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प्रधानमन्त्री

काठमाडौं, नेपाल



शुभकामना

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको २८औं वार्षिकोत्सवको अवसरमा आफ्ना वार्षिक क्रियाकलापहरू समावेश गरी 'स्मारिका-२०२३' प्रकाशन गर्न लागेको जानकारी पाउँदा खुसी लागेको छु। यस अवसरमा शहीद गंगालाल राष्ट्रिय हृदय केन्द्र परिवार तथा सम्बद्ध सबैमा हार्दिक बधाई तथा शुभकामना व्यक्त गर्दछु।

नेपालको संविधानमा प्रत्येक नागरिकलाई राज्यबाट आधारभूत स्वास्थ्य सेवा निःशुल्क प्राप्त हुने र कसैलाई पनि आकस्मिक स्वास्थ्य सेवाबाट अछिउत गरिने छैन भन्ने विषयलाई मौलिक हकको रूपमा व्यवस्था गरिएको छ। साथै, प्रत्येक व्यक्तिको आफ्नो स्वास्थ्य उपचारको सम्बन्धमा जानकारी पाउने तथा स्वास्थ्य सेवामा समान पहुँचको हक हुने कुराको प्रत्याभूति गरेको सन्दर्भमा उपलब्ध स्रोत र साधनको विगो एवं बिबेकपूर्ण परिचालन गरी सबै नागरिकलाई आधारभूत स्वास्थ्य सेवाको सुनिश्चितता प्रदान गर्नु हाम्रो पहिलो कर्तव्य हो। उक्त व्यवस्थालाई व्यवहारिक रूपमा कार्यान्वयन गर्न सरकार निरन्तर लागिपरेको छ।

यस सन्दर्भमा, विशेषगरी देशमा बढ्दो मुटुरोगीको उपचार, निदान, रोकथाम तथा अध्ययन अनुसन्धानको अभिभाराका साथ गुणस्तरीय सेवा प्रदान गर्ने उद्देश्यले स्थापित यस केन्द्रले मुटुरोगीको उपचारको क्षेत्रमा एउटा छुट्टै पहिचान कायम गर्दै नेपालको स्वास्थ्य क्षेत्रमा पुर्‍याएको योगदान अन्य अस्पतालका लागि समेत अनुकरणीय हुने अपेक्षा लिएको छु।

आगामी दिनमा पनि अत्याधुनिक एवं प्रविधिमैत्री उपचारपद्धति अबलम्बन गर्दै मुटुरोगीको उपचारमा थप गुणस्तरीय सेवा प्रदान गर्ने कार्यमा केन्द्रलाई सफलता मिलोस् साथै केन्द्रले प्रकाशन गर्न लागेको स्मारिका खोजमूलक, पठनीय एवम् सहग्रहणीय दस्तावेज बन्न सकोस् भन्ने अपेक्षा सहित वार्षिकोत्सव तथा 'स्मारिका-२०२३' प्रकाशनको पूर्ण सफलताको लागि शुभकामना व्यक्त गर्दछु।

९ माघ, २०८०

ने.स. ११४४, पोहेलाख, ज्योदशी

Purna Karmal Dahal
पुष्पकमल दाहाल 'प्रचण्ड'

मोहन बहादुर बस्नेत
Mohan Bahadur Basnet

स्वास्थ्य तथा जनसङ्ख्या मन्त्री
Minister for
Health and Population



नेपाल सरकार
Government of Nepal

स्वास्थ्य तथा जनसङ्ख्या मन्त्रालय
Ministry of Health and Population



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फैक्स: ०१-४-२६२५६५
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रामशाहपथ, काठमाडौं, नेपाल
Ramshahpath, Kathmandu, Nepal

पत्र संख्या(Ref. No.): ०८०/८९

चलानी नं.(Dispatch No.): १३०

मिति(Date):

शुभकामना



देशकै प्रथम हृदय केन्द्रको रूपमा स्थापित शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको २८औं वार्षिकोत्सवको अवसरमा वर्षभरी सम्पादन गरेका क्रियाकलाप एवम् प्रगति विवरणहरू समावेश गरी स्मारिका- २०२३ प्रकाशन गर्ने लागेकोमा मलाई ज्यादै खुसी लागेको छ। यस स्मारिकामा प्रकाशन हुने लेख तथा रचनाहरूले केन्द्रका सूचना एवं जानकारीहरू जनतासमक्ष ल्याउनेमा म विश्वस्त छु।

विश्व स्वास्थ्य संगठनको पछिल्लो अध्ययनले इस्केमिक हार्ट डिजिज विश्वकै सबैभन्दा ठूलो प्राणघातक रोगको रूपमा देखाएको छ। पछिल्ला दिनहरूमा नेपालमा समेत मुटुरोगका विरामी तथा यसका कारण हुने मृत्यु बढिरहेको सन्दर्भमा केन्द्रले प्रदान गर्दै आइरहेका उच्चस्तरको उपचारालमक तथा प्रयुक्ततात्मक सेवा र कार्यक्रमका कारण केन्द्र स्थापनाको उपादेयता अझ बढ्न गएको देखिन्छ। मुटुरोगको निदान, उपचार, रोकथाम तथा अध्ययन अनुसन्धानका सम्बन्धमा नेपाल सरकारको केन्द्रीय अस्पतालको रूपमा यस केन्द्रले आगामी दिनमा अझ विशिष्टीकृत सेवामार्फत् आफुलाई अब्बल संस्थाको रूपमा विकास र विस्तार गर्दै आम नेपाली जनतालाई सहज, सुलभ र गुणस्तरीय स्वास्थ्य सेवाको सुनिश्चितता गर्नुतर्फ अग्रसर गराउनुपर्ने आवश्यकता रहेको छ। यसका लागि मन्त्रालयको तर्फबाट अझ बढी साथ र सहयोग हुने विश्वास दिलाउन चाहन्छु।

अन्त्यमा, केन्द्रलाई गुणस्तरीय उपचारपद्धतिमार्फत् एक विश्वासिलो विशिष्टीकृत अस्पतालको रूपमा विकास गरी यहाँसम्म ल्याईपुऱ्याउन प्रत्यक्ष एवम् परोक्षरूपमा योगदान गर्नुहुने सबैमा मन्त्रालयको तर्फबाट हार्दिक आभार व्यक्त गर्दछु। आगामी दिनमा मुटुरोगको उपचारमा नवीन प्रविधिसहित संस्थागत क्षमता विकासमार्फत् एक उत्कृष्ट नमुना अस्पतालको रूपमा आफुलाई विकास र विस्तार गरी गुणस्तरीय स्वास्थ्य सेवा प्राप्त गर्ने नागरिकको संवैधानिक अधिकारको सुनिश्चिततातर्फ महत्वपूर्ण योगदान गर्न सकोस् भन्ने शुभकामना दिनु चाहन्छु।

धन्यवाद।

०९ माघ, २०८०

मोहन बहादुर बस्नेत
मन्त्री



नेपाल सरकार

स्वास्थ्य तथा जनसंख्या मन्त्रालय

(.....शाखा)



प्राप्त पत्र संख्या :-

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रामशाहपथ,

काठमाडौं, नेपाल ।

मिति :

विषय :-

शुभ-कामना



शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको अष्टाइसौं वार्षिकोत्सव मनाउने सन्दर्भमा केन्द्रका वार्षिक कृषाकलापहरू समावेश गरी Annual Report 2023 प्रकाशन गर्न लागेको खबरले खुसी तुल्याएको छ ।

स्वास्थ्य क्षेत्रमा प्रणालीगत सुधार र कुशल कार्यशैलीका माध्यमबाट सर्वसाधारण नागरिकलाई गुणस्तरीय स्वास्थ्य सेवाको सुनिश्चितता गर्ने आवश्यक छ । हरेक संस्थाले आफ्नो आन्तरिक प्रक्रिया, जनशक्ति, वित्तीय व्यवस्थापन र प्रणालीगत पैशमा सुधार गर्दै अगाडि बहनुपर्ने आवश्यकतालाई मध्यनजर गर्दै त्यस केन्द्रले विविध चुनौति र अप्ठ्याराहरूलाई चिदै आफूलाई एक अब्जल अत्याधुनिक अस्पतालको रूपमा विकास गरी मुटुरोगको उपचारमा तुलनात्मक रूपले सस्ती र गुणस्तरीय सेवाप्रदान गरी देशकै एक भरोसायोग्य उपचार केन्द्रको रूपमा स्थापित हुन सक्नु हामी सबैका लागि गौरवको विषय हो ।

अन्त्यमा, आगामी दिनमा केन्द्रलाई समयानुकूल थप खुस्त दुरुस्त बनाई मुटुरोगको उपचारमा नविन प्रविधिहरू भित्र्याउँदै संस्थागत क्षमता त्रिकसमाफत् एक उत्कृष्ट नमुना अस्पतालको रूपमा आफूलाई कायम राख्न सकोस् भन्ने शुभकामना व्यक्त गर्दछु ।

देव कुमारी गुरुगाई
सचिव



प्राप्त पत्र संख्या :-
पत्र संख्या :-
घतानी नं. :-

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय

(.....शाखा)



फोन नं.
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रामशाहपथ,
काठमाडौं, नेपाल ।


मिति :



विषय :- शुभ-कामना

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो स्थापनाको अष्टाइसौं वार्षिकोत्सवको अवसरमा अस्पतालका विविध गतिविधिहरूलाई समेटेर Annual Report 2023 प्रकाशित गर्न लागेकोमा खुशी व्यक्त गर्दै Annual Report 2023 ले केन्द्रबाट उपलब्ध हुने सबै सेवाहरू, मुटुरोगका कारणहरू र यसबाट बच्ने उपायहरूका बारेमा जानकारी उपलब्ध गराउने विश्वास लिएको छु ।

तुलनात्मक रूपमा सस्तो र गुणस्तरीय सेवा प्रदान गरी एक भरोसायोग्य उपचार केन्द्रको रूपमा स्थापित यस केन्द्रले मुटुरोगको उपचारका लागि विदेशमा जानुपर्ने बाध्यताबाट सबै नेपालीहरूलाई मुक्ति दिलाउन सकोस् भन्ने कामना गर्दै नेपाल सरकार, स्वास्थ्य तथा जनसंख्या मन्त्रालयको तर्फबाट केन्द्रको विकास र विस्तारमा आवश्यक सहयोग रहने प्रतिवद्धता साहित अष्टाइसौं वार्षिकोत्सव समारोहको पूर्ण सफलताको कामना समेत गर्दछु ।


डा. रोशन पौखरेल
सचिव

EDITORIAL

With establishment in 2052 B.S., as preventive & curative treatment of cardiac illness, Shahid Gangalal National Heart Centre has now become a specialized tertiary cardiac center of Nepal with its own name and fame. This was possible only due to the persistent commitment and efforts of staffs and support from Nepal government under visionary leadership.

The goal of the Institute has broadened with its aim to focus not only on prevention & treatment of cardiac illness but also on cardiac awareness programme, timebound cardiac diagnostic facilities. academic and research.

Currently we have services on adult cardiology, pediatric cardiology and cardiac surgery. In adult cardiology it has noninvasive cardiology services and intervention cardiology for which it has 4 running Cath labs for diagnostic and therapeutic interventions. SGNHC has been successful in upgrading as per the need of cardiac diagnostic equipment including cardiac imaging including CT and MRI.

As cardiology techniques in diagnosis and treatment changes with time, SGNHC always tries to pace with changing scenario and has been successful in performing percutaneous transthoracic aortic valve replacement, bundle branch pacing and other newer technologies 3D mapping. Paediatric cardiology department of SGNHC also been great since beginning, progressing as per need in diagnosis, treatment and latest innovation in intervention cardiology. It has now full-fledged pediatric cardiology department, paediatric cardiology inpatient & paediatric cardiac ICU for cardiac patients.

SGNHC has strong surgical departments with largest number of surgeries in the country done per year. The department has also revolutionized in the treatment of adult as well as paediatric cardiac surgery with latest innovation. Currently we have 3 surgical OT.

Prevention is better than cure. SGNHC understand this statement in true sense and runs its public awareness programme, health camps, health educations and training that aid in prevention of cardiac illness. Evidence based cardiac treatment is the norm, which is feasible only with the help of research. SGNHC has its own IRC, IRB for facilitating, coordinating and conducting research and various trials and 27 research articles in last year. It has recently completed the one of the largest RHD school health screening programme.

SGNHC is stepping forward as its long-term goal of establishment of academic institute and run its own academic programmes in near future. We are very thankful to all of those helping hands including our beloved patients to take SGNHC to this level & always be optimistic to reach its highest level in future.

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कार्यकारी निर्देशकको वार्षिक प्रतिवेदन



मुटुरोगको रोकथाम, निदान, उपचार तथा हृदयरोगीहरूको पुर्नस्थापनाको लागि आवश्यक उच्चस्तरीय स्वास्थ्य सेवा सर्वशुलभरूपमा स्वदेशमा नै प्रदान गरी हृदयरोगीहरूलाई मानवोचित जीवनयापन गर्न सक्षम तुल्याउन तथा हृदयरोगसम्बन्धी उच्चस्तरीय अध्ययन र अनुसन्धानका लागि आवश्यक दक्ष जनशक्ति तयार गर्ने मुल उद्देश्य लिई वि. सं. २०५२ सालमा यस केन्द्रको स्थापना भएको हो । स्थापनाकालमा ९ शैयाबाट आफ्नो सेवा सुरु गरेको यस केन्द्रमा हाल २९६ शैचया संचालनमा रहेको छ । प्रारम्भमा मुटुरोगसम्बन्धी सामान्य उपचारबाट सेवा शुरु गरेको यस अस्पतालले समयको अन्तरालसंगै मुटुरोगसम्बन्धी विभिन्न किसिमका गुणस्तरीय विशेषज्ञ उपचार सेवाहरु सर्वशुलभरूपमा उपलब्ध गराउँदै आइरहेको छ । सिमित श्रोत र साधनबाट शुरु भएको यस केन्द्र हाल वैज्ञानिक प्रविधि, दक्ष जनशक्ति तथा विश्वस्तरीय अत्याधुनिक उपकरणले Super Specialty Cardiac Center रूपमा आफूलाई स्थापित गर्न सफल भएको छ । सन् २०२३ मा केन्द्रले सम्पादन गरेका मुख्य सेवाहरु यसप्रकार छन्:

सन् २०२३ मा केन्द्रबाट प्रदान गरिएका मुख्य सेवाहरुको विवरण		
क्र.सं.	सेवाहरु	जम्मा विरामी संख्या
१	बहिरंग (OPD) सेवा	१,९२,९९१ जना
२	अन्तरंग (In-patient) सेवा	१४,९८८ जना
३	आकस्मिक (Emergency) सेवा	२०,३१७ जना
४	शल्यक्रिया (Surgery) सेवा	१,८३८ जना
५	Electrocardiogram (ECG)	१,१२,८२३ वटा
६	ECHO Screening	१९,३३६ वटा
७	Echocardiogram (Echo)	६८,२६६ वटा
८	Tread Mill Test (TMT)	९,००८ वटा
९	X-ray	६४,४४२ वटा
१०	Fetal Echo	३,२८२ वटा
११	Carotid Doppler	९७८ वटा
१२	CT Scan	५,०५३ वटा
१३	USG	४,८६३ वटा
१४	Coronary Angiogram (CAG)	७,१४८ वटा
१५	Coronary Angioplasty (PTCA)	२,३२६ वटा
१६	IVUS	१८ वटा
१७	PTMC	३२५ वटा
१८	EPS/RFA	३५१ वटा
१९	ASD Device Closure	३६० वटा
२०	PDA Device Closure	१६१ वटा
२१	VSD Device Closure	२८ वटा

२२	Pacemaker	७३ वटा
२३	Primary Angioplasty	६६ वटा
२४	3 T Cardiac MRI	९६४ वटा
२६	Transcatheter aortic valve implantation (TAVI)	७ वटा

विगत केही वर्षहरूदेखि नेपाल सरकारले पनि मुटुरोगको उपचारमा उत्तिकै महत्व दिँदै आइरहेको छ । आ.व. २०६३/६४ बाट शुरु भएको १५ वर्षमूिनका बालबालिकाको निःशुल्क मुटु उपचार, आ.व. २०६४/०६५ देखि ७५ वर्षभन्दा माथिका जेष्ठ नागरिकहरूको निःशुल्क उपचार, आ.व. २०६६/०६७ देखि विना अप्रेशन मुटुको साँघुरिएको भल्म खोल्ने प्रविधि (PTMC), बाथ मुटुरोगीहरूको निःशुल्क शल्यक्रिया, गरीव विरामी राहत सुविधा, आ.व. २०७६/७७ बाट शुरु भएको स्वास्थ्य विमा कार्यक्रम यस केन्द्रबाट संचालन हुँदै आइरहेका छन् ।

मुटुरोग उपचार महंगो हुनुकासाथै जटिल छ । मुटुरोगको उपचार, रोकथाम तथा अध्ययन अनुसन्धानमा यस केन्द्रले उल्लेखनीय भूमिका खेल्दै आएको छ । सन् २०२३ मा अनुसन्धान क्षेत्रमा २७ वटा Research Proposal स्वीकृत भएका छन् । केन्द्रले सन् २०२३ मा देशका विभिन्न जिल्लाहरूमा मुटुरोगको निःशुल्क स्वास्थ्य शिविरहरू संचालन गरी ८,१७२ विरामीहरूको मुटु परीक्षण गरेको छ । RHD Screening Program अन्तर्गत विभिन्न विद्यालयहरूमा अध्ययनरत ७,७१८ विद्यार्थीहरूको Echo Screening गरियो । त्यसैले यो केन्द्र मुटुरोगको रोकथाम र यससम्बन्धी जनचेतना अभिवृद्धि गर्ने कार्यमा पनि निरन्तर लागि परेको कुरा जानकारी गराउन चाहन्छु ।

केन्द्रमा दिनप्रतिदिन बढ्दै गइरहेको विरामीको चापलाई मध्यनजर गर्दै केन्द्रको क्षमता विस्तार गर्नुपर्ने आवश्यकता रहेको छ । यसका लागि केन्द्रले २०० शैयाको अत्याधुनिक बाल मुटुरोग भवन निर्माणको लागि DPR तयार गरी स्वास्थ्य तथा जनसंख्या मन्त्रालयमा पठाइएको छ । विगत ७ वर्ष देखि मुटु शल्य चिकित्सकको विधामा कोही पढ्न नआएको र यही अवस्था रहेमा केही वर्ष भित्रमा मुटु शल्य चिकित्सकको अभाव भई राष्ट्रिय समस्या हुने देखिन्छ । यस केन्द्रलाई प्रतिष्ठानको रुपमा विकास गर्न सकिने अन्य देशहरूमा जस्तै MBBS बाट सोभै MCH (Cardiac Surgeon) को पाठ्यक्रम लागू गरी अध्ययन/अध्यापन गर्ने हुँदा सो अभाव पूर्ति गर्न सकिने छ । .

यसै सन्दर्भमा गत वर्ष केन्द्रको २७औँ वार्षिकोत्सवका प्रमुख अतिथि सम्माननीय प्रधानमन्त्री श्री पुष्पकमल दाहाल (प्रचण्ड)ज्यूबाट यस केन्द्रलाई मुटुरोगसँग सम्बन्धि अध्ययन तथा अध्यापन गराइने एक स्वायत्त शैक्षिक संस्थामा रूपान्तरित गराउने प्रतिबद्धता व्यक्त भएको कुरा यहाँ स्मरणीय छ । साथै २०८०/०५/१३ गते को माननीय स्वास्थ्य तथा जनसंख्या मन्त्रि श्री मोहन बहादुर वस्नेतको अध्यक्षतामा बसेको सन्चालक समितिको बैठकले यस केन्द्रलाई प्रतिष्ठानमा रूपान्तरण गर्न छलफल गरि ३ सदस्यीय उप समिति समेत गठन गरिएको र सो उपसमितिले आफ्नो अवधारणा पत्र बुझाई हाल स्वास्थ्य तथा जनसंख्या मन्त्रालयबाट प्रक्रियामा रहेको व्यहोरा अवगत गराउन चाहन्छु । शहीद गंगालाल परिवार यथाशिघ्र सो कार्यान्वयनको लागि विशेष अनुरोध गर्दछौ ।

अन्त्यमा, केन्द्रको विकास, विस्तार तथा स्थायीत्वको लागि निरन्तर लागि रहनु भएका केन्द्रमा कार्यरत सम्पूर्ण कर्मचारीहरू, स्वास्थ्य तथा जनसंख्या मन्त्रालय, नेपाल सरकारका सरोकारवाला निकायहरू, केन्द्रका वर्तमान एवं पूर्व संचालक समितिका सदस्यज्यूहरू, पूर्व कार्यकारी निर्देशकज्यूहरू, पूर्व कर्मचारीहरू, रक्तदाताहरू, चन्दादाताहरू, गैर-सरकारी संस्थाका प्रतिनिधिहरू, पत्रकारहरू, विरामी तथा उहाँहरूका आफन्तहरू एवं सम्पूर्ण शुभेच्छुकमा हार्दिक धन्यवाद व्यक्त गर्न चाहन्छु ।

डा. रवी मल्ल

कार्यकारी निर्देशक

मिति: २०८० माघ १५ गते, सोमबार ।

आ.व.२०७९/०८० को वार्षिक कार्यक्रमको प्रगती तथा आय व्यय विवरण

-आर्थिक प्रशासन महाशाखा

यस केन्द्रले आ.व.२०७९/८० मा मुख्य ८ वटा कार्यक्रम संचालन गर्ने लक्ष्य राखिएको र सो कार्यक्रम संचालनका लागि नेपाल सरकारको तर्फबाट ५४ करोड २९ लाख, स्वास्थ्य करकोषको तर्फबाट यस आ.व. मा कुनै बजेट प्राप्त नभएको र आन्तरीक श्रोतबाट १ अरब ५१ करोड ९४ लाख व्यहोर्ने गरि कूल रकम २ अरब ६ करोड २३ लाख बजेटको व्यवस्था गरिएकोमा यस आर्थिक वर्षमा पूँजीगत तथा चालू गरी मुख्य ८ वटा कार्यक्रम सम्पन्न भै केन्द्रको जनकपुर शाखामा समेत गरी २ अरब १ करोड ८७ लाख ५४ हजार खर्च भै उक्त रकमबाट उल्लेखित कार्यक्रमहरू संचालन भएको छ ।

१. परिक्षण सेवा:

यस आ.व.२०७९/८० मा केन्द्र र जनकपुर समेत गरी जम्मा कुल १५०,००० जना विरामीहरूलाई बहिरंग सेवा पुऱ्याउने लक्ष्य राखेकोमा १८९,२५७ जना विरामीहरूको मुटुको परिक्षण गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा १२६% भौतिक प्रगति देखिएको छ ।

२. शल्यक्रया सेवा:

आ.व.२०७९/८० मा जम्मा १५०० जना विरामीको मुटुको शल्यक्रिया गर्ने लक्ष्य राखिएकोमा १७१० जना विरामीहरूको विभिन्न खाले मुटुको शल्यक्रिया गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा ११४% प्रतिशत भौतिक प्रगति देखिएको छ ।

३. क्याथल्याब सेवा:

आ.व.२०७९/८० मा जम्मा १५०० जना विरामीको मुटुको शल्यक्रिया गर्ने लक्ष्य राखिएकोमा १७१० जना विरामीहरूको विभिन्न खाले मुटुको शल्यक्रिया गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा ११४% प्रतिशत भौतिक प्रगति देखिएको छ ।

४. सिटि स्क्यान सेवा:

आ.व.२०७९/८० मा २५५० कोरोनरी एन्जियोग्राफी तथा अन्य २००५ गरी जम्मा ४५५५ जना विरामीहरूलाई अत्याधुनिक कार्डियाक सिटि स्क्यान मार्फत सेवा उपलब्ध गराइएको ।

५. अत्याधुनिक कार्डियाक एम आर आइ सेवा

आ.व.२०७९/८० मा ८८३ जना विरामीहरूको कार्डियाक एम आर आइ स्टेन तथा म्यापिङ गरी अत्याधुनिक कार्डियाक एम आर आइ मार्फत सेवा उपलब्ध गराइएको ।

६. प्रतिकारात्मक सेवा :

आ.व.२०७९/८० मा यस केन्द्रले विभिन्न जिल्लाको मुख्य मुख्य १५ स्थानमा मूटुरोग सम्बन्धी निःशुल्क शिविर संचालन गर्ने लक्ष्य राखेकोमा यस आ.व.मा १७ स्थानमा मूटुरोग सम्बन्धी निःशुल्क स्वास्थ्य शिविर संचालन गरिएको छ । जस मध्ये कुल ५८७० विरामीहरूको निःशुल्क मूटू जाँच गरीएकोमा ३८९८ जनाको इको कार्डियोग्राम र २०६५ जनाको इ सि जि गरीयो ।

७. बाथ मुटुरोग राहत कार्यक्रम:

आ.व. २०७९/८० मा नेपाल सरकारद्वारा बाथ मुटुरोगीहरूको मुटुको भल्भ लगायतका शल्यक्रियाको निःशुल्क उपचार गर्ने घोषित राहत कार्यक्रम अन्तर्गत ६२० जना बाथ मुटुरोगीहरूको निःशुल्क शल्यक्रिया गरिएको छ ।

८. १५ वर्ष मुनीका तथा ७५ वर्ष माथिका विरामीहरूको निःशुल्क स्वास्थ्य सेवा कार्यक्रम:

आ.व. २०७९/८० मा नेपाल सरकारद्वारा निरन्तर रुपमा शुल्क तिर्न नसक्ने मुटुका गरिब विरामीहरू १५ वर्ष मुनीका बालबालिका तथा ७५ वर्ष माथिका जेष्ठ नागरिकहरूका लागि घोषित राहत कार्यक्रम अन्तर्गत १५ वर्ष मुनीका बालबालिकाको ७०० जना र ७५ वर्ष माथिका जेष्ठ नागरिकहरूको ६०० जनाको शल्यक्रिया तथा उपचार गर्ने लक्ष्य राखिएकोमा १५ वर्ष मुनीका ९०५ जना बालबालिकाको विभिन्न किसीमका शल्यक्रिया र उपचार सम्पन्न गरिएको छ भने ७५ वर्ष माथिका ७३० जना जेष्ठ नागरिकहरूको विभिन्न किसीमका मुटु रोगको शल्यक्रिया तथा उपचार गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा क्रमशः १२९% र १२२% भौतिक प्रगति देखिएको छ ।

९. पि.टी.एम.सी. (मुटुको भल्भ सांगुरिएको) विरामीहरूको निःशुल्क स्वास्थ्य सेवा कार्यक्रम):

आ.व.२०७९/८० मा नेपाल सरकारद्वारा शुल्क तिर्न नसक्ने मुटुको भल्भ सांगुरिएको विरामीहरूको उपचारका लागि घोषित राहत कार्यक्रम अनुसार ३५० जनाको उपचार गर्ने लक्ष्य राखिएकोमा ३४२ जना गरिब विरामीहरूको मुटुको भल्भ सांगुरिएको पि.टी.एम.सी. पद्धति द्वारा उपचार गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा ९८% भौतिक प्रगति भएको देखिन्छ ।

१०. पुर्वाधार निर्माण तथा विकास कार्यक्रम:

- आ.व. २०७९/८० मा केन्द्रको लागि आवश्यक उपकरणहरू खरीद गरिएको ।

११. जनकपुर शाखा:

आ.व.२०७९/८० केन्द्रको जनकपुर शाखामा १२,११७ जना विरामीहरूलाई बहिरङ्ग सेवा प्रदान गरियो । जसमध्ये २३६२ जनाको इको कार्डियोग्राम, ६३४० जनाको इ सि जि, १७५ जनाको टि एम टि तथा १२३ हल्टर, ७१ एचिए, २८ टिडइ र २९८१ जनाको एक्सरे का सेवा प्रदान गरियो ।

१२. विपन्न नागरिक उपचार कोष :

आ.व.२०७९/८० मा ३२ करोड ६३ लाख २७ हजार २ सय १३ बराबरको ३४०९ जना मुटुका विरामीहरूलाई नेपाल सरकार विपन्न नागरिक उपचार कोषबाट यस केन्द्रले सेवा उपलब्ध गराएको छ ।

१३. स्वास्थ्य बीमा मार्फत उपचार:

यस आ.व.२०७९/८० मा केन्द्रले स्वास्थ्य बीमा मार्फत १५,०९० जना मुटुका विरामीहरूलाई रु.१२ करोड ८८ लाख २९ हजार ३९६ बराबरको उपचार गरेको छ ।

निष्कर्ष:

यस केन्द्रले चालु आ.व. २०७९/८० को वार्षिक कार्यक्रम संचालनका लागि मुख्य गरी ८ वटा कार्यक्रम तय गरी सोही बमोजीम बजेटको व्यवस्था गरेकोमा वार्षिक लक्ष्यको आधारमा नेपाल सरकार तर्फ ५४ करोड २९ लाख खर्च भई १०० प्रतिशत वित्तिय प्रगति भएको देखिन्छ भने १०० प्रतिशत नै भौतिक प्रगति भएको देखिन्छ । केन्द्रको आन्तरिक तर्फ १ अरब ५१ करोड ९४ लाख बजेटको व्यवस्था गरीएकोमा १ अरब ४७ करोड ५८ लाख खर्च भई ९७ प्रतिशत वित्तिय प्रगति भएको देखिन्छ ।

एकिकृत आय व्यय विवरण
आर्थिक वर्ष २०७९/८०

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(डा) बन्दगी अधिकारी
कार्यकारी निदेशक





DEPARTMENT OF CARDIOVASCULAR SURGERY

Dr Rheecha Joshi, Dr Prem Purbey, Dr Sujan Bohara

The operation theater is a place where miracles happen every day. With the heart of a lion and the devotion of a saint, the department of cardiovascular surgery has outstanding performance in 2023 with its unwavering determination. We performed 1838 surgeries and had 27795 outpatient attendances in 2023.

Out of 1838 surgeries, 1580 were Open Heart Surgery (OHS). Valvular heart surgery accounts 550 cases (29.92%), congenital heart surgery 530 cases (28.83%) and Coronary Artery Bypass Graft surgery 438 cases (23.83%).

Besides these major counts, we also had 33 operations (1.79%) for Complex Aortic surgeries (Ascending aorta replacement- 13 cases, Modified Bentall's procedure -17 cases and AVR with ascending aorta replacement -3 cases). We also did 11 cases of CABG with valvular heart surgery (0.59%), 18 cases of RA/LA myxoma or mass and 35 cases of Closed Heart Surgery (PDA, Coarctation of aorta, Pericardectomy, pericardial window and drainage).

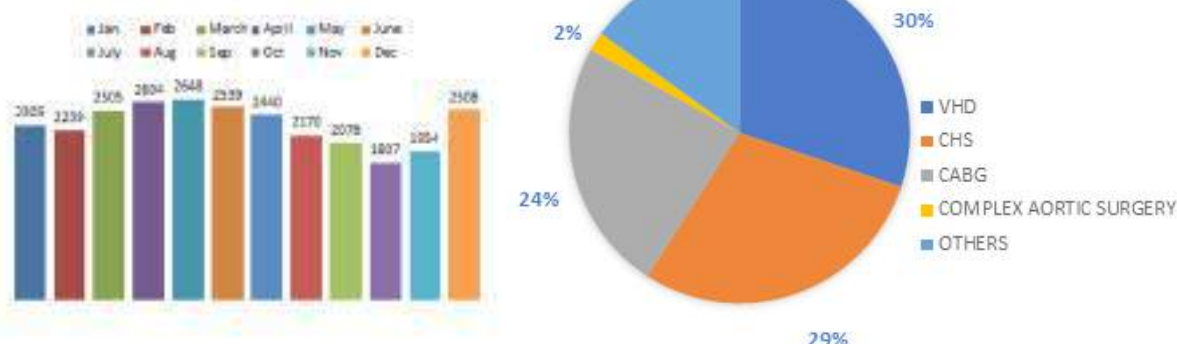
We performed 223 cases of miscellaneous procedures like re-explorations, creation of arterio-venous fistula, wound debridement and secondary closures of the wound, sternal wire removal, epicardial pacemaker insertion or generator replacement, tracheostomy, pseudoaneurysm repair, embolectomy.

