



Blood Transfusion System (Technology Transfer)

an annual newsletter

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Message from the editor

Dear readers,

As we move forward to the 3rd issue of BTS-TT Newsletter, NRNA Global Academy BTS-TT committee has selected its committee members for 2019-2021. The past committee had conducted two different tailor-made training programs for blood bank laboratory personnel and program managers in Nepal. Management level trainee and laboratory technician visit to Sanquin Blood Bank in the Netherlands was conducted as well. The current committee strives to work for betterment of blood banking in Nepal. Our team has provided continuous educational program in topics related to blood banking via webinar and online discussion. BTS has started Blood and Beyond webinar series which is conducted by experts in blood banking in different topics related to blood transfusion, antibody detection and blood bank management. The webinar series is aimed at strengthening the current status of blood banks in Nepal by continuing education of blood bank technologists, program managers, and stakeholders. The BTS webinar series is also approved by NMC for CME credit for medical doctors in Nepal. The webinar series includes panel discussion in a variety of topics related to blood bank: blood grouping, antibody screening, Anti-D typing and blood products storage, blood donor



motivation, and data management. The current committee will continue conducting webinar series on topics related to blood bank. These webinars can be attended onsite in Nepal and online through Zoom or Facebook live through NRNA-BTS TT Facebook page.

In this current issue, we have highlighted the current activities and future directions of BTS-TT. BTS-TT will continue conducting donor motivation programs and work together with NRCS-CBTS for digitization of database management in blood banks in Nepal, and continuously work towards improvement of blood banking in Nepal. We welcome suggestion from our readers.

Ashwini Kumar Nepal,

Editor-In-Chief

BTS-TT, NRNA Global Academy

Betterment of Blood Transfusion System in Nepal

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रक्तदान र कोभिड १९

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गैरआवासीय नेपाली संघ, रक्तसंचार प्रविधि उपसमिति^४

कोभिड १९ परिचय

कोरोनाभाइरस भाइरस जिवाणुको एक ठुलो परिवार हो जसले सामान्यतया रुघाखोकी जस्तै लक्षण सहितको असर देखाउँछ। कसैलाई सामान्य लक्षणबाटै कोरोना निको हुन्छ भने कसैलाई जटिल श्वासप्रश्वास समस्या भइ मृत्यु समेत हुने गर्दछ। कोभिड १९ चिनको उहान शहरबाट शुरु भएको हो जसलाई चिनले सार्स कोभ २ नामाकरण गरेको थियो। यसलाई चिकित्सकहरूले लक्षणको आधारमा अनुमान गर्दछन् र ल्याब टेष्टबाट निश्चित गर्दछन्। यसलाई विश्व स्वास्थ्य संगठनले ११ मार्च २०२० मा विश्वव्यापी महामारी घोषणा गरेको हो।

कोरोना भाइरस निम्न तरिकाबाट नाक घाटी र फोक्सोमा सर्दछ

- खोक्दा र हाँछिँउ गर्दा निस्कने तरल पदार्थको छिटाबाट
- संक्रमित व्याक्तिसंगको सम्पर्कबाट, जस्तै हात मिलाउदा
- संक्रमित व्याक्ति तथा अन्य कारणबाट भाइरस फैलिएको सतह, वस्तुहरूलाई छोएको हातले नधोइकन नाक मुख या आँखामा छोएमा

कोरोना भाइरस लाग्नबाट जोगिन सक्ने उपायहरू

हालसम्म मानिसका लागि कोरोनाभाइरसको खोप पत्तालागेको छैन। विभिन्न देशहरू खोप परिक्षणको दाबी भने गरिरहेका छन्। यद्यपि निम्न उपायहरूबाट यसको प्रकोपलाई न्युन गर्न सकिन्छ।

