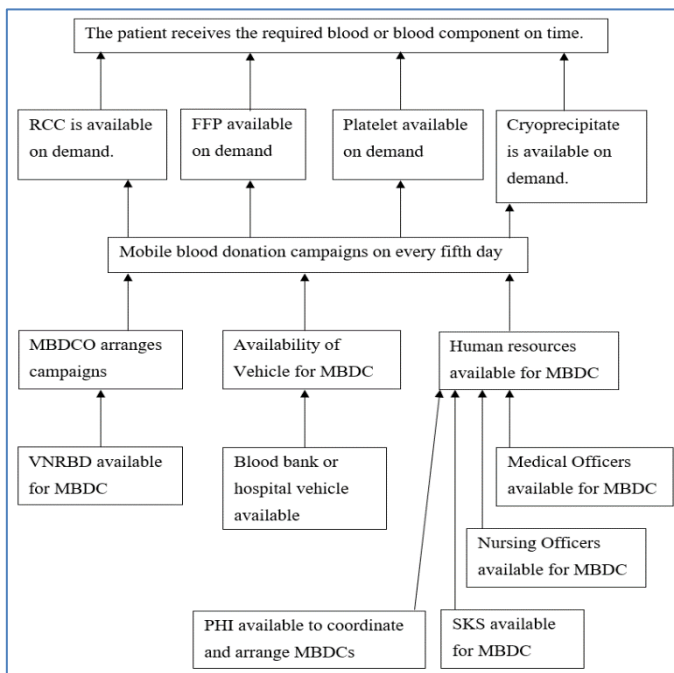


Fig. 2 Theory of change

The issues of managing the MBDC without a PHI will be highlighted with the findings to higher authorities.

The administrator of the hospital wants to look after all the units and departments of the hospital. The MBDC is one of the crucial functions of the hospital blood bank. The resource utilisation for these campaigns should be cost-effective. The HoI needs to know the efficiency and effectiveness of these campaigns. The information will help to take the necessary measures to rectify if there are any deficiencies observed.

The director of NBTS needs positive findings and negative results to rectify in future activities. Also, he needs the information for future decision-making regarding resource allocation. Consultant Transfusion Physician is responsible for the cluster blood banks under his purview. Kegalle cluster includes blood banks at Kegalle, Mawanella, Warakapola and Karawenella hospitals [3]. The consultant needs information on the blood banks' capacity and functional status. It will help to coordinate the activities between the blood banks. The consultant can forward his recommendation to the NBTS regarding allocating resources.

B. Scope

The scopes of this evaluation are the interval between the consecutive MBDCs in days, the efficiency of the human resources as inputs in conducting mobile blood donation campaigns, and the MBDC's effectiveness in meeting the hospital's demands.

The evaluation covers January 2017 to June 2019 and includes all the MBDCs organised by the Kegalle blood bank during this period.

C. Objectives

The evaluation objectives are,

1. To assess the interval between consecutive mobile blood donation campaigns conducted by the blood bank, District General Hospital Kegalle.
2. To assess the efficiency of human resources in managing the blood donation campaigns conducted by the blood bank, District General Hospital Kegalle.
3. To assess the effectiveness of the blood donation campaigns conducted by the blood bank, District General Hospital Kegalle.

Theory of change (TOC) explains how an activity or set of interventions can lead to the expected changes in the future (Fig. 2). The TOC is prepared with the participation of the stakeholders. This TOC guides an organisation in planning activities to achieve the expected outcome. All types of staff at the blood bank, vehicle, VNRBDs and MBDOs are crucial for the supply of blood and blood products to the patient on time.

This evaluation should have covered the following aspects: whether each MBDC achieved the expected targets, whether they collected the required number of quadruples, triple, and double bags, whether the adverse events were managed appropriately and whether the failed venepuncture attempts were preventable.