The re-exploration rate in 2023 was 5.33 % and the overall mortality in cardiovascular surgery in 2023 was 7.94 %. As we are growing each year with an increasing number of cases, the complexity of the disease is also rising. Since we have surgeons with a special interest in congenital cardiac surgery, we are doing more complex congenital cases each year. Although we left no stone unturned to achieve the best outcome, turning these stumbling blocks into stepping stones needs continuous effort and commitment.

CARDIOVASCULAR SURGERY 2023



Cardiovascular OPD 2023



ACTIVITIES

This year we welcomed two new registrars Dr Dharmendra Joshi and Dr Alka Singh into our department. Dr Nivesh Rajbhandari and Dr Nirmal Panthee are promoted to Cardiac Surgeon. Dr Navin Chandra Gautam is promoted to Senior consultant cardiac surgeon.

Dr Rheecha Joshi and Dr Marisha Aryal participated in IACTSCON 2023 held in February in Coimbatore, India. Dr Sidhartha Pradhan visited Seoul National University Hospital from April to June 2023. Likewise, Dr Avash Karki visited Hero DMC Heart Institute, Ludhiana in July 2023 for Total Arterial Coronary Bypass Graft Beating Heart Surgery training.

Prof. Woong-Han Kim from Seoul National Institute visited us in July 2023.

Dr. Navin Chandra Gautam and Dr. Bishow Pokhrel attended the 2nd Meril Valve Symposium in August held in Vapi, India

Dr Sidhartha Pradhan and Dr. Nirmal Panthee attended the Asia Pacific Cardiovascular Intervention and Surgery Symposium in Seoul, South Korea in November 2023.

Dr. Rabindra Bhakta Timala attended the World Heart Congress on Rheumatic Heart Disease held in November 1 to 3 in Abu Dhabi with a poster presentation on rheumatic mitral repair.

Prof. Woong-Han Kim along with professors of Infectious Diseases from Seoul National University visited us in December 2023.

PUBLICATIONS AND PRESENTATIONS

1. Several presentations were done by faculty members of cardiac surgery at the XXI International Congress on Management of Cardiovascular Diseases held on November 2-4, in Kathmandu.
 - a. Poster presentation on 'A rare case report on the exploration of the unusual lesion in the mediastinum: Visceral Pericardial Cyst'
 - b. A talk on Gender disparity in outcome following coronary artery bypass surgery by Dr Navin Chandra Gautam
 - c. A talk on the Tetralogy of Fallot by Dr. Sidhartha Pradhan.
 - d. Abstract presentation on 'Seven years single center experience of combined coronary artery bypass surgery with aortic valve replacement' by Dr Rheechea Joshi
2. Talk on Coronary Artery Surgery –Present Era In Nepal by Dr. Navin Chandra Gautam at the Society Of Surgeons Of Nepal (SSN) And Society of Internal Medicine of Nepal (SIMON) conference.
3. Amatya AG, Sharma A, Shrestha BK, Nepal B, Paneru HR, Shrestha A, Baral R, Gurung A, Panthee N, Gandhi A, Goerlinger K, Aryal D, Shakya L, Adhikari CM, Poudel B, Rajbanshi BG. Patient blood management for cardiovascular surgery: Clinical practice consensus statement. *Nepalese Heart J* 2023; Vol 20(2), 33-41
4. Timala RB, Aryal M, Parajuli S, et al. Report of the successful Senning procedure from Nepal. *Nepalese Heart Journal* 2023; Vol 20(1), 67-68

INNOVATIONS IN CARDIAC SURGERY IN SGNHC, 2023

The year 2023 has been remarkable as we introduce some innovative surgical approaches in our center at the national level. The operation theater is where science and art unite. These innovative techniques have redefined and unlocked surgical growth along with the well-being of patients and have shown our commitment to excellence in health care. Dr Rabindra Bhakta Timala is highly admired for innovative techniques introduced in 2023. To summarize some of these surgical techniques were Y incision Aortic root enlargement surgery to implant a higher size of the prosthesis in a smaller annulus, half turned truncal switch surgery, neopulmonary valve creation from right atrial appendage, Nikaidoh Procedure and tricuspid valve replacement with cylindrical pericardial valve.

FUTURE

The future belongs to those who believe in the beauty of their dreams. With the effort made each day, we pave our path to tomorrow's success.

We have planned to extend our pediatric and adult surgical ICUs. The new pediatric complex is to be constructed soon. We are planning to expand our operation theatres too. We are committed to excellence in the healthcare of our patients.



DEPARTMENT OF ANESTHESIOLOGY

Dr. Subigya Sitaula

The Department of Cardiac Anesthesia at Shahid Gangalal National Heart Centre, established in 2001, has been dedicated to providing safe and comprehensive perioperative anesthetic and critical care management for cardiac patients. The department is staffed by nine registered anesthesiologists and two residents. Its scope of practice encompasses the entire perioperative spectrum, including preoperative preparation, intraoperative care with transesophageal echocardiography imaging, and postoperative intensive care for cardiac surgical patients. Additionally, the department offers anesthetic services for procedures such as pediatric catheterization, CT scans, and primary percutaneous coronary intervention (PCI) outside of the operating room. It also provides respiratory care for patients in the coronary care unit and medical intensive care unit.

CASES PERFORMED IN 2023

In the year 2023, a total of 1838 surgeries were performed. Among these surgeries, the majority, specifically 1580 cases, were Open Heart Surgeries (OHS). Valvular Heart Surgery accounted for the largest number of cases, with 550 instances (29.92%). Congenital Heart Surgery followed closely with 530 cases (28.83%), and Coronary Artery Bypass Graft Surgery was performed in 438 cases (23.83%). Additionally, there were 33 operations (1.79%) conducted for Complex Aortic Surgeries, which were of significant importance.

In addition to the aforementioned major surgical categories, there were 33 operations (1.79%) performed for Complex Aortic Surgeries. These surgeries can be further classified as follows:

1. Ascending aorta replacement - 13 cases
2. Modified Bentall's procedure - 17 cases
3. Aortic valve replacement (AVR) with ascending aorta replacement - 3 cases

Furthermore, there were 11 cases (0.59%) that involved a combination of Coronary Artery Bypass Graft (CABG) and valvular heart surgery. Additionally, there were 18 cases of surgeries related to the removal of right atrial (RA) or left atrial (LA) myxoma or mass.

Moreover, there were 35 cases of Closed Heart Surgery, including procedures such as Patent Ductus Arteriosus (PDA) closure, Coarctation of the Aorta repair, Pericardectomy, pericardial window creation and drainage.

Additionally, there were 223 cases classified as miscellaneous procedures. These included re-explorations, creation of arterio-venous fistula, wound debridement and secondary closure, sternal wire removal, epicardial pacemaker insertion or generator replacement, tracheostomy, pseudoaneurysm repair, and embolectomy.

The re-exploration rate was found to be 5.33%. The overall mortality rate¹ was 7.94%, with specific mortality rates of 4.56% for CABG, 5.27% for valve replacement surgery, and 15.4% for congenital surgery.

Overall, the Department of Cardiac Anesthesia at Shahid Gangalal National Heart Centre has been committed to delivering high-quality anesthetic and critical care services to cardiac patients, while also actively contributing to education and training in the field.

NON- OPERATING ROOM ANESTHESIA

In the past year, there has been a notable increase in the number of cases requiring anesthetic services outside of the operating room (OR). This expansion in out of OR anesthetic services reflects the department's commitment to providing comprehensive care to patients beyond traditional surgical settings. Specifically, in the realm of pediatric care, there were 246 cases where anesthetic care was required for CT scans.

Furthermore, the department provided anesthetic care in the catheterization lab for a total of 1024 cases. Among these, 668 cases were for primary percutaneous coronary intervention (PCI), 349 cases involved pediatric catheterization procedures, highlighting the department's expertise in delivering specialized anesthesia services for young patients undergoing cardiac interventions.

Moreover, the department successfully administered anesthesia in eight transcatheter aortic valve implantation (TAVI) procedures. TAVI is a minimally invasive technique used to replace the aortic valve in patients who are deemed high-risk or inoperable for traditional open-heart surgery. The successful completion of these procedures demonstrates the department's proficiency in providing anesthesia support for complex cardiac interventions.

Overall, the significant increase in out of OR anesthetic services, along with the provision of anesthesia for pediatric CT scans, primary PCI, pediatric catheterization procedures, and TAVI procedures, showcases the department's commitment to delivering comprehensive and specialized care to a diverse range of patients.

provides real-time assessment of a patient's coagulation status. It offers a comprehensive analysis of various coagulation parameters, including clotting time, clot formation, clot strength, and fibrinolysis. This information enables clinicians to make informed decisions regarding transfusion requirements, hemostatic interventions, and overall patient management.

ACADEMIC FRONT

In the year 2023, the Department of Cardiac Anesthesia demonstrated its commitment to professional development and research through active participation in various conferences, workshops, and training programs.

The department is actively involved in educational and training activities, including running a cardiac anesthesia fellowship and teaching postgraduate residents from various medical colleges. To date, two anesthesiologists have successfully completed their fellowships in cardiothoracic anesthesia.

Dr Ashish Govinda Amatya the head of the department was awarded with best abstract award for the topic “Association between point of care coagulation testing and allogenic blood transfusion in cardiovascular surgery with cardiopulmonary bypass” from the Society of Anesthesiologists of Nepal on the occasion of World Anesthesia Day 2023.

Dr. Battu Kumar Shrestha completed an International Fellowship Program at Seoul National University Hospital, where he gained valuable experience and expertise in the field. Dr. Shrestha pursued an International Fellowship in Pediatric Cardiac Anesthesia at Seoul National University Hospital, specializing in this critical area of anesthesia care. Additionally, he received training in Patient Blood Management at the Werfen Academy in India, further expanding his skills and knowledge in this important aspect of patient care. He presented a paper on “A Randomized Comparison of Two Doses of Tranexamic Acid in High-Risk Open-Heart Surgery” at the IACTACON conference in February 2023, held in Jodhpur, India. This presentation showcased his research findings and contributed to the scientific discourse in the field of cardiac surgery.

As a workshop coordinator and master trainer, Dr. Shrestha has conducted two workshops on CPR under the Nepal Medical Council CPD Program held at CHEERS Hospital in Bhaktapur and the Medical Education Commission in Sanathimi, Bhaktapur.

Dr. Shrestha has also made significant contributions to the scientific literature. His publications include “A Randomized Comparison of Two Doses of Tranexamic Acid in High-Risk Open-Heart Surgery” and “Patient blood management for cardiovascular surgery: Clinical practice consensus statement,” both published in the Nepalese Heart Journal. Additionally, he co-authored a publication titled “Effect of an Educational Intervention for Nursing Personnel on Emergency Inventory and Drugs Checklist of Resuscitation Trolley in a Tertiary Cardiac Center, Kathmandu.”

Dr. Santosh Parajuli actively participated in the Indian Association of Cardiovascular Thoracic Anesthesiologists (IACTA) conference held in India. This conference provided a platform for

knowledge exchange and collaboration among experts in the field of cardiac anesthesia. Dr. Parajuli also attended the Asian Society of Pediatric Anesthesiologists (ASPA) conference in Seoul, where he presented a paper. Furthermore, he participated in the Indian Society of Anesthesiologists Conference (ISACON) in India. These conferences allowed Dr. Parajuli to share research findings and contribute to the advancement of knowledge in the field of cardiac anesthesia. Additionally, he published two original articles and one case report in 2023, further showcasing his dedication to research and scholarly activities. Dr. Parajuli also underwent specialized training in pediatric cardiac anesthesia at Seoul National University in Korea, further enhancing his expertise in this specialized field.

Dr. Rabin Baidya, as a faculty member, played a significant role in the Hemodynamic Monitoring Workshop held in Kathmandu. This workshop focused on enhancing knowledge and skills in the monitoring of hemodynamic parameters, a crucial aspect of perioperative patient care. Additionally, Dr. Baidya participated in the Comprehensive Perioperative Echo Workshop held in Medanta, Gurugram.

Dr. Smriti Mahaju had the privilege of presenting a poster at the 77th Post Graduate Assembly in Anesthesiology held in New York from December 8-11, 2023. This assembly provided an opportunity to showcase research findings and clinical experiences to a diverse audience of anesthesiologists and healthcare professionals. She was also a speaker at the XXI International Congress on the Management of Cardiovascular Disease, held on 2-4 November 2023.

Dr. Subigya Sitaula attended the 9th Annual Conference of the South West Asian African Chapter (SWAAC ELSO) held in Ludhiana, India. This conference focused on extracorporeal life support and provided a platform for networking and collaboration with experts in the field. Furthermore, Dr. Sitaula participated in the 16th National & 7th International Transesophageal Echocardiography (TEE) workshop held at NH-Narayana Health City, Bangalore. This workshop aimed to enhance skills and knowledge in the field of TEE, a crucial tool in cardiac anesthesia and perioperative management.

Dr Ranish Shrestha got the opportunity to attend 70th ISACON organized by Indian Society of Anesthesiologists held on 22nd to 26th of November 2023 at Gurugram India.

Furthermore, the department successfully conducted a workshop on hemodynamic monitoring which was held at the conference organized by the Cardiac Society of Nepal, a prestigious platform for knowledge exchange and professional development in the field of cardiology.

The course attracted a significant number of participants, including cardiac surgeons, anesthesiologists, intensivists, perfusionists, and other healthcare professionals involved in cardiac care. The diverse range of attendees fostered interdisciplinary collaboration and knowledge sharing, further enhancing the impact of the courses.

The outcomes of the course was highly positive, as participants gained a deeper understanding of and acquired practical skills in hemodynamic monitoring. The knowledge and techniques learned during the courses have been implemented in clinical practice, leading to improved patient outcomes and enhanced patient safety.

Overall, the active participation of our faculties in conferences, workshops, and training programs demonstrates the department's commitment to continuous learning, professional development, and research. These endeavors contribute to the advancement of knowledge and the delivery of high-quality cardiac anesthesia care.

CONCLUSION

In the current era of healthcare reform, our department faces numerous challenges that lie ahead. However, our dedicated faculties have consistently demonstrated their ability to overcome these challenges and work towards achieving our vision with the resources available to us.

Moving forward, there are several areas of clinical focus that we will be prioritizing. One such area is goal-directed patient blood management. By implementing strategies to optimize blood transfusion practices, we aim to minimize the risks associated with transfusions and improve patient outcomes.

Additionally, we are expanding our pediatric anesthesia and critical care subspecialty. This expansion will allow us to provide specialized care to our youngest patients, ensuring their safety and well-being during surgical procedures.

To support these clinical initiatives, our department is committed to continued investment in state-of-the-art equipment, advanced technology, and comprehensive training programs. These investments are crucial in enhancing patient safety and improving perioperative care.

Throughout this period of transition and growth, our unwavering dedication to delivering high-quality patient care remains unchanged. We are also committed to excelling in educational programs that will shape the future of anesthesia care. By providing comprehensive training to our staff and fostering a culture of continuous learning, we aim to stay at the forefront of advancements in our field.

Looking ahead, we anticipate that the coming year will mark the beginning of a period of renewal and expansion for our division, as well as for the hospital as a whole. We are optimistic about the opportunities that lie ahead and are confident in our ability to meet the evolving needs of our patients and the healthcare landscape.

In conclusion, our department is poised to tackle the challenges of healthcare reform and embrace the opportunities for growth and improvement. With our dedicated faculties, commitment to patient care, and investments in technology and training, we are confident in our ability to provide high-quality anesthesia care and contribute to the advancement of the field.



NON-INVASIVE CARDIOLOGY AND OPD SERVICES

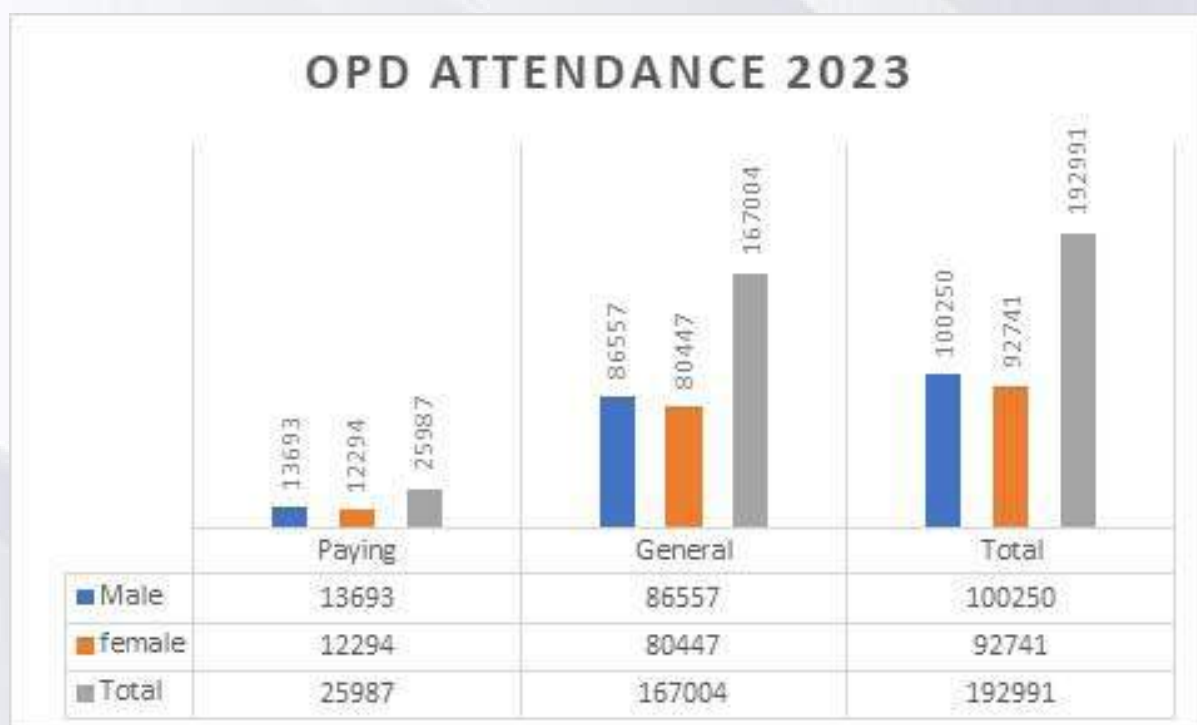
Dr Puja Adhikari, Dr Reeru Manandhar

Shahid Gangalal National Heart Centre (SGNHC) established in 1995, is one of the oldest tertiary cardiac center in Nepal. Hundreds of thousands of patient has already been benefited from the services it has been providing for decades and the number is going up every year. Among many disciplines of Cardiology, Non-invasive cardiology is a branch that focuses on the detection and treatment of cardiac disease, using external tests, imaging rather than instruments inserted into the body. By the help of our well trained and qualified healthcare professionals in noninvasive procedures, SGNHC is able to provide quality care for every kind of cardiac illness. Due to these advanced noninvasive cardiology imaging and technologies we have improved our abilities to detect and treat various complex cardiac diseases early. These non-invasive procedure/ tests are safe, cost effective, uncomplicated and painless to perform. Every year we are being able to add new milestone in the number of available noninvasive cardiac tests substantially.

SERVICES PROVIDED

As non-invasive and OPD Service provider we are able to provide the various services like Adult and Pediatric echocardiography, Stress echocardiography, Trans-esophageal echocardiography (TEE), Fetal echocardiography, 3D Echocardiography, Treadmill test,

Ambulatory blood pressure (ABP) monitoring, Holter monitoring, Electrocardiogram (ECG), X-ray, Ultrasonography, Doppler study including carotid and venous Doppler, Enhanced External Counter Pulsation (EECP), Benzathine penicillin injection, CT scan and MRI. Service like carotid, various arterial and venous Doppler, Fetal echo and ultrasound are also providing significant amount of assistance and support for prompt diagnosis of cardiovascular along with non-cardiac conditions. One of the great achievements in the department of noninvasive cardiology is the installation of Aquilion one 640 slice CT scan machine. Since then we are able to provide the services of CT coronary angiography, CT pulmonary angiography, CT aortogram in significant number in addition to CECT of various part of our body and some CT guided procedures in our center. Beside the availability of CT scan, we have also added up MRI Machine to further strengthen our resources. Each year there has been significant increase in the number of people attending our outpatient department as seen in the year 2023, as total of 192991 (167004-general, 25987-paying) patients attended our OPD in 2023 as compared to 161664 in 2022.



Number of Patients Receiving Non-Invasive Services in 2023

Investigations	Male	Female	Total
ABP MONITORING	1951	1402	3353
B/L LOWER LIMB VENOUS DOPPLER	45	26	71
BILATERAL LIMB ARTERIAL DOPPLER	623	187	810
BILATERAL LIMBS VENOUS DOPPLER	71	53	124
CAROTID DOPPLER	690	288	978
ECG	63717	49106	112823
ECHO CARDIOGRAM	36101	32165	68266

ECHO SCREENING	10883	8453	19336
FEETAL ECHO	0	3282	3282
HOLTER MONITORING	1889	1799	3688
MAGNERECG	1183	899	2082
RENAL DOPPLER	235	123	358
SINGLE LIMB ARTERIAL DOPPLER	81	61	142
SINGLE LIMB VENOUS DOPPLER	51	46	97
STRESS ECHO (DOBUTAMINE)	8	2	10
TEE (Transesophageal Echocardiography)	470	817	1287
TMT	5563	3445	9008
UMBILICAL ARTERY DOPPLER	0	1	1
USG abdomen / Pelvis	2556	2075	4631
USG SMALL PARTS (THYROID/BREAST/ MUSCULOSKELETAL)	96	136	232
XRAY	35256	29186	64442



PEDIATRIC CARDIOLOGY SERVICE

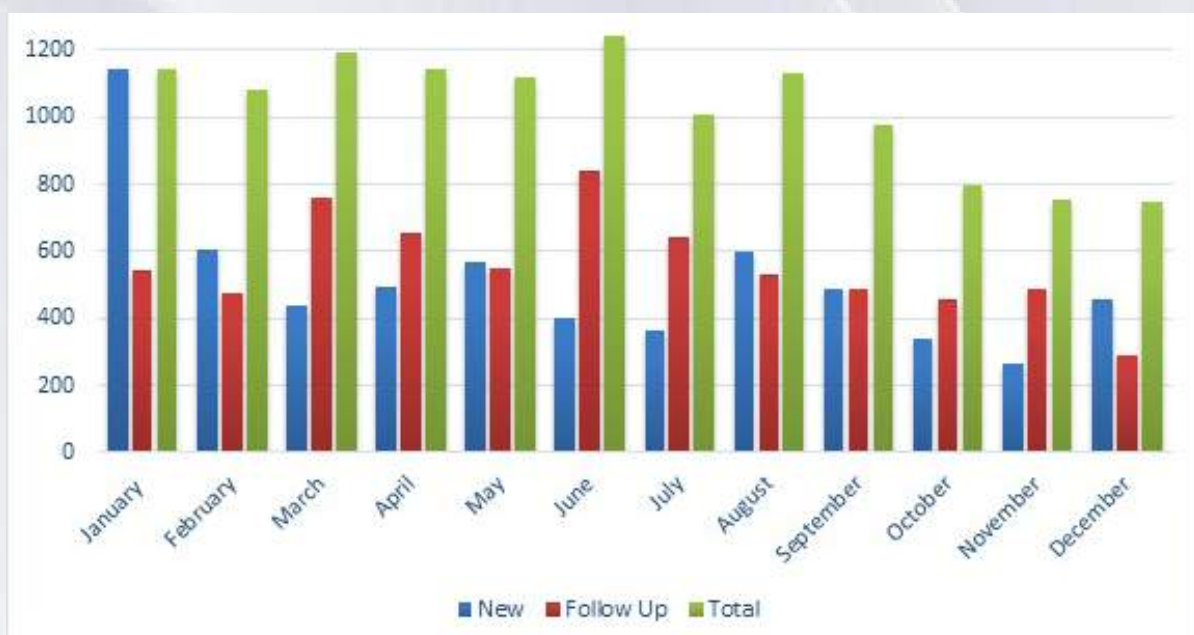
Dr.Amshu Shakya, Dr.Devaki Khadka, Dr.Urusha Ghulu, Dr. Gokul Acharya

INTRODUCTION

Department of Pediatric Cardiology at Shahid Gangalal National Heart Centre is the dedicated department for caring sick children with Heart Disease. Being one of the largest referral centres in the Country, Huge volume of cases with diversity visits the center and the numbers are multiplying by each passing year.

SERVICES PROVIDED

Department of Pediatric Cardiology is providing its services since 2004 AD. The services provided are expanding every year which currently includes Cardiology Clinics, 24 Hours Emergency service, Inpatient Care, Critical Care, Cardiac Diagnostic and Interventional



Service, Cardiac Imaging, Fetal Cardiac Service, Preventive Cardiology Service. In Coming Year, we are going to start Adult Congenital Heart Disease Clinic, Heart Failure Clinic and Electrophysiology clinic.

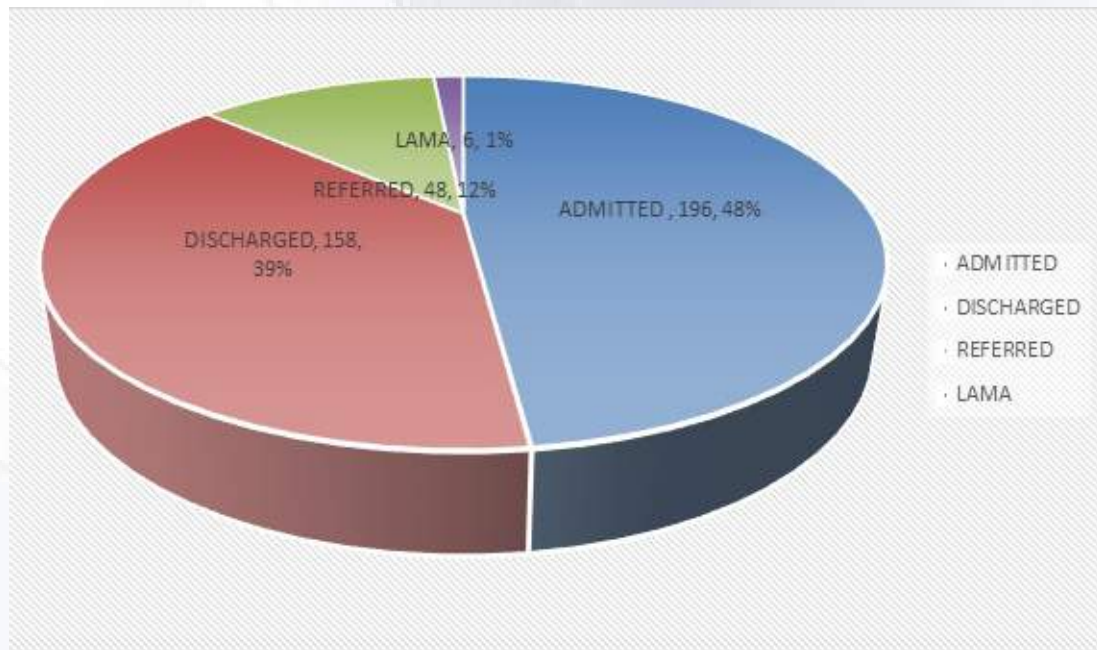
The total OPD attendants this year was 12337. Among them, 8457 (68.5%) were male and 3880 (31.5%) were female. Inpatient services to paediatric patients have been started for ten years. The Management of patients have been further facilitated by the provision of a 10 bedded paediatric ward managed by 24-hour in-house doctor since the year 2019. Total of 1083 patients were admitted this year, among them most of the patients were admitted for catheter-based intervention. Patients planned for CT angiogram are also admitted. Along with its own inpatient children, Department of Paediatric Cardiology is also looking after patients in paediatric surgical intensive care unit (PSICU) who had undergone various cardiac surgeries and those who are being admitted in various surgical wards both pre-operatively and postoperatively. for CT angiogram are also admitted. Along with its own inpatient children, Department of Paediatric Cardiology is also looking after patients in paediatric surgical intensive care unit (PSICU) who had undergone various cardiac surgeries and those who are being admitted in various surgical wards both pre-operatively and postoperatively.

DIAGNOSIS	TOTAL NUMBER OF PATIENT
Rheumatic Heart Disease	47
Heart Failure	68
Catheter Based Interventions	300
Cyanotic Heart Disease	192
Acyanotic Heart Disease	328
Cardiac CT	89
Cardiac MRI	3
Arrhythmia	18
Infective Endocarditis	14
Pericardial Effusion/Pericardiocentesis	12
Miscellaneous	12
Total	1083

Table Showing total numbers of admission with diagnosis

PEDIATRIC SERVICE AT EMERGENCY DEPARTMENT

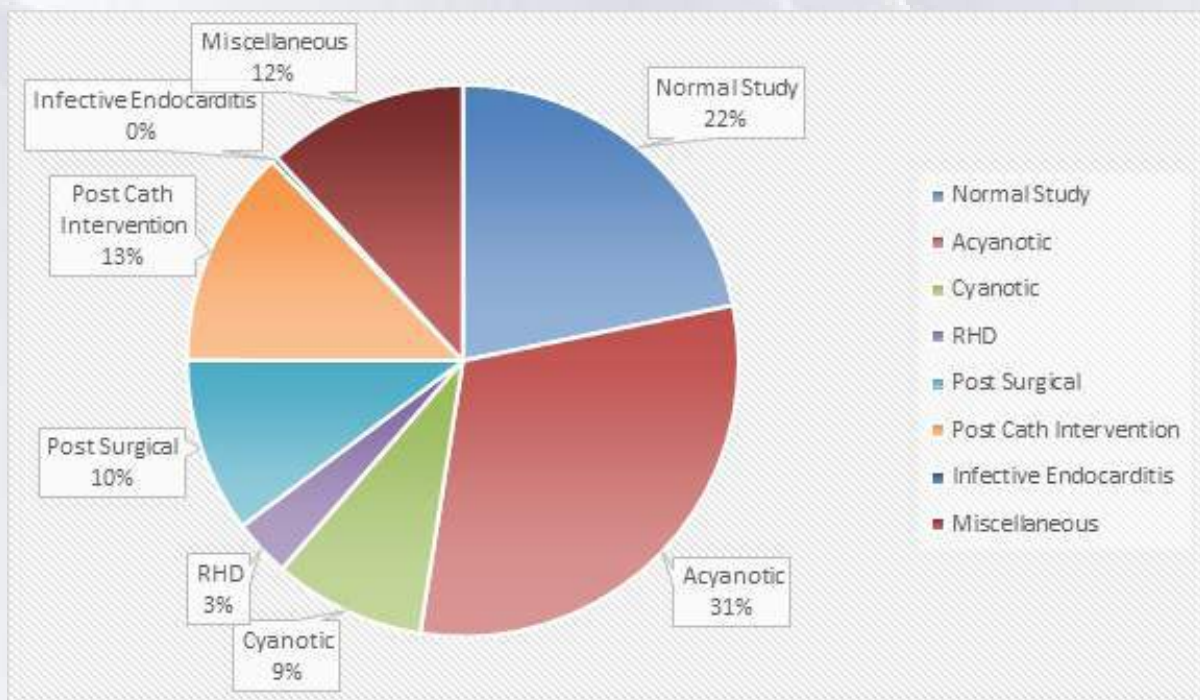
Department of Pediatric Cardiology provides 24 hours emergency service to all the pediatric cardiac cases. There is 24 hours on call pediatrician attending the emergency call. Total number of Paediatric patients attended in emergency department (ER) this year was 408. Among them, 196 were critical cardiac cases and were admitted for management and others were kept on follow up on outpatient basis. Majority of cases admitted were Rheumatic heart diseases followed by structural and congenital heart diseases and arrhythmias. Non-cardiac cases attended in ER were referred to general children hospital after evaluation and stabilization.