- १) भिडभाडमा नजाने, अरुसंगको सम्पर्कबाट टाढा रहि घरमै बस्ने। सार्वजनिक स्थलमा जानै परेमा ३ फिट अथवा १ मिटरको न्युनतम दुरि टाढा रहने।
- २) साबुनपानीले २० सेकेन्डसम्म मिचिमिची नियमित हात धुने। साबुनपानी उपलब्ध नभएमा कम्तिमा ६० प्रतिशत अल्कोहलयुक्त हेन्ड सेनिटाइजरले हात सफा गर्ने
- ३) सार्वजनिक स्थल या भिजभाडमा जानै परेमा अनुहार छोप्न कपडा या मास्कको प्रयोग गर्ने।
- ४) हात नधोइकन नाक, मुख वा आँखा नछुने।
- ५) निद्रा, आराम र व्यायामलाई सन्तुलित गरि शरिरको रोग प्रतिरोधात्मक क्षमता कमजोर हुन नदिने।

६) भाइरस फैलिन नदिन हाछिँउ गर्दा या खोक्दा पाखुरा या रुमालले नाक र मुख छोप्ने । नाक र मुखमा टिस्युपेपर प्रयोग गरेमा तुरुन्त तोकिएको स्थानमा बिसर्जन गर्ने र हात धुने ।

७) सकेसम्म अस्पताल तथा केयर सेन्टरमा विरामी भेट्न नजाने ।

कोभिड १९ मा रक्तदान गर्न अपनाउनुपर्ने सावधानी

रक्तदानका लागि नियमित परिक्षण गर्दा नै श्वासप्रश्वास सम्बन्धि संक्रमण भए नभएको बारे प्रश्न समावेश भएको हुन्छ जसले कोभिड १९ को लक्षणहरुलाई समेटेको हुन्छ । जस्तै रक्तदान गर्दा शरिरको तापक्रम परिक्षण गरिन्छ । यदि शरिरको तापक्रम निर्धारित भन्दा बढि भएमा रक्तदानको लागि योग्य हुदैन ।

कोभिड १९ का कारण समुह रक्तदान प्रभावित भएको छ । जसले गर्दा रक्तसंकलन कम भएको छ । यो अवस्थामा रक्तदाताको संख्यामा बृद्धि गर्न आवश्यक छ । श्वास प्रश्वास सम्बन्धि भाइरसहरु रक्तसंचारबाट सरेको तथ्य हाल सम्म फेला परेको छैन । त्यसैले पनि हरेक देशका सरकारहरुले तय गरेका मापदण्डभित्र रहेर रक्तदान गर्दा कोरोना भाइरस सरे सम्भावना न्युन छ ।

रक्ताताले अपनाउनुपर्ने सावधानी

विश्व स्वास्थ्य संगठनको निर्देशन अनुसार विगत १४ दिनमा कोभिड १९ को टेष्ट पोजेटिभ देखिएको छ भने अथवा कोभिड १९ को लक्षणहरु देखिएका छैन भने रक्तदान गर्नुहुदैन । वा टेष्ट पोजेटिभ भएर लक्षणहरु छैन भनेपनि रक्तदानका लागि योग्य हुदैन । अमेरिकाको फुड एण्ट ड्रग एडमिनिस्ट्रेसनले लक्षण नदेखिएका रक्तदातामा कोभिड १९ को परिक्षण गर्नुपर्ने आवश्यकता औल्याएको छैन र कोभिडको अत्याधिक प्रकोप भएको ठाउँमा भ्रमण गरेको छ भने कोभिड १९ परिक्षण गरिरहनुपर्ने आवश्यकता औल्याएको छैन, यो उपयुक्त पनि छैन किनकी हाल विश्व भरि नै कोभिड १९ को प्रकोप व्याप्त छ ।