D. Criteria

Among the OECD/DAC (Organisation for Economic Co-operation and Development's Development Assistance Committee) evaluation criteria, efficiency and effectiveness were used for this evaluation [5]. The relevance is not used in this evaluation because, since 2014, Sri Lanka has collected only voluntary blood donations from eligible donors. This blood collection can be attained by in-house bleeding or MBDC. In-house bleeding contributes around 7% of blood collection (NBTS, 2018). Therefore, having MBDC is inevitable to continue the blood transfusion services.

The impact is well known as paid donation is discontinued, and voluntary contribution has been encouraged to ensure the safety of collected blood since 1979. Replacements or family donors have been accepted to NBTS any more since 2014 [6]. Since 2014, all blood donations have been voluntary and non-remunerated. All needy patients are provided blood and blood products without difficulties through the coordination of blood banks. There are no more patients who deferred treatment because of the unavailability of blood. Blood units are expired because the production exceeds demand [4].

NBTS is a decentralised unit under the Ministry of Health, Sri Lanka. The health service is provided free of charge at the point of delivery. Until the Ministry of Health provides health services to Sri Lankans, the NBTS will continue its contribution.

TABLE 1
 THE EVALUATION FRAMEWORK

Evaluation Question	Variable	Data Required	Data Collection Method	Data Source
1. What is the interval between MBDCs?	<ul style="list-style-type: none"> Duration in between consecutive MBDCs 	<ul style="list-style-type: none"> Duration in days 	<ul style="list-style-type: none"> Secondary data (Quantitative) 	<ul style="list-style-type: none"> Mobile Blood Donation Register
2. How efficient is the human resource in managing the MBDCS?	<ul style="list-style-type: none"> Number of staff in each category Donor deferral 	<ul style="list-style-type: none"> Available staff Recommended cadre Number of donor deferrals 	<ul style="list-style-type: none"> Review of records. (Quantitative) KII FGD 	<ul style="list-style-type: none"> The monthly roster of staff Donor Deferral Register Findings from KII and FGD
3. Effectiveness of the blood donation campaigns	<ul style="list-style-type: none"> Blood units collected Blood units issued 	<ul style="list-style-type: none"> MBDC collection Inhouse collection Blood units issued 	<ul style="list-style-type: none"> Secondary data from registers (Quantitative) 	<ul style="list-style-type: none"> Mobile Blood Donation Register Inhouse Blood Donation Register Blood Issue Register

The MBDC is the primary function of the NBTS. Therefore, the sustainability of this program is the responsibility of the MoH and NBTS.

DGH Kegalle started an evaluation unit under the director's direct supervision in 2018. Creating this unit is an effort of the director to recognise the importance of monitoring and evaluation. Currently, this unit performs the basic monitoring and evaluation of the activities carried out in the hospital. The capability of the team can be strengthened by providing adequate knowledge, training, and skill.

E. Gender and Human Rights

There are no gender issues in the objectives of this evaluation. The donors who are fulfilling the donor criteria are eligible to donate blood. In the MBDC, the female donors are well respected, and if they request venepuncture only by a female nursing officer, it is fulfilled to appreciate their concern. The composition of the mobile team includes both genders without any discrimination, as there are more female nursing officers in the system, which is depicted in the composition of the team.

The patients are provided blood only based on the requirements for their illness. Gender, race, age or civil status are not considered during the treatment.

III. EVALUATION METHODOLOGY

The evaluation framework is developed to plan the criteria for the evaluation (Table 1). This evaluation used quantitative and qualitative methods to collect data from the records and stakeholders. Prior approval was obtained from the Director/ DGH Kegalle for conducting this evaluation and gathering the data from relevant resources.

A. Quantitative Data

The quantitative method includes secondary data collection from the registers and reports maintained at the DGH Kegalle blood bank. The registers include the Mobile Blood Donation Register, In-house Blood Donation Register, Deferral Register, RCC Request Register, RCC Crossmatch Register, RCC Issue Register and Discard Register.