PEDIATRIC ECHOCARDIOGRAPHY SERVICE

Most of the Children visiting pediatric OPD undergo echocardiography. Inpatient children who are planned for surgery, post operative cases, post catheter intervention is screened in detail at echo lab. Along with our own patients, we get referral for echocardiography from other hospitals as well.

Total of 9199 cases undergone Transthoracic Echocardiography at Pediatric Echo Lab. The Minimum age of child undergoing echocardiography was 1 day and maximum age was 52 Years. Abnormal Finding in Echo was seen 57% (n=5308) of patients with acyanotic heart disease being the most common finding i.e. 31%. Other abnormal findings were classified as Cyanotic Congenital Heart Disease, Rheumatic Heart Disease, Post Cath Intervention, Post Surgical, Infective Endocarditis and Miscellaneous.



CARDIAC CT

In Congenital Heart Disease (CHD), Cardiac CT has enhanced the applicability of cross-sectional anatomical imaging and is now used widely as a diagnostic complementary tool to echocardiography, cardiac magnetic resonance imaging (MRI), and cardiac angiography particularly in patients with pulmonary artery and Pulmonary vein abnormalities. There was a vast increment in the number of patients who availed CT facility in our centre since the commencement of CT reporting by Department of Paediatric cardiology in 2018. This year a total of 359 children had undergone for cardiac CT. Among them 246 cardiac CT were performed under anesthesia.

FETAL ECHOCARDIOGRAM

Department of Paediatric cardiology has been providing fetal echocardiography for antenatal diagnosis and proper management of congenital heart disease. The number of patients undergoing fetal echo has increased from year to year. This service is available on all working days. A total of 3282 pregnant women benefited from this service in the year 2023.

PEDIATRIC INTENSIVE CARE UNIT(PICU)

Pediatric Intensive Care unit at Shahid Gangalal National Heart Centre is newly developed unit with 8 dedicated beds for sick children with cardiac disease. Pediatric Intensive Care Unit is staffed with dedicated member of 24 hour on duty Pediatrician and trained Nurses. Patient requiring invasive and non-invasive respiratory support, Heart Failure patient and sick patient with Complex Cyanotic Congenital Heart Disease are being admitted in the Unit.

HUMAN RESOURCES

Pediatric Cardiology Service at Shahid Gangalal National Heart Centre has come its long way. Starting with one Registrar and resident doctor at 2004 A.D, department now comprises of one senior consultant Paediatric Cardiologist, one Consultant paediatric cardiologist, One Paediatric Cardiologist, five registrars and three resident doctors. Despite of limited human resources, the department is trying its best to provide the best possible treatment to the ever-increasing number of children with cardiac problems. The Department is working on to provide continuous care to the post-surgical paediatric ICU patients in order to help in the outcome of these sick children. We are also providing basic training in Paediatric Cardiology including echocardiography to interested candidates from different institutes. DM Cardiology residents from Nobel Medical College, DM Neonatology residents from BPKIHS, MD paediatric residents from Patan Academy of health Science (PAHS), KIST, Army Hospital, and LMC have pursued their elective subspecialty posting and have benefitted by the exposure to Paediatric Cardiology. We are also planning to start our own academic fellowship program in near future.

CONCLUSION

Pediatric Cardiology Service at the Heart Centre has increased and improved in each passing year. Commencement of New services like Adult Congenital Heart Clinic, Heart Failure Clinic, Electrophysiology Clinic will definitely improve the quality care of the patients. The Department of Paediatric Cardiology was dedicated in past, is dedicated and will be dedicated to deliver quality services in Coming Days.



ACUTE CORONARY SYNDROME IN CCU

Pratik Thapa, Vijay Ghimire, Barkadin Khan, Birat K. Timalsina, Amrit Bogati

INTRODUCTION

Coronary artery disease is the foremost single cause of mortality and loss of Disability Adjusted Life Years (DALYs) globally. ACS almost always presents with a symptom and includes unstable angina and myocardial infarction.

Though it is observed that the mortality rate from CAD has decreased over the last four decades, it still accounts for almost one third of deaths in individuals older than 35 years of age. The incidence of heart failure (HF) is at a high level. Approximately half of the reduction of mortality can be credited to the upgraded management of the acute phase of ACS and related complications like acute heart failure, improved primary and secondary prevention strategies and revascularization of chronic angina [7]. The balance 50% can be attributed to enhanced control of risk factors in the community, including reduction of total cholesterol, smoking, blood pressure and sedentary lifestyle.

Critical to diagnosis and subsequent management is the differentiation between STEMI and NSTEMI through Electrocardiogram (ECG) findings, while distinguishing between NSTEMI and Unstable Angina necessitates the evaluation of cardiac enzymes. The initial management of STEMI typically involves antiplatelets and revascularization, achieved through thrombolytic therapy or primary percutaneous intervention. In contrast, other forms of ACS are initially addressed with anticoagulants, antiplatelets, and various supportive treatments. These strategies aim to mitigate the impact of ACS and enhance patient outcomes in the face of this complex and multifaceted cardiovascular condition.

SERVICES PROVIDED

A Coronary Care Unit (CCU) stands as a specialized hospital ward dedicated to the meticulous care of patients grappling with a spectrum of cardiac conditions, including Myocardial Infarction, Unstable Angina, Cardiac Dysrhythmia, and various other cardiovascular ailments that mandate continuous monitoring and therapeutic intervention. Our facility boasts three (3) specially designed and well-equipped CCU units, each outfitted with comprehensive central monitoring, central oxygen supply, portable x-ray, portable echocardiography, defibrillator, mechanical ventilators and IABP organ supports. The expansion in CCU beds last year

underscores our commitment to extending quality cardiac care to a larger patient population. The seamless operation of our CCU is facilitated by a team of highly qualified healthcare professionals, including medical officers, Senior Residents, and specialized cardiologists, who provide round-the-clock coverage. A 24-hour presence of a dedicated and well-trained nursing staff, complemented by the support of the anesthesia department, ensures a holistic and responsive approach to patient care within the CCU.

In managing acute coronary cases, particularly those admitted through the emergency department, our protocol mandates the prompt acquisition of an Electrocardiogram (ECG) within 10 minutes of the patient's arrival. For patients with ST-segment Elevation Myocardial Infarction (STEMI), a tailored approach is adopted, with Primary Percutaneous Coronary Intervention (PCI) recommended based on the duration of the patient's chest pain. Notably, patients arriving within 12 hours of chest pain onset are advised for Primary PCI. Financial barriers are addressed through the utilization of priority funds provided by the Bagmati State, ensuring that even individuals with limited financial means receive the necessary care. Rescue PCI is judiciously employed whenever deemed necessary.

Within the CCU, a concerted effort is made to admit patients with STEMI, NSTEMI, and high-risk Unstable Angina, prioritizing their critical needs. However, patients with low to moderate-risk Unstable Angina are accommodated in the CCU if beds permit; otherwise, they are placed in the general ward with monitor beds, ensuring optimal use of resources while maintaining high standards of care.

DEMOGRAPHIC FEATURES

In this year 2023, Total 2251 patients got admitted in CCU with diagnosis of ACS. Among them 1794 (79.6%) were STEMI, 285(12.66%) were NSTEMI and 172 (7.6%) were of UA. ACS showed male predominance with total of 1521(67.5%) patients whereas 730 (32.4%) were female.

PRIMARY PCI VS ELECTIVE PCI

Among 1794 STEMI cases admitted in CCU, 661 (36.84%) underwent PPCI similar to the previous year (41%). Similarly, 127 (5.6%) underwent Rescue PCI. 1097 patients (48.7%) of all ACS patients underwent elective PCI.

ACUTE CORONARY SYNDROME PATTERN ADMITTED IN CCU

ACS	Male	Female	Total
STEMI	1198	596	1794
NSTEMI	210	75	285
Unstable Angina	113	59	172
Total	1521	730	2251

CLINICAL OUTCOMEMORTALITY

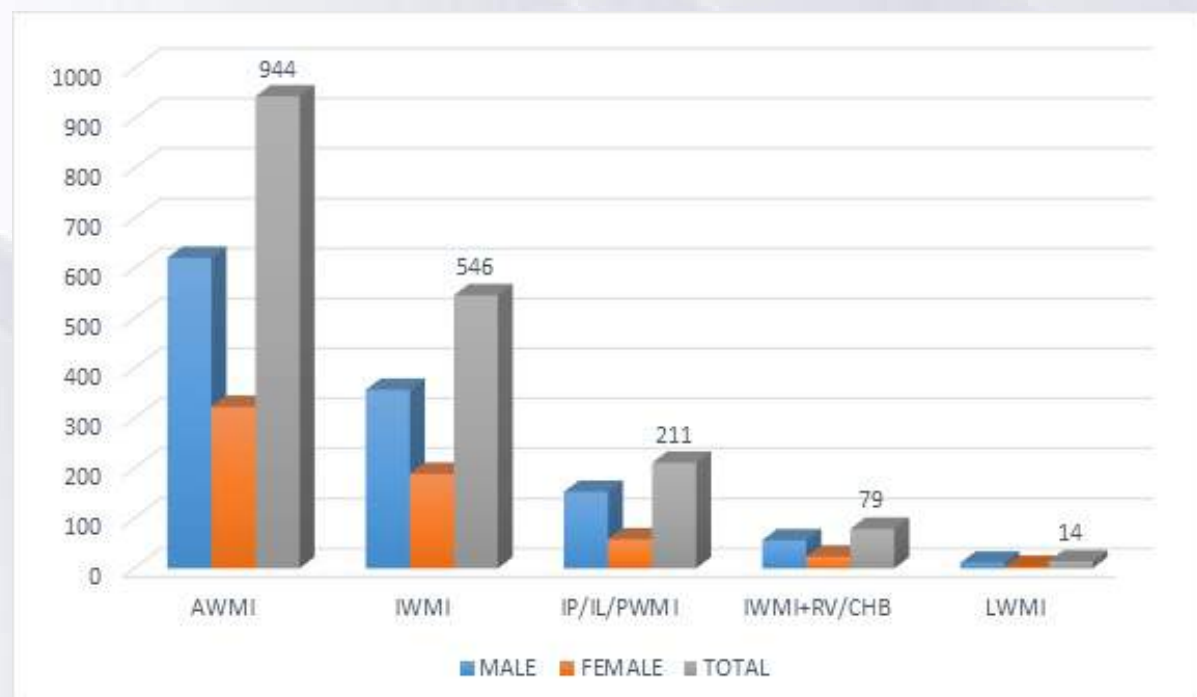
Overall mortality in patients admitted with ACS was 66(2.9%) which is less than last year (4.3%). 41 males and 25 females died due to ACS.

181 patients were managed medically depending upon the lesion characteristics, patient status and other comorbidities. 119 patients were planned for CABG and referred to Surgery Department.

ACS MANAGEMENT PATTERNS IN CCU

ACS	MALE	FEMALE	TOTAL	PPCI	RPCI	Elective PCI	Mortality	Medical Management	CABG
AWMI	621	323	944	416	74	325	41	36	52
IWMI	357	189	546	113	24	342	11	42	14
IP/IL/PWMI	153	58	211	59	12	125	2	12	1
IWMI+RV/CHB	56	23	79	67	4	3	2	3	0
LWMI	11	3	14	6	4	3	0	1	0
NSTEMI	210	75	285	0	5	156	6	77	41
USA	113	59	172	0	4	143	4	10	11
TOTAL	1521	730	2251	661	127	1097	66	181	119

STEMI PATTERNS ADMITTED IN CCU





INTERVENTIONAL CARDIOLOGY SERVICES

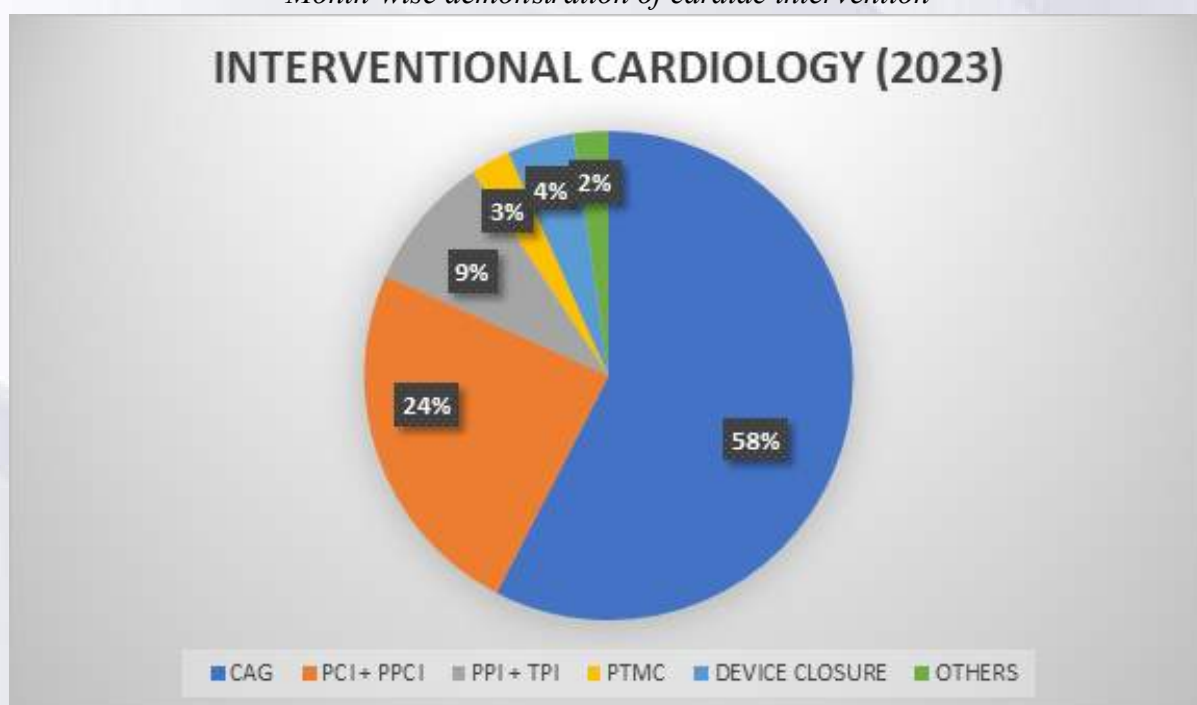
INTRODUCTION

Cardiovascular diseases are a significant public health problem, with increasing prevalence and high mortality rates worldwide. In response to this epidemic, the Shahid Gangalal National Heart Center was established to provide a full range of services for the diagnosis and treatment of cardiac conditions. The center is responsible for the majority of invasive and minimally invasive cardiac interventions in the country. The interventional cardiology branch at the center was established in 2001 AD and has since played a crucial role in the care and treatment of patients with cardiovascular diseases. To meet the growing demand for cardiovascular services, the center has four fully functional cardiac catheterization labs that provide a range of diagnostic and life-saving procedures. These labs are equipped with advanced technologies such as IVUS, FFR, and Rotablator, which assist in the outcome of interventions. The cardiac catheterization team is highly trained and experienced in performing a wide range of procedures, including emergency coronary interventions (PPCI), BPV, BAV, PTMC, pacemaker insertions, electrophysiological studies, radiofrequency ablations, and structural interventions such as ASD, PDA, and VSD device closures. Transcatheter Aortic Valve Implantation (TAVI) is a groundbreaking procedure for the treatment of aortic stenosis. Our center is proud to offer TAVI as a treatment option for our patients with aortic stenosis. Our team of experienced interventional cardiologists and cardiovascular surgeons is highly trained in the use of this cutting-edge technology, and we have a track record of successful outcomes for our patients. We are constantly striving to stay at the forefront of cardiovascular care, and the availability of TAVI at our hospital is a testament to our dedication to providing the highest quality of care to our patients.

Overall, the Shahid Gangalal National Heart Center is a vital resource for the diagnosis and treatment of cardiovascular diseases in Nepal and is committed to providing the highest quality of care to patients.

PROCEDURES	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
CAG	481	494	541	531	886	516	1020	596	541	486	485	571	7148
PCI 1) ELECTIVE	138	154	167	159	180	170	220	188	213	282	231	224	2326
2) PPCI	62	42	54	67	55	36	58	44	54	63	64	69	668
PPI	31	55	64	60	75	46	64	42	57	54	42	23	613
TPI	40	36	40	41	38	65	30	58	39	31	29	50	497
PTMC	27	26	37	24	38	29	25	31	18	15	20	35	325
ASD	22	21	25	22	39	32	43	37	44	13	22	40	360
VSD	3	0	2	5	4	3	2	3	4	0	1	1	28
PDA	9	12	14	14	19	14	21	17	7	10	6	18	161
BPV	4	4	4	2	2	5	5	4	4	4	4	2	44
PAG	1	0	1	1	1	2	0	3	0	0	0	0	9
PERICARDIOCENTESIS	6	5	5	7	4	6	9	8	2	4	2	1	59
RHC	11	11	8	10	10	7	14	8	9	8	8	10	114
IVUS	1	2	1	1	0	5	1	4	0	2	0	1	18
TAVI	0	0	0	2	0	3	1	0	1	0	0	0	7
TOTAL	836	870	970	948	1351	941	1507	1052	1004	967	912	1055	12413

Month-wise demonstration of cardiac intervention





CARDIAC ELECTROPHYSIOLOGY AND DEVICE IMPLANTATION

INTRODUCTION

Electrophysiological study (EPS) is a special technique performed to evaluate the heart's electrical activity and to diagnose abnormal heart rhythm, called arrhythmia. Radiofrequency ablation (RFA) is a technique which selectively destroys a small area of abnormal heart tissue which is causing the arrhythmia and helps restore the heart's regular rhythm.

EPS/ RFA has become a standard practice in treatment of cardiac arrhythmias. Shahid Gangalal National Heart Centre (SGNHC), the pioneer cardiac institute of Nepal, has been providing this service to patients since 2004 under the Division of Cardiac Electrophysiology and Device Implantation. With time and the continual efforts of its dedicated team of doctors and paramedics, the service has expanded and advent of latest technologies like 3D mapping has made treatment of complex arrhythmias also possible within Nepal.

Device implantation is another integral branch of management in Cardiology which is also covered by this division. Pacemakers, both single and dual chamber, are regularly being implanted for management of bradyarrhythmia like sinus node dysfunction (SND) and atrioventricular (AV) block. Device therapy which started with pacemaker implantation has also taken a leap with Automated Implantable Cardioverter Defibrillation (AICD) and Cardiac Resynchronization Therapy (CRT) being regularly implanted in patients in SGNHC. AICDs are implanted for prevention of sudden cardiac death in patients susceptible to life threatening ventricular arrhythmias and CRT is implanted in meticulously selected patients with heart failure (HF) to improve the efficacy of the heart function and alleviate the symptoms which increases the Quality of Life (QoL) of those patients.

SERVICE PROVIDED

EPS and RFA are performed regularly, twice a week (Tuesday and Friday). However, device implantation is performed regularly almost all the working days. A total of 478 patients

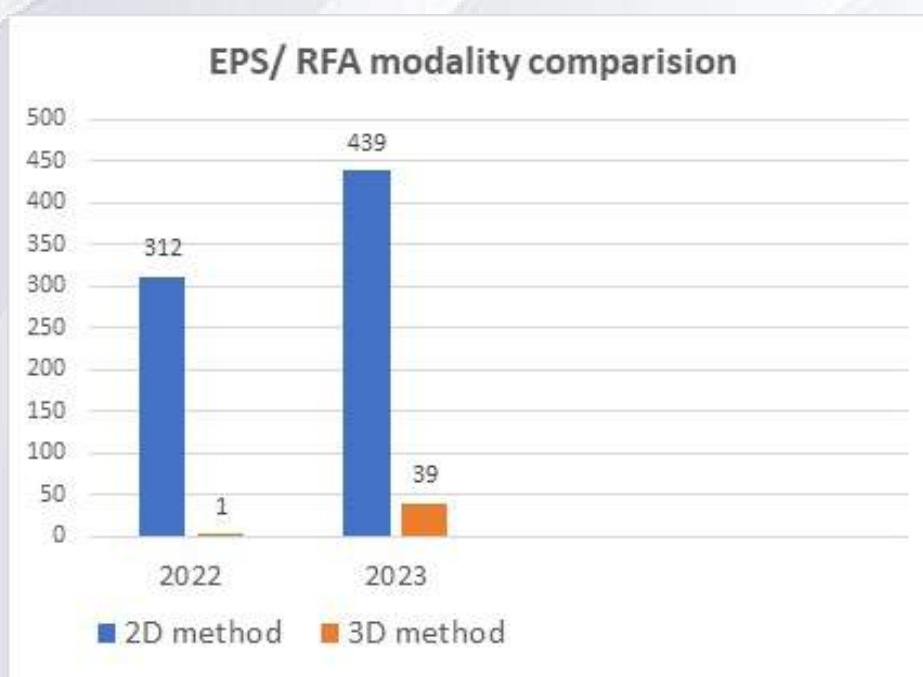
underwent EPS+RFA in 2023. EPS+RFA was done by conventional 2D method in 439 patients and by 3D mapping in 39 patient. This marks a significant improvement in the number of cases being done by 3D mapping as compared to last year, which is considered a superior method around the globe. 713 Device implantation were done in 2023 of which 37 were AICDs, 9 were CRT and remaining were pacemaker implantation (single/dual) including generator changes and lead adjustment. The number of device implantation was more than double than that of last year.

With one of the most capable electrophysiologists in our hospital, not only we are able to do more cases but also with higher success rate. Beginning of significant number of EPS/ RFA with 3D mapping itself concludes 2023 as a remarkable year for the unit as well as for the hospital. Newer techniques and expertise have helped a lot in achieving this milestone. Not to forget, cardiology residents posted in the unit are also benefited by the unparallel exposure to device implantation and EPS/ RFA procedures.

Device Implantation Summary		
Single chamber pacemaker (VVIR)	New Implantation	438
	Generator replace-ment	97
Dual chamber pacemaker (DDDR)	New Implantation	110
	Generator replace-ment	10
Cardiac Resynchronization therapy (CRT)	CRT-D Implantation	4
	CRT-P Implantation	4
	CRT-P Generator Replacement	1
Automated Implantable Cardioverter Defibrillator (AICD)	New Implantation	35
	Generator Replacement	2
Pacemaker Lead Readjustment		6
Total		343

EPS+RFA by conventional 2D method				
AVNRT	Typical		192	198
	Atypical		6	
AVRT	Left sided pathway	WPW	48	196
		Concealed pathway	65	
	Right sided pathway	WPW	39	
		Concealed pathway	13	
	Dual pathway		20	
	Parahisian		10	
	Septal		1	
Atrial Flutter			0	
Non Inducible Tachycardia(EPS only)			30	
Relapsed cases			15	
Total				439

EPS+RFA by 3D mapping	
LVOT PVCs	1
RVOT PVCs	12
Fascicular VT	8
Right Posteroseptal PVCs	2
RVOT Free wall PVCs	1
Atrial Flutter	4
Atrial Tachycardia	10
LBBD tachycardia	1
TOTAL	39





EMERGENCY SERVICES

INTRODUCTION

Emergency department is the part of the hospital that provides 24 hours emergency care to the patients who need urgent medical attention. Shahid Gangalal National Heart Center (SGNHC) emergency department is well equipped with competent manpower, equipment and recent services to manage the emergency cardiac cases. Proper triage, early diagnosis and evidence based management have made our emergency department stand out among others. The center is well known not only in the capital city but all over the country for its timely and competent management of the cardiac conditions.

SERVICE PROVIDED

SGNHC ER provides round the clock and timely evidence-based services to patients presenting in the emergency department. Our emergency department is equipped with well trained, competent and professional doctors, nurses and auxiliary staffs who are motivated to provide services to the patients. Team of doctors including Cardiologist, Paediatrics cardiologist, Cardiac surgeon, Anaesthesiologist as well as expert nurses and technicians are present 24 hours a day throughout the year for any emergencies. Emergency services have been modernized with 24 hours availability of Echocardiography, CT scan and Cath lab services. Emergency surgeries for aortic dissections, pericardial diseases, valvular emergencies, device embolization etc are some of the cases done at SGNHC irrespective of the time of day.

Our centre has been the leading centre receiving paediatric cardiac emergencies, referred from all over the country.

Among the cases, Myocardial infarction is one of the commonest and all patients presenting with ST elevation MI are given the option for revascularization if indicated. Those who opt for primary percutaneous intervention (PCI) are immediately transferred to Cath lab to maintain a door to balloon time of 90 minutes. We have primary PCI and poor patient fund so that no patient is barred from getting standard treatment because of financial reasons.

On the other hand, those patients presenting with non cardiac emergencies like upper GI bleed, cerebrovascular accident, metabolic emergencies, etc are managed acutely and then referred to respective centers for specialist care

Total ER attendance: 20317 patients

Total attendance	Total Number	Percentage
Male	11573	57
Female	8744	43
Admission	7413	36.5
Discharge	10711	53.7
Referral	1530	7.6
Leave against medical advice (LAMA)	604	1.9
Mortality	19	0.09
Brought dead	38	0.18
Absconded	02	0.001

Disease/ illness	Total number	Percentage
Coronary artery disease	4059	20
Hypertension	3094	15.2
Valvular Heart disease	2454	12.1
Cardiomyopathy	2052	10.1
Arrhythmias	1227	6
Congenital heart disease	386	1.9
Pericardial disease	182	0.9
Vascular disease	101	0.5
Supratherapeutic INR	142	0.7
Nonspecific cardiac pain	2986	14.7
Respiratory Illness	1117	5.5
Cerebrovascular disease	121	0.6
Anxiety disorder	182	0.9
Others	2214	10.9



MEDICAL WARD

INTRODUCTION

Owing to the increasing number of patients in Shahid Gangalal National Heart Centre, the medical ward has been on continuous expansion. The medical ward receives patients via direct admission from OPD, Emergency departments, Pre/Post-caths, referrals from surgery and steps down from CCU. Medical wards are continuously re-innovated to provide the utmost quality services to needy people.

Medical wards are under the continuous supervision of assigned respective unit doctors, resident doctors, registrar cardiologists, nursing staff, and attendants around the clock.

Currently, the medical ward has a total of 110 beds with 18 in General Ward A, 16 in General Ward B, 18 in General Ward C, 23 in Pre-Cath, 14 in Post-Cath, 11 in Double Cabin, and 10 in Single Cabin.

DISEASE DISTRIBUTION

For analysis, the patients admitted to Medical wards were categorized into Coronary Artery Disease Rheumatic Heart Diseases, Hypertension, Valvular Heart Disease, Dilated Cardiomyopathy, Congenital Heart Diseases, Arrhythmias, Pericardial Effusion, Infective Endocarditis, DVT and/or Pulmonary embolism, Heart Blocks, Non Specific Chest Pain and Others. Gender-wise Disease prevalence among patients admitted to medical wards in the year 2022 is shown in the table below.

DISEASES WISE DISTRIBUTION OF CASES IN THE YEAR 2023					
S. No.	Name of Diseases	No. of cases			% of Total
		Male	Female	Total	
1.	CAD	2751	1432	4183	48.8
2.	RHD	474	537	1011	11.8
3.	Arrhythmia	485	416	907	10.5
4.	DCM	487	327	814	9.5
5.	VHD	257	216	473	5.5
6.	CHD	220	247	467	5.4
7.	Pericardial Effusion	78	49	127	1.4
8.	Infective Endocarditis	64	35	99	1.1
9.	Non-specific chest pain	13	16	29	0.3
10.	Others	241	220	461	5.3
Total		5070	3495	8565	100

CONCLUSION

Coronary artery disease was the most prevalent disease among the patients admitted in cardiology medical wards in year 2023. It accounted for 48.8% of total ward cases, followed by rheumatic heart disease (11.8%) and arrhythmia (10.5%).



CRITICAL CARE UNIT (NON CORONARY)

Dr. Sophiya Gurung, Dr. Manish Tripathi, Dr. Sushant Kharel, Dr. Md. Sajjad Safi, Dr. Sanjay Singh KC

OVERVIEW AND INTRODUCTION

The Medical Intensive Care Unit/Non-Coronary critical care unit was inaugurated at our center in August 2002 with a primary focus on catering to cardiac patients including those with additional comorbidities such as CKD, COPD, Stroke, sepsis etc. It continued its commitment to providing high-quality care to patients with non-coronary cardiac conditions. The unit played a pivotal role in the hospital's mission to improve cardiovascular health. The MICU operates 24/7 with a dedicated medical officer and a proficient staff trained in critical care, complemented by the presence of senior residents and registrars. Furthermore, the Department of Anesthesia has actively contributed to the management of cases within the Medical ICU. The CCU saw a steady increase in patient admissions, serving individuals with a range of non-coronary cardiac issues, including heart failure, arrhythmias, and valvular disorders. The dedicated healthcare team worked tirelessly to ensure timely and personalized care for each patient.

SERVICES PROVIDED

With an expansion in the Critical Care Unit (CCU) bed capacity, the current total stands at 45 beds. Throughout the year, 4807 patients received admission to the CCU, with 1148(24%) cases falling under the non-coronary category. The distribution among genders for non-coronary cases was 643 (56%) males and 505 (44%) females.

Patient admissions encompassed a spectrum of illnesses, including COPD, CKD, cardiomyopathies of varying etiologies, rheumatic heart diseases, arrhythmias, heart blocks,

pericardial diseases, congenital heart diseases, pulmonary embolism, infective endocarditis, sepsis, pneumonia, aortic dissection etc.

Dilated cardiomyopathies with varying etiologies constituted a significant reason for CCU admission, making up 37% of total non-coronary cases. These patients, primarily admitted due to acute decompensated heart failure, received treatment involving supplemental oxygen, intravenous diuretics, and inotropic support. Rheumatic heart diseases, encompassing post-mitral valve replacement, aortic valve replacement, and stuck valve cases, contributed to 11 % of CCU admissions. Non-rheumatic valvular heart disease constituted 12.6% of CCU admissions, while 25.4% were admitted due to various arrhythmias and heart blocks.

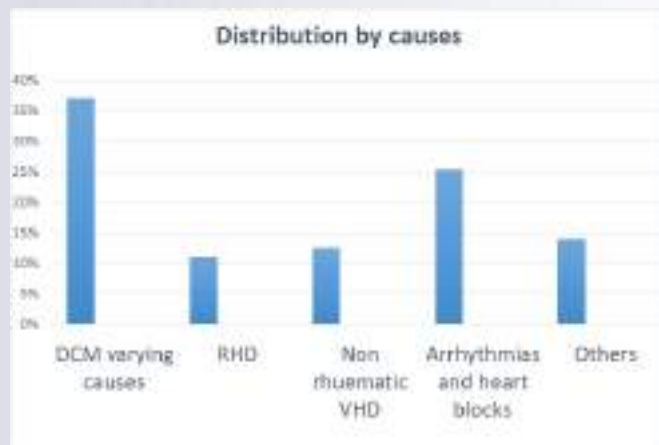
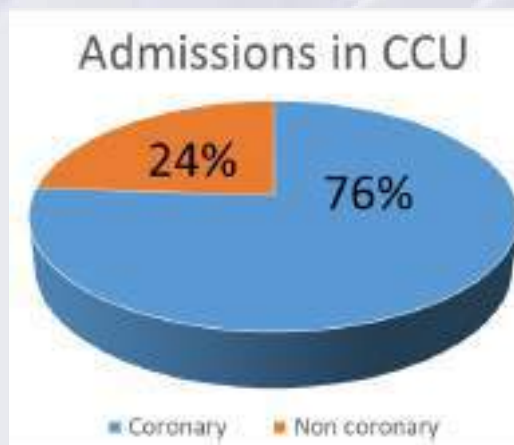
14% of admissions were attributed to other diseases like pericardial diseases, pulmonary embolism, adult congenital heart disease, sepsis, and primary respiratory illnesses like acute exacerbation of COPD and pneumonia.