अमेरिकन एसोसियसन अफ ब्लड बैंकले यदि कोहि रक्तदाता कोभिड १९ प्रभावित क्षेत्रमा भ्रमण गरेको छ या यसका लक्षणहरु भएको शंका लागेमा आफै रक्तदान नगर्न प्रेरित हुनेगरी सुचना प्रवाह गर्न निर्देशित गरेको छ । रक्त संचार प्रकृयालाई अभै व्यवस्थित गर्न रक्तसंकलन केन्द्रमा भएका चिकित्सकले रक्तदातालाई परिक्षण गरेर कोभिड १९ को सम्भावना देखेमा रक्तदानमा संलग्न नगराउन सक्ने निर्देशन समेत दिएको छ । कोभिड १९ को एन्टिबडी पोजेटिभ छ तर विगतमा कुनै लक्षणहरु देखिएको छैन र टेष्ट पनि गरेको छैन भने पनि रक्तदानका लागि विश्व स्वास्थ्य संगठनले अयोग्य मानेको छैन । यदि रक्तदान गरेको ४८ घण्टा सम्ममा रक्तदातामा कोभिड १९ को लक्षण देखिएमा ब्लड बैंकले उक्त व्यक्तिको रगतलाई क्वारेन्टाइनमा राख्ने निर्देशन गरेको छ ।

नेपाल रेडक्रस सोसोइटीले नेपालमा कोभिड १९ को अवस्थामा रक्तदान सहज गर्नका लागि र सुरक्षित रक्तदानका लागि टेलिफोन हटलाईन नम्बर ११३० को व्यावस्था गरेको छ । र नेपालमा कोभिड १९ को तयारी सम्बन्धमा एक वेबसाइट निर्माण गरेको छ ।

नेपालको स्वास्थ्य मन्त्रालयले पनि कोभिड १९ का कारे आवश्यक सुचना संप्रेषणका लागि वेबसाइटको निर्माण गरेको छ ।

२०२० मे २३ तारेखका दिन गैरआवासिय नेपाली संघको रक्तसंचार समितिले कोभिड १९ को अवस्थामा प्रभावकारी रक्तदान सम्बन्धि वेबिनार गरेको थियो । जसमा नेपालका रक्तसंचारसंग सम्लग्न पेशाकर्मी एवं रक्तदाता गरि ५० जनाको सहभागीता रहेको थियो । जसमा केन्द्रिय रक्तसंचार सेवाका डाइरेक्टर डा मनिता राजकर्णिकारले नेपालमा कोभिड १९ मा शुरुक्षित र प्रभावकारी रक्तदान गर्न सकिन्छ

भन्नेबारे रक्तसंचार समितिमा संलग्न विज्ञहरुसंग छलफल गर्नुभयो । त्यसैगरी २०२० जलाई १९ तारेखका दिन गैरआवासिय नेपाली संघको रक्तसंचार समितिले “Effective management of Blood Banks in Nepal during pandemic” सम्बन्धि वेबिनार गरेको थियो जसमा नेपालका पाँच प्रदेशका तथा त्रिभुवन विश्वविद्यालय चिकित्सा शास्त्र अध्ययन संस्थान र परोपकार प्रशुती गृहका क्षेत्रीय रक्तसंचार सेवाका प्रबन्धकहरुको उपस्थिती रहेको थियो ।

COVID-19 and Clinical Symptoms

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Introduction

On December 31, 2019, the World Health Organization (WHO) was alerted by Chinese officials about several pneumonia-like cases in Wuhan. With the number of cases increasing from around 19 countries, about a month later on Jan 30, 2020, the WHO declared the novel coronavirus outbreak by SARS-CoV-2, a global public health emergency. The outbreak is known as COVID-19. Symptoms of the novel virus are parallel to the two previous coronavirus outbreaks- fever, cough, difficulty breathing, and pneumonia. Mortality of COVID-19 patients is more common among elders. In fact, the fatality rate could be 3 times higher in case of older age, especially those over 80 years old. Symptoms of COVID-19 may arise within 14 days after exposure. Most patients begin to observe symptoms after 5-11 days. However, some patients may be asymptomatic or don't physically suffer from any symptoms. Evidence proves that symptoms may range from nonexistent to mild to severe. Here we have discussed some common symptoms seen in SARS-CoV-2 positive patients.