The Mobile Blood Donation Register provides the date, place and number of blood donors who donated blood in the MBDC. The Inhouse Blood Donation Register provides data on inhouse blood donation. The Deferral Register provides the number of deferred donors and the reason for deferral with remarks that include whether they are referred for any speciality and follow-up measures. Blood Request Register gives data on the request for blood from the unit of the hospital. The RCC Crossmatch Register provides data on the number of crossmatches for each request, and the Blood Issue Register gives data on the issue of blood to the hospital units. Discard Register gives data on the discard of the RCC and the reason for discard. These registers are updated daily with relevant data. In addition, the NBTS Monthly Statistics Report Form also provides summarised data for a month and is used to verify the collected information. The information was reconfirmed by comparing the registers and the Monthly Statistics Report Form.

B. Qualitative Data

Qualitative data was obtained in addition to quantitative data. Key Informant Interview (KII) was conducted with the director, MOIC, Matron, NOIC and overseer. There is only one person in each of the above categories of staff who influence MBDCs. Consent was obtained before conducting KII. The KIIs were held in their offices as this was convenient for them.

A Focus Group Discussion (FGD) was conducted with the blood bank nursing officers. These nursing officers manage the most workload during the MBDCs. Nine nursing officers are attached to the blood bank, including the NOIC of the blood bank. Among them, five nursing officers participated in the FGD. Their consent was obtained before participation. The purpose and objective were explained to them. They happily participated in the FGD. It was arranged at the blood bank conference room as this place was convenient for them.

C. Analysis of Data

The quantitative data were extracted from the registers, tabulated, and summarised for analysis. The data were compared with the monthly summary for consistency. Statistical Package for Social Sciences (SPSS) version 21 was used to analyse the data. The qualitative data were obtained by discussing the predefined topics with the key personals. The essential points in the discussion were noted and clarified with them. In addition, the NBTS circular regarding the duty arrangement of Medical Officers was also reviewed as a benchmark.

In this evaluation, both quantitative and qualitative data were obtained, analysed and the findings were used to prepare the evaluation report.

IV. FINDINGS AND DISCUSSION

A. The Interval Between Consecutive Mobile Blood Donation Campaigns Conducted by District General Hospital Kegalle Blood Bank

The skewness value for this above distribution is 0.833. The value is positive, which means the data are positively skewed or skewed right. As the sample size is more than 50, the Kolmogorov-Smirnov test was used to assess the normality of this distribution. The p-value of the test is less than 0.05. Hence, the data is not distributed normally.

TABLE 2:
DISTRIBUTION OF INTERVAL BETWEEN MBDCs

Interval Between Consecutive MBDCs in Days (x)	Frequency (f)	fx
0	2	0
1	23	23
2	23	46
3	29	87
4	27	108
5	20	100
6	16	96
7	31	217
8	7	56
9	7	63
10	3	30
11	4	44
13	1	13
17	1	17
Total	194	900

The interval between consecutive MBDCs is ranging from 0 to 17 days (TABLE 2). That means there was more than one MBDC in one day; at the same time, they were arranged 17 days apart. This data shows a wide variation in the arrangement of mobile blood donation campaigns. The

mean value of this distribution is 4.6 days, the median is four days, and the mode is seven days. The measures of central tendency also clearly show that the distribution of the data is not normal.

Most of the MBDCs were arranged between two to seven days intervals, and it accounts for 87% of the entire campaigns. More than 53% of the campaigns were organised in less than five-day intervals.

The above variation shows that the blood bank conducts MBDCs sparingly. This variation is also revealed in the KII and FGD. Around half of the MBDCOs usually organise the campaigns on a particular date. Therefore, other campaigns need to be in regular order, making the blood bank find new organisers. Finding new organisers happens vis the contact of the staff and other organisers. The MOIC coordinates this task. This activity is in addition to the routine tasks. All feel that the MBDCs are essential for the hospital's function. But only the blood bank staff emphasise the adverse effect of the shortcomings.