Decision-making in these cases involves primary physicians, trained cardiologists, FCPS and DM Cardiology residents. Frequent bedside superspeciality consultations, as well as inter-hospital referrals, were facilitated for comprehensive patient care. Additionally, our CCU services extend support to economically disadvantaged patients, through charity funds and medications managed by hospital funds and various social institutions.

CONCLUSION

While the year presented challenges, such as resource constraints and increased patient volumes, the staff's resilience and adaptability were commendable. Future strategies include expanding infrastructure, further staff development, and exploring collaborations.

In conclusion, the Non-Coronary Critical Care Unit at Shahid Gangalal National Heart Centre remains steadfast in its commitment to excellence, striving to provide compassionate and cutting-edge care to individuals with various cardiac conditions.



Diagnostic and Therapeutic Interventions in Structural Heart Diseases

Dr Poonam Sharma , Dr. Vidhata Bhandari KC

Structural heart disease is a non-coronary disease condition involving the heart valves or chambers which may be congenital, acquired or both. Although usually present at birth, many of these conditions can occur later in life due to infection, wear and tear of aging and presence of any underlying condition. Structural heart diseases constitute a large proportion of the burden of cardiovascular disease in low- and middle-income countries. In pediatric population congenital heart disease including the shunt lesions (ASD, VSD and PDA) are common while in older age group, valvular lesions including aortic stenosis, mitral regurgitation and, tricuspid regurgitation are commoner. Depending on the type of defect, surgical procedures are designed to either restore normal anatomy or physiology (or both) or palliate by improving physiology. The latter is more realistic for severe defects that lead to single ventricle physiology. Cardiac surgery is often the standard type of care in cardiac diseases; however, many patients have additional risk factors that may increase their morbidity after surgery. The majority of CHDs require open-heart cardiac surgery, although increasing numbers of patients are being managed using catheter-based procedures Transcatheter approach for correction of their heart defects

INTERVENTION	Less than 15 yrs of age	More than 15 yrs of age
Intervention	Less than 15 years	More than 15 years
PDA DEVICE CLOSURE	148	13
ASD DEVICE CLOSURE	84	276
VSD DEVICE CLOSURE	20	8
AP WINDOW DEVICE CLOSURE	1	
SVC DEVICE OCCLUSION	1	
CORONARY ARTERY FISTULA OCCLUSION	1	
MAPCA COILING	3	
RHC/LHC	101	13
BPV	32	12
LPA Ballooning	1	
BAV	11	
PTMC	7	318
COA BALLONING	8	
COA STENTING	1	
PDA STENTING	9	
Balloon atrial septostomy	7	
Pulmonary valve Perforation	3	
TAVR		7
CAG in Structural Heart Disease	5	
Total	443	647
Total Intervention	1,090	

Table 1 : No of Cath procedure for Structural heart disease in the year 2023

has proven to be a viable alternative to these patients with negligible complications of decreased bleeding, shorter recovery time and little or no pain.

Intervention in structural heart disease is a rapidly evolving field which requires appropriate training and experience. These procedures require navigation of the aorta, left atrium, and right heart, including detailed understanding of relational anatomy. The operator must have detail knowledge of large bore vascular access, navigation within the left atrium, handling of the device, occlusion, snaring, and 3-dimensional relational anatomy. Shahid Gangalal National Heart Center has always aimed to remain updated and provide novel treatment on par with countries around the world. Following is the data for the year 2023 in catheter interventions in structural heart disease in the hospital.

Note: PDA: patent ductus arteriosus, ASD: atrial septal defect, VSD: Ventricular Septal defect, AP: aortopulmonary, SVC MAPCA: multiple aorto pulmonary collaterals, RHC/LHC: right/left heart catheterization, BPV: balloon pulmonary valvulotomy, LPA: Left Pulmonary Artery, BAV: balloon aortic valvulotomy, PTMC: percutaneous transcatheter mitral commissurotomy, COA: coarctation of aorta, BAS: Balloon atrial septostomy, CAG: coronary angiogram, TAVR: Transcatheter aortic valve replacement

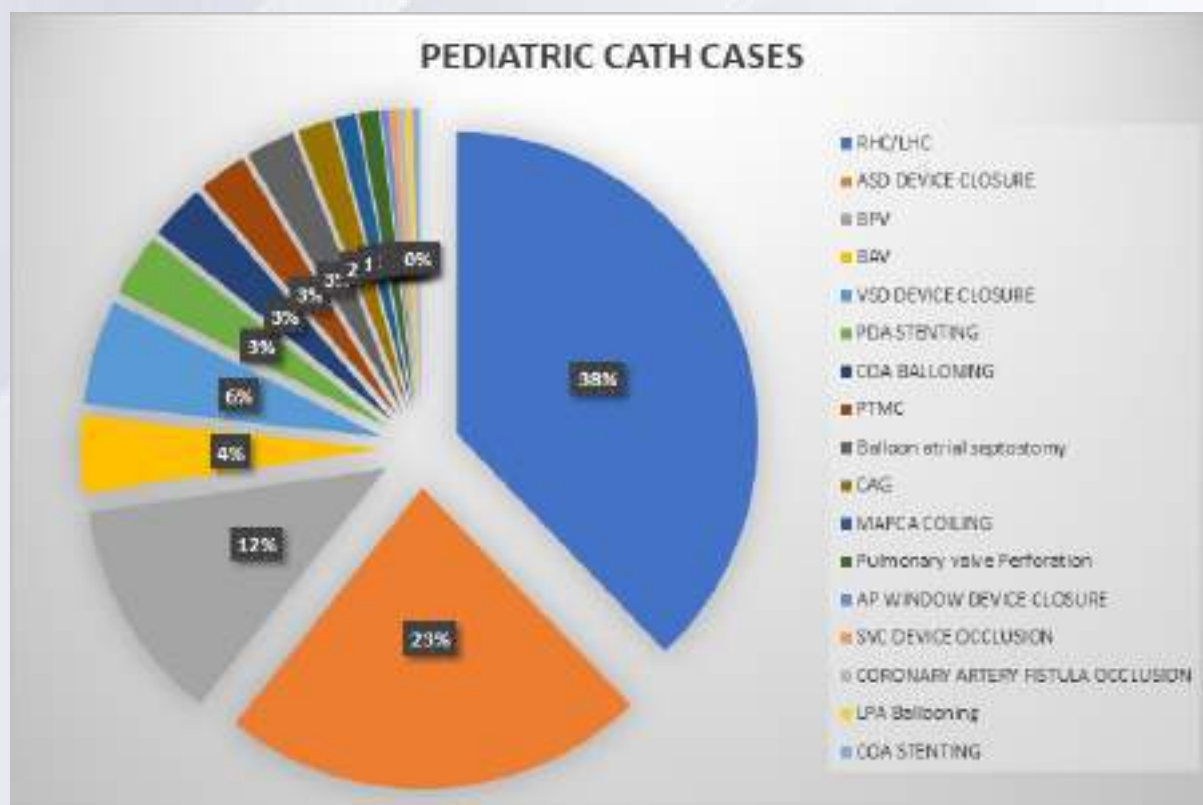


Fig 1 : Case distribution of transcatheter intervention in pediatric department 2022.

Over the past few years there has been significant increase in the number of transcatheter interventions in structural heart disease in SGNHC. These interventions have offered alternative treatment options to the patients who cannot undergo surgery due to various underlying conditions. This has also reduced the morbidity, provided faster recovery with negligible complications and pain.



PATHOLOGY/CLINICAL LABORATORY SERVICES

INTRODUCTION

Clinical laboratories play a pivotal role in early detection, diagnosis, treatment and follow up of patients. It aids physician take decisions and guides them for timely intervention in order to improve patients' health. It helps to have a visionary regarding the status of patient. About 60-70% of medical decisions are based on the laboratory reports.

ABOUT US

Having set priority for precision, accuracy and efficacy, we run quality control for biochemistry and hormonal assay on daily basis, weekly quality control for hematology and special tests. The Laboratory Information system (LIS) module helps to perform all the activities of clinical laboratory, helps to keep track of the sample and maintain complete result history. Currently we are operating as Out Patient Department Lab and Emergency along with In Patient Department Lab. We have also recently started automated blood grouping and antibody screening with intent to increase efficacy, accuracy and shorten the turnover time for cross matching.

AT PRESENT, DEPARTMENT OF PATHOLOGY OF SGNHC IS EQUIPPED WITH FOLLOWING

1. Fully automated 5-part hematology analyzer-2
2. Fully automated 3-part hematology analyzer-1
3. Fully automated coagulation analyzer-2
4. Semi-automated coagulation analyzer-1
5. Fully automated Liquid biochemistry analyzer-4
6. CLIA based automated immunoassay analyzer-3
7. Fully automated electrolyte analyzer-2
8. FIA meter for special test-2

9. Molecular biology section with Real time PCR machine and automated RNA extraction system
10. Automated Blood grouping and Antibody screening machine

INVESTIGATIONS AVAILABLE

1. Hematology: Complete Blood count, Erythrocyte Sedimentation Rate, Peripheral Blood Smear Examination, Reticulocyte count.
2. Coagulation Assay: PT, APTT, BT, CT
3. Blood Bank: Automated Blood Grouping, Antibody screening and Cross matching
4. Biochemistry: Sugar (F), Sugar (PP), Liver Function Test (LFT), Renal Function Test (RFT), Lipid Profile Test, Magnesium, Calcium.
5. Immunology: RA, ASO, CRP, quantitative CRP and Widal test
6. Hormonal assay : Thyroid Function Test, Vitamin B12 and Vitamin D
7. Serology: HIV,HCV, HBsAg and VDRL.
8. Cardiac Enzymes: : CPK, CPK-MB and Qualitative and quantitative Troponin I
9. Infectious Pannel: Mantoux test, Rapid test for Dengue, Malaria, Leishmania, Brucella, Leptospira, Scrub typhus, Tuberculosis.
10. Special test: NT pro BNP, Procalcitonin, HsCRP, Urine Microalbumin, HBA1c, Iron Profile, D-dimer, H. Pylori antigen/antibody.

HUMAN RESOURCES

1. Pathologist:1
2. Senior Laboratory technologist:1
3. Laboratory Technologist:3
4. Senior Laboratory Technician:5
5. Laboratory Technician: 16

Department	Male	Female	Total
Bacteriology	1209	1401	2610
Biochemistry	508216	385943	894159
Blood Bank	20316	12128	32444
Coagulation assay	14700	17485	32185
Hematology	371811	293325	665136
Hormonal assay	55000	53346	108346
Immunology	2506	2264	4770
Infectious panel	383	311	694
Molecular Biology	1334	1100	2434
Peripheral Blood smear	358	415	773
Serology	26041	15104	41145

Figure 1: Table of test count of 2023

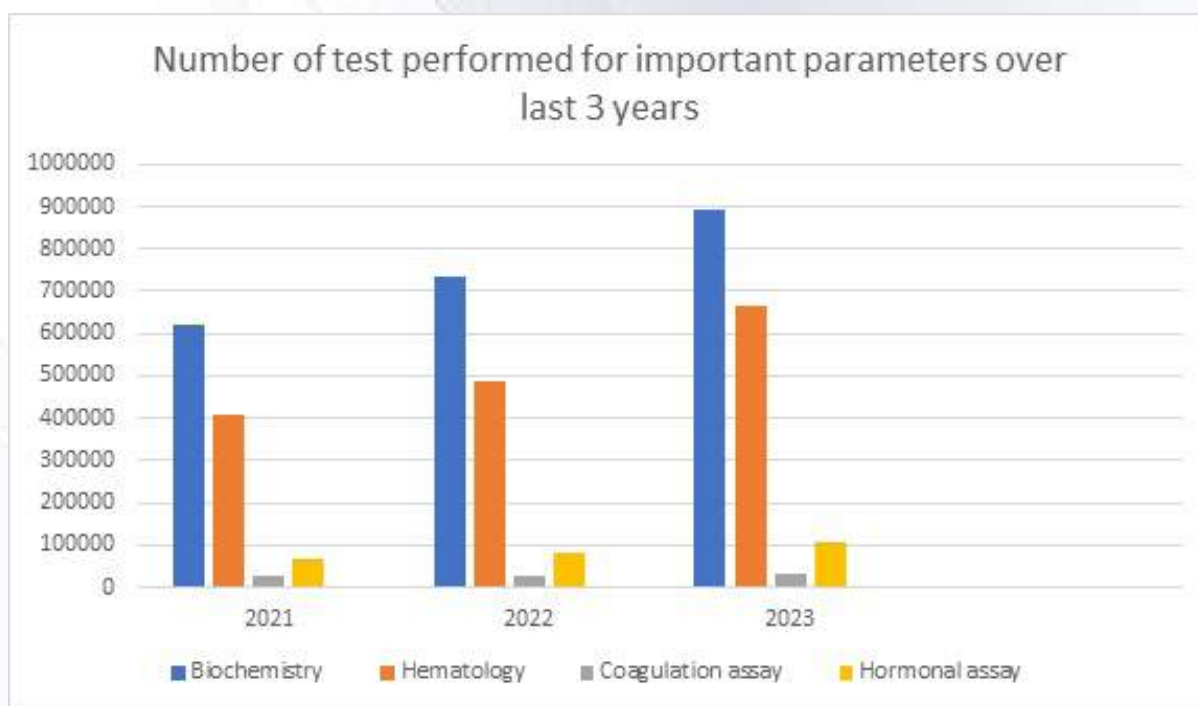


Figure2: Comparative chart of important parameters of last 3 years

FUTURE PLAN

We are expanding blood bank services with the aim of adding new component separator and blood collection monitor. We have plans to establish Cytopathology and Histopathology units. We are planning to start heparin level, apolipoprotein A, apolipoprotein B, myoglobin and osmolality.

CONCLUSION

The laboratory service in SGNHC is well established and well equipped with the newer technologies and competent technical manpower. With increasing case load per year, we have been updating technically and with limited available human resources, we are delivering timely services with utmost quality.



RADIOLOGY SERVICES

Mr. Indesh Thakur (Senior RT & In-charge)

INTRODUCTION

Radiology, a specialized branch of medical science, is a fastest growing medical imaging field throughout the world. Radiology department is the backbone of any medical facility. Radiological investigation is an indispensable diagnostic tool without which no medical treatment can be successfully bestowed. It deals with the study and application of ionizing radiations like x-rays and non-ionizing radiations like radio waves and others like ultra sound and magnetic field to diagnose and treat various diseases. Various radiological modalities like USG, CR/DR, CT, MRI, SPECT, PET etc. are utilized by Radiologists and Radiologic Technologists or Radiographers to diagnose and treat a variety of diseases. Since, SGNHC is especially dedicated for the cardiac patients, Radiology services here are mainly focused towards the diagnosis and treatment of cardiac diseases.

HISTORY

Foundation of Radiology department can be traced back to the establishment of our reputed Shahid Gangalal National Heart Center in 1995. At the start, the department was located in main OPD block which is now sited in old OPD block, new OPD block and IPD block of this center. Being the backbone of any health care centre, the department here plays a vital role in the diagnosis and treatment of cardiac patients. In the beginning, radiology services were provided with one mobile x-ray machine and one manual processing unit which now boasts of all the modernized and sophisticated radiological imaging modalities. Now, the department provides 24 hours diagnostic and emergency radiologic services.

PRESENT CONTEXT

Department of Radiology in SGNHC provides its services with 640 slice MDCT Scanner, 3 T MRI scanner, USG and Digital Radiographic systems like DR and CR for both OPD and IPD patients. The department is equipped with the following advanced equipments like,

1. 640 slice MDCT Scanner-1
2. 3 T MRI Scanner-1
3. USG machines-2
4. DR systems-2
5. CR systems-2
6. Mobile DR machine-1
7. Mobile x-ray machines-3
8. Laser Imagers-4

HUMAN RESOURCES

Radiology department is well organized with a trained team which comprises of :

- 3- Radiologists,
- 3- Senior Radiography Technologists,
- 2- Radiography Technologists,
- 5- Senior Radiographers,
- 9 -Radiographers,
- 1-Senior dark room operator,
- 2- Radiologic Nurses,
- 2- Attendants

Total of 27 members.

Radiologic Technologists and Radiographers also play a crucial role in all kinds of invasive procedures in Cath Labs assisting the interventional cardiologists.

FUTURE PLANS

In future, we have plans to equip our department with very latest and advanced USG scanner and advanced nuclear medicine imaging modalities either in solo or hybrid forms to provide all kinds of confirmatory diagnostic and interventional radiologic services to our patients.

RADIATION SAFETY MEASURES

We strive to create the safest environment for our patients by implementing technology that significantly reduces radiation exposure to patient as well as staffs. All the means of radiation protection especially in Cath Lab and during Portable radiography are practiced. The general principle of radiation protection i.e. Optimization, justification of practice and ALARA as well as Cardinal principle of radiation protection i.e. TDS (time of exposure as short as possible, distance as far as possible and Proper shielding) are always been followed. All the radiation workers are provided with TLD (Thermo-luminescence Dosimeter) that are periodically processed and doses are evaluated with Dose limit recommended by ICRP (International Commission on radiation Protection). There is a Radiation Monitoring Co-ordination Committee (RMCC) in our department which looks after all the safety measures that are to be followed and comprises of 2 Senior radiologic technologists and 1 Senior radiographer lead by the In-charge.

MISSION

The department's mission is to provide state of art radiological services of high quality for optimum patient care and treatment.

CONCLUSION

Department of Radiology in SGNHC is a well established department with highly trained and competent technical manpower to provide all kinds of quality general radiography services, USG services, CT scan services, MRI scan services and interventional services.

STATISTICAL DATA OF RADIOLOGICAL EXAMINATIONS OF THE YEAR, 2023

S.No.	Name of the Examinations	Male	Female	Total
Digital Radiography				
1	Chest X-rays	35130	29101	64231
2	Cervical Spine	101	55	156
3	Others	29	26	55
	Total	35,260	29,182	64,442
USG				
1	USG Abdomen/Pelvis	2556	2075	4631
2	USG Small parts(Thyroid/Brest/MSK)	97	135	232
3	B/L Lower Limbs Venous Doppler	45	26	71
4	B/L Limbs Venous Doppler	71	53	124
5	B/L Limbs Arterial Doppler	623	187	810
6	Carotid Doppler	690	288	978
7	Renal Doppler	235	123	358
8	Single Limb Arterial Doppler	81	61	142
9	Single Limb Venous Doppler	51	46	97
10	Umbilical Artery Doppler	0	1	1
	Total	4,449	2995	7444
CT SCAN				
1	CT Coronary Angio	1530	1451	2981
2	CT Calcium Scoring	70	39	109
3	CT Pulmonary Angio	280	248	528
4	CT Aortogram	192	120	312
5	CT Peri Angio	20	13	33
6	CT Head Plain	326	255	581
7	CT Head CE	9	9	18
8	CT H & N Plain	4	2	6
9	CT Neck CE	4	3	7

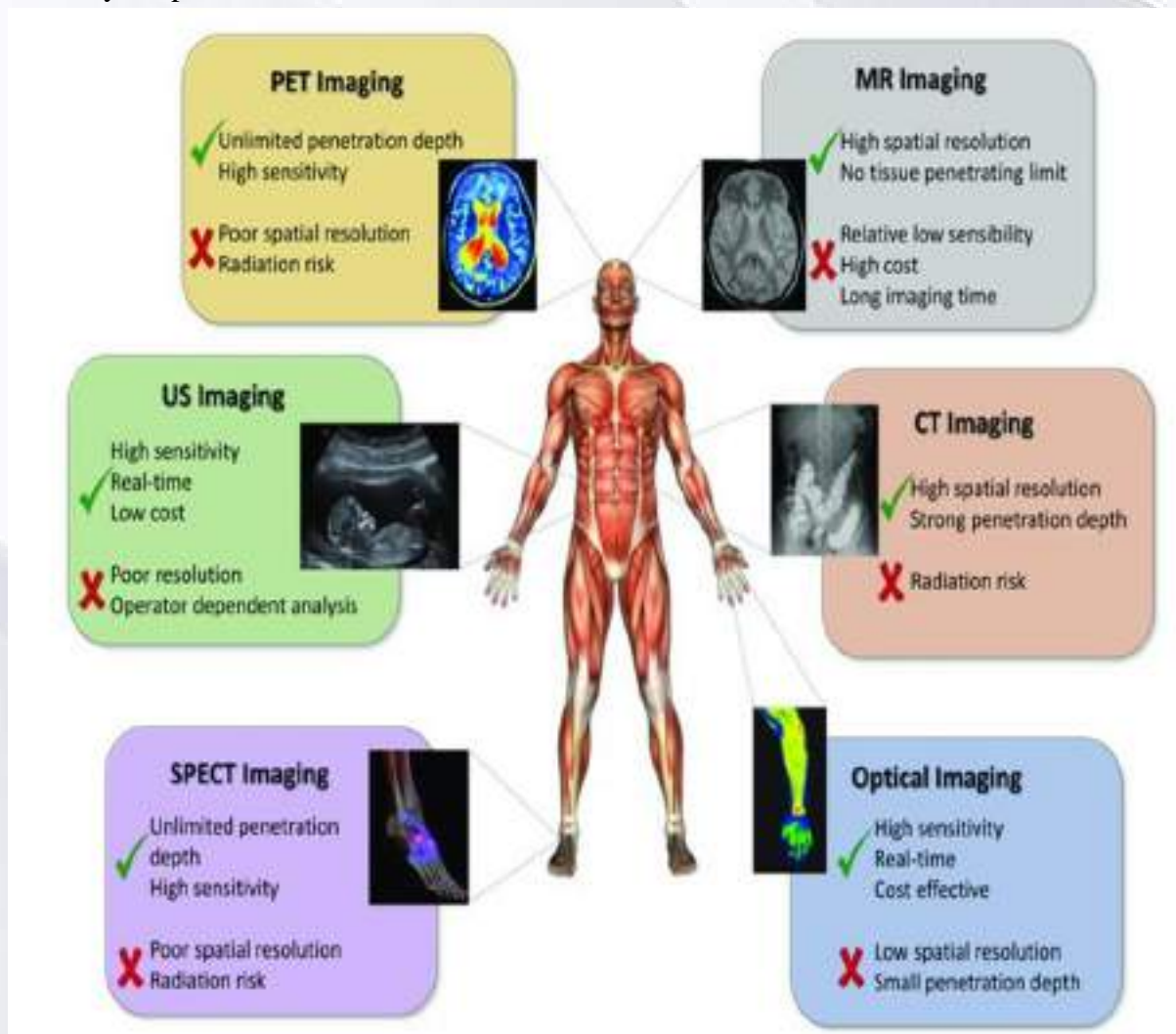
S.No.	Name of the Examinations	Male	Female	Total
10	HRCT Chest	71	69	140
11	HRCT Temporal bone	0	2	2
12	CT Chest Plain	31	15	46
13	CT Chest CE	86	65	151
14	CT Chest +Abdomen	16	24	40
15	CT Abdomen CE	19	18	37
16	CT Abdomen/KUB Plain	7	12	19
17	CT Abdomen/Pelvis Plain	3	3	6
18	CT IVU	3	0	3
19	CT Carotid Angio	17	9	26
20	CT Renal Angio	1	4	5
21	CT Abdominal Angio	0	1	1
22	CT PNS/Orbit/Face	0	2	2
	Total	2,689	2,364	5,053
MRI SCAN				
1	Cardiac MRI Routine +Perfusion/Map-ping	351	126	477
2	Cardiac MRI Routine + Perfusion/Viability Study	159	104	263
3	Cardiac MRI Routine + Perfusion/Tag-ging	0	1	1
4	MRI Aortogram	1	0	1
5	MRI Brain Routine	18	18	36
6	MRI Brain CE	3	5	8
7	MRI Orbit	0	1	1
8	MRI Pituitary Gland/ Dynamic study	0	2	2
9	MRI Brain +MRA/MRV	7	3	10
10	MRI Brain +ETL	3	1	4
11	MRI Neck/Salivary gland	0	2	2
12	MRI Cervical spine	7	9	16
13	MRI Lumbar spine	22	24	46
14	MRI Single organ screening	7	10	17
15	MRI Double organ screening	0	1	1
16	MRI Whole spine screening	8	10	18
17	MRI Whole spine	5	5	10
18	MRI Knee joint	7	8	15
19	MRI Wrist joint	1	2	3

S.No.	Name of the Examinations	Male	Female	Total
20	MRI Shoulder joint	2	1	3
21	MRI Abdomen/Pelvis	3	4	7
22	MRI Prostate	3	0	3
23	MRI Whole Body	1	2	3
24	MRI Hip Joint	0	1	1
25	MRI Breast	0	1	1
	Total	608	341	949

DIFFERENT IMAGING MODALITIES IN RADIOLOGY: USES AND LIMITATIONS

Dr. Nirmal Prasad Neupane, Indesh Thakur, Shulav Paudel

By allowing medical practitioners to see internal structures and identify a range of illnesses, several radiological imaging technologies have completely changed the medical field. Because each imaging modality has its own distinct benefits and drawbacks, choosing a particular modality for a particular clinical situation requires meticulous knowledge of the field. The objective of this article is to examine the diverse radiological imaging modalities, deliberate on their benefits and drawbacks, and underline the significance of choosing the most suitable modality for particular clinical indications.



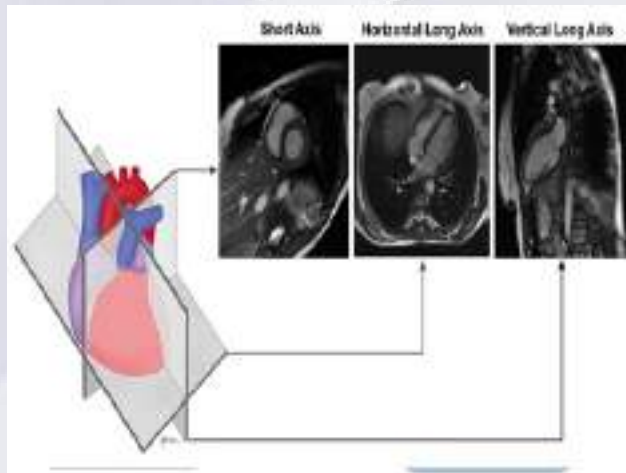
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One of the earliest and most used radiological modalities is X-ray imaging, sometimes also referred to as radiography. It includes taking 2D pictures of the inside organs of the body using ionizing radiation. One of the key advantages of X-ray imaging is its accessibility and affordability, making it a valuable tool in emergency and routine diagnostic settings. However,

X-rays have limitations when it comes to visualizing soft tissues and differentiating between structures with similar densities. Additionally, the use of ionizing radiation poses a risk of cumulative radiation exposure, especially in pediatric and young adult patients.

Ultrasound imaging, also known as sonography, utilizes high-frequency sound waves to create real-time images of internal organs. Ultrasound is widely employed in obstetrics for monitoring fetal growth and assessing maternal conditions. It is also used to evaluate abdominal and pelvic organs, as well as guide interventional procedures such as biopsies and drainage. One of the main advantages of ultrasound is its non-invasive nature and lack of ionizing radiation, making it safe for use in pediatric and pregnant patients. Additionally, ultrasound offers the advantage of real-time imaging and can be performed at the bedside in critical care settings. However, ultrasound has limitations in imaging structures obscured by air or bone, and it is operator-dependent, requiring skilled sonographers to obtain high-quality images.

Computed Tomography (CT) imaging utilizes a combination of X-rays and computer technology to generate detailed cross-sectional images of the body. CT scans offer superior contrast resolution compared to conventional X-rays, making them suitable for visualizing soft tissues, and internal organs of the body with greater clarity. Reconstruction can be done in different body planes so that a particular organ or a lesion can be evaluated in various views. CT imaging



Courtesy: American Journal of Roentgenology

is particularly beneficial in the evaluation of acute traumas, detection and extension of tumors, and assessment of vascular disorders. Nevertheless, CT scans expose patients to higher levels of ionizing radiation compared to conventional X-rays, which raises concerns about radiation-related risks, particularly in young patients and those requiring repeated imaging studies.

Magnetic Resonance Imaging (MRI) is a non-invasive imaging modality that employs a powerful magnetic field and radio waves to produce detailed images of the body's internal structures. MRI is

valuable for visualizing internal organs of the body with exceptional contrast resolution. Unlike X-ray and CT imaging, MRI does not use ionizing radiation, reducing the risk of radiation exposure. Additionally, MRI provides multiplanar imaging capabilities, making it advantageous for evaluating complex anatomical structures. However, MRI has several limitations, including longer examination times, contraindications for patients with certain metallic implants or claustrophobia, and higher associated costs compared to X-ray and CT imaging.

Nuclear Medicine imaging involves the use of radioactive tracers to visualize the function and metabolism of various organs and tissues within the body. Techniques such as Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET) provide valuable information about physiological processes, tumor metabolism, and the assessment of cardiac function. Nuclear medicine imaging is particularly beneficial in oncology, cardiology, and neurology, offering insights into disease pathology at a molecular level. However, nuclear medicine imaging has limitations related to radiation exposure from the administered radiopharmaceuticals and relatively lower spatial resolution compared to other imaging modalities.

Each radiological imaging modality offers distinct advantages and disadvantages, and the selection of the most suitable modality depends on the clinical indication, patient characteristics, and the specific information required for diagnosis and management. Healthcare professionals must consider the potential risks and benefits of each modality when making imaging decisions, with the ultimate goal of providing accurate diagnoses while minimizing patient risk. Additionally, technological advancements continue to enhance the diagnostic capabilities of these imaging modalities, improving image quality, reducing examination times, and lowering radiation doses.

In conclusion, radiological imaging modalities play a pivotal role in modern medicine, enabling clinicians to visualize internal structures, diagnose diseases, and guide therapeutic interventions. Each modality offers unique advantages and disadvantages, and their appropriate use depends on clinical indications, patient considerations, and the specific information required for diagnosis. Understanding the characteristics of each imaging modality is essential for healthcare professionals to make informed decisions and ensure the safe and effective use of radiological imaging in patient care. As technology continues to evolve, the field of radiology will likely witness further advancements that enhance diagnostic accuracy and patient safety, ultimately improving healthcare outcomes.



PHARMACY SERVICE

Madhu Giri, Pharmacy Incharge

Hospital pharmacy is the health care service, which comprises the art, practice, and profession of choosing, preparing, storing, compounding, and dispensing medicines and medical devices, advising healthcare professionals and patients on their safe, effective and efficient use. Shahid Gangalal National Heart Centre has its own hospital pharmacy. It has pharmacy committee responsible for management of pharmacy. All most every medicine and surgical products required in hospital are available in the pharmacy. SGNHC hospital pharmacy has three units pharmacy store, inpatient pharmacy, and OPD pharmacy where medicines are dispensed with sufficient counseling. Medicines are dispensed to patients by registered pharmacists and pharmacy assistants in accordance with prescriptions.

HUMAN RESOURCES

One Senior hospital pharmacist, One Senior pharmacist, One pharmacist, Three senior pharmacy assistant, Seven pharmacy assistant, Four Sr. health assistant.