a) Classic symptoms- cough, fever, shortness of breath, confusion, delusion

Most patients who contract COVID-19 first suffer from a fever, followed by a dry cough. Many claim that COVID-19's symptoms are similar to those observed in the regular cold; however, clinical manifestations such as sore throat and runny nose are, in fact, less common in COVID-19 patients. Studies have shown that fever and cough are the most common symptoms at 83% and 82%. Shortness of breath was the subsequent most common symptom at 31%, substantially lower than the first two percentages. Other symptoms of COVID-19 include fatigue, confusion, headache, and delusion that are seen in less than 10%. Several other studies from Wuhan support the fact that fever and dry cough were the most prevalent clinical manifestations observed in COVID-19 patients.

b) Gastrointestinal symptoms

While respiratory symptoms are most common in COVID-19 patients, gastrointestinal (GI) symptoms may also incur. When SARS-CoV-2 was found in the feces of the first confirmed case of COVID-19 in the United States, attention and awareness of GI symptoms heightened. One study claims that "The incidence of digestive manifestations was higher in the later than in the early stage of the epidemic." Clinical manifestations that associate as GI symptoms includes nausea, vomiting, and diarrhea. Studies have shown that diarrhea is the most dominant in regards to GI symptoms. Occurring from 1 to 8 days after the transmission of the virus, diarrhea occurs on an average of 3 times a day and can peak up to 9 times as per more severe cases. Another clinical manifestation classified as a GI symptom is anorexia. Anorexia was found to be the most common digestive symptom in adults. The most

common symptom in children was vomiting. And, as I indicated, diarrhea was the most common GI symptom among both adults and children. Other GI symptoms call for abdominal pain and gastrointestinal bleeding which are more only common among severely ill patients.

c) Loss of smell and taste

Patients with COVID-19 may develop anosmia (loss of smell) and/or ageusia (loss of taste). Initially, these symptoms were not deemed as relevant in COVID-19; however, further investigation and research have proved that they may be significant for the virus's diagnosis, particularly in its initial stages. The virus may cause damage to the olfactory epithelium or use the olfactory nerve to route to the central nervous system.

d) Multisystem Inflammatory Syndrome in Children (MIS-C)

Amid April 2020, hospitals around the world began to see children with a syndrome that CDC termed as Multisystem Inflammatory Syndrome in Children (MIS-C). MIS-C occurs as parts of the body such as heart, blood vessels, kidneys, and digestive system, inflame. MIS-C is an inflammatory process as a result of post-infectious inflammatory triggers. This condition is characterized by multiple symptoms, including prolonged fever, skin rash, dilation of conjunctival blood vessels, lymphadenopathy, and diarrhea. Some distinct attributes to MIS-C, however, include red eyes, cardiac dysfunction, shock, abdominal pain, rash, conjunctivitis, extremity edema, and older onset. MIS-C is seen mainly in teenagers.

e) Coagulopathies- pulmonary embolism, microvascular thrombosis, etc.

Disseminated Intravascular Coagulopathy (DIC) has been detected as a potential result of COVID-19. Scientists have observed increased risk in microemboli [clots in the microvasculature and the capillaries in lungs], Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), and thrombotic strokes. Severe inflammation may be contributing to the coagulopathies. This inflammation may be a risk factor for forming thrombi. In COVID-19 patients, professionals have observed elevated levels of D-dimer, IL-6, fibrinogen, and factor VII. Thrombocytopenia occurs at a lower rate and is observed to decrease. The patients suffering COVID-19 with serious underlying conditions may be at high risk of anguishing coagulation dysfunction. Several deaths due to coagulation related to COVID-19 are due to Pulmonary Embolism (PE), while thrombotic complication deaths are less common.

f) Vasculopathies

Endothelium damage may be a clinical manifestation of severely ill COVID-19 patients as vasculitis-like symptoms have been observed. Examinations have demonstrated that blood vessels along lung tissues were congested and edematous as monocytes and lymphocytes aggressed. More specifically, autopsies of COVID-19 patients exhibit

evidence of blood clotting and damage to endothelial cells in the lungs. This occurs after SAR-CoV-2 enters the lung which causes initial respiratory symptoms. As SARS-CoV-2 enters a body, the immune system overresponds through inflammation, causing blood vessels to leak and occlude which may result in swelling. These blood vessels are accompanied by endothelial cells which then suffer from vascular damage.