B. The Efficiency of Human Resources in Managing the Blood Donation Campaigns Conducted by District General Hospital Kegalle Blood Bank

The MBDCs need adequate staff in each category for a successful campaign. Every member has a designated role in the campaign. Even if there is a shortage of one staff, that will be reflected in the functioning of the campaign. One of the most important categories is PHI, who is unavailable in the blood bank. Therefore, during MBDCs, the role of PHI is taken over by a Nursing Officer. That leads to an additional need for a nursing officer for the campaigns.

Additional NOs for MBDCs are accommodated from the other units who have blood bank-trained. The Matron performs this role to allocate a suitable one. There were situations where the allocated NOs from other units became absent on the day of MBDC. That leads to an uncomfortable condition that cannot be solved immediately. The Nursing Officer issue was solved temporarily after the Ministry of Health appointed new Nursing Officers to the hospital.

TABLE 3
HUMAN RESOURCE STATUS OF DGH KEGALLE BLOOD BANK

Category	Recommended	Available
Consultant Transfusion Physician	1	1
Medical Officer	8	6
Nursing Officer	11	9
Medical Laboratory Technologist	2	2
Public Health Inspector	1	0
Driver	1	1
Saukya Karya Sahayaka	7	5

TABLE 4
SUMMARY OF PERFORMANCES OF BLOOD BANK – DGH KEGALLE

Year	Collection of Blood Units			RCC		Difference (Collection- Issue)	Donor Deferral	RCC Discards
	MBDC	Inhouse	Total	Crossmatch	Issue			
2017	4,030	381	4411	18,450	5331	-920	699	62
2018	4,775	289	5064	17,468	5252	-188	848	30
2019 (till June)	3,110	254	3364	9,079	2734	630	450	20
Total	11,915	924	12,839	44,997	13,317	-478	1,997	112

There are six medical officers attached to the blood bank (TABLE 3). In addition to the 24-hour functioning of the blood bank, they manage to conduct the MBDCs. The shortage of medical officers is managed by extending the duty hours of available medical officers. During that situation, they continuously work for more than 12 hours. Taking leave in an emergency by medical officers is also very difficult because of a shortage—most work without taking a weekend off for three to four weeks.

Only two of the five SKS allocated for the blood bank are permanent to the blood bank and attached to NBTS. The hospital provides three other SKS. These three are frequently taken back to other units. These frequent changes in SKS are one of the great difficulties faced by the blood bank. Because the SKS need the training to work in the blood bank as the functions are technically sound. At the same time, during MBDC, having experienced SKS is vital. Everyone manages by themselves because there is a lack of time to teach or supervise one another during blood donation campaigns. A small error in the campaign will lead to great disasters, even to discard the collected blood units.

The need for the SKS issue is persisting. Absenteeism of the SKS in the hospital is a significant burden to be handled by the overseer. That leads to the inability to provide permanent SKS to the blood bank. The currently allocated SKSs to the blood bank are working well and arranging the leaves without absence. Even with this shortage of human resources, the MBDCs are carried out to fulfil the needs of the hospital to a greater extent.

C. Effectiveness of the Blood Donation Campaigns Conducted by District General Hospital Kegalle Blood Bank

In 2017 and 2018, total blood collection was less than the blood units issued to the patients in the hospital. In those two years, 92 units of blood were discarded due to expiry and haemolysis (TABLE 4). That means during 2017 and 2018, the blood bank depended on other blood banks for blood supply for survival, especially the National Blood Centre, Narahenpita. In 2019, up to June, the total collection of blood units was more than the issues and expiry. Compared to the previous two years, the performance of the blood bank is improving in self-sufficiency.

The medical officers perform routine duties than mobile blood donation campaigns, such as crossmatching of blood for

transfusion, regrouping of released blood units from the laboratory, platelet apheresis, preparation of FFP and cryoprecipitate for patients, screening for antibodies of negative blood group patients and donor counselling. Overall, the effectiveness in meeting the objective has been improving since 2017.