WORKING HOURS

Indoor Pharmacy : 24 hours

Outdoor pharmacy: 12 hours

Store and ward supply pharmacy: 8 hours

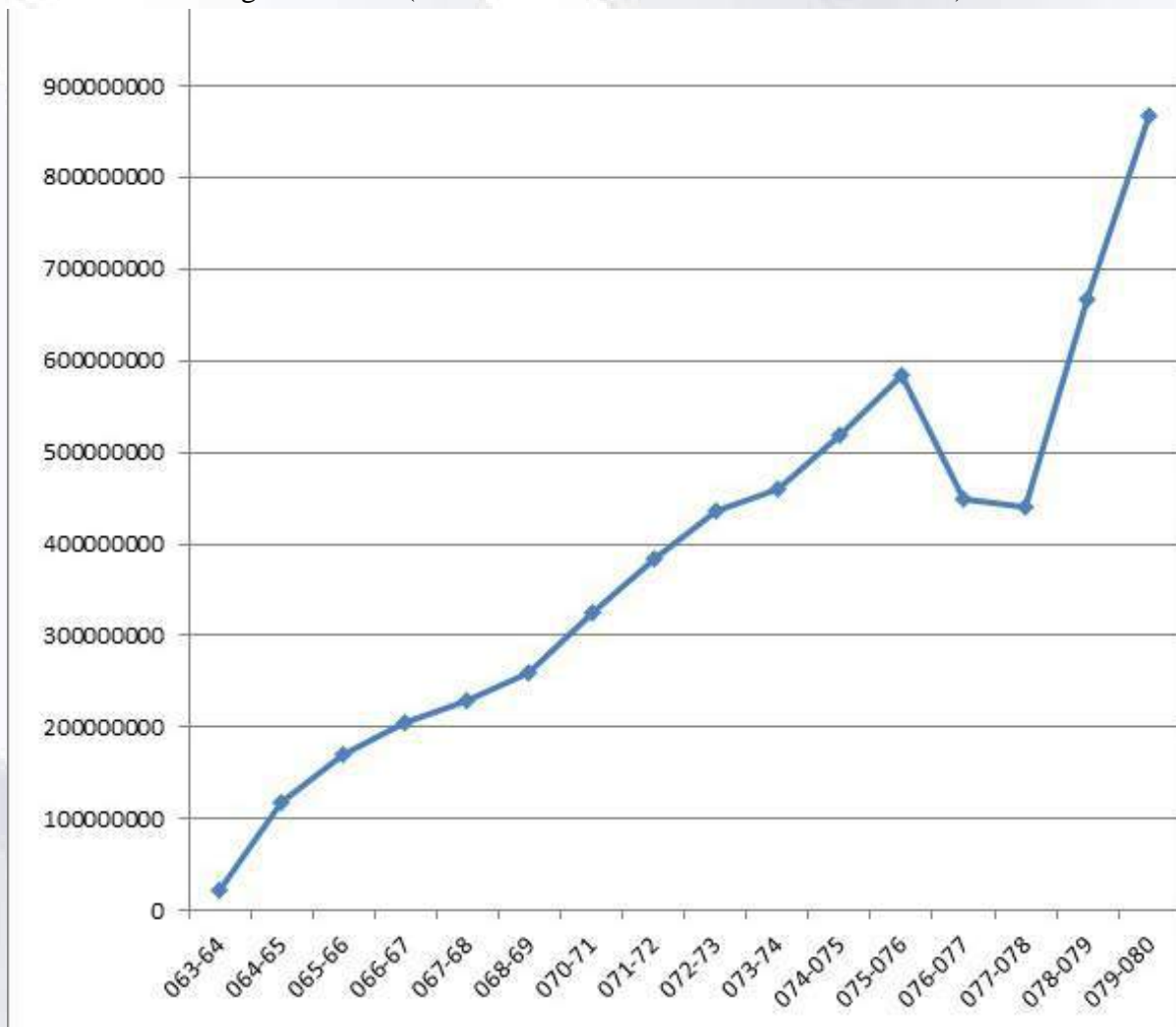
ACTIVITIES PERFORMED IN HOSPITAL PHARMACY

- a) Purchasing – contracting, ordering and receiving
- b) Ware housing- storage and restocking
- c) Housekeeping:
 - 1) Inventory management

- 2) Rotation, return and recall
- d) Distribution
- e) Dispensing and drug counseling

PHARMACY REPORT

The Transaction from hospital Pharmacy is increasing every year. So, hospital is in benefit from the Pharmacy. As compared to previous years, the transaction had dramatically increased as shown in the diagram below. (Transaction has been mentioned in amount)



FUTURE PLAN

- Hospital formulary
- Patient counseling
- Ongoing drug use review
- Pharmacovigilance and implementation of safe medication practices.



PHYSIOTHERAPY SERVICES

Physiotherapy Team

INTRODUCTION

Physiotherapy unit at SGNHC has been playing a vital role in the prevention, management and rehabilitation program of cardiac patients. Physiotherapy is located on the 2nd floor room no.170 at OPD building.

Physiotherapy is a well-established branch of medical science being practiced globally. It is a scientific physical procedure used in the treatment of patients with a disease, injury or disability to achieve and maintain functional rehabilitation and to prevent malfunction or deformity. Physiotherapy treatments are designed to minimize residual physical disability, to hasten convalescence, and to contribute to the patient's comfort and well-being.

SGNHC is the only national heart center, which is running cardiac rehabilitation exercise program in physiotherapy unit.

HUMAN RESOURCES

Senior cardiac Physiotherapist- 1

Senior Physiotherapy Assistant-1

Physiotherapy Assistant-1

SERVICE PROVIDED

Physiotherapy unit at SGNHC, provides both in-patient and out-patient services regularly six days a week. This unit has been running almost all phases of cardiac rehabilitation exercise

program where it gives exercise prescription to the patients with cardiac diseases. The unit provides physiotherapy services to all the general medical and surgical conditions which require physiotherapy treatment however the unit at SGNHC mostly deals with the function of the cardio-pulmonary and vascular system, it is also providing neuro and ortho rehabilitation services. It has also been running various programs like fitness program for staff, fitness program for patients with hypertension, obesity, dyslipidemia and diabetes mellitus and regular cardiac rehabilitation exercises program. However, the number of patients in these category is little less in participation but we are still spreading the words of its importance and encouraging the patients to adhere them in exercises.

STATISTICAL DATA OF THE YEAR 2023 (2079/ 2080 B.S)

In-patient	Out-patient	Cardiac Rehabilitation (In-patient)	Total
5219	78	198	5495

Months	No. of In-patients	No. of patient enroll in Cardiac rehabilitation	No. of Out Patients
JANUARY-2023 (Poush-Magh 2079)	445	30	6
FEBURARY-2023 (Magh-Falgun 2079)	448	10	6
MARCH-2023 (Falgun-Chaitra 2079)	503	14	3
APRIL-2023 (Chaitra-Baisakh 2079/80)	467	14	10
MAY-2023 (Baisakh-Jestha 2080)	450	23	13
JUNE-2023 (Jestha-Ashad 2080)	460	28	16
JULY-2023 (Ashad-Shrawan 2080)	503	8	2
AUGUST-2023 (Shrawan-Bhadra 2080)	530	17	6
SEPTEMBER-2023 (Bhadra-Ashoj 2080)	370	12	5
OCTOBER-2023 (Ashoj-Kartik 2080)	324	25	Nil
NOVEMBER-2023 (Kartik-Mangsir 2080)	266	13	4
DECEMBER-2023 (Mangsir-Poush 2080)	457	4	7

FUTURE PLAN

- Extending physiotherapy services based on new evidence practice.
- Adding skilled manpower.
- Provide safe and reliable physiotherapy service to the patients in the hospital.
- Form a good cardiac rehabilitation team.
- Deliver community exercises programs via camps organized by SGNHC.
- Enforce exercise prescription for cardiac rehabilitation patients.

- Research activities on effectiveness of various exercise protocol.
- Awareness about importance of physiotherapy services through workshop and continue physiotherapy education program.

CONCLUSION

Physiotherapy unit being an integral part of department of preventive cardiology and cardiac rehabilitation in SGNHC have been providing high quality and good physiotherapy services. The unit at SGNHC mostly deals with the function of the cardio-pulmonary and vascular system. However, it also renders its services to other general medical and surgical conditions requiring physiotherapy treatments. Despite of less manpower, physiotherapy service has been running its services. We are hopeful that our department will be more specific to the hospital administration increases the manpower to improve our services and also hope to get the more advancement for cardiac rehabilitation exercise program in upcoming days.

ANNUAL MORTALITY 2023 IN DEPARTMENT OF CARDIOLOGY

INTRODUCTION

Cardiovascular diseases are the number one cause of mortality and morbidity worldwide. Nepal is lower middle income country with increasing burden of cardiovascular diseases and increase mortality from these non-communicable diseases. Diabetes, Hypertension, Obesity, dyslipidemia, smoking, physical inactivity and increasing longevity are the risk factors which are responsible for the increasing prevalence of cardiovascular disease and hence increased mortality from CVD. Shahid Gangalaal National Heart Center (SGNHC) is the tertiary referral center for the cardiovascular diseases. Hence, the number of cardiovascular cases and mortality are usually higher than in other hospital. This annual mortality data will provide insight into the quality of service and provide us areas of improvement.

RESULTS

In the year 2023, Total number of cases admitted under cardiology were 12410 which was 18 % higher than the previous year. Among admitted patients 351 died in the year 2023 with annual mortality rate of 2.8%. The maximum deaths occurred in the coronary care unit which was obvious as the most severe cases were being admitted in CCU.

Table no. 1 Mortality in SGNHC in 2023 in different wards

WARDS	ADMISSION (no.)			MORTALITY (no.)		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
CCU 1	1149	622	1771	87	63	150
CCU 2	584	417	1001	54	33	87
CCU 3	853	468	1321	61	43	104
PRECATH	2058	1679	3737	0	1	1
POSTCATH	919	693	1612	0	0	0
GWA	560	451	1011	3	2	5
GWB	543	390	933	1	1	2
SINGLE CABIN	295	179	474	0	0	0
DOUBLE CABIN	312	238	550	1	1	2
TOTAL	7273	5137	12410	207	144	351

There mortality rate was higher in male than in female. Increasing age was the strongest factor associated with mortality as the 75% of the mortality was above the age of 50 years.

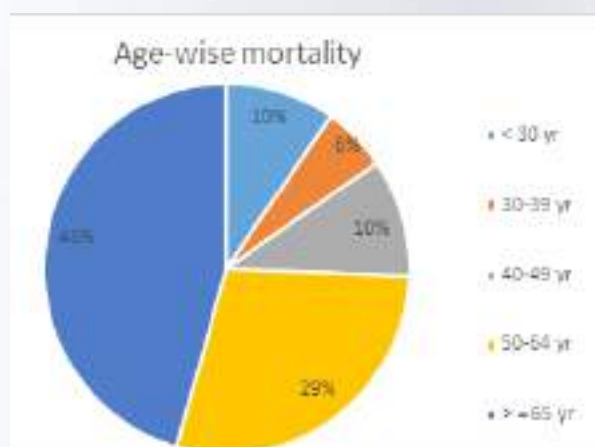


Figure no. 2: Age-wise Mortality in SGNHC in the year 2023

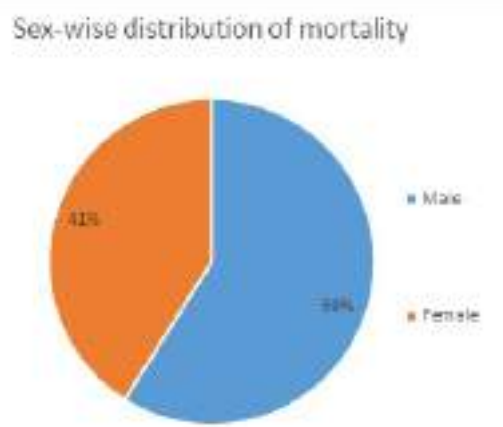


Figure no. 3: Sex distribution of mortality in SGNHC in the year 2023

In the year 2023, the leading cause of death in SGNHC was coronary artery disease which was responsible for about 54% of the death. This was followed by heart failure, Rheumatic heart disease, valvular heart disease other than RHD and arrhythmia as shown in the table no. 4 below.

S.N.	Diagnosis	Numbers	Mortality %
1	Coronary artery Disease (ACS/CCS)	189	53.8
2	Heart Failure	48	13.7
3	Rheumatic Heart disease	47	13.4
4	Valvular heart disease other than RHD	27	7.7
5	Arrhythmia	18	5.1
6	Sepsis/pneumonia	9	2.6
7	COPD	5	1.4
8	Infective Endocarditis	1	0.3
9	Pulmonary Thromboembolism	1	0.3
10	others	6	1.7
	Total	351	100

Table no. 4: Causes of mortality in SGNHC in the year 2023

CONCLUSION

The annual mortality of 2023 in SGNHC is 2.8%. About 75 % deaths occurred above the age of 50 years with equal male and female mortality rates. The most common cause of death was coronary artery disease followed by heart failure. .



PERFUSION TECHNOLOGY UNIT

Mr. Umesh Khan, Ms. Lalita Shakya, Ms. Laxmi Shrestha, Mr. Ashok Karki, Mr. Sujan Shrestha,
Mr. Ashok Shah

INTRODUCTION

“Teamwork begins by building trust. And the only way to do that is to overcome our need for invulnerability.” – Patrick Lencioni

The persistent interprofessional and trustful interdisciplinary cooperation between clinical perfusionist and other team members is an integral part of treating patient. Being perfusionist we all can relate to saying “you don’t know it till you’re in it”. Thus, nothing compares to experience of doing it. This long practice has encouraged us to do the “Evidence based practice”, which is all about doing what is best for the patient as it is based on clinically relevant research. The concept of the Evidence based practice is dynamic and is changing with advancing new knowledge. We are continuously getting support and guidance from our national as well as international team in this process. We are thankful to the Korean team members who have been visiting and helping us in changing our practice especially in pediatric cardiac surgery.



SERVICES

The faculty is providing continuous service for scheduled as well as Emergency cardiac surgery. So far, we have done 20,196 cases. This year we have operated total 1580 patient. Among them 924 were Male and 656 were Female. The cases are categorized as Congenital, Valve (MVR vs MV Repair, DVR, AVR) CABG, modified Bentall’s procedure and others (Ascending Aorta Replacement, Pericardial Effusion, Constrictive Pericarditis, Pulmonary Embolism, Emergency device dislodgement cases for ASD and PDA.) Also, we have been

managing patient with IABP for cardiac support in OT, ICU, CCU and Cath lab as per required and ECMO support in ICU.

Their numbers are showed in the diagram and table below.

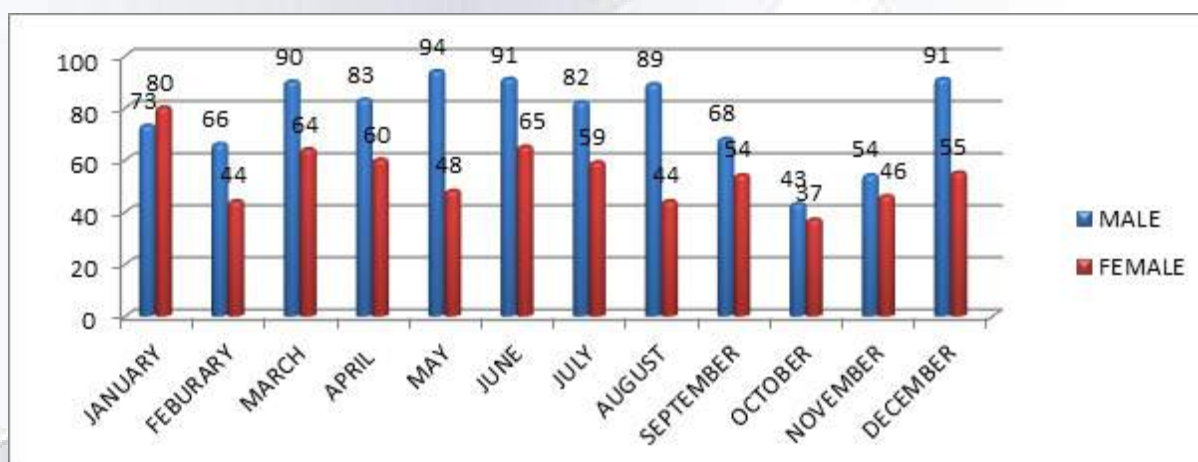


Fig: sex wise distribution of cases for the year 2023

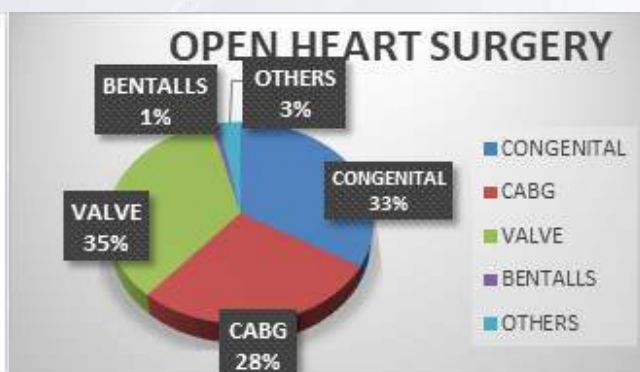


Fig: Open Heart Surgery for the year 2023

S.N	SURGERY	TOTAL
1.	CABG	438
2.	CONGENITAL	530
3.	BENTALL	17
4.	VALVE	550
5.	MVR	299
6.	AVR	133
7.	DVR	118
8.	OTHER	45
TOTAL CASES		1580

TABLE 1. Number wise distribution of each case of 2023

SN	CASES	NUMBER
1.	VSD PDA DEPENDENT CIRCULATION	1
2.	BICUSPID AV COA	1
3.	ARTERIAL SWITCH	2
4.	DKS	1
5.	ICR FOR TOF	1
TOTAL		6

Table: 2. Mortality in OT in 2023

OTHER ACTIVITIES AND FUTURE PLAN

- Two staff attended the ISECTON cardiac conference this year which was held in Coimbatore.
- Two staff member completed certificate course in leadership and Management in health from university of Washington global health e-learning.
- Also, we all participate in International cardiac conference held in Hotel Hyatt.
- The visiting perfusionist with team from Korea helped us with the assembling miniaturized CPB circuit in our setting in order to reduce the priming volume in pediatric patients. It had been a valuable period to learn more about the pediatric perfusion with the Korean team.
- We are in process to get two new sets of heart lung machine with the mast pump.
- Two staff member will be attending the perfusion conference in Odisha, India.



WE ARE HERE JANAKPUR BRANCH

About half a decade ago, SGNHC decided to implement its decentralization policy and a branch was established in Madhesh Province at Janakpurdham as first branch outside capital city. The branch went operational on 2075/10/15 BS. It was only after six months, then Health Minister Shri Upendra Prasad Yadav officially inaugurated the branch on 2076/04/09 BS.

This branch offers strict outpatient services with all necessary work-ups, investigation and basic cardio specific test/procedures. We do not offer any kind of inpatient services, be it emergency or interventional services.

A form of traditional belief has been widely prevalent in areas of Terai Region and Madhesh Province is no exception. It might sounds surprising to outsiders but there is a tradition of visiting various cities and villages in India for medical check ups beyond national borders. For several decades, cities like Dharbhanga, Patna, Siliguri and other small towns near by border has been a medical hub for nepali patients. People preferred being treated by a non-medical beyond country's border rather than being treated by highly qualified doctor's in own country.

Fast forward five years into 2024,"we are here".A patient with raised Blood pressure no longer needs to cross border. A 90 year old who just suffered unbearable chest pain,no longer needs to take those risky and life threatening road trips anymore. The medical sector of this state has come a long way and is improving, and we are here and we are improving. SGNHC, Janakpur has become a primary referral centre for all types of cardiac issue and consultation in entire state, more specifically for people in Siraha, Dhanusha, Mohattari, Sarlahi and Saptari districts.

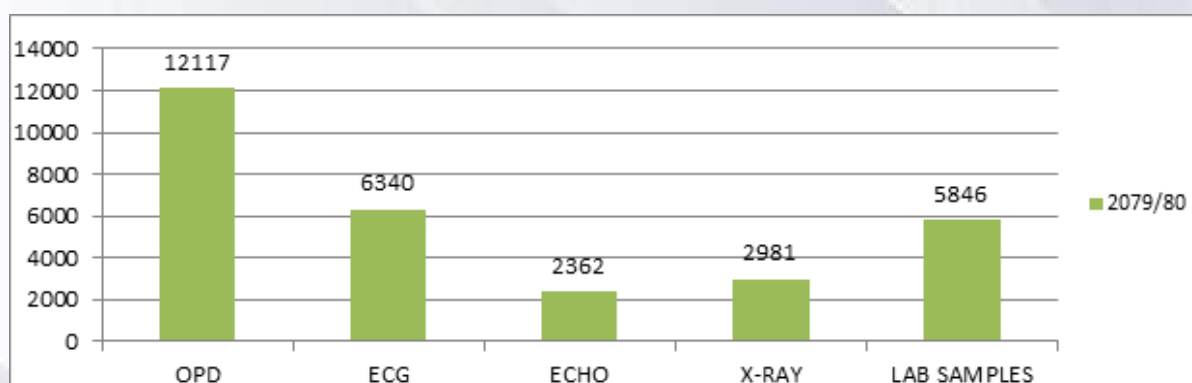
There is another interesting point that should be brought into consideration. It's not only Doctors or Medical profession who refers patients to us, but majority of patients visiting us are through positive word of mouth spread by another patient who visited us earlier. Now, this definitely means that SGNHC Janakpur has been successful in breaking that so called tradition of visiting India and today those people residing at distant villages who were clueless and helpless years ago, has now found an ear that hears them, an eye who sees them, a brain that understands their pain and treats them accordingly.

Limited resources, limited manpower and limited support for authorities has always been a discouraging factor for us. But all this shortcoming never stops us from delivering the best we can. Be it during the COVID -19 era when the entire country was shutdown (state 2 –red zoned) our committed team continued to provide service uninterrupted without any sort of expectations.

The team at SGNHC, Janakpur comprises of staffs as follows

Cardiologist-1, Registrar Cardiologist -1 Medical Officer-2, Nursing-4, Lab-Technician -2, Radiographer-2, Administration-1, Billing counter (Laxmi Bank)-3, Guard-3, Attendants -2.

Statistic Data of Services Provided by Janakpur branch in Fiscal Year 79/80



Five years ago, the branch was established with an aim, we conquered it. Now we wish to set future goals and continue working even harder, and reach new heights and display the art of intensive cardiac approach to people of our state. We are still positive and strongly hopeful for implementation of signed MOU and commitments as promised in various dates.

RESEARCH UNIT

Dr. Rikesh Tamrakar, Ms. Suraksha Dhungana

For the past 26 years, Shahid Gangalal National Heart Centre (SGNHC) has been providing services related to the diagnosis and treatment of cardiac patients in an accessible way. Research plays a vital role in the delivery of high-quality medical services and further development of the centre. It can provide important information regarding cardiac disease trends and their risk factors; outcomes of treatment; patterns of health care, costs, and its effectiveness. SGNHC Research Unit was formed on 15th Ashad 2077 (29th June 2020) for the development of research-related activities in SGNHC.

Aim and objective of the research unit of Shahid Gangalal National Heart Centre (SGNHC)

- To mentor & review the research projects in the centre.
- To promote and support research in the centre.
- To initiate research of interest among the staff in the centre.
- To maintain close contact with academic and clinical staff within the SGNHC, with member national/international societies and individual members with special status to disseminate calls for prizes/grants and abstract submissions.
- To promote high-quality research through research meetings, workshops, and events.

RESPONSIBILITIES

1. Encourage, promote and coordinate research.
 - a. Identify, through surveys and other means, the subject of research projects.
 - b. Develop a list of potential researchers for projects.
2. Manage research projects and submit results for the consideration of award, publication, and recognition.
 - a. Submit a proposal to different grant programs.
 - b. Submit completed research project for consideration of awards.
3. Disseminate research information. Maintain a resource library of publications and encourage members to use this resource.
4. Arrange and coordinate research activities related to promoting academic and clinical areas of the centre.
5. Coordinate with Nepal Health Research Council (NHRC) for training and conducting different research projects concerning cardiovascular health.
6. Assist and/or coordinate in different national and international research projects with other institutions conducting similar projects.
7. Promote the funding of research activities at both the local and global levels. Support the research and educational purposes, by encouraging corporate and individual grants and awards.
8. Submit an annual report of research activities to the executive director and NHRC.
9. Maintain a file of records and correspondence to pass on to the successor at the close of the academic year.

BOARD MEMBERS OF SGNHC RESEARCH UNIT

Dr. Urmila Shakya, Senior Consultant Pediatric Cardiologist	Chairman
Dr. Rikesh Tamrakar, Consultant Cardiologist	Member Secretary
Dr. Navin Chandra Gautam, Senior Consultant Cardiac Surgeon	Member
Dr. Deoki Saru, Nursing Supervisor	Member
Dr. Santosh Sharma Parajuli, Registrar Anesthesiology	Member
Dr. Amshu Shakya, Registrar Pediatric Cardiology	Member
Ms. Birat Krishna Timalaena, Registrar Cardiology	Member
Ms. Suraksha Dhungana, Senior Staff Nurse	Office Secretary

TRAININGS

Since the basic knowledge of research is of utmost importance for research and academic activities, SGNHC Research Unit along with Institutional Review Committee (IRC) had requested different organizations to arrange necessary classes on basic training.

In the year 2020, NHRC has provided the virtual training with a workshop on the Ethical Review Process of Health Research for a total of 33 participants which includes all the members of IRC, SGNHC Research Unit, and other hospital staff including doctors and nurses.

In the year 2021, SGNHC Research Unit had requested different expertise to arrange necessary training on research. Trainings on Quantitative Research Methods for Health Professionals (Online + Practical Classes), Designing and conducting clinical research (Online Classes), and Manuscript Writing (Online Classes) were conducted in different settings. A total of 99 participants were benefitted from the training.

In the year 2023, we have organized two online courses in collaboration with University of Washington. In the courses, “Fundamental of Global Health Research” and “Leadership and Management in Health” 40 and 60 participants were enrolled respectively.

WEBSITE AND ONLINE APPLICATION

A separate website of SGNHC Research Unit has been developed. Only online submission of a research proposal through the site <https://research.sgnhc.org.np/> in the prescribed format along with required documents as per the requirements is processed.

Since its formation, SGNHC Research Unit has received a total of 193 proposals, 60 in the year 2020, 47 in the year 2021, 48 in the year 2022 and 38 in the year 2023..

ANNUAL SCIENTIFIC SESSION

First Annual Scientific Session was held on 28th January 2021, 2nd on 28th January 2022 and 3rd on 27th January 2023.

SGNHC Research Unit and SGNHC IRC have decided to provide funding for the three best research proposals and awards for Best Original Article and Best Case report of SGNHC staff in the annual scientific session.

Three winners of “SGNHC Research Grant 2022”:

1st winner: Safety and outcomes of Early Discharge after Elective Percutaneous Coronary Intervention at Shahid Gangalal National Heart Centre, Nepal – Dr Ravi Sahi

2nd winner: Immediate Outcome of Surgical Repair in Tetralogy of Fallot: Risk Factors for Adverse Events - Dr Rabindra Bhakta Timala

3rd winner: Procalcitonin level for prediction of postoperative infection in elective cardiac surgery - Ms Prati Badan Dangol

Best Original Article published by SGNHC staff in the year 2022:

Clinical profile and management of prosthetic valve thrombosis in Tertiary cardiac Centre of Nepal, a prospective study - Dr Reeru Manandhar

Best Case report published by SGNHC staff in the year 2022:

Transcatheter Aortic Valve Implantation: First Case in Nepal - Dr Chandra Mani Adhikari

The 3rd Annual Scientific Session is scheduled for 28th January 2024.

CONTACT ADDRESS AND OFFICE LOCATION:

SGNHC Research Unit

Room no. 143, 2nd Floor, Academic Block, Shahid Gangalal National Heart Centre

Bansbari, Kathmandu, Nepal

P.O. Box: 11360

Tel: 977 – 1 – 4371322 / 4370622 / 4371374 (Ext.: 620)

Email: researchsgnhc@hotmail.com

Website: <https://research.sgnhc.org.np/>

Please contact Office Secretary between 2:00 pm to 3:00 pm (Except Saturday), if necessary

INSTITUTIONAL REVIEW COMMITTEE

Dr. Dipanker Prajapati, Suraksha Dhungana

BACKGROUND

Since the establishment of the Institutional Review Committee (IRC) of Shahid Gangalal National Heart Centre (SGNHC) on 27th September 2015, the researches being conducted in SGNHC is properly coordinated and monitored.

OBJECTIVES

- To ensure all studies conducted within SGNHC are done in ethical manner.
- To ensure consistency in the supervision and monitoring of health researches.
- To protect rights of humans and animals involved in the research.
- To regulate and monitor publication of research work in SGNHC

MEMBERS

S.N.	NAME	DESIGNATION
1.	Dr. Sujeeb Rajbandari (Senior Consultant Cardiologist)	Chairman
2.	Dr. Dipanker Prajapati (Consultant Cardiologist)	Member Secretary
3.	Ms. Prati Badan Dangol (Senior Nursing Supervisor)	Member
4.	Dr. Manish Shrestha (Consultant Pediatric Cardiologist)	Member
5.	Dr. Nivesh Rajbhandari (Cardiac Surgeon)	Member
6.	Dr. Smriti Mahaju Bajracharya (Anaesthesiologist)	Member
7.	Dr. Surakshya Joshi (Cardiologist)	Member
8.	Mr. Sudip Chandra Dahal (Medical Record Officer)	Member
9.	Mr. Shital Basnet (External Member)	Member
10.	Ms. Suraksha Dhungana (Senior Staff Nurse)	Office Secretary

Institutional Review Committee (IRC) has received a total of 365 proposals since its establishment till 2023, among them 279 proposals was approved. In the year 2023, 27 proposals were approved.

A separate website of IRC has been developed which can be accessed through <https://irb.sgnhc.org.np/>

LIST OF APPROVED RESEARCH PROPOSALS IN 2023

S.No	Research Topics
1.	1. Safety and outcomes of Early Discharge after Elective Percutaneous Coronary Intervention at Shahid Gangalal National Heart Centre, Nepal

2.	Immediate Outcome of Surgical Repair in Tetralogy of Fallot: Risk Factors for Adverse Events
3.	Procalcitonin level for prediction of postoperative infection in elective cardiac surgery
4.	Initial experience with cardiac MRI in a tertiary health care centre in Nepal
5.	Perioperative intra-aortic balloon counterpulsation in patients undergoing coronary artery bypass grafting: A retrospective study in tertiary cardiac centre.
6.	Comparison of Warfarin versus Rivaroxaban in management of post myocardial infarction left ventricular thrombus in a tertiary cardiac centre of Nepal: a Randomized control study.
7.	Factors associated with hypertension among nurses at cardiac care center, Kathmandu
8.	Study Of Drug induced Atrioventricular Block in Cardiac Patients at Shahid Gangalal National Heart Centre
9.	Angiographic profile of Acute Coronary Syndrome and Chronic Coronary Syndrome patients among various ethnicities in Shahid Gangalal National Heart Centre, Nepal
10.	Scenario of Temporary Pacemaker Implantation during Primary Angioplasty and its outcomes in a Tertiary Cardiac Centre in Nepal
11.	Prevalence of Coronary Artery disease in Patients undergoing Non Coronary Cardiac Surgery: A Single Center Study
12.	The impact of goal directed bleeding management using point of care coagulation testing in patients undergoing adult cardiovascular surgery with cardiopulmonary bypass
13.	Hepatitis B Vaccination Status and awareness among Health Care Workers in a tertiary cardiac centre
14.	Feasibility study on Implementation of an Educational Computer Game (Mina and the Land of Dreams) to reduce preoperative anxiety in Nepalese young children undergoing anesthesia.
15.	Effect Of Positive End Expiratory Pressure in lung function in patients undergoing Cardiopulmonary Bypass: An Observational Study
16.	Initiation of Hospital based registry of Pediatric cardiac patients in a tertiary cardiac center of Nepal.
17.	Use of coronary artery calcium scoring (CACS) as a tool for CAD risk stratification and its relation with the degree of coronary Stenosis
18.	Estimation of left main coronary diameter by Intravascular Ultrasound among patients presenting for coronary intervention
19.	Knowledge regarding Cardiopulmonary Resuscitation among Nurses of Shahid Gangalal National Heart Centre
20.	Diagnostic accuracy of 320-slice multi detector row computed tomography to detect coronary artery disease and its comparison to coronary angiography
21.	Clinico-morphological evaluation of Hypertrophic Cardiomyopathy patients in cardiac MRI with an evaluation of Prognostic parameters in the tertiary cardiac centre

22.	CHA2DS2-VASc_HSF score calculation and its comparison with the severity of coronary artery disease (CAD) in patients undergoing coronary angiography
23.	Assessment of Myocardial Viability by Cardiac Magnetic Resonance Imaging (MRI) in patients with Myocardial Infarction(MI)
24.	Clinical Profile and Outcome of Patients with Atrioventricular Block admitted in a tertiary cardiac centre in Nepal
25.	Efficacy of Arruda Algorithm for Localization of Accessory Pathway in Patients with Wolff-Parkinson-White Syndrome from Surface ECG.
26.	A Rapid assessment of Social Health Insurance Scheme in Nepal
27.	Assessment of nutritional status of Coronary Artery Disease patient undergoing Percutaneous Coronary Intervention in Shahid Gangalal National Heart Centre using Controlling Nutritional Status (CONUT) score.