Scientists are understanding this virus in more detail and now the patients are recovering too. We believe that more post-COVID-19 complications care yet to unravel.

BTS Team Activities

2017-2019

NCC NL Charity Project: Betterment of Baglung Blood Bank

Baglung is a major healthcare center for the people of Dhaulagiri region. Patients in Dhaulagiri regional hospital are facing challenges of short supply of blood all the time. The Nepalese Diaspora in Netherlands has taken an initiative to establish a well-equipped Blood Bank to access the safe blood easily to needy patients in that region. This project is coordinated by NCC NL.



NRNA BTS's TT Quality Project: Mobile Blood Bank Project of Bharatpur RBTS

"Mobile Blood Bank Project" is a quality enhancement project of NRNA BTS-TT for Regional Blood Bank of NRCS Chitwan. The project's cost is estimated about NRs. One Crore. The project team is working hard to get support from all stakeholders for the accomplishment of this project. This initiation is being supported by the Nepalese diaspora all over the world. NRCS Chitwan Blood Bank has prepared the operational plan to operate this first ever mobile blood bank in Nepal by the end of this year. Institutional collaboration for the good cause like such can give some solutions for effective, efficient and safer blood management of Nepal.



Knowledge Transfer Program **Blood & Beyond Webinar series**

"Blood & Beyond" is a webinar series on different topics related to Blood banking and laboratory medicine. This webinar is being conducted by the Scientific Team of NRNA BTS-TT as a pilot project. The team has successfully conducted the webinar series once every month for a year. It has added value in knowledge exchange between Nepalese Diaspora Experts and Nepalese Professionals through online media. This has allured a lot of people toward betterment of Blood Transfusion System in Nepal. The collaboration of NRNA BTS TT and NRCS, Nepal Medicit Hospital, Grande International Hospital, CHDS and Aspirenix made this series of events possible.



Motivation Programs: **Inspiring youths for Blood drives**

NRNA BTS-TT has aimed to increase the number of blood donors in Nepal. For this purpose, several blood donors motivation program in the support of youth clubs have been conducted. These programs need to be done in frequent basis for its effectiveness. Moreover, the Goodwill Ambassadors Shiva Pariyar and Indira Joshi are also raising the awareness through their Social Medias and Concerts.

Easy Supply of Blood for All:

Blood Donation programs in NRNA Initiatives

Series of Blood Donation Events have been conducted in many countries, within Kathmandu Valley and other parts of Nepal with the coordination of NRNA BTS-TT. It is our initiative to promote blood donation among Nepalese wherever they live, at the same time bring different stakeholders together for improving the Blood Supply System in Nepal. Our Program Operation Officer Kunal Mishra is taking the lead for program in Nepal with the Technical support of NRNA BTS-TT Committee and NRCS, Central Blood Transfusion Service Center, DBTS of Lalitpur, Bhaktapur and Kavre Districts. This project was funded by Nepalese community Canada in the request of representatives of NRNA BTS TT in Canada: Suresh Gautam & Dipak Gautam.



Good Laboratory Practice (GLP) Project:

NRNA BTS TT's For Quality Blood Supply

GLP Project is an initiation of collaborative approach for working together for step by step improvement in blood banking process and laboratory practices. BTS-TT experts shall stimulate, guide and provide extra professional support to quality staffs of BTS in Nepal. A pilot has been started in regional blood bank Bharatpur. NRCS Chitwan Blood Bank is working for enhancing the quality of blood by using the existing resources in the efficient way. Quality control and quality assurance shall be addressed in this program.