There was some limitation to the study. This study did not include the end-users, as the scope was limited to specific objectives. At the same time, donors and MBDCO also were not taken into this study.

V. CONCLUSION AND LESSON LEARNED

Only 10% (20 out of 194) of the MBDC were arranged on every 5th day. Therefore, the majority of the MBDCs were arranged at least five-day intervals. That leads to the need to maintain the required stock of platelets. Because the shelf life of the platelet is five days, when the MBDCs are organised on every 5th day, it will be easy to maintain the stock for patients.

These MBDCs were coordinated by the MOIC of the blood bank, DGH Kegalle. This coordinating activity is in addition to the routine work as a Medical Officer for the blood bank and MOIC for the blood bank. Organising the MBDCs is the prime duty of the PHI attached to the blood bank. There is no PHI attached to this blood bank. The MOIC performed well by organising and coordinating the campaigns. This effort should be appreciated. The Kegalle blood bank has been a cluster centre since January 2019. It should have at least one PHI to coordinate the MBDC for the DGH Kegalle blood bank and the cluster blood banks. The difficulties without a PHI are apparent for the DGH Kegalle and cluster blood banks.

There are deferred donors in a considerable amount. These deferrals can be reduced by having a good orientation for MBDCO before conducting campaigns. There is less possibility of doing this activity as there is no PHI attached to the blood bank now. Having a permanent PHI in the blood bank will help to reduce the deferrals by educating the donors before campaigns.

The need for more staff is evident. There should be an adequate number of trained staff to conduct the MBDCs. When the staff don't have the competency, it will lead to disasters for the campaigns and the collected blood units. Therefore, the blood bank should be given priority to provide adequate staff for the functioning of the unit. The staff in the blood bank needs additional training on the functioning of the

blood bank. Frequent changes in the composition of the staff will disrupt the smooth operation of the blood bank and hospital.

The effectiveness of the blood bank in self-survival has been improving since 2017. The deficit was reduced, and from 2019 to June, the collection is more than the issue. Besides, the expiry of blood units is also comparatively more than the previous year due to more collection than needed. The blood collection should be well-planned to meet the needs of the blood bank. The trend of the need should be analysed when planning the MBDCs.

VI. RECOMMENDATIONS

The Kegalle blood bank should have a PHI. It is recommended to appoint a PHI from the annual transfer list or in the new appointment of PHIs after the training. As a short-term measure, the available PHIs in the surrounding blood banks can cover the duties to organise the MBDC. The Director of DGH Kegalle should take the necessary steps to request a PHI for the blood bank through the Director/NBTS. The Consultant Transfusion Physician at Kegalle Cluster should emphasise the need for a PHI in Cluster in Charge Meeting held at NBTS quarterly.

The Director/DGH Kegalle should work with the Director/Medical Services, Deputy Director General Medical Services II, Ministry of Health, to get an adequate number of medical officers through the Annual Transfer of Grade Medical Officers because those transferred through the Annual Transfer Scheme will stay in the unit for at least four years. That will be the best solution for the shortage of Medical Officers. As a short-term measure, mobilising the Relief Medical Officers after completing the internship will temporarily solve the issue.

When choosing the Nursing Officers for MBDCs from other units, the Matron should choose those who are competent and willing to participate in the campaigns. In addition to that, they should have excellent public relations skills.

The temporarily allocated SKS to the blood bank by the hospital authority should be permanent for a considerable

period, at least two years, that will help with the smooth functioning of the blood bank and hospital.

The MBDCs should be well planned, and the number of blood units collected in each campaign should be discussed and coordinated with MBDCO.

VII. GENDER AND HUMAN RIGHTS, INCLUDING CHILD RIGHTS

Gender responsiveness was considered in the formation of the Mobile Blood Donation Team and during the conduction of the campaigns. There were always female medical officers and nursing officers in the team.

Blood donors are respected and given total freedom to decide when they want to donate blood, even if they are eligible. Only those more than 18 years old were recruited for the blood donation.

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