CONTACT ADDRESS AND OFFICE LOCATION

Institutional Review Committee (IRC)

Room No. 143, 2nd Floor, Academic Block, Shahid Gangalal National Heart Centre
Bansbari, Kathmandu, Nepal

P.O. Box: 11360

Tel: 977 – 1 – 4371322 / 4370622 / 4371374 (Ext.: 620)

Email: ircsgnhc@gmail.com

Website: <https://irb.sgnhc.org.np/>

Please contact Office Secretary between 2:00 pm to 3:00 pm (Except Saturday), if necessary.

SURVEILLANCE STUDY OF INFECTION PREVENTION AND CONTROL

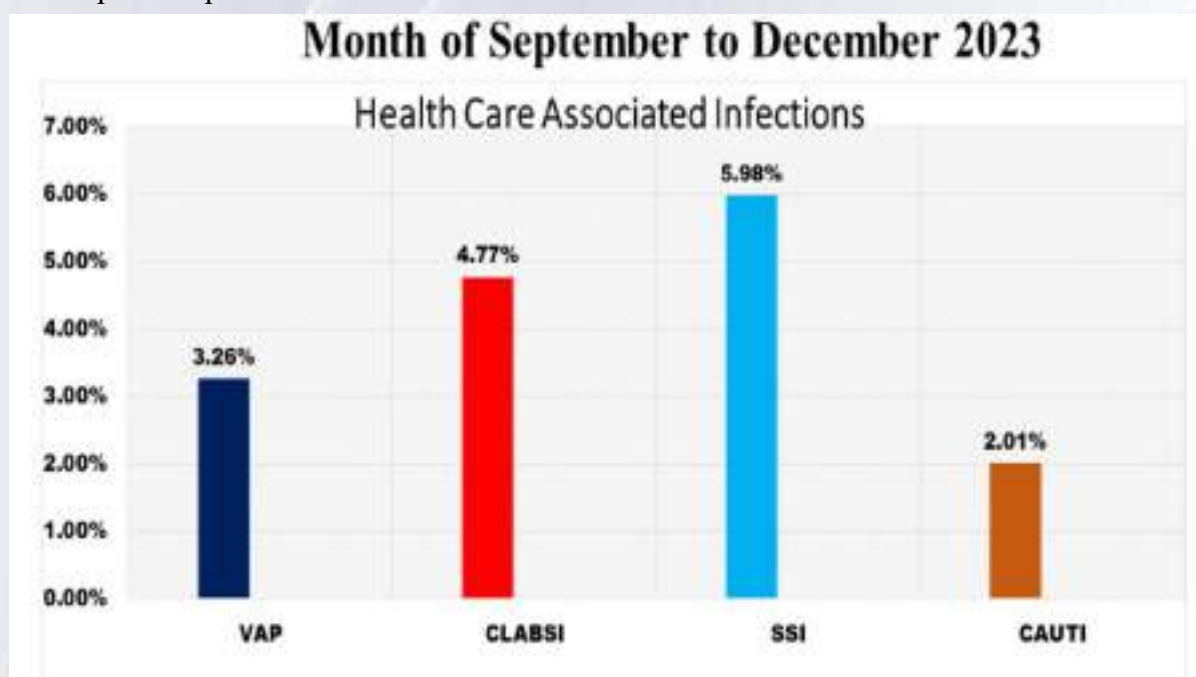
Manju Pyakurel and Sobhana Shrestha

Surveillance is defined as the ongoing systematic collection of data regarding health-related events for use in action to reduce morbidity and mortality.

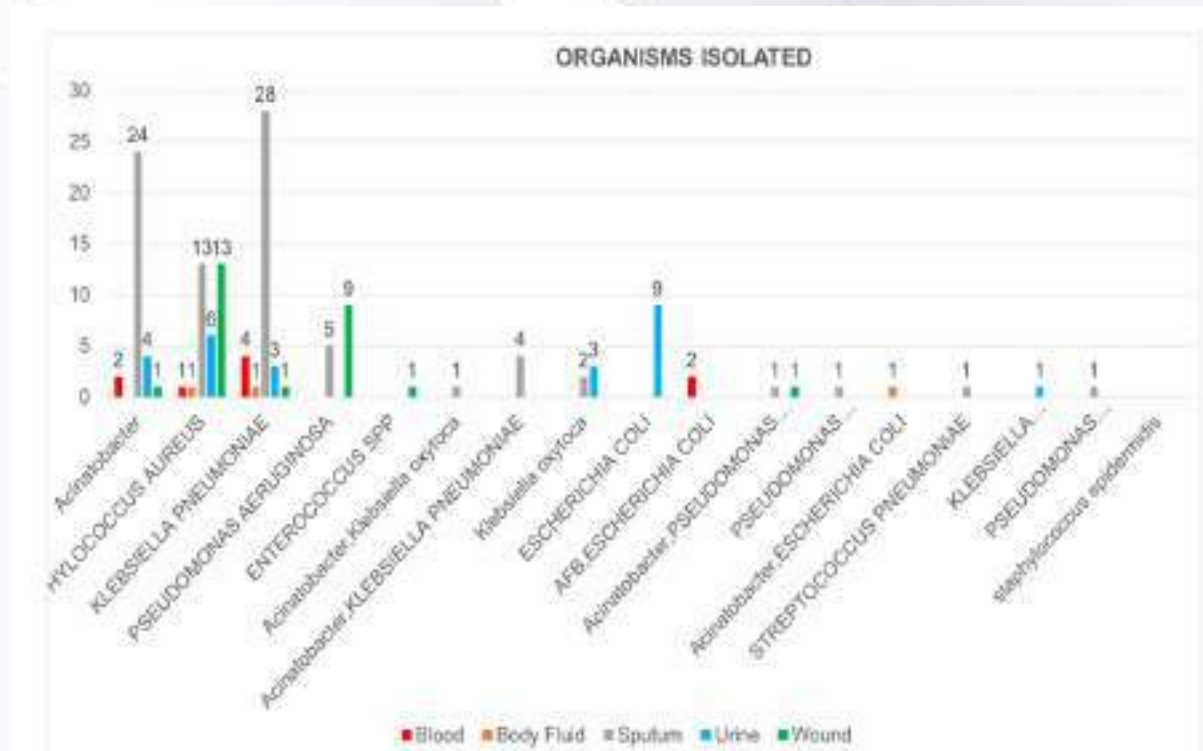
Healthcare-associated infection (HAI) poses a considerable challenge to healthcare systems worldwide. HAI surveillance data can be used to estimate the scope, spread and location of infections, monitor trends, evaluate preventive efforts, and improve practices, policy and facility planning.

Objectives of HCAI surveillance

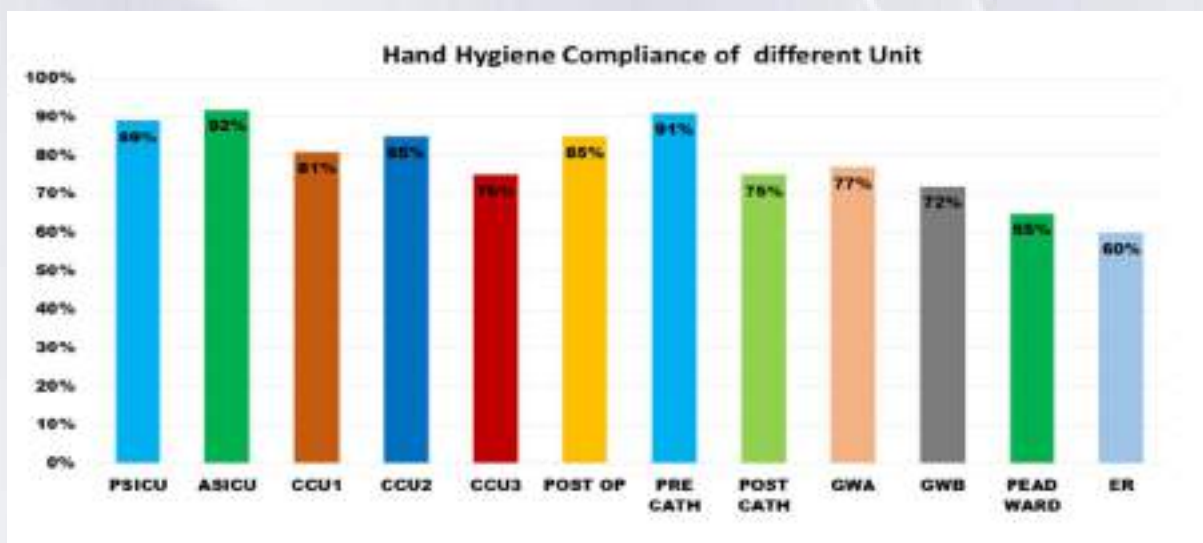
- Reducing infection rates
- Establishing endemic baseline rates
- Identifying outbreaks
- Identifying risk factors
- Persuading medical personnel
- Evaluate control measures
- Satisfying regulators
- Document quality of care
- Compare hospitals' HCAI rates



There were total three hundred and eighty four cases, which were operated from the month of September to December. Among them 3.26% of cases were developed ventilator associated pneumonia per 1000 ventilator days. Likewise, 4.77 % of cases were developed central line associated blood stream infection per 1000 central line days. In this way 5.98% cases were developed surgical site infection among the surgical cases during that period of time which was highest in range and the least were developed catheter associated urinary tract infection which was 2.01%. The most common risk factors to develop HCAI were diabetes mellitus, Hypertension, COPD, under nutrition and the causative organism were Acinebacter, E. coli, Klebsiella pneumonia, Staphylococcus aureus.



Common health care associated infected organism finding in our setting during the period of surveillance study. The most common causative was Klebsiella pneumoniae, Acinetobacter and the least were Pseudomonas, Staphylococcus epidermidis etc.

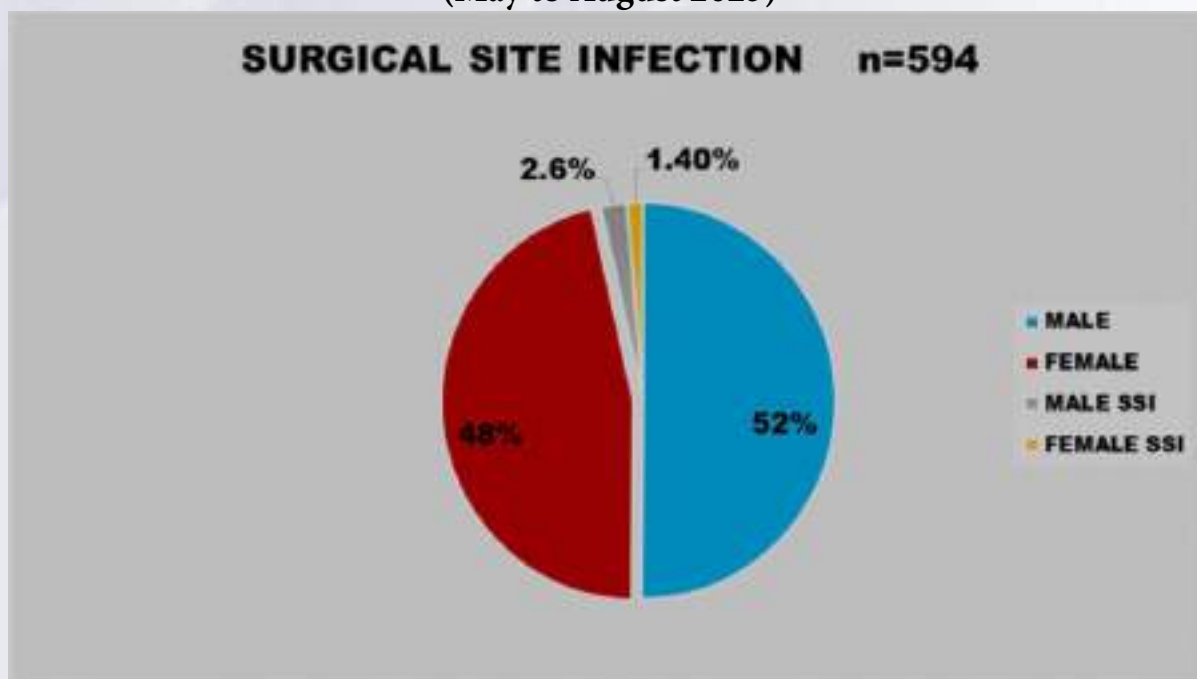


There were total four thousand and ninety-two opportunities of hand hygiene compliance, which were observed on the month of September to December in different wards among doctors, nurses and attendants by following WHO five moment of hand hygiene checklist. While doing hand hygiene compliance we observed performed hand hygiene compliance. The maximum hand hygiene opportunities were performed by ASICU which was 92% and the minimum were ER which was 60% only. So, this data suggest that hand hygiene compliance is satisfactory compare with previous data.

Wound Classification



SSI on the three month duration at SGNHC ICU (May to August 2023)



A total of 594 patient underwent open heart surgery from the month of May to August 2023. Among them 11 patients were developed surgical site infection in our setting, seven patients were male and four were female.

Patients who underwent emergency surgery have a higher risk of getting SSI than those who underwent elective surgery.

Those with diabetes had a higher risk of getting SSI than those who were non-diabetics. The most common causative organism was staphylococcus aureus.

Healthcare-associated infections can result in a prolonged hospital stay, comorbidity factors,

long-term disability, increased resistance of microorganisms to antimicrobial agents, increased risk of mortality, and a massive additional financial burden for the health system and for patients and their families.

Challenges faced by IPC personnel during the period surveillance study

1. Increased staff workload due to insufficient human resources

-Rapid turnover of staff due to that reason staff workload is constant instead of new staffing.

2. Lack of sufficient resources and appropriate infrastructure facilities

-Lack of separate room for isolation and clean and infected zone transportation facilities.

3. Attitude and behavioral problem

-All of the health care workers have knowledge about hand hygiene technique but difficult to apply in routine practice.

4. Lack of Standardization of the Diagnosis of HAIs

-Lack of standardization laboratories and CSSD facilities and inadequate diagnostic testing equipment.

CONCLUSION

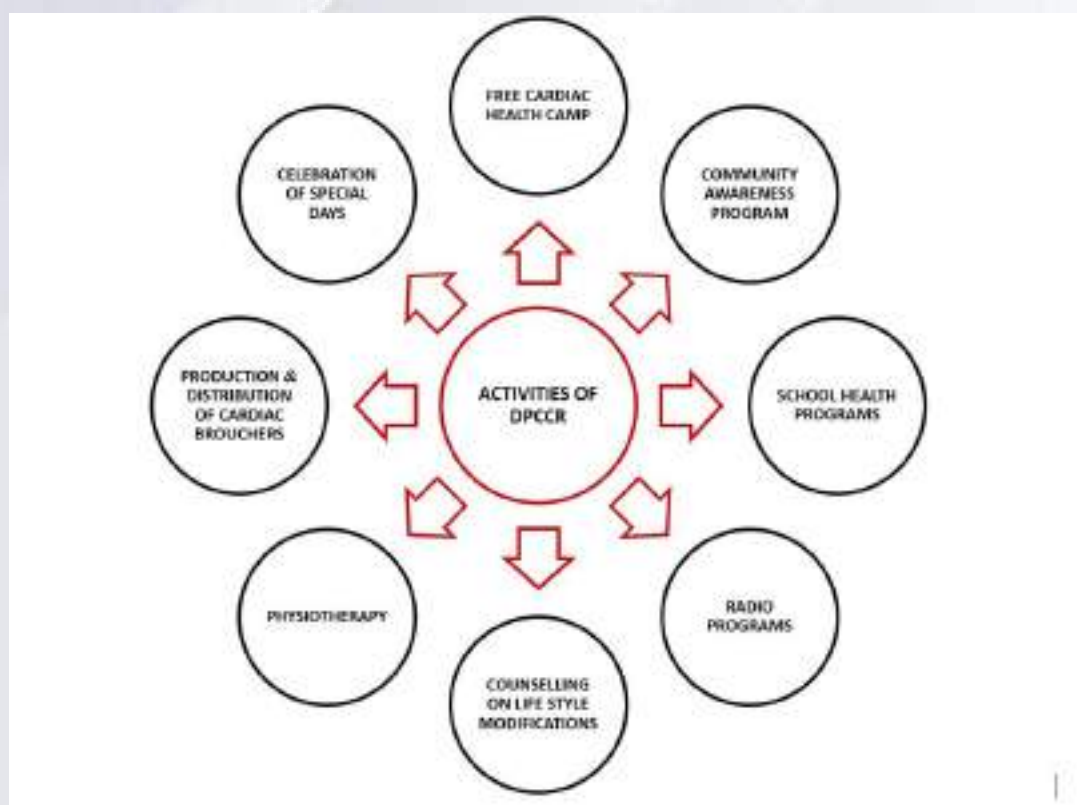
Surveillance of HCAI, Hand Hygiene compliance and identification of causative pathogens are such a challenging task which requires lots of effort and dedication. There are many challenges we are facing as mentioned above. This leads to high HAI prevalence. It is certain that the effort of IPC team only is not enough to overcome these challenges. We need a good support from every department of the hospital and administration to achieve our aim of SGNHC without avoidable infections.

DEPARTMENT OF PREVENTIVE CARDIOLOGY AND CARDIAC REHABILITATION (DPCCR)

Ms. Suraksha Dhungana, Ms. Januka Khadka

INTRODUCTION

Department of Preventive Cardiology and Cardiac Rehabilitation (DPCCR) have been established in Shahid Gangalal National Heart Center to initiate and develop effective preventive strategies and establish cardiac rehabilitation programs.



Activities of DPCCR in 2023

A. Counseling on life style modification:

Counseling is the most important role of health care professionals for the maintenance of compliance to the treatment protocols. The department has formally started patient counselling since Bhadra 2065. We focused on disease, its complications, preventive strategies, treatment protocols, lifestyle modification, heart healthy dietary pattern, regular exercise, regular medication, regular follow up and so on. We are also providing health education in two approaches:

Indoor counseling:

We counsel the patients at the time of discharge in their respective ward. In the year 2023, we have provided health education to 4365 patients and their family members.

**Outdoor counseling:**

We counsel the patients attending OPD in the OPD block at Room no. 110. In the year 2023, we have provided health education to 3433 patients and their family members.

**B. Free Cardiac Health Camp:**

It is very important to decentralize the health care services. Free cardiac health camp is one of the effective means to cover the large population. The main objective of these health camps is to screen the cardiac problems, provide appropriate treatments and raise health awareness among the population of remote areas. In the year 2023, a total of 8172 patients were benefitted by health camps in 22 different areas.

S.N.	Venue	Duration	Total patient examined	ECHO	ECG
1	Jiri, Dolakha	2 days	280	188	95
2	NATA Office	1 day	154	154	-
3	Lamjung	2 days	607	210	154
4	Palpa	2 days	296	148	163

5	Kalinchowk, Dolakha	1 day	238	63	39
6	Morang	1 day	135	135	-
9	Devghat Dham	1 day	459	367	175
10	Dhading	1 day	110	73	89
11	Chautara, Sindupalchowk	1 day	545	502	110
12	Barhabise, Sindhupalchok	1 day	274	160	133
13	Achham	2 days	770	555	111
14	Kapan	1 day	80	77	-
15	Mugu	2 days	1080	619	533
16	Manang	1 day	301	245	84
17	Office of the auditor general	1 day	253	218	233
18	Nepal Tele Communication Office	1 day	200	200	58
19	Gorkha	1 day	351	232	138
20	Kavrepalanchok	1 day	585	527	65
21	Khotang	2 days	400	355	15
22	Surkhet	1 day	1054	390	316

C. School Health Program:

School Health Program is targeted for the school children. In 2023, we visited 4 schools for cardiac screening. The echocardiographic report of the school health programs is as follows:

No.	Venue	Normal	Abnormal	Total
1	Mugu	2541	59	2600
2	Achham	163	5	168
3	Kavre	168	17	185
4	Dhading	4571	29	4600
5	Nuwakot	163	2	165
	Total	7606	112	7718



D. Health education material production:

We have been producing brochures, pamphlets, flip carts, play cards, posters, banners etc. for mass education. Brochures related to cardiac diseases, cardiac procedures, healthy diet, physical exercises are produced and freely distributed to the patients.



E. Celebration of Special Days:

We have been celebrating the special days like World Hypertension Day and World Heart Day. In the year 2023, we have celebrated the special days by doing various activities.

World Hypertension Day:

As usual, we have celebrated World Hypertension Day on 17th May 2023. On this day, we have measured blood pressure of 243 patients, monitored random blood sugar of 243 patients, assessed the ASCVD risk score of all patients, sent lipid profile and fasting blood sugar of 65 patients whose ASCVD risk score was high and counseling was done for life style modification.



World Heart Day:

We have celebrated World Heart Day on 29th September 2023. On this day, we have collected the young cardiac patients and their visitors and conducted the interaction program. Moreover, we have organized the walkathon program for all the SGNHC staffs in the early morning.



Human Resources in DPCCR





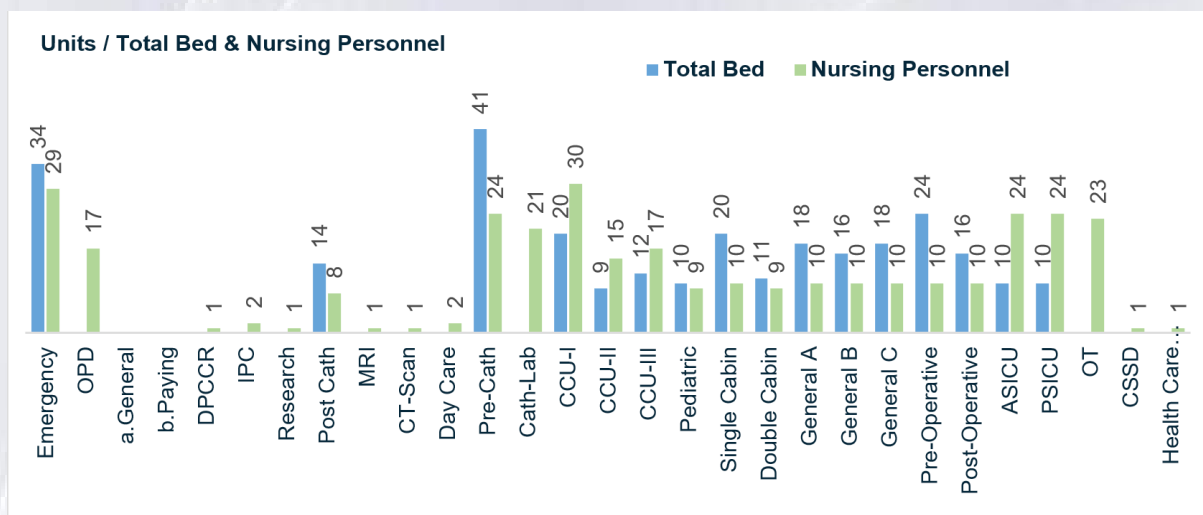
Nursing department and its services

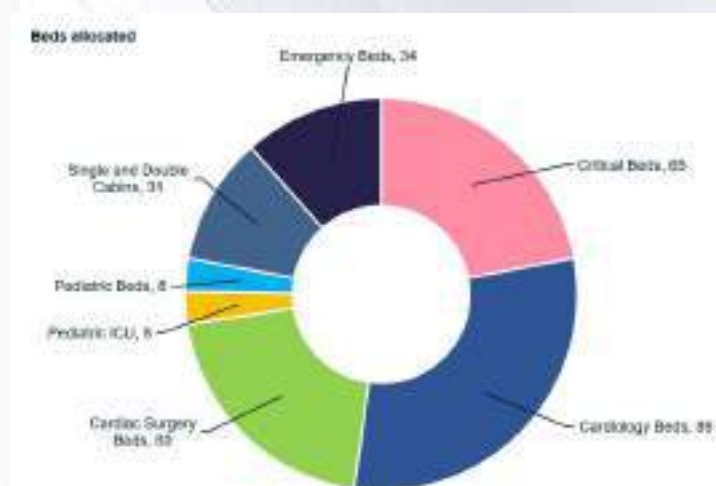
Prati Badan Dangol, Matron

INTRODUCTION

The Nursing Department at Shahid Gangalal National Heart Centre (SGNHC) stands as the backbone of our organization, comprising approximately 53% of our dedicated workforce. With a focus on “caring” over “curing,” our nurses play a pivotal role in providing effective, safe, and patient-centered care to meet the diverse needs of cardiac patients.

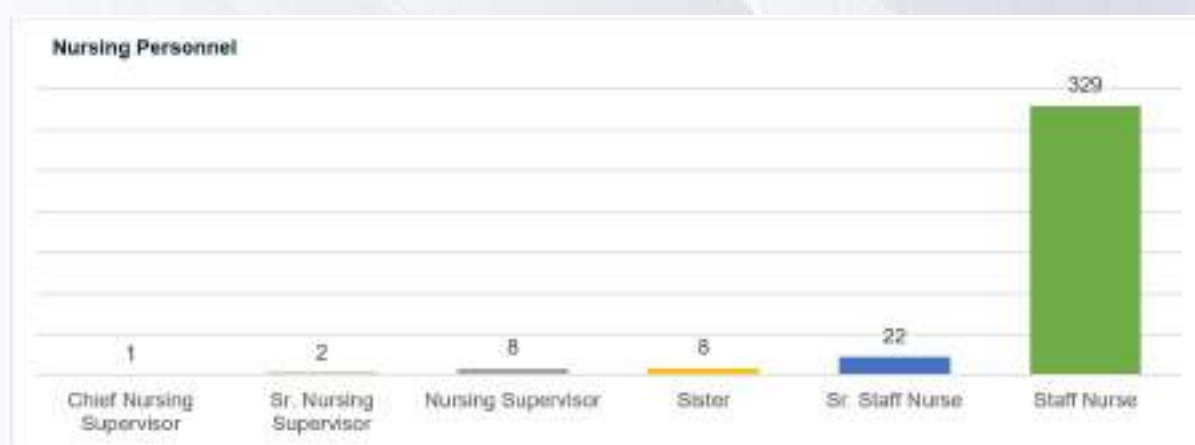
Our dedicated and experienced nursing team is committed to creating a distinctive healthcare environment that prioritizes compassion and respect for patients and their visitors. Through extensive training, privileging processes, specialty nursing, and seamless operational procedures, we ensure the delivery of high-quality, evidence-based nursing services.





Unit Management

Our skilled nurses, including Nursing In-charge/Supervisors, proficiently manage hospitalized patients across various units, ensuring a holistic approach to patient care.



We have dedicated and experienced nurses who offer a patient-centric, distinctive health care environment where patients and their visitors are treated with compassion and respect while providing safe, evidence-based nursing services. Extensive training, process of privileging, specialty nurses, seamless processes and above all a pleasant environment ensures high quality patient and family centered care.

Standards of Care: SGNHC's Nursing Department has established robust "Standards of Care" to adapt to the evolving needs of cardiac patients. Our highly qualified and experienced nurses demonstrate moral courage, honesty, and principled actions, continually striving to exceed expectations and support each other as one cohesive team.

Review Meetings: To maintain efficiency and address any issues promptly, Nursing Supervisors convene daily review meetings at 2 pm to discuss the last 24 hours, fostering discipline and responsibility in our duties.

The Nursing department of SGNHC has built up its "Standards of Care" to serve the ever-changing and growing needs of cardiac patients by proficient trainers



Training Initiatives: Throughout the year, our Nursing Department conducts regular training programs, including induction for newly appointed nurses, infection prevention and control refreshers, and life support courses. We take pride in being selected as a Nursing training site by the National Health Training Centre, Nursing Social and Security division, and WHO.

Regular training conduct by SGNHC Nursing department throughout the year

Topics	Total days
Induction training for newly appointed nurses: simulation based with coaching and mentoring	2 days
Infection prevention and control refreshers training -basic 2 days and advance module	2-6 days
Adult Basic Life Support (ABLS)	1 day
Pediatric Basic Life Support (PBLs)	1 day
Advanced Cardiac life support (ACLS)	2 days
Pediatric Advanced Life Support (PALS)	2 days
Cardiac Cath Lab Nurse Training Program(CCLNTP)	1 month / 3 months
Cardiovascular Operation Theatre Nurse Training Program	3 months
Cardiac Critical care Nurse Training program	3 months
Pediatric Critical care Nurse Training Program	3 months
Cardiac Emergency Nurse training program	1 month
Apart from this, nurse trains housekeeping staffs regularly in Infection Prevention and Control	
Continue Nursing Education Program	Twice a week
For all ward in charges/ Nursing Supervisor	Tuesday
For Staff Nurses	Thursday

We are also proud to announce that our centre has been selected for the Nursing training site by the National Health Training Centre, Nursing Social and Security division and WHO.

Challenges and Way Forward: The challenge of nurse turnover, with a rate of 41% in 2023, is a pressing concern affecting both the center and patients. This issue demands attention at the government level to mitigate its negative impact on costs, quality of care, and continuity of patient care.

Looking ahead, the Nursing Department is dedicated to administering high-quality, cost-effective care, promoting health initiatives, maintaining a supportive environment for professional education, and fostering the career development of nursing employees. We have planned Basic Life Support training for all SGNHC staff as part of our ongoing commitment to excellence.

Revolutionizing Cardiac Surgical Care: Introducing Innovative Surgical Approaches at Shahid Gangalal National Heart Center.



Dr Rabindra Bhakta Timala
Senior Consultant Cardiac Surgeon

Shahid Gangalal National Heart Center embarks on a pioneering journey by introducing cutting-edge cardiac surgical procedures, making significant stride in advancing cardiovascular care. The institution's commitment to excellence in healthcare is highlighted as it embraces innovative techniques to enhance patient outcomes. These initiatives reflect a dedication to staying at the forefront of medical advancements, ensuring that patients receive the most advanced and comprehensive cardiac treatments available.

Below are the list of some of these surgical techniques that we introduced last year:

1. 'Y' Incision Aortic Root Enlargement

Traditional incision for posterior aortic root enlargement has always been one straight line, be it Manouguian or Nicks. Bo Yang from Chicago described a technique of 'Y' incision aortic root enlargement whereby vertical incision across the commissure between non coronary and left coronary cusp is carried horizontally underneath left coronary and non-coronary cusps enabling a large rectangular patch placement in the aortic root. This large patch will accommodate larger aortic valve thereby eliminating chances of patient-prosthesis mismatch. We had 8 years old boy who had undergone aortic valve repair, ventricular septal defect closure and tricuspid valve repair, who presented with severe aortic regurgitation. He underwent 'Y' incision aortic root enlargement on Falgun 28, 2079 BS. This procedure enabled us to implant 19 mm mechanical prosthesis in a 16 mm annulus. Postoperative transaortic gradient was insignificant.