NCC Canada Charity Project: **Gift on Demand to Blood Transfusion Service Centers**

Fourteen blood donation chairs were handed to Paropakar Maternity Hospital, Blood Bank, Central Blood Transfusion Service Center, DBTS of Lalitpur, Bhaktapur and Kavre districts. This project was funded by the Nepalese community Canada in the request of the NRNA BTS TT in Canada, Suresh Gautam and Dipak Gautam.



Digitalizing Blood Bank Management System

Cooperation of NRNA BTS TT, Hamro life Bank and NRCS IT department towards digitalizing blood bank management system in Nepal.

One of the major challenges of Nepal Blood Transfusion System is data management and implementation of laboratory information systems (LIS). Communication and exchange of products and services among the different blood banks across the region and the whole nation needs to be established. A collaborative effort to implement a suitable digital system for blood management across Nepal is under the process. One blood bank management system is being developed and tested in different blood banks through Hamro Life Bank. A huge transformation is being expected in the National Blood Bank inventory system after the implementation of this system.



Nepal Blood Institute & Research Center

A concept initiated by NRNA BTS TT

A need to establish an innovative institute for blood banking, conduct research and develop safe and sustainable blood management system in Nepal has been envisioned. NRNA BTS-TT is facilitating such a novel initiative by partnering among government bodies (central government to local governments), blood bank establishments, healthcare facilities, academic medical institutions, service providers like Central Blood Transfusion Service Center of Nepal, Red Cross Society, and techno-vendors including product developers. A multidisciplinary model of ecosystem is required to prepare for the excellence in blood transfusion and prevention of blood borne disease in Nepalese population.

Recently, an understanding has been developed among NRNA BTS TT, NRCS RBTS Bharatpur, Chitwan Redcross and Ratnanagar Municipality Chitwan to establish such institute and research center in Ratnagar, Tandi. Local government shall provide the 1 bigha land for this purpose. The organizations in collaboration are being engaged to prepare the suitable model of ecosystem for the implementation of the program.



Picture: Mr. Fanindra Panta, Chair of NRNA BTS-TT project met with then Health Minister Hon. Mr. Upendra Yadav, Chairman of Nepal Medciti Hospital, Mr Upendra Mahato and others

Nepal Blood Alliance

For bringing all blood bank professionals and volunteer organizations together

Existing blood transfusion system in Nepal is missing a proper coordinating mechanism in operational level. Nepal government had realized this adverse scenario almost a decade back. As a result, National Bureau of Blood Transfusion System (NBBTS) has been started under National Public Health Laboratory (NPHL) to regulate and monitor the blood transfusion system in the country. However, NBBTS is a regulatory body, but not a service provider. And it is beyond the scope of the NBBTS to provide service as well as act as a regulatory body. Moreover, with the increased number of the transfusion medicine professionals and organizations working in the area of blood banking, there is a need of an organization that can serve as a liaison across professionals and organizations. Thus, there is a need of professional alliance in BTS in Nepal. The role of government body like NBBTS is to regulate and monitor the whole mechanism. Professional Alliance for instance; “Nepal Blood Alliance” is needed to work for collaboration and coordination among all the institutions involved in blood transfusion mechanism. Blood donor associations, blood banks, medical universities/hospitals, pharmaceutical companies, and societies related to bloodborne diseases, rare blood groups, blood cancer, can be associated in the Nepal Blood Alliance.

News and Events:

पाँच दिने रक्तदाता उत्प्रेरणा प्रशिक्षकहरूको प्रशिक्षण सम्पन्न

हस्तान्तरण उपसमिति, अन्तराष्ट्रिय नेपाली रक्तदाता संघ र नेपाल थालासेमिया समाजको सहकार्य तथा केन्द्रीय रक्तसंचार केन्द्र र नेपाल रेडक्रस सोसाईटी ३ नं प्रदेश समितिले गैरआवासीय नेपाली संघ रक्तसंचार प्रविधि उपसमिति र स्वस्तिक लौन्ज आएण्ड ब्याँकवेटको सहयोगमा ५ दिने रक्तदाता उत्प्रेरणा प्रशिक्षकहरूको प्रशिक्षण मिति २०७६ मंसीर ३० गते देखि पुस ४ गतेसम्म केन्द्रीय कार्यसमिति बैठक हल, नेपाल रेडक्रस सोसाईटी, सोल्टीमोड, कालिमाटीमा आयोजना गरेको थियो ।

उक्त प्रशिक्षणमा १९ जना युवा र १३ जना युवती गरि ३२ जना सहभागी भएका थिए भने विभिन्न विधा तथा क्षेत्रका ११ जना प्रशिक्षक तथा सहजकर्ताहरूले उक्त तालिममा कक्षा संचालान गरेका थिए । काठमाडौँ उपत्यकामा रक्तदाताहरूको संख्या र रक्तदान कार्यक्रमको संख्या बढाउने उदेश्यले संचालन भएका उक्त कार्यक्रममा सहभागीहरूले प्रशिक्षक तथा उत्प्रेरकमा हुने गुण, रक्तदान, रक्तसंचार, संचार, रेडक्रस अभियान, रगत विज्ञान, नेपालमा रक्तसंचारको अवस्था र व्यवस्थापनको बारेमा विस्तृत ज्ञान पाएका थिए । साथै नेपाल रेडक्रस सोसाईटी र गैरआवासीय नेपाली संघ रक्तसंचार प्रविधि उपसमितिलेद्वारा न्युक्त रगतको सम्भावना दुत इन्दिरा जोशी, ९० घण्टा २ मिनेट बोलेर गिनिस बुक अफ वर्ल्ड रिकर्डमा नाम लेखाउन सफल अनन्त राम के. सी. र नेपालमा रक्तसंचारको सूचना प्रणालीमा काम गरिरहनु भएकी हाम्रो लाईफ बैंकको संस्थापक तथा प्रमुख कार्यकारी अधिकृत रुमी सिंहले उत्प्रेरणा प्रदान गर्नु भएको थियो । ।

नेपालमा यस्तो प्रशिक्षण करिब ३ वर्ष पछि भएको हो । यो कार्यक्रम संचालन गर्न गैरआवासीय नेपाली संघ रक्तसंचार प्रविधि उपसमितिले सबैसंग सहकार्य गरेको थियो । यो प्रशिक्षण सुरु गर्नु अगावै एक महिना अघि अनलाईन मार्फत ११८ जनाको आवेदन लिएको थियो भने त्यस बाट सर्टलिस्ट भएका ७० जनाको अन्तर्वार्ता लिएर ३२ जनालाई छनौट गरिएको थियो ।

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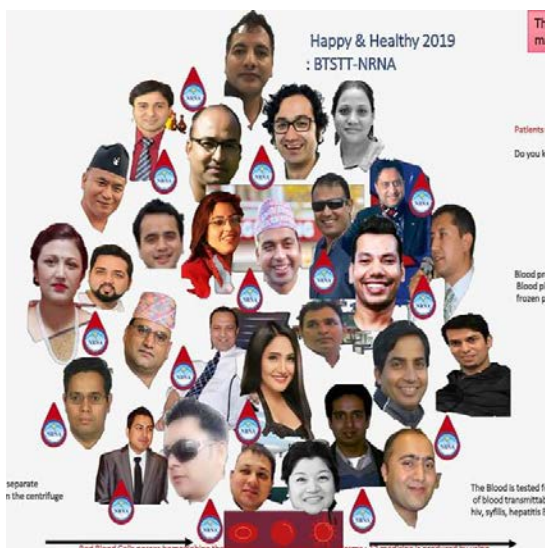
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Galleries

Blood donors motivation program



Training the trainers



BTS-TT Team members

Blood & Beyond Webinar series