2. Half Turned Truncal Switch

This innovative surgery is described for transposition of great arteries, ventricular septal defect and pulmonary stenosis. In this procedure, aortic root and pulmonary root is dissected in toto from ventricular outflow tracts after removing coronary artery buttons. The truncus is rotated horizontally 180 degrees and reimplanted onto the ventricular outflow tracts, effectively placing aorta over left ventricle and pulmonary artery over right ventricle and coronaries are reimplanted after closing the ventricular septal defect. We carried out this procedure on 28th Jestha 2080 BS on a 16 months old male. Surgery went well. Child succumbed on 4th postoperative day due to low cardiac output syndrome.

3. Neopulmonary Valve Creation From Right Atrial Appendage

For patients with tetralogy of Fallot, about two thirds of the times, pulmonary valves cannot be preserved, due to its small size or dysplastic leaflets or small annulus. Our previous practice has

been to remove the valve in entirety and augment main pulmonary artery with pericardial patch with or without monocusp creation. Newer technique is to create bicuspid pulmonary valve from right atrial appendage and augment main pulmonary artery with pericardial patch. Our first patient to undergo this procedure was a 16 months old male child, who underwent surgery on 3rd of Asadh , 2080 BS. Child had uneventful recovery. Post op echo showed mild pulmonary stenosis with mild pulmonary regurgitation. So far, five patients had undergone this procedure.

4.Nikaidoh Procedure

For patients with transposition of great arteries, ventricular septal defect and pulmonary stenosis this technique has shown better long term outcome compared to more popular Rastelli's procedures. However, the procedure remained unpopular mainly due to technical difficulties and prolong cardioplegic arrest time and bypass time. In this procedure, aortic root along with its coronary attachments were dissected out from right ventricle and transferred posteriorly over the left ventricle within the pulmonary root. Valveless main pulmonary artery is transferred anteriorly over the right ventricle after closing the ventricular septal defect. We recently carried out this procedure on a seven years old girl on 26th Ashwin , 2080 BS. Post op recovery was uneventful.

5. Tricuspid Valve Replacement with Cylindrical Pericardial Valve

For patients suffering from infective endocarditis of tricuspid valve, management options are limited especially when valve is completely destroyed. Replacement with prosthetic valve is fraught with repeated infective endocarditis. Total excision of the valve without replacement is associated with worse hemodynamics with high mortality rate. We had a twelve years old male child suffering from infective endocarditis of tricuspid valve due to tibial osteomyelitis due to trauma. He had been suffering from heart failure due to severe tricuspid regurgitation. On 29th of Mangshir 2080 BS, he underwent tricuspid valve excision with pericardial cylindrical valve replacement, which was created from his own pericardium. He had unremarkable recovery without any significant stenosis or regurgitation from his new valve.

In conclusion, the commencement of novel cardiac surgical procedures at Shahid Gangalal National Heart Center heralds a transformative era in cardiovascular medicine. This strategic leap forward not only underscores the institution's commitment to pioneering medical advancements but also cements its reputation as a hub for advanced cardiac interventions. As these innovative procedures take root, patients can anticipate superior outcomes and an elevated standard of care, positioning the center at the forefront of cardiac excellence. These milestones reflect the unwavering dedication of Shahid Gangalal National Heart Center to pushing the boundaries of medical possibilities, ultimately contributing to the well-being of the countless individuals seeking advanced cardiac surgical care.

Initiation of CPD accreditation at Shahid Gangalal National Heart Center

Dr. Amshu Shakya CPD Coordinator, SGNHC

Medicine and medical practice is evolving at a rapid pace. Change is inevitable in this fast growing technical age. Medical professionals are, more than ever, under pressure to keep abreast with most recent developments in their field to provide the best care to their patients on par with the latest advancements.

In this quest, professionals involved in formal or informal activities but there was no measure of these initiatives. There was no distinction between those professionals who were painstakingly updating themselves and those who were adopting age-old practices.

Recognizing this situation, Nepal medical Council, which is a statutory body responsible for regulating medical practice in our country, has made it essential to continue to develop their professional knowledge and skills. It has established a Continuing Professional Development (CPD) Board to oversee the implementation of this requirement (1). CPD is compulsory in some countries for re-licensing and optional in few.

Nepal Medical council (NMC) is counting days to make it mandatory for all registered practitioners (RP) to obtain minimum required CPD points to uphold their license. It has been proposed that total 100 CPD points must be accrued in 5 years' duration and any extra CPD points will not be saved up for subsequent years. 30 points should be earned from mandatory verifiable CPD section and rest from Professional Verifiable CPD section (2). Mandatory Verifiable CPDs have the following characteristics (1):

- a. these have a curriculum (with a definite educational plan) developed by CPD board and approved by NMC
- b. offered by trainers approved by NMC
- c. with mechanisms for quality control and assurance (combined with feedback system)
- d. successful participants receive a certificate

Mandatory Verifiable CPD encompasses a. Basic Life Support and Cardio-Pulmonary Resuscitation b. Professional Ethics and Communication Skills c. Rational Use of Drugs and d. Infection Prevention and Control.

As for rest 70 points, Registered practitioner can undertake different categories of CPD activities:

- a. Category I: National events
- b. Category II: International events
- c. Category III: Publication, Editorial and Review
- d. Category IV: Distance learning
- e. Category V: Additional approved qualifications

Requirements put forth to become a CPD provider are

- The institution must have government registration (Private, Non-Governmental, Semi Governmental)
- Establishment of CPD committee headed by CPD coordinator having registration with Nepal Medical Council..
- CPD Unit management office with basic facility of separate room and necessary office equipment.

- Minimum one dedicated office staff to work as a CPD unit contact person.
- Internet access/Online CPD information dissemination facility; having own website.

Shahid Gangalal National Heart Center(SGNHC) embraced this novel initiative of NMC in the year 2019 but COVID pandemic stalled the operations of CPD unit for almost one and half year. Since 2021, SGNHC has successfully conducted Professionally verifiable CPD accredited classes. They have been immensely helpful in enhancing, updating and maintaining the knowledge and skill required for medical practice among all health practitioners working at SGNHC, as well as the postgraduate and DM students attending SGNHC for the completion of their mandatory clinical rotation.

There have been speculations regarding implementation of mandatory CPD points for relicensing amidst the myriad of hurdles that NMC needs to tackle before making its decision (3). To mention a few:

1. Making these courses accessible to doctors working in any part of the country especially rural areas
2. It should not disturb doctors clinical practice
3. It should be free of cost
4. Training of trainers (TOT) to make Mandatory verified CPD points easily available.
5. Deciding the fate of the doctors who fail to get adequate CPD points.
6. Limiting the role of different pharmaceutical and medical industries providing to Registered practitioners in the form of registration, travel assistance, luxury hotel accommodation and food expenses in the name of CPDs.

Overall, CPD ie Continuing Professional Development is a term used to describe learning activities professionals engage in to develop and enhance their abilities, it is a holistic approach towards enhancement of personal skill and proficiency throughout a professional career (4). CPD was first implemented in United States of America (5). The World Federation of Medical Education (WFME), which is a non-governmental organization focused on enhancing the quality of medical education worldwide, with promotion of highest scientific and ethical standards in medical education. WFME revised the Medical Doctors CPD in 2015(6). CPD is the “need of hour” and has substantial bearing on the delivery the quality care to patients.

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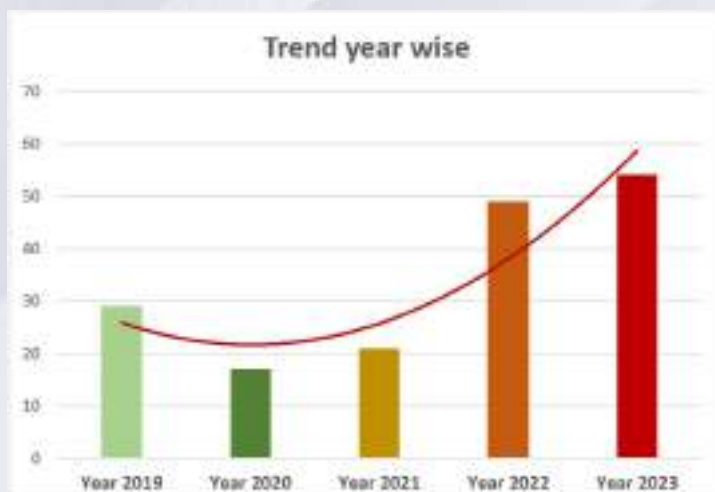
“Global Migration and Local Impact: Understanding the Escalating Nursing Staff Turnover at Shahid Gangalal National Heart Centre, Kathmandu, Nepal”



Prati Badan Dangol
Matron

Introduction

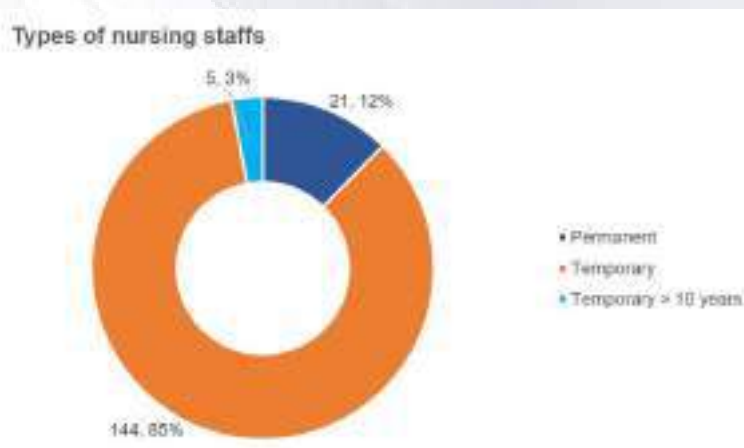
Shahid Gangalal National Heart Centre, nestled in the vibrant city of Kathmandu, Nepal, is facing a mounting challenge as the nursing staff turnover rate continues to rise. This trend is intricately linked to the global phenomenon of healthcare professionals seeking opportunities in developed nations such as the USA, UK, Australia, and Canada. In this report, we delve into the dynamics of the escalating nursing staff turnover at Shahid Gangalal National Heart Centre, exploring the reasons behind this trend and proposing strategies to address the local impact.



- The data reveals a fluctuating trend in nursing staff turnover over the years due to COVID pandemic.
- A notable increase occurred from 2019 to 2022, with a significant peak in 2022 and a subsequent rise in 2023.
- Understanding the underlying causes of these fluctuations is crucial for devising targeted strategies to address and mitigate turnover challenges.

1. The Global Pursuit of Opportunities: Nepal, as a developing country, has witnessed a significant outflow of our SGNHC nursing talent to countries offering advanced healthcare systems and promising career prospects. The success of Nepalese nurses in qualifying for positions abroad, notably through exams like the NCLEX, has created a surge in migration, leaving healthcare institutions like Shahid Gangalal National Heart Centre grappling with the consequences.

2. Impact on Local Healthcare: The increasing migration of nursing professionals is taking a toll on local healthcare delivery. Shahid Gangalal National Heart Centre, renowned for its cardiac care, faces challenges in maintaining consistent and experienced nursing staff, potentially impacting the quality of patient care and the overall functioning of the institution.



Permanent Employees (12.35%): Approximately 12.35% of those who left Shahid Gangalal National Heart Centre were permanent employees. This indicates a relatively lower turnover among individuals in permanent positions.

Temporary Employees (84.71%): The majority of departures, accounting for 84.71% of the total, were temporary employees. This category includes individuals with fixed-term contracts, possibly contributing to the higher turnover rate within this group.

Temporary Employees > 10 Years (2.94%): A small subset, comprising 2.94% of the total, represents temporary employees who had served for more than 10 years. Despite their extended tenure, this group contributes minimally to the overall turnover.

3. Addressing the Exodus: To mitigate the escalating nursing staff turnover, Shahid Gangalal National Heart Centre must adopt a comprehensive strategy that addresses the root causes of migration and creates an environment where local talent is not only retained but also flourishes.

4. Investing in Local Talent Development: One strategic approach is to invest in the education and training of local nursing professionals. By enhancing local talent development programs, the heart centre can contribute to building a sustainable pipeline of skilled healthcare workers, reducing reliance on foreign recruitment.

5. Creating a Supportive Work Environment: Nurturing a positive and supportive work environment is crucial for retaining nursing staff. This involves recognizing and valuing the contributions of local nurses, providing avenues for professional growth, and fostering a workplace culture that promotes job satisfaction.

6. Collaboration and Partnership: Establishing collaborations and partnerships with international healthcare institutions can create avenues for knowledge exchange without necessitating a permanent departure. Exchange programs, joint research initiatives, and training opportunities can strengthen the ties between healthcare professionals globally.

7. Policy Advocacy and Government Support: Advocating for policies that prioritize the retention of healthcare professionals within the country is essential. This includes measures to improve working conditions, enhance compensation packages, and create a conducive environment for professional growth.

Conclusion: As Shahid Gangalal National Heart Centre grapples with the increasing nursing staff turnover, it stands at a crossroads where strategic decisions can shape the future of healthcare delivery in Nepal. By investing in local talent, fostering a positive workplace culture, and establishing global collaborations, the heart centre can navigate the challenges posed by the global migration of nursing professionals. In doing so, it not only secures its own sustainability but also contributes to the broader goal of strengthening healthcare systems in developing nations like Nepal.



Academic Activities in SGNHC

Dr Keshab Raj Neupane, FCPS Cardiology Resident

Academic health centers (AHCs) are the nation's primary resource for healthcare discovery, innovation, and training. Shahid Gangalal National Heart Centre has been one of those institute to train the dedicated faculties and residents in the field of Cardiology from the begining . The department is very concerned regarding teaching and learning activities not only for the students and residents but also for the faculties. Faculties are involved in teaching and learning activities of the followings: DM Cardiology Residents from NAMS and FCPS Cardiology Residents, MD (Internal Medicine) Residents and MDGP Residents from different Institutions like NAMS, PAHS, as well as echo trainings from different hospitals, House officers and Training of ICU/CCU staffs.

The day begins with the morning conference where the on duty residents and House officers from all the departments of Cardiology, Cardiac Surgery and Pediatric Cardiology presents the Emergency Procedures, OT cases, new admissions, Mortality cases and referrals. The interesting cases are also discussed.

Following is the academic activities of the department:

Every Sunday : Journal/Topic presentation by FCPS Residents

Every Monday : Topic/Journal presentation by DM Residents

Every Tuesday: Bedside presentation by Cardiology Residents

Every Wednesday:

First & 4th Wednesday of the month : Topic Presentation by House Officers

2nd Wednesday of every month : Mortality presentation by Surgery and Pediatrics Bimonthly

3rd Wednesday of every month: Mortality presentation by Department of Cardiology

Additional Presentations by invited foreign specialist and academicians as well as department of Radiology are held time to time.

Academic Program: Currently DM Cardiology Program under NAMS and FCPS Cardiology Program under CPSP Pakistan are running in SGNHC. Earlier there used to be three DM residents enrolled per year but now two DM Residents are enrolled each year. Enrollment of FCPS Cardiology residents has been halted for the time being. The residents have been guided by their supervisors in achieving excellence in their studies. They are actively involved in Emergency Department, OutPatient Department, Inpatient Department, ECHO Lab and Cath Lab. Under guidance, they are able to perform Coronary Angiogram, Coronary Angioplasty, Temporary and Permanent Pacemaker, AICD Insertions, Pericardiocentesis and other procedures. Due to huge number of cases, they are able to enhance their skills and expertise in the field of cardiology. The residents are also actively involved in different Health Camps held over different parts of the country, RHD screening programs in School level children and different remote parts of the country. The residents have also presented in PG sessions organised by Cardiac Society of Nepal.

Besides these activities, there are different workshops organised by the hospital where the residents and House officers are involved. Similarly, BLS training have also been provided to all the House officers by the hospital.

RESEARCH

Research is also the core of department's attention. Promotion of this field is also department's main concern. Every DM and FCPS resident is involved in research activities during the residency period. The number of research activities is increasing in the department of cardiology. The students have been able to actively participate in national and international research arena and also grasped awards in the research presentations. The students as well as faculties have been able to publish a lot of articles in national and international publications.

FUTURE CHALLENGES

Despite the overwhelming increase in number of patients and the number of beds, the number of residents and house officers has been static or decreased which could affect the quality of patient care as well as physicians physical and mental health. The residents as well as faculties need to be sent for trainings and academic programs on recent advances.

प्रिय गंगालाल, तिमीसँगको यात्रा

नीरा श्रेष्ठ (स्टाफ नर्स)

करीब डेढ दशक अधिको हाम्रो चिनारी,
समय भन्नु नै के छ र ? घडीको प्रभातफेरी ;
पन्ध्र वर्ष भइसकेछ, तिमीसँगको सम्बन्ध ;
तैपनि छ आत्मीयताको न्यानोपन बुलन्द !

काँचो माटो झैं थिएँ , अबोध अनि चंचल ,
सदभावले सिन्चियौ , गरी प्रेम निश्चल ;
सीप र मौका रूपी पोषणले गर्यौं मलजल ;
बढ्दो दिन संगै वात्सल्यले जित्यौं हृदय कमल !

उखरमाउलो गर्मीरूपी अत्यास मा तिमी बरको छायाँ ,
कठ्याङ्ग्रिने हिउँदको जाडोमा तिमी घामको माया ;
बोट वृक्ष अनि लता युक्त रमणीय प्राङ्गण ;
पुष्प बाटिकाले भरिपूर्ण छ आँगन !

२८ वर्ष देखि उद्धत छौ, गर्दै जनताको सेवा ;
निस्वार्थ कर्ममा तल्लीन छौ , दिँदै राष्ट्रनिर्माण मा टेवा !
स्वास्थ्य क्षेत्रको ध्रुवतारा हौ , बोकी गौरवशाली इतिहास ;
देश विदेशबाट धाउँछन् पीडित, लिई अटुट विश्वास !

थाहा छैन म बाट तिमीले के पायौ ?
या मैले तिमीलाई के दिन सकें ?
तिम्रै प्राङ्गणमा बिते यी पन्ध्र वसन्त हरु ;
तिमी सँगको सहकार्यमा व्यतीत भए आशा अनि उमंग हरु !

उर्जाशील जीवनको मध्यान्तर मा आइपुग्दा , सोच्दछु एक तमास ;
तिम्रै काखमा मेरो कर्म अनि धर्म, रहन्जेल सास !
तिम्रो आँगनमा टेक्न पाइरहूँ सधैं यसैगरी ;
मेरो आत्मसन्तुष्टि को चौतारी बनी रहूँ सधैंभरी !!

शहिद गंगालाल

म-महेश खड्का
रेडियोग्राफर

ए आमा सुन ए बाबा सुन, सुनन सुन मनकी जुनकिरी !
 न्याएको बिज फुलाउन जान्छु देउमलाई मन्जुरी !!
 जितेरै आउछु खुसीका रङ्को इन्द्रेणी लिएर !
 मरे भनेनी यो जुनी देशलाई नरुनु सम्झेर !!
 मैबन्छु अब आसाको दियो यो देशको साहारा !
 अगाडी बढ्छु डटेरै लड्छु देउ मलाई पहरा !!
 डाडापारिका घाम आमा बाबा मलिनमुख बनाऊछन् !
 दिन रातै इश्वोर पुकार्दै कठै एकहोरो टोलाउछन् !!
 हृदय टुट्छ दुइ टुक्रा पारी मनधेरै जलाए!
 परिवार रूवाई देशलाई पुजन के दिमाग खेलाए!!
 मै बिदा भए गोरेटो बाटो आसिर्बाद लिएर !
 सम्बृद्धि ल्याउछु देशमा भन्दै आस्वासन दिएर !!
 बिरानो सहर कोइ छैन आफ्नो चिनेको दौतरी !
 जुन गल्लि हिड्यो तेइ गल्लि देख्छु सासकका मनपरी !!
 भेद र भाव, अत्याचार नाघ्यो गरिबी मौलायो !
 कि लाग्यो दसा यो देशलाई कि सासक बौलायो !!
 हेपिनु पर्ने जनता सधै उनकै दासीभै !
 म हेर्न अब सक्दिन कति यो भिड्मा लाछी भई!!
 भत्काउन उठ्यौ सामन्त्रि किल्ला जागेर जनता !
 परिवर्तनको पहिलो आसा थियो हाम्रो एकता !!
 न देख्यो उसले पर्जाको पिडा न बुद्धि पलायो !
 मिचैरै कानुन जहानियाले बन्दिपो बनायो !!
 देशद्रोही भन्दै बैरीले उल्टै दिनको दिन गलायो !
 मुक्तिदे भन्दा सिध्याईदे भन्ने आदेसपो सुनायो !!
 न सक्छु अब झुकाउन सिर न सक्छु उम्कन !
 न्याएको लडाई लड्दइ गर्दा मृत्यूभो इनाम !!
 एतानी दुख्यो उतानी दुख्यो धर्तिभो रक्ताम्मे !
 एकबाटोको छोरा होस् भने पापी क्षणभरमै प्राणले !!
 अस्थायो सपूत सदाका लागि मच्चियो कोलाहाल !
 हृदय बनि सहीदको नाममा ठडियो गंगालाल !!
 सजाई राखौ सहीदको चिनो मालाझै उनेर !
 मिलेर गरौ दुःखीको सेवा सबका मन बुनेर !!

प्रिय मुटु,
 ढुक ढुक ढुक ढुक गर्ने मुटु,
 ए मुटु,
 तिमी धड्किरहनु है एकनासले।

मेरो छाति भित्र तिमी दाया भए पनि बाया भए पनि मलाई केहि फरक पर्दैन । बस् तिमी आफ्नो बनावटमा, तिमी भित्र रक्त संचार गर्ने नलिहरूको सजावटमा, हुनुपर्ने जस्तो सामान्य बन।

खै के के आनुवंशिक कारणले हो कि, आमाले गरेको के के रसायनका सेवनले हो कि, कुनकुन किटाणुका आक्रमणले हो कि, भर्खर जन्मेको नवशिशु मुटुमा होस् या तन्नेरि मुटुमा होस् या अधवैसे मुटुमा, तिमी भित्रका कोठाहरू बीचका पर्खालमाझ कतै छिद्र नपर्नु। ति कोठाहरू बीच भएका द्वारका कपाटहरू साङ्घुरा पनि नहुन्, खुकुला पनि नबनुन्।

तिमीलाई स्वचालित गर्ने पेसमेकरका विद्युतीय गतिमा पनि कुनै रुकावट नआओस् । राजमार्गको जाममा कुनै सवारी साधन अड्केको झै तिमी धड्कनको गतिमा कहिल्यै अवरोध नआओस्।

मैले जानि नजानि, होसमा या बेहोसिमा, लतमा या कुलतमा फसेर होस् कहिले काँही अम्मल तानेर कालो मुस्लो फोक्सोमा पुर्याउला।
 बोतल भित्रका नसालु तरल पदार्थ पिएर चेतना लुठ बनाउन खोजौला। भोक मेट्न भन्दा पनि जिब्रोको स्वार्थ निमित्त तेलले निथुक्क भिजेका अनि अपौष्टिक पाकवानले पेट पूजा गरौला।

मेरा यि सबै साहशले तिमीलाई खराब गर्ने मनशाय मेरो एक रति पनि छैन। मैले जे जति गरे पनि तिमी चै तन्दुरुस्त रहनु, तिमी सधै फुर्तिलो रहनु । नत्र तिमी मर्मत हेतु अस्पतालको सैयामा छटपटिन मलाई कुनै रहर छैन। मैले जे जे गरे पनि जसरी हुन्छ तिमी चाँही स्वस्थ रहनु पर्छ।

तिमीलाई सन्चो बनाउने निहुँमा मलाई लठ्याउछन् , बेहोस बनाउछन्, अनि कता कता बाट घोच्छन्, कुन कुन तार कता कता बाट तिम्रै सेरोफेरोमा पुर्याउछन् र के के विधि र प्रक्रियाहरू गर्छन् । तिनले तिमीलाई नै सन्चो बनाउन खोजेका हुन् र त्यसका लागि धेरै नै लागि पर्छन् पनि। तर केही तलमाथि भए तिमीलाई त के छ र , तिमी सधैका लागि मसँग कटिट गरेर बस्छौ । तर मेरो त अस्तित्व नै विलिन हुन्छ।

अझ तिम्रा कति जटिल गल्लिले, पर्यो भने शल्यक्रिया कक्षमा मेरो छाति चिरिन्छ। सोच त मलाई कति गार्हो हुन्छ होला, पछि दुखाइले। ठिक नै भए भनेपनि मेरो छाताको श्रृङ्गार बिग्रिन्छ। तिमी त स्वार्थि, सके, रगतलाई मेरो शरीरभरि प्रवाह गर्छौ, नसके खुच्चिङ् भन्दै मसँग छोडपत्र गर्छौ।

बिचरा! म त लावारिश नै हुन्छु नि।

ए! अर्को कुरा त झण्डै बिर्सको। तिमी सुरक्षा कवच जस्तो त्यो पेरिकार्डियमबीचको तरल पदार्थ कहिल्यै अत्याधिक जम्मा नगर्नु है, तिमीलाई नै गार्हो पर्छ नि। तिमीलाई तिम्रो काम गर्न ठाउँ पुग्दैन। तिमी भित्रका रक्तचापमा समस्या आउछ, तिमी असंयमित हुन्छौ अनि अन्ततः फसाद मलाई नै त हो।

जे जस्तो परिस्थिति आइपरे पनि तिमी धेरै मात्तिएर आफ्नो चाल अत्यन्तै तीव्र नबनाउनु है । कहिले चाहि नुन खाएको कुखुरा झै झोक्राएर धड्किन ढिला सुस्ति पनि नगर्नु नि । तिम्रो चालको गति र क्रममा उतारचढाव आयो भने मलाइ विधुतिय झट्का दिन्छन्। मैले कसरी सहनु त्यत्रो झट्का। मेरो होस खलबलिएको भए पनि मेरो अन्तरात्मा लाई कति पिडा हुन्छ, एक पटक सोच त तिमी निष्ठुरी, मुटु ।

त्यस्तै पर्यो भने मेरो छाति पनि थिच्नु पर्ने हुन्छ । तिमीलाइ ब्युताउने चक्करमा मेरो छातीको हडिड र करड भाचिन सक्छ। त्यसैले तिमी सधै एकनाश मेरो शरीरको माग अनुसार धड्किनु पर्छ है।

बरु म पनि तिमीलाई मात्रै दुख दिन्न। तिम्रो तन्दुरुस्तिका लागि म पनि धेरै नै सम्झौता गरौला । आफ्ना दोषि बानिहरूलाई खोलामा बगाइदिउला । तिमी र म चाहि डुङ्गामा एक अर्काको सहयात्री बन्दै जस्तो सुकै छाल आए पनि सङ्गै यात्रा गरौला ।

ढुक ढुक ढुक ढुक

प्रिय मुटु, तिमी धड्किरहनु है म बाचुञ्जेल सधै एकनासले, मेरो शरीरको माग अनुसारको गतिमा।

कुराकानी, माया अनि झगडा पनि कहिलेकाही गरि रहौला ।
उही तिम्रै सहयात्री ।

लेखक- डा. बिराट कडेल

शहिद गंगालाल राष्ट्रिय हृदय केन्द्र

~डा. केशवराज न्यौपाने

नेपालका मुटुरोगीको उपचार गर्न
सरकार र चिकित्सकहरूले गरे प्रबन्ध
स्थापना भयो वि. सं २०५२ मा
शहिद गंगालाल राष्ट्रिय हृदय केन्द्र ।

सुरूवातमा गार्हो हुनेनै भयो
२०५४ मा थालियो OPD सेवा
कर्मचारीको मिहिनेत कडै थियो
पुर्याउन थाल्यो जनस्वास्थ्यमा टेवा।

प्रगतिपथमा लम्कदै गयो
२०५६मा सुरुभयो भर्ना सेवा
सबैको साथसहयोग थपिदै गयो
२०५८बाट थाल्यो Cathlab सहितको सेवा।

सुरूवात देखि वर्तमानसम्म रहिरह्यो
देशी तथा विदेशीको साथ सहयोग
सुरूवात भयो नविन प्रविधिको प्रयोग
उपचार हुन थाले जटिल प्रकृतिका रोग।

विध्यार्थीहरूको हो पहिलो रोजाई
विरामीहरू आउछन् टाढाबाट धाई
चिकित्सक सिस्टरलाई छ भ्याई नभ्याई
काम गर्दछन् आफ्नो भोक निद्रा कटाई।

विरामीको उपचारमा छैन कुनै ढिलाई
चाहे हिमाल चाहे पहाड तराई
काम गरेका छन् सबैले आफ्नो मन लगाई
रमणीय छ परिसर, झन् उत्तम सरसफाई।

नवजात देखि बृद्धसम्म,
सरल देखि जटिलसम्म
भल्भदेखि बाइपाससम्म
एन्जियोप्लास्टि देखि ट्याभीसम्म
पेसमेकर देखि सीआरटीडी सम्म
डिभाइस देखि आर् एफ ए सम्म
अब्बल छन् चिकित्सक उपचार गर्न
सफल भएसि पर्छन विरामी सबै दंग।

सरकारी स्वास्थ्य संस्थामध्ये
वनेको छ एक उदाहरण
यस अस्पताल यहा पुग्न
मिहिनेत छ सबैको गहन ॥

गर्न बाकी छ, धेरै प्रगति उन्नति
अझै बढ्दै जाओस प्रगतिको गति
कहिल्यै नहोस विरामीको क्षति
शुभकामना छ कति, कति॥

PHOTOGRAPHS



ADMINISTRATION



DEPARTMENT OF ANESTHESIOLOGY



DEPARTMENT OF CARDIOLOGY



DEPARTMENT OF PATHOLOGY



DEPARTMENT OF NURSING



INSTITUTIONAL REVIEW COMMITTEE



DEPARTMENT OF CARDIOVASCULAR SURGERY



DEPARTMENT OF PEDIATRIC CARDIOLOGY



PHARMACY UNIT



DEPARTMENT OF RADIOLOGY



RESEARCH UNIT



DEPARTMENT OF PREVENTIVE CARDIOLOGY & CARDIAC REHABILITATION



ENGINEERING AND MAINTAINANCE UNIT



TRANSPORTATION UNIT



JANAKPUR BRANCH



PERFUSION UNIT



INFECTION PREVENTION COMMITTEE

STAFF NAME LIST

DEPARTMENT OF CARDIOVASCULAR SURGERY

SN	NAME	DESIGNATION
1	Ashok Karkee	Perfusion Assistant
2	Ashok Shah	Perfusion Assistant
3	Dr. Alka Singh	Registrar Surgery
4	Dr. Anu Adhikari	Resident Doctor
5	Dr. Anurag Bhandari	Resident Doctor
6	Dr. Apurba Thakur	Registrar Surgery
7	Dr. Avash Karki	Registrar Surgery
8	Dr. Bishow Pokhrel	Cardiac Surgeon
9	Dr. Dharmendra Joshi	Registrar Surgery
10	Dr. Marisha Aryal	Registrar Surgery
11	Dr. Navin C Gautam	Sr. Consultant Cardiac Surgeon
12	Dr. Nikita Kashyap	Resident Doctor
13	Dr. Nirmal Panthee	Cardiac Surgeon
14	Dr. Nishes Basnet	Registrar Surgery
15	Dr. Nivesh Rajbhandari	Cardiac Surgeon
16	Dr. Prajwol Adhikari	Resident Doctor
17	Dr. Pratikshya Timilsina	Resident Doctor
18	Dr. Pravav Rai	Resident Doctor
19	Dr. Prem Purbey	Resident Doctor
20	Dr. Rabindra Bhakta Timala	Sr. Consultant Cardiac Surgeon
21	Dr. Ramesh Raj Koirala	Sr. Consultant Cardiac Surgeon
22	Dr. Rheecha Joshi	Registrar Surgery
23	Dr. Sachin Devkota	Resident Doctor
24	Dr. Sampada Acharya	Resident Doctor
25	Dr. Sidhartha Pradhan	Sr. Consultant Cardiac Surgeon
26	Dr. Sujan Bohara	Resident Doctor
27	Lalita Shakya	Perfusionist
28	Laxmi Shrestha(Bhattarai)	Sr. Perfusion Assistant
29	Sujan Shrestha	Perfusion Assistant
30	Umesh Khan	Perfusionist

DEPARTMENT OF CARDIOLOGY

SN	NAME	DESIGNATION
1	Dr. Ananda Khanal	Registrar Cardiologist
2	Dr. Anjana Acharya	Registrar Cardiologist
3	Dr. Anmol Sharma	Resident Doctor
4	Dr. Arun Maskey	Sr. Consultant Cardiologist
5	Dr. Barkadin Khan Miya	Resident Doctor
6	Dr. Bibek Baniya	Registrar Cardiologist
7	Dr. Bimal Gyawali	Resident Doctor
8	Dr. Binay Kumar Rauniyar	Consultant Cardiologist

SN	NAME	DESIGNATION
9	Dr. Birat Krishna Timalaena	Registrar Cardiologist
10	Dr. Bishal Regmi	Resident Doctor
11	Dr. Bishal Timalaena	Resident Doctor
12	Dr. Chandramani Adhikari	Consultant Cardiologist
13	Dr. Deepak Limbu	Cardiologist
14	Dr. Dipanker Prajapati	Consultant Cardiologist & HOD
15	Dr. Himamshu Nepal	Sr. Consultant Cardiologist
16	Dr. Jagat Adhikari	Registrar Cardiologist
17	Dr. Kailash Bhatt	Resident Doctor
18	Dr. Kartikesh Kumar Thakur	Consultant Cardiologist
19	Dr. Maneesh Kumar Tripathi	Resident Doctor
20	Dr. Md. Sajjad Safi	Registrar Cardiologist
21	Dr. Murari Dhungana	Consultant Cardiologist
22	Dr. Pallavi Rajbhandari	Resident Doctor
23	Dr. Parash Koirala	Cardiologist
24	Dr. Prabesh Rajthala	Resident Doctor
25	Dr. Prashant Bajracharya	Registrar Cardiologist
26	Dr. Pratik Thapa	Resident Doctor
27	Dr. Puja Adhikari	Resident Doctor
28	Dr. Rabi Malla	Executive Director
29	Dr. Rabindra Pandey	Cardiologist
30	Dr. Rabindra Simkhada	Consultant Cardiologist
31	Dr. Rakesh Bahadur Adhikari	Registrar Cardiologist
32	Dr. Ravi Sahi	Registrar Cardiologist
33	Dr. Reetu Manandhar	Cardiologist
34	Dr. Rikesh Tamrakar	Consultant Cardiologist
35	Dr. Sabindra Bhupal Malla	Registrar Cardiologist
36	Dr. Sanjay Singh K.C.	Cardiologist
37	Dr. Sanjida Ansari	Registrar Cardiologist
38	Dr. Sarad Dhital	Resident Doctor
39	Dr. Satish Kumar Singh	Cardiologist
40	Dr. Sophya Gurung	Resident Doctor
41	Dr. Subodh Bir Singh Kansakar	Sr. Consultant Cardiologist
42	Dr. Sujeet Rajbhandari	Sr. Consultant Cardiologist
43	Dr. Surakshya Joshi	Cardiologist
44	Dr. Sushant Kharel	Registrar Cardiologist
45	Dr. Uma Karki	Resident Doctor
46	Dr. Vijay Ghimire	Resident Doctor

DEPARTMENT OF ANESTHESIOLOGY

SN	NAME	DESIGNATION
1	Dr. Abhay Khadka	Registrar Anesthesiologist
2	Dr. Ashish G. Amatya	Consultant Anesthesiologist and HOD
3	Dr. Battu Kumar Shrestha	Anesthesiologist
4	Dr. Binish Man Shrestha	Resident Doctor
5	Dr. Rabin Baidya	Registrar Anesthesiologist
6	Dr. Ranish Shrestha	Registrar Anesthesiologist
7	Dr. Sandip Bhandari	Anesthesiologist
8	Dr. Santosh Sharma Parajuli	Registrar Anesthesiologist
9	Dr. Smriti Mahaju Bajracharya	Anesthesiologist
10	Dr. Subigya Sitaula	Registrar Anesthesiologist
11	Dr. Suman Shrestha	Resident Doctor

DEPARTMENT OF PREVENTIVE CARDIOLOGY & CARDIAC REHABILITATION

SN	NAME	DESIGNATION
1	Dr. Amrit Bogati	Cardiologist
2	Dr. Dharma Nath Yadav	Consultant Cardiologist (Preventive)
3	Dr. Murari Dhungana	Consultant Cardiologist & HOD
4	Dr. Shaili Thapa	Sr. Cardiac Physiotherapist
5	Rajeev Kumar Yadav	Physiotherap Assistant
6	Suraksha Dhungana	Sr. Staff Nurse
7	Yashoda Luitel	Sr. Physiotherap Assistant

DEPARTMENT OF PEDIATRIC CARDIOLOGY

SN	NAME	DESIGNATION
1	Dr. Amshu Shakya	Pediatric Registrar
2	Dr. Devaki Khadka	Resident Doctor
3	Dr. Gokul Acharya	Resident Doctor
4	Dr. Kul Ratna Thapa	Pediatric Registrar
5	Dr. Manish Shrestha	Consultant Pediatric Cardiologist
6	Dr. Poonam Sharma	Pediatric Registrar
7	Dr. Shilpa Aryal	Pediatric Cardiologist
8	Dr. Subhash Chandra Shah	Pediatric Registrar
9	Dr. Urmila Shakya	Sr Consultant Pediatric Cardiologist and HOD
10	Dr. Urusha Ghulu	Resident Doctor
11	Dr. Vidhata Bhandari K.C	Pediatric Registrar

DEPARTMENT OF NURSING

SN	NAME	DESIGNATION
1	Aakriti Baidhya	Staff Nurse
2	Aarati Dhungana	Staff Nurse
3	Aashma Shrestha	Staff Nurse
4	Aastha Rai	Staff Nurse
5	Alina Khadka	Staff Nurse
6	Alisha K.c	Staff Nurse
7	Alisha Thapa	Staff Nurse
8	Ambika Rai	Staff Nurse
9	Ambika Shrestha	Staff Nurse
10	Amisha Adhikari	Staff Nurse
11	Amrita Ghimire	Staff Nurse
12	Amrita Paudel	Staff Nurse
13	Anita Baram	Staff Nurse
14	Anita Dawadi	Staff Nurse
15	Anita Mahat	Staff Nurse
16	Anita Sharma Paudel	Staff Nurse
17	Anjana Gurung	Staff Nurse
18	Anjana Koirala	Sister
19	Anjana Sharma	Staff Nurse
20	Ankita Shrestha	Staff Nurse
21	Ansha Maharjan	Staff Nurse
22	Anuja Koirala	Staff Nurse
23	Anusha Humagain	Staff Nurse
24	Anushree Paudel	Staff Nurse
25	Apeksha Ghale	Staff Nurse
26	Apurwa Sawad	Staff Nurse
27	Aruna Khatri	Staff Nurse
28	Aruna Maharjan	Staff Nurse
29	Arzoo Neupane	Staff Nurse
30	Asha Kumari Jha	Staff Nurse
31	Ashmita Bajgain	Staff Nurse
32	Ashmita Shrestha	Staff Nurse
33	Ashmita Thapa	Staff Nurse
34	Ashruta Rizal	Staff Nurse
35	Asmita Bisowkarma	Staff Nurse
36	Asmita Karki	Staff Nurse
37	Asmita Lamichhane	Staff Nurse
38	Asmita Maharjan	Staff Nurse
39	Asmita Sapkota	Staff Nurse
40	Asmita Shrestha(B)	Staff Nurse
41	Bal Kumari Chaudhary	Staff Nurse
42	Bandana Bogati	Staff Nurse
43	Bandana Sankhi	Staff Nurse

SN	NAME	DESIGNATION
44	Barsha Ingnam	Staff Nurse
45	Barsha Pokhrel	Staff Nurse
46	Beena Phanju	Staff Nurse
47	Bhawana Bista	Staff Nurse
48	Biddhya K.C	Staff Nurse
49	Bidhya Malla	Staff Nurse
50	BIDUSHI DHITAL DAHAL	Staff Nurse
51	Bidya Dhungana	Staff Nurse
52	Bijita Joshi	Staff Nurse
53	Bina Sherpa	Staff Nurse
54	Bina Shrestha	Staff Nurse
55	Binda Shrestha	Staff Nurse
56	Bindiya Shrestha	Staff Nurse
57	Bindu Adhikari	Staff Nurse
58	bindu Khaptari Thapa	Staff Nurse
59	Binita Sapkota	Sr. Staff Nurse
60	Binita Tamrakar	Sr. Staff Nurse
61	Binita Thapa	Staff Nurse
62	Bishmita Chauhan	Staff Nurse
63	Bishnu Pandey	Sister
64	Bishnu Poudel	Staff Nurse
65	Chahana Singh	Staff Nurse
66	Chandani Shah	Staff Nurse
67	Chandra Maya Gurung	Staff Nurse
68	Chandrakala Jirel	Staff Nurse
69	Deena Prajapati	Staff Nurse
70	Deepa Dhimal	Staff Nurse
71	Deepa Tami	Staff Nurse
72	Deepa Kumari Acharya	Staff Nurse
73	Deepika Maharjan	Staff Nurse
74	Deepika Shrestha	Staff Nurse
75	Deoki Saru	Nursing Supervisor
76	Dikshya Guragai	Staff Nurse
77	Dikshya Karki	Staff Nurse
78	Divya Adhikari	Staff Nurse
79	Divya Shrestha	Staff Nurse
80	Eliza Paudel	Staff Nurse
81	Ereka Bhandari	Staff Nurse
82	Finjo Wangmo Tamang	Staff Nurse
83	Gita Tamang	Staff Nurse
84	Goma Gurung	Staff Nurse
85	Hira Adhikari	Staff Nurse
86	Isha Lama	Staff Nurse
87	Ishwori Gautam	Staff Nurse
88	Janaki Ayer	Staff Nurse

SN	NAME	DESIGNATION
89	Januka khadka	Staff Nurse
90	Jebe Shrestha	Staff Nurse
91	Jeny K.c	Staff Nurse
92	Jina KC	Staff Nurse
93	Jyoti Dahal	Staff Nurse
94	Jyoti Dumar	Staff Nurse
95	Jyoti Rimal	Staff Nurse
96	Jyoti Shrestha	Staff Nurse
97	Jyoti Thapa	Staff Nurse
98	Kabita Baniya	Staff Nurse
99	Kabita Khatri	Staff Nurse
100	Kabita Shrestha	Staff Nurse
101	Kalpana D.C	Staff Nurse
102	Kalpana Lamsal	Staff Nurse
103	Kalpana Timilsina	Nursing Supervisor
104	Kalpana Thapa Magar	Staff Nurse
105	Kamana Paudel	Staff Nurse
106	Kanchan Kusatha	Staff Nurse
107	Karishma Chakradhar	Staff Nurse
108	Kirtika Karanjit	Staff Nurse
109	Kopila Luitel	Sr. Nursing Supreviser
110	Krishna Shwari Gwachha	Sr. Staff Nurse
111	Krishna Kumari Sapkota	Staff Nurse
112	Kunti Khanal	Sister
113	Lalita Maharjan	Nursing Supervisor
114	Lalita Maharjan(B)	Staff Nurse
115	Lalita Poudel	Sister
116	Laxmi Aryal	Staff Nurse
117	Laxmi B.C	Staff Nurse
118	Laxmi Bista	Staff Nurse
119	Laxmi Dahal	Staff Nurse
120	Laxmi Kumari Pathak	Staff Nurse
121	Lila Laxmi Dhami	Staff Nurse
122	Madhushree Khanal	Staff Nurse
123	Mamata Lamichhane	Staff Nurse
124	Mamata Ojha	Sr. Staff Nurse
125	Man Kumari Shris Thapa	Sister
126	Mandira Khadka (N)	Staff Nurse
127	Mandira Sunuwar	Staff Nurse
128	Manika Tamang	Staff Nurse
129	Manisha Kunwar	Staff Nurse
130	Manisha Thapa	Staff Nurse
131	Manita Karki	Staff Nurse
132	Manita Parajuli Ghimire	Staff Nurse
133	Manju Acharya	Staff Nurse

SN	NAME	DESIGNATION
134	Manju Khadka	Staff Nurse
135	Manju Pyakurel	Staff Nurse
136	Manju Timilsina	Nursing Supervisor
137	Manmaya Syangtan	Staff Nurse
138	Meera Tamang	Staff Nurse
139	Melina K.C	Staff Nurse
140	Melina Karmacharya	Staff Nurse
141	Merina Dhungana	Staff Nurse
142	Mina KC	Sr. Staff Nurse
143	Monica Thapaliya	Staff Nurse
144	Monika Rijal	Staff Nurse
145	Mukta Shrestha	Staff Nurse
146	Muna Baniya	Staff Nurse
147	Muna Lama Tamang	Staff Nurse
148	Namrata Rawal	Staff Nurse
149	Namuna Khadka	Staff Nurse
150	Natasha Shakya	Staff Nurse
151	Nikita Maharjan	Staff Nurse
152	Nilima Joshi	Staff Nurse
153	Nira Shrestha	Staff Nurse
154	Nisha Kusum Rai	Staff Nurse
155	Nisha Thapa Magar	Staff Nurse
156	Nita Dangol	Chief Nursing Supervisor
157	Pabitra Dewan	Staff Nurse
158	Pabitra Duwadee	Staff Nurse
159	Pariksha Poudyal	Staff Nurse
160	Pooja Bashyal	Staff Nurse
161	Pooja Pandit	Staff Nurse
162	Pooja Parajuli	Staff Nurse
163	Pooja Shrestha	Staff Nurse
164	Pooja Subedi	Staff Nurse
165	Poonam Gurung	Staff Nurse
166	Prabha K.C.	Staff Nurse
167	Prabha Khadka	Staff Nurse
168	Prabha Paudel	Staff Nurse
169	Pragnya Sharma	Staff Nurse
170	Pragya K.c	Staff Nurse
171	Pragya Subedi	Staff Nurse
172	Prajita Shrestha	Staff Nurse
173	Prajwala Baniya	Staff Nurse
174	Prakriti Medhasi	Staff Nurse
175	Pramila Shrestha	Staff Nurse
176	Pramila Subedi	Staff Nurse
177	Prapti Shrestha	Staff Nurse
178	Prasanna Shrestha	Staff Nurse

SN	NAME	DESIGNATION
179	Prasansha Thapa Magar	Staff Nurse
180	Prati Badan Dangol	Sr. Nursing Supreviser & Matron
181	Pratibha Thapa	Staff Nurse
182	Pratiksha ghimire	Staff Nurse
183	Pratikshya Thokar	Staff Nurse
184	Pratima Acharya	Staff Nurse
185	Pratima Dhakal	Staff Nurse
186	Pratima Niraula	Staff Nurse
187	Pratistha Bhattarai	Staff Nurse
188	Prekshya Shakya	Staff Nurse
189	Priety Adhikari	Staff Nurse
190	Prittam Maharjan	Staff Nurse
191	Priyanka Shah	Staff Nurse
192	Puja Kafle	Staff Nurse
193	Puja Satyal	Staff Nurse
194	Puja Thapa Magar	Staff Nurse
195	Punam Rai	Staff Nurse
196	Punam Shrestha	Staff Nurse
197	Pusham Rai	Staff Nurse
198	Pushpa Neupane	Sister
199	Puspa Karmacharya	Staff Nurse
200	Puspa Kumari Gurung	Sr. Staff Nurse
201	Rabina Ghimire	Staff Nurse
202	Radha Maharjan	Staff Nurse
203	Raj Kumari Shrestha	Sr. Staff Nurse
204	Rajita Khadka	Staff Nurse
205	Rajyalaxmi Bhele	Sister
206	Rakshya Karki	Staff Nurse
207	Rama Sharma	Staff Nurse
208	Rama Shrestha	Staff Nurse
209	Ramala Maharjan	Staff Nurse
210	Rameswori Duwal	Sr. Staff Nurse
211	Ramila Pradhan	Staff Nurse
212	Rashmee Rai	Staff Nurse
213	Rashmi Basnet	Staff Nurse
214	Rashmi Karki(B)	Staff Nurse
215	Rashmila Manandhar	Staff Nurse
216	Ravina Subedi	Staff Nurse
217	Reena Rimal	Staff Nurse
218	Renuka Shrestha	Staff Nurse
219	Rephika Maharjan	Staff Nurse
220	Reshma Manandhar	Staff Nurse
221	Reshma Thapa	Sr. Staff Nurse
222	Reshmi Bade	Staff Nurse
223	Reshu Thakuri	Staff Nurse

SN	NAME	DESIGNATION
224	Richa Dangol	Staff Nurse
225	Richa Khadka	Staff Nurse
226	Richa Yogi	Staff Nurse
227	Rimisha Shakya	Staff Nurse
228	Rimsha Shrestha	Staff Nurse
229	Rinku Pandit	Staff Nurse
230	Risha Manandhar	Staff Nurse
231	Ritu Sinjali	Staff Nurse
232	Ritu Subedi	Staff Nurse
233	Ritu Swongamikha	Staff Nurse
234	Roji Shakya	Nursing Supervisor
235	Rojina Bhujel	Staff Nurse
236	Romy Twayana	Staff Nurse
237	Roshana Twayana	Staff Nurse
238	Roshani Manandhar	Staff Nurse
239	Roshani Shahi	Staff Nurse
240	Rubee Manandhar	Staff Nurse
241	Rubina Prasai	Staff Nurse
242	Ruby Shrestha	Staff Nurse
243	Rumina Dhakal	Staff Nurse
244	Sabina Baral	Staff Nurse
245	Sabina Khatri	Staff Nurse
246	Sabina Mishra	Staff Nurse
247	Sabina Shrestha(A)	Staff Nurse
248	Sabina shrestha(B)	Staff Nurse
249	Sabina Suwal	Staff Nurse
250	Sabina Thimi	Staff Nurse
251	Sabina Tuladhar	Staff Nurse
252	Sabina Tulsibakhyo	Staff Nurse
253	Sabita Bhusal	Staff Nurse
254	Sabita Karki	Staff Nurse
255	Sagun Sharma	Staff Nurse
256	Saistha Basnet	Staff Nurse
257	Sajana Twayana	Staff Nurse
258	Sajanee Pradhan	Staff Nurse
259	Sajina Rai	Staff Nurse
260	Sakuntala Karki	Staff Nurse
261	Salina Shrestha	Staff Nurse
262	Samiksha Thapa	Staff Nurse
263	Samiksha Wasti	Staff Nurse
264	Samiksha Yadav	Staff Nurse
265	Samikshya Khanal	Staff Nurse
266	Samita Thapa Magar	Staff Nurse
267	Samjana Mishra	Staff Nurse

SN	NAME	DESIGNATION
268	Samjhana Karmacharya	Staff Nurse
269	Samjhana Pandey	Staff Nurse
270	Samriddhi Timalina	Staff Nurse
271	Sandhya Bista	Staff Nurse
272	Sandhya Rijal	Staff Nurse
273	Sandhya Shrestha	Staff Nurse
274	Sandhya Tamang	Staff Nurse
275	Sandhya Thapa	Staff Nurse
276	Sangita Baskota	Staff Nurse
277	Sangita Kafle	Sr. Staff Nurse
278	Sangita Lama	Staff Nurse
279	Sanjana Wagle	Staff Nurse
280	Sanjisha Shrestha	Staff Nurse
281	Sanjita Dhakal	Staff Nurse
282	Sanju Gautam	Staff Nurse
283	Sanju Shah	Staff Nurse
284	Santa Pandey	Staff Nurse
285	Sapana Maharjan	Sr. Staff Nurse
286	Sapana Gharti Magar	Staff Nurse
287	Saphala Pandey	Staff Nurse
288	Sarala Bajracharya	Staff Nurse
289	Sarala Malla	Staff Nurse
290	Sarina Basu Shrestha	Staff Nurse
291	Sarita Dhakal	Staff Nurse
292	Sarita K.c	Staff Nurse
293	Sarita Maharjan	Staff Nurse
294	Sarita Pathak	Staff Nurse
295	Saugat Rai	Staff Nurse
296	Shailaja PaudelRegmi	Staff Nurse
297	Shailee Karanjit	Sr. Staff Nurse
298	Shakuntala Mahat	Staff Nurse
299	Shanta Singh Thakuri	Sr. Staff Nurse
300	Shanti Bhele	Staff Nurse
301	Shanti Gurung	Staff Nurse
302	Sharmila Neupane	Staff Nurse
303	Sharmila Thapa	Sr. Staff Nurse
304	Shirsi Phuyal	Staff Nurse
305	Shova Shrestha	Staff Nurse
306	Shovana Shrestha	Sister
307	Shovna Shrestha	Staff Nurse
308	Shreejana Gautam	Staff Nurse
309	Shristi Niroula	Staff Nurse
310	Shristi Shrestha	Sister
311	Shriya Poudel	Staff Nurse
312	Shubha Gyawali	Staff Nurse
313	Siba Laxmi Shrestha	Sr. Staff Nurse
314	Sima Shahi	Staff Nurse

SN	NAME	DESIGNATION
315	Sinnal Raut	Staff Nurse
316	Sirjana Adhikari(A)	Staff Nurse
317	Sirjana Paudel	Staff Nurse
318	Sisira Rajthala	Sr. Staff Nurse
319	Smita Pun	Staff Nurse
320	Smritee Bhattarai	Staff Nurse
321	smriti Chapagain	Staff Nurse
322	Sobina Thapa Magar	Staff Nurse
323	Sreejana Poudyal	Staff Nurse
324	Srijana Bhele	Staff Nurse
325	Srijana Khadka	Staff Nurse
326	Srijana Pathak	Staff Nurse
327	Srijana Tiwari(B)	Staff Nurse
328	Subrana K.C	Staff Nurse
329	Suchi Yang Tamang	Staff Nurse
330	sudha K.c(Khatri)	Staff Nurse
331	Sudha Neupane	Staff Nurse
332	sudha Timalisina	Staff Nurse
333	Sudiksha Koirala	Staff Nurse
334	Sujan G.C.	Staff Nurse
335	Sujata Ghimire	Staff Nurse
336	Sujata K.c	Staff Nurse
337	Sujata Paudel	Staff Nurse
338	Sulochana Khadka	Staff Nurse
339	Sunita Basnet	Staff Nurse
340	Sunita Gurung	Staff Nurse
341	Sunita Khadka	Nursing Supervisor
342	Sunita Pandey	Staff Nurse
343	Sunita Shrestha	Staff Nurse
344	Supriya Hamal	Staff Nurse
345	Supriya Ranjitkar	Staff Nurse
346	Suraksha Dhungana	Sr. Staff Nurse
347	Sushila Maharjan	Staff Nurse
348	Sushmita Baral	Staff Nurse
349	Susma Baram	Staff Nurse
350	Susmita Thapa Magar	Staff Nurse
351	Tara Tamang	Staff Nurse
352	Tina Gurung	Staff Nurse
353	Tripti Singh	Staff Nurse
354	Tulasa KC	Nursing Supervisor
355	Tulasa Pandey	Staff Nurse
356	Tulasha Naupane	Staff Nurse
357	Usha Paudel	Sr. Staff Nurse
358	Ushna Shrestha	Sr. Staff Nurse
359	Vidhya Koirala	Nursing Supervisor
360	Yashodha upreti	Staff Nurse
361	Yogina Maharjan	Sr. Staff Nurse

ADMINISTRATION

SN	NAME	DESIGNATION
1	Bhagawan Karki	Sr. Overseer
2	Bhagawati Gaire	Sr. Administrative Assistant
3	Bhai Narayan Maharjan	Driver III(Star Bridhi)
4	Bharat Bahadur Khadka	Driver III(Star Bridhi)
5	Bhej Bahadur Moktan	Driver III(Star Bridhi)
6	Bhogendra Narayan Shah	Sub- Overseer
7	Bhupal Acharya	Sr. Administrative Officer
8	Biju Kuwar Chhetri	Office Helper II
9	Bikash Khaniya	Sr. Administrative Assistant
10	Bimala Aryal	Dy Chief Administration and HOD
11	Bimala Sapkota	Administrative Assistant II (Star Bridhi)
12	Bishwo Ram Adhikari	Plumber III(Star Bridhi)
13	Chunam Lama	Administrative Officer
14	Dinesh Maharjan	Plumber
15	Gauri Devi Sharma	Office Helper III
16	Goma Parajuli Panthi	Administrative Assistant
17	Guna Devi Acharya	Administrative Assistant
18	Gyan Kaji Maharjan	Driver III(Star Bridhi)
19	Jeet Bahadur Tamang Moktan	Administrative Sub- Assistant
20	Kabita Koirala Khatiwada	Administrative Assistant
21	Kamala Gautam	Office Helper III
22	Krishna Bahadur Budhathoki	Driver IV (Star Bridhi)
23	Laxmi Prasad Rijal	Administrative Assistant
24	Madhav Thapa	Office Helper III
25	Mahendra Lamsal	Sr. Administrative Assistant
26	Mandira Khadka	Administrative Sub- Assistant
27	Narayan Panthi	Sub- Overseer
28	Nawaraj Roka	Sub- Overseer
29	Pitambar Bhujel	Driver III(Star Bridhi)
30	Pratima Malla Thakuri	Sr. Administrative Assistant
31	Raj Kumar Roka	Sub- Overseer
32	Ram Babu Raut	Medical Record Officer
33	Rup Bdr Thapa	Driver III(Star Bridhi)
34	Sadhuram Pandit Chhetri	Driver III(Star Bridhi)
35	Shamsher Bahadur Basnet	Plumber III(Star Bridhi)
36	Shanti KC	Office Helper III
37	Sharada Khanal	Office Helper IV
38	Sudarsan Prasain	Administrative Assistant
39	Sudha Sigdel	Administrative Sub- Assistant
40	Sudip Chandra Dahal	Medical Record Officer
41	Sushil Bhusal	Administrative Officer
42	Sushila Bista	Office Helper III
43	Yagya Bahadur Khulal	Driver III(Star Bridhi)
44	Yuba Raj Timilsina	Sr. Administrative Assistant

PATHOLOGY

SN	NAME	DESIGNATION
1	Ajita Lamichhane	LAB TECHNICIAN
2	Aryatara Shilpakar	Medical Lab Technologist
3	Bijaya Kumar Thakur	LAB TECHNICIAN
4	Bikash Bhusal	S.r LAB TECHNICIAN
5	Bindeshwar Yadav	Sr Medical Lab Technologist (Incharge)
6	Chandrama Sharma	LAB TECHNICIAN
7	Daltan Dahal	LAB TECHNICIAN
8	Dipendra Khadka (B)	LAB TECHNICIAN
9	Dr. Sobita Khadka	Registrar pathology
10	Gaurab Risal	LAB TECHNICIAN
11	Karna B.K	LAB TECHNICIAN
12	Keshav Acharya	LAB TECHNICIAN
13	Nabina Adhikari	LAB TECHNICIAN
14	Nawal Kishor Yadav	S.r LAB TECHNICIAN
15	Nita Gwachha	LAB TECHNICIAN
16	Pabitra Bista	LAB TECHNOLOGIST
17	Pradeep Khanal	S.r LAB TECHNICIAN
18	Pranila Chitrakar	LAB TECHNICIAN
19	Prasamsha Adhikari	LAB TECHNICIAN
20	Rajnarayan Mishra	S.r LAB TECHNICIAN
21	Renu Shakya	Medical Lab Technologist
22	Ritu Karki	LAB TECHNICIAN
23	Sugrib Shrestha	LAB TECHNICIAN
24	Suresh Kumar Gupta	S.r LAB TECHNICIAN
25	Sushila Shrestha	LAB TECHNICIAN
26	Unnati Kadel	LAB TECHNICIAN

SGNHC JANAKPUR BRANCH

SN	NAME	DESIGNATION
1	Asmita Yadav	Staff Nurse
2	Bina Kumari Sah	Staff Nurse
3	Dr. Dharmesh Verma	Registrar Cardiologist
4	Dr. Naresh Mandal	Resident doctor
5	Dr. Pramod Kumar Yadav	Resident doctor
6	Dr. Rajesh Kumar Shah	Cardiologist & In-charge
7	Keshab Pandey	Admin Sub-Assistant
8	Laxmi Mahato	Staff Nurse
9	Nisha Chaudhary	Staff Nurse
10	Omkar Poudel	Lab Technician
11	Roshan Kumar Yadav	Lab Technician
12	Sangita Kumari Yadav	Radiographer
13	Sudhir Kumar Yadav	Radiographer

PHARMACY

SN	NAME	DESIGNATION
1	Asmita Thapa	Pharmacy Assistant
2	Atmaram Timalisina	Pharmacist
3	Devendra Yadav	Sr. Health Assistant
4	Indrajit Yadav	Sr. Health Assistant
5	Jaykishor Shah	Sr. Health Assistant
6	Kamal Bahadur Rana	Sr. Pharmacy Assistant
7	Madhu Giri	Sr. Hospital Pharmacist (Incharge)
8	Manoj Kumar Yadav	Sr. Health Assistant
9	Nabina Thapa	Pharmacy Assistant
10	Niru Ratyal	Sr. Health Assistant
11	Prem Raj K.C.	Sr. Pharmacy Assistant
12	Ramisa Tamang	Pharmacy Assistant
13	Rita Chapain	Pharmacy Assistant
14	Sharmila Pokharel	Pharmacy Assistant
15	Shunil Acharya	Sr. Pharmacist
16	Sujan Khadka	Pharmacy Assistant
17	Sushmita Timalisina	Pharmacy Assistant
18	Upama Parajuli	Sr. Pharmacy Assistant

RADIOLOGY

SN	NAME	DESIGNATION
1	Anup Rimal	Radiographer
2	Baidh Nath Yadav	Sr. Radiography Technologist
3	Bijaya Shrestha	Sr. Radiographer
4	Dr. Kritisha Rajlawot	Registrar Radiologist
5	Dr. Manisha Aryal	Registrar Radiologist
6	Dr. Nirmal Prasad Neupane	Radiologist and HOD
7	Indesh Thakur	Sr. Radiography Technologist (Incharge)
8	Laxminarayan Singh	Sr. Radiographer
9	Maresh Khadka	Radiographer
10	Niraj Kumar Chaudhary	Radiographer
11	Prakash Timalisina	Radiographer
12	Pramod Khatri	Sr. Radiographer
13	Raj Shekhar Yadav	Radiographer
14	Ramesh Thapa	Dark Room Assistant III(Star Bridhi)
15	Saroj Chhetry	Radiography Technologist
16	Saru Gosain	Radiographer
17	Sebika Baniya Pandit	Radiographer
18	Seema Gyawali	Sr. Radiographer
19	Shulav Paudel	Sr. Radiography Technologist
20	Shyam Kumar Adhikari	Sr. Radiographer
21	Shyam Thakur	Radiography Technologist
22	Sriju K C	Radiographer
23	Sunita Khawaju	Radiographer

FINANCE

SN	NAME	DESIGNATION
1	Bibek Thapa	Sr. Account Assistant
2	Bindu Khanal	Account Sub- Assistant
3	Krishna Bahadur Kumal	Account Sub- Assistant
4	Manoj Kumar Bista	Chief Financial Administration
5	Milan K.C	Account Sub- Assistant
6	Naresh Chipalu	Sr. Finance Officer
7	Neeru Dahal	Sr. Account Assistant
8	Sanjay Maharjan	Sr. Account Assistant

